



Oregon State University

COMPREHINSIVE RESERVE **INVITATION TO BID (ITB) #2022-008358**

ROGERS HALL ROOM 334 FUME HOOD REPLACEMENT

ISSUE DATE: April 1, 2022

MANDATORY PRE-BID CONFERENCE:
April 8, 2022 at 1:00 PM Pacific Time (PT) in Rogers Hall
Room 332 at 2000 SW Monroe Avenue Corvallis, OR 97331

BID DUE DATE/TIME: April 22, 2022 at 1:00 pm
Via electronic submission to bids@oregonstate.edu

QUESTION DEADLINE: April 13, 2022 at 10:00 am

PROJECT NUMBER: 2252-21

CONTRACT ADMINISTRATOR:

Shoshana Shabazz, Purchasing Analyst
Construction Contracts Administration
Oregon State University
Corvallis, OR 97330
644 SW 13th St.
Phone: 541-737-0922

Email: ConstructionContracts@oregonstate.edu

AWARD DECISION APPEALS:

Hanna Emerson, Construction Contracts Manager
Construction Contracts Administration
Oregon State University
644 SW 13th St.
Corvallis, OR 97333
Phone: (541) 737-7694

Email: hanna.emerson@oregonstate.edu

It is the Bidder's responsibility to continue to monitor the [OSU Business and Bid Opportunities](#) website for Addenda. Failure to acknowledge any Addenda on the Bid Form may cause your Bid to be considered non-responsive.

OSU standards and policies govern this solicitation ([Procurement Thresholds and Methods, Procurement Solicitations and Contracts](#)) unless otherwise referenced or stated.

1.0 INTRODUCTION

1.1 Oregon State University (“OSU” and/or “Owner”) is conducting a competitive Invitation to Bid (ITB) process to retain one (1) firms to provide fume hood replacement in Rogers Hall Room 334 (the “Project”).

OSU is seeking Bids only from firms accepted into OSU’s 2019-2023 Construction Related Services Reserve Contracting Program. Firms not currently in the Reserve Program can apply for entry into the program by responding to the RFQ contained at the following link: <https://bid.oregonstate.edu/>

OSU WILL ONLY BE ACCEPTING SEALED BIDS ELECTRONICALLY - Bids are to be submitted to bids@oregonstate.edu by the Due Date/Time.

MANDATORY SITE-VISITS – Mandatory -Visits shall take place April 8, 2022 at 1:00 PM at Rogers Hall Room 332 at 2000 NW Monroe Ave. Corvallis, OR 97331. Parking and building location information can be found at www.oregonstate.edu. Campus Safety Policies for Face Covering and Physical Distancing requirements related to Covid-19 are located at <https://covid.oregonstate.edu/safety-policies>.

All questions shall be submitted via e-mail to constructioncontracts@oregonstate.edu by the Question Deadline in order to be addressed. The email subject line should contain the Solicitation Number/Name and Firm Name.

1.2 Background. Oregon State University in Corvallis, OR is located within the traditional homelands of the Mary's River or Ampinefu Band of Kalapuya. Following the Willamette Valley Treaty of 1855 (Kalapuya etc. Treaty), Kalapuya people were forcibly removed to reservations in Western Oregon. Today, living descendants of these people are a part of the Confederated Tribes of Grand Ronde Community of Oregon (<https://www.grandronde.org>) and the Confederated Tribes of the Siletz Indians (<https://ctsi.nsn.us>).

Founded in 1868 as Oregon’s land grant institution, OSU serves the state, the nation and the world as a premier 21st-century research university. OSU is committed to exceptional research, discovery, innovation and engagement — and to integrating its research and engagement mission with the delivery of a high-quality, globally relevant and affordable education for the people of Oregon and beyond. OSU is one of only two land, sea, space and sun grant universities in the U.S. and is the only university in Oregon to have earned both Carnegie Classifications for Very High Research Activity and Community Engagement.

The university’s 570-acre main campus is located in the city of Corvallis, a vibrant college town of nearly 58,000 in the heart of Western Oregon’s Willamette Valley. Corvallis consistently ranks among the safest, most highly educated and greenest small cities in the nation.

1.3 Location. Rogers Hall. Specific building information may be available here: <https://guides.library.oregonstate.edu/buildings>

1.4 Summary of Work. Installation of fume hoods in Rogers Hall Room 334.

1.5 Scope of Work.

- Demolish existing lab hoods, fixed exhaust arms, exhaust fans, ductwork and other existing materials as shown on drawings.
- Modify existing wall openings for new ducts.
- Install new ducts, exhaust fans, exhaust hood, two new exhaust arms, dampers, stacks, stacks bracing, fire suppression system, electrical systems, and other materials as shown on drawings.
- Provide testing, adjusting, and balancing for the system.

2.0 SCHEDULE

Issue Date	April 1, 2022
Mandatory	April 8, 2022 at 1:00 PM Pacific Time (PT) in Rogers Hall Room 332 at 2000 SW Monroe Avenue Corvallis, OR 97331
Question Deadline	April 13, 2022 at 10:00 am
Final Addendum Issuance (if necessary)	April 18, 2022
Bid Due Date/Time	April 22, 2022 at 1:00 pm

The following dates are tentative and subject to change without notice:

Notice of Intent to Award	April 27, 2022
Estimated Contract execution	May 6, 2022
Estimated Notice to Proceed	May 9, 2022

OSU will make every effort to adhere to the above schedule. It is however, subject to change.

3.0 QUESTIONS, SOLICITATION REVISION REQUESTS, CHANGE OR MODIFICATION, APPEALS

3.1 Questions.

3.1.1 All questions and contacts with OSU regarding any information in this ITB must be addressed in writing via email to constructioncontracts@oregonstate.edu no later than the **Question Deadline** as stated in Section 2.0.

3.2 Solicitation Process Revision Requests.

3.2.1 Bidders may submit a written request for change of particular solicitation provisions and/or contract terms and conditions to the **Construction Contracts Manager** at the address or email listed in this document. Such requests for change shall be received no later than the **Question Deadline** listed above.

3.2.2 Such requests for change shall include the reasons for the request and any proposed changes to the solicitation provisions, specifications and/or contract terms and conditions.

3.3 Change or Modification.

3.3.1 Any change or modification provided by OSU for this ITB or the documents included as exhibits to this ITB shall be made by a duly issued Addendum made available to all firms on the [OSU Business and Bid Opportunities](#) website. It is the responsibility of each firm to visit the website and download any addenda to this ITB. No information received in any manner different than as described herein shall serve to change the ITB in any way, regardless of the source of the information.

3.4 Appeals.

3.4.1 Appeals related to the OSU solicitation process and award decisions and actions shall be pursuant to OSU Standards ([Procurement Thresholds and Methods, Procurement Solicitations and Contracts](#)). All written appeals must be delivered to the **Construction Contracts Manager**, at the address given in this ITB.

4.0 PUBLIC RECORD

4.1 Owner will retain this ITB and one copy of each bid received, together with copies of all documents pertaining to the award of a contract. These documents will be made a part of a file or record, which shall be open to public inspection after Owner has announced its intent to award a contract. If a bid contains any information that is considered a trade secret under ORS 192.345(2), you must mark each trade secret with the following legend: **“This data constitutes a trade secret under ORS 192.345(2), and shall not be disclosed except in accordance with the Oregon Public Records Law, ORS Chapter 192.”**

4.2 The Oregon Public Records Law exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies only “unless the public interest requires disclosure in the particular instance.”

4.2.1 Therefore, non-disclosure of documents or any portion of a document submitted as part of a proposal may depend upon official or judicial determination made pursuant to the Public Records Law.

4.3 In order to facilitate public inspection of the non-confidential portion of the proposal, material designated as confidential shall accompany the proposal, but shall be readily separable from it. Prices, makes, model or catalog numbers of items offered, scheduled delivery dates, and terms of payment shall be publicly available regardless of any designation to the contrary. Any proposal marked as a trade secret in its entirety shall be considered non-responsive and shall be rejected.

5.0 FORM OF AGREEMENT

A sample copy of the standard Reserve Supplement is included as an exhibit and contains contract terms and conditions applicable to the work. The sample contract may contain certain notes or alternative provisions. Those alternative provisions will be included at the sole discretion of the Owner.

6.0 BUREAU OF LABOR AND INDUSTRIES (BOLI) PREVAILING WAGES

In compliance with Oregon Prevailing Wage Law, the following is incorporated into this ITB:

The Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates (PWR) as outlined in Sections C.1 and C.2 of the General Conditions. The resulting Contract is subject to the following BOLI wage rate requirements, which are incorporated herein by reference:

January 1, 2022 PWR Apprenticeship Rates
January 1, 2022 Prevailing Wage Rates for Public Works Contracts in Oregon
July 1, 2018 Definitions of Covered Occupations for Public Works Contracts in Oregon
These BOLI wage rates are available here:
<https://www.oregon.gov/boli/employers/Pages/prevailing-wage-rates.aspx>.

7.0 INSTRUCTIONS TO BIDDERS

7.1 Summary of Work. The Work contemplated in this document shall be for the Owner in connection with the Project described in the Summary of Work in Section 1.0 of this document.

7.2 Pre Bid Conference and Site Visit.

7.2.1 The Bidder must attend the mandatory Pre-Bid Conference,. Bids will not be accepted from those firms who have not had a representative attend the Mandatory Pre-Bid Conference. Attendance will be documented by checking in with the **Contract Administrator** at the beginning of the Conference. Prime Bidders will be required to check in and provide their name, firm name, and email address to the **Contract Administrator** at the beginning of the Pre-Bid Conference. Attendance will be documented by OSU. Bidders who arrive more than five (5) minutes after the start time of the meeting (as stated in this ITB and by OSU's clock) or after the discussion portion of the meeting, (whichever comes first) will not have their attendance documents and will have their Bid rejected.

7.2.2 In any event, the Bidder shall examine the Work site to ascertain its physical condition. Failure to comply with this section will not release Contractor from entering into the Contract nor excuse Contractor from performing the Work in strict accordance with the terms and conditions of the Contract Documents.

7.2.3 The Bidder shall be responsible for being fully informed as to the quality, quantity and sources of supply of the materials listed within the documents included as exhibits to this ITB.

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

7.2.5 No statement made by any officer, agent, or employee of the OSU in relation to the physical conditions pertaining to the Work site or quality, quantity, and supply of materials will be binding on the OSU, unless included in writing in the documents included as exhibits to this ITB or an Addendum.

7.2.3 Date and Time of the Pre-Bid Conference is located on the cover sheet of this ITB.

7.2.4 Should on campus site visits occur, Campus Safety Policies for Face Covering and Physical Distancing requirements related to COVID-19 are located here: <https://covid.oregonstate.edu/safety-policies>

7.3 Brand-Name Specification. To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the documents included as exhibits to this ITB either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether they do so or not.

7.4 Substitution Approval Process.

7.4.1 Prior to submitting a Bid that contains a Substitution, the Bidder must first seek approval of the Substitution from the Owner by submitting a written request to the **Contract Administrator** for approval prior to the deadline for questions as stated in this Solicitation.

7.4.2 Substitution requests shall be submitted in accordance with Division 01 requirements.

7.4.3 Only approved Substitution requests will be acknowledged via Addendum(a) to this ITB and shall become a part of the documents included as exhibits to this ITB. When approved, it is with the understanding that the substituted article or material is of equal or better value and utility than the one specified.

7.5 Execution of the Bid Form.

7.5.1 The Bid Form is hereby defined as the form furnished by Owner to be completed by Bidder.

7.5.2 The Bid Form relates to Bids on this ITB. Only the amounts and information asked for on the Bid Form will be considered as the Bid. Each Bidder shall Bid upon the Work exactly as set forth in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the documents included as exhibits to this ITB. Bids that fail to address alternates set forth on the Bid Form may be considered non-responsive.

7.5.3 Each Bid Form must: 1) Be completed in accordance with these instructions; 2) Include the appropriate signatures as noted on the Bid Form; and 3) Include numbers pertaining to the Base Bid(s) stated both in writing and in figures.

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

7.5.5 When Bidding on unit prices, quantities stated on the Bid Form are estimates and are included for the purpose of award of a Contract. In the event of a discrepancy between unit prices and extensions, the unit price shall govern.

7.5.6 Incomplete Bids may be rejected.

7.5.7 Bids that contain conditions not provided for on the Bid Form may be rejected.

7.5.8 Bids that contain ambiguities may be rejected.

7.5.9 With the exception of filling in the required fields on the Bid Form, no other alterations to the Bid Form shall be made.

7.6 Submission of Bid.

7.6.1 Submit **one (1) electronic version via** email to be received by the Due Date/Time listed in this Document to bids@oregonstate.edu as stated in this ITB.

7.6.2 All Bids must be received by the OSU before the Due Date/Time. OSU's official clock shall prevail in any time conflict. Any Bid received after the Due Date/Time will be rejected and will be retained and made part of the Owner's archive records in accordance with OSU Standards.

7.7 Opening of Bids. At the time of opening and reading of Bids, each Bid received, irrespective of any irregularities or informalities, may be publicly opened and read aloud.

7.8 Acceptance or Rejection of Bids by OSU.

7.8.1 The procedures for Contract awards shall be in compliance with the provisions of OSU standards and policies adopted by the Owner.

7.8.2 The Owner reserves the right to reject any or all Bids and to waive minor informalities.

7.8.3 Unless all Bids are rejected, the Owner will award the Contract(s) based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the Contract(s), the Contract(s) will be awarded to the next lowest responsive Bid from a responsible Bidder or Bidders in succession, provided this ITB is not cancelled under the provisions of OSU standards and policies adopted by the Owner.

7.8.4 The Owner reserves the right to hold the Bid of the three lowest Bidders for a period of sixty (60) Days from the time of Bid opening pending Award of the Contract.

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

7.8.5.1 When alternates are included on the Bid Form, they may be exercised at the sole discretion of the Owner within sixty (60) Days of the Effective Date of the Contract, unless extended by written mutual agreement of the Parties.

7.8.5.2 The Owner has the right to accept alternates without regard to order or sequence; but, such acceptance must not deliberately impair the selection of a low, responsible and responsive Bidder to whom the Contract would be awarded under an equitable bid procedure.

7.8.6 If Owner has not accepted a Bid within sixty (60) Days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted.

7.9 Withdrawal of Bid.

7.9.1 At any time prior to the Due Date/Time Bidder may withdraw its Bid in accordance with OSU Standards. This will not preclude the submission of another Bid by such Bidder prior to the Due Date/Time.

7.9.2 After the Due Date/Time, Bidders are prohibited from withdrawing their Bid, except as provided by OSU Standards.

7.10 Execution of Contract, Agreement, Performance Bond and Payment Bond

7.10.1 The Bidder shall be required to execute the Contract as provided, and, if applicable, deliver a Performance Bond and a Payment Bond from a surety company licensed to do surety business in the State of Oregon within time period contained in the Award letter. The Contract Documents shall be delivered to the Owner in the manner stated in the Award letter.

7.11 Public Works Bond. At the time of submission of its Bid, each Bidder shall have on file with the Construction Contractors Board a public works bond required by ORS 279C.836, unless otherwise exempt under that statute. Failure to have on file a public works bond at the time of submission of the Bid may result in rejection of the Bid as non-responsive.

7.12 Equity Contracting. Owner will require the successful Contractor to comply with OSU Standards, policies, rules and procedures requiring good faith efforts in subcontracting with minority, women, emerging small business or service-disabled veteran owned business enterprises.

8.0 MISCELLANEOUS

8.1 Financial Responsibility.

8.1.1 OSU reserves the right to investigate, at any time prior to execution of the Contract, the Bidder's financial responsibility to perform the anticipated services. Submission of a Bid will constitute approval for OSU to obtain any credit report information OSU deems necessary to conduct the evaluation. OSU will notify Bidders, in writing, of any other documentation required, which may include, but need not be limited to: recent profit-and-loss history; current balance statements; assets-to-liabilities ratio, including number and amount of secured versus unsecured creditor claims; availability of short and long-term financing; bonding capacity and credit information. Failure to promptly provide this information may result in rejection of the Bid.

8.1.2 OSU may postpone the selection of apparent successful Bidder or execution of a contract in order to complete its investigation and evaluation. Failure of a firm to demonstrate financial responsibility may render it non-responsible and constitute grounds for Bid rejection.

8.2 Project Termination.

8.2.1 OSU reserves the right to terminate the Project or contract during any phase in the Project.

8.3 Insurance Provisions. During the term of the resulting contract, the awardee will be required to maintain in full force, at its own expense, from insurance companies authorized to transact the business of insurance in the state of Oregon, each insurance coverage/policy as set forth in the contract.

8.4 Nondiscrimination. By submission of a Bid, the Bidder certifies under penalty of perjury that the Bidder will not discriminate against minority, women, emerging small business or service-disabled veteran owned business enterprises in obtaining any required subcontracts.

8.5 AA/EEO Employer. OSU is an AA/EEO employer.

8.6 Compliance with Applicable Law. Bidder agrees to comply with all federal, state, county, and local laws, ordinances, and regulations as well as all applicable OSU Standards and Policies while on campus.

8.6.1 Smoke and Tobacco Free Campus. OSU's grounds and premises are smoke and tobacco free. Contractor and Contractor's employees, agents, Subcontractors, if any, agree not to smoke or use tobacco products while on OSU property.

8.6.2 Sexual Misconduct Policy. OSU has policies that prohibit sexual misconduct against members of the university community and in keeping with those policies Contractor and Contractor's employees, agents, and Subcontractors are prohibited from engaging in sexual misconduct against members of the university community.

8.6.3 Firearms Policy. OSU has adopted a policy that prohibits Contractor and Contractor's employees, agents and Subcontractors from possessing firearms on OSU's property.

8.7 Background Checks. Rogers Hall is designated as critical, occupied or security-sensitive facilities. Thus, the selected Contractor shall conduct criminal background checks, including sex offender registration checks, (for both: Oregon at a minimum, and national for Contractor employees that formerly lived outside of the state of Oregon) on each Contractor employee and agent with satisfactory results before referral or placement at any Owner work location. Contractor must perform the criminal background checks within the twelve (12) months immediately preceding referral or placement at any Owner work location.

Disqualifying crimes include 1) felony convictions of any kind within the last eight (8) years, 2) all crimes involving weapons of any kind ever committed, 3) all person to person crimes involving physical injury to another person ever committed, 4) sexual offenses of any kind ever committed, including stalking, and 5) child abuse, molestation, child pornography or other crimes involving child endangerment, including neglect and abandonment of any kind ever committed.

Contractor shall require Contractor's employees and agents to self-disclose to Contractor any new convictions that occur within three business days of the conviction. Contractor shall reassess the individual's assignment under the Contract.

The Owner, at its discretion, may require Contractor to reassign a Contractor employee or agent to no longer perform work under the Contract or for the Owner if, at any time, Owner believes that the Contractor employee or agent may create a danger to health or safety of the university community.

Contractor is solely responsible for complying with all applicable federal, state or local laws, rule and regulations, including but not limited to the Fair Credit Reporting Act and equal opportunity laws and regulations, when conducting background checks. The costs and Fair Credit Reporting Act obligations for criminal background checks are the responsibility of Contractor.

Contractor shall maintain a security log including a list of Contractor employees working in, accessing, or who will enter Owner critical, occupied or security-sensitive facilities; verification of each Contractor employee's satisfactory and unsatisfactory results of criminal background checks; each Contractor employee's site assignment; and each revocation of a Contractor employee's site assignment. Contractor shall update and maintain the security log during the duration of the contract and twenty-four (24) months after. Contractor shall provide Owner with access to the security log for audit and copying purposes within twenty-four (24) hours of Owner's request.

Contractor shall require Contractor's subcontractors and agents providing services under the Contract to comply with this provision. The Owner may audit Contractor's background check processes at any time to ensure compliance with this section. Failure of Contractor to comply with this section is a material breach of the resulting Contract and may result in the Owner seeking monetary damages or pursue other remedies, Contractor termination by the Owner without further liability or obligation, or both. Contractor shall indemnify, defend and hold harmless the Owner and its directors, agents, trustees and employees from all claims, suits, and actions arising out of or related to any and all claims relating to the conducting of such checks and any adverse action that may be taken as a result of such checks.

9.0 EXHIBITS

- Exhibit A- Bid Form
- Exhibit B- Sample OSU Reserve Contract Supplement
- Exhibit C- Oregon State University General Conditions for Reserve Contracts
- Exhibit D- Sample Payment Bond
- Exhibit E- Sample Performance Bond
- Exhibit F- MWESB Project Contract Report Instructions and Report
- Exhibit G- Specifications, drafted Colebreit Engineering dated March 7, 2022
- Exhibit H- Drawings, stamped by Colebreit Engineering dated March 7, 2022
- Exhibit I- Drawings, stamped by Pillar Consulting Group, Inc. dated March 7, 2022
- Exhibit J- Addenda (if and when applicable)

End of ITB



Oregon State University

BID FORM

ITB NUMBER & NAME: #2022-008358, Rogers Hall Room 334 Fume Hood Replacement

BID DUE DATE AND TIME: (fill in)

FROM: (Name of Contractor)

TO: Oregon State University ("Owner")
Construction Contracts Administration
644 SW 13th Street
Corvallis, Oregon 97333

1. The Undersigned hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Base Bid as follows: Dollars (\$)

and the Undersigned agrees to be bound by the documents either contained in or incorporated by reference in the Invitation to Bid and ADDENDA numbered through, inclusive. (fill in blanks)

2. The work shall be completed within the time stipulated and specified in Division 1, Section 01 11 00, of the Specifications.

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

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

5. Contractor's CCB license number is . As a condition to submitting a Bid, Contractor must be licensed with the Oregon Construction Contractors Board in accordance with ORS 701.021 to 701.128, and disclose the license number. Failure to be licensed and disclose the number will render the Bid unresponsive and it will be rejected, unless contrary to federal law.

6. The Bidder hereby certifies that all subcontractors who perform construction work as described in ORS 701.005(5) are licensed with the Construction Contractors Board in accordance with ORS 701.021 to 701.128 at the time the Bid is submitted.

ROGERS HALL ROOM 334 FUME HOOD REPLACEMENT

7. Contractor's Project Manager for this project is: _____,

Email: _____

Cell Phone: _____

8. The Undersigned agrees, if awarded the Contract, to deliver to Owner, a satisfactory Performance Bond and Payment Bond, each in an amount equal to one hundred (100) percent of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

(name of surety company - not insurance agency)

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

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

NAME OF FIRM: _____

ADDRESS: _____

FEDERAL TAX ID: _____

TELEPHONE NO: _____

EMAIL: _____

SIGNATURE: _____

Authorized Signature

Printed Name

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

**OSU RESERVE CONTRACT SUPPLEMENT
OSU RESERVE CONTRACT FOR CONSTRUCTION RELATED SERVICES
SUPPLEMENT NO.: OSU-XXX-C-18-XX
PROJECT NAME**

This OSU Reserve Contract Supplement dated XXXX (the "Supplement") is entered into between:

"Contractor":

and "Owner":

Oregon State University
Construction Contracts Administration
644 SW 13th Street
Corvallis, OR 97333-4238

(collectively the "Parties") pursuant to the OSU Reserve Contract for Construction Related Services between the Parties (the "Reserve Contract"). Capitalized terms have the meaning defined in the General Conditions unless otherwise defined in the Reserve Contract or herein.

- 1. DESCRIPTION OF THE PROJECT.** The project to which this Supplement pertains is described as follows: (the "Project").
- 2. WORK TO BE PERFORMED.** Contractor shall perform the following work on the Project: (the "Work"). Contractor will perform the Work according to the terms and conditions of this Supplement and the Contract Documents, which are incorporated herein by this reference.
- 3. SCHEDULE.** Contractor shall perform the Work according to the following schedule: (the "Schedule").
- 4. COMPENSATION.** Owner shall compensate Contractor for Work in the firm, fixed-price amount of \$XXXXX.XX in accordance with the requirements of the General Conditions.

The cost of the Work under this Supplement, even if this Supplement is later amended to include additional work, must not exceed the greater of \$2,000,000 or the maximum allowable under OSU standards and policies.

Contractor hereby agrees that the Work set forth in this Supplement may continue beyond the Term of the Reserve Contract and will be performed through final completion of Contractor's Work, including completion of all warranty work. The Parties expressly agree that they may execute a Supplement Amendment and extend the date which Contractor's Work may be completed, which may include a date beyond the Term of the Reserve Contract.

Termination or suspension does not extinguish or prejudice Owner's right to enforce the Supplement with respect to any breach by the Contractor that has not been cured.

5. TERM. This Supplement is effective on the date it has been signed by every Party hereto (the "Supplement Effective Date"). No Work shall be performed or payment made prior to the Supplement Effective Date. Contractor shall perform its obligations in accordance with the Contract Documents, unless this Supplement is earlier terminated or suspended.

Contractor hereby agrees that the Work set forth in this Supplement may continue beyond the Term of the Reserve Contract and will be performed through final completion of Contractor's Work, including completion of all warranty work. The Parties expressly agree that they may execute a Supplement Amendment and extend the date which Contractor's Work may be completed, which may include a date beyond the Term of the Reserve Contract.

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

- As a condition precedent to the effectiveness of this Supplement and to Owner's obligation to make payment for the Work, Contractor shall provide the Owner with a performance bond and a separate payment bond in a sum equal to the Contract Price stated in Section 4 of this Supplement.
- This Project has a Contract price of \$150,000 or less, and Owner has determined that performance and payment bonds will not be required for this Project.

7. MINIMUM WAGE RATES.

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

PREVAILING WAGE RATES for Public Works Contracts in Oregon, XXXX, as amended XXXX9, which can be downloaded at the following web address:

[http://www.boli.state.or.us/BOLI/WHD/PWR/pwr_book.shtml]

The Work will take place in XXXX, Oregon.

8. INSURANCE REQUIREMENTS.

- Contractor shall comply with and obtain the insurance coverage amounts stated in the General Conditions.
- The Owner has determined that the Contractor shall obtain insurance in the amount described in the Supplemental General Conditions, attached hereto.

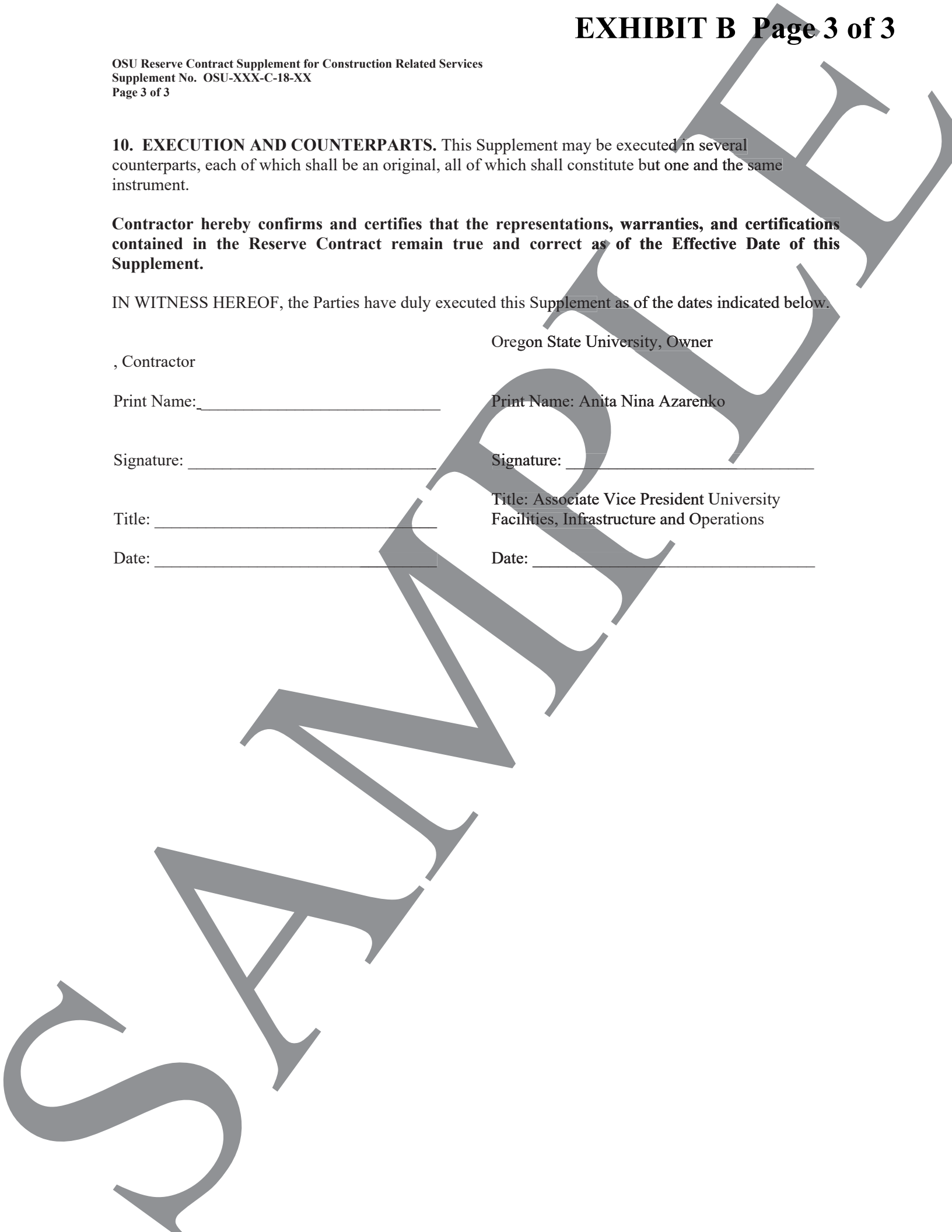
9. OTHER TERMS. Except as specifically modified by this Supplement, all terms of the Reserve Contract remain unchanged.

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

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

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

<p>, Contractor</p> <p>Print Name: _____</p> <p>Signature: _____</p> <p>Title: _____</p> <p>Date: _____</p>	<p>Oregon State University, Owner</p> <p>Print Name: Anita Nina Azarenko</p> <p>Signature: _____</p> <p>Title: Associate Vice President University Facilities, Infrastructure and Operations</p> <p>Date: _____</p>
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OREGON STATE UNIVERSITY GENERAL CONDITIONS FOR RESERVE CONTRACTS

January 31, 2019

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

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OREGON STATE UNIVERSITY GENERAL CONDITIONS FOR RESERVE CONTRACTS ("General Conditions")

SECTION A GENERAL PROVISIONS

A.1 DEFINITION OF TERMS

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

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

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

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

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

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

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

CONSTRUCTION SCHEDULE, means the schedule prepared by the Contractor in CPM format and approved by the Owner, and all adjustments thereto approved by the Owner, that describes sequence and timing of the Work.

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

CONTRACT DOCUMENTS, means the Reserve Contract, General Conditions, Supplemental General Conditions if any, Supplements, the accepted Offer, Plans, Specifications, Change Orders, Amendments, Construction Change Directives, Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors, the Construction Schedule prepared and approved in accordance with the Construction Documents, and all other required Submittals.

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

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

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

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

CPM, means a critical path method format to be used for the Construction Schedule.

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

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

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

FINAL PAYMENT, means the last payment to the Contractor, including retainage, in connection with the Work.

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

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

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

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

OFFEROR, means an entity who submits a response to a solicitation document.

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

OWNER, means Oregon State University (OSU). Owner may elect, by written notice to Contractor, to delegate certain duties to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

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

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

PROJECT, means the total design, development and construction of which the Work performed under the Construction Documents may be the whole or a part.

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

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

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

SOLICITATION DOCUMENT, means a document used in a formal procurement soliciting two or more qualified sources by public notice for the same specifications and requirements.

SPECIFICATION, means a description of the physical, functional, or performance characteristics, or of the nature of the goods, services or construction, including any requirement to be satisfied by a product, material or process indicating, if appropriate, the procedures to determine whether the requirements are satisfied. Specifications may be incorporated by reference and/or may be attached to the Contract.

SUBCONTRACT, means a contract between the Contractor and a subcontractor for the performance of a portion of the Work.

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

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property constituting the Work or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.3.2.

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

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

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

A.2 SCOPE OF WORK

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in the Contract Documents. The Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents. Execution of the Contract by the Contractor is an express representation (1) that the Contractor understands the intent stated herein with respect to the Preconstruction Phase Services, and (2) the Contractor's execution of an Amendment, including the GMP Amendment, shall be an express and unqualified representation that the Contractor understands the intent stated herein and therein.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

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

- (a) Contract Supplements, Amendments and Construction Change Directives, with those of later date having precedence over those of an earlier date;
- (b) The Supplemental General Conditions;
- (c) General Conditions;
- (d) The Reserve Contract Supplements;
- (e) Construction Change Directive;
- (f) Division One (General Requirements) of the Specifications;

- (g) Detailed Schedules of finishes, equipment and other items included in the Specifications;
- (h) Plans and Specifications (other than Division One and the Detailed Schedules to the Specifications);
- (i) Large-scale drawings on Plans;
- (j) Small-scale drawings on Plans;
- (k) Dimension numbers written on Plans which shall prevail and take precedence over dimensions scaled from Plans;
- (l) The Solicitation Document, and any addenda thereto;
- (m) The Reserve Contract.

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

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner. Matters concerning and interpretation of requirements of the Contract Documents will be decided by the Owner, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Interpretations and decisions of the Owner (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner (or Architect/Engineer).

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

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.

A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner, and confirmed in writing including without limitation, any nonconformity with Applicable Laws.

A.4.4 If the Contractor believes that adjustments to cost or Contract Time is involved because of clarifications or instructions issued by the Owner (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

A.5 INDEPENDENT CONTRACTOR STATUS

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

A.6 RETIREMENT SYSTEM STATUS AND TAXES

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

A.7 GOVERNMENT EMPLOYMENT STATUS

A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor from holding another contract with the Federal Government.

A.7.2 Contractor represents and warrants that Contractor is not an employee of the State of Oregon for purposes of performing Work under this Contract

SECTION B ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

B.1.1 The Owner shall administer the Contract as described in the Contract Documents (1) during construction (2) until Final Payment is due and (3) during the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.

B.1.2 The Owner will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and

quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work. Inspection of the progress, quantity, or quality of the Work done by the Owner, any Owner representative, and public agency, the Architect/Engineer, or any inspector, shall not relieve the Contractor of any responsibility for the compliance of all Work with the Contract Documents.

- B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.
- B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

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

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

B.3 MATERIALS AND WORKMANSHIP

- B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.

- B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's expense.
- B.3.3 Work done and materials furnished shall be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.
- B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.
- B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits and licenses, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the Project. Owner shall obtain and pay for the general building permit and pay for any specialty permits required for the Work. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, Oregon State University, and its departments, divisions, members and employees.

B.5 COMPLIANCE WITH GOVERNMENT REGULATIONS

- B.5.1 Contractor shall comply with Applicable Laws pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable:
- (i) Title VI and VII of Civil Rights Act of 1964, as amended;
 - (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended;
 - (iii) the Health Insurance Portability and Accountability Act of 1996;
 - (iv) the Americans with Disabilities Act of 1990, as amended;
 - (v) ORS Chapters 659 and 659A; as amended;
 - (vi) all regulations and administrative rules established pursuant to the foregoing laws; and
 - (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.
- B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and
- (a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.
 - (b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or this Contract when performing the Work.

- B.5.3 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.021 to 701.068 at the time they submit their bids to the Contractor.
- B.5.4 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.
- B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0100. You may obtain copies of the rules by calling the center at (503)232-1987.
- B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.6 SUPERINTENDENCE

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

B.7 INSPECTION

- B.7.1 Owner shall have access to the Work at all times.
- B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner, shall be removed and replaced at the Contractor's expense.
- B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.
- B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.
- B.7.5 If directed to do so any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required

testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner, the uncovering and restoration will be paid for pursuant to a Supplement Amendment.

- B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.
- B.7.7 When the United States government participates in the cost of the Work, or the Owner has an agreement with other public or private organizations, or if any portion of the Work is being performed for a third party or in close proximity to third party facilities, representatives of these organizations shall have the right to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

B.8 SEVERABILITY

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

B.9 ACCESS TO RECORDS

- B.9.1 Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Construction Change Directives and addenda, in good order and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner access thereto.
- B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or this Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

B.10 WAIVER

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

B.11 SUBCONTRACTS AND ASSIGNMENT

- B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these General Conditions, and to assume toward the Contractor all of the obligations and

responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

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

B.12 SUCCESSORS IN INTEREST

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

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor. If such work takes place within or next to the project site, Contractor shall coordinate work with the other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all forces involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.14 OTHER CONTRACTS

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

B.15 GOVERNING LAW

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

B.16 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely

and exclusively within the Circuit Court of Benton County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the State of Oregon on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16.

B.17 ALLOWANCES

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

B.17.2 Unless otherwise provided in the Contract Documents:

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

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

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

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

- B.18.2 Shop Drawings, Product Data, Samples and similar Submittals are not Contract Documents. The purpose of their Submittal is to demonstrate for those portions of the Work for which Submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of Submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's Submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational Submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.
- B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar Submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.
- B.18.4 Approving and submitting shop drawings, product data, samples and similar Submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents.
- B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar Submittals until the respective Submittal has been approved by the Architect/Engineer.
- B.18.6 The Work shall be in accordance with approved Submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar Submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Supplement Amendment or Construction Change Directive has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar Submittals by the Architect/Engineer's review or approval thereof.
- B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

B.19 SUBSTITUTIONS

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

B.20 USE OF PLANS AND SPECIFICATIONS

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

B.21 FUNDS AVAILABLE AND AUTHORIZED

If Owner fails to receive funding, appropriations, allocations or other expenditure authority as contemplated by Owner's budget and Owner determines, in its assessment and ranking of the policy objectives explicit or implicit in Owner's budget, Owner may determine it is necessary to and may terminate the Reserve Contract and or any Reserve Contract Supplements.

B.22 NO THIRD PARTY BENEFICIARIES

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

SECTION C WAGES AND LABOR

C.1 MINIMUM WAGE RATES ON PUBLIC WORKS

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

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

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

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

C.2.3 Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.

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

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

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

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

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

C.3.1.3 not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to

Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

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

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

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

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

C.4 PAYMENT FOR MEDICAL CARE

As a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, all sums of which the Contractor agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

C.5 HOURS OF LABOR

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

(a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or

(b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and

(c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

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

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

**SECTION D
CHANGES IN THE WORK**

D.1 CHANGES IN WORK

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

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

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

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

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

- (a) Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.
- (b) If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing, the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.
- (c) In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for

Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. In addition, the following markups shall be added to the Contractor's or Subcontractor's Direct Costs as full compensation for profit, Overhead and other indirect costs for Work directly performed with the Contractor's or Subcontractor's own forces:

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

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

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

Notwithstanding the foregoing, the maximum aggregate markup to be billed shall not exceed 10% regardless of the number of subcontract tiers

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

Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment. Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of Owner's request for additional Work. Contractor agrees that this thirty (30) Day notice period is adequate time for it to request and document the amount of additional compensation or adjustment of Contract Time. If Contractor's request for additional compensation or adjustment of Contract Time is not made within the thirty (30) Day time limit, Contractor agrees its requests pertaining to that additional Work shall be barred. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner denies Contractor's timely request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

D.1.4 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of any other part of the Work under this Contract, Contractor shall submit a written request to the Owner, setting forth the nature and specific extent of the

request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner's request for adjustments to or deletions from the Work by Contractor.

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

If the Owner denies the Contractor's request for adjustment to compensation or Contract Time, and the request is timely as set forth herein, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

D.1.5 Contractor agrees that no request or Claim for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of Final Payment application under this Contract. Final Payment application must be made by Contractor within the time required under Section E.6.4.

D.1.6 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor is notified that numerous changes may be required and that there will be no compensation made, unless and only to the extent otherwise provided in the Contract Documents, to the Contractor directly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

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

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

- (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.

- (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work or the completion of the whole Work within the Contract Time.
- (c) Do not impact activities on the accepted CPM Construction Schedule.
- (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

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

- (a) To the extent caused by any actions of the Owner, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.
- (b) To the extent caused by any site conditions that differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor agrees to notify the Owner immediately of differing site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether the conditions differ materially from either the conditions stated in the Contract Documents or those that could reasonably be expected in execution of this particular Contract. If Contractor and Owner agree that a differing site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.1.5 for adjustments to or deletions from Work. If the Owner disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.
- (c) To the extent caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
- (d) To the extent caused by adverse weather conditions. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been anticipated by the Contractor, and adversely impacted the Project in a manner that could not be avoided by rescheduling the Work or by implementing measures to protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated:

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

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

- D.2.2 Contractor agrees it is not be entitled to additional compensation or additional Contract Time for Avoidable Delays.
- D.2.3 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:
- (a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).
 - (b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.2.1.2 (b), Contractor must submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor agrees to submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process, provided Contractor has complied with the requirement in this Section D.2.3. Contractor agrees any Claim it may have is barred if Contractor does not comply with the requirements herein.

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

D.3 CLAIMS REVIEW PROCESS

- D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Contractor agrees that, unless the Claim is made in accordance with these time requirements, Contractor voluntarily waived all rights to prosecute its Claim.
- D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the

Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.

- D.3.3 The Owner will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.
- D.3.4 The Owner's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.
- D.3.5 The decision of the Owner shall be final and binding unless the Contractor delivers to the Owner its request for mediation, which shall be a non-binding process, within fifteen (15) Days of the date of the Owner's decision. The mediation process will be considered to have commenced as of the date the Contractor delivers the request. Both parties acknowledge and agree that participation in mediation is a prerequisite to commencement of litigation of any disputes relating to the Contract. Both parties further agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the commencement of the mediation through the mediation process set forth herein.

In the event that a lawsuit must be filed within this sixty (60) Day period in order to preserve a cause of action, the parties agree that, notwithstanding the filing, they shall proceed diligently with the mediation to its conclusion prior to actively prosecuting the lawsuit, and shall seek from the Court in which the lawsuit is pending such stays or extensions, including the filing of an answer, as may be necessary to facilitate the mediation process. Further, in the event settlements are reached on any issues through mediation, the plaintiff shall promptly cause to be entered by the Court a stipulated general judgment of dismissal with prejudice, or other appropriate order limiting the scope of litigation as provided in the settlement.

- D.3.6 Should the parties arrive at an impasse regarding any Claims or disputed Claims, it is agreed that the parties shall participate in mediation as specified in Section D.3.5. The mediation process will be considered to have been commenced as of the date one party delivers to the other its request in writing to mediate. The mediator shall be an individual mutually acceptable to both parties, but in the absence of agreement each party shall select a temporary mediator and the temporary mediators shall jointly select the permanent mediator. Each party shall pay its own costs for the time and effort involved in mediation. The cost of the mediator shall be split equally between the two parties. Both parties agree to exercise their best effort in good faith to resolve all disputes in mediation. Participation in mediation is a mandatory requirement of both the Owner and the Contractor. The schedule, time and place for mediation will be mutually

acceptable, or, failing mutual agreement, shall be as established by the mediator. The parties agree to comply with Owner's administrative rules governing the confidentiality of mediation, if any, and shall execute all necessary documents to give effect to such confidentiality rules. In any event, the parties shall not subpoena the mediator or otherwise require the mediator to produce records, notes or work product, or to testify in any future proceedings as to information disclosed or representations made in the course of mediation, except to the extent disclosure is required by law.

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

**SECTION E
PAYMENTS**

E.1 SCHEDULE OF VALUES

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

E.2 APPLICATIONS FOR PAYMENT

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

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

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

will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor. Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

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

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

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

Signed: _____
Dated: _____"

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

- (a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.
- (b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.
- (c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.
- (d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.
- (e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the project site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.
- (f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material and/or equipment stored and of payment for the storage site.
- (g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under this Contract for the rejection of the Work or materials and/or equipment not in conformance with the Contract Documents.

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

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

- (a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents,
- (b) Third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;
- (c) Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.);
- (d) Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
- (e) Damage to the Work, Owner or another contractor;
- (f) Reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- (g) Failure to carry out the Work in accordance with the Contract Documents; or
- (h) Assessment of liquidated damages, when withholding is made for offset purposes.

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

- (a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by a Supplement Amendment;
- (b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;
- (c) Subtract the aggregate of previous payments made by the Owner; and
- (d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

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

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

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

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

E.3 PAYROLL CERTIFICATION REQUIREMENT

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

E.4 DUAL PAYMENT SOURCES

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

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in OSU standards and policies.

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

E.5.1.2 Contractor may request in writing:

- (a) To be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds and securities of equal value with Owner or in

a custodial account or other mutually-agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner;

(b) For construction projects over \$1,000,000, that retainage be deposited in an interest bearing account, established through the State Treasurer for state agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with earnings from such account accruing to the Contractor; or

(c) That the Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims in the manner and priority as set forth for retainage.

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

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

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

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

E.6 FINAL PAYMENT

E.6.1 Upon completion of all the Work under this Contract, the Contractor shall notify the Owner, in writing, that Contractor has completed Contractor's obligations under the Contract and shall prepare its application requesting final payment. Upon receipt of such notice and application for payment, the Owner will inspect the Work, and, if acceptable, submit to the Owner a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for Final Payment. Upon approval of this final application for payment by the Owner and

compliance by the Contractor with provisions in Section K, and Contractor's satisfaction of other provisions of the Contract Documents as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.

E.6.2 Neither Final Payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) a certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (2) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (3) consent of surety, if any, to Final Payment and (4), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

E.6.3 Acceptance of Final Payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.

E.6.4 Contractor agrees to submit its final payment application within ninety (90) Days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay Final Payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to this Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its Final Payment application within ninety (90) Days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be waived.

SECTION F JOB SITE CONDITIONS

F.1 USE OF PREMISES

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

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage and shall protect the Owner, workers and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to the Owner any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the job site or otherwise engaged in the

undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Work site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Work site safety. Work site safety shall be the responsibility of the Contractor.

F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall, immediately and in writing, report to the Owner, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.

F.2.4 Contractor shall be responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, vehicles and materials on the site.

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

F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials shall be conducted so no release will occur that may pollute or become hazardous.

F.2.6 In an emergency affecting the safety of life or limb or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.

F.3 CUTTING AND PATCHING

F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.

F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

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

F.5 ENVIRONMENTAL CONTAMINATION

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

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

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

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

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

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

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

F.6 ENVIRONMENTAL CLEAN-UP

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

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

F.7 FORCE MAJEURE

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

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

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

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

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

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

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

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

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

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

G.2.3 Before execution of the Contract the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2015, Chapter 279C, and OAR 839-025-0015, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

G.3 INSURANCE

G.3.1 General Requirements. The required insurance amounts set forth below do not in any way limit the amount or scope of liability of Contractor under this Contract. The amounts listed indicate only the minimum amounts of insurance coverage Owner is willing to accept to help insure full performance of all terms and conditions of this Contract.

G.3.1.1 Primary Coverage and Non-Contributory Coverage. Insurance carried by Contractor under this Contract shall be primary and non-contributory coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.1.2 Company Ratings. All policies of insurance must be written by companies having an A.M. Best rating of no less than "A-VII", or equivalent. Owner may, upon thirty (30) days written notice to Contractor, require Contractor to change any carrier whose rating drops below an "A-VII" rating. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to conduct an insurance business and issue policies of insurance in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and which are subject to approval the Owner.

G.3.1.3 Additional Insured. Each liability policy, except Workers' Compensation and Professional Liability, shall be endorsed to include Owner, its officers, trustees, employees and agents as additional insured but only with respect to the Contractor's activities to be performed under this Contract

If Contractor cannot obtain an insurer to name the Owner as additional insured, Contractor shall obtain at Contractor's expense, and keep in effect during the term of this Contract, Owners and Contractors Protective Liability Insurance, naming the Owner as additional insured with minimum limits of \$2,000,000 per occurrence and \$2,000,000 aggregate. This policy must be kept in effect for 36 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.

G.3.1.4 Notice of Cancellation or Change. If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to this Contract, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner.

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

G.3.1.5 Deductibles and Self-insured Retentions. Any deductible, self-insured retention and/or self-insurance in excess of \$50,000 may be subject to approval by the Owner in writing.

G.3.2 Workers' Compensation. All employees, including Contractor, that employs subject workers who work under this Contract in the State of Oregon shall comply with ORS

656.017 and provide the required Worker's Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with minimum limits of \$1,000,000 each accident; \$1,000,000 disease-each employee; and \$1,000,000 disease-policy limit. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

G.3.3 Commercial General Liability. Contractor shall obtain, and keep in effect at Contractor's expense for the term of the Contract, Commercial General Liability Insurance covering bodily injury and property damage in the amount of \$2,000,000 per occurrence and \$4,000,000 aggregate. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the indemnities provided under this Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace).

G.3.4 Automobile Liability. Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Automobile Liability Insurance with "symbol 1" coverage (owned, hired and non-owned vehicles). The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance showing minimum limits of \$2,000,000 combined single limit. Contractor and its Subcontractors shall be responsible for ensuring that all non-owned vehicles maintain adequate Automobile Liability insurance while on site.

G.3.5 Umbrella Liability. Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Umbrella liability Insurance over and above the Commercial General Liability, Automobile Liability and Employers' Liability insurance coverage with minimum limits of \$5,000,000 per occurrence and \$5,000,000 aggregate.

G.3.6 Owner may adjust the insurance amounts required in Section G.3.4, G.3.4, and G.3.5 through the issuance of Supplemental General Conditions and a Contract.

G.3.7 Professional Liability. (if required by issuance of Supplemental General Conditions) Contractor shall obtain, at Contractor's expense, Professional Liability/Errors & Omissions insurance covering damages caused by any negligent error, omission, or professional misconduct of the Contractor. The policy may be either a practice based policy or a policy pertaining to the specific Project. Professional Liability insurance shall have minimum limits of \$3,000,000 each claim and \$3,000,000 aggregate. Contractor shall require that each of its Major Consultants and subcontractors (including structural, civil, mechanical, plumbing, electrical engineering, survey, geotechnical and materials testing) secures and maintains Professional Liability/Errors & Omissions with limits not less than \$2,000,000 each claim and \$2,000,000 aggregate. All other Consultants and subcontractors not listed above shall have limits not less than \$1,000,000 each claim and \$1,000,000 aggregate.

G.3.7.1 Tail Coverage. If the Professional Liability is arranged on a "claims made" basis, tail coverage will be required at the completion of this Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certificates of insurance showing tail coverage as described or continuous "claims

made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of tail coverage, provided its retroactive date is on or before the effective date of this Contract. Owner's receipt of the certificate of insurance and/or endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

- G.3.8 Pollution Liability (if required by Owner through issuance of Supplemental General Conditions) Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Pollution liability Insurance in minimum amounts of \$3,000,000 per occurrence and \$3,000,000 aggregate, naming Owner as additional insured, as noted in the Additional Insured section.
- G.3.9 Builders' Risk Insurance – Completed Value Basis. Unless otherwise provided, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, Builders' Risk Insurance in the amount of the initial Contract Sum, plus value of subsequent modifications, change orders, and cost of material supplied or installed by others, comprising total value of the entire Project at the site on a replacement cost basis without optional deductibles. The earthquake and flood insurance sublimits will be equal to the maximum probable loss.
- G.3.9.1 Policy must provide coverage from the time any covered property becomes the responsibility of the Contractor, and continue without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, or awaiting installation, whether on or off site.
- G.3.9.2 The Builders' Risk Insurance shall include the Owner, the Contractor, subcontractors and sub-tier contractors in the Project as named insureds on the policy, and shall include a waiver of subrogation provision in favor of all parties.
- G.3.9.3 The Builders' Risk Coverage shall be written on a Special Covered Cause of Loss form and shall include theft, vandalism, malicious mischief, collapse, false-work, temporary buildings, transit, debris removal including demolition, increased cost of construction, architect's fees and expenses, flood (including water damage), earthquake, and if applicable, all below and above ground structures, piping, foundations including underground water and sewer mains, piling including the ground on which the structure rests and excavation, backfilling, filling, and grading.
- G.3.9.4 The Builders' Risk shall include a Beneficial Occupancy Clause. The policy shall specifically permit occupancy of the building during construction. Contractor shall take reasonable steps to obtain consent of the insurance company and delete any provisions with regard to restrictions within any Occupancy Clauses within the Builder's Risk Policy.
- G.3.9.5 Equipment Breakdown Coverage (a.k.a. Boiler & Machinery) shall be included as required by the Contract Documents or by law, which shall specifically covers insured equipment during installation and testing (including cold and hot testing).
- G.3.9.6 The Builders' Risk shall include loss of use due to delays in project completion caused by covered peril losses to the Project, including loss of income and rents and soft costs.
- G.3.9.7 The deductible shall not exceed \$50,000 for physical damage and shall be the responsibility of the Contractor. The deductible shall be paid by the Contractor if the Contractor is negligent. The earthquake and flood deductible shall not

exceed 2 percent of each loss or \$50,000, whichever is greater.

- G.3.9.8 OSU shall be provided with a certificate of insurance, as well as a copy of the policy.
- G.3.9.19 The Contractor shall be responsible for the payment of premium, giving or receiving notice of cancellation; and requesting amendments to this policy and accepting amendments to this policy made by the company.
- G.3.9.10 OSU reserves the right to purchase the Builder's Risk insurance policy.
- G.3.10 Builder's Risk Installation Floater. For Work other than new construction, Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at their sole and absolute discretion.
- G.3.11 Certificate(s) of Insurance. As evidence of the insurance coverage required by this Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to the execution of the Contract. The certificate(s) will specify all of the parties who are additional insured or loss payees for this Contract, and the applicable endorsements will be attached. Additional insured endorsements must include completed operations without restriction to contractual requirements.
- G.3.12 Subcontractors. Subject to and following the written approval of the Owner as outlined in B.11.3 as related to Subcontracts and Assignment, the Contractor shall require Subcontractors to have insurance as outlined in section G.3.1 through G.3.4; however, the policy limits may be reduced, but no case shall the policy limits be less than \$1,000,000.
- G.3.13 Reserve Contracting Program: For the Reserve Contracting Program the term "Contract" as used in this Section G in the phrases "keep in effect during the term of this Contract" and "prior to execution of the Contract" shall mean each Reserve Contract Supplement issued under the Reserve Contract.

SECTION H SCHEDULE OF WORK

H.1 CONTRACT PERIOD

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

H.2 SCHEDULE

- H.2.1 Contractor shall provide, by or before the pre-construction conference, a detailed Construction Schedule for review and

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

H.3 PARTIAL OCCUPANCY OR USE

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

SECTION I CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

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

may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

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

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

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

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

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

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

SECTION J

SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

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

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

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

J.2 CONTRACTOR'S RESPONSIBILITIES

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

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

J.3 COMPENSATION FOR SUSPENSION

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

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

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

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

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

J.5 TERMINATION FOR CONVENIENCE

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

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

J.6 ACTION UPON TERMINATION

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

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

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

SECTION K CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

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

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner prior to submission of any pay request for more than 75% of the Work. Owner's receipt of the O & M Manuals shall be a condition precedent to any payment thereafter due. The O & M Manuals shall contain a complete set of all Submittals, all product data as required by the specifications, training information, telephone list and contact information for all consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner shall review and return one O & M Manual for any modifications or adjustments required. Prior to submission of its final pay request, Contractor shall deliver two (2) complete and approved sets of O & M Manuals in paper form and one (1) complete and approved set in electronic form to the Owner and Owner's receipt of the O & M Manuals shall be a condition precedent to Owner's obligation to make final payment.

K.3 COMPLETION NOTICES

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

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

K.4 TRAINING

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

K.5 EXTRA MATERIALS

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

K.6 ENVIRONMENTAL CLEAN-UP

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

K.7 CERTIFICATE OF OCCUPANCY

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

K.8 OTHER CONTRACTOR RESPONSIBILITIES

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

K.9 SURVIVAL

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

OREGON STATE UNIVERSITY

PAYMENT BOND

Bond No. _____
Solicitation _____
Project Name _____

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

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

WHEREAS, the Principal has entered into contract No. _____ with OSU, the plans, specifications, terms and conditions of which are contained within the Contract resulting from the above-referenced Solicitation;

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

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

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall (1) faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, (2) shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, (3) shall save, defend, indemnify and hold harmless OSU, and its officers, board members, employees, agents and other representatives, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, (4) shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; (5) shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its

subcontractors in connection with the performance of the Contract; (6) shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167;(7) shall permit no lien nor claim to be filed or prosecuted against the State or OSU on account of any labor or materials furnished; and (8) shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall OSU be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 352, the provisions of which hereby are incorporated into this bond and made a part hereof.

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

Dated this _____ day of _____, 20__.

PRINCIPAL: _____

By _____

Signature

Official Capacity

Attest: _____

Corporation Secretary

SURETY: _____

[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:

[Power-of-Attorney must accompany each bond]

Name

Signature

Address

City State Zip

Phone Fax

OREGON STATE UNIVERSITY

PERFORMANCE BOND

Bond No. _____

Solicitation _____

Project Name Advanced technology and Manufacturing Institute (ATAMI) Build Out – HP Campus B11

_____(Surety #1)

Bond Amount No. 1: \$ _____

_____(Surety #2)*

Bond Amount No. 2:* \$ _____

** If using multiple sureties*

Total Penal Sum of Bond: \$ _____

We, _____ as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Oregon State University (OSU), the sum of (Total Penal Sum of Bond)

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

WHEREAS, the Principal has entered into contract No. _____ with the OSU, the plans, specifications, terms and conditions of which are contained within the Contract resulting from the above-referenced Solicitation;

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

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

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall (1) faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, (2) shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, (3) shall save, defend, indemnify and hold harmless OSU and its officers, board members, employees, agents and other representatives, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by

the Principal or its subcontractors, and (4) shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall OSU be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 352, the provisions of which hereby are incorporated into this bond and made a part hereof.

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

Dated this _____ day of _____, 20__.

PRINCIPAL: _____

By _____

Signature

Official Capacity

Attest: _____

Corporation Secretary

SURETY: _____

[Add signatures for each surety if using multiple bonds]

BY ATTORNEY-IN-FACT:

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

Name

Signature

Address

City

State

Zip

Phone

Fax

As indicated in the General Conditions of your contract(s) Section E.2.9, OSU requires that we gather MWESB (Minority, Women's Emerging Small Business) Contractor/Subcontractor information. This is an Oregon State University requirement and the information will be gathered annually and at time of final payment.

- **You must do this step first or the report will not let you add any information:** In Row 1 Column B there is a drop down menu. You must select yearend (if the job has not been completed) or final (if the job is completed and you have submitted for retention). Once you choose yearend or final in the drop down menu there will be areas highlighted in light green and red. Those are the areas that you are required to fill out. If you did not use or planning to use any MWESB then the left side of the report (Light Green area) still needs to be filled out and the red area needs to remain blank.
- If your agency is an MWESB or if you are using/used an MWESB subcontractor then you need to fill out the information in the report that is highlighted in light green and red (see instructions in the next bullet). If you are not an MWESB or used a Subcontractor that is an MWESB then you need to fill out the left side of the form (Light Green areas) and leave the red area blank.
- In row 2 Column B there is another drop down menu, click the drop down menu and choose Fiscal Year 2015.
- In Row 4 Column B there is another drop down menu, click there and choose OSU.

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

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. Balancing Air Systems:
 - a. EF-1 and EF-2.
 - b. Exhaust Hoods and Extraction Arms
 - 2. Duct leakage tests.

1.3 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. BAS: Building automation systems.
- C. NEBB: National Environmental Balancing Bureau.
- D. TAB: Testing, adjusting, and balancing.
- E. TABB: Testing, Adjusting, and Balancing Bureau.
- F. TAB Specialist: An independent entity meeting qualifications to perform TAB work.
- G. TDH: Total dynamic head.

1.4 PREINSTALLATION MEETINGS

- A. TAB Conference: If requested by the Owner, conduct a TAB conference at Project site after approval of the TAB strategies and procedures plan to develop a mutual understanding of the details. Provide a minimum of 14 days' advance notice of scheduled meeting time and location.
 - 1. Minimum Agenda Items:
 - a. The Contract Documents examination report.
 - b. The TAB plan.

- c. Needs for coordination and cooperation of trades and subcontractors.
- d. Proposed procedures for documentation and communication flow.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Within 30 days of Contractor's Notice to Proceed, submit documentation that the TAB specialist and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- B. Contract Documents Examination Report: Within 30 days of Contractor's Notice to Proceed, submit the Contract Documents review report as specified in Part 3.
- C. Strategies and Procedures Plan: Within 30 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures as specified in "Preparation" Article.
- D. System Readiness Checklists: Within 30 days of Contractor's Notice to Proceed, submit system readiness checklists as specified in "Preparation" Article.
- E. Examination Report: Submit a summary report of the examination review required in "Examination" Article.
- F. Certified TAB reports.
- G. Sample report forms.
- H. Instrument calibration reports, to include the following:
 - 1. Instrument type and make.
 - 2. Serial number.
 - 3. Application.
 - 4. Dates of use.
 - 5. Dates of calibration.

1.6 QUALITY ASSURANCE

- A. TAB Specialists Qualifications: Certified by AABC.
 - 1. TAB Field Supervisor: Employee of the TAB specialist and certified by AABC.
 - 2. TAB Technician: Employee of the TAB specialist and certified by AABC as a TAB technician.
- B. TAB Specialists Qualifications: Certified by NEBB or TABB.
 - 1. TAB Field Supervisor: Employee of the TAB specialist and certified by NEBB or TABB.
 - 2. TAB Technician: Employee of the TAB specialist and certified by NEBB or TABB as a TAB technician.
- C. Instrumentation Type, Quantity, Accuracy, and Calibration: Comply with requirements in ASHRAE 111, Section 4, "Instrumentation."

1.7 FIELD CONDITIONS

- A. Full Owner Occupancy: Owner will occupy the site and existing building during entire TAB period. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.
- B. Partial Owner Occupancy: Owner may occupy completed areas of building before Substantial Completion. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

PART 2 - PRODUCTS (Not Applicable)**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems designs that may preclude proper TAB of systems and equipment.
- B. Examine installed systems for balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are applicable for intended purpose and are accessible.
- C. Examine the approved submittals for HVAC systems and equipment.
- D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems output, and statements of philosophies and assumptions about HVAC system and equipment controls.
- E. Examine equipment performance data including fan and pump curves.
 - 1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.
 - 2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.
- F. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.
- G. Examine test reports specified in individual system and equipment Sections.
- H. Examine HVAC equipment and verify that bearings are greased, belts are aligned and tight, filters are clean, and equipment with functioning controls is ready for operation.
- I. Examine operating safety interlocks and controls on HVAC equipment.

- J. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

- A. Prepare a TAB plan that includes the following:
 - 1. Equipment and systems to be tested.
 - 2. Strategies and step-by-step procedures for balancing the systems.
 - 3. Instrumentation to be used.
 - 4. Sample forms with specific identification for all equipment.
- B. Perform system-readiness checks of HVAC systems and equipment to verify system readiness for TAB work. Include, at a minimum, the following:
 - 1. Airside:
 - a. Verify that leakage and pressure tests on air distribution systems have been satisfactorily completed.
 - b. Duct systems are complete with terminals installed.
 - c. Volume, smoke, and fire dampers are open and functional.
 - d. Clean filters are installed.
 - e. Fans are operating, free of vibration, and rotating in correct direction.
 - f. Variable-frequency controllers' startup is complete and safeties are verified.
 - g. Automatic temperature-control systems are operational.
 - h. Ceilings are installed.
 - i. Windows and doors are installed.
 - j. Suitable access to balancing devices and equipment is provided.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance", ASHRAE 111, NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems", or SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
 - 2. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
- C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.

- D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Cross-check the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. For variable-air-volume systems, develop a plan to simulate diversity.
- D. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.
- E. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.
- F. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
- G. Verify that motor starters are equipped with properly sized thermal protection.
- H. Check dampers for proper position to achieve desired airflow path.
- I. Check for airflow blockages.
- J. Check condensate drains for proper connections and functioning.
- K. Check for proper sealing of air-handling-unit components.
- L. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
 - 1. Measure total airflow.
 - a. Set outside-air, return-air, and relief-air dampers for proper position that simulates minimum outdoor-air conditions.
 - b. Where duct conditions allow, measure airflow by main Pitot-tube traverse. If necessary, perform multiple Pitot-tube traverses, close to the fan and prior to any outlets, to obtain total airflow.
 - c. Where duct conditions are not suitable for Pitot-tube traverse measurements, a coil traverse may be acceptable.
 - 2. Measure fan static pressures as follows:
 - a. Measure static pressure directly at the fan outlet or through the flexible connection.
 - b. Measure static pressure directly at the fan inlet or through the flexible connection.

- c. Measure static pressure across each component that makes up the air-handling system.
 - d. Report artificial loading of filters at the time static pressures are measured.
 3. Review Record Documents to determine variations in design static pressures versus actual static pressures. Calculate actual system-effect factors. Recommend adjustments to accommodate actual conditions.
 4. Obtain approval from Owner for adjustment of fan speed higher or lower than indicated speed. Comply with requirements in HVAC Sections for air-handling units for adjustment of fans, belts, and pulley sizes to achieve indicated air-handling-unit performance.
 5. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload occurs. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.
- B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows.
 1. Measure airflow of submain and branch ducts.
 2. Adjust submain and branch duct volume dampers for specified airflow.
 3. Re-measure each submain and branch duct after all have been adjusted.
- C. Adjust air inlets and outlets for each space to indicated airflows.
 1. Set airflow patterns of adjustable outlets for proper distribution without drafts.
 2. Measure inlets and outlets airflow.
 3. Adjust each inlet and outlet for specified airflow.
 4. Re-measure each inlet and outlet after they have been adjusted.
- D. Verify final system conditions.
 1. Re-measure and confirm that minimum outdoor, return, and relief airflows are within design. Readjust to design if necessary.
 2. Re-measure and confirm that total airflow is within design.
 3. Re-measure all final fan operating data, rpms, volts, amps, and static profile.
 4. Mark all final settings.
 5. Test system in economizer mode. Verify proper operation and adjust if necessary.
 6. Measure and record all operating data.
 7. Record final fan-performance data.

3.6 PROCEDURES FOR MOTORS

- A. Motors 1/2 HP and Larger: Test at final balanced conditions and record the following data:
 1. Manufacturer's name, model number, and serial number.
 2. Motor horsepower rating.
 3. Motor rpm.
 4. Phase and hertz.

5. Nameplate and measured voltage, each phase.
6. Nameplate and measured amperage, each phase.
7. Starter size and thermal-protection-element rating.
8. Service factor and frame size.

- B. Motors Driven by Variable-Frequency Controllers: Test manual bypass of controller to prove proper operation.

3.7 DUCT LEAKAGE TESTS

- A. Witness the duct pressure testing performed by Installer.
- B. Verify that proper test methods are used and that leakage rates are within specified tolerances.
- C. Report deficiencies observed.

3.8 CONTROLS VERIFICATION

- A. In conjunction with system balancing, perform the following:
 1. Verify temperature control system is operating within the design limitations.
 2. Confirm that the sequences of operation are in compliance with Contract Documents.
 3. Verify that controllers are calibrated and function as intended.
 4. Verify that controller set points are as indicated.
 5. Verify the operation of lockout or interlock systems.
 6. Verify the operation of valve and damper actuators.
 7. Verify that controlled devices are properly installed and connected to correct controller.
 8. Verify that controlled devices travel freely and are in position indicated by controller: open, closed, or modulating.
 9. Verify location and installation of sensors to ensure that they sense only intended temperature, humidity, or pressure.
- B. Reporting: Include a summary of verifications performed, remaining deficiencies, and variations from indicated conditions.

3.9 TOLERANCES

- A. Set HVAC system's airflow rates and water flow rates within the following tolerances:
 1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent
 2. Air Outlets and Inlets: Plus or minus 10 percent.
- B. Maintaining pressure relationships as designed shall have priority over the tolerances specified above.

3.10 FINAL REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 2. Include a list of instruments used for procedures, along with proof of calibration.
 3. Certify validity and accuracy of field data.
- B. Final Report Contents: In addition to certified field-report data, include the following:
1. Pump curves.
 2. Fan curves.
 3. Manufacturers' test data.
 4. Field test reports prepared by system and equipment installers.
 5. Other information relative to equipment performance; do not include Shop Drawings and Product Data.
- C. General Report Data: In addition to form titles and entries, include the following data:
1. Title page.
 2. Name and address of the TAB specialist.
 3. Project name.
 4. Project location.
 5. Architect's name and address.
 6. Engineer's name and address.
 7. Contractor's name and address.
 8. Report date.
 9. Signature of TAB supervisor who certifies the report.
 10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 11. Summary of contents including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.
 - c. Description of system operation sequence if it varies from the Contract Documents.
 12. Nomenclature sheets for each item of equipment.
 13. Data for terminal units, including manufacturer's name, type, size, and fittings.
 14. Notes to explain why certain final data in the body of reports vary from indicated values.
 15. Test conditions for fans and pump performance forms including the following:
 - a. Settings for outdoor-, return-, and exhaust-air dampers.
 - b. Conditions of filters.
 - c. Cooling coil, wet- and dry-bulb conditions.
 - d. Face and bypass damper settings at coils.
 - e. Fan drive settings including settings and percentage of maximum pitch diameter.
 - f. Inlet vane settings for variable-air-volume systems.
 - g. Settings for supply-air, static-pressure controller.

- h. Other system operating conditions that affect performance.
- D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:
- 1. Quantities of outdoor, supply, return, and exhaust airflows.
 - 2. Water and steam flow rates.
 - 3. Duct, outlet, and inlet sizes.
 - 4. Pipe and valve sizes and locations.
 - 5. Terminal units.
 - 6. Balancing stations.
 - 7. Position of balancing devices.
- E. Fan Test Reports: For supply, return, and exhaust fans, include the following:
- 1. Fan Data:
 - a. System identification.
 - b. Location.
 - c. Make and type.
 - d. Model number and size.
 - e. Manufacturer's serial number.
 - f. Arrangement and class.
 - g. Sheave make, size in inches (mm), and bore.
 - h. Center-to-center dimensions of sheave and amount of adjustments in inches (mm).
 - 2. Motor Data:
 - a. Motor make, and frame type and size.
 - b. Horsepower and rpm.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches (mm), and bore.
 - f. Center-to-center dimensions of sheave, and amount of adjustments in inches (mm).
 - g. Number, make, and size of belts.
 - 3. Test Data (Indicated and Actual Values):
 - a. Total airflow rate in cfm (L/s).
 - b. Total system static pressure in inches wg (Pa).
 - c. Fan rpm.
 - d. Discharge static pressure in inches wg (Pa).
 - e. Suction static pressure in inches wg (Pa).
- F. Round, Flat-Oval, and Rectangular Duct Traverse Reports: Include a diagram with a grid representing the duct cross-section and record the following:
- 1. Report Data:
 - a. System and air-handling-unit number.
 - b. Location and zone.

- c. Traverse air temperature in deg F (deg C).
- d. Duct static pressure in inches wg (Pa).
- e. Duct size in inches (mm).
- f. Duct area in sq. ft. (sq. m).
- g. Indicated airflow rate in cfm (L/s).
- h. Indicated velocity in fpm (m/s).
- i. Actual airflow rate in cfm (L/s).
- j. Actual average velocity in fpm (m/s).
- k. Barometric pressure in psig (Pa).

END OF SECTION 230593

SECTION 233113 - METAL DUCTS

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. Single-wall round ducts and fittings.
- 2. Hangers and supports.

B. Related Sections:

- 1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
- 2. Section 233300 "Air Duct Accessories" for dampers, sound-control devices, duct-mounting access doors and panels, turning vanes, and flexible ducts.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of the following products:

- 1. Liners and adhesives.
- 2. Sealants and gaskets.

B. Shop Drawings:

- 1. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
- 2. Factory- and shop-fabricated ducts and fittings.
- 3. Duct layout indicating sizes, configuration, liner material, and static-pressure classes.
- 4. Equipment installation based on equipment being used on Project.
- 5. Locations for duct accessories, including dampers, turning vanes, and access doors and panels.

C. Delegated-Design Submittal:

- 1. Reinforcement details and spacing.
- 2. Materials, fabrication, assembly, and spacing of hangers and supports.
- 3. Design Calculations: Calculations for selecting hangers and supports.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
 - 1. AWS D9.1/D9.1M, "Sheet Metal Welding Code," for duct joint and seam welding.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Duct hangers and supports shall withstand the effects of gravity loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"
- B. Duct Dimensions: Unless otherwise indicated, all duct dimensions indicated on Drawings are inside clear dimensions and do not include insulation or duct wall thickness.

2.2 SINGLE-WALL ROUND DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Ch. 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.
 - 1. Construct ducts of type 316 stainless steel 16 gauge.
- B. Transverse Joints: Select joint types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Round ducts with continuous welded transverse joints.
- C. Longitudinal Seams: Select seam types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. Fabricate round ducts with butt-welded longitudinal seams.
- D. Tees and Laterals: Select types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials

involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Stainless-Steel Sheets: Comply with ASTM A480/A480M, Type 316 cold rolled, 16 gauge, annealed, sheet.

2.4 SEALANT AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested in accordance with UL 723; certified by an NRTL.
- B. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.
- C. Round Duct Joint O-Ring Seals:
 - 1. Seal shall provide maximum leakage class of 3 cfm/100 sq. ft. at 1-inch wg (0.14 L/s per sq. m at 250 Pa) and shall be rated for 10-inch wg (2500-Pa) static-pressure class, positive or negative.
 - 2. EPDM O-ring to seal in concave bead in coupling or fitting spigot.
 - 3. Double-lipped, EPDM O-ring seal, mechanically fastened to factory-fabricated couplings and fitting spigots.

2.5 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Galvanized-steel rods and nuts.
- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."
- D. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A603.
- E. Steel Cables for Stainless-Steel Ducts: Stainless steel complying with ASTM A492.
- F. Steel Cable End Connections: Galvanized-steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.

- G. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- H. Trapeze and Riser Supports:
 - 1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
 - 2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
 - 3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and coordination drawings.
- B. Install ducts in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts in maximum practical lengths with fewest possible joints.
- D. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- E. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- F. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- G. Install ducts with a clearance of 1 inch (25 mm), plus allowance for insulation thickness.
- H. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.
- I. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches (38 mm).
- J. Install heating coils, cooling coils, air filters, dampers, and all other duct-mounted accessories in air ducts where indicated on Drawings.
- K. Protect duct interiors from moisture, construction debris and dust, and other foreign materials both before and after installation.
- L. Elbows: Use long-radius elbows wherever they fit.

1. Fabricate 90-degree rectangular mitered elbows to include turning vanes.
 2. Fabricate 90-degree round elbows with a minimum of three segments for 12 inches (300 mm) and smaller and a minimum of five segments for 14 inches (350 mm) and larger.
- M. Exhaust hood ducts to maintain minimum 18 inch clearance to noncombustible construction and minimum 3 inch to gypsum wallboard attached to noncombustible structures.
- N. Branch Connections: Use lateral or conical branch connections.

3.2 INSTALLATION OF EXPOSED DUCTWORK

- A. Protect ducts exposed in finished spaces from being dented, scratched, or damaged.
- B. Trim duct sealants flush with metal. Create a smooth and uniform exposed bead. Do not use two-part tape sealing system.
- C. Grind welds to provide smooth surface free of burrs, sharp edges, and weld splatter. When welding stainless steel with a No. 3 or 4 finish, grind the welds flush, polish the exposed welds, and treat the welds to remove discoloration caused by welding.
- D. Maintain consistency, symmetry, and uniformity in arrangement and fabrication of fittings, hangers and supports, duct accessories, and air outlets.
- E. Repair or replace damaged sections and finished work that does not comply with these requirements.
- F. All joints shall be welded and shall be telescoping, bell, or flange joint as per NFPA 96.
- G. Install fire-rated access panel assemblies as indicated on Drawings.
- H. Do not penetrate fire-rated assemblies except as allowed by applicable building codes and authorities having jurisdiction.

3.3 DUCTWORK EXPOSED TO WEATHER

- A. All external joints are to be welded. Seal all openings to provide weatherproof construction.
- B. Construct ductwork to resist external loads of wind, snow, ice, and other effects of weather. Provide necessary supporting structures.
- C. Single Wall:
1. Ductwork shall be Type 316 stainless steel, 16 gauge.

3.4 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

- B. Seal ducts at a minimum to the following seal classes in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
1. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 2. Outdoor, Supply-Air Ducts: Seal Class A.
 3. Outdoor, Exhaust Ducts: Seal Class C.
 4. Outdoor, Return-Air Ducts: Seal Class C.
 5. Unconditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg (500 Pa) and Lower: Seal Class B.
 6. Unconditioned Space, Supply-Air Ducts in Pressure Classes Higher Than 2-Inch wg (500 Pa): Seal Class A.
 7. Unconditioned Space, Exhaust Ducts: Seal Class C.
 8. Unconditioned Space, Return-Air Ducts: Seal Class B.
 9. Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg (500 Pa) and Lower: Seal Class C.
 10. Conditioned Space, Supply-Air Ducts in Pressure Classes Higher Than 2-Inch wg (500 Pa): Seal Class B.
 11. Conditioned Space, Exhaust Ducts: Seal Class B.
 12. Conditioned Space, Return-Air Ducts: Seal Class C.

3.5 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
1. Where practical, install concrete inserts before placing concrete.
 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches (100 mm) thick.
 4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches (100 mm) thick.
 5. Do not use powder-actuated concrete fasteners for seismic restraints.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches (610 mm) of each elbow and within 48 inches (1220 mm) of each branch intersection.
- D. Hangers Exposed to View: Threaded rod and angle or channel supports.
- E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at a maximum intervals of 16 feet (5 m).
- F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

1.

3.6 CONNECTIONS

- A. Make connections to equipment with flexible connectors complying with Section 233300 "Air Duct Accessories."
- B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
 - 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
 - 2. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
 - 3. Testing of each duct section is to be performed with access doors, coils, filters, dampers, and other duct-mounted devices in place as designed. No devices are to be removed or blanked off so as to reduce or prevent additional leakage.
 - 4. Test for leaks before applying external insulation.
 - 5. Conduct tests at static pressures equal to maximum design pressure of system or section being tested. If static-pressure classes are not indicated, test system at maximum system design pressure. Do not pressurize systems above maximum design operating pressure.
- C. Duct System Cleanliness Tests:
 - 1. Visually inspect duct system to ensure that no visible contaminants are present.
 - 2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness in accordance with "Description of Method 3 - NADCA Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."
- D. Duct system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.8 DUCT CLEANING

- A. Clean new duct system(s) before testing, adjusting, and balancing.
- B. For cleaning of existing ductwork, see Section 230130.52 "Existing HVAC Air Distribution System Cleaning."
- C. Use duct cleaning methodology as indicated in NADCA ACR.

- D. Use service openings for entry and inspection.
1. Provide openings with access panels appropriate for duct static-pressure and leakage class at dampers, coils, and any other locations where required for inspection and cleaning access. Provide insulated panels for insulated or lined duct. Patch insulation and liner as recommended by duct liner manufacturer. Comply with Section 233300 "Air Duct Accessories" for access panels and doors.
 2. Disconnect and reconnect flexible ducts as needed for cleaning and inspection.
 3. Remove and reinstall ceiling to gain access during the cleaning process.
- E. Particulate Collection and Odor Control:
1. When venting vacuuming system inside the building, use HEPA filtration with 99.97 percent collection efficiency for 0.3-micron-size (or larger) particles.
 2. When venting vacuuming system to outdoors, use filter to collect debris removed from HVAC system, and locate exhaust downwind and away from air intakes and other points of entry into building.
- F. Clean the following components by removing surface contaminants and deposits:
1. Air outlets and inlets (registers, grilles, and diffusers).
 2. Supply, return, and exhaust fans including fan housings, plenums (except ceiling supply and return plenums), scrolls, blades or vanes, shafts, baffles, dampers, and drive assemblies.
 3. Air-handling unit internal surfaces and components including mixing box, coil section, air wash systems, spray eliminators, condensate drain pans, humidifiers and dehumidifiers, filters and filter sections, and condensate collectors and drains.
 4. Coils and related components.
 5. Return-air ducts, dampers, actuators, and turning vanes except in ceiling plenums and mechanical equipment rooms.
 6. Supply-air ducts, dampers, actuators, and turning vanes.
 7. Dedicated exhaust and ventilation components and makeup air systems.
- G. Mechanical Cleaning Methodology:
1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
 2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
 3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
 4. Clean fibrous-glass duct liner with HEPA vacuuming equipment; do not permit duct liner to get wet. Replace fibrous-glass duct liner that is damaged, deteriorated, or delaminated or that has friable material, mold, or fungus growth.
 5. Clean coils and coil drain pans in accordance with NADCA ACR. Keep drain pan operational. Rinse coils with clean water to remove latent residues and cleaning materials; comb and straighten fins.
 6. Provide drainage and cleanup for wash-down procedures.

7. Antimicrobial Agents and Coatings: Apply EPA-registered antimicrobial agents if fungus is present. Apply antimicrobial agents in accordance with manufacturer's written instructions after removal of surface deposits and debris.

3.9 STARTUP

- A. Air Balance: Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC."

3.10 DUCT SCHEDULE

- A. Exhaust Ducts:
 1. Material: Type 316, stainless-steel, 16 gauge
 2. Welded seams and joints.
 3. Pressure Class: Positive or negative 2- (500) inch wg (Pa).
 4. Airtight/watertight.

END OF SECTION 233113

SECTION 233300 - AIR DUCT ACCESSORIES

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. Manual volume dampers.
 - 2. Flange connectors.
 - 3. Remote damper operators.
 - 4. Duct-mounted access doors.
 - 5. Flexible connectors.

1.3 ACTION SUBMITTALS

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

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

2.2 MANUAL VOLUME DAMPERS

- A. Stainless Steel, Manual Volume Dampers:
 - 1. Standard leakage rating.
 - 2. Suitable for horizontal or vertical applications.
 - 3. Frames:
 - a. Frame: Round coated stainless steel sized as indicated on drawings.
 - b. Mitered and welded corners.
 - c. Flanged connections.
 - 4. Blades:

- a. Multiple or single blade.
 - b. Parallel- or opposed-blade design.
 - c. Stiffen damper blades for stability.
 - d. Stainless-steel, 0.064 inch (1.62 mm) thick.
5. Blade Axles: Stainless steel.

2.3 DUCT-MOUNTED ACCESS DOORS

- A. Duct-Mounted Access Doors: Fabricate access panels according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figures 7-2 (7-2M), "Duct Access Doors and Panels," and 7-3, "Access Doors - Round Duct."
1. Door:
 - a. Double wall, rectangular, sandwich type.
 - b. Galvanized sheet metal steel panels.
 - c. Rope gasket rated to 1,000 deg. F.
 - d. Hinges and Latches: 1-by-1-inch (25-by-25-mm) butt or piano hinge and cam latches.
 - e. Fabricate doors airtight and suitable for duct pressure class.

2.4 FLEXIBLE CONNECTORS

- A. Materials: Flame-retardant or noncombustible fabrics.
- B. Coatings and Adhesives: Comply with UL 181, Class 1.
- C. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.
1. Minimum Weight: 24 oz./sq. yd. (810 g/sq. m).
 2. Tensile Strength: 530 lbf/inch (93 N/mm) in the warp and 440 lbf/inch (77 N/mm) in the filling.
 3. Service Temperature: Minus 50 to plus 250 deg F (Minus 45 to plus 121 deg C).

2.5 DUCT ACCESSORY HARDWARE

- A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.
- B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts.
- C. Install volume dampers at points on supply, return, and exhaust systems where branches extend from larger ducts. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel.
 - 1. Install steel volume dampers in steel ducts.
 - 2. Install aluminum volume dampers in aluminum ducts.
- D. Set dampers to fully open position before testing, adjusting, and balancing.
- E. Install test holes at fan inlets and outlets and elsewhere as indicated.
- F. Install duct access doors on sides of ducts where indicated on drawings.:
- G. Access Door Sizes: As indicated on drawings.
- H. Install flexible connectors to connect ducts to fan equipment.
- I. Install duct test holes where required for testing and balancing purposes.
- J. Install thrust limits at centerline of thrust, symmetrical on both sides of equipment. Attach thrust limits at centerline of thrust and adjust to a maximum of 1/4-inch (6-mm) movement during start and stop of fans.

3.2 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Operate dampers to verify full range of movement.
 - 2. Inspect locations of access doors and verify that purpose of access door can be performed.
 - 3. Operate remote damper operators to verify full range of movement of operator and damper.

END OF SECTION 233300

Oregon State University Rogers Hall Room 334 Exhaust Corvallis, Oregon



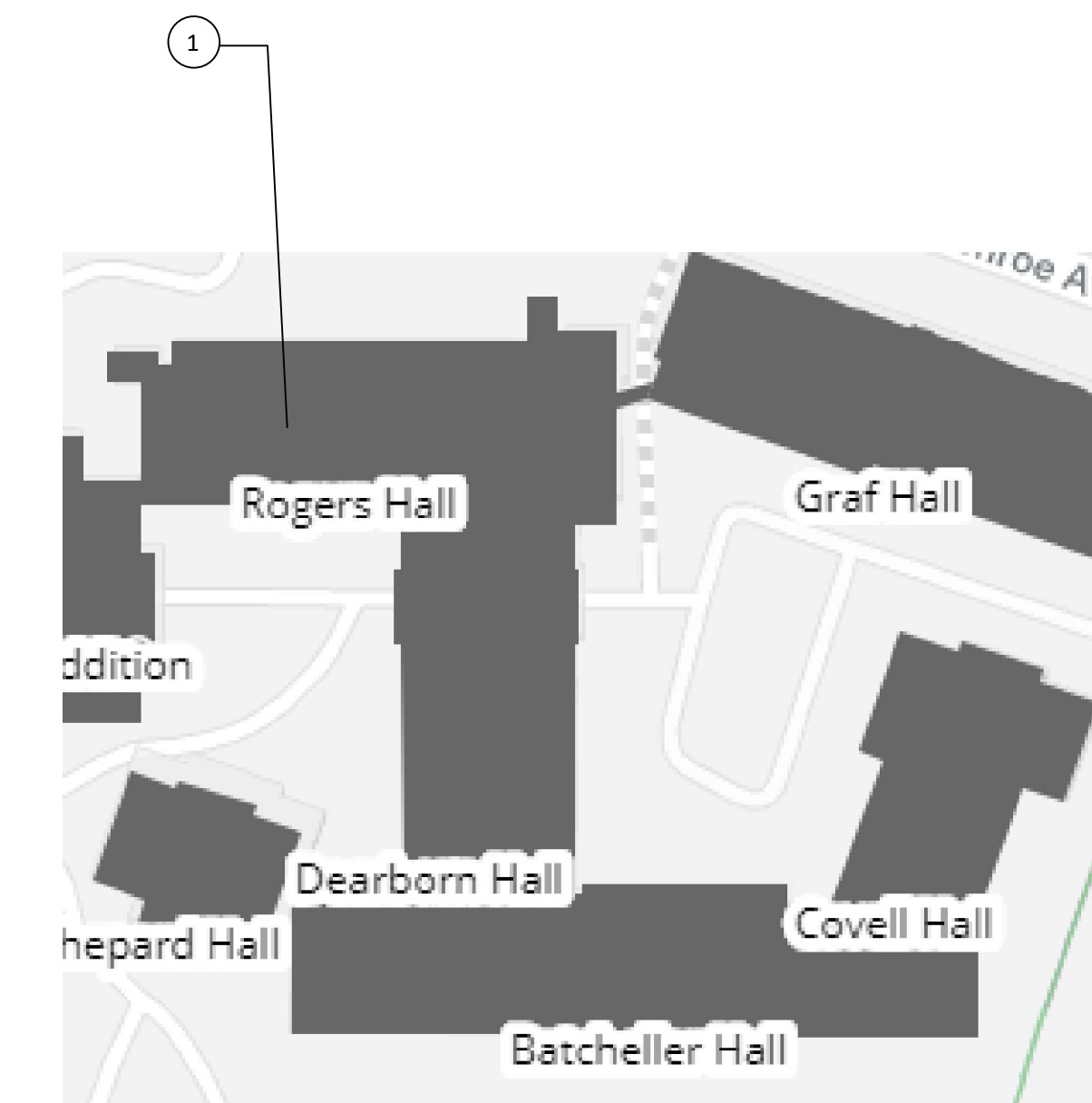
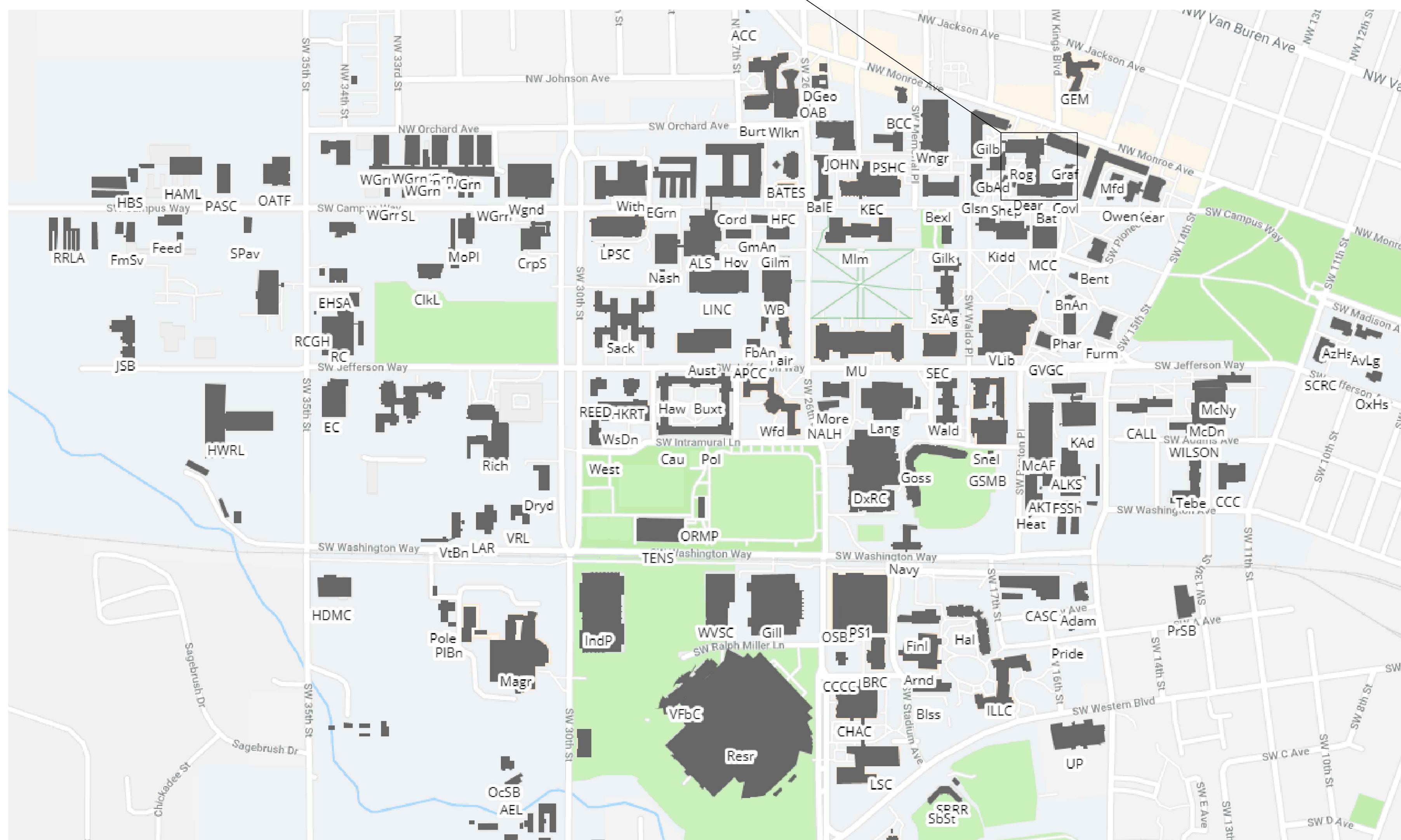
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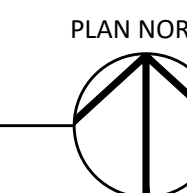
OWNER	ENGINEER
OREGON STATE UNIVERSITY CAPITAL PLANNING AND DEVELOPMENT 850 SW 35TH STREET CORVALLIS OR	COLEBREIT ENGINEERING 2021 NW GRANT AVE CORVALLIS OR 541-728-3293

SHEET NOTES:

- PROJECT LOCATION



SITE PLAN
NTS



CAMPUS MAP
NTS



SHEET KEY	
SHEET NUMBER	SHEET NAME
G0.1	COVER SHEET
M0.1	MECHANICAL LEGEND AND SCHEDULES
M2.1	HVAC PLAN
E0.1	ELECTRICAL LEGEND
E2.1	ELECTRICAL FLOOR PLAN
E3.1	ELECTRICAL DETAILS
S0	STRUCTURAL PLAN AND NOTES
S1	STRUCTURAL PLAN
S2	STRUCTURAL DETAILS

ROGERS HALL
ROOM 334 EXHAUST
OREGON STATE UNIVERSITY
CORVALLIS, OREGON

ISSUED:	DATE:
PERMIT SET	03-07-2022

JOB NUMBER:	186.006
DRAWN BY:	AB
CHECKED BY:	LB

SHEET TITLE
COVER SHEET

SHEET NUMBER
G0.1

GENERAL NOTES:

1. LOCATION AND ARRANGEMENT OF EXISTING PIPING, DUCTING, AND EQUIPMENT IS APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION OF DUCTING AND DIMENSIONS FOR INSTALLATION PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. MECHANICAL WORK INDICATED IS DIAGRAMMATIC, EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD TO AVOID CONFLICT WITH EXISTING SITE CONDITIONS.
3. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
4. PROTECT ALL EXISTING ADJACENT SURFACES, ELEMENTS AND FIXTURES SCHEDULED TO REMAIN FROM DAMAGE DUE TO DEMOLITION AND CONSTRUCTION PROCESSES. PATCH AND REPAIR TO PREVIOUS CONDITIONS.
5. CONFORM TO OREGON STATE UNIVERSITY DESIGN STANDARDS INCLUDING FOR EQUIPMENT IDENTIFICATION AND INSTALLATION.
6. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
7. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
7. DEMOLITION:
 REMOVE ALL EXISTING CONSTRUCTIONS AND FINISHES NECESSARY FOR THE COMPLETION OF THE WORK, INCLUDING BUT NOT LIMITED TO, ITEMS SHOWN ON THE DEMOLITION PLANS. PATCH AS REQUIRED ALL CONSTRUCTIONS TO REMAIN TO MATCH EXISTING. WHERE CONTRACTOR IS DESIGNATED TO MAKE REMOVALS, DISPOSITION OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR.
 REMOVE ONLY NON-LOAD BEARING CONSTRUCTION AND PARTITIONS. CONTRACTOR TO VERIFY, PRIOR TO REMOVAL, THAT NO STRUCTURAL COMPONENTS ARE DESIGNATED FOR REMOVAL.
 PATCH ALL FINISHES TO MATCH EXISTING.
8. PATCH AND REPAIR ROOF SYSTEM TO MATCH EXISTING CONDITIONS. PROVIDE INSULATION, FLASHING, AND SEALING AT ALL PENETRATIONS.

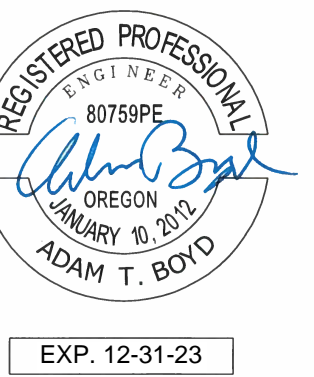
HVAC LEGEND		
SYMBOL	ABBRV.	IDENTIFICATION
		AIR DUCT
		UNDER GROUND AIR DUCT
	BD	BALANCING DAMPER
		AIR FROM DEVICE
		AIR TO DEVICE
		SECTION THROUGH SUPPLY
		SECTION THROUGH RETURN
		SECTION THROUGH EXHAUST
		THERMOSTAT
	F/D	VERTICAL FIRE DAMPER
	F/D	HORIZONTAL FIRE DAMPER
	F/SD	VERTICAL FIRE/SMOKE DAMPER
	F/SD	HORIZONTAL FIRE/SMOKE DAMPER
	P.O.C.	POINT OF CONNECTION
		MOTORIZED DAMPER

EXHAUST FANS												
MARK	SERVING	TOTAL CFM	PRIMARY CFM	ESP	dB	MOTOR			FAN RPM	WT LBS	MAKE & MODEL	NOTES
						V/PH	BHP	HP				
EF-1	EH-1, FIXED EXTRACTION ARM	5000	1800	1.5	80	208/3	4.6	5	2888	826	GREENHECK VEKTOR-CH-15-10-II	ALL APPLY
EF-2	EA-1 AND EXISTING HOOD	5000	1600	1.5	80	208/3	4.6	5	2888	826	GREENHECK VEKTOR-CH-15-10-II	ALL APPLY

NOTES:

1. CENTRIFUGAL HIGH PLUME EXHAUST FANS, AMCA SPARK C RESISTANT CONSTRUCTION.
2. BYPASS AIR PLENUM WITH SIDE INLETS FOR PRIMARY AND BYPASS AIR, OPPOSED BLADE MODULATING DAMPERS WITH ACTUATOR AND PRESSURE TRANSDUCER TO MAINTAIN SYSTEM DUCT PRESSURE.
3. EXHAUST STACK, 16 FEET ABOVE ROOF, DISCHARGE NOZZLE FOR 3,000 FPM VELOCITY AT DESIGN FLOW RATE, GUY WIRE SUPPORT SEE STRUCTURAL.
4. CONTROLS: PROVIDE 3-WAY SELECTOR SWITCH. WALL MOUNTED WHERE INDICATED ON DRAWINGS.

EXHAUST EQUIPMENT			
MARK	DESCRIPTION	MAKE & MODEL	REMARKS
EH-1	EXHAUST HOOD	CAPTIVEAIR ND-2	TYPE I EXHAUST HOOD, 60"x48"x24", STAINLESS STEEL CONSTRUCTION, 14" EXHAUST CONNECTION WITH FACTORY MOUNTED DAMPER. 1700 CFM @0.5 IN WG. FIRE SUPPRESSION SYSTEM. UL LISTED R-103 WET CHEMICAL FIRE SUPPRESSION, CARTRIDGE-OPERATED. MECHANICAL FUIBLE LINK DETECTION @ 500F AND MECHANICAL REMOTE PULL STATION.
EA-1	ADJUSTABLE EXTRACTION ARM	MAXFLO 6" STAINLESS STEEL	ADJUSTABLE FUME EXTRACTION ARM, 6 INCH DIAMETER, EXTERNAL SUPPORT WITH SELF LOCKING JOINTS, 20 INCH HOOD WITH ADJUSTABLE FLOW DAMPER, 304 STAINLESS STEEL CONSTRUCTION, WALL MOUNT BRACKET, 800 CFM @ 1 INCH WG, 7 FOOT ARM LENGTH



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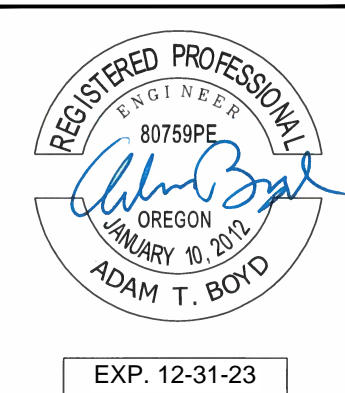
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SHEET TITLE

LEGEND AND SCHEDULES

SHEET NUMBER

M0.1



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DRAWN BY:	AB
CHECKED BY:	LB

SHEET TITLE
HVAC PLAN

SHEET NUMBER
M2.1

SHEET NOTES: #

- DEMOLISH EXISTING LAB HOODS, FIXED EXHAUST ARMS, DUCTWORK IN MECHANICAL CHASE AND WITHIN LAB. ENLARGE WALL PENETRATIONS AS REQUIRED.
- DEMOLISH EXISTING EXHAUST FANS, CONNECTING DUCTWORK AND SIDEWALL EXHAUST GRILLES. MODIFY MECHANICAL PENTHOUSE PENETRATION OPENING TO ACCOMMODATE NEW DUCTWORK.
- BYPASS PLENUM. BALANCE FAN PRESSURE SETPOINT FOR MAXIMUM HOOD AIRFLOWS AS LISTED IN EQUIPMENT SCHEDULES AND ON DRAWINGS.
- MARK VOLUME DAMPERS FOR ALL AIR BALANCING POSITIONS AS REQUIRED TO ACHIEVE BALANCE IN AIR BALANCING NOTES.
- EXHAUST STACKS SHALL EXTEND 15 FEET ABOVE ADJACENT ROOF SURFACE. SEE STRUCTURAL FOR STACK SUPPORTS.
- DUCT ARRANGEMENT TO MAINTAIN NEGATIVE DUCT PRESSURE WITHIN BUILDING ENVELOPE AT ALL TIMES WHEN FANS ARE OPERATING.
- EXHAUST FAN SELECTOR SWITCH WITH EF-1, EF-2, AND OFF SELECTIONS.

AIR BALANCING NOTES:

EXHAUST SYSTEM DESIGNED TO HAVE ONLY A SINGLE EXHAUST FAN IN OPERATION.

EF-1: BALANCE FIXED EXHAUST ARM AND EXHAUST HOOD TO AIRFLOWS LISTED ON DRAWINGS. EXHAUST ARM AND EXHAUST HOOD TO BE ABLE TO OPERATE SIMULTANEOUSLY.

EF-2: BALANCE SYSTEM TO SERVE EXISTING HOOD AND EA-1 SIMULTANEOUSLY FOR AIRFLOWS SHOWN ON DRAWINGS. DAMPER TO FUTURE EXHAUST CONNECTION CLOSED.

FUTURE CONDITION: FUTURE EXHAUST CONNECTION DESIGNED TO SERVE 1,000 CFM EXHAUST SOURCE. SWITCHOVER BETWEEN EA-1 AND FUTURE EXHAUST REQUIRES MANUAL ADJUSTMENT OF DAMPERS.

SYSTEM OPERATION PLACARD:

PROVIDE FIXED PLACARD ADJACENT TO EXHAUST FAN SWITCH WITH THE FOLLOWING SYSTEM OPERATION DESCRIPTION.

EXHAUST SYSTEM OPERATION
SYSTEM DESIGNED TO ONLY OPERATE ONE EXHAUST FAN AT ANY TIME. UTILIZE EXHAUST FAN SELECTOR SWITCH TO CHOOSE FAN TO BE USED. ONE FAN SHOULD BE IN OPERATION AT ALL TIMES DURING NORMAL OPERATION TO PROVIDE PROPER ROOM VENTILATION.

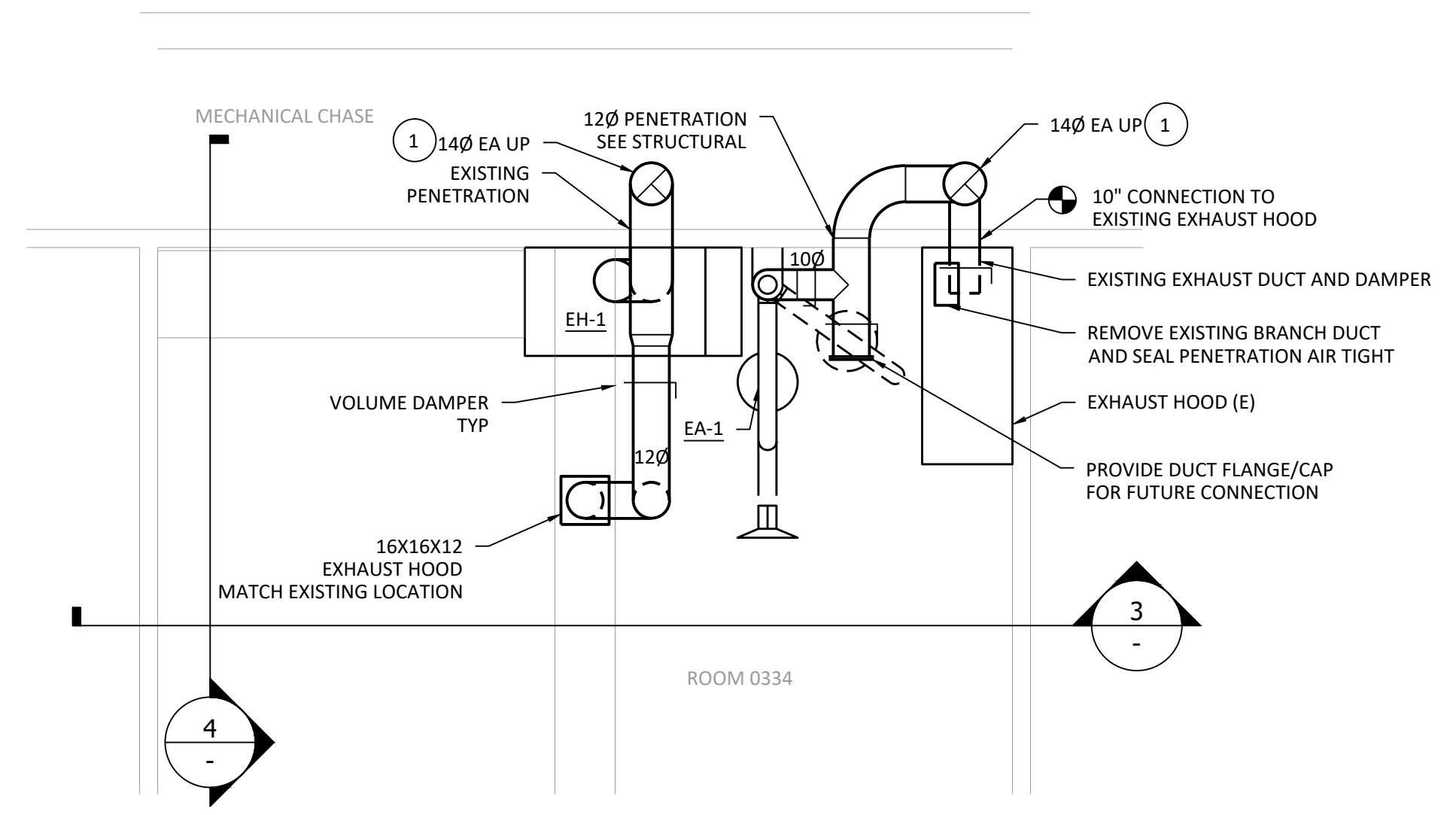
EF-1: EXHAUST FAN EF-1 SERVES FIRE SUPPRESSION HOOD EH-1 AND FIXED EXHAUST ARM/HOOD.

EF-2: EXHAUST FAN EF-2 SERVES CORNER EXHAUST HOOD AND ADJUSTABLE EXHAUST ARM EA-1 OR ALTERNATE EXHAUST SOURCE.

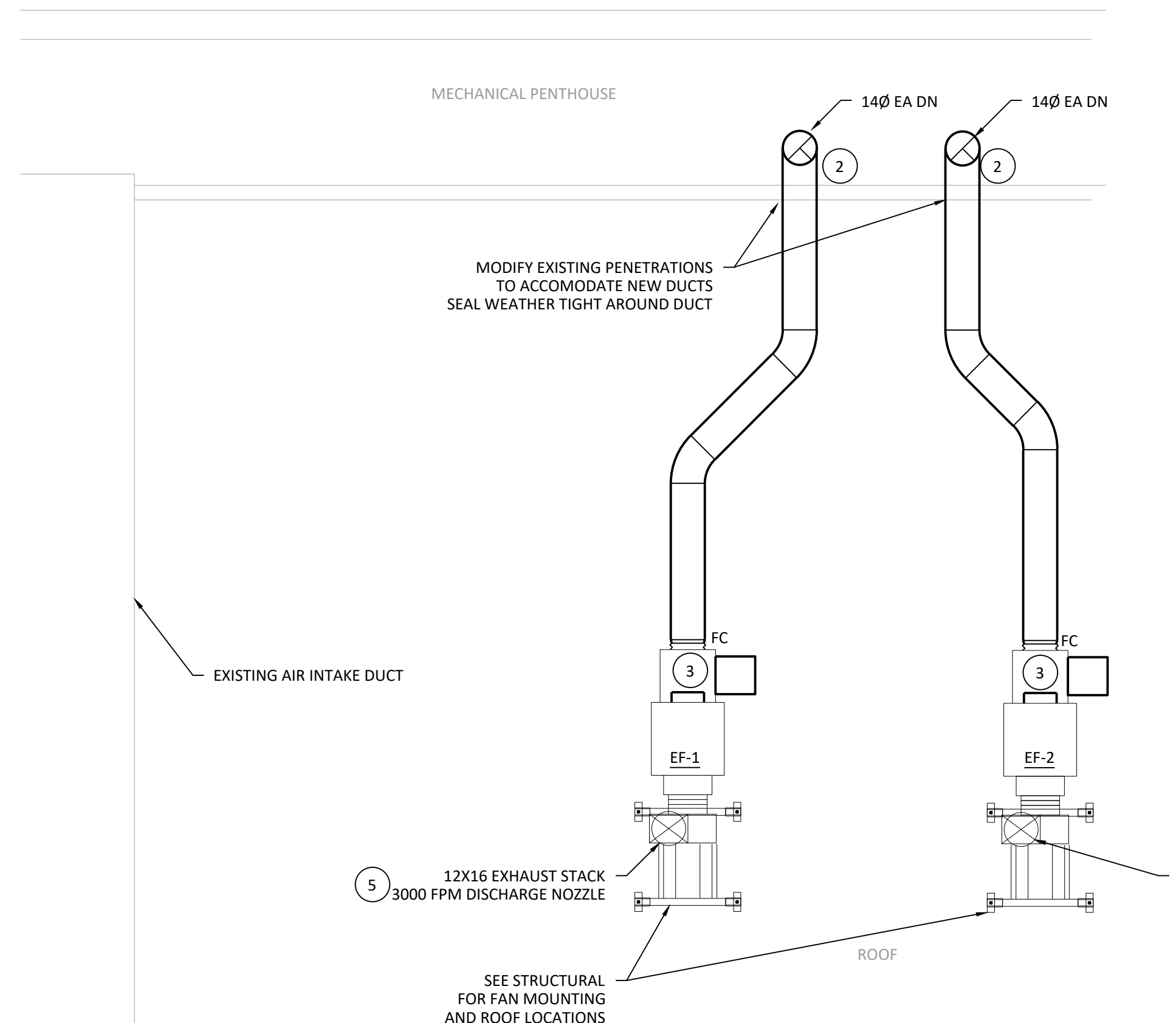
ONLY OPERATE EA-1 OR THE ALTERNATE EXHAUST SOURCE AT ANY ONE TIME. SYSTEM IS NOT SIZE TO OPERATE THESE EXHAUSTS SIMULTANEOUSLY. OPERATION OF BOTH EXHAUST WILL CREATE EXCESSIVE NEGATIVE PRESSURE AND POSSIBLY INSUFFICIENT EXHAUST FLOW. ENSURE EXHAUST SOURCE IN USE HAS VOLUME DAMPER SET TO OPERATING POSITION AND EXHAUST SOURCE NOT IN USE HAS VOLUME DAMPER FULLY CLOSED.

VOLUME DAMPERS OPERATING POSITIONS ARE MARKED AT PROPER SYSTEM AIRFLOW BALANCE.

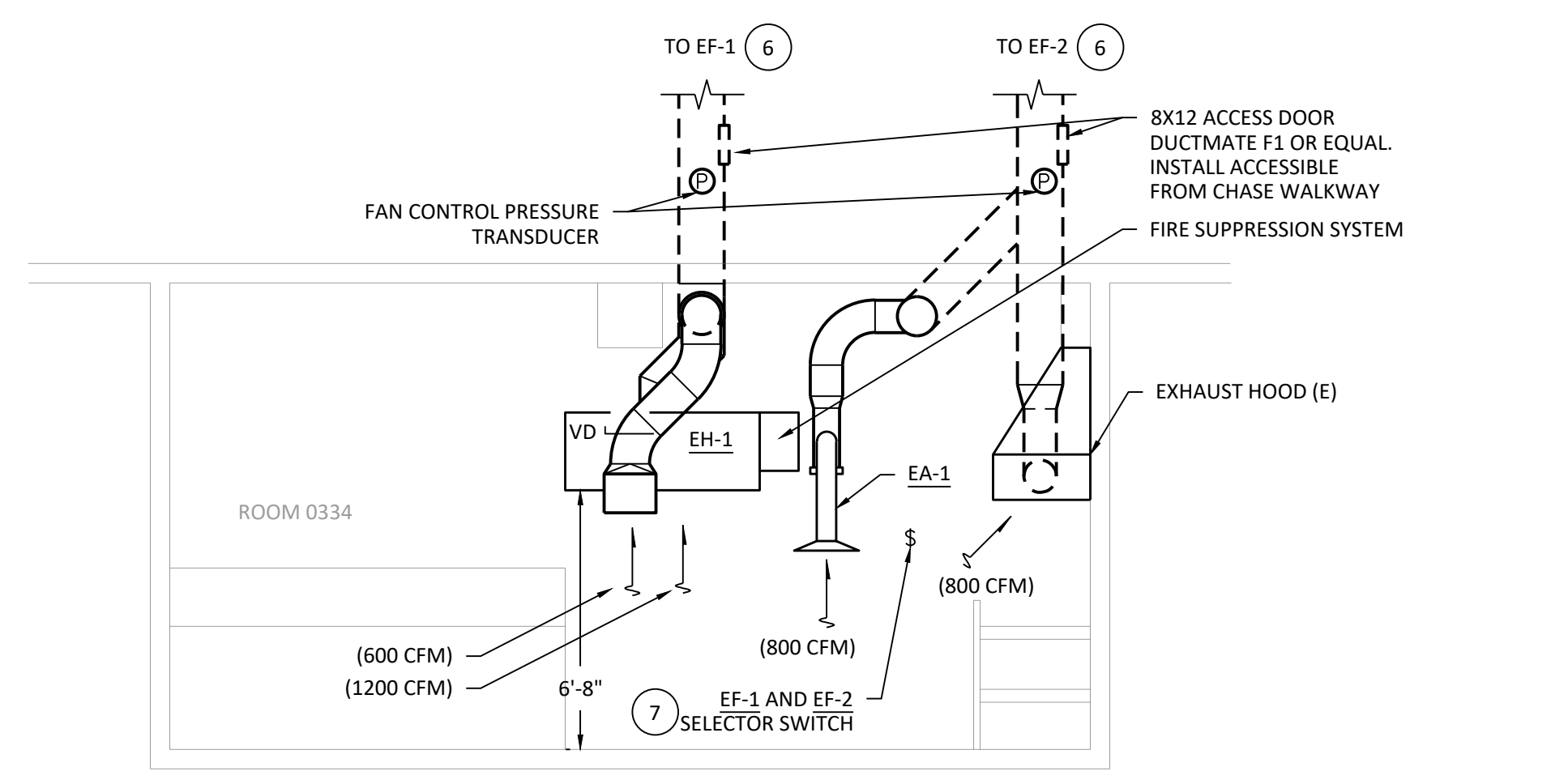
CONSULT FACILITY OPERATIONS PRIOR TO ADJUSTMENT OF THIS OPERATION SEQUENCE OR EXHAUST FLOW BALANCING.



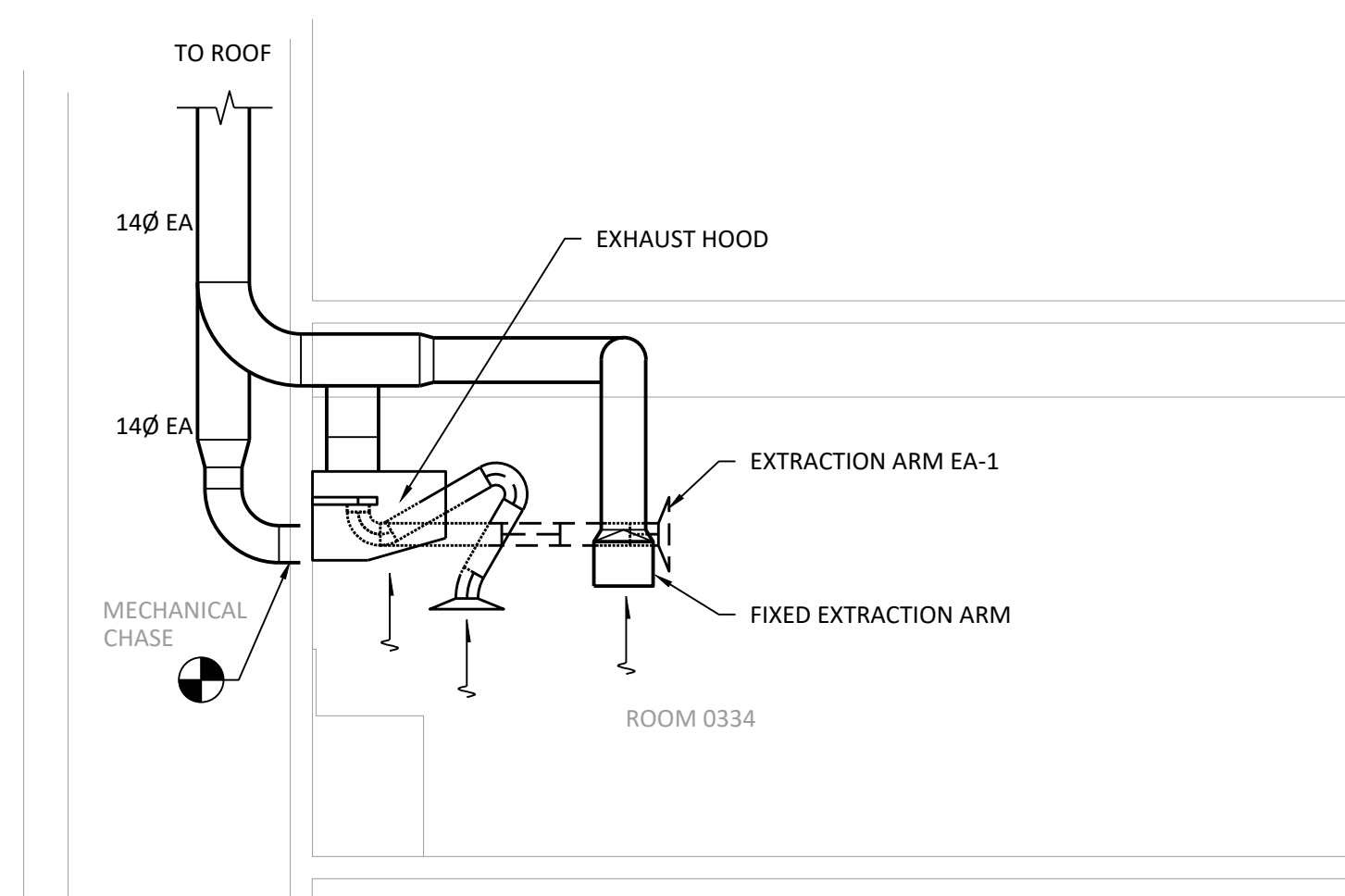
1 RM 334 PLAN
1/4"=1'-0"
PLAN NORTH



2 ROOF PLAN
1/4"=1'-0"
PLAN NORTH



3 SECTION
1/4"=1'-0"



4 SECTION
1/4"=1'-0"

ELECTRICAL LEGEND

POWER SYMBOLS

SYMBOL	IDENTIFICATION
	MOTOR CONNECTION
	GENERATOR CONNECTION
	FUSED DISCONNECT SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
	NON-FUSED DISCONNECT SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
	JUNCTION BOX
	C = CEILING MOUNTED
	JUNCTION BOX; WALL MOUNTED
	JUNCTION BOX WITH WHIP-STYLE CONNECTION TO POWERED FURNITURE; POWER AND/OR DATA
	TRANSFORMER; BOTTOM OF T DESIGNATES FRONT SIDE
	PANELBOARD OR TERMINAL CABINET; SURFACE MOUNTED
	PANELBOARD OR TERMINAL CABINET; FLUSH MOUNTED
	GROUND BUS BAR
	TRANSFORMER
	AUTOMATIC TRANSFER SWITCH
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	STATIONARY - CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	DISCONNECT; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	INVERTER
	GROUNDING POINT
	UTILITY METER

LIGHTING SYMBOLS

SYMBOL	IDENTIFICATION
	LUMINAIRE; CEILING OR SURFACE MOUNTED
	LUMINAIRE; WALL MOUNTED
	AREA POLE WITH MOUNTED LUMINAIRE
	LUMINAIRE ON EMERGENCY POWER
	EXIT SIGN; CEILING MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS
	EXIT SIGN; WALL MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS
	EXIT SIGN; WALL MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS

WIRING DEVICE SYMBOLS

SYMBOL	IDENTIFICATION
	20A, 125V, DUPLEX RECEPTACLE OUTLET
	20A, 125V, DOUBLE DUPLEX RECEPTACLE OUTLET
	SPECIAL PURPOSE RECEPTACLE OUTLET; RATING AS SHOWN; +18" AFF TP CENTERLINE
	20A, 125V, SINGLE RECEPTACLE OUTLET
	A = ABOVE COUNTER AG = ABOVE COUNTER GFCI AU = ABOVE COUNTER AND USB PORTS C = CEILING MOUNTED G = GFCI S = SWITCHED RECEPTACLE U = WITH (2) USB PORTS W = WEATHERPROOF COVER AND GFCI
	20A, 125V, DUPLEX RECEPTACLE OUTLET; FLOOR RECESSED
	20A, 125V, DOUBLE DUPLEX RECEPTACLE OUTLET; FLOOR RECESSED
	2-CHANNEL FLOOR BOX W/ (2) GANG POWER / (2) GANG DATA; PROVIDE 1" C. FROM EACH DATA OUTLET TO ACCESSIBLE CEILING SPACE. BASIS-OF-DESIGN: WIREMOLD 'RFB4'.
	SINGLE POLE SWITCH
	3 = THREE WAY SWITCH 4 = FOUR-WAY SWITCH D = DIMMER SWITCH K = KEY OPERATED SWITCH M = MOTOR RATED SWITCH T = INTERVAL TIMER V = LOW VOLTAGE SWITCH W = SINGLE POLE WEATHERPROOF SWITCH
	GLASS BREAK EPO SWITCH
	SENSOR SWITCH; WALL MOUNTED
	OCCUPANCY LIGHT CONTROL SWITCH; CEILING MOUNTED
	OCCUPANCY LIGHT CONTROL SWITCH; WALL MOUNTED
	D = DUAL TECH SENSOR V = DUAL TECH WITH VACANCY SENSOR MODE
	PHOTOSENSOR; CEILING MOUNTED
	D = DIMMING S = SWITCHED
	VARIABLE FREQUENCY DRIVE
	HORN
	HORN/STROBE COMBINATION

ABBREVIATIONS

ABBRV.	IDENTIFICATION
AC	ALTERNATING CURRENT
AFF	ABOVE FINISH FLOOR
AF	FRAME RATING IN AMPERES
AS	SWITCH RATING IN AMPERES
AT	TRIP RATING IN AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
C	CONDUIT
CFI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED
CEC	CALIFORNIA ELECTRIC CODE
CL	CENTERLINE
CONN	CONNECTED
DC	DIRECT CURRENT
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
(E)	EXISTING TO REMAIN
ELEV	ELEVATOR
EMT	ELECTRO METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EWV	ELECTRIC WATER HEATER
FVNR	FULL-VOLTAGE, NON-REVERSING
FVR	FULL-VOLTAGE, REVERSING
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
IG	ISOLATED GROUND
LRC	LIGHTING RELAY CABINET
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PH	PHASE
PP	POWER POLE
PTS	PNEUMATIC TUBE STATION
PVC	POLYVINYL CHLORIDE CONDUIT
(R)	RELOCATE EXISTING
RSC	RIGID STEEL CONDUIT
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SPST	SINGLE POLE, SINGLE THROW
TB	TERMINAL BACKBOARD
TC	TERMINAL CABINET
TEL	TELEPHONE
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W	WEATHERPROOF
WAP	WIRELESS ACCESS POINT
W/	WITH
(X)	REMOVE EXISTING
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

CONDUIT SYMBOLS

SYMBOL	IDENTIFICATION
	CONDUIT INSTALLED ABOVE FINISHED FLOOR OR GRADE
	CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
	INDICATES CONDUIT TURNING UP
	CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

TELECOM SYMBOLS

SYMBOL	IDENTIFICATION
	TELEPHONE/DATA OUTLET; PROVIDE 1" C. W/ PULL-STRING TO ACCESSIBLE CEILING SPACE
	C = CEILING MOUNTED; BACK BOX ONLY FOR FUTURE WAP UNLESS OTHERWISE NOTED
	WALL MOUNTED RECESSED JUNCTION BOX; FOR SECURITY CAMERA

DESIGNATION SYMBOLS

SYMBOL	IDENTIFICATION
	GRID LINE DESIGNATOR
	FEEDER DESIGNATION TAG
	SHEET KEYNOTE TAG
	MECHANICAL EQUIPMENT TAG
	CONTRACTOR EQUIPMENT TAG
	REVISION DELTA WITH REVISION NUMBER
	LETTER INDICATES FIXTURES CONTROL (WHERE SHOWN)
	NUMBER INDICATES CIRCUIT NUMBER (WHERE SHOWN)

LEGEND NOTES:

- A. ALL SYMBOLS MAY NOT BE USED IN THIS PROJECT.
- B. SYMBOLS DO NOT ALWAYS REPRESENT REAL LIFE DIMENSIONS.
- C. SEE BOOK SPECIFICATIONS FOR ADDITIONAL INFORMATION.



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ROGERS HALL
ROOM 334 EXHAUST
OREGON STATE UNIVERSITY
CORVALLIS, OREGON

ISSUED:	DATE:
PERMIT SET	03-07-2022

JOB NUMBER:	186.006
DRAWN BY:	PHN
CHECKED BY:	MRN

SHEET TITLE

ELECTRICAL
LEGEND

SHEET NUMBER

E0.1

DRAWING INDEX	
SHEET #	SHEET NAME
E0.1	ELECTRICAL - LEGEND
E1.1	ELECTRICAL - FLOOR PLANS
E3.1	ELECTRICAL - DETAILS



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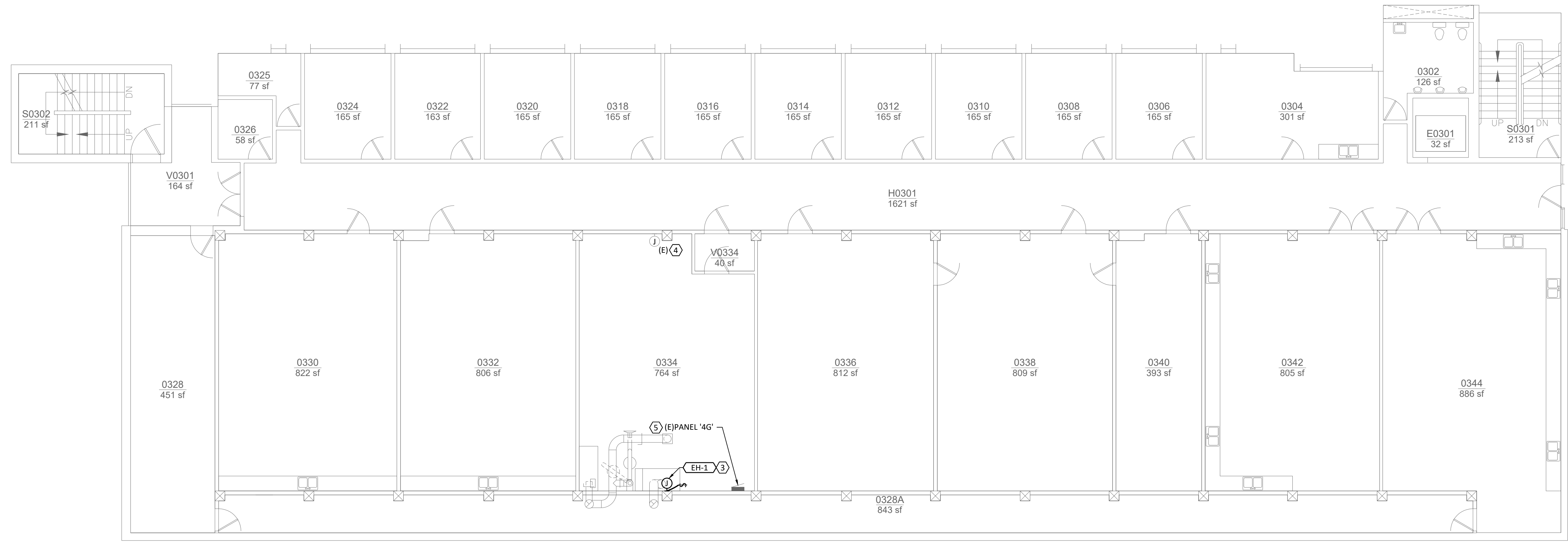
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DRAWN BY:	-
CHECKED BY:	-

SHEET TITLE
ELECTRICAL FLOOR PLANS

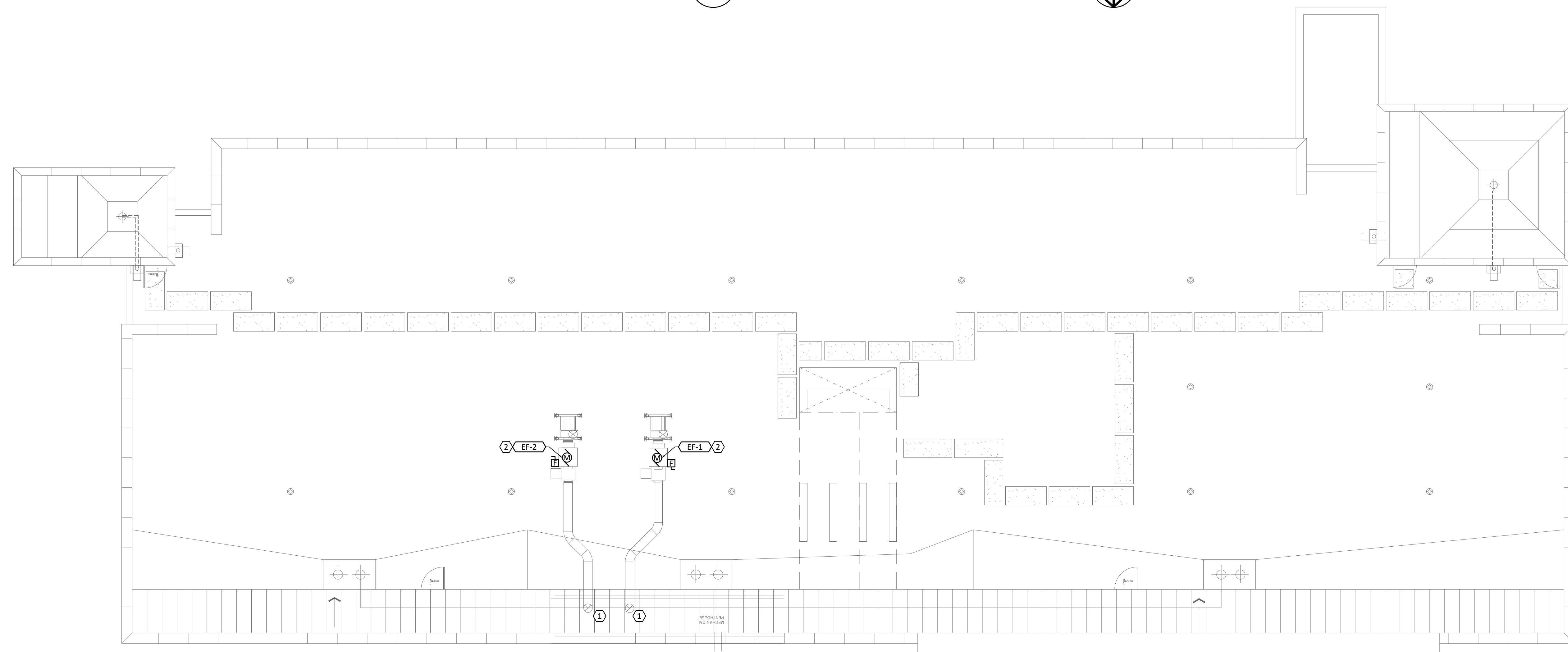
SHEET NUMBER
E2.1

SHEET KEYNOTES:

1. DISCONNECT EXISTING EXHAUST FAN. REFEED NEW EXHAUST FANS FROM EXISTING SPARE 30/3 BREAKER IN PANEL '4G'. PROVIDE FUSED DISCONNECT AND STARTER AT EACH EXHAUST FAN CONNECTED TO THIS CIRCUIT. PROVIDE FAN SELECTOR SWITCH AT STARTERS. SEE SCHEMATIC DRAWING 1/E3.1.
2. CIRCUIT NEW EXHAUST HOOD LIGHT TO 20/1 BREAKER IN PANEL '4G'. PROVIDE SWITCH FOR CONTROL OF HOOD LIGHT PER MANUFACTURER STANDARDS. CONFIRM FINAL SWITCH LOCATION WITH OWNER PRIOR TO ROUGH-IN.
3. CONNECT HOOD SUPPRESSION PANEL TO LIGHTING CIRCUIT IN PANEL '4G' AS DESCRIBED IN KEYNOTE 3.
4. APPROXIMATE LOCATION OF (E)PANEL '4G' ON FOURTH FLOOR (ABOVE).



1
E2.1
3RD FLOOR PLAN - ELECTRICAL
1/8"=1'-0"
PLAN NORTH



2
E2.1
ROOF LEVEL - ELECTRICAL
1/8"=1'-0"
PLAN NORTH

MECHANICAL EQUIPMENT CONNECTION SCHEDULE										
ITEM	DESCRIPTION	LOCATION	VOLTS / PHASE	LOAD	MCA	MOC	MOC	WIRE / CONDUIT	CIRCUIT	NOTES
EF-1	EXHAUST FAN	ROOFTOP	208/3	5.0 HP			30	303	SEE NOTES	1
EF-2	EXHAUST FAN	ROOFTOP	208/3	5.0 HP			30	303	SEE NOTES	1
EH-1	EXHAUST HOOD LIGHT	ROOM 0334	120/1	100.0 W			20	202	SEE NOTES	2

GENERAL MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES:

A. THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING.

B. MOC = MAXIMUM OVER CURRENT PROTECTION
MCA = MINIMUM CIRCUIT AMPACITY

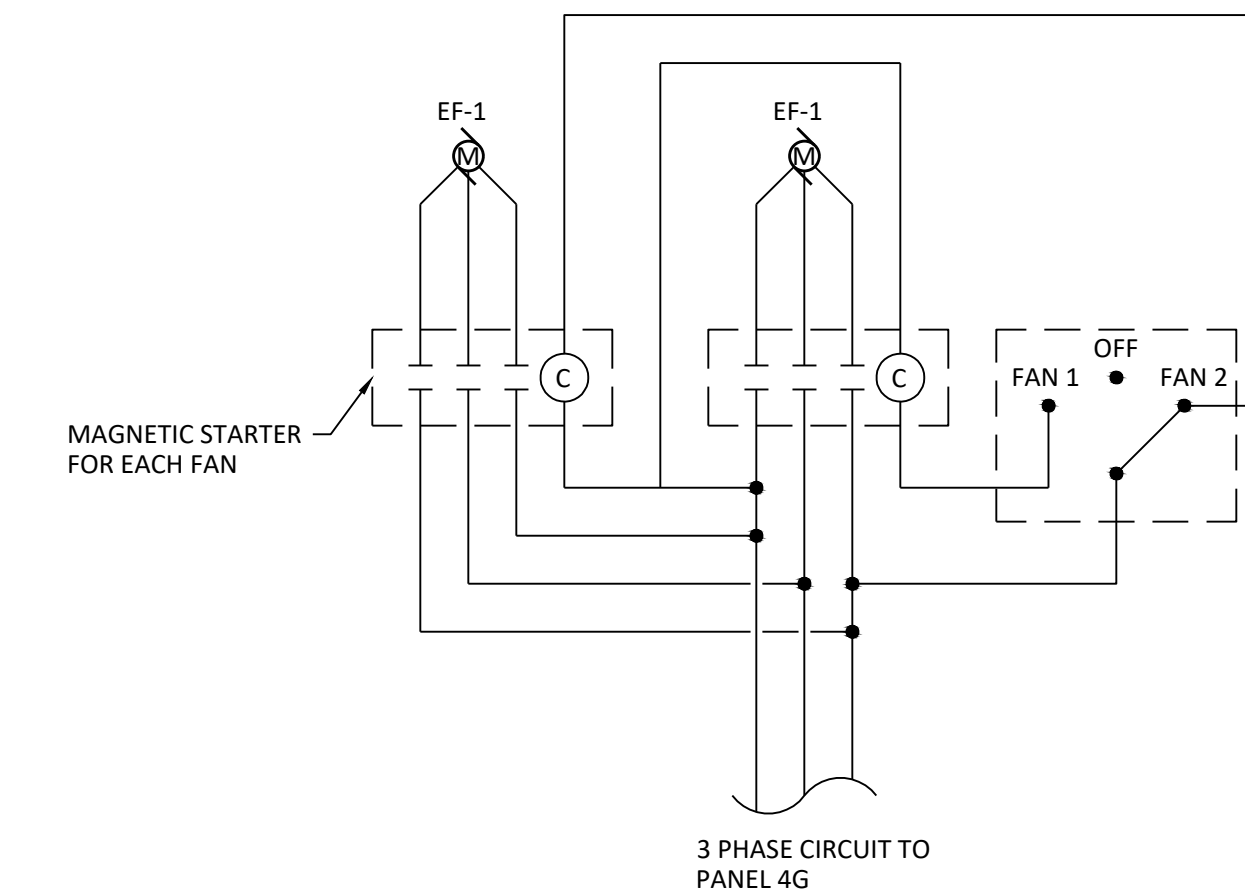
C. PROVIDE DISCONNECTING MEANS FOR EACH ITEM OF EQUIPMENT LISTED IN THE SCHEDULE ABOVE, EXCEPT AS SPECIFICALLY NOTED OTHERWISE IN SCHEDULE NOTES, BELOW.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES:

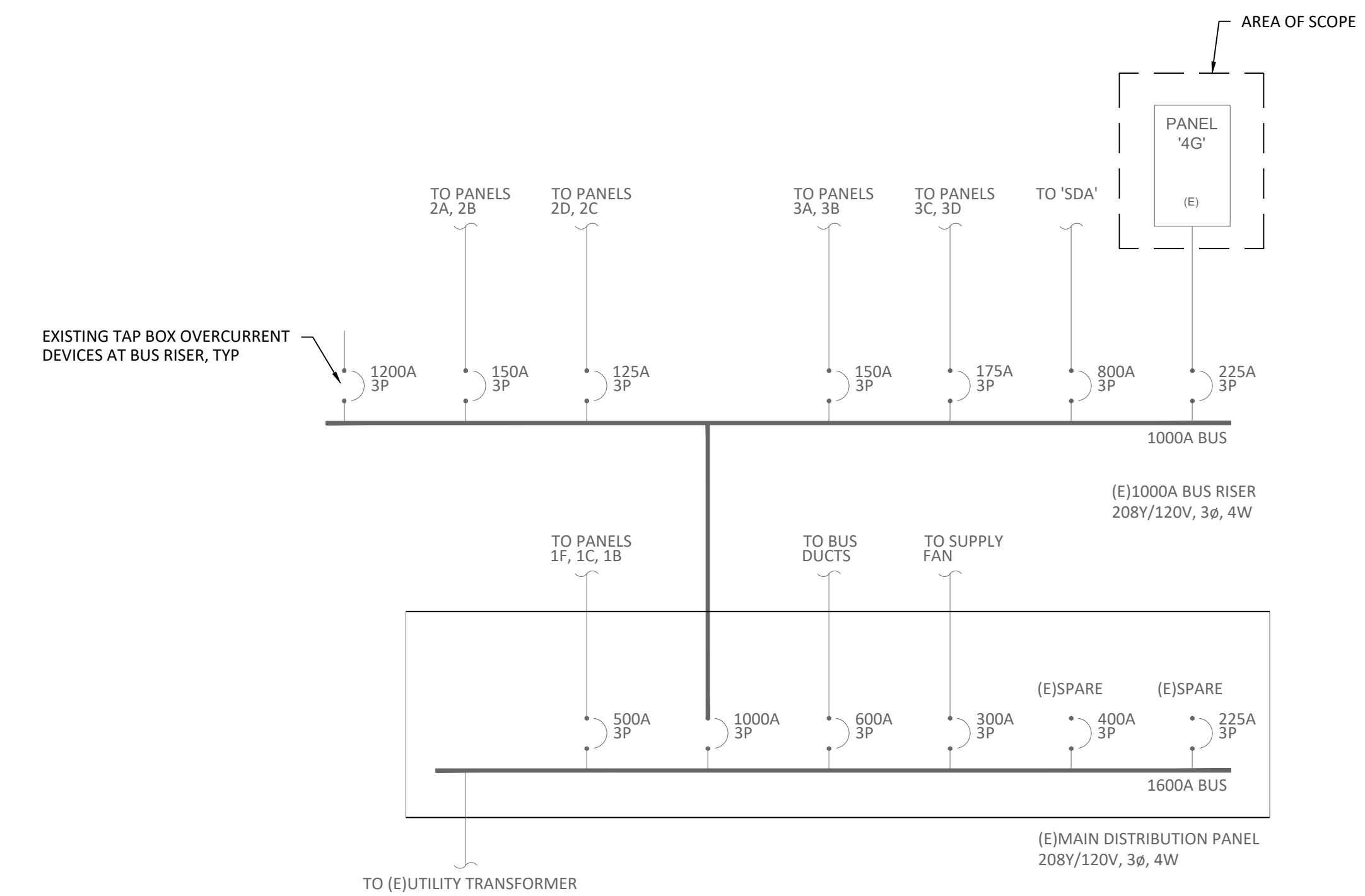
1. CONNECT EXHAUST FAN TO EXISTING 30/3 SPARE CIRCUIT BREAKER IN PANEL 4G.
2. PROVIDE NEW 20/1 CIRCUIT BREAKER IN PANEL 4G FOR NEW EXHAUST FAN HOOD LIGHT.

WIRE / CONDUIT SCHEDULE

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C.
303 3 #10 CU, 1 #10 CU GND., IN 3/4" C.



1 FAN CONTROL DIAGRAM
E3.1 NTS



2 ONE-LINE DIAGRAM DIAGRAM
E3.1 NTS



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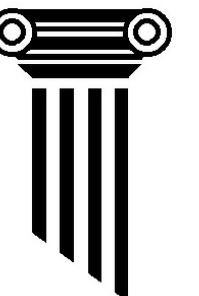
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ROOM 334 EXHAUST
OREGON STATE UNIVERSITY
CORVALLIS, OREGON

ISSUED:	DATE:
PERMIT SET	03-07-2022

JOB NUMBER:	186.006
DRAWN BY:	PHN
CHECKED BY:	MRN

SHEET TITLE
ELECTRICAL
DETAILS

SHEET NUMBER
E3.1



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541-752-9202
WWW.PILLAR-INC.COM

(PILLAR CONSULTING GROUP, INC.)

No.	Description	Date

STRUCTURAL STEEL CONSTRUCTION NOTES

- STRUCTURAL STEEL MEMBERS, UNLESS NOTED OTHERWISE, SHALL BE OF THE FOLLOWING GRADE:
- * WIDE FLANGE ASTM A992, Fy 50 ksi
 - * CHANNELS & ANGLES ASTM A36, Fy 36 ksi
 - * SQUARE HSS ASTM A500, Gr.B, Fy 46 ksi
 - * ROUND HSS ASTM A500, Gr.B, Fy 42 ksi
 - * PIPE ASTM A53, Gr. B, Fy 35 ksi
 - * M, S & HP ASTM A36, Fy 36 ksi
 - * PLATES ASTM A36, Fy 36 ksi
 - * WELD FILLER MATERIAL Fy 70KSI U.N.O.
 - * BOLTS ASTM A325X-PT

BOLT HOLES SHALL BE DRILLED 1/16" DIAMETER LARGER THAN BOLTS, U.N.O. FLAME CUTTING OF BOLT HOLES IS NOT PERMITTED. ALL NUTS SHALL BE INSTALLED TO A PRE-TENSIONED CONDITION PER 2014 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, U.N.O. LOCK ALL NUTS BY FILING THREADS OR WITH AN OWNER APPROVED THREAD-LOCKING FLUID.

STEEL CONSTRUCTION SHALL CONFORM TO AISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL BUILDINGS & BRIDGES (COSP), LATEST EDITION AND THE REQUIREMENTS OF AISC 360-16 *SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 15th EDITION, WITH LATEST AMENDMENTS

WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 & OTHER APPLICABLE AWS SPECIFICATIONS FOR ARC AND GAS WELDING FOR BUILDING CONSTRUCTION.

ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS, AND SHALL BE INSPECTED AND TESTED AS REQUIRED BY A CERTIFIED AGENCY IN COMPLIANCE WITH AWS QCI, AND APPROVED OR AUTHORIZED BY THE MUNICIPAL OR GOVERNMENT AUTHORITY HAVING JURISDICTION (AHJ).

ALL STEEL SHALL BE COATED PER INTERNATIONAL PAPER PAINT SPECIFICATION FOR SEVERE ENVIRONMENT. TOUCH UP ALL COATINGS AFTER WELDING.

GENERAL NOTES & DESIGN CRITERIA

THESE DRAWINGS APPLY TO THE ROGERS HALL ROOM 334 EXHAUST HOOD PROJECT ONLY.

NOTE: ALL ELEVATIONS ARE APPROXIMATE & FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0001 THROUGH 952-001-0100. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).

ATTENTION EXCAVATORS: OREGON STATE LAW REQUIRES THAT YOU CALL FOR UNDERGROUND LOCATES (811 OR 1-800-332-2344) A MINIMUM OF 48 HOURS BEFORE STARTING UNDERGROUND CONSTRUCTION, EXCAVATION OR EARTHWORK.

EXCAVATION, TRENCHING, SHORING, AND SHIELDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE WORK, THESE DRAWINGS ARE NOT INTENDED TO PROVIDE MEANS OR METHODS OF CONSTRUCTION.

ALL WORK SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE OREGON STRUCTURAL SPECIALTY CODE, AND OTHER GOVERNING CODES, LAWS, RULES AND REGULATIONS.

THE CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES, SPECIAL INSPECTION & TESTING, OTHER PLANS & SPECIFICATIONS, REGULATORY AGENCIES, THE AUTHORITY HAVING JURISDICTION, AND THE ENGINEER-OF-RECORD. DISCREPANCIES, ERRORS AND CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE E.O.R. AS SOON AS POSSIBLE UPON DISCOVERY.

MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS SHALL BE DESIGN-BUILD BY OTHERS, COORDINATED BY THE GENERAL CONTRACTOR AND OWNER. SUBMIT MECHANICAL AND ELECTRICAL PLANS TO ENGINEER-OF-RECORD FOR REVIEW.

THE DESIGN REPRESENTED ON THESE DOCUMENTS SHALL BE USED FOR ONLY THE PROJECT AND LOCATION NOTED.

THESE DRAWINGS & THE DESIGNS REPRESENTED HEREIN REMAIN THE EXCLUSIVE PROPERTY OF PILLAR CONSULTING GROUP, INC. MODIFICATIONS OR REPRODUCTIONS, IN WHOLE OR IN PART, OF THESE DRAWINGS IS PROHIBITED WITHOUT THE EXPRESS PERMISSION OF PILLAR CONSULTING GROUP, INC. COPYRIGHT.

GENERAL NOTES & TYPICAL DETAILS SHOWN ON DRAWINGS APPLY TO ALL DRAWINGS UNLESS SHOWN OR NOTED OTHERWISE.

CODES & STANDARDS

2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
ASCE 7-2016 WAS REFERENCED FOR BUILDING DESIGN LOADS & DESIGN CRITERIA

DESIGN LOADS & INFORMATION

GENERAL

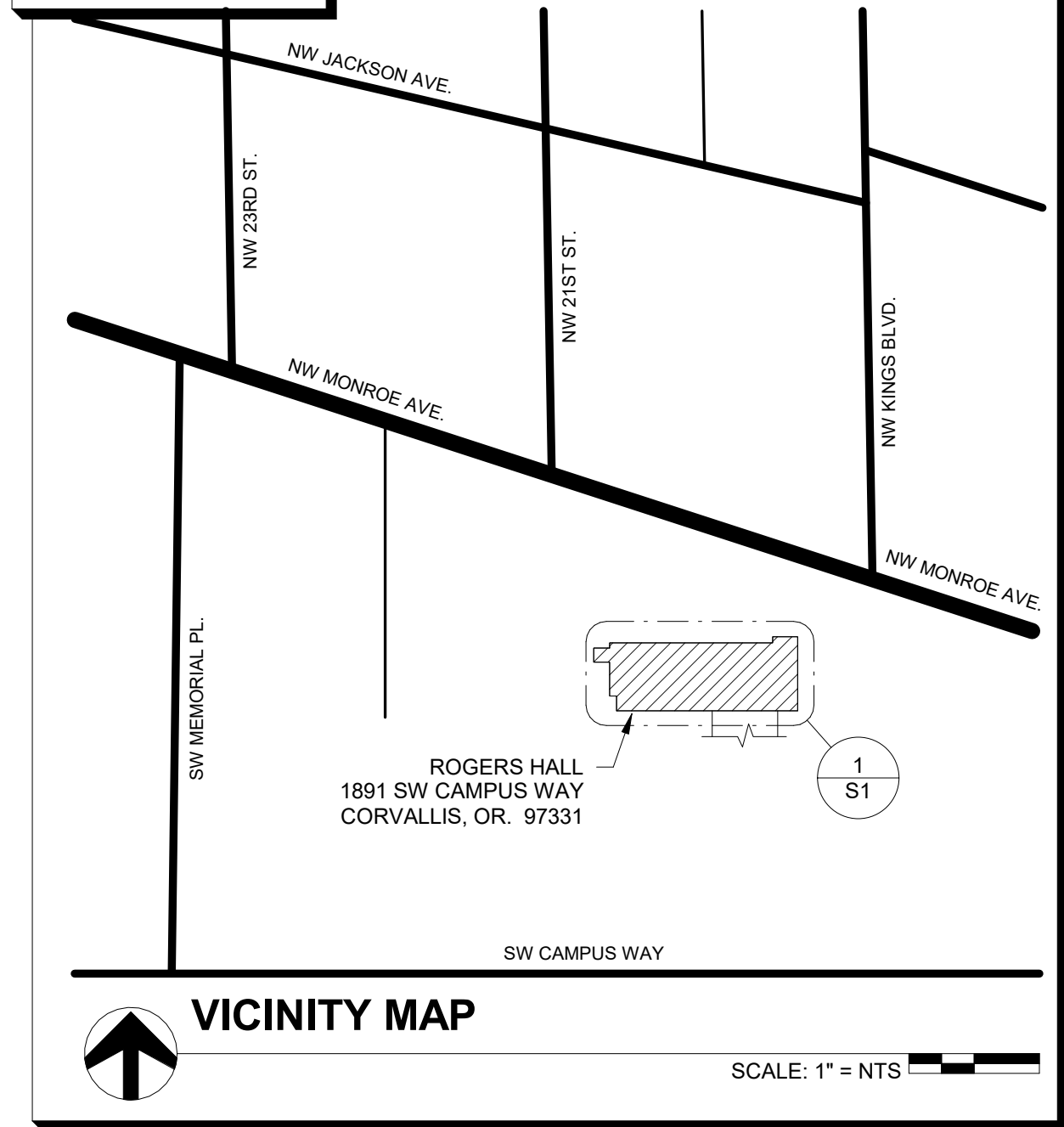
- A) LOCATION:
A.1) LATITUDE: 44.5676
A.2) LONGITUDE: -123.2759
B) RISK CATEGORY: II
C) SEISMIC COEFFICIENTS (PER GEOTECH):
C.1) S(s): 0.883g
C.2) S(1): 0.467g
C.3) SITE CLASS: D
C.4) S(DS): 0.706g
C.5) METHOD: ASCE 7-16 CHAPTER 13
C.6) a(p); R(p):
D) WIND PARAMETERS:
D.1) V (BASIC WIND SPEED): 98 MPH
D.2) SURFACE ROUGHNESS: C
D.3) EXPOSURE CATEGORY: C
D.4) K(ZT) TOPOGRAPHIC FACTOR: 1.0
D.5) METHOD: ASCE 7-16 SECTION 29.4
E) EQUIPMENT INFORMATION:
E.1) ROOF FANS WT. / DIMENSIONS: 826 LB EACH / 42"H X 45"W X 45"D
E.2) ROOF STACK WT. / DIMENSIONS: 114 LB EACH / 14" DIA X 16" TALL
E.3) ROOM 334 HOODS WT.: 407 LB EACH

DRAWINGS & SUBMITTALS

- REQUESTED SUBMITTALS:
1. CONTRACTOR TO SUBMIT ROOFING DETAILS, INCLUDING MATERIAL, FLASHINGS, ETC. FOR ALL ROOF PENETRATIONS FOR APPROVAL PRIOR TO PROCUREMENT OR CONSTRUCTION.
2. RECORD OF GUY WIRE TENSIONING PER DETAILS.

DRAWING LIST EQUIPMENT ANCHORAGE.				
SHEET NUMBER	SHEET NAME	SHEET ISSUE STATUS	Current Revision	Current Revision Date
S0	KEY PLAN & NOTES	FOR PERMIT		
S1	PLANS	FOR PERMIT		
S2	DETAILS	FOR PERMIT		
3				

VICINITY MAP



SPECIAL INSPECTION AND TESTING

THE OWNER OR OWNER'S REPRESENTATIVE SHALL HIRE AN INDEPENDENT INSPECTION AGENCY, APPROVED BY THE BUILDING OFFICIAL, TO INSPECT PORTIONS OF THE WORK REQUIRING SUCH INSPECTION. SPECIAL INSPECTIONS ARE SEPARATE FROM AND IN ADDITION TO REQUIRED MUNICIPAL AGENCY INSPECTIONS AND BUILDING PERMIT CHECK-OFFS. THE LIST BELOW SPECIFIES PORTIONS OF THE WORK REQUIRING SPECIAL INSPECTIONS. THE INSPECTIONS ARE DEFINED AS EITHER PERIODIC (P) OR CONTINUOUS (C) AS DEFINED PER 2019 OSSC, CHAPTER 2. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND TESTING AND PROVIDE REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD AND THE PROJECT OWNER. REPORTS SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF OSSC 1704.2.4.

POST INSTALLED CONCRETE ANCHORS

REQ'D	INSPECTION, TESTING or VERIFICATION	OSSC	REF. STD.	CON	PER	REMARKS
YES	INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE	1704.4	ICC EVALUATION REPORT; ACI 318: 1.9, 17.8, 26.13		X	INSPECTIONS TO INCLUDE ITEMS LISTED WITHIN SPECIAL INSPECTIONS SECTION OF ICC EVALUATION REPORT

EXPANSION ANCHOR NOTES

"EXPANSION ANCHORS" OR "WEDGE ANCHORS" SHOWN ON DRAWINGS SHALL BE HILTI KWIK BOLT TZ (KB-TZ) ANCHORS.

INSTALLATION OF ANCHORS SHALL MEET ALL REQUIREMENTS OF ICC REPORT ESR-1917.

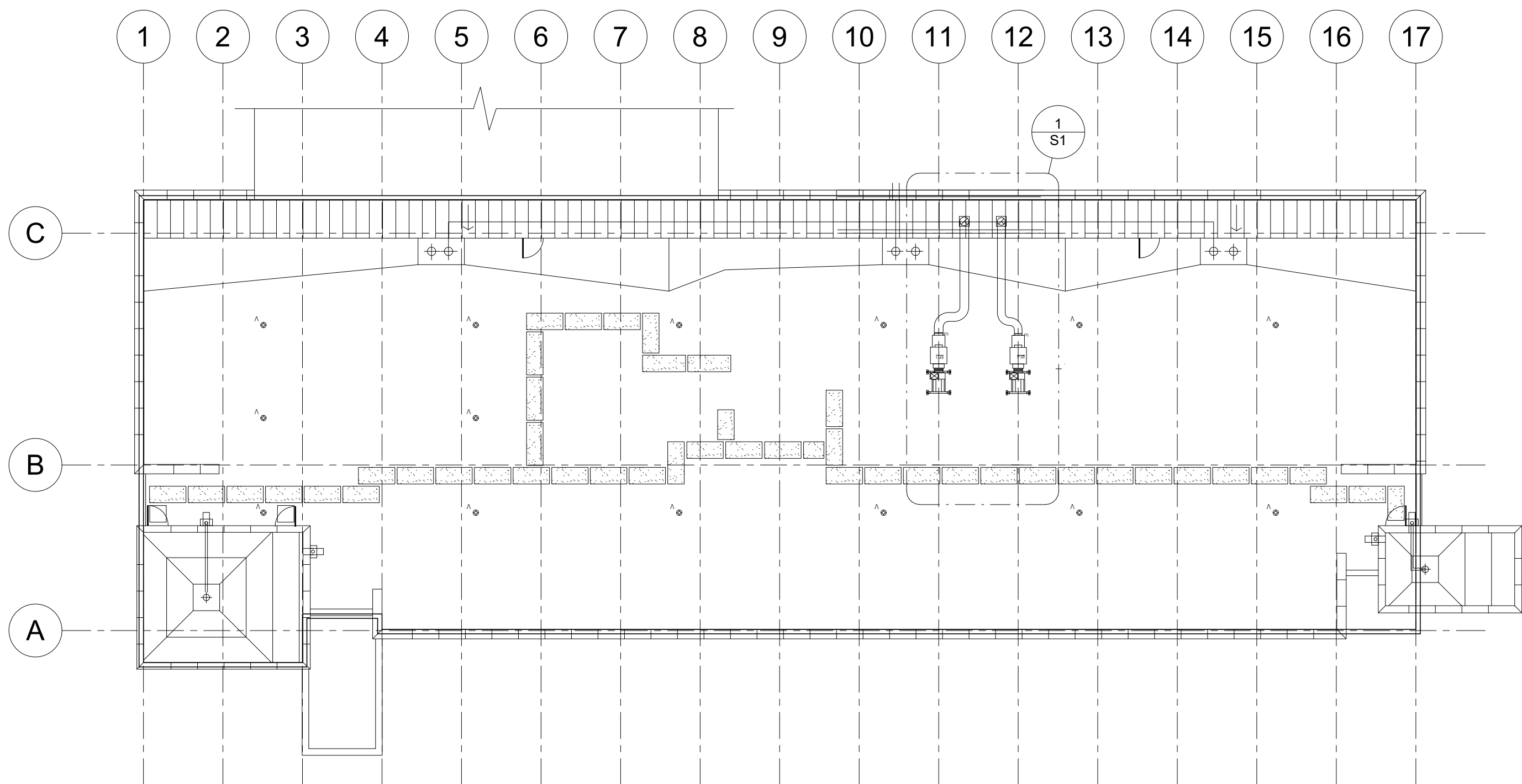
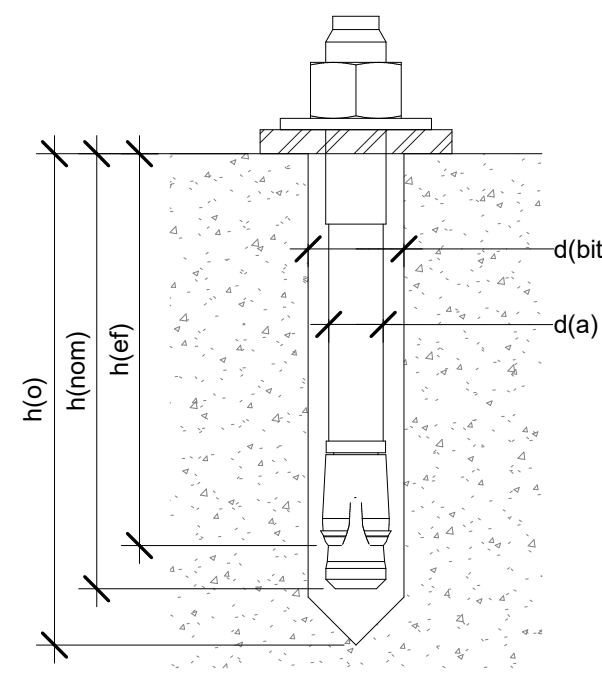
PERIODIC SPECIAL INSPECTION IS REQUIRED PER ICC ESR-1917 AND 2019 OSSC SECTION 1705.3

HOLES SHALL BE DRILLED WITH CARBIDE-TIPPED MASONRY DRILL BITS COMPLYING WITH ANSI B212.15-1994 & DUST AND DEBRIS SHALL BE REMOVED FROM THE DRILLED HOLE.

THE ANCHOR MUST BE HAMMERED INTO THE PREDRILLED HOLE TO A DEPTH OF "h" (NOM) & THE NUT MUST BE TIGHTENED TO THE SPECIFIED TORQUE.

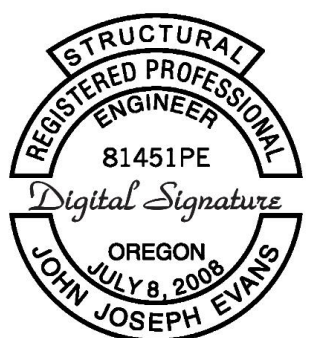
ANCHOR O.D. d(a)	BIT DIAMETER d(bit)	EFFECTIVE MIN. EMBED. h(ef)	NOMINAL EMBED. h(nom)	MIN. HOLE DEPTH h(o)	REQ'D INSTALLATION TORQUE ft-lb
3/8"	3/8"	2 3/4"	3 1/16"	3 3/8"	25
1/2"	1/2"	3 1/4"	3 5/8"	4"	40
5/8"	5/8"	4"	4 7/16"	4 3/4"	60
3/4"	3/4"	4 3/4"	5 5/16"	5 3/4"	110

- ↑ INDICATES HILTI KWIK BOLT-TZ ANCHORS
- ↑ INDICATES ANCHOR MATERIAL
"CS" = CARBON STEEL
"SS" = STAINLESS STEEL
- ↑ INDICATES EFFECTIVE EMBEDMENT = h(ef)
- ↑ INDICATES ANCHOR DIAMETER = d(a)



1 ROOF KEY PLAN
1/16" = 1'-0"

KEY PLAN & NOTES
ROGERS HALL ROOM 334 EXHAUST HOOD
OREGON STATE UNIVERSITY



REVISIONS: 12/31/23
Project number 2021037
Date 3/7/22
Drawn by JW
Checked by JJE

S0

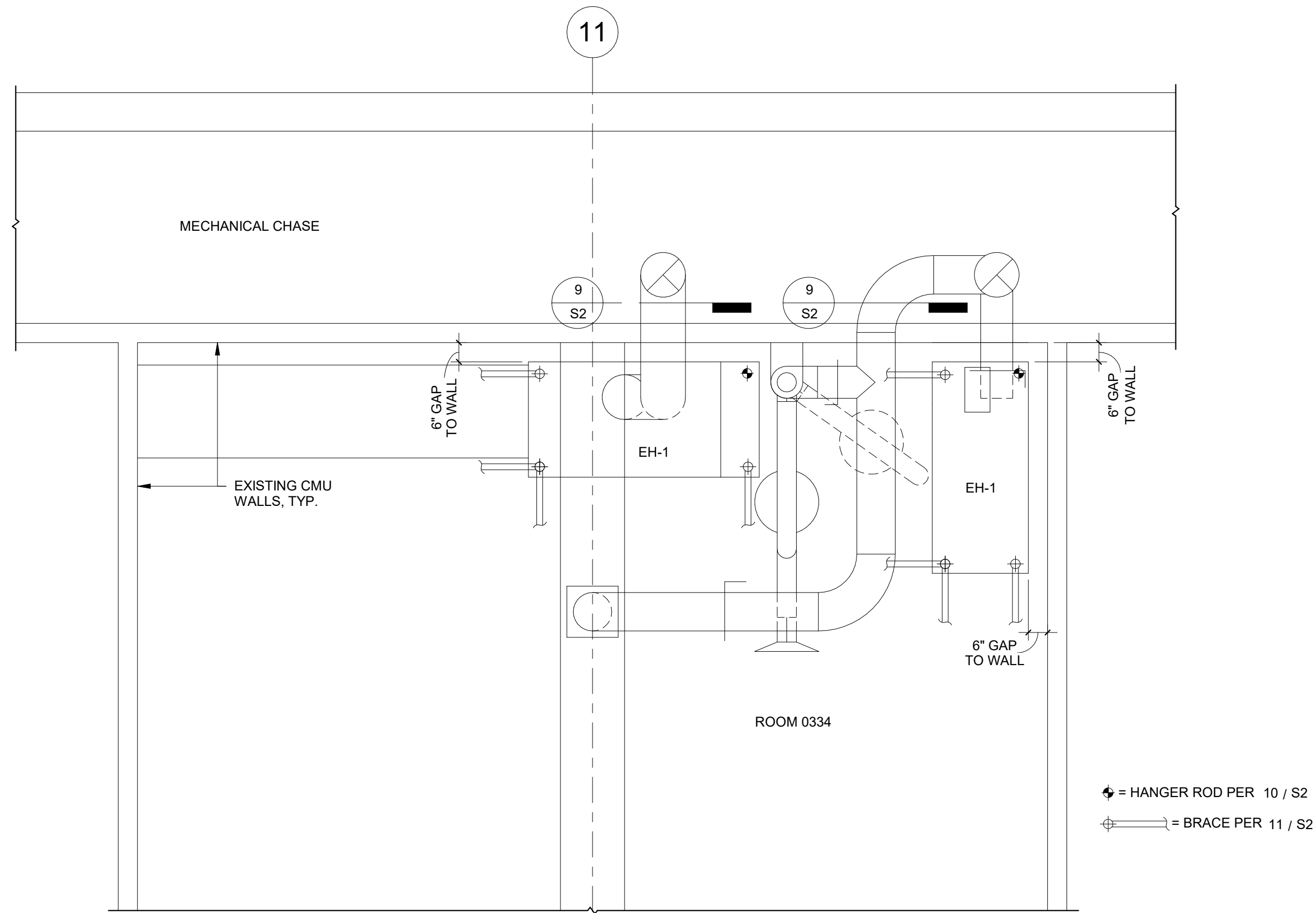
Status: FOR PERMIT



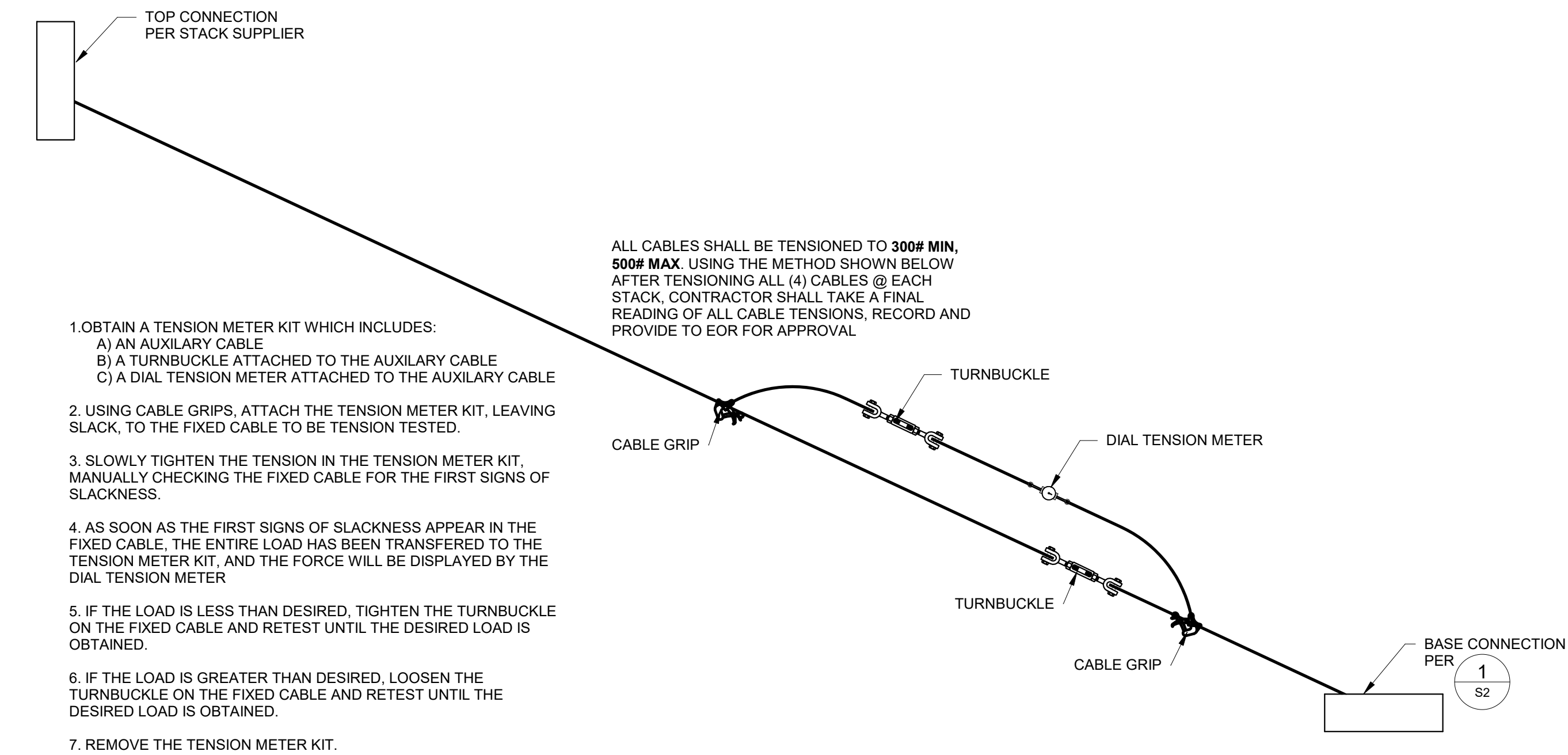
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CORVALLIS, OR 97330
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(PILLAR CONSULTING GROUP, INC.)

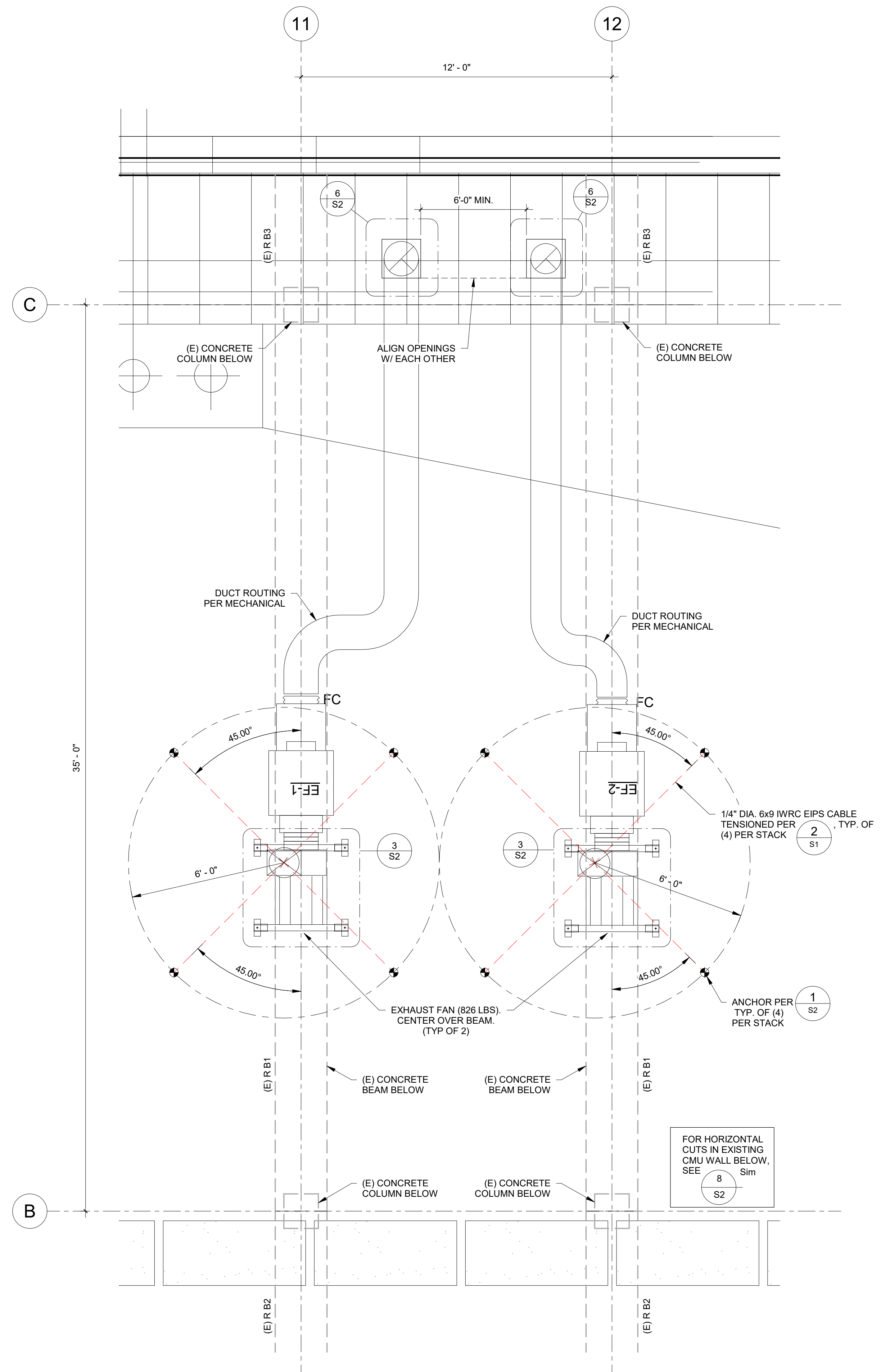
No.	Description	Date



3 PLAN @ ROOM 0334
3/8" = 1'-0"

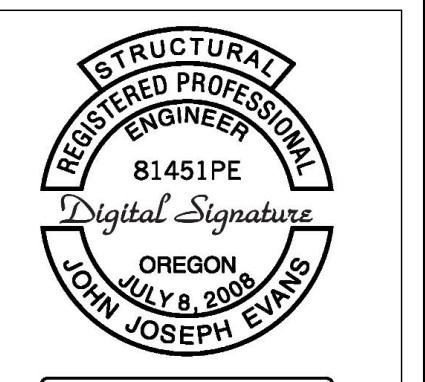


2 GUY WIRE TENSIONING SYSTEM
3/8" = 1'-0"



1 ROOF PLAN
3/8" = 1'-0"

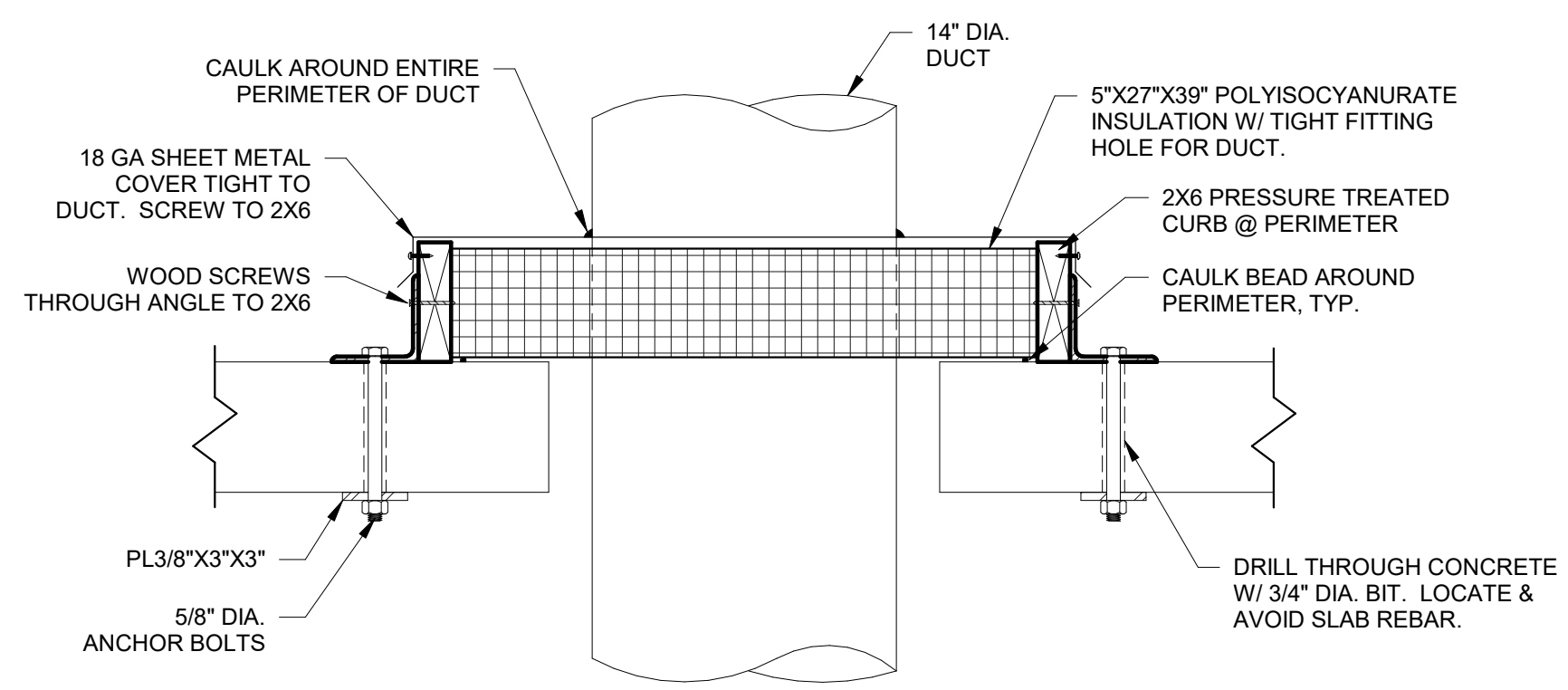
PLANS
ROGERS HALL ROOM 334 EXHAUST HOOD
OREGON STATE UNIVERSITY



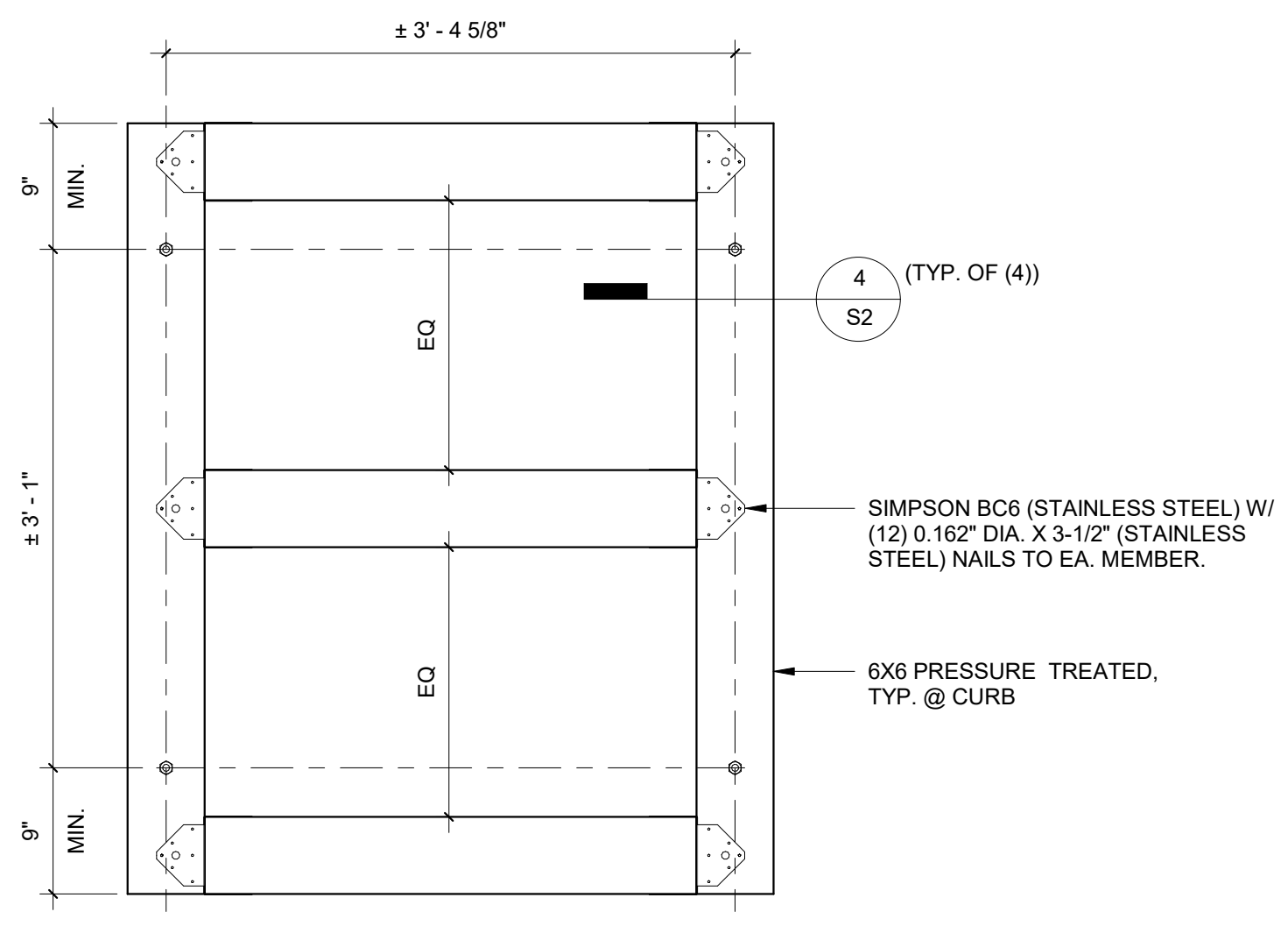
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Project number 2021037
Date 3/7/22
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Checked by JJE

S1
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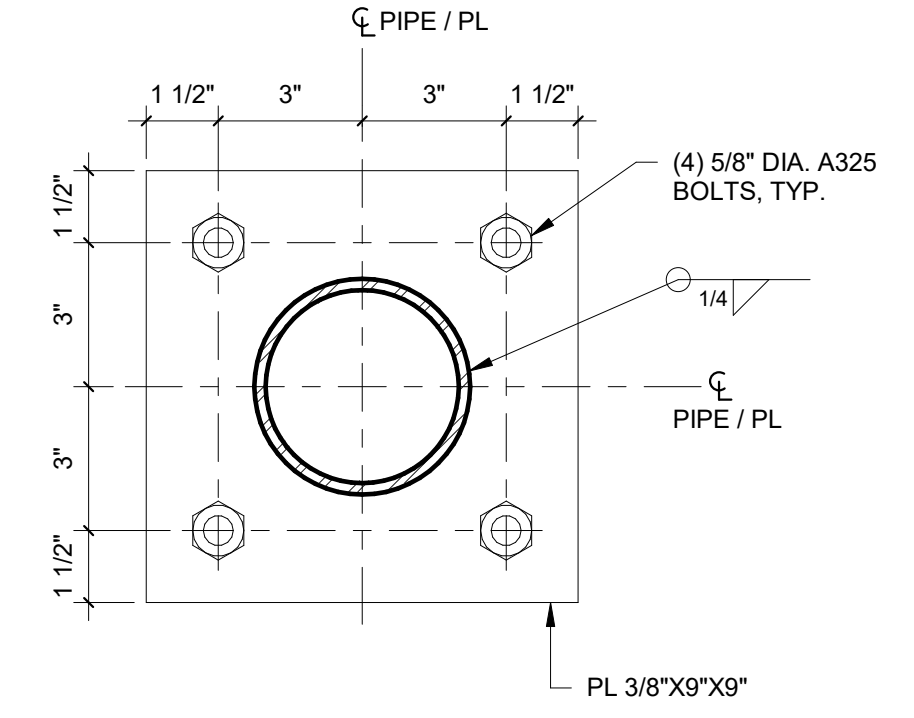
No.	Description	Date



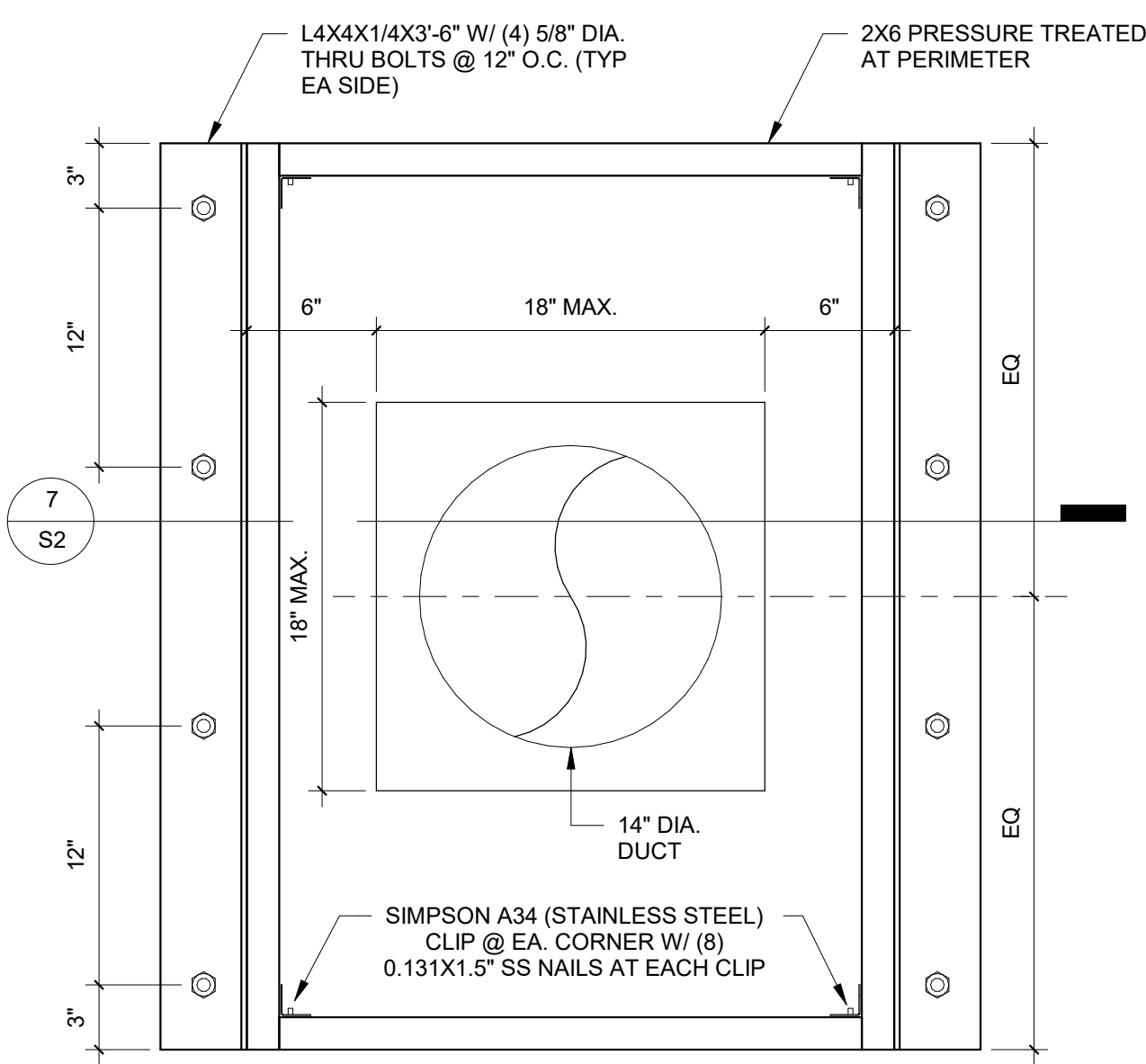
7 DUCT OPENING SECTION @ DOG HOUSE
 S2 1 1/2" = 1'-0"



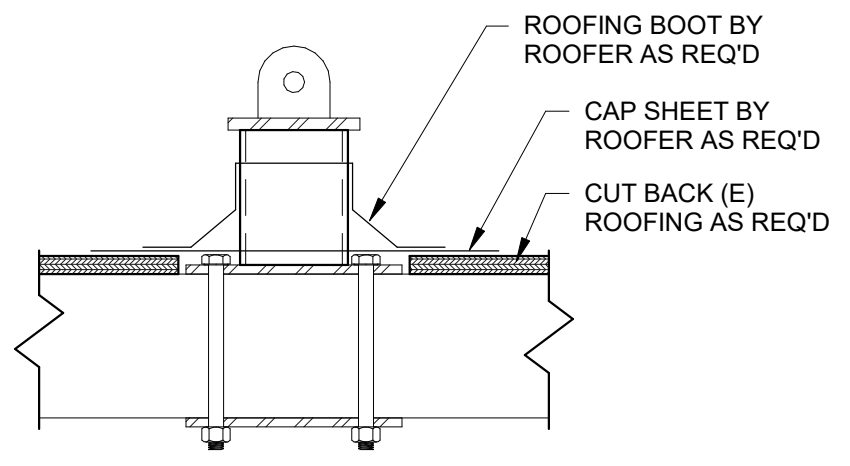
3 FAN CURB
 S2 1" = 1'-0"



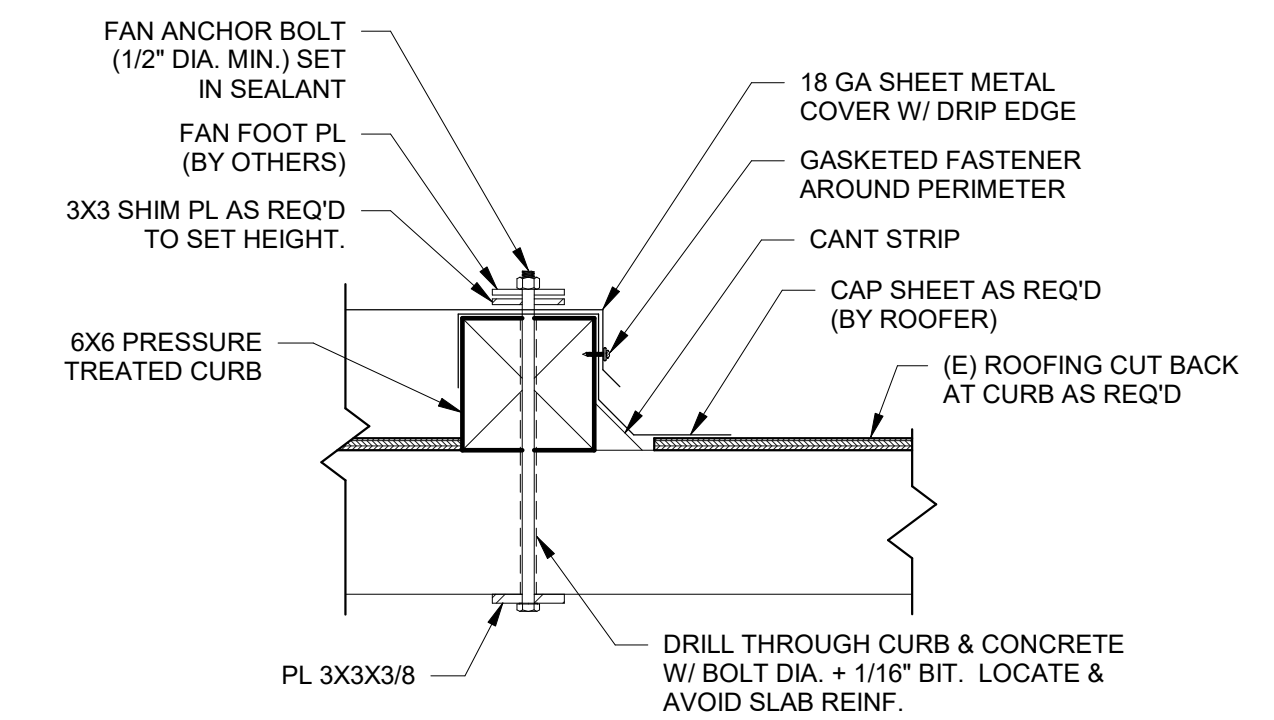
2 GUY ANCHOR BASE
 S2 3" = 1'-0"



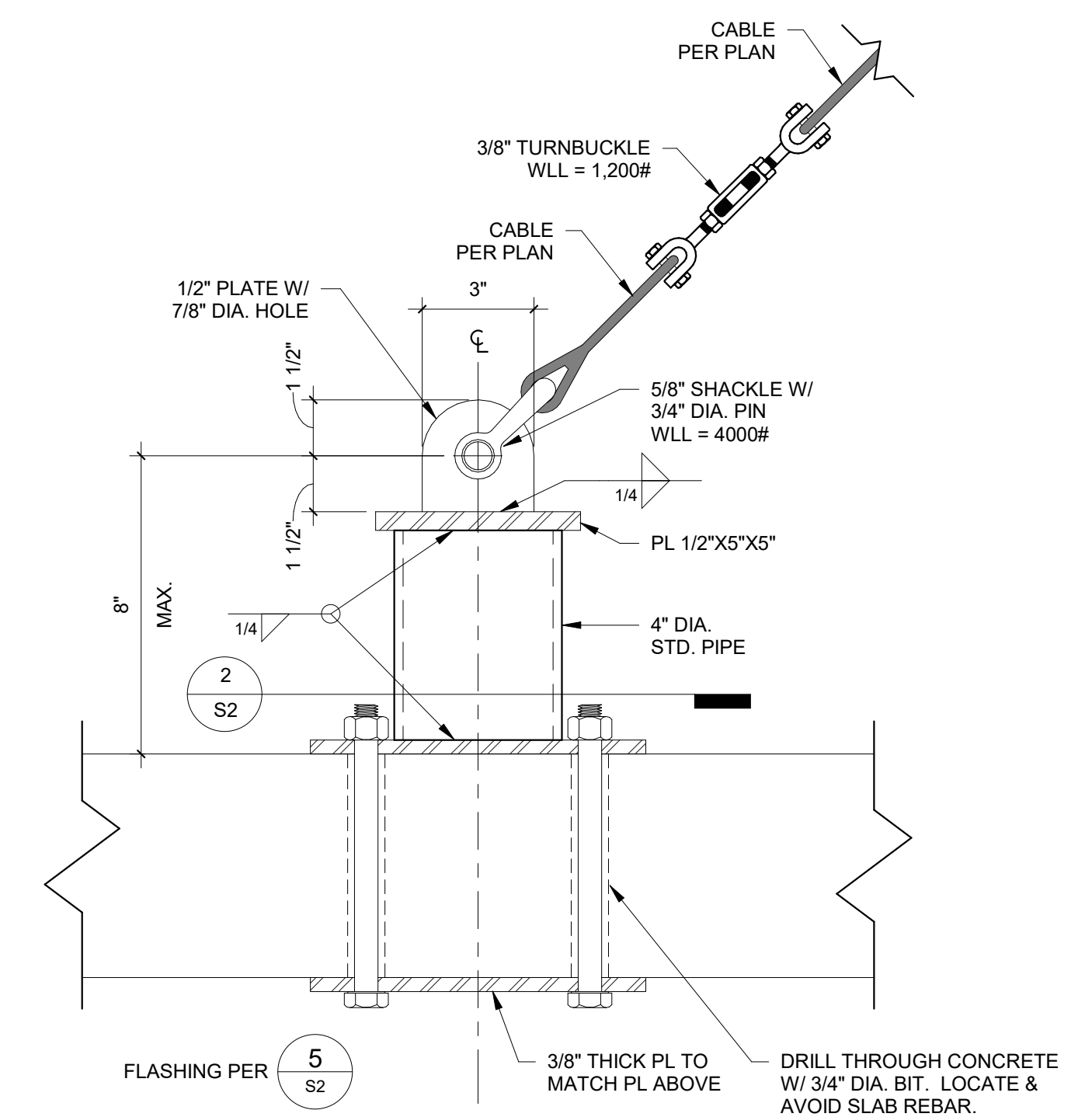
6 DUCT OPENING @ ROOF
 S2 1 1/2" = 1'-0"



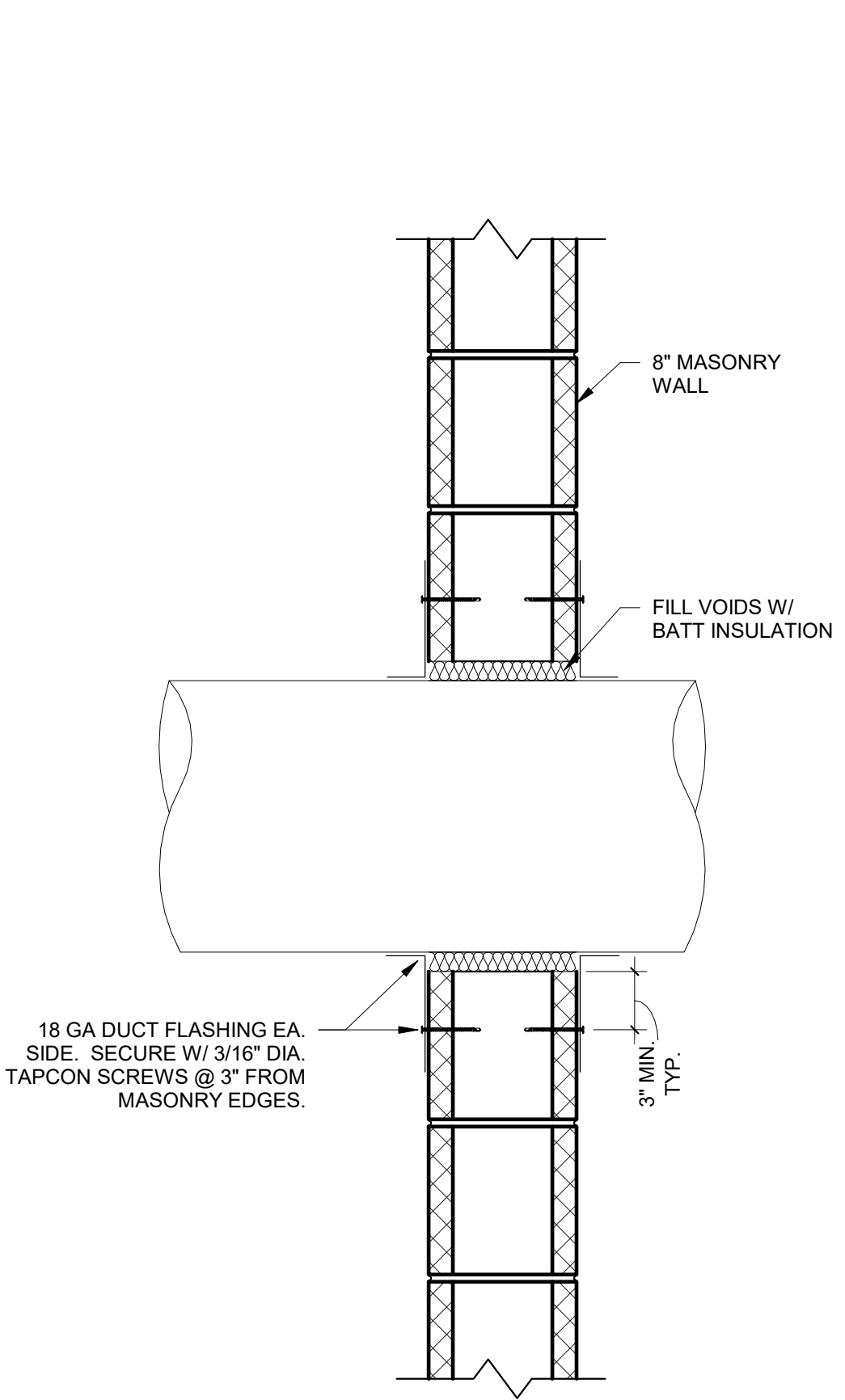
5 GUY ANCHOR FLASHING
 S2 1 1/2" = 1'-0"



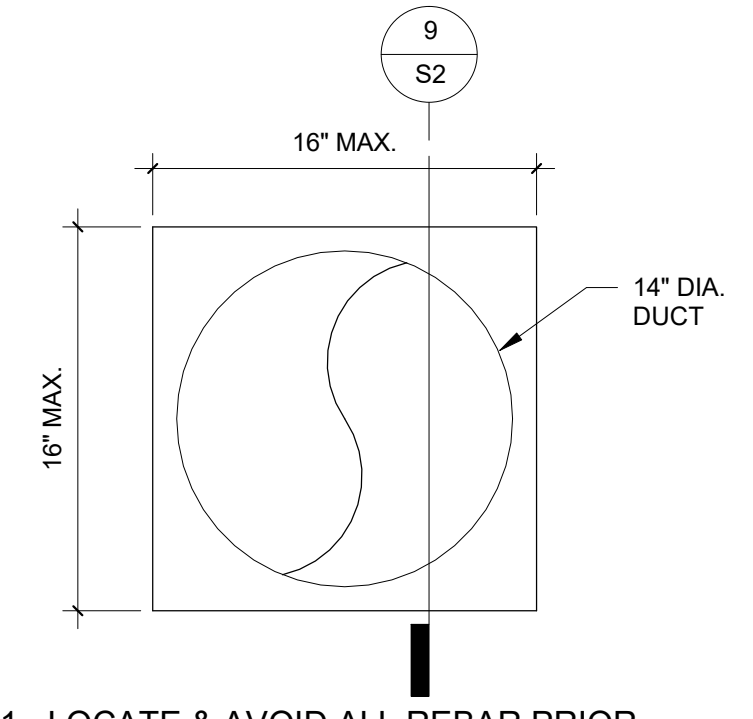
4 FAN ANCHORAGE & FLASHING
 S2 1 1/2" = 1'-0"



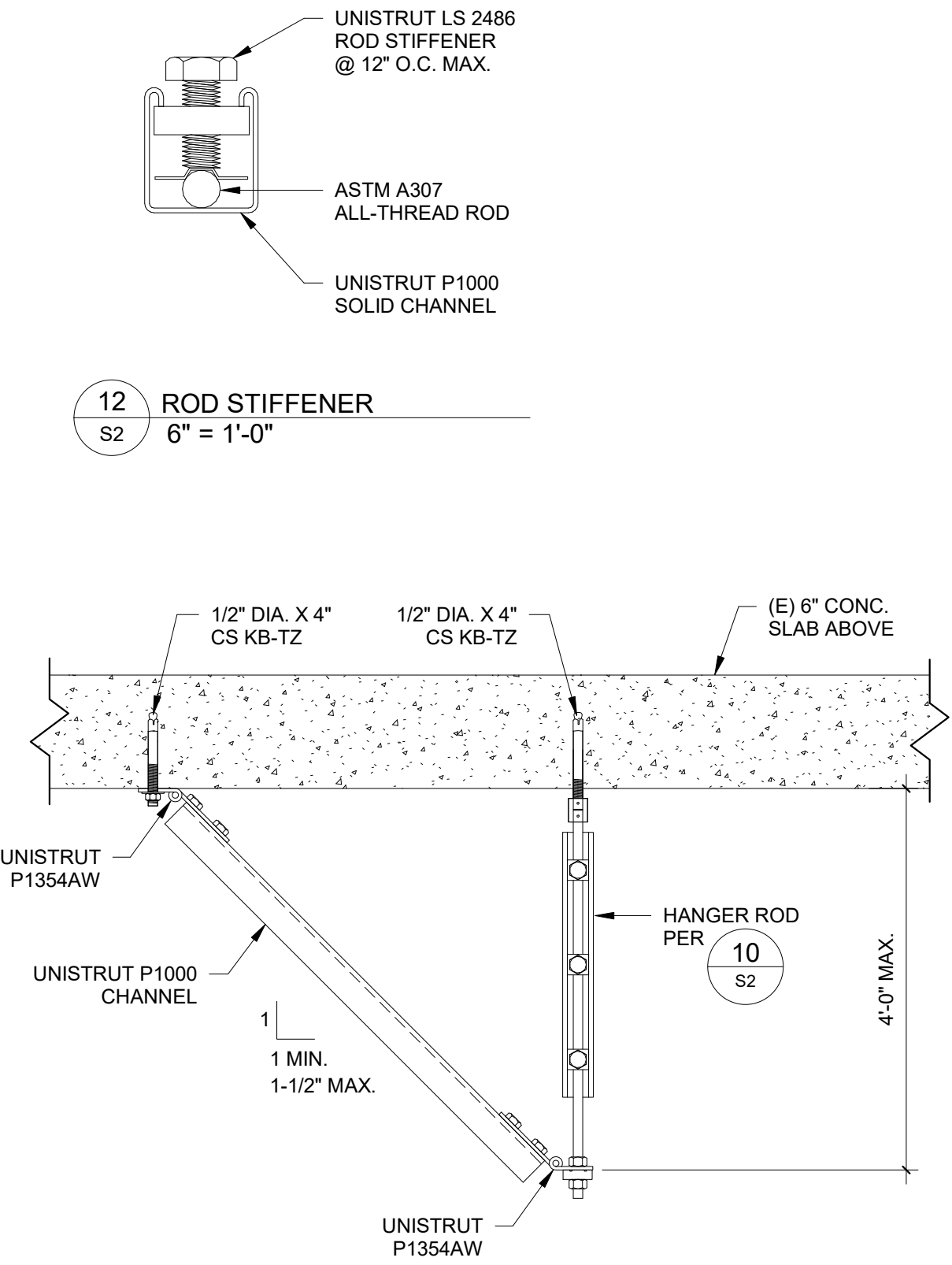
1 GUY ANCHOR
 S2 3" = 1'-0"



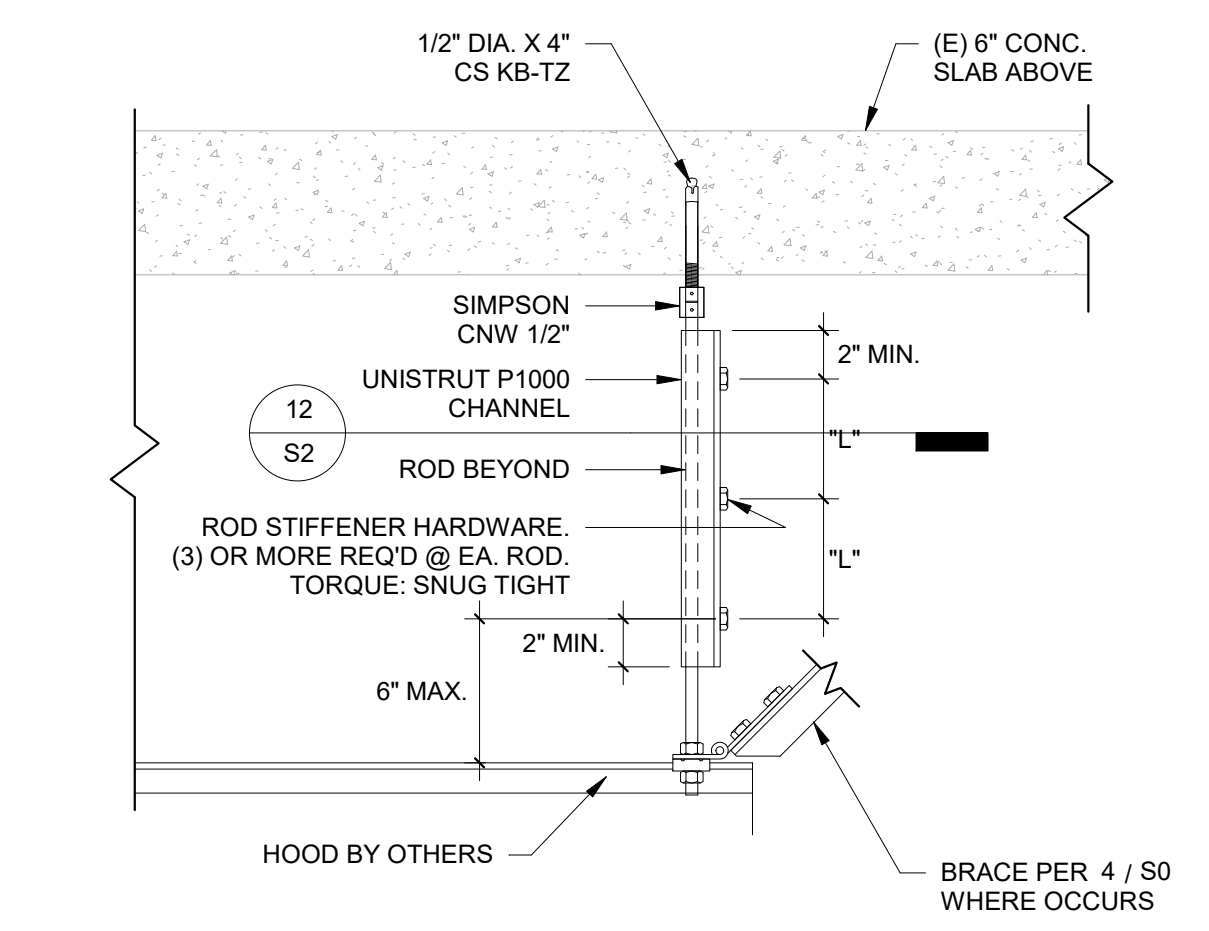
9 DUCT PENETRATION SECTION @ MASONRY
 S2 1 1/2" = 1'-0"



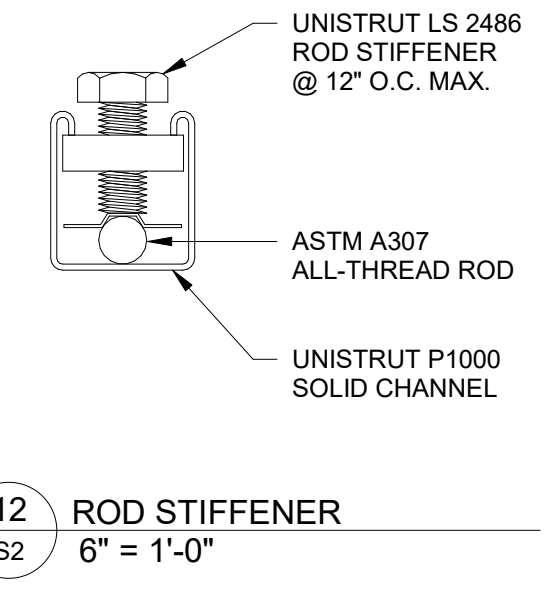
8 HORIZONTAL OPENINGS IN MASONRY
 S2 1 1/2" = 1'-0"



11 HOOD BRACE
 S2 1 1/2" = 1'-0"



10 HOOD HANGER ROD
 S2 1 1/2" = 1'-0"



12 ROD STIFFENER
 S2 6" = 1'-0"

DETAILS
 ROGERS HALL ROOM 334 EXHAUST HOOD
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 Status: FOR PERMIT