

METROPOLITAN EXPOSITION RECREATION COMMISSION
Resolutions No. 17-30

For the purpose of approving the contract with First Cascade Corporation for the Oregon Convention Center's "Staff and Setup Supervisor Support Space Renovation" and authorizing the General Manager of Visitor Venues to execute the contract.

WHEREAS, the OCC staff and setup supervisor support spaces date back to 2002 and lack necessary infrastructure, equipment, and amenities for the number of staff who use the spaces; and

WHEREAS, the current configuration and equipment of the first-level space is not conducive or adequate for training, meetings, event briefings, breaks, meals and start of shift team huddles; and

WHEREAS, the second-level setup supervisor office space is inefficiently configured; and

WHEREAS, the renovation upgrades the infrastructure and usability of the spaces on both levels, including HVAC, power and network capabilities; and


WHEREAS, Metro issued an invitation to bid under Section 49-0130 of Metro's Procurement Administrative Procedures which requires competitive sealed bids in accordance with ORS Chapter 279C for public improvements such as this project; and

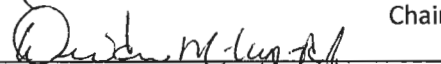
WHEREAS, Staff evaluated the submitted bids, and First Cascade Corporation was the lowest responsive and responsible bidder with a bid amount of Four Hundred Twenty One thousand, Nine Hundred Thirty Three and 00/100 dollars (\$421,933.00).

BE IT THEREFORE RESOLVED that the Metropolitan Exposition Recreation Commission:

1. Approves the contract with First Cascade Corporation in the form substantially similar to the attached Exhibit A; and
2. Authorizes the General Manager of Visitor Venues to execute the contract on behalf of the Commission.

Passed by the Commission on October 4, 2017



Chair


Secretary/Treasurer

Approved As to Form
Alison R. Kean, Metro Attorney

By: 

Nathan A. S. Sykes
Deputy Metro Attorney

Construction Agreement



METRO CONTRACT NO. XXXXXX

THIS CONSTRUCTION AGREEMENT is between MERC, an appointed Commission of Metro, a metropolitan service district organized under the laws of the State of Oregon and the Metro Charter, located at 600 N.E. Grand Avenue, Portland, OR 97232-2736, and First Cascade Corporation, referred to herein as "Contractor," located at PO Box 2158, Lake Oswego, Oregon 97035.

THE PARTIES AGREE AS FOLLOWS:

ARTICLE I SCOPE OF WORK AND CONTRACT TERMS

CONTRACTOR shall perform the work and/or deliver to METRO the goods described in the Scope of Work attached hereto and incorporated herein as Attachment A. All services and goods shall be of good quality and otherwise in accordance with the Scope of Work. CONTRACTOR shall perform the work and/or deliver to METRO the goods described in the Scope of Work strictly in accord with the terms of this Construction Agreement and the General Conditions attached hereto and incorporated herein as Attachment B.

ARTICLE II TERM OF CONTRACT

The term of this Contract shall be for the period commencing October 4, 2017 through and including June 30, 2018. Substantial completion per Section 9.4 of the General Conditions is January 8, 2018.

ARTICLE III CONTRACT SUM AND TERMS OF PAYMENT

METRO shall pay the CONTRACTOR for work performed and/or goods supplied as described in the Scope of Work, in the maximum amount of Four Hundred Twenty One Thousand Nine Hundred thirty Three AND 00/100THS DOLLARS (\$421,933.00) (the "Maximum Price"). METRO shall not be responsible for payment of any materials, expenses or costs other than those which are specifically included in the Scope of Work. The Maximum Price includes all fees, costs and expenses of whatever nature. Each of METRO's payments to Contractor shall equal the percentage of the work Contractor accomplished during the billing period. Contractor's billing invoices shall include the METRO contract number, Contractor name, remittance address, invoice date, invoice number, invoice amount, tax amount (if applicable), and an itemized statement of work performed and expenses incurred during the billing period, and will not be submitted more frequently than once a month.

Contractor's billing invoices shall be sent to metroaccountspayable@oregonmetro.gov. The Metro contract number and Contractor name shall be referenced in the email subject line. Metro requests that contractors submit billing invoices for services within 10 business days of performance. Payment shall be made by Metro on a Net 30 day basis upon receipt of Contractor invoice.

ARTICLE IV BONDS

In addition, for public works subject to ORS 279C.800 to 279C.870, CONTRACTOR and every subcontractor shall have a public works bond required by 2005 Oregon Laws Chapter 360 filed with the Construction Contractors Board before starting work on the project, unless exempt under Section 2 of 2005 Oregon Laws Chapter 360.

ARTICLE V PUBLIC CONTRACTS

All applicable provisions of ORS chapters 187 and 279A, 279B, and 279C and all other terms and conditions necessary to be inserted into public contracts in the State of Oregon, are hereby incorporated as if such provision were a part of this Agreement. Specifically, it is a condition of this contract that CONTRACTOR and all employers working under this Agreement are subject employers that will comply with ORS 656.017 as required by 1989 Oregon Laws, Chapter 684.

Construction Agreement



METRO CONTRACT NO. XXXXXX

For public work subject to ORS 279C.800 to 279C.870, the CONTRACTOR shall pay prevailing wages. If such public work is subject both to ORS 279C.800 to 279C.870 and to 40 U.S.C. 276a, the CONTRACTOR and every subcontractor on such public work shall pay at least the higher prevailing wage. The CONTRACTOR and each subcontractor shall pay workers not less than the specified minimum hourly rate of wage in accordance with Section 7 of 2005 Oregon Laws Chapter 360. METRO shall pay an administrative fee as provided in ORS 279C.825(1) to the Bureau of Labor and Industries pursuant to the administrative rules established by the Commissioner of Labor and Industries. CONTRACTORS must promptly pay, as due, all persons supplying to such contractor labor or material used in this contract. If the CONTRACTOR or first-tier subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract for a public improvement within 30 days after receipt of payment from the public contracting agency or a contractor, the CONTRACTOR or first-tier subcontractor shall owe the person the amount due plus shall pay interest in accordance with ORS 279C.515. If the CONTRACTOR or first-tier subcontractor fails, neglects, or refuses to make payment, to a person furnishing labor or materials in connection with the public contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580. CONTRACTOR must pay any and all contributions and amounts due to the Industrial Accident Fund from contractor or subcontractor and incurred in the performance of the contract. No liens or claims are permitted to be filed against METRO on account of any labor or material furnished. CONTRACTORS are required to pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

For public improvement work all CONTRACTORS must demonstrate that an employee drug-testing program is in place.

ARTICLE VI COUNTERPARTS

This Contract may be executed in counterparts or multiples, any one of which will have the full force of an original.

ARTICLE VII DELIVERY OF NOTICES

Any notice, request, demand, instruction, or any other communications to be given to any party hereunder shall be in writing, sent by registered or certified mail or fax as follows:

To Contractor: Scott Conway
First Cascade Corporation
PO Box 2158
Lake Oswego, Oregon 97035
503-699-8970

To Metro: Metro Procurement Services
600 NE Grand Ave
Portland, Oregon 97232
503-797-1791 fax

With Copy to: Nancy Strening
600 NE Grand Avenue
Portland, Oregon, 97232
503-797-1929

CONTRACTOR

METRO

By _____

By _____

Print Name _____

Print Name _____

Date _____

Date _____

ATTACHMENT A TO CONSTRUCTION AGREEMENT – SCOPE OF WORK

1. Purpose and Goal of Work

The employee breakroom lacks necessary equipment and amenities for the number of staff who use the space for breaks and lunch. The current space lacks appropriate finishes and lighting and contains mismatched furniture and seating. This is not just a functional issue but a morale issue among staff.

The breakroom will receive a complete renovation upgrading its functionality and appearance. The renovation will include a more functional eating area, additional microwaves, refrigerators, larger dishwasher, new lighting, flooring, seating and a small shift briefing room for start of shift team huddles. The end result will be a fully functioning break room space that staff are proud of and want to maintain appropriately.

The setup supervisor's office is above the employee breakroom and needs improved functionality and storage capacity. A redesign of the entire second level floor plan will provide more functional and efficient workspace for the supervisors. The current work space is underserved with power and network capability and will be addressed in the renovation. Two offices, a storage area and a communal workspace for the supervisors will be created across the entire second level floor plan above the employee break room. The end result will be a more cohesive workspace.

The employees and functions will be temporarily relocated to vacant event/meeting spaces during construction. However, commitments may be made for those spaces for the days following the proposed end of the construction period, so it is essential that work be completed and the renovated space be available to occupy by the targeted completion date.

2. Scope of Work

The Scope of Work includes the Plan Set, Specifications, any Addenda attached hereto, and any Change Orders entered into in accord with the terms of the Contract.

Plan Set, titled **ATTACHMENT C; Oregon Convention Center Breakroom and Office** and dated September 20, 2017

ITB Addenda **1** through **3**; and any modifications of any of the foregoing in the form of Addenda or Change Orders entered into in accordance with the terms of the Contract. Where applicable, reference to this Contract herein shall be deemed to refer to all of the Contract Documents.

Contractor shall provide all labor, tools, equipment, machinery, supervision, transportation, permits, and every other item and service necessary to perform the Work described in the Contract Documents. Contractor shall fully comply with each and every term, condition and provision of the Contract Documents.

ATTACHMENT B - SECTION 007200 METRO GENERAL CONDITIONS

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METRO GENERAL CONDITIONS

ARTICLE 1 GENERAL PROVISIONS

1.1 Definitions. Unless otherwise defined or specified in the Contract Documents, the following terms shall have the meanings indicated:

1.1.1 Addendum: A document issued by Metro during the solicitation period clarifying, adding, deleting, or materially changing Metro's solicitation documents.

1.1.2 Alternate Bids: Portions of the Work for which a Bidder must submit a separate Bid amount. Alternate Bid items may or may not be awarded at Metro's discretion.

1.1.3 Architect: A person retained by Metro as its design professional for the Work and authorized to practice architecture in the State of Oregon. The term "Architect" refers to the Architect or the Architect's authorized representative.

1.1.4 "As-Builts" or Record Documents: Those drawings made, revised, or annotated by Contractor and approved by Metro during the performance of the Contract, fully illustrating how all elements of the Work were actually installed and completed.

1.1.5 Aspirational Target: Target of intended utilization of MBE, WBE, and ESB firms that a contractor has no contractual obligation to meet.

1.1.6 Authorized Representative: A person acting on behalf of another through expressly delegated authority as specified in these Contract Documents.

1.1.7 Bid: The written offer of a Bidder to perform the Work as defined in these Contract Documents submitted in compliance with Metro's Bid Documents and Public Contracting Rules.

1.1.8 Bidder: A person acting directly or through a duly and legally authorized representative who submits or intends to submit a Bid for the Work as described in these Contract Documents.

1.1.9 Bid Documents: Those documents upon which a Bidder bases its bid to Metro.

1.1.10 Business Day: Calendar day excluding Saturdays, Sundays, and legal holidays.

1.1.11 Bid Forms: Forms required by Metro to be submitted with a Bid.

1.1.12 City or County: The city or county in which the Work is located.

1.1.13 Change Order: A written document signed by Metro and Contractor stating their agreement upon all of the following:

1.1.13.1 The change in the Work;

1.1.13.2 The amount of any adjustment in the Contract Amount; and

1.1.13.3 The extent of any adjustment to the Contract Time.

1.1.14 Clarification: A written document consisting of supplementary details, instruction or information issued by Metro after the award of Contract that clarifies or supplements the Contract Documents and becomes a part of the Contract Documents. A Clarification may or may not affect the scope of Work.

1.1.15 Completion: See "Substantial Completion" and "Final Completion and Acceptance."

1.1.16 Construction Schedule or Schedule: The timeline described in Article 5.

1.1.17 Contract: The Contract Documents.

1.1.18 Contract Amount: The total amount shown in the Construction Agreement as modified by any Change Orders.

1.1.19 Contract Documents or Contract or Bidding Documents: All of the following documents: the Advertisement for Bids, the Invitation to Bid, the Instructions to Bidders, the Bid Forms, the Construction Agreement, the Performance Bond, the Labor and Materials Payment Bond, the General Conditions, the Supplementary Conditions, the Specifications, the drawings, the approved and updated Construction Schedule, and any modifications of any of the foregoing in the form of Addenda, Clarifications, Change Orders, or Force Account Work.

1.1.20 Contractor: The person having entered into this Contract with Metro and who is responsible for the complete performance of the Work contemplated by the Contract Documents and for the payment of all legal debts pertaining to the Work, including its officers, agents, employees, and representatives.

1.1.21 Contract Time: The amount of time stated in the Contract Documents for the performance of all or a specified portion of the Work, as modified by any Change Orders.

1.1.22 Critical Path Method or CPM: The critical path method of scheduling as understood and interpreted by standard industry practice.

1.1.23 Day: Calendar day including Saturdays, Sundays, and legal holidays.

1.1.24 Defective Work: Work that (a) is performed in an unsatisfactory, faulty, or deficient manner; (b) does not conform to the Contract Documents; (c) does not meet the requirements of any reference standard, test, or approval referred to or incorporated by the Contract Documents; or (d) has been damaged by anyone other than Metro prior to Acceptance of the Work, whether or not such Work is in Metro's possession or use.

1.1.25 Direct Costs: The costs of labor (including benefits), materials, and equipment incurred by the person performing the Work or part of the Work.

1.1.26 Drawings: The graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

1.1.27 Engineer: A person lawfully practicing engineering. The term "Engineer" refers to the Engineer or the Engineer's authorized representative.

1.1.28 Environmental Laws: Any applicable statute, law, ordinance, order, consent decree, judgment, permit, license, code provision, covenant deed, common law, treaty, convention, or other requirement pertaining to protection of the environment, health or safety, natural resources, conservation, wildlife, waste management, or disposal of hazardous substances or pollution, including but not limited to regulation of releases to air, land, water, and groundwater.

1.1.29 Equal, Approved, Approved Equal: The material or product to be supplied or installed is equal to or better than that specified in function, performance, reliability, quality, and general configuration and is approved by Architect or Engineer. Equality in reference to the Project design requirements shall be determined by Architect or Engineer prior to installation of any material or product in the Project. Where the term "or equal" is not used and a sole product is specified, the term "or equal" is implied.

1.1.30 Final Completion: Full performance of all of the Work and acceptance of the Project by Metro.

1.1.31 Final Payment: The balance of the Contract Amount to be paid to the Contractor upon Final Completion and Acceptance of the Work. "Final Payment" includes payment of any withheld Retainage less deductions permitted or required by the Contract.

1.1.32 Force Account Work: Work, ordered in writing by Metro, for which Contractor must report its actual costs in accordance with Section 8.4 of the General Conditions.

1.1.33 Force Majeur: An earthquake, flood, typhoon, cyclone, or other natural phenomenon of catastrophic proportions or intensity.

1.1.34 General Conditions: The Metro General Conditions of the Contract for Construction set forth in this document.

1.1.35 Hazardous Materials: Any substance defined or designated as being radioactive, infectious, hazardous, dangerous, or toxic by any federal, state, or local statute, regulation, or ordinance presently in effect or subsequently enacted. For purposes of Section 10.7, the term "introduce" means the physical placement or transportation of Hazardous Materials in or on the Project Site regardless of whether the Hazardous Material was specified, required, or otherwise addressed in the Contract Documents.

1.1.36 Landscape Architect: A person lawfully practicing landscape architecture. The term "Landscape Architect" refers to the Landscape Architect or the Landscape Architect's authorized representative.

1.1.37 LEED Certification: A Leadership in Energy and Design Certification issued by the United States Green Building Council (USGBC).

1.1.38 Lump Sum: A way of expressing the Contract Amount for the Work, or the price bid for a portion of the Work, stated as a single price for all labor, materials, supplies, incidental work, overhead, and profit.

1.1.39 Metro: A metropolitan service district organized under the laws of the State of Oregon and the Metro Charter.

1.1.40 Metro Chief Operating Officer or COO: The Chief Operating Officer of Metro.

1.1.41 Metro Council or Council: Metro's elected governing body.

1.1.42 Minority Business Enterprise, Women Business Enterprise and Emerging Small Business ("MWESB"): A firm eligible to participate as a Minority Business Enterprise, Women Business Enterprise or Emerging Small Business (collectively referred to as "MWESB") because it meets the criteria as established by the Office of Minority Women and Emerging Small Business in the State of Oregon. A firm will no longer qualify as an MWESB on this Contract when it receives notification of decertification, denial of recertification, or notice of graduation by the certifying agency.

1.1.43 MWESB Program: Metro's program to provide maximum opportunities to Minority, Women-Owned and Emerging Small Business Enterprises in contracts, which is contained in Metro Code Section 2.04.100 to 2.04.190.

- 1.1.44 Notice to Proceed: The written notice given by Metro to the Contractor to proceed with all or part of the Work. The Notice to Proceed will also establish the date and time of a preconstruction conference.
- 1.1.45 Overhead: When applied to the cost of the Work, includes the following items, when reasonable and necessary for completion of the Work:
- 1.1.45.1 All on-site payroll costs, taxes, insurance, fringe benefits, and bonuses of same, for supervising, estimating, expediting, purchasing, drafting, and clerical/secretarial services where directly incurred in the performance of the Contract.
 - 1.1.45.2 Small tools (less than \$250 capital cost per item).
 - 1.1.45.3 Contractor-owned equipment.
 - 1.1.45.4 Equipment maintenance and repairs.
 - 1.1.45.5 Temporary construction, utilities, and safety requirements.
 - 1.1.45.6 Transportation of materials other than direct identifiable cost of specific deliveries, or as included in price of material.
 - 1.1.45.7 Parking fees for workers (if applicable).
 - 1.1.45.8 Permit fees paid by the Contractor pursuant to the Contract Documents.
 - 1.1.45.9 Cost of reproduction.
 - 1.1.45.10 Field office costs. Home or branch office overhead shall not be included, but shall be part of Contractor's profit and shall include but is not limited to the following:
 - 1.1.45.10.1 Accounting functions of Contractor's home and branch office.
 - 1.1.45.10.2 General expenses of Contractor's home and branch office.
 - 1.1.45.10.3 Interest on capital.
 - 1.1.45.10.4 Salaries of any home and branch office estimators and administration.
- 1.1.46 Owner: Metro.
- 1.1.47 Person: An individual, partnership, corporation, joint venture, limited liability corporation, joint stock company, or other legal entity.
- 1.1.48 Plans: Drawings.
- 1.1.49 Profit: That portion of Contractor's Bid price that is not Direct Costs or Overhead
- 1.1.50 Project: The Work described in the Contract Documents.
- 1.1.51 Project Manager: The Metro representative on the construction Site. The Project Manager will be an employee of Metro who will represent Metro to the extent of his authority as delegated by the Chief Operating Officer. For purposes of administering this Contract the term "Project Manager" will refer to the on-site Metro representative and to any duly appointed assistants who may be designated in writing. The Architect or Engineer will be called upon as required by and at the direction of Metro for technical assistance and for interpretation of the Contract Documents.
- 1.1.52 Proposal: The written offer of a Proposer to perform the Work as defined in these Contract Documents submitted in compliance with Metro's Request for Proposals and Public Contracting Rules.
- 1.1.53 Proposal Documents: Those documents upon which a Proposer responds to a Request for Proposals.
- 1.1.54 Proposer: A person who responds or intends to respond to a Request for Proposals issued by Metro.
- 1.1.55 Provide: To furnish and install complete and in place and ready for operation and use.
- 1.1.56 Punch List: The list prepared by the Architect or Engineer and/or Project Manager at the time of Substantial Completion that reflects Contractor's incomplete, nonconforming Work. Punch List items must be completed to the satisfaction of the Architect or Engineer and Metro in order for the Project to reach Final Completion and Acceptance.
- 1.1.57 Reference Specifications: Bulletins, standards, rules, methods of analysis or testing, codes, and Specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents that when included in the Contract Documents establish the basis by which specific portions of the Work are to be performed. All such references specified refer to the latest edition thereof, including any Amendments in effect and published at the time of advertising for Bids or of issuing the permit for the Project.
- 1.1.58 Release: When used in regard to environmental laws or regulations, "release" as defined in Oregon or federal law.
- 1.1.59 Request for Bid (RFB): A solicitation to perform Work where a Contract is awarded based on price.

1.1.60 Request for Information (RFI): A written request made by Contractor for additional information to clarify an ambiguity in the Contract Documents.

1.1.61 Request for Proposals ("RFP"): A solicitation to perform Work issued where a Contract is awarded based on factors other than or in addition to price.

1.1.62 Retainage or Retention: The difference between the amount earned by Contractor on the Contract and the amount paid on the Contract by Metro.

1.1.63 Schedule of Values: The detailed breakdown of a lump-sum contract amount as required in Section 9.2.

1.1.64 Separate Contract: A contract between Metro and a party other than Contractor for the construction or furnishing of a portion of the Project.

1.1.65 Shown, As Shown: Work shown on the drawings that is a part of the Contract Documents.

1.1.66 Site: The real property upon which the Project is located.

1.1.67 Solicitation Documents: An RFB.

1.1.68 Special Inspector: A representative of Metro, Architect, Engineer or Geotechnical Engineer with specialized knowledge applicable to the installation of certain elements of the Work.

1.1.69 Specifications: That portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work, and performance of related services, including any Reference Specifications.

1.1.70 Subcontractor: A person that has a contract with Contractor to perform a portion of the Work at the Site.

1.1.71 Submittals: Includes shop drawings, samples, manufacturer's brochures, pamphlets, catalog cuts, color charts, or other descriptive data, clearly defining the article, material, equipment, or device proposed by Contractor for use in the Work. "Shop drawings" are the drawings and diagrams showing details of fabrication and erection that Contractor is required to submit to the Architect or Engineer.

1.1.72 Substantial Completion: The stage in the progress of the Work, as determined by Metro, when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that Metro can lawfully occupy or use the Work for its intended use.

1.1.73 Supplier: An individual, partnership, corporation or joint venture entering into an agreement with Metro or Contractor for furnishing a portion of the Work that requires no labor at the Site, other than common carriers.

1.1.74 Unit Price: The dollar amount to complete a particular portion of the Contract Work, as defined in the Bid and Supplementary Conditions, and includes all costs, including but not limited to equipment, labor, materials, incidentals, Overhead, and Profit for the portion of Work described.

1.1.75 Unusually Persistent Severe Weather: Exists in any period when daily rainfall exceeds 0.50 inch during a month when the monthly average rainfall exceeds the normal monthly average by over twenty-five percent (25%), or when average daytime temperatures at the Project are less than 32 degrees F and are accompanied by accumulations of ice or snow, continuing for a day or more in excess of the annual average number of consecutive days severe weather conditions persist for the part of the Metro region where the Project is located ("Annual Average"). The Annual Average shall be calculated for this purpose based on ten-year averages reported in the Local Climatological Data for Portland Oregon, available at the Portland Weather Service Office. Contractor shall incorporate said Annual Average number of consecutive days severe weather conditions exist into the Project schedule at Project inception.

1.1.76 Work: Unless the context requires otherwise, the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute all or a portion of the Project as the context requires.

1.2 Interpretation and Use of Contract Documents.

1.2.1 Intent and Effect of the Contract. The Contract Documents form the Contract for construction and represent an integrated agreement between the Parties. The Contract supersedes all prior negotiations, representations, or agreements between the Parties, either written or oral. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. Unless otherwise stated in the Contract Documents, words describing materials or Work that have a well-known technical or trade meaning shall be construed in accordance with such meanings.

1.2.2 Modification of Contract Documents. The Contract Documents may only be modified by written Amendment or Change Order signed by both Parties.

1.2.3 Divisions and Headings. Titles and headings are for the convenience of organizing the Contract Documents and shall not control or limit the Contractor's obligations under the Contract.

1.2.4 Mandatory Nature of Specifications and Drawings. Mention in the Specifications or indication on the drawings of articles, materials, operations, sequence, or methods requires Contractor to furnish and install (i.e., provide) each article mentioned or indicated, of the quality or according to qualifications noted, to perform each operation called for, in the sequence called for, and to provide therefore all necessary labor, equipment, and incidentals. The determination of the type of operations and methods to be utilized in the performance of the Work shall be the responsibility of Contractor unless the Contract Documents prescribe a specific type of operation, sequence, or method, in which case Contractor shall comply with the prescribed operation, sequence, or method. Sentences in the imperative tense or command format in these Contract Documents shall be deemed to be directed to Contractor and to require Contractor to perform the services and/or provide the materials described.

1.2.5 Precedence of Contract Documents. All determination of the precedence of, or resolution of discrepancies in, the Contract Documents shall be made by Metro, but in general, precedence will be in accordance with the following list with the highest precedence item at the top:

1.2.5.1 Executed Construction Agreement.

1.2.5.2 Supplementary Conditions.

1.2.5.3 General Conditions, Advertisement for Bids, Instructions to Bidders, Invitation to Bid, Bid Forms, Performance Bond, and Labor and Materials Payment Bond.

1.2.5.4 Specifications.

1.2.5.5 Drawings.

1.2.5.6 Contractor's Proposal. Within each of the above documents, detailed information takes precedence over general information and words take precedence over numbers unless obviously incorrect.

Amendments, Addenda, Clarifications, and all Change Orders to the Contract Documents take the same order of precedence as the specific sections that they are amending.

1.2.6 Meaning of Miscellaneous Phrases. Unless the context requires otherwise, phrases in the Contract Documents shall be interpreted as follows:

1.2.6.1 Wherever the words "as directed," "as instructed," "as required," "as permitted," or words of like effect are used, it shall be understood that the direction, requirement, or permission of Metro is intended.

1.2.6.2 The words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary, or proper in the judgment of Metro.

1.2.6.3 The words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to Metro.

1.2.7 Discrepancies, Errors and Omissions. The intent of the Contract Documents is to require Contractor to perform and provide every detail and item necessary for completion of the Project. The Contract Documents are not complete in every detail, however, and Contractor shall comply with their intent and meaning, taken as a whole, and shall not avail itself of any manifest errors or omissions to the detriment of the Work. Should any error, omission, discrepancy, or ambiguity appear in the Contract Documents, instructions, or Work done by others, Contractor shall immediately upon discovery submit a Request for Information to Metro pursuant to Section 3.3. If Contractor proceeds with any such Work without receiving a response to the Request for Information, Contractor shall be responsible for all resulting damage and defects, and shall perform any Work necessary to comply with the Request for Information at no cost to Metro. Any Work or material not indicated in the Contract Documents that is manifestly necessary for full and faithful performance of the Work in accordance with the intent of the Contract Documents shall be indicated by Contractor on the shop drawings and provided by Contractor to the same extent as if both indicated and specified. Any Work indicated on the drawings but not specified, or vice versa, shall be furnished in the manner specified above as though fully set forth in both. Work not particularly detailed, marked, or specified shall be the same as similar parts that are detailed, marked, or specified. In case of discrepancy or ambiguity in quantity or quality, the greater quantity or better quality as determined by Metro shall be provided at no extra cost to Metro.

1.2.8 Standards that Apply Where Detailed Specifications Are Not Furnished. Wherever in these Contract Documents or in any directions given by Metro pursuant to or supplementing these Contract Documents, it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed Specifications are set forth, the materials or manufactured articles shall conform to the usual standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work for which no detailed drawings or Specifications are set forth herein shall conform to the usual standards for first-class work of

the kind required. Dimensions not expressly provided in the Contract Documents are to be computed, rather than determined by scale or rule.

1.3 Supply of Contract Documents. Metro shall supply Contractor, without charge, a maximum of ten (10) sets of Contract Documents. Contractor shall contact Metro for additional sets of documents for which Contractor shall be charged the cost of printing.

1.4 Use of Contract Documents. The Contract Documents were prepared for use in the construction of this Project only. No part of the Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Metro. Any unauthorized use of the Contract Documents is at the sole responsibility of the user and such unauthorized use shall be deemed an activity in the performance of the Contract for purposes of Contractor's duty to indemnify under Article 11.

1.5 Copyright. All submittals, record documents, and any other products or documents produced by Contractor pursuant to this Contract are the property of Metro and it is agreed by the Parties hereto that such documents are works made for hire. Contractor does hereby convey, transfer, and grant to Metro all rights of reproduction and the copyright to all such documents.

1.6 Contractor's Status as Independent Contractor. It is understood and agreed that the relationship of Contractor to Owner shall be that of an independent contractor under ORS 670.600. The Contractor further agrees that Contractor, its officers, agents, and employees, any Subcontractor or Supplier of Contractor of any tier, or its officers, agents, or employees, are not officers, employees, or agents of Metro under the Oregon Tort Claims Act (ORS 30.260 through 30.300). Contractor and its officers, agents, employees, and its Subcontractors and Suppliers of any tier and their officers, agents, and employees will make no claim whatsoever against Metro for indemnification pursuant to ORS 30.260 to 30.300. Contractor agrees to hold Metro harmless and indemnify Metro from any such claims.

1.7 No Third-Party Beneficiary to the Contract. The Parties agree that the execution of the Contract is not intended to, nor does it, create any third-party beneficiary rights in any person.

1.8 Severability Clause. Should any provision of this Contract at any time be in conflict with any law, regulation, or ruling, or be legally unenforceable for any reason, then such provision shall continue in effect only to the extent that it remains valid. In the event that any provision of this Contract shall become legally unenforceable, in whole or in part, the remaining provisions of this Contract shall nevertheless remain in full force and effect.

1.9 Notice or Service. Any written notice required or allowed under the Contract shall be deemed to have been communicated to the other Party and service thereof shall be deemed to have been made if such notice is delivered in person to the individual, a member of the partnership or joint venture, or an officer of the corporation for whom it was intended, or if delivered at or sent by regular, registered, or certified mail to the last business address of the relevant person or Party known to the person or Party giving the notice, or to Contractor's Site office if the notice is directed to Contractor. Notice may be delivered by e-mail as long as a hard copy is mailed the same day to the relevant person by the methods noted above. The date or time of service for purposes of all notices required or allowed under the Contract shall be the date and/or time upon which the relevant document was mailed or delivered as above described. The address given in the Bid or Proposal by the Contractor is hereby designated as the legal business address of Contractor, but such address may be changed at any time by ten (10) days' prior notice in writing, delivered to Metro.

ARTICLE 2 CONTRACTOR

2.1 Responsibilities of the Contractor.

2.1.1 The Contractor will perform the Work as required by the Contract Documents, including but not limited to providing all labor, materials, equipment, tools, machines, and incidental work necessary for its performance. The Contractor will supervise and direct the Work using the Contractor's best skill and attention. Contractor is solely responsible for and will have control of all of the means and methods of construction. Contractor shall be responsible to Metro for the acts and omissions of the Contractor's employees, Subcontractors, and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors. Contractor shall perform or cause to be performed all labor, services, and Work of whatever nature and shall provide or cause to be provided all materials, equipment, tools, and other facilities of whatever nature necessary to complete the Work and shall otherwise cause the Work to be completed in accordance with the Contract Documents.

2.1.2 Until the Work is completed and accepted by Metro, the Contractor is responsible for any damage it causes to either permanent or temporary work, utilities, materials, plants, and equipment, all of which must be repaired to the satisfaction of the Project Manager at the Contractor's expense. Damage caused by vandals must

be covered by the Contractor's insurance. Damage to any portion of the Work that has been completed and accepted by Metro and that is open for public use is not the responsibility of the Contractor if caused by third persons, such as vandals.

2.1.3 It shall be the duty of Contractor to comply with all procedures established and/or implemented by Metro. In the event any such procedures are at variance with other provisions of these Documents, such procedures shall prevail.

2.2 Documents.

2.2.1 The Contractor will maintain at the Site for Metro one record As-Built copy of the drawings, plans, Specifications, Addenda, Change Orders, and other modifications, in good order and marked currently to record changes and selections made during construction, as well as one record copy of shop drawings that have been reviewed and are being used. These as-built documents shall incorporate all changes and substitutions to the Work, including without limitation changes or substitutions arising from Change Orders, construction change directives, and details clarified by requests for information, supplemental instructions, or approved shop drawings. The Contractor's as-built documentation shall be available to the Architect or Engineer and Metro during the course of the Project.

2.2.2 The Contractor shall maintain all approved permit drawings in a manner that will make them accessible at the Project Site to governmental inspectors and other authorized agencies. All approved drawings shall be wrapped, marked, and delivered to Metro within 60 days of Substantial Completion.

2.2.3 The Contractor must continuously maintain at the Project Site all material safety data sheets, safety records, daily logs, and other Contract documentation necessary to immediately ascertain the safety of the Work and to establish compliance with life safety policies, hazardous materials requirements, and the Contract Documents.

2.2.4 The Contractor, with its Subcontractors, will prepare draft record Contract Documents showing all as-built conditions as required under this Section 2.2 and submit them to Metro for review. Based on Metro's review and comments, if any, and pursuant to Metro's close-out policies and procedures, Contractor will prepare and deliver to Metro within 60 days of Substantial Completion, final, accurate, and complete record Contract Documents, including without limitation record drawings and Specifications showing the exact "as-built" conditions of the Work.

2.3 Contractor's Authorized Representative. Prior to commencing any Work under this Contract, the Contractor shall appoint in writing an authorized representative or representatives. Such appointment shall include the name and title of each representative along with the extent to which each representative is authorized to represent, bind, and act for Contractor. The description of extent of representation shall include but not be limited to the maximum dollar value of Change Orders that the individual may authorize, whether the individual may respond to RFPs and for what maximum dollar amount, and whether the individual may submit a claim pursuant to Section 3.4.

2.4 On-Site Representation Required. Contractor shall at all times be represented at the Site by one or more of such authorized representatives who, cumulatively, shall have complete authority to represent, bind, and act for Contractor in all matters pertaining to or related to this Contract. In the event that Metro deems it reasonably necessary to take immediate actions at the Site pertaining or relating to this Contract and Contractor has failed to comply with this Section and is consequently not fully represented at the Site at such time, then Contractor shall be deemed to acquiesce in all actions so taken by Metro.

2.5 Contractor's Office at the Site. Prior to commencement of Work at the Site, Contractor shall establish a field office at the Site acceptable to the Project Manager. This office shall be located in a job trailer or temporary building. This office shall be the headquarters of Contractor's representatives authorized to receive notices, instructions, drawings, or other communications from the Project Manager on behalf of Metro or the Architect or Engineer, and to act on Change Orders or other actions. Such notices, instructions, drawings, or other communications given to such a representative or delivered to Contractor's Site office in his/her absence shall be deemed to have been given to Contractor.

2.6 Use of the Site by Contractor. Contractor shall have complete and exclusive use of the premises for execution of the Work within the boundaries shown on the drawings. The Contractor's use of the premises is limited only by Metro's right to perform Work or to retain other contractors on portions of the Project. All construction activities, storage, staging, and Work shall be confined to the limits of Work, as per the drawings. Under no circumstances shall portions of the Site beyond the limits of Work be disturbed. The Contractor shall appropriately fence and maintain barriers to confine limits of Work to those areas indicated on the drawings. All driveways and entrances to the Site shall remain clear and available to Metro and emergency vehicles at all times. The Contractor shall not use these areas for parking or storage of materials. The Contractor shall schedule delivery of materials to minimize space and time requirements for storage of materials and equipment on Site. The Contractor shall keep roadway pavement clean, free of mud, rocks, debris associated with materials, and vehicles. The Contractor shall coordinate use of the premises under the direction of the Architect or Engineer and Owner. The Contractor shall assume all responsibility for

the protection and safe keeping of the Site, structures, and products stored on the Site included in this Contract. At no cost to Metro, the Contractor shall move any stored products that interfere with operations of Metro or construction activities. The Contractor shall obtain and pay for the use of additional storage or Work areas needed for operations.

2.7 Review of Project Conditions. Prior to execution of the Contract, the Contractor will evaluate the conditions and limitations under which the Work is to be performed, including without limitation (i) the geographical and topographical location, condition, layout, and nature of the Project Site and surrounding areas; (ii) generally prevailing climatic conditions; (iii) anticipated labor supply and costs; (iv) availability and cost of materials, tools, and equipment; (v) ease or difficulty of access to the Project Site by vehicles, equipment and workers; and (v) other similar issues. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. Metro will not be required to make any adjustment to the Contract Time or the Contract Price in connection with any failure by the Contractor to have complied with the requirements of this Section.

2.8 Construction Staking. Contractor shall provide all necessary construction staking as to lines and grades shown on the drawings. Contractor shall protect and preserve all control points in their original position or be responsible for providing new control points established from Architect's original control points.

2.9 Construction Staging Area. Coordinate use of the Site with Owner prior to utilization of the area. Providing Site security, barriers, and other temporary protection is the responsibility of the Contractor. Limit all construction activities within the Work limits shown on the drawings. All areas disturbed in any way or during construction and not covered by roads, parking, or structures shall be rehabilitated to their pre-construction condition.

2.10 Key Personnel. Contractor shall submit, in writing, to Metro a list of the names, addresses, and telephone numbers of its key personnel who are to be contacted in case of emergencies on the job during non-working hours, including Saturdays, Sundays, and holidays, and all other key personnel as may be required.

2.11 Contractor's Employees and Subcontractors.

2.11.1 Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. It is the Contractor's responsibility to hire all personnel for the proper and diligent performance of the Work, and the Contractor shall maintain labor peace for the duration of the Project. In the event of a labor dispute, the Contractor shall not be entitled to any increase in the Contract Sum.

2.11.2 Metro may notify the Contractor that it needs to exclude or remove from the Project Site any or all employees, agents, suppliers, or representatives of the Contractor or its Subcontractors who threaten the safety of others or who are disruptive to the Project or Metro's operations. The Contractor will supply replacement personnel promptly after receiving notice of exclusion or removal. Nothing in this Section requires the Contractor to take any particular employment or contract action with regard to an employee or Subcontractor.

2.11.3 Contractor shall give Metro, at its request at any time, full and correct information as to the number of workers employed in connection with each subdivision of the Work, the classification and rate of pay of each worker, the cost to Contractor of each class of materials, tools, and appliances used by it in the Work, and the amount of each class of materials used in each subdivision of the Work.

2.12 Contractor to Supply Sufficient Material and Workers. Contractor shall at all times keep on the premises sufficient material and employ sufficient supervision and workers to prosecute the Work at the rate necessary to substantially complete the Work within the time specified in the Contract and in accordance with the Construction Schedule. Contractor shall coordinate the Work of its Subcontractors so that information required by one will be provided by others involved in time for incorporation in the Work in proper sequence and without delay of any materials, devices, or provisions for future Work.

2.13 Construction Plant, Equipment, and Methods.

2.13.1 The construction plant and equipment provided by Contractor, and Contractor's methods and organization for handling the Work, shall be such as will secure a good quality of Work and rate of progress that will ensure the completion of the Work within the time specified, in accordance with the Construction Schedule, and without violating city, local, state, or federal environmental regulations during construction.

2.13.2 Contractor shall give Metro full information in advance as to Contractor's plans for carrying on any part of the Work. If at any time before the commencement or during the progress of the Work, any part of Contractor's plant or equipment, or any of Contractor's methods of executing the Work, appear to Metro to be inadequate to ensure the required quality, environmental protection, or rate of progress of the Work, Metro may order Contractor to increase or improve its facilities or methods, and Contractor shall promptly comply with such orders. Neither compliance with such orders nor failure of Metro to issue such orders shall relieve Contractor from the obligation or liability to secure the quality of Work and the rate of progress required by the Contract. Contractor shall

be responsible for overload of any part or parts of structures beyond their safe calculated carrying capacities and for release of pollutants into surrounding waters resulting from Contractor's activities on the Site.

2.13.3 Contractor shall provide temporary utilities pursuant to the Specifications and shall be responsible for the safety and adequacy of its plant, equipment, and methods.

2.14 Permits.

2.14.1 The Contractor, without additional expense to Metro, is responsible for obtaining and paying for any necessary fees, licenses, and Permits and for complying with any federal, state, and municipal laws, codes, and regulations applicable to the performance of the Work, unless expressly provided otherwise in other portions of the Contract Documents. Notwithstanding this Section, Metro will submit Contract Documents to the City of Portland and pay all plan check fees and building permit fees.

2.14.2 The Contractor understands that preliminary approval of Metro's plans and Specifications by regulatory agencies does not prohibit such agencies from requesting changes in order that the Work complies with the provisions of applicable codes, laws, and regulations. The Contractor agrees that a reasonable number of changes directed by regulatory inspectors is inherent in the nature of construction work and that its Bid includes the costs of making them. The Contractor will bear the expense of complying with the requirements of regulatory inspectors for a reasonable number of changes even if such requirements require different or additional Work than that originally contemplated by the Contract Documents.

2.15 Contractor's Temporary Structures. Contractor shall obtain all necessary permits for and shall erect and maintain at its own expense, and remove upon completion of the Work or as ordered by Metro, temporary structures, sheds, barriers, walks, hoisting equipment, scaffolds, etc., as are necessary for the Work pursuant to these Contract Documents. Contractor's temporary structures, equipment, stored materials, stored equipment, etc., shall be located so as not to interfere with the prosecution of the Work. If not so located, they shall be moved by Contractor, as directed by Metro, at no cost to Metro. Contractor's temporary structures, equipment, or materials that obstruct progress of any portion of the Work shall be removed or relocated by Contractor at Contractor's expense.

2.16 Compliance with Product Manufacturer's Recommendations. Unless otherwise directed by the Architect or Engineer, the Contractor shall perform all Work in accordance with the product manufacturer's recommendations, Specifications, or directions for best results. No predatory step or installation procedure may be omitted unless specifically authorized by the Contract Documents or at the direction of the Architect or Engineer. Conflicts among manufacturer's directions or the Contract Documents shall be resolved by the Architect or Engineer.

2.17 Accounting Records.

2.17.1 The Contractor and Subcontractors shall maintain all fiscal records relating to this Contract in accordance with generally accepted accounting principles. In addition, Consultant and sub-consultants shall maintain any other records necessary to clearly document:

2.17.1.1 The performance of the Contractor, including but not limited to Contractor compliance with Contract plans and Specifications, compliance with fair contracting and employment programs, compliance with Oregon law on the payment of wages and accelerated payment provisions, and compliance with any and all requirements imposed on Contractor or Subcontractor under the terms of the Contract or subcontract;

2.17.1.2 Any claims arising from or relating to the performance of Contractor or Subcontractor under this Contract;

2.17.1.3 Any cost and pricing data relating to the Contract; and

2.17.1.4 Payments made to all suppliers and sub-consultants.

2.17.1.5 The records described in this Section 2.17.1 are the Contract Records.

2.17.2 The Contractor and Subcontractors shall maintain the Contract Records for the longer period of (a) six years from the date of final completion of the Contract to which the Contract Records relate or (b) until the conclusion of any audit, controversy, or litigation arising out of or related to the Contract.

2.17.3 The Contractor and Subcontractors shall make Contract Records available to Metro and its authorized representatives, including but not limited to the staff of any Metro department and the staff of Metro's Auditor, within the boundaries of the Metro region, at reasonable times and places regardless of whether litigation has been filed on any claims. If the Contract Records are not made available within the boundaries of Metro, the Contractor or Subcontractor agrees to bear all of the costs for Metro employees, and any necessary consultants hired by Metro, including but not limited to the costs of travel, per diem sums, salary, and any other expenses that Metro incurs in sending its employees or consultants to examine, audit, inspect, and copy those records. If Contractor elects to have such Contract Records outside these boundaries, the costs paid by Contractor to Metro for inspection, auditing, examining, and copying those records shall not be recoverable costs in any legal proceeding.

2.17.4 The Contractor and Subcontractors authorize and permit Metro and its authorized representatives, including but not limited to the staff of any Metro department and the staff of Metro Auditor, to inspect, examine, copy, and audit the books and records of Contractor or Subcontractor relating to this Contract, including tax returns, financial statements, other financial documents, and any documents that may be placed in escrow according to any Contract requirements. Metro shall keep any such documents confidential to the extent permitted by Oregon law.

2.17.5 The Contractor and Subcontractors agree to disclose the Contract Records requested by Metro and agree to the admission of such records as evidence in any proceeding between Metro and Contractor and Subcontractors, including but not limited to a court proceeding, arbitration, mediation, or other alternative dispute resolution process.

2.17.6 The Contractor and Subcontractors agree that in the event such Contract Records or any audit disclose that Metro is owed any sum of money or establish that any portion of any claim made against Metro is not warranted, Contractor and Subcontractors shall pay all costs incurred by Metro in conducting the audit and inspection. Such costs may be withheld from any sum that is due or that becomes due from Metro.

2.17.7 Failure of the Contractor or Subcontractors to keep or disclose Contract Records as required by this Contract or any solicitation document may result in debarment as a bidder or proposer for future Metro contracts as provided in ORS 279B.130 and Metro Code Section 2.04.070(c), or may result in a finding that the Contractor or Subcontractor is not a responsible bidder or proposer as provided in ORS 279B.110 and Metro Code Section 2.04.052.

ARTICLE 3

ADMINISTRATION OF THE CONTRACT

3.1 Authority and Relationships of Metro and Architect or Engineer. Except as specifically provided in this Section, no individual other than the Metro Chief Operating Officer or the Project Manager, duly appointed as set forth below, shall have any authority to make representations, statements, or decisions of whatever nature binding Metro or Architect or Engineer regarding any aspect of this Contract. Except as specifically provided in this Article, Contractor shall have no right to, and shall not rely on, any such representation, statement, or decision. Any reference to action by Metro in this Contract requires the written approval of the Metro Chief Operating Officer or the Project Manager designated in writing by the Metro Chief Operating Officer as having authority to act for Metro, but only to the extent that such authority is expressly delegated in writing.

3.2 Authority of Metro. The Work must be performed to the complete satisfaction of the Project Manager.

3.2.1 The decision of the Project Manager will be final, binding, and conclusive on the Contractor on all questions that arise regarding the quantity of materials and Work, the quality of materials and Work, the acceptability of materials furnished and Work performed, the acceptable rate of progress of the Work, the interpretation of the plans and Specifications, the measurement of all quantities, the acceptable fulfillment of the Contract on the part of the Contractor, and payments under the Contract.

3.2.2 Work will not be considered completed until it has passed final inspection by the Project Manager and is accepted by Metro. The authority of the Project Manager is such that the Contractor must at all times carry out and fulfill the instructions and directions of the Project Manager insofar as they concern the Work to be done under the Contract.

3.2.3 If the Contractor fails to comply with any reasonable order made under the provisions of this Section, the Project Manager may cause unacceptable Work to be remedied or removed and replaced, and unauthorized Work to be removed, and to deduct the costs thereof from any money due or to become due to the Contractor.

3.2.4 The Project Manager has the authority to suspend Work for cause as set forth in Section 3.5.

3.2.5 Metro may call for meetings of Contractor, Contractor's Subcontractors, and Suppliers as Metro deems necessary for the proper supervision and inspection of the Work. Such meetings shall be held at the Site on regular working days during regular working hours, unless otherwise directed by Metro. Attendance shall be mandatory for all Parties notified to attend.

3.2.6 Nothing in this Section or elsewhere in the Contract is to be construed as requiring the Project Manager to direct or advise the Contractor on the method or manner of performing any Work under the Contract. No approval or advice as to the method or manner of performing or producing any materials to be furnished constitutes a representation or warranty by Metro that the result of such method or manner will conform to the Contract, relieve the

Contractor of any of the risks or obligations under the Contract, or create any liability to Metro because of such approval or advice.

3.2.7 An Architect, Engineer, designer, or other person hired by Metro under a separate contract is not the Project Manager, unless the Contract Documents expressly state otherwise. The Contractor will be notified in writing if the Project Manager is to be changed.

3.2.8 Contractor has no right to and shall not rely on representations of whatever nature made by any individual, whether or not employed by or purporting to represent Metro, unless such individual has been specifically and expressly delegated authority to make such representations pursuant to these Contract Documents. Likewise, Contractor has no right to and shall not rely on any representations of authorized changes in the Contract of whatever size or nature unless such change is in writing and signed by Metro.

3.2.9 Nothing contained in this Section shall obligate Metro or Architect or Engineer to supervise Contractor's Work under this Contract, and Contractor shall remain fully responsible for the complete and proper supervision of all of the Work.

3.3 Request for Information. If the Contractor believes that the Work to be done or any of the matters relative to the Contract Documents are not sufficiently detailed or explained in the Contract Documents, or if the Contractor has any questions as to the meaning or intent of the Contract Documents, Contractor shall immediately submit to Architect or Engineer and Metro a written Request for Information ("RFI") that shall fully describe the information sought.

3.3.1 The RFI shall be directed to the Project Manager and Architect or Engineer. Subcontractors shall direct correspondence through the Contractor to the Project Manager and Architect or Engineer. At a minimum the RFI shall contain: (1) project title, (2) identify the nature and location of each clarification/verification, (3) date, (4) response by and RFI number, (5) subject, (6) initiator of the question, (7) indication of the costs, (8) Contract drawings reference, (9) Contract Specification section, and (10) descriptive text and space for a reply. Each RFI shall be numbered sequentially beginning with #001, and a separate RFI shall be submitted for each item. Verbal discussions/clarifications for minor items can be addressed with the Architect or Engineer by phone and the Contractor shall follow up with a confirming RFI.

3.3.2 It is Contractor's responsibility to request information under this Section in sufficient time for review by the Architect or Engineer and Metro so that the orderly progress and prosecution of the Work is not delayed.

3.3.3 The Architect or Engineer, in consultation with Metro, shall interpret the meaning and intent of the Contract Documents and shall issue, within five (5) working days of receiving an RFI from Contractor, a written Clarification describing such meaning and intent. Additionally, the Architect or Engineer, after consulting with Metro, may at any time issue a written RFI as deemed necessary to carry out the Work included in the Contract Documents. Notwithstanding any dispute or disagreement that Contractor may have concerning any such RFI, Contractor shall perform the Work as prescribed and in accordance with all such RFI.

3.3.4 If notified by Metro or the Architect or Engineer that an RFI is forthcoming, any related Work done before the receipt of the RFI shall be coordinated with Metro so as to minimize the effect of the RFI on Work in progress. Any related Work not coordinated with Metro or the Architect or Engineer done before receipt of the RFI shall be at Contractor's risk and at no cost to Metro if that Work does not conform to the Clarification.

3.3.5 If Contractor proceeds with Work that is not sufficiently detailed or explained in the Contract Documents without requesting and obtaining an RFI pursuant to this Section, Contractor shall do so at its own risk and shall, at no cost to Metro, perform any additional Work that may be required by Metro to bring the Work into conformance with the intent of the Contract Documents.

3.4 Contractor's Claims.

3.4.1 Generally. No claim by Contractor shall be considered or allowed under this Contract except as specifically provided and prescribed under this Section. Failure to make a claim as specifically prescribed by this Section or failure to perform disputed Work, if any, as directed by Metro shall bar Contractor from any recovery or extension of time resulting from the facts surrounding the claim. Contractor's full and complete compliance with this Section shall be a condition precedent to any right of Contractor to further prosecute any claim against Metro arising out of or related to Work described in the Contract Documents. Every decision and action of Metro shall be considered final unless Contractor makes a claim concerning such decision or action pursuant to this Section.

3.4.2 Types of Claims. Contractor claims are limited to the following:

3.4.2.1 Claims based on Excusable Delays as described in Section 3.4.3.

3.4.2.2 Claims based on differing Site conditions as described in Section 3.4.4;

3.4.2.3 Claims based on Clarifications or Change Orders issued by Metro or any other

decision, action, or failure to act by Metro as described in Section 3.4.5.

3.4.3 Claims For Excusable Delays.

3.4.3.1 Definition of Excusable Delay. A Delay is "Excusable" if such act, event, or condition has a materially adverse effect on the ability of Contractor to perform its obligations under this Contract as scheduled, and/or materially increases the cost to Contractor to perform such obligations as scheduled and if such act, event, or condition and its effect:

3.4.3.1.1 Are beyond the reasonable control of Contractor (or any third party for whom Contractor is directly responsible); and

3.4.3.1.2 Do not arise out of (a) strikes, labor disputes, or other labor difficulties involving Contractor or its Subcontractors or Suppliers or entities providing transportation to Contractor or its Subcontractors or Suppliers; (b) labor shortages; or (c) changing economic conditions; and

3.4.3.1.3 Could not have been reasonably anticipated by Contractor.

3.4.3.2 Types of Excusable Delay Claims. Excusable Delays are either Compensable or Non-compensable. Claims for Non-compensable Excusable Delays are limited to claims for extension of Contract Time. Contractor may claim both an increase in the Contract Amount and an extension of the Contract Time for Compensable Excusable Delays.

3.4.3.3 Non-Compensable Excusable Delay Claims. Delays resulting from the following acts, events, and conditions are Non-Compensable Excusable Delays:

3.4.3.3.1 An act of force majeure.

3.4.3.3.2 Unusually Persistent Severe Weather. No claim for extension of the Contract Time will be considered for Unusually Persistent Severe Weather unless Contractor submits documentation within 72 hours of the occurrence of the Unusually Persistent Severe Weather satisfactory to Metro establishing that the weather at the Project Site satisfied the definition of Unusually Persistent Severe Weather and that the delay could not have been avoided by either rescheduling the Work or implementing reasonable measures to protect against the weather so that the Work could proceed.

3.4.3.3.3 Acts of a public enemy, war (whether or not declared), or governmental intervention resulting therefrom, blockage, embargo, insurrection, riot, or civil disturbance.

3.4.3.3.4 The failure to issue or renew, or the suspension, termination, interruption, or denial of, any permit, license, consent, authorization, or approval essential to the Work, if such act or event is not the result of the willful or negligent action or inaction of Contractor or of any third party for whom Contractor is directly responsible, and if Contractor is taking, has taken, or will cause to be taken, all reasonable actions in good faith to contest such action (it being understood that the contesting in good faith of any such action shall not constitute or be construed as a willful or negligent act of Contractor).

3.4.3.3.5 The failure of any appropriate federal, state, municipal, county, or other public agency or authority or private utility having operational jurisdiction over the Work or Site to provide and maintain utilities, services, water and sewer lines, and power transmission lines to the Site, that are required for and essential to the Work.

3.4.3.3.6 Epidemics or quarantines.

3.4.3.3.7 Material, equipment, or fuel shortages or freight embargoes.

3.4.3.3.8 Priorities or privileges established for the manufacture, assembly, or allotment of material by order, decree, or otherwise of the U. S. or by any department, bureau, commission, committee, agent, or administrator of any legally constituted public authority.

3.4.3.4 Compensable Excusable Delay Claims. Delays resulting from the following acts, events, and conditions are Compensable Excusable Delays:

3.4.3.4.1 Changes in the Work ordered by Metro if they require additional time to complete the Work and adversely impact the Critical Path.

3.4.3.4.2 The prevention by Metro of Contractor from commencing or prosecuting the Work.

3.4.3.4.3 Failure by the Architect or Engineer to respond to a Request for Information within five (5) working days of submittal by the Contractor.

3.4.3.5 Inexcusable Delays. Delays resulting from the following acts, events, and conditions shall not result in Excusable Delays:

3.4.3.5.1 Any delay that could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of Contractor.

3.4.3.5.2 Any delay in the prosecution of parts of the Work that may in itself be unavoidable but that does not necessarily prevent or delay the prosecution of other parts of the Work nor the Substantial Completion of the Work of this Contract within the time specified.

3.4.3.5.3 Any reasonable delay resulting from the time required by Metro for review of submittals or shop drawings submitted by Contractor and for the making of surveys, measurements, and inspections.

3.4.3.5.4 Any delay arising from an interruption in the prosecution of the Work on account of the reasonable interference from Other Metro Contractors that does not necessarily prevent the Substantial Completion of the Work of this Contract within the time specified.

3.4.3.5.5 Any delay resulting in any manner from labor disputes, strikes, or difficulties or any delay resulting in any manner from any labor-related event, act, or condition whether or not Contractor has any control over such event, act, or condition.

3.4.3.5.6 Any delays in delivery of equipment or material purchased by Contractor or its Subcontractors or Suppliers (including Metro-selected equipment. Contractor shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials.

3.4.3.6 Excusable Delay Claims Procedure.

3.4.3.6.1 Contractor shall, within forty-eight (48) hours of the start of the occurrence or Contractor's first knowledge of the occurrence that is the basis of the claim for Excusable Delay, whichever is earlier, notify Metro in writing of such delay. The written notice by Contractor shall indicate the cause of the delay and shall estimate the possible time extension requested. Within ten (10) days after the cause of the delay has been remedied, Contractor shall give written notice to the Project Manager of any actual time extension and, if the Excusable Delay is a Compensable Excusable Delay, any increase in the Contract Amount requested as a result of the aforementioned occurrence in accordance with this Contract. If Contractor believes that a single circumstance or set of facts gives rise to both a claim for an extension to the Contract Time and an increase in the Contract Amount, Contractor must state both such allegations in one written claim or waive the unstated allegation.

3.4.3.6.2 Submission of timely written notice as specified above shall be mandatory and failure to comply shall be a conclusive waiver to any claim for Excusable Delay by Contractor. Oral notice or statement will not be sufficient.

3.4.3.6.3 Within twenty-one (21) days after Contractor submits to the Project Manager such a written notice for an extension of Contract Time and/or increase in the Contract Amount, the Project Manager will issue the decision on each request. If Contractor is dissatisfied with such decision, Contractor may preserve its claim as provided and prescribed by Section 3.4.6.

3.4.4 Claims for Differing Site Conditions-- Contractor shall promptly, and before the conditions are disturbed, give written notice to the Project Manager of (i) subsurface or latent physical conditions at the Site that differ materially from those indicated in this Contract, or (ii) physical conditions at the Site that were unknown and not reasonably discoverable by means of the Review of Project Conditions required by Section 2.7, are of an unusual nature that differ materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract. The Project Manager shall investigate the Site conditions promptly after receiving the notice. If the conditions do materially so differ as to cause an increase or decrease in Contractor's cost of, or the time required for, performing any part of the Work under this Contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made and a Change Order issued. If Contractor is dissatisfied with the decision of the Project Manager under this Section, Contractor may preserve its claim as provided and prescribed by Section 3.4.6.

3.4.5 Other Contractor Claims-- Contractor claims based on Clarifications or Change Orders issued by Metro or any other decision, action, or failure to act by Metro shall be made according to this Section.

3.4.5.1 Contractor shall, within forty-eight (48) hours following discovery of the facts that give rise to its claim, notify the Project Manager in writing of its intent to make the claim. Within ten (10) days following discovery of the facts that give rise to its claim and prior to commencing the Work or conforming to the Clarification on which the claim is based, if any, Contractor shall submit its formal written claim to the Project Manager. Contractor's formal claim shall include a description of:

3.4.5.1.1 The factual occurrences upon which Contractor bases the claim including the decision, action, or failure to act by Metro or its authorized representatives that allegedly give rise to the claim;

3.4.5.1.2 How Metro's decision, action, or failure to act has affected Contractor's performance or otherwise affected Contractor;

3.4.5.1.3 Whether the claim is for an extension in the Contract Time or increase in the Contract Amount, or both, and the specific extension or increase requested;

3.4.5.1.4 The provisions of the Contract upon which the claim is based.

3.4.5.2 Submission of written notice of intent to make a formal claim as specified above shall be mandatory and failure to comply shall be a conclusive waiver to any claim by Contractor. Oral notice or statement will not be sufficient nor will notice or statement after commencing the Work in question.

3.4.5.3 After the written notification is submitted by Contractor (if the claim is not resolved or withdrawn in writing) and only upon written direction by the Project Manager, Contractor shall proceed without delay to perform the Work pursuant to the direction of the Project Manager. While the Work on an unresolved claim is being performed, Contractor shall keep track of costs and maintain records in the manner set forth in the section on Force Account Work, at no cost to Metro. Such notice by Contractor and the fact that Contractor is keeping track of costs and maintaining records shall not in any way be construed as proving the validity of the claim nor the costs thereof.

3.4.5.4 Provided the claim or claims have been submitted in accordance with the requirements of this Section, the Project Manager will consider and investigate the claim or claims of Contractor. Within twenty-one (21) days of receipt of the above-described written notification of claim, the Project Manager will advise Contractor of the Project Manager's decision to accept or reject the claim or claims, in full or in part. If Contractor is dissatisfied with the decision of the Project Manager under this Section, Contractor may preserve its claim as provided and prescribed by Section 3.4.6.

3.4.6 Preservation of Claims -- Within thirty (30) days after a rejection of a claim, in whole or in part, by Metro under Sections 3.4.3, 3.4.4 or 3.4.5, Contractor may preserve its claim by submitting a fully documented claim package to the Metro Procurement Officer. That package shall include substantiating documentation with an itemized breakdown of Contractor and Contractor's Subcontractors' costs on a daily basis that shall include but not be limited to labor, material, equipment, supplies, services, Overhead, and Profit. All documentation that Contractor believes is relevant to the claim shall be provided in the claim package, including without limitation payroll records, purchase orders, quotations, invoices, estimates, correspondence, profit and loss statements, daily logs, ledgers, and journals. Failure to submit the claim package in full compliance with this requirement and/or maintain cost records as herein required will constitute a waiver of the claim. If Contractor elects to pursue any claims by filing a lawsuit against Metro, it must commence such lawsuit within six (6) months after the date of Substantial Completion. Failure to commence a lawsuit within this time limitation shall constitute a waiver of all such claims by Contractor.

3.5 Metro's Right to Stop, Perform, or Delete Work.

3.5.1 If the Contractor fails to correct Work not in conformance with the Contract or fails to carry out Work in accordance with the Contract, Metro may issue a written order to the Contractor to stop all or part of the Work until the deficiency set forth in the order has been corrected. Metro has no duty to exercise this right for the benefit of anyone other than Metro.

3.5.2 If the Contractor refuses or fails to comply with the Contract, Metro may correct any deficiency or defect or perform Work that the Contractor has failed to perform, or take other appropriate action, without prejudice to any other remedy Metro may have under the Contract. Before taking that action, Metro will provide the Contractor and its sureties with seven days' written notice of its intentions, unless an emergency or dangerous condition exists, in which case the action may be taken without notice. If Metro performs part of the Contractor's Work, corrects deficiencies, or is required to take action as a result of an emergency or dangerous condition, Metro will deduct the cost of that action from any payment then or thereafter due the Contractor. If the cost of Metro's action exceeds any sums held by Metro and otherwise payable to the Contractor, the Contractor agrees to reimburse Metro for any excess costs.

3.5.3 Metro has the right to delete Work from this Contract, and the Parties agree that such action does not constitute a breach of contract. Therefore, Metro may delete Work from the Contract and perform it with its own forces or have such Work performed by another Contractor. If Work is deleted from the Contract, the cost of performing such Work will be deducted from the Contract Amount to be paid to the Contractor. Any objection to the change in Contract Amount must be processed as a claim as required by Section 3.4.5.

3.5.4 Metro's rights as stated in this Section 3.5 are in addition to and do not limit Metro's other rights or remedies.

3.6 Metro's Right to Adjust Payments.

3.6.1 Adjusted Payments for Delay. Time is of the essence in this Contract. Metro and Contractor understand and agree that Metro will be damaged if Contractor fails to substantially complete the Work within the Contract Time, and that Metro will be vulnerable to further damages if Metro is obligated to continue paying Contractor for Work performed after the Contract Time has expired. It is therefore agreed that upon the expiration of the Contract

Time, Metro may adjust its payments to Contractor by any combination of the following: (1) making no further payments to Contractor until the Work is substantially complete; (2) paying the Subcontractor costs incurred by Contractor without any overhead, profit, or fee of any kind going to Contractor; and/or (3) collection of liquidated damages as designated in the Contract. Permitting Contractor to continue and finish the Work or any part thereof after the Contract Time has expired shall not waive any of Metro's rights under this Section or the balance of the Contract Documents.

3.6.2 **Adjusted Payments Not a Bar to Metro's Right to Other Damages.** Payment of adjusted payments shall not release Contractor from obligations in respect to the complete performance of the Work, nor shall the payment of such adjusted payments constitute a waiver of Metro's right to collect any additional adjusted payments that it may sustain by failure of Contractor to fully perform the Work, it being the intent of the Parties that the aforesaid adjusted payments be full and complete payment only for failure of Contractor to complete the Work on time. Metro expressly reserves the right to make claims for any and all other damages that Metro may incur due to Contractor's failure to perform in strict accordance with this Contract.

3.7 Mediation. Both Parties shall endeavor to negotiate resolutions to all disputes arising out of this Contract. Any controversy or claim arising out of or relating to this Contract that remains unresolved after such negotiations shall be submitted to mediation prior to the commencement of litigation.

3.7.1 The mediator shall be an individual mutually acceptable to both Parties. Should the Parties disagree on the selection of a mediator, the Parties shall look to the local circuit court or the Oregon Dispute Resolution Commission. 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.

3.7.2 Both Parties agree to exercise their best effort in good faith to resolve all disputes in mediation. Participation in mediation is a mandatory requirement on both Metro and Contractor. The schedule and time allowed for mediation shall be mutually acceptable. The mediation process is nonbinding.

3.7.3 Contractor agrees to consolidation of any mediation between Metro and Contractor with any other mediation involving, arising from, or relating to this Contract.

3.8 Litigation. All disputes not resolved by mediation shall be decided exclusively by a court of competent jurisdiction in Multnomah County under the laws of the state of Oregon.

3.9 Work to Continue Notwithstanding Dispute. In no event shall submission of a dispute arising out of this Contract by either Party relieve Contractor of its obligation to fully perform the requirements of the Contract as directed by Metro pending resolution of the dispute pursuant to the procedures set forth in this Article. In the event Contractor, in Metro's opinion, fails to fully perform the requirements of the Contract pending resolution of a dispute, Metro shall be entitled to exercise its rights to impose adjusted payments pursuant to Section 3.6, and/or terminate the Contract pursuant to Article 15 of these General Conditions.

ARTICLE 4

SUBCONTRACTING AND ASSIGNMENT OF THE CONTRACT

4.1 Subcontracting. Contractor shall arrange and delegate its Work in conformance with trade practices and union regulations, if applicable, but shall remain responsible to Metro for performance of all Work required or implied by the Contract Documents. Contractor shall also be responsible for coordinating the efforts of its Subcontractors and Suppliers.

4.2 Objection to Subcontractors or Suppliers. Metro reserves the right to make reasonable objection to any of Contractor's Subcontractors or Suppliers if Metro discovers any data or information at any time during the performance of the Contract that gives Metro a basis for such reasonable objection. Metro will notify Contractor in writing if Metro has any reasonable objection to any of Contractor's Subcontractors or Suppliers. Contractor shall not subcontract with any Subcontractor or Supplier to which Metro has made a reasonable objection. In the event of Metro's reasonable objection to any Subcontractor or Supplier, Contractor shall propose another entity to which Metro has no reasonable objection.

4.3 Substitution, Change, or Addition of Subcontractors or Suppliers. At any time that Contractor intends to substitute, change, or add a Subcontractor or Supplier during the performance of the Contract, Contractor shall give Metro prior written notice of such intention. Contractor shall not substitute, change, or add any such Subcontractor or Supplier if Metro gives Contractor reasonable objection in writing within ten (10) days after Metro receives such notice.

4.4 Removal of Subcontractors at Request of Metro. When any Subcontractor fails to prosecute a portion of the Work in a satisfactory manner, Metro may so notify Contractor. If the Subcontractor fails to cure the unsatisfactory Work promptly, Contractor shall remove such Subcontractor immediately upon written request of Metro

and Contractor shall request approval from Metro of a new Subcontractor to perform this section of the Work at no increase in the Contract Amount, and with no change in the Contract Time.

4.5 Metro Not Obligated to Detect Unsatisfactory Work. Nothing contained in this Contract shall obligate Metro or place on Metro an affirmative duty to detect or discover unsatisfactory Work or materials of Contractor's Subcontractors or Suppliers. Failure of Metro to detect or discover such unsatisfactory Work or materials shall not relieve Contractor of any of its obligations under this Contract.

4.6 No Contractual Relationships Between Metro and Contractor's Subcontractors and Suppliers. Nothing contained in this Contract is intended nor shall be construed to create any contractual or third party beneficiary relationship between Metro and any of Contractor's Subcontractors, Suppliers, or agents, save and except in relation to the Labor and Materials Payment Bond.

4.7 Contractor's Agreements with Subcontractors.

4.7.1 Contractor shall provide in all subcontract and supply agreements that the Subcontractor or Supplier will be bound by the terms and conditions of this Contract to the extent that they relate to the Subcontractor's or Supplier's Work. Contractor shall require each Subcontractor to enter into similar agreements with sub-tier Subcontractors and Suppliers. Contractor shall make available to each proposed Subcontractor and Supplier, prior to the execution of the subcontract or supply agreement, copies of the Contract Documents that apply to the Work and materials to be provided by the Subcontractor or Supplier. Subcontractors and Suppliers shall similarly make copies of applicable portions of such documents available to their respective proposed sub-tier Subcontractors and Suppliers.

4.7.2 All Subcontractor and Supplier agreements shall also provide that they are assignable to Metro at Metro's option, in the event that Metro terminates the Contract. Contractor will provide to Metro a copy of all subcontracts and supply contracts for permanent materials.

4.7.3 The Contractor will provide Metro with copies of all of its subcontracts, purchase orders, and supply agreements relating to the Work upon Metro's request within three (3) business days of the request.

4.8 Assignment. Contractor shall constantly give its personal attention to the faithful prosecution of the Work. Contractor shall keep the Work under its personal control and shall not assign any or all of Contractor's rights, by power of attorney or otherwise, nor delegate any of its duties except with the prior written approval of the Metro Council.

ARTICLE 5

TIME OF COMPLETION AND SCHEDULE FOR THE WORK

5.1 Prosecution of Work Generally. Contractor shall commence the Work within five (5) days after issuance of written Notice to Proceed from Metro and will diligently prosecute the Work to its Final Completion and Acceptance. The start of Work shall include attendance at preconstruction conferences, preparation and submittal of shop drawings, equipment lists, Schedule of Values, CPM construction schedules, requests for substitutions, and other similar activities, as described by these Contract Documents.

5.2 Time of Completion.

5.2.1 Contractor shall bring the Work to Substantial Completion within the Contract Time as set forth in the Construction Agreement.

5.2.2 The time limits stated in these Contract Documents are of the essence of this Contract. By executing the Construction Agreement, Contractor confirms that the Contract Time is a reasonable period for performing all of the Work.

5.2.3 Failure of Contractor to substantially complete the Work within the Contract Time and according to the provisions of these Contract Documents shall subject Contractor to liquidated damages pursuant to the applicable sections of these Contract Documents.

5.3 Extensions of Time. Extensions of the Contract Time shall be made pursuant to the procedure and according to the provisions and requirements contained in Articles 3 and 8 of these Contract Documents.

5.4 Project Scheduling. Contractor shall submit to Metro a detailed Construction Schedule for completion of the Work pursuant the Specifications following the Critical Path method. The Construction Schedule shall, when approved and as updated and approved by Metro, become a part of the Contract Documents.

5.5 Use of Completed Parts of the Work Before Acceptance.

5.5.1 Metro may decide to use part of the Work that has been completed before completion of all the Work required by the Contract. If that occurs, Metro will notify the Contractor in writing of its intention.

5.5.2 When use of part of the Work by Metro begins, the Contractor is:

5.5.2.1 Relieved of the duty of maintaining and protecting that portion of the Work, provided that it has been completed in accordance with the Contract.

5.5.2.2 Relieved of responsibility for injury or damage to the portion of Work used by Metro from use by public traffic or from the action of the elements of nature or from any other cause, except injury or damage resulting from the Contractor's own operations or from its negligence.

5.5.2.3 Relieved of the responsibility of cleaning up that portion of the Work before final acceptance, unless the Contractor's own operations require such cleanup.

5.5.3 Use by Metro of a part of the Work as described in this Section does not constitute final acceptance of the Work as a whole or in any part.

ARTICLE 6

COORDINATION WITH OTHER METRO CONTRACTORS

6.1 Other Metro Contractors Generally. Metro reserves the right to award other contracts in connection with the Work. Contractor shall allow such Other Metro Contractors reasonable opportunity for storage of their materials and execution of their Work, shall ensure that the execution of Contractor's Work properly connects and coordinates with Work of all Other Metro Contractors, and shall cooperate with Other Metro Contractors to facilitate the Work in such a manner as Metro may direct. Connection between the Work of the Contractor and Other Metro Contractors will be the responsibility of the Party that is last in time to construct, unless otherwise directed in the Contract Documents.

6.2 Duty to Inspect Other Metro Contractors' Work. Where Contractor's Work is associated with that of Other Metro Contractors, or is to interface in any way with such Other Metro Contractors' Work, Contractor shall examine, inspect, and measure the adjacent or in-place Work of such Other Metro Contractors. If Contractor determines that any defect or condition of such adjacent or in-place Work will impede or increase the cost of Contractor's performance or otherwise prevent the proper execution of Contractor's Work, Contractor shall immediately, and before performing any Work affected by the Other Metro Contractors' work, submit an RFI to Metro pursuant to Section 3.3. If Contractor proceeds without examining or inspecting the Work and submitting a Request for Information, Contractor shall be held to have accepted the Other Metro Contractors' Work or material and the existing conditions, shall be responsible for any defects in Contractor's Work resulting therefrom, and shall not be relieved of any obligation or any warranty under this Contract because of any such condition or imperfection. This provision shall be included in any and all of Contractor's subcontracts for Work to be performed.

6.3 Latent Defects in Other Contractor's Work. Section 6.2 does not apply to latent defects. Contractor shall report latent defects in any Other Metro Contractors' Work at any time such defects become known or Contractor should have known, and Metro shall promptly thereafter take such steps as may be appropriate. If Contractor in the exercise of reasonable care should have known of such defects but did not report them, such defects shall not be considered latent.

6.4 Duty to Maintain Schedule. It shall be the responsibility of Contractor to maintain its schedule so as not to delay the progress of the Project or the Work of Other Metro Contractors. Contractor is required to cooperate in every way possible with Other Metro Contractors. Except as otherwise specifically provided in this Contract, no additional compensation will be paid for such cooperation. If Contractor delays the progress of the Project or the progress of Other Metro Contractors, it shall be the responsibility of Contractor to take all of the steps necessary to bring the affected Work into compliance with any affected schedules and to indemnify Metro from all liability for such delays pursuant to Article 11. Metro shall be under no duty to monitor or detect any delays of Contractor or any Other Metro Contractor on the Project or any lack of coordination on the Project. Consequently, the failure of Metro to so monitor or detect shall not be construed as relieving Contractor of its duties to fully perform all of its obligations under the Contract.

6.5 Failure to Maintain Schedule.

6.5.1 If, in the opinion of Metro, Contractor falls behind the Construction Schedule or delays the progress of Other Metro Contractors and is not entitled to an extension of time pursuant to the Contract Documents, Contractor shall perform all steps that are necessary, in the opinion of Metro, to bring Contractor's Work into compliance with the Construction Schedule or to remedy any delay to the progress of Other Metro Contractors. Contractor shall submit operation plans to Metro that shall fully demonstrate the manner of intended compliance with this Section. The steps referred to above shall include but not be limited to:

6.5.1.1 Increased manpower in such quantities and crafts as will substantially eliminate the backlog of Work.

6.5.1.2 Increase, when permitted, the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment or any combination of the foregoing, sufficient to eliminate the backlog of Work.

6.5.1.3 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

6.5.1.4 Expedite delivery of materials and equipment, such as use of airfreight.

6.5.2 If Metro directs Contractor to take measures described in this Section, or if Contractor takes such measures without direction from Metro, Contractor shall bear all costs of complying. Metro shall, however, reimburse Contractor for reasonable costs of complying if such directive to accelerate from Metro was issued to overcome delay caused by the acts or omissions of Metro or persons acting for Metro, provided Contractor has complied with all applicable provisions of Articles 3 and 8 of these General Conditions.

6.5.3 Failure to maintain the construction schedule or to take action to regain the schedule or to furnish a schedule as outlined in the Specifications may result in withholding all or part of the monthly progress payments.

6.6 Failure to Coordinate Work. If Contractor fails to coordinate its Work with the Work of Other Metro Contractors as directed by Metro, Metro may, upon written notice to Contractor:

6.6.1 Withhold any payment otherwise due hereunder until Contractor complies with Metro's directions.

6.6.2 Direct others to perform portions of the affected Work and charge the cost of such Work against the Contract Amount or deduct the cost from sums held in Retainage.

6.6.3 Terminate any or all portions of the Work for Contractor's failure to perform in accordance with the Contract.

6.7 Other Metro Contractors' Failure to Coordinate. If Contractor determines that any Other Metro Contractor on this Project is failing to coordinate its Work with the Work of Contractor, Contractor shall notify Metro immediately and before performing any affected Work.

6.8 Conflicts Among Contractors. Any difference or conflict that may arise between Contractor and Other Metro Contractors in regard to their Work shall be adjusted as determined by Metro. If directed by Metro, Contractor shall suspend any part of the Work specified or shall carry on the same in such a manner as may be prescribed by Metro when such suspension or prosecution is necessary to facilitate the Work of Other Metro Contractors.

6.9 Coordination Drawings. Contractor shall prepare coordination drawings as determined necessary by Metro to satisfactorily coordinate and interface its Work with the Work of all Other Metro Contractors, thereby avoiding conflicts that may arise.

6.10 Furnished by Owner, Installed by Contractor ("FOIC") Items.

6.10.1 Owner Responsibilities for FOIC Items. Owner-furnished products/items are indicated on the drawings as FOIC items. Owner's responsibilities include: (1) arrangement for and delivery of necessary shop drawings, product data, and samples to the contractor; (2) arrangement of and payment for Product delivery to the Site; (3) delivery of Suppliers' bill of materials to Contractor; (4) inspection of deliveries jointly with the Contractor and recording shortages of and damaged or defective items; (5) submission of claims for transportation damage; (6) arrangement for replacement of damaged, defective, or missing items; and (7) arrangement for manufacturers' warranties, bonds, service, and inspections as required. Owner is responsible for scheduling all FOIC items in accordance with Contractor's Construction Schedule.

6.10.2 Contractor Responsibilities for FOIC Items. The following outlines the responsibilities of the Contractor for FOIC items: (1) designating a delivery date for each item in the Construction Schedule; (2) reviewing shop drawings, product data, and samples; (3) immediately notifying the Project Manager of any discrepancies or problems anticipated in the use of the product; (4) reviewing and unloading products at the Site; (5) promptly inspecting products jointly with Owner and recording shortages and damaged or defective items; (6) handling products at the Site, including uncrating and storage; (7) protecting products from exposure to elements and damage; (8) assembling, installing, connecting, adjusting, and finishing product as stipulated in the Specifications; and (9) repairing or replacing items damaged by Contractor.

6.11 Conferences. At any time during the progress of the Work, Metro shall have authority to require Contractor to attend any conference of any or all of the Contractors engaged in the Project or related projects.

6.11.1 Project Meetings. The Contractor will schedule and chair meetings and conferences at the Project Site unless otherwise indicated. Contractor will inform participants and other individuals whose presence is required of the date and time of each meeting. The Contractor shall prepare an agenda, distribute to all attendees, and prepare minutes that reflect significant discussions and agreements achieved. Meeting minutes shall be distributed to everyone concerned, including Metro, within three (3) days of the meeting.

6.11.2 Pre-construction Conference. The Contractor will schedule a pre-construction conference prior to start of construction. The meeting will be scheduled at a time convenient to Metro and Architect or Engineer, but no later than five (5) days after execution of the Contract. The conference will be held at the Project Site or another convenient location. The purpose of the meeting is to review responsibilities and personnel assignments. Attendees will include authorized representatives of Metro, Architect or Engineer and its consultants, Contractor and its superintendent, major subcontractors and suppliers, and other concerned parties. All participants shall be familiar with the Project and be authorized to conclude matters relating to the Work. The agenda shall include tentative construction schedule, phasing, critical Work sequencing and long-lead items, designation of key personnel and their duties, procedures for processing field decisions and Change Orders, procedures for RFIs, procedures for testing and inspecting, procedures for processing applications for payment, distribution of Contract Documents, submittal procedures, preparation of record documents, use of premises, Work restrictions, Owner's occupancy requirements, responsibilities for temporary facilities and Site protection, construction waste management and recycling, parking availability, office, Work, and storage areas, equipment deliveries and priorities, first aid, security, progress cleaning, and working hours.

6.11.3 Pre-installation Conferences – Contractor will conduct a pre-installation conference at the Project Site before each construction activity that requires coordination with other construction and includes installation of FOIC items. Contractor is responsible for conducting these meetings, which shall occur on the same date as progress meetings, if possible. Attendees shall include the installers and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination with other materials or installations. Agenda items will include Contract Documents, options, related RFIs, related Change Orders, purchases, deliveries, submittals, review of mock-ups, possible conflicts, compatibility problems, time schedules, weather limitations, manufacturers' written recommendations, warranty requirements, compatibility of materials, acceptability of materials, temporary facilities and controls, space and access limitations, regulations of authorities having jurisdiction, testing and inspecting, installation procedures, coordination with other Work, required performance results, protection of adjacent Work, and protection of the Site and its elements. The Architect or Engineer shall record significant conference discussions, agreements, and disagreements, including corrective action measures and action.

ARTICLE 7 CONTROL AND QUALITY OF WORK AND MATERIAL

7.1 Quality Control.

7.1.1 Generally. Contractor has the primary responsibility for quality control. Contractor will provide continuous superintendence and inspection to insure that the Work is completed in accordance with the plans and Specifications. During the performance of the Work, Metro, the Architect or Engineer, Special Inspectors, and any representatives of federal, state, and local agencies having jurisdiction over the Work may enter the Project Site, the shops where any part of the Work is being prepared, or the factories or sites where any materials for use in the Work are being or will be manufactured or derived. Contractor shall provide proper and safe facilities for such inspections, and shall make arrangements with manufacturers or other suppliers to facilitate inspection of their processes and products to such extent as Metro's interest may require. No claims for extension of the Contract Time or increase in the Contract Amount shall be allowed for any access allowed to Metro under this Section.

7.1.2 Quality Control Plan. Contractor shall prepare and submit a Quality Control Plan to the Project Manager within thirty (30) days following the Notice to Proceed. The Plan will describe the Contractor's procedures for implementing the Quality Control Plan. The Plan shall include without limitation the Quality Control organization, inspection procedures, tests anticipated, materials control, contingency plans related to fire protection and remediation of contaminated releases or other environmental improvement, and reports. Metro reserves the right to accept, reject, or modify the Quality Control Plan. Contractor will submit an interim Quality Control Plan prior to the start of Work to cover the first thirty (30) days of construction.

7.1.3 Quality Control Manager. Prior to initiation of construction, Contractor shall designate in writing a Quality Control Manager who shall be responsible for coordinating Contractor's Quality Control Program. The individual so designated shall be the interface with the Project Manager on matters relating to submittals, inspection, scheduling, unacceptable Work product, and corrective actions. Metro reserves the right to accept or reject the Quality Control Manager designated by Contractor.

7.2 **Inspection**. Contractor has the primary responsibility for providing inspection and testing, except as otherwise set forth in the Specifications. Metro and its agents will also inspect at their discretion or as outlined in the Specifications.

7.2.1 Generally. At all times during construction of the Work, Contractor shall permit Metro, the Architect or Engineer, and Special Inspectors, or any representatives of federal, state, and local agencies having jurisdiction over the Work, to visit and monitor the progress of the Work for conformance of the Work with the Contract Documents.

7.2.2 Special Inspections.

7.2.2.1 At all times during construction of the Work, Contractor shall permit Metro, the Architect or Engineer, and Special Inspectors, or any representatives of federal, state, and local agencies having jurisdiction over the Work, to visit and inspect the Work, the materials and the manufacture and preparation of such materials, and subject the Work and materials to inspection and testing to determine if the Work conforms to the requirements of the Contract Documents. Contractor shall maintain proper facilities and safe access for all such inspections.

7.2.2.2 The Contractor is responsible for scheduling and coordination of special inspections. Contractor shall be diligent in scheduling special inspections and make every effort to combine special inspections to avoid unnecessary budget impacts.

7.2.2.3 The Contract Documents or regulatory agencies may require that portions of the Work be observed, reviewed, tested, or inspected before they are obscured or covered. Similarly, upon request, the Project Manager is entitled to observe portions of the Work before they are covered or obscured. Contractor shall be solely responsible for notifying Project Manager at least two (2) working days prior to performing such Work so that necessary arrangements for inspection and testing can be made. If the Contractor covers or obscures a portion of the Work that is required or requested to be observed, it will uncover the Work for observation and bear any cost associated with that activity without a change in Contract Time.

7.2.2.4 The Project Manager may request to see a portion of the Work that has been covered regardless of the requirements of the Contract Documents, regulatory agencies, or a prior request. Thereafter the Contractor must comply with Metro's request. If, on inspection by the Project Manager, the portion of the Work that is uncovered is found to be in accordance with the Contract Documents, Metro will bear all costs associated with that activity and provide additional Contract Time if that activity would cause the Contractor to incur liquidated damages. But if, upon inspection by the Project Manager, the portion of the Work that is uncovered is found not to be in accordance with the Contract Documents, the Contractor will correct the Work and bear any cost associated with that activity without a change in Contract Time. Metro retains the right at any time during construction, or at any time during production, fabrication, or preparation of the Work, to test samples to determine whether they meet the requirements of the Contract Documents. Metro may test any sample, regardless of prior certification, and regardless of whether any prior certification was required. Metro may either conduct the test with its own forces or hire other persons to perform this Work.

7.2.2.5 Metro retains the right at any time during construction, or at any time during production, fabrication, or preparation of the Work, to test samples to determine whether they meet the requirements of the Contract Documents. Metro may test any sample, regardless of prior certification, and regardless of whether any prior certification was required. Metro may either conduct the test with its own forces or hire other persons to perform this Work.

7.2.2.6 If a sample is to be tested prior to its incorporation into the Work, the Contractor may not incorporate the material, product, part, or equipment into the Work until testing is completed and Metro gives permission for its use.

7.2.2.7 Metro will bear the costs of testing unless the tests show that the material, product, part, or equipment failed the test and did not conform to the requirements of the Contract, in which case the Contractor will bear the costs of testing.

7.2.2.8 If the sample was previously incorporated into the Work and testing shows that the sample does not meet the requirements of the Contract Documents, the Contractor will pay for the test and for replacing and repairing any equipment, materials, products, or portion of the Work in order to meet the requirements of the Contract Documents.

7.2.3 Notice to Metro for Certain Work Days. Whenever Contractor intends to perform Work on Saturday, Sunday, or any legal holiday, it shall give written notice to Metro of such intention at least two (2) working days prior to performing such Work, or such other period as may be specified by Metro, so that Metro may make the necessary arrangement for testing and inspection.

7.2.4 Correction of Defective Work Before Acceptance. Any defective Work or Work that otherwise fails to conform to the Contract Documents that is discovered before Final Completion and Acceptance of the Work, shall be corrected immediately by Contractor, and any unsatisfactory materials shall be rejected and replaced with

satisfactory materials, notwithstanding that they may have been overlooked by the authorized inspector. The inspection of the Work by Metro, the Architect or Engineer, or any other agency shall not relieve Contractor of any of its obligations to perform fully all of the terms and provisions of the Contract Documents.

7.2.5 Acceptance Not Implied by Failure to Object. Failure or neglect on the part of Metro or any of its authorized representatives to condemn or reject defective, improper, or inferior Work or materials shall not be construed to imply a final acceptance of such Work or materials and shall not be construed as relieving Contractor of its duties to perform fully all requirements of the Contract Documents.

7.2.6 Replacement and correction of defective Work before the Work is completed and accepted is not limited by any warranty period otherwise established by the Contract.

7.3 Unsatisfactory Materials and Workmanship.

7.3.1 Generally. Material, Work, or workmanship that, in the opinion of the Project Manager, does not conform to the Contract Documents, or is not equal to the samples submitted to and approved by the Project Manager, or is in any way unsatisfactory or unsuited to the purpose for which it is intended, will be rejected. Contractor shall bear the cost of correcting or removing, as deemed necessary by Metro, all non-conforming materials, defective Work, or unsatisfactory workmanship. Contractor shall make a close inspection of all materials as delivered, and shall promptly replace all defective materials with conforming materials without waiting for their rejection by Metro.

7.3.2 Removal of Rejected or Non-Conforming Work or Material. All rejected material or Work, and all defective or non-conforming Work or material, shall be removed from the Site without delay. If Contractor fails to do so within forty-eight (48) hours after having been so directed by Metro, the rejected material may be removed by Metro and the cost of removal charged against Contractor and deducted from Retainage held by Metro or offset against payments due Contractor, at Metro's option. If in the judgment of Metro it is undesirable or impracticable to replace any defective or non-conforming Work or materials, the compensation to be paid to Contractor shall be reduced by Change Order or Force Account, as applicable, by such amount as, in the judgment of Metro, shall be equitable.

7.4 General Warranty of Contractor. Contractor warrants to Metro that materials and equipment provided 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 contaminants not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by Metro, Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranty made by Contractor under this Section shall be in addition to any other specific warranties and certifications required elsewhere in these Contract Documents.

7.5 Third-Party Warranties.

7.5.1 The Contractor shall obtain from Subcontractors, manufacturers, and suppliers guarantees and warranties according to the Contract Documents with the optimum terms and longest periods reasonably obtainable. The documentation must also include all maintenance and operational documentation required to sustain said warranties.

7.5.2 All guarantees or warranties of materials furnished to the Contractor or Subcontractor by any manufacturer or supplier shall be deemed to run for the benefit of the Owner.

7.5.3 As a condition of Substantial Completion of the Project by the Owner, the Contractor shall deliver to the Owner three (3) bound volumes of all guarantees and warranties on material furnished by all manufacturers and suppliers to the Contractor and all its Subcontractors, with duly executed instruments properly assigning the guarantees and warranties to the Owner. The guarantees and warranties in each bound volume shall be grouped together by trade and properly indexed. The Contractor shall assign to the Owner, and shall deliver to the Owner, all manufacturers' warranties not later than the date of Substantial Completion.

7.6 Subcontractor Warranties. The Contractor shall and does hereby assign to the Owner the benefits of all warranties and guarantees of all Subcontractors, but such assignment shall not relieve the Contractor of its warranty obligations to the Owner under these General Conditions and other Contract Documents.

7.7 Correction of Work by Contractor.

7.7.1 Any portion of the Work that does not conform to the requirements of the Contract is unacceptable or defective and must be removed and corrected by the Contractor, even if it is contended that Project Manager or other assigned personnel knew or should have known of the existence of the unacceptable Work. This obligation includes defective Work discovered during construction and within one (1) year after the date of Substantial Completion.

7.7.1.1 All portions of the Work that do not conform to the requirements of the Contract Documents must be corrected within a reasonable time at the Contractor's sole expense and without an extension of Contract Time.

7.7.1.2 Metro may replace or correct Work within a reasonable time if the Contractor fails to do so and may charge the Contractor with all reasonable costs incurred while performing that Work, as well as the costs of storing any salvageable materials or equipment. If that occurs, Metro is also entitled to deduct such costs from any sums otherwise due the Contractor.

7.7.1.2.1 If salvageable materials, equipment, or both are stored, Metro will notify the Contractor of the storage and give the Contractor ten days to remove the materials. If the Contractor fails to remove them by the end of that time, Metro may sell them in any commercially reasonable manner, whether privately or publicly.

7.7.1.2.2 If sale is made, Metro will keep all proceeds to the extent that the proceeds do not exceed the costs incurred in correcting and replacing the Work and in storing the materials and equipment. The Contractor will pay Metro any difference in costs that may remain after the sale. If the proceeds exceed Metro's cost, however, it will forward those sums to the Contractor.

7.7.2 In the case of equipment manufactured by others and supplied and/or installed by Contractor, the one (1)-year period shall commence upon the date of first beneficial operation of such equipment by Metro. In the case of Work that is corrected or replaced by Contractor, the one (1)-year period shall commence again on the date of acceptance by Metro of such corrected or replaced Work. Testing shall not be construed to mean acceptance.

7.7.3 If Metro does not require correction or replacement of defective Work or Work failing to conform to the Contract Documents, Contractor, if required by Metro, shall repay to Metro such portion of the Contract Amount as is equitable under the circumstances, as determined by Metro.

7.7.4 Contractor's responsibilities under this Section shall not extend to correction or replacement of defects that are attributable to mistreatment by Metro or to normal wear and tear.

7.8 Warranty and Correction Agreements by Subcontractors.

7.8.1 Generally. In addition to any requirements for written warranties required by the Specifications, Contractor shall require all of its Subcontractors and Suppliers of any tier to make the same warranty to Metro as Contractor makes under Section 7.4. Contractor shall also require all of its Subcontractors and Suppliers of any tier to agree to correct or replace defective Work or Work not conforming to the Contract Documents, and to take full responsibility for defective materials in the same manner as Contractor agrees to correct or replace such Work under Section 7.5.

7.8.2 Form of Submissions. Contractor shall require all of its Subcontractors and Suppliers of any tier to sign documents evidencing the promises made pursuant to Section 7.8.1 above and shall submit such documents to Metro with its request for Final Payment. Such documents shall be signed by both Contractor and the applicable Subcontractor or Supplier and shall be in the form attached as Exhibit 1 to these General Conditions.

7.9 Remedies Not Exclusive. The remedies provided for in this Article shall not be exclusive, but are in addition to all other remedies of Metro with respect to latent defects, frauds, or failure to perform all Work as required by the Contract Documents.

7.10 Proof of Compliance with Contract Provisions. For Metro to determine whether Contractor has complied or is complying with the requirements of the Contract that are not readily enforceable by inspection and test of the Work, Contractor shall, upon request, promptly submit to Metro such properly authenticated documents as may be necessary to demonstrate compliance with the Contract or other satisfactory proof of its compliance with such requirements.

7.11 Patents, Copyrights, Trademarks. All fees or costs of claims for any patented invention, article, or arrangement or any copyrights or trademarks that may be used upon or in any manner connected with the performance of the Work or any part thereof, shall be included in the Bid or Proposal for doing the Work. Contractor shall save, keep, hold harmless, and fully indemnify Metro and Architect or Engineer from all damages, claims for damage, lawsuits, costs, expenses, or liabilities of whatever nature in law or equity, including attorney fees and court costs, that may at any time arise or be set up for any infringement of the patent rights, copyrights, or trademarks of any person or persons in consequence of the use by Metro of articles to be supplied under the Contract and of which Contractor is not the patentee or assignee or has not the lawful right to sell the same. This is in addition to all other hold-harmless and indemnification clauses in these Contract Documents.

7.12 Anti-Trust Claims.

7.12.1 By entering into this Contract, Contractor, for consideration paid to Contractor under the Contract, does irrevocably assign to Metro any claim for relief or cause of action that Contractor now has or that may

accrue to Contractor in the future, including at Metro's option, the right to control any such litigation on such claim for relief or cause of action, by reason of any violation of 15 USC Section 1-15, ORS 646.725, or ORS 646.730 in connection with any goods or services that are used, in whole or in part, for the purpose of carrying out Contractor's obligations under this Contract.

7.12.2 Contractor shall require all Subcontractors and Suppliers to irrevocably assign to Metro, as a third-Party beneficiary, any right, title, or interest that has accrued or may accrue to the Subcontractors or Suppliers by reason of any violation of 15 USC Section 1-15, ORS 646.725, or ORS 646.730, including, at Metro's option, the rights to control any litigation arising hereunder, in connection with any goods or services provided to the Subcontractors or Suppliers by any person, in whole or in part, for the purpose of carrying out the Subcontractors' or Suppliers' obligations as agreed to by Contractor in pursuance of the completion of the Contract. Contractor shall require all Subcontractors and Suppliers to Execute the Assignment of Antitrust Claims attached as Exhibit 2 to these General Conditions as part of Contractor's subcontract with Subcontractor or Supplier.

7.12.3 In connection with Contractor's, Subcontractors' or Suppliers' assignment, it is an express obligation of Contractor, Subcontractor, or Supplier that it will take no action that will in any way diminish the value of the rights conveyed or assigned hereunder to Metro. It is an express obligation of Contractor, Subcontractor, or Supplier to advise the Office of Metro Attorney:

7.12.3.1 In advance, of its intention to commence any action on its own behalf regarding such claims for relief or causes of action;

7.12.3.2 Immediately, upon becoming aware of the fact that an action has been commenced on its own behalf by some other person or persons, of the imminency of such action; and

7.12.3.3 The date on which it notified the obligor(s) of any such claims for relief or causes of action of the fact of its assignment to Metro.

7.12.4 In the event that any payment under any such claim is made to Contractor, Subcontractor, or Supplier, it shall promptly pay over to Metro its proportionate share thereof, if any, assigned to Metro under this Section 7.12.

ARTICLE 8 CHANGES IN THE WORK

8.1 Change Orders Generally.

8.1.1 Metro and the Contractor mutually agree that changes in plans, quantities, or details of the Work are inherent in the nature of construction and may be necessary or desirable. Therefore, without impairing the Contract, Metro reserves the right to require changes determined necessary or desirable to complete the proposed construction within the general scope of the Work provided for in the Contract or to order extra Work if that is required. Performance of changed or extra Work will not invalidate the Contract or release the Contractor's surety from its obligations. Changes to the Contract Amount, if any, as a result of the performance of changed or extra Work must be made pursuant to this Article 8.

8.1.2 The only authorized method for increasing or changing the amount of compensation, increasing the amount of Contract Time, or changing the scope of Work to be performed is through the execution of a written Change Order.

8.1.3 Change Orders must be executed in advance when any changed or extra Work for which additional compensation is due will be performed, unless the Work is Force Account Work.

8.1.4 Metro may, at its discretion, also require the signature of Contractor's surety on the Change Order. Prior to the approval of such Change Order, the Architect or Engineer shall have approved any design modifications entailed thereby.

8.1.5 Agreement on any Change Order shall constitute a final settlement of all matters relating to the changes in the Work that are the subject of the Change Order, including without limitation all direct and indirect costs associated with such change, and any and all adjustments to the Contract Sum or Contract Time.

8.2 Procedure for Determining Impact of Change Orders on Contract Amount.

8.2.1 Price before Proceeding. If Metro intends to order changes in the Work, it may request a proposal by Contractor for the proposed added or deleted Work before directing Contractor to commence Work. Within fourteen (14) days after issuance of such request by Metro, Contractor shall furnish three (3) copies of a complete breakdown of costs of both credits and additions directly attributable to the change in the Work proposed, itemizing materials, labor, taxes, effect on Contract Time, if any, and Overhead and Profit on a form approved by Metro and in accordance with the limitations described in the following Section. Subcontract Work shall be so indicated and written proposals from Subcontractors or Suppliers shall be included with similar breakdowns provided. Following

submission of its cost breakdown, Contractor shall meet with Metro to discuss all aspects of scope, costs, scheduling, and construction methods.

8.2.2 Proceed While Pricing. If Metro finds it necessary to make changes in the Work in an expeditious manner, it may direct Contractor to proceed with the change while preparing a proposal for the added or deleted Work. In such an instance, Metro may assign an estimated value to the change that Contractor shall not exceed without further authorization by Metro. Within fourteen (14) days after issuance of such by Metro, Contractor shall furnish three (3) copies of a complete breakdown of costs of both credits and additions directly attributable to the change in the Work proposed, itemizing materials, labor, taxes, effect on Contract Time, if any, and Overhead and Profit on a form approved by Metro and in accordance with the limitations described in the following Section. Subcontract Work shall be so included with similar breakdowns provided. Following submission of its cost breakdown, Contractor shall meet with Metro to discuss all aspects of scope, costs, scheduling, and construction methods.

8.2.3 Unit Prices. If the proposed additional or deleted Work is the subject of Unit Prices stated in the Contract Documents or subsequently agreed upon, such Unit Prices shall be binding upon Contractor in calculating the increase or decrease in the Contract Amount attributable to the proposed additional or deleted Work.

8.3 Limitations when Change Orders Impact Contract Amount. The following limitations shall apply in the calculation of the costs of changes in the Work:

8.3.1 Overhead and Profit.

8.3.1.1 Contractor will be permitted a reasonable allowance for Profit and Overhead on its increased Direct Cost resulting from any changes in the Work ordered by Metro. Likewise, Profit and Overhead will be deducted for any portion of the Work that is deleted. In the case of a change involving both credits and extras, Overhead and Profit shall be applied to the net extra after subtraction of credits.

8.3.1.2 Overhead and Profit for the entity performing the Work with its own crews shall not exceed ten percent (10%) of the Direct Cost of the changed Work.

8.3.1.3 Overhead and Profit for Contractor or Subcontractor who has had the Work performed by a lower tier Subcontractor shall not exceed five percent (5%) of the Direct Cost of the changed Work.

8.3.1.4 If the Work is performed by a second-tier Subcontractor, the total Overhead and Profit for all tiers shall in no event exceed twenty percent (20%) of the Direct Cost of the changed Work. Distribution of this Overhead and Profit among the tiers is the responsibility of Contractor.

8.3.2 Taxes and Insurance. Federal, state, regional, county, and local taxes, including but not limited to income taxes, excise taxes, sales and use taxes, and payroll taxes and insurance shall be shown separately, will be allowed on extras, and shall be credited on credits. No Overhead and Profit will be allowed on taxes and insurance.

8.3.3 Bond Premiums. The actual rate of bond premium as paid on the additional Direct Cost plus the cost of taxes defined in 8.3.2 will be allowed. No Overhead and Profit will be allowed on such premiums.

8.3.4 Equipment Costs. The allowance for equipment costs (both rental and Contractor-owned equipment) shall be limited to those rates in the Rental Rate Bluebook published by Dataquest Incorporated, 1290 Ridder Park Drive, San Jose, California 95131-2398, (800) 227-8444.

8.4 Force Account Work.

8.4.1 If Contractor does not respond to Metro's Request for Proposal with a cost breakdown within the fourteen (14)-day period as required above, or if Metro determines that Contractor's breakdown of costs is unreasonable in consideration of the Work proposed to be added or deleted, or if Metro determines that the proposed Work must be commenced promptly to avoid delay to the Project, Metro may issue an order for Force Account Work and Contractor shall promptly perform or delete the Work described in such order. Change, if any, in the Contract Amount due to such Force Account Work shall be the sum total of the following items:

8.4.1.1 Actual labor cost, including premium on worker's compensation insurance and charge for social security taxes, and other taxes pertaining to labor.

8.4.1.2 The proportionate cost of premiums of public liability property damage and other insurance applicable to the extra Work involved and required by these Contract Documents.

8.4.1.3 Actual cost of material, including applicable taxes pertaining to materials.

8.4.1.4 Actual cost of plant and equipment rental, at rates to be agreed upon in writing before the Work is begun or at rates per Section 8.3.4 above. No charge for the cost of repairs to plant or equipment will be allowed. Equipment items having a capital cost of under \$250.00 are considered small tools and classified as Overhead.

8.4.1.5 Overhead and Profit as provided and limited in Section 8.3.

8.4.1.6 The proportionate actual costs of premiums for bonds required by these Contract Documents.

8.4.2 Whenever any Force Account Work is in progress, each working day Contractor shall furnish to Metro a detailed written report signed by Contractor and Project Manager of the amount and cost of all of the items listed in (1) through (6) above, and no claim for compensation for such extra Work will be allowed unless such report shall have been made. Metro reserves the right to provide such materials as it may deem expedient, and no compensation, overhead, or profit will be allowed to Contractor for such materials.

8.5 Contractor Proposals for Changes in Work.

8.5.1 Generally. At any time during the performance of the Work, Contractor may propose to Metro changes in Work that Contractor believes will result in higher quality Work, improve safety, shorten the Contract Time, decrease the Contract Amount, or otherwise result in better or more efficient Work.

8.5.2 Purpose. Metro encourages Contractor to submit Value Engineering Change Proposals ("VECPs") in order to avail Metro of potential cost savings that may result. Contractor and Metro will share any savings, computed in accordance with this Section 8.5. Contractor is encouraged to submit VECPs whenever it identifies an area that can be improved, using the format described herein.

8.5.3 Application. This clause applies to a Contractor-developed and documented VECP that: (1) requires a change to this Contract to implement the VECP, and (2) reduces the Contract Price without impairing essential functions or characteristics of the Work, provided it is not based solely on a change in specified quantities.

8.5.4 Documentation. At a minimum, the following information shall be submitted by Contractor with each VECP: (1) description of the existing requirements of the Contract Documents that are involved in the proposed change; (2) description of the proposed change; (3) discussion of differences between existing requirements and the proposed change, together with advantages and disadvantages of each changed item; (4) itemization of the requirements that must be changed if the VECP is accepted (e.g., drawing numbers and Specifications); (5) justification for changes in function or characteristics of each such affected item and effect of the change on the performance of the end item; (6) effect of proposed change on life-cycle costs, including operation and maintenance, replacement costs, and life expectancy; (7) date or time by which a Change Order adopting the VECP must be issued in order to obtain the maximum cost reduction, noting any effect on Contract Time or delivery schedule; and (8) cost estimate for existing Contract requirements correlated to its lump sum breakdown and proposed changed requirements. Costs of development and implementation by Contractor shall be identified. Estimated Metro costs (e.g., cost of testing and redesign) shall also be identified.

8.5.5 Submission. Proposals will be processed expeditiously; however, Metro will not be liable for any delay in acting upon any proposal submitted pursuant to this clause. Contractor shall have the right to withdraw, in whole or in part, any VECP at any time prior to acceptance by Metro.

8.5.6 Acceptance. Metro may accept, in whole or in part, by Change Order, any VECP submitted pursuant to this clause. Until a Change Order is issued, Contractor shall remain obligated to perform in accordance with this Contract. The decision as to acceptance or rejection of any VECP will be at the sole discretion of Metro and will be final and not subject to review by mediation or otherwise.

8.5.7 Sharing. If a VECP submitted by Contractor pursuant to this clause is accepted, Contractor shall proceed with the change and the Contract Price will be adjusted in accordance with the following provisions:

8.5.7.1 Definitions:

8.5.7.1.1 Estimated Gross Savings to Contractor ("GS"): The difference between cost of performing the Work according to the existing requirement and the cost if performed according to the proposed change. In each instance, Contractor's profit shall not be considered part of the cost.

8.5.7.1.2 Contractor Costs ("CC"): Reasonable costs incurred by Contractor in preparing the VECP and making the change such as cancellation or restocking charges where required.

8.5.7.1.3 Estimated Net Savings to Contractor ("NS"): GS less CC.

8.5.7.1.4 Metro's Costs ("OC"): Reasonable costs incurred by Metro for evaluating and implementing the VECP, such as testing and redesign, where required.

8.5.7.2 Calculations:

8.5.7.2.1 The Contract Price shall be reduced by an amount equal to 70 percent of NS plus 50 percent of OC.

8.5.7.2.2 Contractor's profit will not be reduced by application of the VECP.

8.5.8 Subcontracts. Contractor shall include appropriate value engineering incentive provisions in all subcontracts of \$25,000 or greater. Contractor may include such provisions in any agreement. Subcontracts shall contain a provision that any benefits accruing to Contractor as a result of an accepted VECP initiated by a

Subcontractor shall be shared by Contractor and Subcontractor. To compute any adjustment in the Contract Price under Section 8.5.7.2 above, Contractor's costs of preparation and charge for a VECP shall include any preparation and change costs. Examples are cancellation or restocking charges, when required.

8.6 Impact of Authorized Changes in the Contract. Changes in the Work made pursuant to this Article and extensions of the Contract Time allowed by Metro due to such changes shall not in any way release any warranty or promises given by Contractor pursuant to the provisions of the Contract Documents, nor shall such changes in the Work relieve or release the sureties of bonds executed pursuant to said provisions. The sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of Contract Time made by reason thereof.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 Scope of Payment. Payment to Contractor of the Contract Amount for performing all Work required under the Contract, as adjusted for any Change Orders approved as hereinbefore specified, shall be full compensation for furnishing all labor, materials, equipment, and tools necessary to the Work, and for performing and completing, in accordance with these Contract Documents, all Work required under the Contract, and for all expenses incurred by Contractor for any purpose in connection with the performance and completion of said Work. Whenever it is specified in the Contract that Contractor is to do Work or provide materials of any class for which no price is fixed in the Contract, Contractor will do such Work or provide such materials without extra charge or allowance or direct payment of any sort, and that the cost of doing such Work or providing such materials is included in its Bid or Proposal.

9.2 Schedule of Values.

9.2.1 Generally. Within fifteen (15) days after the Notice to Proceed, Contractor shall submit a detailed breakdown costs itemized per Construction Specification Institute division format. The format and detail of the breakdown shall be as directed by Metro. This breakdown shall be referred to as the Schedule of Values.

9.2.2 Review of Schedule of Values. Metro will review the Schedule of Values to ascertain that the dollar amounts of the Schedule of Values are in fact fair cost allocations for the Work item listed. Upon concurrence by Metro, a formal approval of this Schedule of Values will be issued. Metro shall be the sole judge of fair cost allocations. Contractor's monthly progress payment requests shall reflect the cost figures included in the approved Schedule of Values and shall be based on completed Work items or percentages of Work items completed prior to the end of the payment period as more fully described below.

9.3 Progress Payment Procedure.

9.3.1 Generally. Subject to the approval of Metro, disbursements shall be made by Metro of progress payments upon written request of Contractor and pursuant to the Contract Documents as specified in Section 9.3.2.

9.3.2 Before the end of each calendar month, Contractor shall file with the Project Manager in duplicate on a form approved by Metro, a proposed payment estimate for the period commencing on the 26th day of the previous month through midnight on the 25th day of the calendar month in question. Metro and the Architect or Engineer shall review Contractor's estimate and shall determine the value of Contractor's Work based on the Schedule of Values and incorporated labor and materials for the payment period. Contractor shall not be paid for any Work that is, in Metro's opinion, defective or improper, or for Work needed to correct Contractor's defective or improper Work. Contractor shall be paid 95 percent (95%) of the determined value of Work accomplished, less any offset or withholding of sums by Metro allowed under the Contract Documents, within thirty (30) days after receipt by Metro of Contractor's payment estimate. Metro will routinely withhold five percent (5%) as Retainage. No inaccuracy or error in any monthly progress payment estimates shall operate to release Contractor or its surety from damages arising from such Work or from the enforcement of each and every provision of the Contract Documents, and Metro shall have the right subsequently to correct any error made in any estimate for progress payments.

9.3.3 Retainage.

9.3.3.1 Metro will withhold Retainage from each payment at a rate of five percent (5%) in accordance with ORS 279C.570.

9.3.3.2 All funds retained by Metro under this Section shall be retained in a fund by Metro and paid in accordance with ORS 279C.550 to 279C.580.

9.3.3.3 Contractor may elect to deposit bonds or securities of the type described below with Metro or in any bank or trust company to be held in lieu of the cash Retainage described above and for the benefit of Metro. In such event, Metro shall reduce the Retainage in an amount equal to the value of the bonds and securities

and shall pay the amount of the reduction to Contractor in accordance with ORS.279C.570. Interest on such bonds or securities shall accrue to Contractor. Bonds and securities deposited or acquired as described above shall be of a character approved by the Metro Director of Finance & Regulatory Services including but not limited to:

- 9.3.3.3.1 Bills, certificates, notes, or bonds of the United States.
- 9.3.3.3.2 Other obligations of the United States or its agencies.
- 9.3.3.3.3 Obligations of any corporation wholly owned by the federal

government.

- 9.3.3.3.4 Indebtedness of the Federal National Mortgage Association.

9.3.3.4 Contractor may elect to require Metro to deposit the accumulated Retainage in an interest bearing account in a bank, savings bank, trust company, or savings association for the benefit of Metro. Interest on such an account shall accrue to Contractor.

9.3.3.5 If Metro incurs additional costs as a result of Contractor's exercise of any of the above-described options, Metro may recover such costs from Contractor by reduction of the Final Payment. Metro shall inform Contractor of all such accrued costs.

9.3.4 Payment for Material Stored Off Site. Payment for material stored off of the Site will not be allowed unless the payment for such material benefits Metro in terms of lead time, scarcity, schedule, etc. Metro has sole discretion as to what materials will be paid for in advance of delivery to or installation on Site. Proof of off-site material purchases (invoice or checks and photo documentation) and appropriate insurance coverage will be required for payment. Title to all equipment and materials shall pass to Metro upon payment therefore or incorporation into the Work, whichever shall first occur, and Contractor shall prepare and execute all documents necessary to effect and perfect such transfer of title. Contractor must provide to Metro written consent from Contractor's surety approving the advanced payment for materials stored off-site. The maximum prepayment allowed by Metro shall be 75 percent of the actual fair market value of the item being considered. Metro shall be the sole judge of fair market value. Contractor shall protect stored materials from damage, and damaged or otherwise unacceptable materials, even though paid for, shall not be incorporated into the Work.

9.3.5 Other Conditions Precedent to Payment.

9.3.5.1 It is a condition precedent to Contractor's rights to any payments under the Contract that all bills for labor and materials, including labor and materials supplied by or to Contractor, shall have been paid in full and, if requested by Metro, Contractor shall submit receipted invoices and/or lien waivers, as evidence of payment in full of all such accounts. As a further condition precedent to Contractor's right to any payments under this Contract, Contractor shall submit a claims release before any payment in the form set forth in Exhibit 3 to these General Conditions, and a final claims release stating Contractor has been paid in full prior to the Final Payment in the form set forth in Exhibit 4 to these General Conditions.

9.3.5.2 Payments to Contractor shall be conditioned upon Contractor complying with all provisions of this Contract regarding scheduling and progress reports submissions and upon Contractor furnishing all other information and data necessary to ascertain actual progress. Metro's determination that Contractor has failed or refused to furnish the required information, data, schedules, or other reports shall constitute a basis for withholding all payments until the required information, data, revised schedules, and diagrams, if necessary, and other reports are furnished.

9.3.6 Payment Does Not Imply Acceptance of Work. The granting of any progress payment, or the receipt thereof by Contractor, shall not constitute acceptance of the Work or any portion thereof, and shall in no way lessen the liability of Contractor to replace unsatisfactory Work or material, though the unsatisfactory character of such Work or material may or may not have been apparent or detected at the time such payment was made.

9.3.7 Offset of Sums Due Metro from Contractor. In addition to any retention rights allowed Metro under this Contract, it is mutually understood and agreed that Metro may, upon prior written notice to Contractor, offset from any payment otherwise due Contractor as much as may be necessary to protect and compensate Metro from any costs or expenses it may incur due to any breach of the Contract by Contractor, including applicable liquidated damages. Any sums so offset shall become the property of Metro.

9.4 Substantial Completion.

9.4.1 Metro is also entitled to occupy or use all or a portion of the Work on Substantial Completion. Occupancy or use on Substantial Completion does not constitute Metro's acceptance of the Work not complying with the requirements of the Contract Documents, nor does it waive rights Metro has to completion of the Contract in accordance with the requirements of the Contract Documents.

9.4.1.1 When Contractor considers the Work to be substantially complete, Contractor shall submit to Metro a written notice that the Work is substantially complete

9.4.2 Within a reasonable time after receipt of such notice, Metro and Architect or Engineer will review the Work, including a physical inspection, to determine the status of completion. Should the Architect or Engineer and Metro determine that the Work is not substantially complete:

9.4.2.1 The Project Manager will promptly notify Contractor in writing, giving the reasons therefore.

9.4.2.2 The Contractor shall remedy the deficiencies in the Work, and thereafter send a second written notice of Substantial Completion to Metro.

9.4.3 The above-described procedure shall be followed until the Work is, in the opinion of Metro and Architect or Engineer, substantially complete. At that point:

9.4.3.1 Metro or the Architect will prepare a Certificate of Substantial Completion on AIA Document G704, accompanied by the approved Punch List of items to be completed or corrected as verified and amended by the Architect or Engineer.

9.4.3.2 Metro shall submit the Certificate of Substantial Completion to Contractor for signature.

9.4.4 Punch List. When the Work is substantially complete, the Contractor shall prepare a Punch List of items to be completed or corrected for review and approval by Metro and the Architect or Engineer. Metro or the Architect shall be responsible for preparing the final Punch List. The Contractor remains responsible to complete the Work in accordance with the Contract Documents regardless of whether an item is omitted from the Punch List.

9.4.4.1 The Contractor is required to proceed promptly to complete the items on the Punch List and any other items that may be discovered to be incomplete or incorrect regardless of whether they are on the Punch List or not. If the Contractor fails to complete the Punch List within 30 days or such other time as Project Manager may allow, Metro may terminate any further services of the Contractor under the Contract and complete the Punch List items remaining to be completed or corrected with Metro's own forces or by hiring another Contractor to perform the Punch List Work. Costs of performing the Punch List Work by Metro will be deducted from any payments otherwise due the Contractor.

9.4.4.2 The Contractor will notify Metro when the Punch List Work is complete, and Final Payment will then be made in accordance with. After receipt of that Notice, Metro will inspect the Work to determine whether the Punch List is complete as provided in Section 9.5 of these General Conditions.

9.4.4.3 If the Work is not complete despite the Contractor's notice that the Punch List items are complete, and Metro has hired an Architect or Engineer to assist it on the Project, the Contractor will pay costs for the Architect's or Engineer's services if more than two inspections of the Work are required because the Punch List remains incomplete.

9.4.4.4 On Substantial Completion, Metro will be responsible for utilities, insurance, security, maintenance, and damage to Work caused by Metro's agents and employees unless otherwise provided in the Certificate of Substantial Completion. The Contractor remains responsible for damage to Work caused by its Subcontractors, agents, and employees during the performance of Punch List Work.

9.5 Final Completion and Acceptance.

9.5.1 When Contractor considers the Work to be finally complete, Contractor shall submit written certification to Metro that:

9.5.1.1 Contract Documents have been reviewed.

9.5.1.2 Work has been inspected for compliance with Contract Documents.

9.5.1.3 Work has been completed in accordance with Contract Documents to include submission of record documents.

9.5.1.4 Equipment systems have been tested in the presence of Metro and are operational.

9.5.1.5 Work is ready for final inspection.

9.5.2 Architect or Engineer and Metro will promptly review the Work and include a physical inspection to verify the status of completion and shall inform Metro of the conclusions. Metro shall, within fifteen (15) days after receipt of Contractor's certification, either accept the Work or notify Contractor of the Work yet to be performed on the Contract as outlined below.

9.5.3 Should the Architect or Engineer and Metro consider that the Work is incomplete or defective:

9.5.3.1 Project Manager or the Architect or Engineer will promptly notify Contractor in writing, listing the incomplete or defective Work.

9.5.3.2 Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Metro that the Work is complete. Metro will then advise the Architect or Engineer.

9.5.3.3 Architect or Engineer and Metro will review and re-inspect the Work.

9.5.4 The procedure set forth in Section 9.5.3 shall be followed until the Work is, in the opinion of Metro and Architect or Engineer, finally complete. Contractor shall immediately thereafter prepare and submit Closeout Submittals as described below.

9.6 Closeout Submittals. Contractor shall submit the following items, as applicable, with its request for Final Payment:

9.6.1 Evidence of Compliance with Requirements of Governing Authorities.

9.6.2 Project record documents in accordance with the Specifications.

9.6.3 Operation and maintenance data in accordance with the Specifications.

9.6.4 Warranties in accordance with requirements of various Specification sections and these General Conditions.

9.6.5 Extra stock and maintenance materials. Contractor shall submit receipts, signed by Metro, for the various specific items.

9.6.6 Evidence of payment and release of claims in accordance with the following section.

9.6.7 Consent of surety to Final Payment.

9.6.8 Certificates of insurance for products and completed operations in accordance with Article 12 of these General Conditions.

9.6.9 If Contractor is a non-resident bidder or proposer, complete documentation of Contractor's compliance with ORS 279A.120.

9.7 Releases. Contractor and each assignee under any assignment in effect at the time of Final Payment shall execute and deliver, at the time of application for Final Payment, as a condition precedent to Final Payment, discharging and releasing Metro and the Architect or Engineer of and from all liabilities, obligations, and claims arising under this Contract. The Final Release shall be in the form attached as Exhibit 4 to these General Conditions. In addition to the above-described release, Contractor shall:

9.7.1 Submit to Metro an affidavit certifying that Contractor has paid all federal, state and local taxes including excise, use, sales, and employee withholding taxes.

9.7.2 Deliver to Metro written releases of all rights to file claims against Metro or to file claims on any bonds in connection with the Contract, signed by each Subcontractor and Supplier who performed labor or furnished materials in connection with the Work. The release shall be in the form attached as Exhibit 5 to these General Conditions.

9.7.3 Deliver to Metro Contractor's written undertaking, with sureties acceptable to Metro:

9.7.3.1 To promptly pay and obtain a release of claims on any bonds that may in the future affect the premises; and

9.7.3.2 To defend, indemnify, and save Metro harmless from any liability or expense because of any claim on any bond or any other claim related to the Contract or the Work.

9.8 Final Payment. Upon application of Contractor and Contractor's completion of and compliance with all of the provisions of the above Sections and settlement of all claims arising from the Contract, including claims that Metro may have against Contractor, Metro shall pay Contractor the balance of the Contract Amount subject to the availability of monies and less any previous payments, offsets, and withholdings allowed Metro under this Contract, and Retainage that has been returned to Contractor. Acceptance of Final Payment by Contractor shall constitute a waiver of all claims of whatever nature that Contractor may have or allege to have against Metro arising out of or related to Work described in the Contract Documents.

9.9 No Waiver of Rights. Neither the final review by Metro, nor any order or certificate for the payment of money, nor any payment for, nor acceptance of the whole or any part of the Work by Metro, nor any extension of time, nor any position taken by Metro shall operate as a waiver of any provision of this Contract or of any power herein reserved by Metro or any right to damage herein provided, nor shall any waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. All of Metro's remedies provided in this Contract shall be taken and construed as cumulative; that is, in addition to each and every other remedy herein provided; and Metro shall have any and all equitable and legal remedies that it would in any case have.

ARTICLE 10

SAFETY, USE OF SITE, AND PROTECTION OF THE WORK

10.1 Laws and Regulations.

10.1.1 The Contractor must comply with all federal, state, and municipal laws in regard to all matters concerning this Contract. This includes but is not limited to compliance with the ADA. The Contractor must also

comply with the orders, rulings, decrees, and decisions of any administrative or judicial officials that in any manner whatsoever affect the Project, the Work, the safety of persons around the Work Site, or the manner in which the Work is performed.

10.1.2 If the Contractor observes that any portion of the Work is to be performed in a way that violates any law, code, or regulation, it must immediately notify Metro in writing.

10.1.3 Contractor will divert a minimum of 85% of all construction and demolition waste to recycling and reuse markets, and, if the Work is performed in the City of Portland, comply with City of Portland Code 17.102.270 and related administrative rules.

10.2 Safety Requirements.

10.2.1 Safety Generally.

10.2.1.1 Contractor shall be solely and completely responsible for the safety of the Work and the Site, including but not limited to the safety of all persons and property involved in the Work at the Site at any time until Final Completion and Acceptance of the Work.

10.2.1.2 All Work shall be performed in full accordance with all applicable safety codes, laws, ordinances, and requirements including but not limited to the Safety and Health Regulations for Construction promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act as set forth in Title 29 of the Code of Federal Regulations, federal and state OSHA, Metro's insurance standards, and all other applicable safety codes. Where any of these are in conflict, the more stringent requirement shall be followed. Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions shall not relieve it from any requirements in the Contract Documents to comply with such safety provisions or from any penalties for failure to so comply.

10.2.1.3 Contractor shall inspect the Work and the Site daily and immediately correct any unsafe conditions. All job personnel shall be knowledgeable of and comply with the above safety requirements.

10.2.1.4 Contractor shall take all precautions to prevent the possibility of fire resulting from Contract operations. Contractor shall provide properly maintained emergency fire extinguishing equipment of a readily available type and quantity as necessary to meet potential fire hazards.

10.2.1.5 In an emergency affecting safety of persons or property, the Contractor shall act to prevent the threatened damage, injury, or loss and immediately notify Metro.

10.2.2 Health and Safety Program. Contractor shall develop, publish, and implement the overall Health and Safety Program for the Project. This Program shall conform to all applicable codes. Contractor shall submit the written Health and Safety Program to Metro for review and comment within fourteen (14) days after the receipt of the written Notice To Proceed. Metro's review and comment, if any, and Contractor's changes to the Health and Safety Program, based on Metro's review, if any, shall not constitute an endorsement or approval of same by Metro such that Contractor is relieved of sole responsibility for content of the Health and Safety Program and its implementation. Metro is expressly released of any implied liability therefore. The Health and Safety Program shall subsequently be distributed to and implemented by Contractor's personnel, as well as its Subcontractors and Suppliers. Contractor shall fully implement and comply with the Contractor's Health and Safety Program. Under no circumstance will the contractor commence work prior to submitting and implementing the Health and Safety Program.

10.2.3 Health and Safety Officer. Prior to initiation of construction, Contractor shall designate in writing a Site Health and Safety Officer who shall be responsible for coordinating Contractor's Health and Safety Program. The individual so designated shall be the interface with the Project Manager on matters relating to safety and Contractor's compliance with the approved Safety Program. Metro reserves the right to accept or reject the Health and Safety Officer designated by Contractor.

10.3 First Aid.

10.3.1 Contractor shall maintain on the Site during Work operations, a member of its work force who is qualified in administering first aid to its personnel and shall have available in its job office the first aid equipment as required to meet all applicable safety codes. The names and credentials of qualified personnel will be submitted to the Project Manager.

10.3.2 Contractor shall require or provide adequate clothing and protective gear for all personnel working on the job Site. This includes but is not limited to hard hats, substantial boots or shoes, shirts with sleeves at all times, eye and ear protection, gloves, face masks, welding hoods, and safety belts as required for the type of Work being done.

10.4 Use of Site.

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

10.4.2 Prior to commencement of the Work, the Contractor shall review the Project Site with Metro in detail and identify the area of the Work, staging areas, connections or interfaces with existing structures and operations, and restrictions on the Project Site area. The Contractor will ensure that all forces on the Project Site are instructed about the acceptable working and staging areas and restrictions on use of the Site. The Contractor, with advance consent of Metro, will erect such barriers, signage, and devices as are necessary to restrict access to the Project Site to approved personnel and to prevent unauthorized access by construction personnel to non-Work areas.

10.4.3 The Contractor and its Subcontractors shall receive prior approval from Metro before delivering or storing any materials or tools on Metro's premises. Upon approval, materials and tools will be stored so that they do not hamper the operation of equipment or persons and do not present a fire or safety hazard.

10.4.4 Contractor and its Subcontractors shall not erect on the Project Site any signage intended to advertise or promote their business without the prior written consent of Metro.

10.4.5 If the Contractor removes Metro's property, fixtures, materials, or other equipment to perform the Work, the Contractor shall be responsible for the safekeeping of all such property, fixtures, materials, or other equipment including without limitation assuring that such items are not lost, damaged, or destroyed, and are upon Metro's directive are either returned to their original location, reinstalled, replaced, or repaired as necessary.

10.4.6 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all coverings and protect the Work, as necessary, from damage by any cause

10.4.7 At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project, and shall return any damage or altered portion of Metro's property to at least its pre-construction condition.

10.5 Protection of Work, Persons, and Property Against Damage.

10.5.1 Contractor shall protect the Work from damage due to construction operations; the action of the elements, including erosion due to normal and extraordinary weather conditions; the carelessness of other contractors; vandalism; or any other cause whatever until Final Completion and acceptance of the Work.

10.5.2 The Contractor will keep the Project Site safe in compliance with applicable law. Safety includes but is not limited to: (1) providing approved types of secured and adequate barricades or fences that are easily visible from a reasonable distance around open excavations; (2) closing up or covering with steel plates all open excavations at the end of each Working Day in all street areas and in all other areas when it is reasonably required for public safety; (3) marking all open Work and obstructions by lights at night; (4) installing and maintaining all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges, and facilities; (5) observing any and all safety instructions received from Project Manager; and (6) following all laws and regulations concerning worker and public safety. If the law requires greater safety obligations than those imposed by Metro, the Contractor must comply with the law.

10.5.3 The Contractor will protect, and take every reasonable precaution to avoid damage to, all public and private property that might be damaged by its operations.

10.5.4 If public or private property, or both, is damaged by the Contractor's operations, the Contractor must either repair the damage or have the damage repaired by others at its own expense, without additional compensation from Metro. The repair must bring the damaged property back to the same condition it was in before the damage occurred. If repair and restoration is not feasible, the Contractor will pay Metro for the full cost of the damage. If the damage has been caused to property of Metro, Metro has the right to determine whether or not the property will be repaired and restored by the Contractor. If Metro elects to have the property repaired with its own forces or by another entity, the Contractor will pay Metro all costs associated with that repair and restoration.

10.5.5 The Contractor must give reasonable Notice to Metro and occupants of property adjacent to the Work to permit them to remove vehicles, trailers, and other possessions, as well as salvage or relocate plants, trees, fences, sprinkler systems, or other improvements in the Easement or Right-of-Way that are designated for removal or that might be destroyed or damaged by the Contractor's operations.

10.5.6 All federal, state, and local safety and environmental protection laws, rules, and orders, including fire codes, applicable to the Work to be done under the Contract, shall be obeyed, complied with, and enforced by Contractor.

10.5.7 Contractor shall provide and maintain such guards, fences, barriers, signs, regulatory and warning lights, and other traffic control and safety devices adjacent to and on the Site as may be necessary to prevent

accidents to the public and damage to property. Contractor shall also provide, place, and maintain such lights as may be necessary for illuminating the said signs, guards, fences, barriers, and other traffic and safety control devices.

10.5.8 Upon Final Completion and Acceptance of the Work, Contractor shall remove all temporary signs, lights, barriers, etc., from the Site.

10.5.9 The Contractor must protect worksites and storage and disposal areas from washouts and erosion, and take all necessary precaution to control or abate dust, nuisances, and air pollution arising from the performance of Work by taking necessary actions to prevent this. Such actions include but are not limited to cleaning up, sweeping, sprinkling, covering, enclosing, or sheltering Work areas and stockpiled materials, and removing promptly from paved areas earth or other materials that may become airborne or that may be washed into waterways or drainage systems.

10.6 Utilities.

10.6.1 The Contractor is responsible for locating light and power poles, underground electrical, underground communication, sewer, gas, and water piping, gas/water "shut off" boxes and covers, and all other utility lines. The Contractor will follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in the Oregon Administrative Rules. Copies of these rules may be obtained by contacting the Center. If the Contractor has questions about the rules, it is to contact the Center. The Parties agree that any Project plans or permits issued by Metro are deemed to have this language incorporated by reference.

10.6.2 The Contractor will give Notice to Metro of any intended excavation it may have at least 48 hours in advance of the proposed excavation. If the intended excavation or other work would cause any interruption in utility service, the Contractor will give notice to Metro at least five (5) days in advance. The specific schedule for all interruptions in utility services must be coordinated with the Project Manager.

10.6.3 The Contractor will maintain any markings showing the presence of underground facilities. If the Contractor does not maintain such markings, and Metro is required to reestablish them, the Contractor will pay Metro any and all costs associated with that activity.

10.6.4 The Contractor will exercise special care in executing subsurface work in proximity of known subsurface utilities, improvements, and easements. The Contractor will arrange for and pay the cost of disconnecting, removing, relocating, capping, replacing, or abandoning all public and private utilities impeding construction operations, all in accordance with servicing utilities' regulations and governing codes. The Contractor will cap abandoned utilities. The Contractor will provide maintenance of all on-site active above-grade and below-grade services. Any utilities damaged by Contractor shall be repaired immediately to Owner's satisfaction.

10.7 Hazardous Substances Encountered During Construction and Other Environmental Laws.

10.7.1 With respect to Hazardous Materials to be used during the course of the Work, the Contractor will implement and enforce a program to inventory and properly store and secure all Hazardous Materials that may be used or may be present on the Project Site, maintain available for inspection at the Project Site all material safety data sheets, and comply with all regulations required by law for the storage, use, and disposal of Hazardous Materials. The program must provide for notification of all personnel of potential chemical hazards. Review of these hazards must be included in the Contractor's safety training program. The Contractor will submit to Metro a list of all Hazardous Materials to be brought by the Contractor or its Subcontractors onto Metro's property, including the purpose for their use on the Project.

10.7.2 In the event of a release or discovery of a preexisting release of Hazardous Materials, or if it is foreseeable that injury or death to persons may occur because of any material or substance (including without limitation Hazardous Materials) encountered on the Project Site, the Contractor must **immediately** (1) stop the Work or the portion of the Work affected, (2) notify Metro and the Architect or Engineer orally and in writing, and (3) protect against exposure of persons to the Hazardous Materials. The Contractor is to provide all written warnings, notices, reports, or postings required at law or by contract for the existence, use, release, or discovery of Hazardous Materials.

10.7.3 With respect to any Hazardous Materials or other material or substance reported to Metro under Section 10.7.2 above that were not introduced to the Project Site by the Contractor or its Subcontractors of any tier, Metro will obtain the services of a qualified environmental consultant to verify the presence or absence of the material or substance reported by the Contractor and, if the material or substance is found to be present, to verify that it is rendered harmless. Unless otherwise required by the Contract Documents, Metro will furnish in writing to the Contractor the names and qualifications of persons or entities that are to perform tests verifying the presence or absence of such material or substance, or that are to perform the task of removal or safe containment of such material or substance. The Contractor will promptly reply to Metro in writing, stating whether or not either has reasonable objection to the persons or entities proposed by Metro. If the Contractor has an objection to a person or entity proposed by Metro, Metro will propose another to which the Contractor has no reasonable objection. When the

material or substance has been rendered harmless, Work in the affected area is to resume upon written agreement of Metro and the Contractor. By Change Order, the Contract Time may, subject to agreement by Metro and the Contractor, be extended appropriately and the Contract Amount will be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up, which adjustments are to be accomplished as provided in Article 8.

10.7.4 With respect to any Hazardous Materials or other material or substance reported to Metro under section 10.7.2 above that was introduced to the Project Site by the Contractor or its Subcontractors of any tier, the Contractor will be responsible to carry out the duties of (1) proposing to Metro and the Architect or Engineer a qualified environmental consultant, (2) obtaining and paying for the services of the environmental consultant, and (3) verifying that the material is rendered harmless, as otherwise set forth in Section 10.7.3 above. The Contractor will not be entitled to an increase in the Contract Amount as stated in the last sentence of Section 10.7.3 if the Contractor or its Subcontractors of any tier are responsible for the condition requiring the testing of the material and the stoppage of the Work. Remediation Work must be conducted by properly qualified contractors approved in advance by Metro. Generally, Metro may at its option contract directly with environmental consultants and remediation contractors, regardless of whether the Work will be performed at the Contractor's expense.

10.7.5 To the fullest extent permitted by law, Metro will indemnify the Contractor, Subcontractors, Architect or Engineer, and their consultants and agents, and employees of any of them and hold them harmless from and against claims, damages, losses, and expenses, including without limitation attorney fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance was not introduced to the Project Site by the Contractor or its Subcontractors of any tier, presents the risk of bodily injury or death, and has not been rendered harmless. No indemnification provided by Metro under this Section will be required to indemnify the Contractor, Subcontractors, or their employees or agents to the extent of liability for death or bodily injury to persons or damage to property caused in whole or in part by the Contractor's own negligence, but will require indemnity to the extent of the fault of Metro or its agents or representatives.

10.7.6 To the fullest extent permitted by law, the Contractor will indemnify Metro, the Project Manager, and employees of any of them and hold them harmless from and against claims, damages, losses, and expenses, including without limitation attorney fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance was introduced to the Project Site by the Contractor or its Subcontractors of any tier, presents the risk of bodily injury or death, and has not been rendered harmless. No indemnification provided by the Contractor under this Section will be required to indemnify Metro or its agents or representatives to the extent of liability for death or bodily injury to persons or damage to property caused in whole or in part by Metro's own negligence, but will require indemnity to the extent of the fault of the Contractor or its agents or representatives.

10.8 Additional Requirements for Work at Metro Project Sites. The Contractor will comply with the following requirements in addition to the requirements set forth in this Article 10.

10.8.1 Safety and Health Precautions.

10.8.1.1 Contractor shall take all precautions to prevent the possibility of fire resulting from construction operations. Contractor will provide emergency fire extinguishing equipment of adequate type and quantity, readily available, and properly maintained. Contractor shall provide a fire watch and screening whenever welding is in progress in areas accessible or visible to Metro staff or the general public.

10.8.1.2 All contracted employees are expected to follow established safety procedures in the General Contractor's Safety Plan and report any safety violation or unsafe work practice to a lead worker or project manager. Violation of any safety procedure is a serious offense due to the severe consequences that may result and must be reported immediately. It is most important to report safety violations and unsafe work practices to individuals who can take immediate action to resolve the problem.

10.8.1.3 Vests and hardhats (as well as other personal protection attire as required by the General Contractor) are required to be worn at construction worksites. Contractors shall wear such vests at all times on the Project Site.

10.8.1.4 Any physical, mental, or emotional condition that may affect a Contractor or Subcontractor employee's ability to work safely, make sound judgments, or compromise their ability to react quickly in the event of an emergency, must be reported to their lead or project manager prior to the start of their shift.

10.8.1.5 For safety reasons, iPods, MP3 players, and other sound devices requiring earphones are prohibited during working hours.

10.8.1.6 The Contractor will provide warning signs, flagger(s), and other safety and health precautions that may become necessary or required for protection of Work or for protection of the public, Owner's

personnel, and construction personnel, including Owner's and Architect's or Engineer's Representatives engaged on the Project. State of Oregon Workmen's Compensation Board Safety Codes for Construction Work and Federal Safety Codes, form a part of these Specifications.

10.8.2 Access to Metro Project Site. Contractor and Subcontractors will comply with the following requirements:

10.8.2.1 Locations for access to the Project Site by Contractor and Subcontractors shall be approved by the Project Manager.

10.8.2.2 The Contractor's representatives must always be on the premises when Subcontractors are working. Identification will be issued and worn for General Contractor's representatives.

10.8.2.3 The Contractor will keep a log of all Subcontractors that are working on-site each day. Subcontractors must always sign in with the Contractor and wear identification issued by the Contractor.

10.8.2.4 Construction on the Project Site is limited to 7 am to 5 pm, Monday through Friday, unless Work at other times is approved in advance by the Project Manager.

10.8.2.5 When Contractor needs access throughout the day to an area that is normally secured and inaccessible to visitors, the Project Manager will provide "contractor locks" and keys, and Contractor must keep said areas secure.

10.8.2.6 Contractor will ensure that all of its and Subcontractors' officers, employees, and agents are aware of and comply with the access requirements in this Section 10.8.2.

10.8.3 Site Protection/Safety.

10.8.3.1 The Project Site may be in operation and open to the public during construction of the Work. Construction Work in and around Owner's buildings occupied by Metro personnel or frequented by the public shall be conducted in such a manner as to permit such operation without jeopardy and with the absolute minimum of inconvenience to occupants and the public.

10.8.3.2 Metro may restrict hours of work to accommodate Metro activities or special events.

10.8.3.3 Construction Work that requires coordination with Metro staff activities will be planned in advance with the Project Manager. A meeting will be held with Metro staff to identify a plan for the activity.

10.8.3.4 The Contractor will take every precaution to minimize noise, spreading of dust and debris, causing undue vibrations or impacts, and other nuisances. The Contractor shall do no structural or other damage to any in-place improvements.

10.8.3.5 Metro-owned tools, vehicles, and other equipment may not be used at any time.

10.8.3.5.1 Tree/Vegetation Protection. The Contractor shall comply with the local government regulations applicable to the Project, and shall consult with the Project Manager prior to doing work that could impact the health of a tree or vegetation not scheduled for removal by contract documents.

10.8.4 Personnel and Subcontractors.

10.8.4.1 Smoking is prohibited in all areas of the Project Site except in designated smoking areas. Contractor and Project Manager to determine a designated smoking area.

10.8.5 Prejudicial remarks, actions, slurs, and jokes in the workplace that are offensive to people relative to their race, color, religion, national origin, sex, age, marital status, veteran status, disability, or sexual orientation are strictly prohibited. Sexual harassment is strictly prohibited. Contractors are expected to use a reasonable person's standard of good judgment in their working relationships. No person shall be subjected to deliberate or repeated unsolicited verbal comments, gestures, or physical contact of a sexual nature, or that which is offensive, hostile, or intimidating.

10.8.6 Restrictions:

10.8.6.1 Contractors are not allowed to bring the following items onto the Project Site:

10.8.6.1.1 Weapons

10.8.6.1.2 Alcohol, narcotics

10.8.6.1.3 Skates/Skateboards/Rollerblades/Wheelies

10.8.6.1.4 Bicycles (if a Contractor employee is commuting to the Project Site

via bicycle, arrangements can be made for appropriate parking and use).

10.8.6.1.5 Pets

10.8.7 Prohibited Conduct:

10.8.7.1 The following conduct is strictly prohibited and will result in the immediate ejection of the offending Contractor employee or Subcontractor from Project Site premises:

- 10.8.7.1.1 Possessing, using, transferring, offering, or being under the influence of any intoxicants or narcotics during working hours.
- 10.8.7.1.2 Willful deceit, gross negligence, or theft, including of personal or public property.
- 10.8.7.1.3 Neglect of duty, violation of Metro ordinances, regulations, and directives.
- 10.8.7.1.4 Willful or repeated negligent violation of established safety policies and procedures.
- 10.8.7.1.5 Possessing a firearm, illegal weapons, fireworks, or explosive device on Metro property
- 10.8.7.1.6 Harassment, discourteous treatment of any kind, or discrimination to staff, volunteers, or members of the public. Obscenities, profanity, yelling, shouting, abusive, or maligning tone of voice and/or language is considered discourteous and is prohibited.
- 10.8.7.1.7 Misuse of Metro property.

ARTICLE 11 INDEMNIFICATION

11.1 Indemnification.

11.1.1 Contractor shall assume all responsibility for the Work and shall bear all losses and damages directly or indirectly resulting to Contractor, Metro, Architect, Engineer, their officers, agents, and employees, or to others on account of the character or performance of the Work or accidents.

11.1.2 Contractor shall defend, indemnify, and hold harmless Metro, its officers, agents, and employees from all claims, liability, loss, damage, consequential or otherwise, and injury of every kind, nature, and description, directly or indirectly resulting from activities in the performance of the Contract, the ownership, maintenance, or use of motor vehicles in connection therewith, or the acts, omissions, operations, or conduct of Contractor or any Subcontractor or Supplier under the Contract in any way arising out of the Contract, irrespective of whether fault is the basis of the liability or claim.

11.1.3 Any specific duty or liability imposed or assumed by Contractor, as may be otherwise set forth in the Contract Documents, shall not be construed as a limitation or restriction of the general liability or duty imposed upon Contractor by this Section.

11.1.4 Such liabilities and losses from which Contractor shall indemnify and hold harmless the above-described indemnities shall include but not be limited to:

11.1.4.1 Special activities by Metro to verify and/or expedite delivery of materials and those losses incurred by Metro as a result of any delays to Other Metro Contractors resulting from acts of Contractor or its failure to act.

11.1.4.2 Acceleration payments to Other Metro Contractors on the Project or related projects resulting from Contractor falling behind the Construction Schedule for causes not entitling it to an extension of Contract Time under any provisions of the Contract Documents that cause other Metro Contractors to fall behind the Construction Schedule so that they must then accelerate the performance of the Work, as directed by Metro, in order to maintain progress.

11.1.4.3 Violations of the ordinances or regulations of Metro, any federal, state, county, or city laws or order of any properly constituted authority in any manner affecting this Contract, in addition to any laws or regulations that might affect this Contract.

11.1.5 Any and all suits, actions, damages, or claims of every name and description to which the above-indemnified may be subjected or put by reason of injury to persons or property arising out of, in connection with, or incident to the execution of the Work, or resulting from acts or omissions on the part of Contractor, its Subcontractors, officers, employees, or agents, and all attorney fees and court costs incident thereto.

11.1.6 No indemnification provided by the Contractor under this Article 11 or insurance provided under Article 12 will be required to indemnify Metro or its employees or agents to the extent of liability for death or bodily injury to persons or damage to property caused in whole or in part by their own negligence, but will require indemnity to the extent of the fault of the Contractor or those entities or persons for whom the Contractor is responsible.

ARTICLE 12 INSURANCE

12.1 General Insurance Requirement. The Contractor will purchase from and maintain in a company or companies lawfully authorized to do business in the State of Oregon such insurance as will protect the Contractor from claims set forth below that may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- 12.1.1 Claims under workers' compensation, disability benefit, and other similar employee benefit acts that are applicable to the Work to be performed;
- 12.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- 12.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- 12.1.4 Claims for damages insured by usual personal injury liability coverage and commercial general liability coverage (or its equivalent as approved in advance by the Owner);
- 12.1.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- 12.1.6 Claims for damages because of bodily injury, death of a person, or property damage arising out of ownership, maintenance, or use of a motor vehicle;
- 12.1.7 Claims for bodily injury or property damage arising out of completed operations;
- 12.1.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Article 12 of the General Conditions;
- 12.1.9 Claims for third-party injury and property damage (including without limitation clean-up costs) as a result of pollution conditions arising from the Contractor's operations or completed operations; and
- 12.1.10 Claims involving the Contractor's professional liability, solely to the extent that the Contractor accepts design or design/build responsibilities under the Contract.

12.2 Required Coverage. Without waiver of any other requirement of the Contract Documents, the Contractor will provide, pay for, and maintain in full force and effect at all times during the performance of the Work until final acceptance of the Work or for such further duration as required, the following policies of insurance issued by a responsible carrier. All of the Contractor's insurance carriers will be rated A VII or better by A.M. Best's rating service, unless otherwise approved by the Owner.

- 12.2.1 Workers' Compensation: Workers' compensation coverage sufficient to meet statutory liability limits.
- 12.2.2 Employer's Liability: The Contractor will purchase and maintain employer's liability insurance in addition to its workers' compensation coverage with at least the minimum limits in Section I.C below.
- 12.2.3 Commercial General Liability: The Contractor will purchase and maintain commercial general liability ("CGL") insurance on an occurrence basis, written on ISO Form CG 0001 (12/04 or later) or an equivalent form approved in advance by the Owner. CGL coverage will include all major coverage categories including bodily injury, property damage, and products/completed operations coverage maintained for at least six years following final payment. The CGL insurance will also include the following: (a) separation of insured; (b) incidental medical malpractice; and (c) per-project aggregate for premises operations.
- 12.2.4 Professional Liability/Errors and Omissions: To the extent that the Contractor accepts design or design/build responsibilities, the Contractor will purchase and maintain professional liability/errors and omissions insurance and cause those Subcontractors providing design services do so.
- 12.2.5 Automobile Liability: The Contractor will purchase and maintain automobile liability insurance with coverage for owned, hired, and non-owned vehicles on ISO form CA 00 01 or an equivalent form approved in advance by the Owner. The automobile liability insurance will include pollution liability coverage resulting from vehicle overturn and collision.
- 12.2.6 Pollution Liability: The Contractor will purchase a contractors' pollution liability policy. Coverage will include third-party claims for bodily injury, property damage, and environmental damage resulting from pollution conditions caused during the performance of covered operations for both on-site and migrating from the job site. Such coverage will include pollution conditions arising from covered operations including work performed by its Subcontractors and third-party claims against the Contractor alleging improper supervision of its Subcontractors.

12.2.7 **Commercial Umbrella/Excess Coverage:** The Contractor will purchase or maintain a commercial umbrella or excess liability policy to meet the minimum limits as described below in Section I.C. Commercial umbrella/excess liability coverage will include: (a) "Pay on behalf of" wording; (b) concurrency of effective dates with primary coverage; (c) punitive damages coverage (where not prohibited by law); (d) application of aggregate (where applicable) in primary coverage; (e) "care, custody, and control" coverage that follows the form for primary coverage; and (f) drop-down feature. Excess/umbrella coverage will be scheduled to the CGL, employer's liability, and automobile liability policies.

12.3 Limits. The insurance required by this Article 12 will be written for at least the limits of liability specified in this Section or required by law, whichever is greatest.

12.3.1	<u>Workers' Compensation</u>	Statutory Limits
12.3.2	<u>Employer's Liability</u>	
12.3.2.1	Each Accident	\$1,000,000
12.3.2.2	Each Bodily Injury/Disease	\$1,000,000
12.3.2.3	Aggregate Bodily Injury/Disease.....	\$1,000,000
12.3.3	<u>Commercial General Liability</u>	
12.3.3.1	Each Occurrence	\$2,000,000
12.3.3.2	General Aggregate.....	\$2,000,000
12.3.3.3	Product/Completed Operations	\$2,000,000
12.3.3.4	Personal & Advertising Injury.....	\$2,000,000
12.3.3.5	Fire Damage Limit.....	\$2,000,000
12.3.3.6	Medical Expense Limit.....	\$2,000,000
12.3.4	<u>Automobile Liability</u>	
12.3.4.1	Combined Single Limit.....	\$2,000,000
12.3.5	<u>Pollution Liability</u>	
12.3.5.1	Single Limit	\$2,000,000
12.3.5.2	Aggregate	\$2,000,000
12.3.6	<u>Commercial Umbrella/Excess Coverage</u>	
12.3.6.1	Each Occurrence Alternates: Min. \$2,000,000/\$5,000,000/\$10,000,000	

12.4 Additional Insureds. The Contractor's third-party liability insurance policies will include the Owner and its officers, employees, agents, volunteers, partners, successors, and assigns as additional insureds. The policy endorsement must extend premise operations and products/completed operations to the additional insureds. The additional insured endorsement for the CGL insurance must be written on ISO Form CG 2010 (11/85), a CG 2037 (07/04) together with CG 2033 (07/04), or the equivalent, but will not use the following forms: CG 20 10 (10 93) or CG 20 10 (03 94).

12.5 Joint Venture. If the Contractor is a joint venture, the joint venture will be a named insured for the liability insurance policies.

12.6 Primary Coverage. The Contractor's insurance will be primary insurance coverage and may not seek contribution from any insurance or self-insurance carried by the Owner or the Architect or Engineer, including any property damage coverage carried by the Owner. Contractor's insurance will apply separately to each insured against whom a claim is made or suit is brought. The Contractor's insurance will not include any cross-suit exclusion or preclude an additional insured party from asserting a claim as a third party.

12.7 Contractor's Failure to Maintain Insurance. If for any reason the Contractor fails to maintain required insurance coverage, such failure will be deemed a material breach of the Contract and the Owner, at its sole discretion, may suspend or terminate the Contract for cause pursuant to Article 15 of this Contract. The Owner may, but has no obligation to, purchase such required insurance, and without further notice to the Contractor, the Owner may deduct from the Contract Sum any premium costs advanced by the Owner for such insurance. Failure to maintain the insurance coverage required by this Article 12 will not waive the Contractor's obligations to the Owner.

12.8 Certificates of Insurance. The Contractor will supply to the Owner Certificates of Insurance for the insurance policies described in this Article 12 prior to the commencement of the Work and before bringing any equipment or construction personnel onto the Project site. Contractor shall email Certificate of Insurance to submitdocuments@oregonmetro.gov.

12.8.1 **Additional Certificates.** To the extent that the Contractor's insurance coverages are required to remain in force after final payment and are reasonably available, an additional certificate evidencing continuation of such coverage will be submitted with the final application for payment. Information concerning reduction of coverage

because of revised limits or claims paid under the general aggregate, or both, will be furnished by the Contractor with reasonable promptness in accordance with the Contractor's information and belief.

12.8.2 Prohibition Until Certificates Received. The Owner will have the right, but not the obligation, to prohibit the Contractor and its Subcontractors from entering the Project site until the required certificates (or other competent evidence that insurance has been obtained in complete compliance with this Article 12) are received and approved by the Owner.

12.8.3 Deductibles/Self-Insured Retentions: Payment of deductibles or self-insured retention is a Cost of the Work and does not justify a Change Order. Satisfaction of all self-insured retentions or deductibles will be the sole responsibility of the Contractor.

12.9 Subcontractor Insurance. The Contractor will cause each Subcontractor to purchase and maintain in full force and effect policies of insurance as specified in this Article 12, except that the coverage limits shall be at least \$1,000,000 combined single limit for each occurrence and in the aggregate. The Contractor will be responsible for the Subcontractors' coverage if the Subcontractors fail to purchase and maintain the required insurance. When requested by the Owner, the Contractor will furnish copies of Certificates of Insurance establishing coverage for each Subcontractor.

12.10 Limitations on Coverage.

12.10.1 No insurance provided by the Contractor under this Article 12 will be required to indemnify the Owner, the Architect or Engineer, or their employees or agents to the extent of liability for death or bodily injury to persons or damage to property caused in whole or in part by their own negligence, but will require indemnity to the extent of the fault of the Contractor or its agents, representatives, or Subcontractors.

12.10.2 The obligations of the Contractor under this Article 12 will not extend to the liability of the Architect or Engineer or its consultants for (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs, or specifications; or (b) the giving or failure to give directions or instructions to the extent that the directions, or failure to provide directions, are the cause of the injury or damage.

12.10.3 By requiring insurance, the Owner does not represent that coverage and limits will necessarily be adequate to protect the Contractor. Insurance in effect or procured by the Contractor will not reduce or limit the Contractor's contractual obligations to indemnify and defend the Owner for claims or suits that result from or are connected with the performance of the Contract.

12.11 Property Insurance

12.11.1 Builders Risk. Contractor, for the life of this Contract, shall effect and maintain Builders All Risk Insurance and fire insurance with extended coverage and malicious mischief coverage upon the structures on which the Work of this Contract is to be done to 100 percent (100%) of the insurable value thereof, protecting (1) Owner's interest; (2) Contractor's interest; and (3) the Subcontractor's interest in the Work. Contractor's interest and Subcontractor's interest, as used herein, means their property interests and the property interests of others for which they are responsible in the Project, in all materials and supplies entering into or used or destined for use therein, and in all expendable items of equipment that are used in or are incidental to but that do not become a part of the finished Project, located at the job Site at the time of loss or damage. Such insurance shall not exclude coverage for landslides, collapse, explosion, or loss due to the result of faulty workmanship. Such insurance will include coverage for soft costs or delay in opening.

12.11.1.1 Contractor and all Subcontractors shall be responsible for any loss or damage to their machinery and apparatus and nonexpendable items of their equipment.

12.11.1.2 Contractor shall provide adequate fire protection equipment and safeguards to protect Metro and Contractor's interests in accordance with Metro's insurance carrier's requirements.

12.11.1.3 Contractor will furnish copies of Certificates of Insurance establishing coverage prior to project start.

12.11.2 Contractor's Responsibility. Contractor must provide insurance for its own machinery, tools, equipment, or supplies that are not to become a part of the Project.

ARTICLE 13

MINORITY/WOMEN/EMERGING SMALL BUSINESS PROGRAM

13.1 Contractor shall comply with all pertinent provisions of Metro's MWESB Business Program that are contained in Metro Code 2.04.100 to 2.04.190 and that are by this reference expressly incorporated herein and made a part of this Contract.

13.2 Contractor shall not replace a minority, women-owned or emerging small business enterprise Subcontractor with another Subcontractor, either before Contract Award or during Contract performance, without prior

written approval of Metro. In replacing a minority, women-owned or emerging small business Subcontractor, Contractor shall replace such minority, women-owned or emerging small business Subcontractor with another certified minority, women-owned or emerging small business Subcontractor or make good faith efforts to do so. Failure to do so shall constitute Contractor's default of this Contract, and Metro, at its option, may terminate this Contract under the procedures set out in Article 15.

13.3 Metro reserves the right, at all times during the period of this Contract, to monitor Contractor's compliance with the terms of the MWESB Business Program and enforce the program if Contractor should fail to so comply. Contractor shall be bound by any and all representations made concerning its compliance with the program prior to Contract Award and any and all representations made by Contractor concerning the replacement of a minority or women-owned business Subcontractor during the performance of this Contract.

13.4 MWESB Participation in the Contract.

13.4.1 It is Metro's policy that Contractor shall take reasonable steps to ensure that Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Emerging Small Businesses (ESB) have the opportunity to participate in the Work.

13.4.2 Termination and Substitution of MWESB. The Contractor shall notify Metro in writing and confer with Metro before terminating or replacing a MWESB that has a signed contract with the Contractor.

13.4.3 Changes in Work Committed to MWESB. Metro will consider the impact on MWESB participation in instances where Metro changes, reduces, or deletes Work contracted to MWESB firms at the time of Contract Award. In such instances, the Contractor shall not be required to replace the Work but is encouraged to do so. If the Contractor proposes any changes that involve a contracted MWESB, the Contractor shall notify the MWESB of the proposed change, reduction, or deletion of any Work committed at the time of Contract Award prior to executing the Change Order. The Contractor can choose to enable the affected MWESB to participate in the Change Order request and is requested to make every effort to maintain the contracted MWESB percentage.

13.4.4 Contractor Payments to Subcontractors. The Contractor shall maintain records of all subcontracts entered into with MWESB firms and records of materials purchased from MWESB suppliers. Such records shall show the name and business address of each MWESB subcontractor or vendor and the total dollar amount actually paid to each MWESB subcontractor or vendor. The Contractor shall pay each subcontractor for satisfactory performance of its contract no later than ten (10) Calendar Days from receipt of each payment the Contractor receives from Metro. The Contractor shall also return Retainage payments to each subcontractor within ten (10) Calendar Days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above-referenced time frame may occur only for good cause following written approval of the Metro Project Manager. The Contractor shall submit a completed, signed original "Metro Monthly Subcontractor Payment and Utilization Report," available from Metro. The Contractor shall submit the form when a progress or final payment has been made to each subcontractor or supplier or when any held retainage is returned to a subcontractor or supplier. Contractor shall submit the form no later than the fifth day of each month. At the completion of the Project, Contractors shall submit a final form indicating the total amounts paid to all subcontractors and suppliers.

ARTICLE 14

MISCELLANEOUS STATUTORY RESPONSIBILITIES OF CONTRACTOR

Contractor shall keep itself fully informed of and shall fully comply with all federal, state, regional, and local laws, rules, regulations, ordinances, and orders pertaining in any manner to this Contract and those rules, regulations, and orders of any agency or authority having jurisdiction over the Work or those persons employed or engaged therein. Contractor shall pay all taxes, including federal, state, regional, county, and city, or taxes of any other governmental entity applicable to the Work performed or materials provided under this Contract.

ARTICLE 15

TERMINATION OR SUSPENSION OF THE WORK

15.1 Default of Contractor.

15.1.1 If Contractor should be adjudged bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of insolvency, or if Contractor should refuse to or fail to supply enough properly skilled workers or proper materials for the efficient prosecution of the Work, disregard laws, ordinances, or the instructions of Metro, or otherwise be in violation of any provision of the Contract, Metro may, without prejudice to any other right or remedy and after giving Contractor and Contractor's surety on the Performance Bond prior written notice, terminate the Contract or any portion of the Contract, which termination shall be effective ten (10) days after service of such notice. Such notice shall contain the reasons for the termination and shall

state that unless, within ten (10) calendar days of service of the termination notice on Contractor, Contractor or its surety on the Performance Bond shall have cured or shall have made, in Metro's opinion, appropriate arrangements for prompt cure of all of the cause(s) for termination cited in the notice of termination, the Contract shall terminate.

15.1.2 Upon termination, Metro may take possession of the premises and of all materials, tools, and appliances thereon, as well as all other materials whether on the premises or not, for which Contractor has received partial payment, and may finish the Work or the portion terminated by whatever method it may deem expedient.

15.1.3 In the event action as above indicated is taken by Metro, Contractor or Contractor's surety shall provide Metro with immediate and peaceful possession of all of the materials, tools, and appliances located on the premises, as well as all other materials whether on the premises or not, for which Contractor has received any progress payment. Upon termination, in the event that the surety does not complete the Contract, at the election of Metro, Contractor shall assign any and all subcontracts and material contracts to Metro or Metro's designee. Further, Contractor shall not be entitled to receive any further payment until the Work is completed. On completion of the Work, determination shall be made by Metro of the total amount Contractor would have been entitled to receive for the Work under the terms of the Contract had Contractor completed the Work. If the difference between said total amount and the sum of all amounts previously paid to Contractor, which difference will hereinafter be called the "unpaid balance," exceeds the expense incurred by Metro in completing the Work, including expense for additional managerial and administrative service, and all other costs, damages, and expenses incurred by Metro due to Contractor's failure to complete the Contract, such excess will be paid to Contractor, with the consent of the surety. If, instead, the described expenses incurred by Metro exceed the unpaid balance, the amount of the excess shall be paid to Metro by Contractor or its surety. If only a portion of the Contract is terminated, this Section shall be deemed to apply to that portion of the Work only.

15.1.4 In addition to the above-mentioned right, Metro shall have the right, at its option, to suspend all or part of Contractor's performance under the Contract should any of the events occur that give Metro the right to terminate the Contract as above described. In such event, Metro shall give Contractor and Contractor's surety prior written notice of such suspension and Contractor shall stop or cause to stop all such Work under the Contract immediately on receipt of such notice and shall not commence such Work under the Contract again unless and until Contractor shall receive written notice from Metro to proceed. Metro shall not be responsible or liable to Contractor or others for any costs or expenses of whatever nature related to Contractor's failure to stop Work as directed by Metro.

15.1.5 After receipt of a notice of termination or suspension, and except as otherwise directed by Metro, Contractor shall as it relates to those portions of the Contract terminated or suspended:

15.1.5.1 Stop Work under the Contract on the date and to the extent specified in the notice of termination or suspension.

15.1.5.2 Place no further orders or subcontracts, or suspend the same, as applicable, for materials, services, or facilities except as necessary to complete the portion of the Work under the Contract that is not terminated or suspended.

15.1.5.3 Terminate or suspend, as applicable, all orders and subcontracts to the extent that they relate to the performance of such Work terminated or suspended.

15.1.6 Metro may, at its discretion, avail itself of any or all of the above rights or remedies and its invoking of any one of the above rights or remedies will not prejudice or preclude Metro from subsequently invoking any other right or remedy set forth above or elsewhere in the Contract.

15.1.7 None of the foregoing provisions shall be construed to require Metro to complete the Work nor to waive or in any way limit or modify the provisions of the Contract relating to the fixed and liquidated damages suffered by Metro on account of failure to complete the Project within the time prescribed.

15.2 Termination in the Public Interest.

15.2.1 Metro may unilaterally terminate the Contract in whole or in part for convenience, when Metro determines it to be in the public interest.

15.2.2 When Metro decides to terminate a Contract for convenience, Metro will notify the Contractor and its sureties in writing of its intention to terminate the Contractor's right to proceed with the Work no less than seven (7) days in advance of the date of the actual termination. The date of termination, which is the date after which no Work is to be performed, must be stated in the notice. Notice will be deemed to have been given if sent to the Contractor's or any surety's last known address provided to Metro by the Contractor and its sureties. For purposes of computing time in this Section, the first day counted is the day that the notice is mailed by Metro.

15.2.3 After receipt of a notice of termination, and except as directed by Metro, the Contractor will immediately proceed with the following obligations:

15.2.3.1 Stop Work by the date as specified in the notice;

15.2.3.2 Award no further subcontracts and place no further orders for materials, services, or facilities, except as necessary to complete the continued portion of the Contract, if any;

15.2.3.3 Terminate all Subcontractors and orders to the extent that they relate to the Work terminated;

15.2.3.4 Assign to Metro, if directed by Project Manager, all right, title, and interest of the Contractor under the subcontracts terminated, in which case Metro will have the right to settle or to pay any termination settlement proposals arising out of those terminations;

15.2.3.5 With approval or ratification to the extent required by Metro, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause;

15.2.3.6 As directed by Metro, transfer title and deliver to Metro (a) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other materials produced or acquired for the Work terminated, and (b) the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to Metro;

15.2.3.7 Take any actions that may be necessary, or that Project Manager may direct, for the protection and preservation of the property related to this Contract that is in the possession of the Contractor and in which Metro has or may acquire an interest; and

15.2.3.8 Use its best efforts to sell, as directed or authorized by Project Manager, any property of the type referred to in Section 14.2.3.6 above, except that the Contractor (a) is not required to extend credit to any purchaser and (b) may acquire the property under the conditions prescribed by, and at prices approved by, the Project Manager. The process of any transfer or disposition will be applied to reduce any payments to be made by Metro under this Contract, credited to the price or cost of the Work, or paid in any other manner directed by Project Manager.

15.2.4 Upon termination, Metro will pay the Contractor the following costs, and no other, as a result of the termination:

15.2.4.1 With regard to the Contract Work performed before the effective date of termination, the total (without duplication of any items) of the following costs:

15.2.4.1.1 The cost of this Work, as determined by the method of payment established by the Contract Documents;

15.2.4.1.2 The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the Contract if such costs are not included in Section 14.2.3.4; and

15.2.4.1.3 A sum as profit on Section 14.2.4.1.1 above, not to exceed ten percent of that amount, unless it appears that the Contractor would have sustained a loss on the entire Contract had it been completed. No profit, however, is permitted on costs compensated under Section 14.2.4.1.2.

15.2.4.2 The reasonable costs of settlement of the Work terminated, including:

15.2.4.2.1 Accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data, except that no allowance will be made for costs incurred as attorney fees;

15.2.4.2.2 The termination and settlement of Subcontractors (excluding the amounts of such settlements); and

15.2.4.2.3 Storage, transportation, and other costs incurred reasonably necessary for the preservation, protection, or disposition of the termination inventory.

15.2.5 No costs other than those allowed in Section 14.2.4 are to be paid. By way of example only, and not by way of limitation, costs that would not be allowed include anticipated profits on unperformed Work, consequential damages, post-termination overhead, Bid or Proposal preparation costs, costs for retraining employees, depreciation on idle equipment, cost of common items reasonably usable on the Contractor's other work, and costs unrelated to the Work performed prior to the date of termination.

15.2.6 Metro may deduct from any sums otherwise due the Contractor under Section 14.2.4 above the cost of advance payments made to the Contractor under the terminated portion of this Contract, any claim that Metro has against the Contractor whether or not arising from this Contract, and the agreed price of, or proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provision of Section 14.2.3.8 and not recovered by or credited to Metro.

15.2.7 Payment from Metro is not due until the Contractor has submitted an itemization of its recoverable costs to Metro in writing, together with supporting documentation. The Contractor will supply additional supporting documentation on request by Metro in order to recover its costs.

15.2.8 The Contractor will maintain all records and documents relating to the termination until Metro and the Contractor resolve the amount of costs to be paid by Metro to the Contractor as a result of this termination. Such records must be made available to Metro within thirty (30) days of the request.

END OF SECTION

METRO GENERAL CONDITIONS - EXHIBIT 1
WARRANTY FORM

We the undersigned hereby warrant that the [DESCRIBE WORK PERFORMED OR MATERIALS SUPPLIED].that we have provided for [INSERT PROJECT NAME] has been done in accordance with the Contract Documents and that the Work as provided will fulfill the requirements of the warranty included in Article 7 of the Metro General Conditions.

We agree to correct or remove and replace any or all of our Work, together with any other adjacent Work that may be displaced or affected by so doing, that may be defective in its workmanship or materials, or that may fail to conform to the requirements of the Contract Documents, within a period of one (1) year following the later of the date of substantial completion or the date described in Section 7.7 of the Metro General Conditions, without any expense whatsoever to Metro, normal wear and tear and mistreatment excepted.

In the event of our failure to comply with the above-mentioned conditions within twenty (20) calendar days after Metro notifies Contractor in writing, we collectively and separately do hereby authorize Metro to proceed to have said defects repaired and corrected at our expense, and we will honor and pay the costs to dispose of nonconforming materials and charges therefore upon demand. If Metro is required to enforce payment, it shall be entitled to recover its costs and reasonable attorney fees.

CONTRACTOR

By _____
Print Name _____
Date _____

SUBCONTRACTOR

By _____
Print Name _____
Date _____

Construction Agreement



METRO CONTRACT NO. XXXXXX

METRO GENERAL CONDITIONS - EXHIBIT 2

SUBCONTRACTOR ASSIGNMENT OF ANTITRUST CLAIMS

Project: _____

Owner: Metro _____

General Contractor: _____

Subcontractor: _____

Release Date: _____

1. By entering into a contract with the General Contractor, subcontractor, for consideration paid to subcontractor under the subcontract, does irrevocably assign to Metro any claim for relief or cause of action that subcontractor now has or that may accrue to Subcontractor in the future, including at Metro's option, the right to control any such litigation on such claim for relief or cause of action, by reason of any violation of 15 USC Section 1 15, ORS 646.725, or ORS 646.730 in connection with any goods or services that are used, in whole or in part, for the purpose of carrying out subcontractor's obligations under its subcontract with the General Contractor.

2. Subcontractors irrevocably assigns to Metro, as a third-Party beneficiary of the subcontract, any right, title, or interest that has accrued or may accrue to the Subcontractor by reason of any violation of 15 USC Section 1 15, ORS 646.725, or ORS 646.730, including, at Metro's option, the rights to control any litigation arising hereunder, in connection with any goods or services provided to the Subcontractors or Suppliers by any person, in whole or in part, for the purpose of carrying out the Subcontractor's obligations as agreed to by Subcontractor in pursuance of the completion of the Contract .

3. It is an express obligation of Subcontractor that it will take no action that will in any way diminish the value of the rights conveyed or assigned hereunder to Metro. It is an express obligation of Subcontractor to advise the Office of Metro Attorney:

a. In advance, of its intention to commence any action on its own behalf regarding such claims for relief or causes of action;

b. Immediately, upon becoming aware of the fact that an action has been commenced on its own behalf by some other person or persons, of the imminency of such action; and

c. the date on which it notified the obligor(s) of any such claims for relief or causes of action of the fact of its assignment to Metro.

4. In the event that any payment under any such claim is made to Subcontractor, it shall promptly pay over to Metro its proportionate share thereof, if any, assigned to Metro herein.

SUBCONTRACTOR

By _____

Print Name _____

Date _____

METRO GENERAL CONDITIONS - EXHIBIT 3

AFFIDAVIT, AGREEMENT FOR INDEMNITY, LIEN WAIVER AND RELEASE

(General Contractor – Progress Payment)

This AFFIDAVIT, AGREEMENT FOR INDEMNITY, LIEN WAIVER AND RELEASE is entered into _____, by and between Metro, a Metropolitan Service District established pursuant to Oregon law and the Metro Charter (“Metro”) and _____, (the “Undersigned”) in accord with Metro Contract No. _____, dated _____, between Metro and the Undersigned for construction of _____ (the “Contract”). As a condition precedent to Metro’s Progress Payment No. _____ under the Contract in the amount of \$ _____, and in consideration thereof, the Undersigned agrees to make the following representations, warranties, covenants, agreements, and indemnities, and to fully and completely waive, release, and discharge Metro from all liabilities, obligations, and claims arising under the Contract, as follows:

1. The Undersigned hereby certifies, represents, and warrants as follows:

1.1 It has supplied labor, services, equipment, materials, and materials provided or transported to the construction of the _____ as General Contractor under the Contract (the “Project”), and has subcontracted with other persons and entities to so provide.

1.2 It has complied with all federal, state, and local laws, including social security laws, unemployment compensation laws, workers’ compensation laws, and tax laws, insofar as applicable to the performance of the Contract work, and has paid all federal, state, and local taxes including excise, use, sales, and withholding taxes.

1.3 All subcontractors, laborers, service providers, equipment suppliers and material suppliers, and transporters for work, services, equipment, or materials supplied to the Project or to the Undersigned and used in the Project have been paid in full by the Undersigned through the period covered by previous progress payments made by Metro.

1.4 It either has paid in full, or within ten (10) business days of receipt of the above set forth Progress Payment, will pay in full all subcontractors, laborers, service providers, equipment suppliers and material suppliers, and transporters for work, services, equipment, or materials supplied to the Project or to the Undersigned connected with or used in the Project, through the period covered by said progress payment made by Metro.

1.5 It has delivered to Metro written releases of all rights to file claims on any bonds in connection with the Contract, signed by each subcontractor, service provider, and supplier who performed work or services, or furnished or transported materials or equipment in connection with the Contract, in accord with Article 9 of the Metro General Conditions to the Contract.

2. The Undersigned acknowledges and agrees that Progress Payments made by Metro up to the date hereof, in the sum of _____, plus Progress Payment No. _____, when paid, constitute payment in full of all amounts due to Undersigned for all labor, services, equipment, and materials provided or transported in connection with the Project up to and through _____, _____, as set forth in the Undersigned’s payment application No. _____. The Undersigned agrees that, ***upon receipt of the above set forth progress payment***, which is the full payment due and owing to Undersigned up to and through the date set forth in section 2, Undersigned will be paid in full for all labor (including contributions and benefits), services, equipment, supplies, and materials provided or transported in connection with the Project without exceptions, and that there are no other unsettled claims or demands therefore. The Undersigned agrees that, ***conditioned upon receipt of Payment of the above set forth progress payment***, and in consideration thereof, the Undersigned hereby fully and unconditionally waives and releases Metro from all liability for payment, liens or claims of lien, rights to lien, bond claim rights, and any other claim for payment it now has or asserts or may have or assert for labor, services, equipment, materials, and materials provided or transported in connection with the Project through and up to said date, and further releases Metro, the Project land and improvements from any claim, cause of action, or demand whatsoever, arising out of or relating to the Project that arose on or before said date.

3. The Undersigned hereby agrees to promptly pay and obtain a release of claims on any bonds that may in the future affect the Project, and defend, indemnify, and save Metro harmless from any liability or expense because of any claim on any bond or any other claim related to the work under the Contract through and up to the date set forth in section 2.

4. The affiant signing below does hereby swear and attest that he/she has the full authority to sign this document on behalf of the Undersigned and that Metro may rely on this Affidavit, Agreement for Lien Waiver and Release in connection with remitting Progress Payment No. _____ to Undersigned.

Dated: _____ Affiant: _____ Its: _____

STATE OF OREGON)
County of _____)

This instrument was acknowledged before me on _____ by _____ as _____
_____ of _____

Notary Public - State of Oregon

METRO GENERAL CONDITIONS - EXHIBIT 4

AFFIDAVIT, AGREEMENT FOR INDEMNITY, LIEN WAIVER AND RELEASE

(General Contractor – Final Closeout)

This AFFIDAVIT, AGREEMENT FOR INDEMNITY, LIEN WAIVER AND RELEASE is entered into _____, by and between Metro, a Metropolitan Service District established pursuant to Oregon law and the Metro Charter (“METRO”) _____, (the “Undersigned”) in accord with Metro Contract No. ____, dated _____, between Metro and the Undersigned for construction of the _____ (the “Contract”). As a condition precedent to Metro’s final payment under the Contract, in the amount of _____ (the “Final Payment”), and in consideration thereof, the Undersigned agrees to make the following representations, warranties, covenants, agreements and indemnities, and to fully and completely waive, release and discharge Metro from all liabilities, obligations, and claims arising under the Contract, as follows:

1. The Undersigned hereby certifies, represents and warrants as follows:
 - 1.1 It has supplied labor, services, equipment, materials or materials transported to the construction of the _____ as General Contractor under Metro Contract No. _____ (the “Project”), and has subcontracted with other persons and entities to so provide.
 - 1.2 It has complied with all federal, state and local laws, including social security laws, unemployment compensation laws, workers’ compensation laws, and tax laws, insofar as applicable to the performance of the Contract work, and has paid all federal, state and local taxes including excise, use, sales and withholding taxes.
 - 1.3 All subcontractors, laborers, service providers, equipment suppliers and material suppliers and transporters for work, services, equipment or materials supplied to the Project or to the Undersigned and used in the Project have been paid in full by the Undersigned through the period covered by previous progress payments made by Metro.
 - 1.4 It either has paid in full, or within ten (10) business days of receipt of the Final Payment, will pay in full all subcontractors, laborers, service providers, equipment suppliers and material suppliers and transporters for work, services, equipment or materials supplied to the Project or to the Undersigned connected with or used in the Project.
 - 1.5 It has delivered to Metro written releases of all rights to file claims on any bonds in connection with the Contract, signed by each subcontractor, service provider and supplier who performed work, services or furnished or transported materials or equipment in connection with the Contract, in accord with Article 9 of the General Conditions to the Contract.
2. The Undersigned covenants and agrees that progress payments made by Metro up to the date hereof, in the sum of \$_____, plus the Final Payment in the amount of _____, constitute full and final payment of all amounts due to Undersigned for all labor, services, equipment, and materials provided or transported in connection with the Project. The Undersigned agrees that, *conditioned upon receipt of the Final Payment*, and in consideration thereof, the Undersigned hereby fully and unconditionally waives, discharges and releases Metro from all liabilities, obligations and claims, including all liens, claims of lien, rights to lien, bond claim rights and any other claim for payment it now has or asserts or may have or assert for labor, services, equipment, materials provided or transported in connection with the Contract, and further releases Metro, the Project land and improvements from any claim, cause of action, or demand whatsoever arising out of or relating to the Project.
3. The Undersigned hereby agrees to defend, indemnify and hold Metro harmless from any liability or expense resulting from any claim on any bond or any other claim related to the Contract or work there under, in accord with Articles 9 and 1 of the General Conditions to the Contract.
4. The affiant signing below does hereby swear and attest that he/she has the full authority to sign this document on behalf of the Undersigned and that, *except for the Final Payment*, which is the full and final payment due and owing to Undersigned, that Undersigned has been paid in full for all labor (including contributions and benefits), services, equipment, supplies and materials provided or transported in connection with the Project without exceptions, and that there are no other unsettled claims or demands therefore. The Undersigned affiant further acknowledges that Metro may rely on this Affidavit, Agreement for Indemnity, Lien Waiver and Release in connection with remitting the Final Payment to Undersigned.

Dated: _____ Undersigned: _____
By: _____ Its: _____

STATE OF OREGON)
) ss.
County of _____)

This instrument was acknowledged before me on _____ by _____ as _____
_____ of _____

Notary Public - State of Oregon

Construction Agreement



METRO CONTRACT NO. XXXXXX

METRO GENERAL CONDITIONS - EXHIBIT 5

AFFIDAVIT, LIEN WAIVER AND RELEASE – CONDITIONAL FINAL

(Subcontractor - Closeout)

1. The undersigned, _____ (“Undersigned”), has provided labor, services, equipment, materials or materials transport to the construction of the improvements at _____ known as _____, as a Subcontractor to _____ (“Contractor”), Metro Contract No. _____ (the “Project”).

2. The Undersigned acknowledges and agrees that the sum of \$_____ constitutes full and final payment of all amounts due to Undersigned for all labor, services, equipment, and materials provided or transported in connection with the Project (the “Final Payment”). The Undersigned agrees that, **conditioned upon receipt of the Final Payment**, and in consideration thereof, the Undersigned hereby fully and unconditionally waives and releases all liens, claims of lien, rights to lien, bond claim rights and any other claim for payment it now has or asserts or may have or assert for labor, services, equipment, materials provided or transported in connection with the Project, and further releases Metro, the Project land and improvements, and the Contractor from any claim, cause of action, or demand whatsoever arising out of or relating to the Project.

3. The Undersigned hereby certifies as follows:

3.1 It has complied with all federal, state and local laws, including tax laws, social security laws, unemployment compensation laws and workers’ compensation laws, insofar is applicable to the performance of the subcontract work.

3.2 Its laborers, equipment suppliers and material suppliers have been fully paid through the period covered by previous progress payments made by Contractor except as explicitly noted in writing and attached hereto.

3.3 It either has paid in full, or within five (5) business days of receipt of the Final Payment, will pay in full for all labor, materials and equipment used in or furnished in connection with Project.

4. The affiant signing below does hereby swear and attest that he/she has the full authority to sign this document on behalf of the Undersigned and that, **conditioned upon receipt of the Final Payment**, which is the full and Final Payment due and owing to Undersigned, that Undersigned has been paid in full for all labor (including contributions and benefits), services, equipment, supplies and materials provided or transported in connection with the Project without exceptions, and that there are no other unsettled claims or demands therefore. The Undersigned affiant and further acknowledges that Metro and Contractor are relying on this Affidavit, Lien Waiver and Release in connection with processing the Final Payment.

Dated: _____ Undersigned | Subcontractor: _____
By: _____
Print Name: _____
Its: _____

STATE OF OREGON)
) ss.
County of Multnomah)

This instrument was acknowledged before me on _____ by _____ as _____ of _____.

Notary Public - State of Oregon

TEAM DIRECTORY

CLIENT ARCHITECT

OREGON CONVENTION CENTER
777 NE MLK Jr Blvd Portland, OR 97232
Tel: 503-7321-7872
Fax: 503-731-7806
Contact: Josh Lipscomb

YOST GRUBE HALL ARCHITECTURE
707 SW Washington St, Suite 1200 Portland, OR, 97205 USA
Tel: 503-221-0150
Fax: 503-295-0840
Contact: Nels Hall

CONSTRUCTION / DESIGN MANAGER MEP ENGINEER

OREGON METRO
600 NE Grand Ave Portland, OR 97232
Tel: 503-797-1929
Fax: 503-797-1795
Contact: Nancy Strening

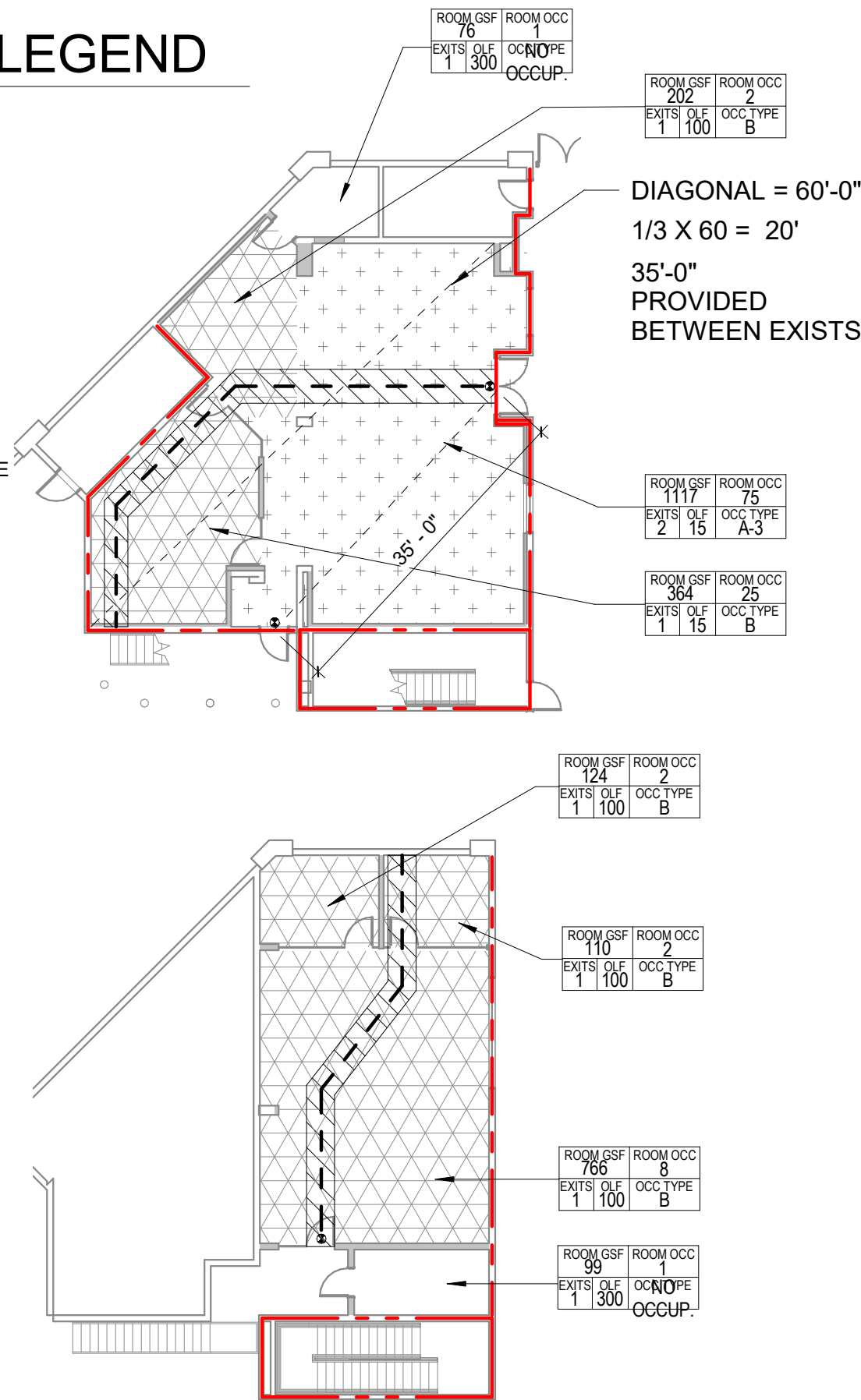
GLUMAC
900 SW Fifth Ave Suite 1600 Portland, OR 97204
Tel: 503-227-5280
Fax: 503-550-9286
Contact: Rem Wilson

CODE SUMMARY

CODES:		FIRE PROTECTION
BUILDING: OSSC 2014		100% SPRINKLERED
ELECT: OSSC 2014		FIRE/SMOKE DETECTION SYSTEM
MECH: OSSC 2014		SMOKE CONTROL SYSTEM
PLUMBING: OSSC 2014		NON-RATED, SMOKE TIGHT EXIT CORRIDORS
FIRE: OSSC 2014		
ENERGY: OSSC 2014		
OCCUPANCY TYPE(S): B/A-3		EGRESS
CONSTRUCTION TYPE: I-A		NUMBER OF REQUIRED EXITS: SEE EGRESS & OCC. PLANS (2 REQ'D IF OCC. LOAD IS OVER 50)
AREA		EXITS MUST BE SEPARATED BY MORE THAN A THIRD OF THE DIAGONAL
TENANT IMPROVEMENT: 3,000 SF		MAX DEAD END CORRIDOR = 50 FT.
OCCUPANT LOAD		DOORS MUST OPEN IN DIRECTION OF EGRESS IF OCCUPANT LOAD IS OVER 50
OCCUPANCY/LOAD FACTOR: B/100		
OCCUPANT LOAD: SEE EGRESS & OCC. PLANS		

OCCUPANCY PLAN LEGEND

- A-3
- B
- NO OCCUP.
- 1 HR. RATED SEPARATION
- 2 HR. RATED SEPARATION
- EXIT ACCESS TRAVEL DISTANCE
- PATH OF EGRESS 36" WIDE
- FIRE LIFE SAFETY TAG**
- ROOM SQ FT
- ROOM OCCUPANT LOAD
- ROOM OCCUPANT TYPE
- OCCUPANT LOAD FACTOR NUMBER OF EXITS REQ'D
- FIRE LIFE SAFETY SYMBOLS**
- EXIT SIGN
- FIRE EXTINGUISHER
- FIRE EXTINGUISHER CABINET
- OCCUPANT LOAD AT OPENING
- CUMMULATIVE OCCUPANT LOAD AT OPENING
- EXIT CAPACITY



EGRESS NOTES

EXIT SIGNAGE: EXIT SIGNAGE SHALL COMPLY WITH IBC CHAPTER 10, SECTION 1011

EGRESS LIGHTING: EMERGENCY EGRESS LIGHTING SHALL COMPLY WITH IBC CHAPTER 10, SECTION 1006.2 ALONG ALL EGRESS PATHS AS SHOWN ON COVER SHEET

FULL SMOKE DETECTION, FIRE SPRINKLER AND ALARM COVERAGE SHALL BE PROVIDED UNDER SEPARATE PERMIT BY FIRE MARSHALL

NOTES: VISIBLE ALARMS SHALL COMPLY WITH IBC CHAPTER 9, SECTIONS 907.9.1.1 THROUGH 907.9.1.3

Oregon Convention Center Breakroom & Office

TENANT IMPROVEMENT PACKAGE

LOCATION MAP



VICINITY MAP

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OCCUPANCY SCHEDULE					
NAME	AREA	EXITS REQ'D	OCC. TYPE	OCC. LOAD FACTOR	OCC. LOAD
LEVEL 1					
BREAKROOM	1117 SF	2	A-3	15	75
CONFERENCE	364 SF	1	B	15	25
ELECT/ADF	76 SF	1	NO OCCUP.	300	1
WORK AREA	202 SF	1	B	100	2
					103

LEVEL 2					
OFFICE	110 SF	1	B	100	2
OFFICE	99 SF	1	NO OCCUP.	300	1
OPEN OFFICE	766 SF	1	B	100	8
STORAGE	124 SF	1	B	100	2
					13

OCCUPANCY SCHEDULE					
NAME	AREA	EXITS REQ'D	OCC. TYPE	OCC. LOAD FACTOR	OCC. LOAD
Grand total					116

Grand total					116
-------------	--	--	--	--	-----

GENERAL NOTES

- A. ALL WORK SHALL CONFORM TO APPLICABLE BUILDING CODES AND ORDINANCES, AS MODIFIED FOR THIS BUILDING BY APPEALS ON RECORD AT PORTLAND BUREAU OF DEVELOPMENT SERVICES. IN CASE OF CONFLICT WHERE THE METHODS OR STANDARDS OF INSTALLATION OF THE MATERIALS SPECIFIED DO NOT EQUAL OR EXCEED THE REQUIREMENTS OF THE LAWS OR ORDINANCES, THE LAW OR ORDINANCE SHALL GOVERN. NOTIFY ARCHITECT OF CONFLICTS.
- B. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR UNFAVORABLE CONDITIONS OR EVENT WHICH MIGHT HAVE BEEN DISCOVERED THROUGH A THOROUGH EXAMINATION OF THE SITE. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE CONSEQUENCES OF ACTING ON CONCLUSIONS DRAWN FROM INFORMATION AVAILABLE AT THE TIME.
- C. NOTIFY THE ARCHITECT IN WRITING, OF ANY DISCREPANCIES PRIOR TO PRECEDING WITH WORK.
- D. PROVIDE ALL LABOR, TRANSPORTATION, EQUIPMENT, AND SERVICES NECESSARY TO PERFORM WORK SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN.

DEMOLITION

1. EXISTING STRUCTURE TO BE LEFT UNDISTURBED AND INTACT. PERFORM NO DEMOLITION THAT MAY COMPROMISE THE STRUCTURAL INTEGRITY OF THE BUILDING WITHOUT WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
2. EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ALL EXISTING AREAS TO REMAIN FROM DAMAGES THAT MIGHT OCCUR DURING DEMOLITION. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL AREAS THAT HAVE BEEN DAMAGED DUE TO INADEQUATE PROTECTION.
3. THE EXISTING SUSPENDED CEILING TRACK WILL BE RE-USED UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. MAINTAIN 100% SPRINKLER COVERAGE.
5. SALVAGE/RECYCLE REMOVED MATERIALS PER OWNER'S STANDARD PROCEDURES AND REQUIREMENTS.

CONSTRUCTION

1. PERFORM ALL WORK IN ACCORDANCE WITH ESTABLISHED BUILDING STANDARDS FOR TENANT IMPROVEMENTS.
2. ALL DIMENSIONS ARE TO FACE OF FINISHED SURFACE UNLESS NOTED OTHERWISE. ALL PARTITIONS TERMINATE AT UNDERSIDE OF SUSPENDED CEILING SYSTEM UNLESS OTHERWISE NOTED. THE CEILING SUSPENSION SYSTEM SHALL BE STABILIZED AGAINST LATERAL MOVEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE.
3. FIRE PROTECTION AND SMOKE DETECTION SYSTEMS INDICATED ARE FOR INFORMATION ONLY. THESE SYSTEMS ARE SUB-CONTRACTOR DESIGN/BUILD AND ARE TO BE SUBMITTED UNDER SEPARATE PERMIT. IT IS THE RESPONSIBILITY OF THE DESIGN/BUILD SUB-CONTRACTOR TO OBTAIN THESE PERMITS. CONTRACTORS SHALL VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT, BOTH EXISTING AND NEW.
4. MAINTAIN 100% SPRINKLER COVERAGE.
5. ALL WALLS, DOORS, FLOORS, CEILINGS WITHIN THE LIMITS OF WORK NOTED, ARE TO BE PATCHED, PLASTERED, SANDED AND PREPARED READY FOR THE NEW FINISH SPECIFIED.
6. ALL CEILINGS SHOWN AS EXISTING OR NEW GRID AT THE EXISTING HEIGHT ABOVE FINISH FLOOR. IT IS CONTRACTOR'S RESPONSIBILITY TO PROVIDE ONE UNIFORM GRID.
7. PROVIDE EXIT SIGNS AND EMERGENCY LIGHTING SYSTEM IN CONFORMANCE WITH CITY FIRE MARSHALL REQUIREMENTS.
8. THE DESIGN OF ALL SEISMIC BRACING AND SUPPORTS FOR CEILING, MECHANICAL, AND ELECTRICAL ITEMS AND PARTITIONS IS THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR/VENDOR TO MEET CODE REQUIREMENTS.
9. SEAL ALL THROUGH FLOOR/RATED-WALL PENETRATIONS WITH RATED ASSEMBLIES AS REQUIRED TO MAINTAIN THE INTEGRITY OF FLOORWALL ASSEMBLY.
10. ALL TENANT STANDARD PARTITIONS ARE TO BE 3 5/8" METAL STUDS @ 24" O.C. WITH 5/8" TYPE X GYPSUM BOARD EACH SIDE WITH ACOUSTIC INSULATION, UNLESS NOTED OTHERWISE.
11. GLASS DOORS FROM THE BREAKROOM TO THE PUBLIC CORRIDOR ARE TO BE SELF CLOSING, WITH TEMPERED GLASS IN NON-COMBUSTIBLE FRAME WITH ADDITIONAL SPRINKLER INSTALLED TO THE SATISFACTION OF THE FIRE MARSHALL'S OFFICE.
12. GLASS PARTITIONS ARE BUTT JOINT TEMPERED GLASS WITH 4" ALUMINUM HEADER AND SHOE SYSTEM.
13. SEE A10.00 FOR LEED MATERIAL REQUIREMENTS, AND ATTACHED DOCUMENT FOR COMPLETE OWNER'S SUSTAINABILITY REQUIREMENTS.

FACILITIES PERMIT - GENERAL NOTES

- A. ALL WORK IN THIS BUILDING IS TO BE PERFORMED UNDER THE CITY OF PORTLAND FACILITIES PERMIT PROGRAM. A MASTER PROJECT NUMBER WILL BE ISSUED FOR THE PROJECT. ALL OTHER DESIGN BUILD PERMITS ARE TO BE TAKEN OUT AS SEPARATE PERMITS UNDER THE MASTER PROJECT NUMBER, THROUGH THE FACILITIES PERMIT PROGRAM.
- B. MECHANICAL WORK INDICATED IN THESE DOCUMENTS IS FOR INFORMATION ONLY. MECHANICAL CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS AND PROVIDE ENGINEERED DRAWINGS STAMPED BY AN ENGINEER LICENSED IN THE STATE OF OREGON TO MEET THE DESIGN DEPICTED IN THESE DOCUMENTS.
- C. PLUMBING WORK INDICATED IN THESE DOCUMENTS IS FOR INFORMATION ONLY. MECHANICAL CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS AND PROVIDE ENGINEERED DRAWINGS, STAMPED BY AN ENGINEER LICENSED IN THE STATE OF OREGON, TO MEET THE DESIGN DEPICTED IN THESE DOCUMENTS. MAINTAIN 100% SPRINKLER COVERAGE THROUGHOUT BUILDING.
- D. ELECTRICAL WORK INDICATED IN THESE DOCUMENTS IS FOR INFORMATION ONLY. ELECTRICAL CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS AND PROVIDE ENGINEERED DRAWINGS, STAMPED BY AN ENGINEER LICENSED IN THE STATE OF OREGON, TO MEET THE DESIGN DEPICTED IN THESE DOCUMENTS.
- E. EXIT AND EGRESS LIGHTING SYSTEM ARE TO BE INSTALLED TO MEET THE BUILDING CODE AND PRESCRIPTIVE LIGHTING PATH. EGRESS PLAN IS INDICATED IN THESE DOCUMENTS.
- F. SEPARATE PERMIT REQUIRED FROM FIRE MARSHALL'S OFFICE FOR SPRINKLERS AND ALARMS.
- G. VISUAL FIRE ALARM LOCATION TO BE 80" AFF. ALARM TO HAVE WHITE LENS WITH RED LETTERS.
- H. ALL WOOD BLOCKING, NAILERS, ETC. TO BE FIRE RETARDANT.
- I. FIRE/LIFE SAFETY SYSTEM TO BE DESIGN-BUILD BY BUILDING'S CONTRACTOR, GC TO COORDINATE WITH BUILDING LIFE SAFETY SYSTEM PROVIDER & ELECTRICAL SUBCONTRACTOR.
- J. MAINTAIN EXISTING BUILDING FIRE AND LIFE SAFETY SYSTEMS INCLUDING, BUT NOT LIMITED TO SPRINKLER SYSTEMS, SMOKE DETECTION SYSTEMS, SMOKE EVACUATION SYSTEMS, EXITING SYSTEMS AND EMERGENCY ANNUNCIATION SYSTEMS.
- K. REFER TO BUILDING CODE APPEALS ON RECORD WITH THE CITY OF PORTLAND FOR EXISTING AND FULL BUILDING VARIATIONS TO CODE REQUIREMENTS.
- L. THE DESIGN OF ALL SEISMIC BRACING AND SUPPORTS FOR CEILING, MECHANICAL AND ELECTRICAL ITEMS AND PARTITIONS IS THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR/VENDOR TO MEET THE REQUIREMENTS OF SEISMIC ZONE 1.

DEFERRED SUBMITTALS

DEFERRED SUBMITTALS SHALL INCLUDE SMOKE DETECTION/SPRINKLER DESIGN AND FIRE ALARM DESIGN



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1	8.18.17	Addendum 01

Sheet Title
COVER / FIRE LIFE SAFETY CODE ANALYSIS / GENERAL NOTES

Drawing No.

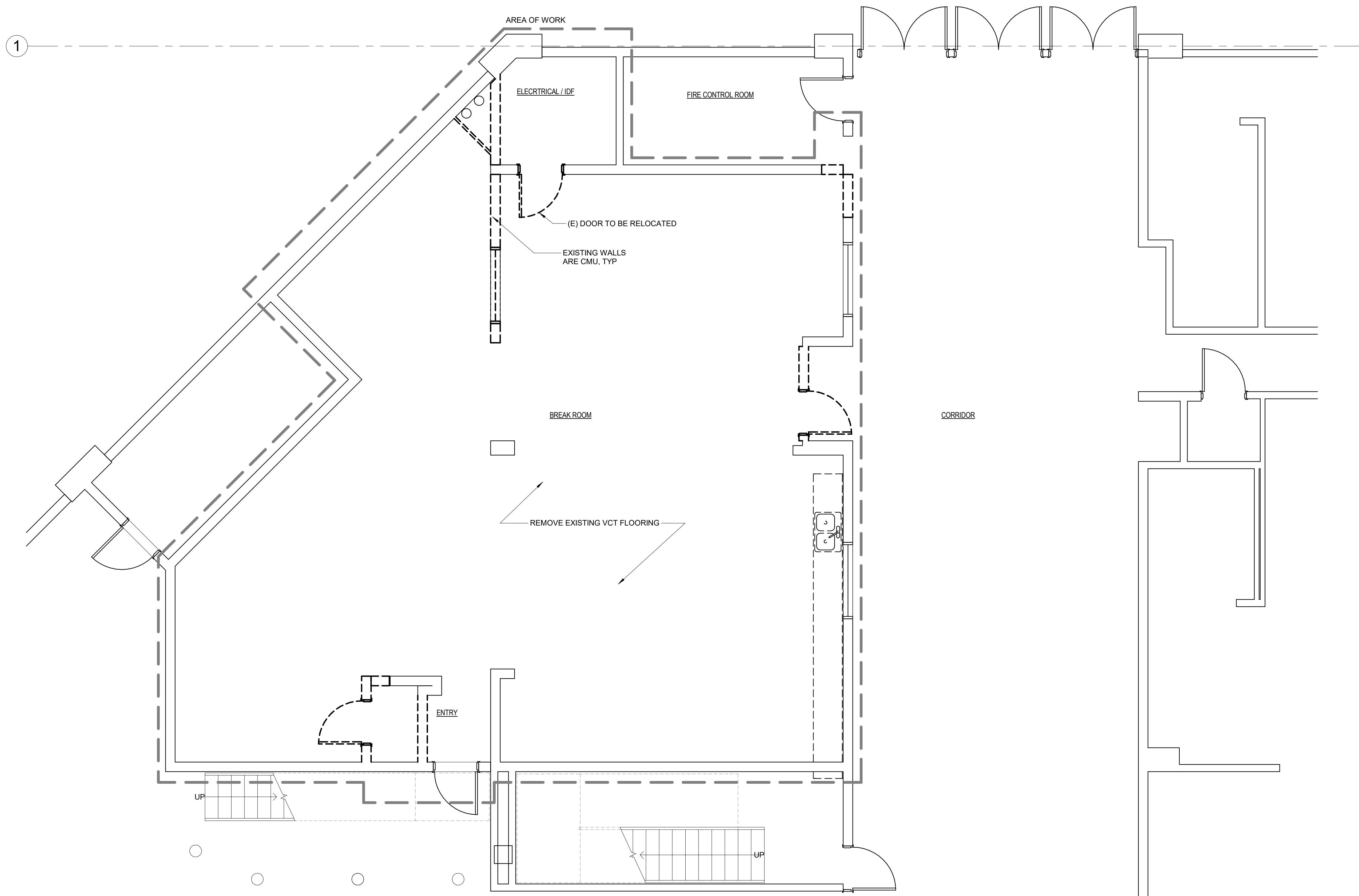
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Scale As indicated

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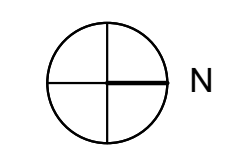
ISSUED FOR CONSTRUCTION



LEGEND

- NEW PARTITION
- EXISTING PARTITION OR OBJECT TO BE REMOVED/SALVAGED
- EXISTING WALL TO REMAIN
- EXISTING DOOR
- GLASS PIVOT DOOR
- GLASS PARTITION
- FLOOR MATERIAL CHANGE
- NEW QUADRAPLEX DUPLEX OUTLET
- OUTLET HEIGHT AFF
- SWITCH/OCCUP. SENSOR
- VOICE/DATA OUTLET
- DATA PORT - TELEPHONE
- DATA PORT - NETWORK
- COAXIAL CONNECTION
- "P" POWER BASED FEED
- OVERHEAD PROJECTOR
- J-BOX WITH PULL STRING
- FLUSH FLOOR OUTLET
- THERMOSTAT
- 48" TALL KOROGARD R100 CORNERGUARDS TRIM COLOR: VAPOR
- FEC FIRE EXTINGUISHER CABINET
- CR CARD READER
- REX REQUEST TO EXIT

1 FIRST FLOOR EXISTING & DEMOLITION PLAN
 1/4" = 1'-0"



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Sheet Title
 FIRST FLOOR EXISTING & DEMOLITION PLAN

Drawing No.

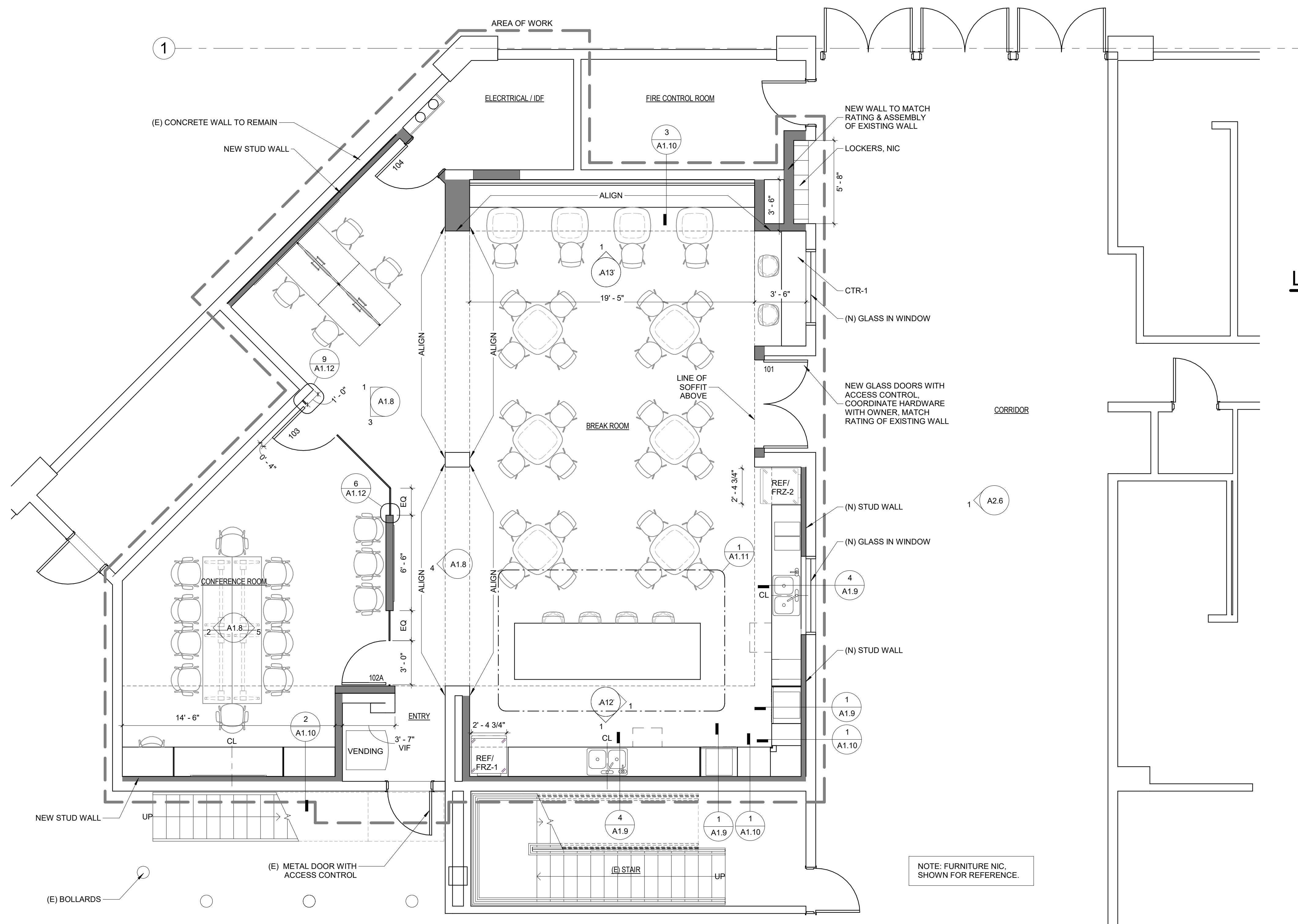
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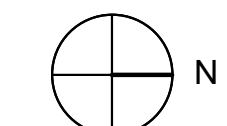
ISSUED FOR CONSTRUCTION



LEGEND

- NEW PARTITION
- EXISTING PARTITION OR OBJECT TO BE REMOVED/SALVAGED
- EXISTING WALL TO REMAIN
- EXISTING DOOR
- GLASS PIVOT DOOR
- GLASS PARTITION
- FLOOR MATERIAL CHANGE
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- THERMOSTAT
- 48" TALL KOROGARD R100 CORNERGUARDS TRIM COLOR: VAPOR
- FIRE EXTINGUISHER CABINET
- CARD READER
- REQUEST TO EXIT

NOTE: FURNITURE NIC, SHOWN FOR REFERENCE.



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Sheet Title
 FIRST FLOOR
 PROPOSED PLAN

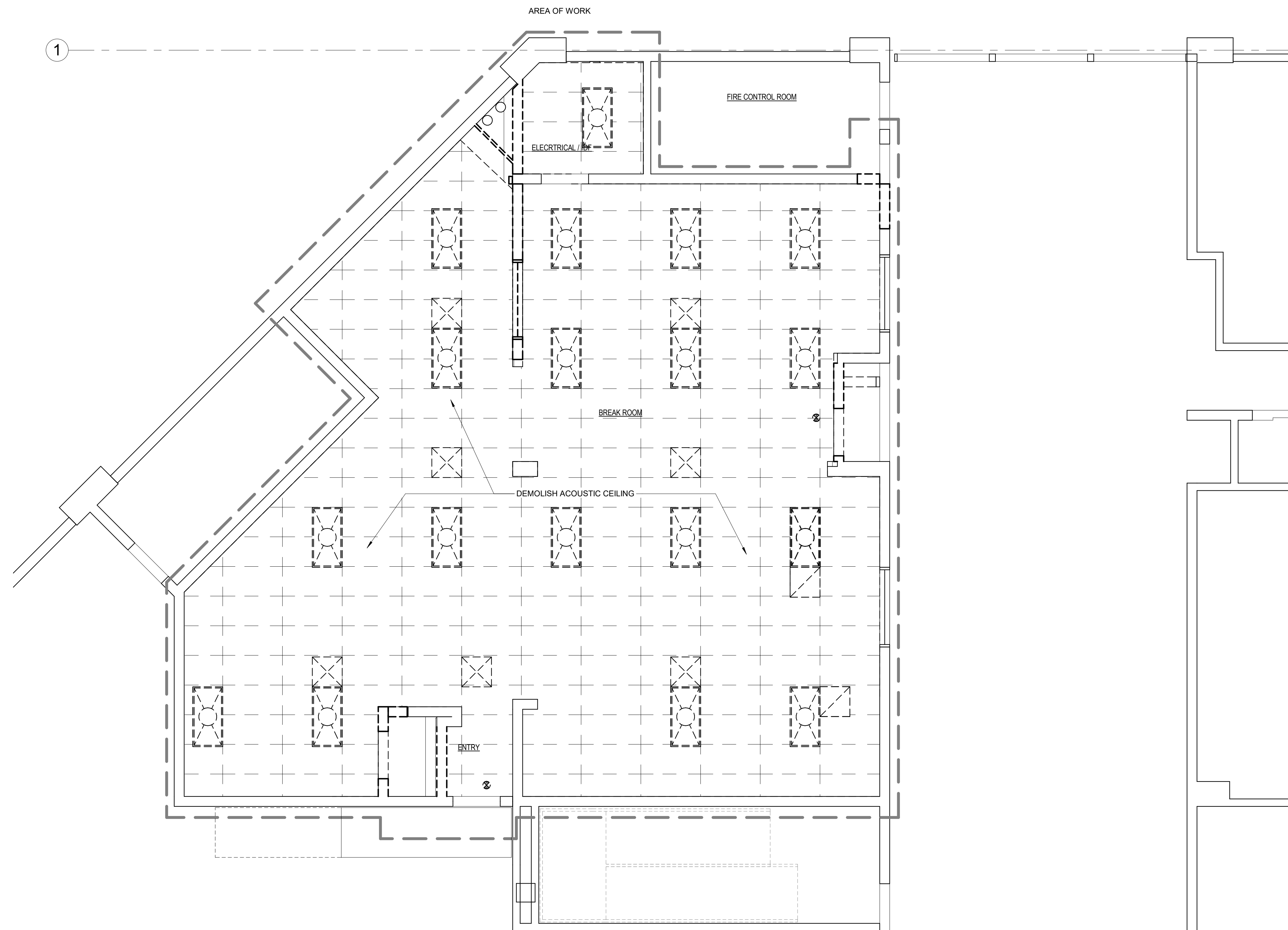
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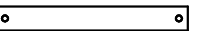

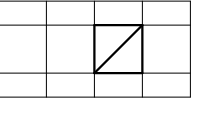
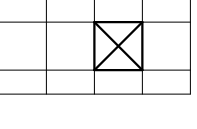

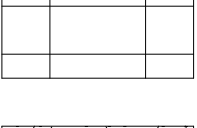
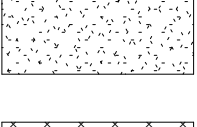
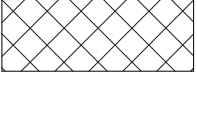






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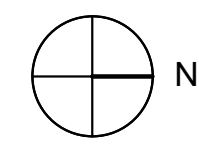
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1 FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN
1/4" = 1'-0"

LEGEND

-  CAN LIGHT FIXTURE
-  SPOT LIGHT FIXTURE
-  PENDANT LIGHT FIXTURE
-  RECESSED LINEAR LIGHT FIXTURE
-  RETURN AIR DIFFUSER
-  SUPPLY AIR
-  SLOT SUPPLY REGISTER
-  SUSPENDED ACOUSTIC CEILING TILE "CLOUD", 2'-0" X 4'-0" O.C.
-  GYPSUM WALLBOARD CEILING
-  ACOUSTIC INSULATION ABOVE RELOCATABLE WALL PARTITION
-  EXIT SIGN
-  SPEAKER
-  SMOKE DETECTOR
-  OCCUPANCY SENSOR
-  WIRELESS ACCESS POINT
-  SECURITY CAMERA



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FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN

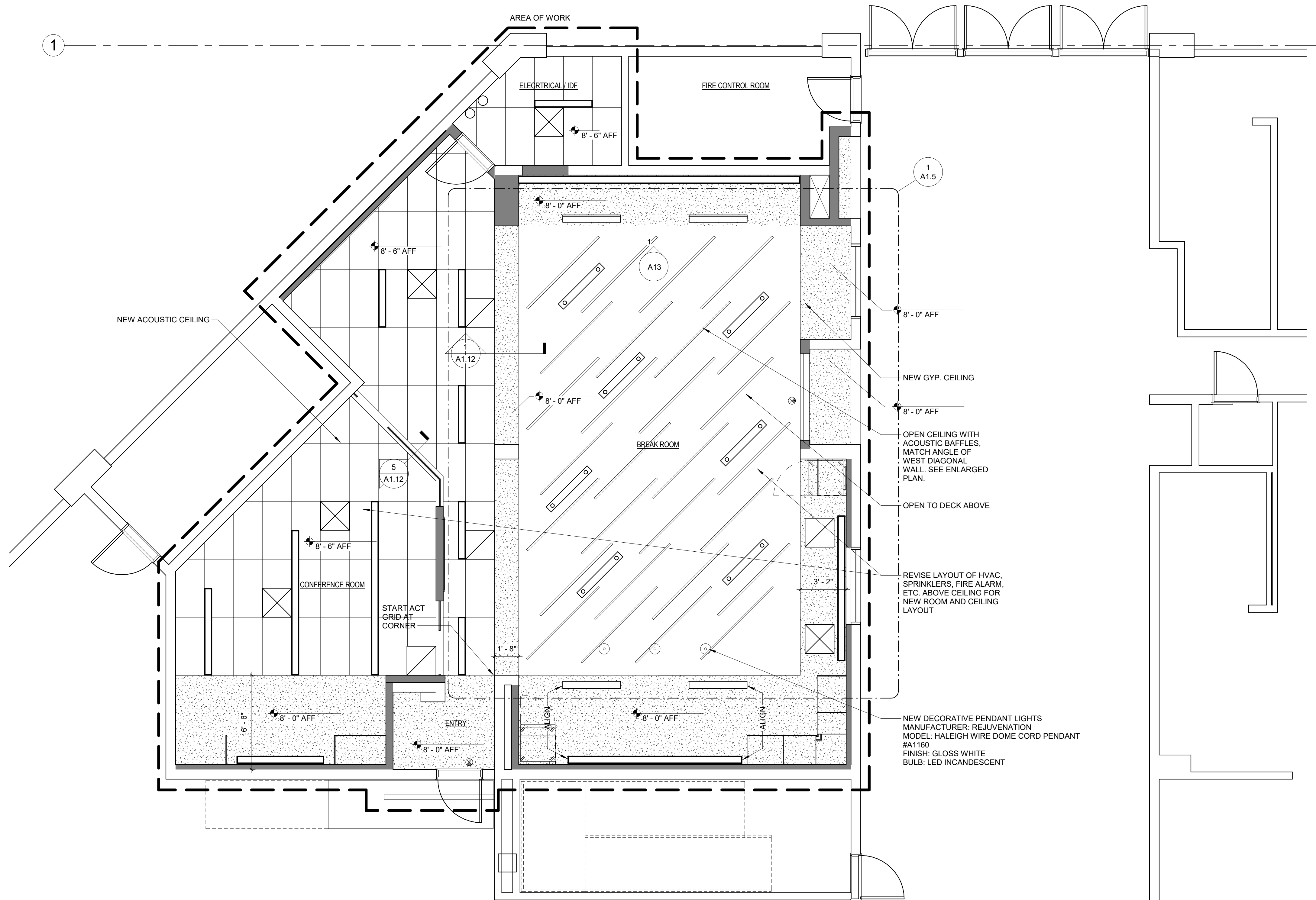
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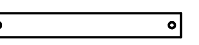
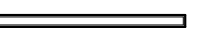
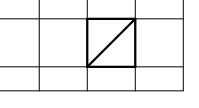
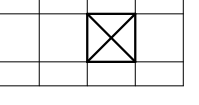

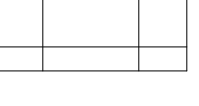








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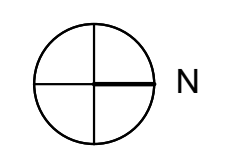
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LEGEND

-  CAN LIGHT FIXTURE
-  SPOT LIGHT FIXTURE
-  PENDANT LIGHT FIXTURE
-  RECESSED LINEAR LIGHT FIXTURE
-  RETURN AIR DIFFUSER
-  SUPPLY AIR
-  SLOT SUPPLY REGISTER
-  SUSPENDED ACOUSTIC CEILING TILE "CLOUD", 2'-0" X 4'-0" O.C.
-  GYPSUM WALLBOARD CEILING
-  ACOUSTIC INSULATION ABOVE RELOCATABLE WALL PARTITION
-  EXIT SIGN
-  SPEAKER
-  SMOKE DETECTOR
-  OCCUPANCY SENSOR
-  WIRELESS ACCESS POINT
-  SECURITY CAMERA

1 FIRST FLOOR PROPOSED REFLECTED CEILING PLAN
1/4" = 1'-0"



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Sheet Title
FIRST FLOOR
PROPOSED
REFLECTED CEILING
PLAN

Drawing No.

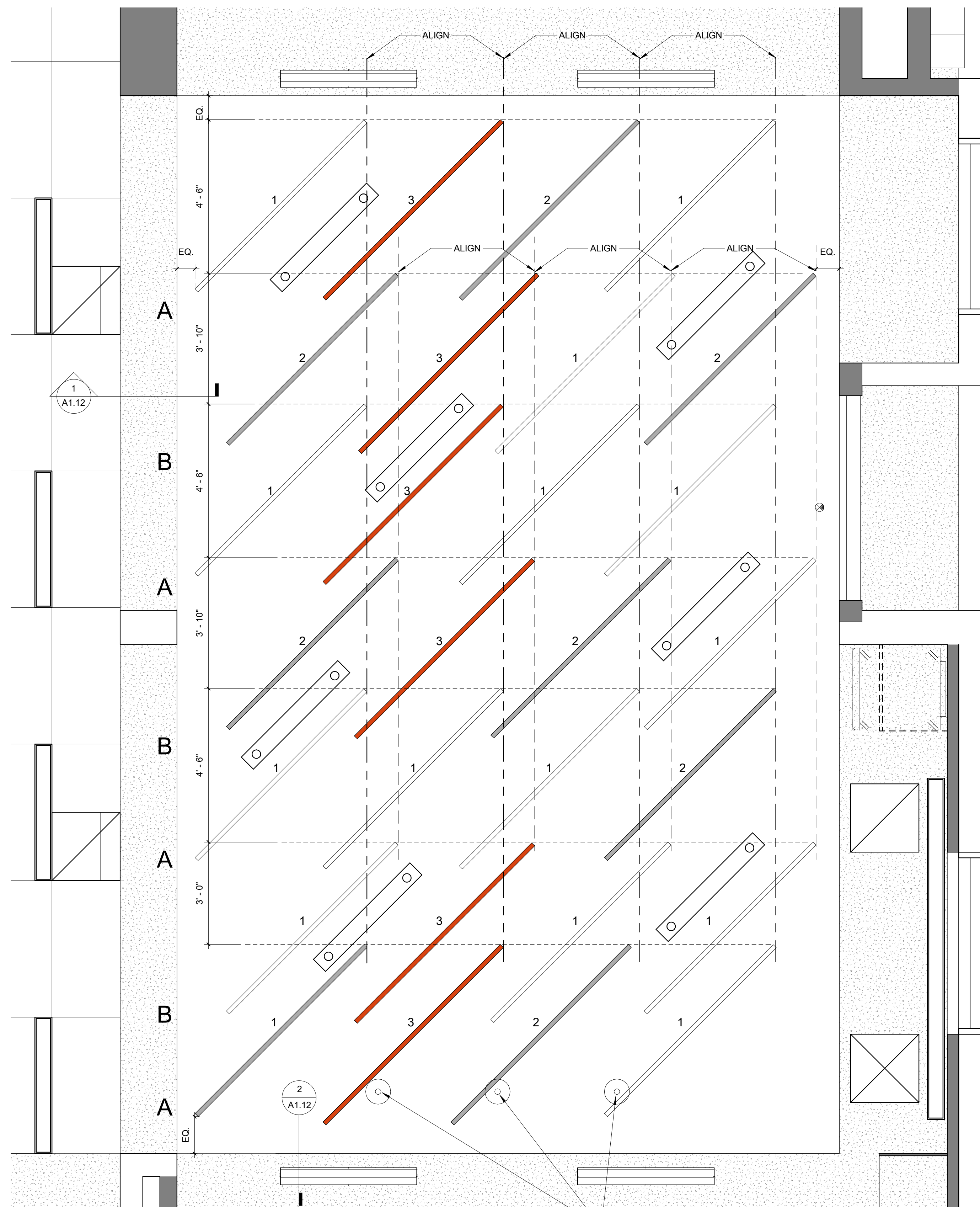
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CEILING BAFFLE KEY
 BASIS OF DESIGN: FILZFELT AKOUSTIKA 25 BAFFLE
 BAFFLE HEIGHT: 4"
 BAFFLE LENGTH: 7'-0"
 WRAPPED EDGES

- 1 - COLOR 100 "WOOLWEIB"
- 2 - COLOR 170 "ASCHE"
- 3 - COLOR 105 "ROST"

1 CEILING BAFFLE LAYOUT
 1/2" = 1'-0"



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Sheet Title
 CEILING BAFFLE LAYOUT

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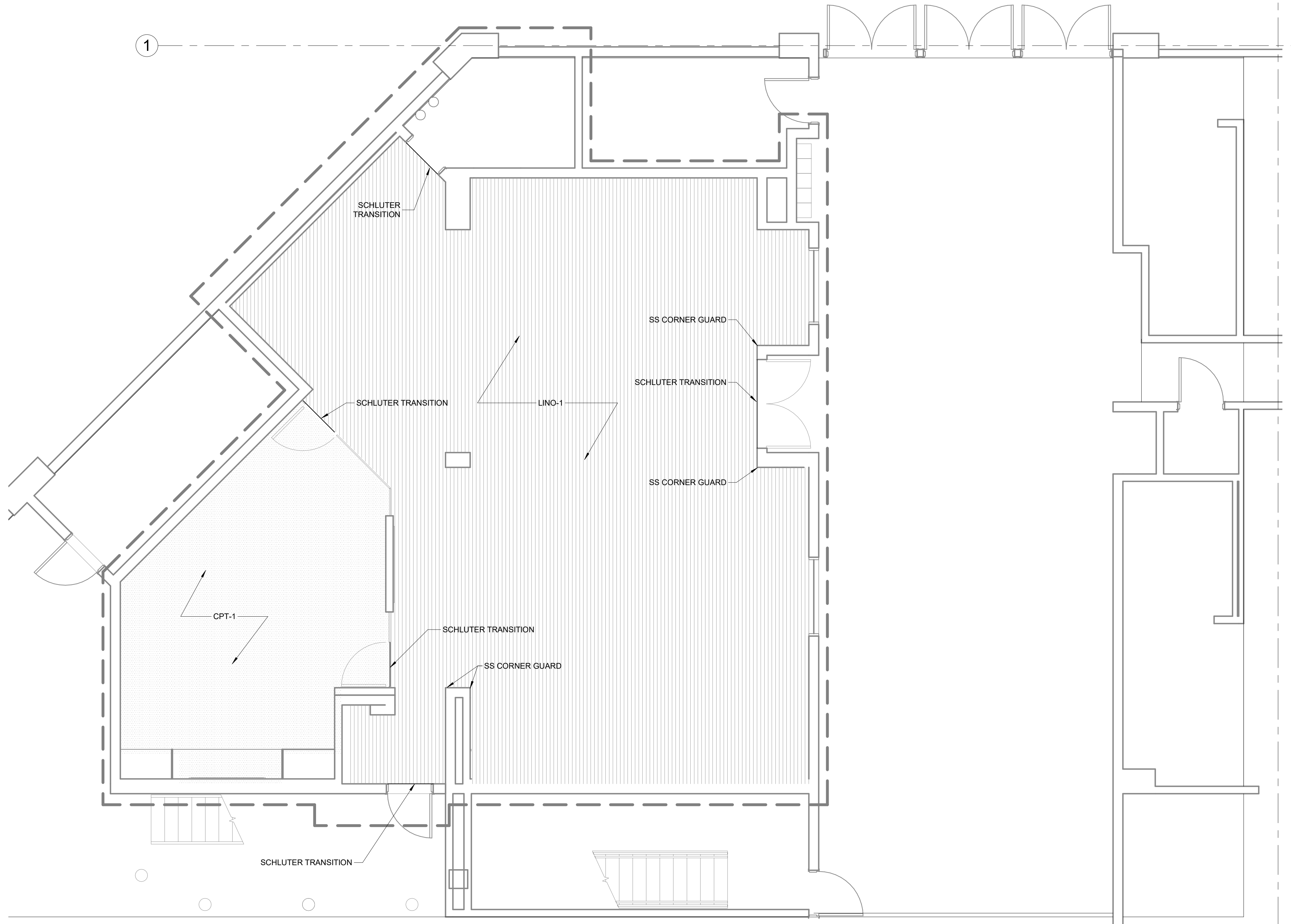
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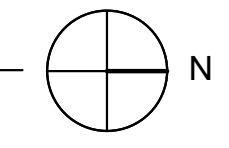
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1 FIRST FLOOR FINISH PLAN
1/4" = 1'-0"



FINISH NOTES:

1. PAINT ALL GWB SURFACES AND WOOD DOORS THROUGHOUT SCOPE OF WORK P-1, U.O.I. INSTALL NEW FLOORING AND BASE THROUGHOUT SCOPE OF WORK.
2. ALL PAINTS AND COATINGS APPLIED ON SITE ARE TO BE ZERO/LOW VOC, LOW EMITTING MATERIALS: PAINTS, COATINGS AND PRIMERS APPLIED TO INTERIOR WALLS AND CEILINGS SHALL NOT EXCEED THE VOC CONTENT LIMITS ESTABLISHED IN GREEN SEAL STANDARD GS-11, PAINTS, FIRST EDITION, MAY 20, 1993. (FLATS: 50 g/L, NON-FLATS: 15g/L)
3. PAINTS APPLIED TO FERROUS METAL SUBSTRATES SHALL NOT EXCEED THE V.O.C. CONTENT LIMIT OF 250 g/L.
4. ADHESIVES, SEALANTS AND SEALANT PRIMERS SHALL COMPLY WITH THE REQUIREMENTS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, EFFECTIVE JANUARY 1, 2003 AND AMENDED OCTOBER 3, 2003.
5. AEROSOL ADHESIVES SHALL COMPLY WITH THE REQUIREMENTS OF GREEN SEAL STANDARD GS-36, EFFECTIVE OCTOBER 19, 2000.
6. ALL CARPET AND CUSHION SHALL MEET THE REQUIREMENTS ESTABLISHED IN THE CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM. ALL CARPET ADHESIVES SHALL MEET THE REQUIREMENTS OF 4.1, LOW-EMITTING MATERIALS: ADHESIVES AND SEALANTS. [V.O.C. LIMIT OF 50 g/L]
7. COMPOSITE WOOD, AGRIFIBER PRODUCTS AND LAMINATING ADHESIVES USED TO FABRICATE ON-SITE AND SHOP-APPLIED COMPOSITE WOOD AND AGRIFIBER SHALL CONTAIN NO UREA-FORMALDEHYDE RESINS.
8. NO PVC/VINYL PRODUCTS SHALL BE USED, WITH THE EXCEPTION OF PLUMBING AND ELECTRICAL WIRING.
9. ALL RUBBER BASE AT CARPET LOCATIONS SHALL BE STRAIGHT TYPE. RESILIENT FLOORING LOCATIONS SHALL RECEIVE COVE TYPE RUBBER BASE.
10. FLOOR FINISH TRANSITIONS OCCUR AT CENTERLINE OF DOORWAY U.O.I.
11. REFERENCE BOTH THE FINISH PLAN AND ELEVATION SHEETS FOR PAINT, AND OTHER FINISHES.
12. PAINT ALL CORE & SHELL DOORS & FRAMES P-1.
13. ALL EXPOSED GWB TO BE PAINTED P-1 UNLESS OTHERWISE INDICATED.
14. ALL DOORS TO BE PAINTED TO MATCH THE ASSOCIATED WALL U.O.I.
15. AT PERIMETER WINDOW WALL ALL PAINTED SURFACES TO MATCH P-1

CPT-1
 LINO-1



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Sheet Title

FIRST FLOOR FINISH PLAN

Drawing No.

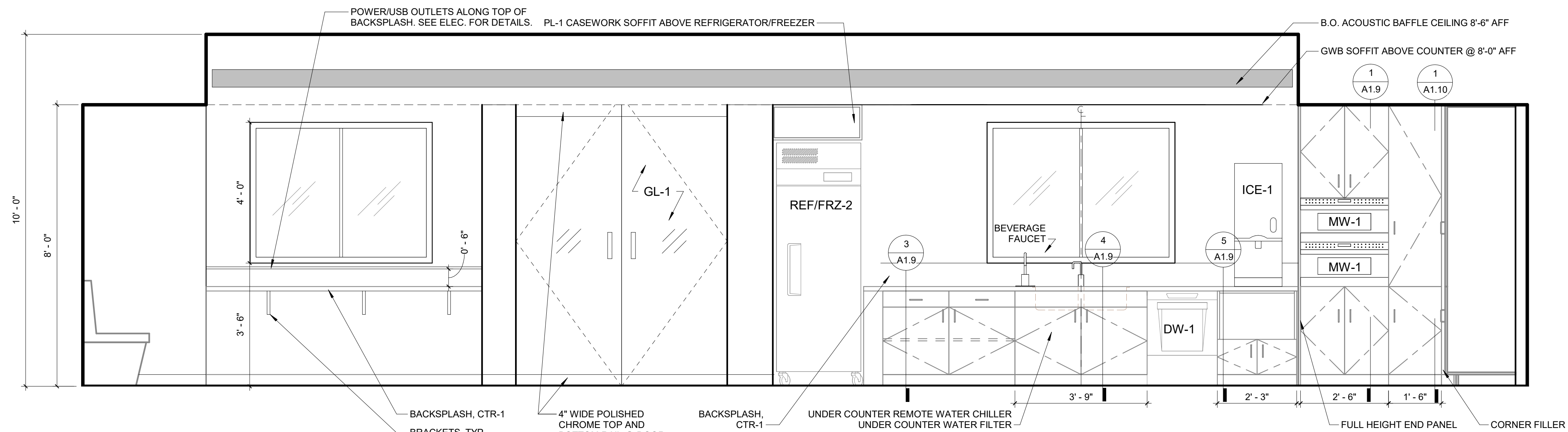
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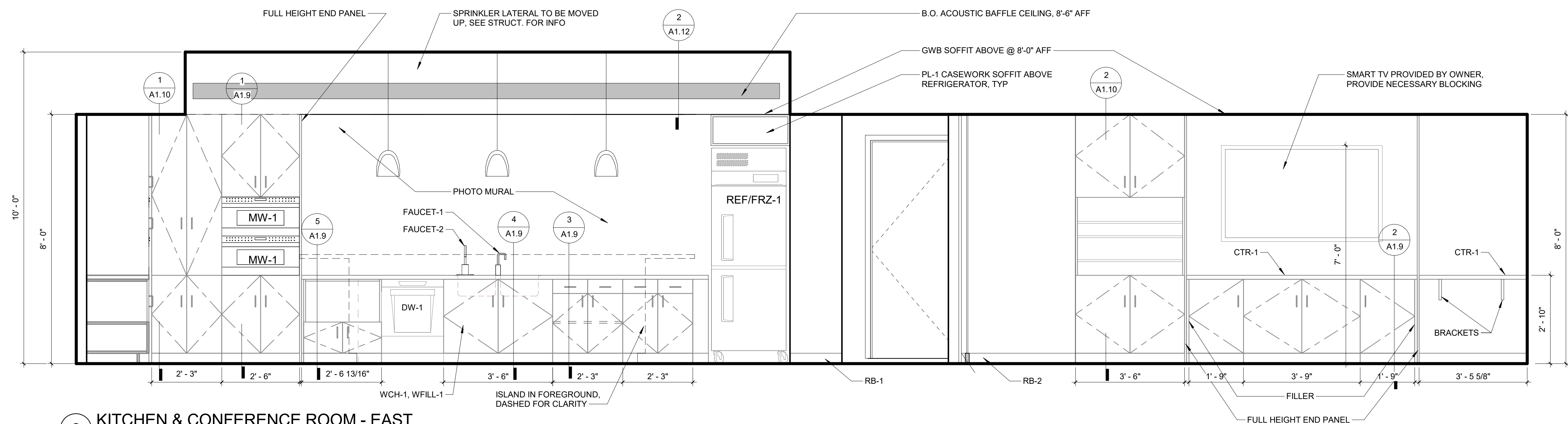
Date SEPT. 20, 2017

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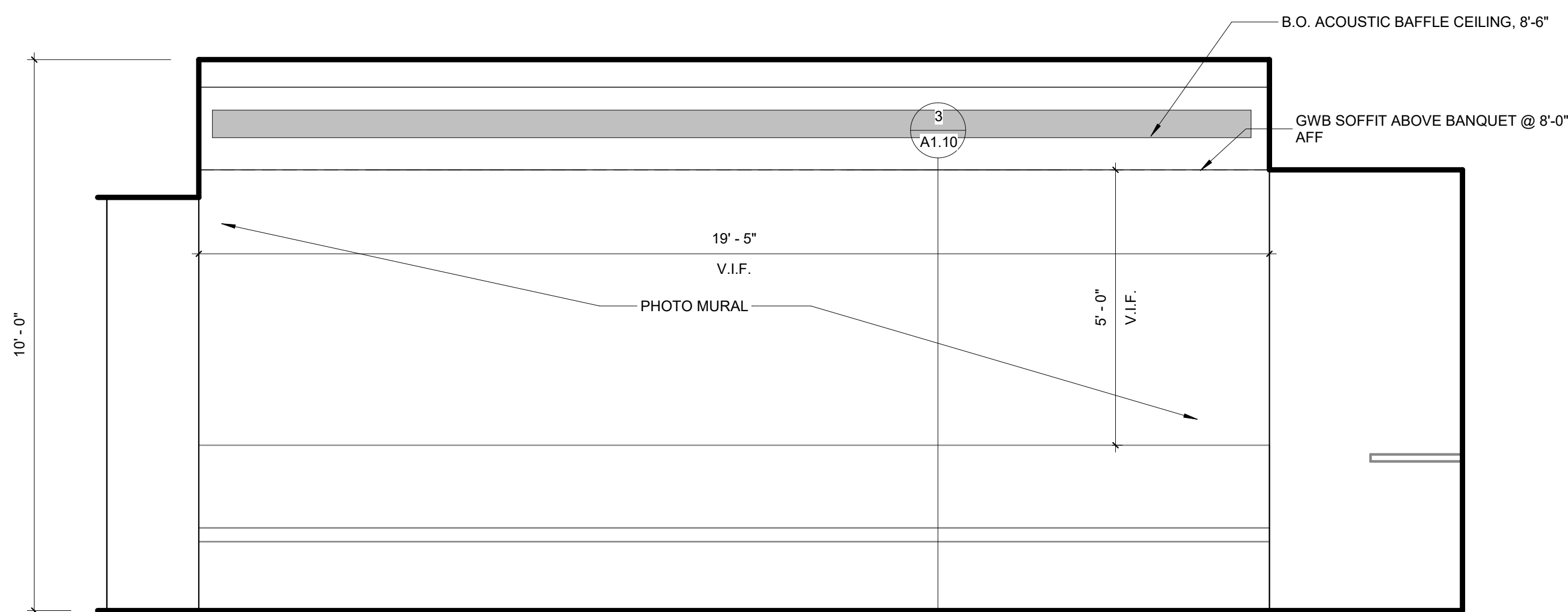
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1 KITCHEN - NORTH
1/2" = 1'-0"



2 KITCHEN & CONFERENCE ROOM - EAST
1/2" = 1'-0"



3 BANQUETTE
1/2" = 1'-0"



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Sheet Title
INTERIOR
ELEVATIONS -
BREAKROOM

Drawing No.

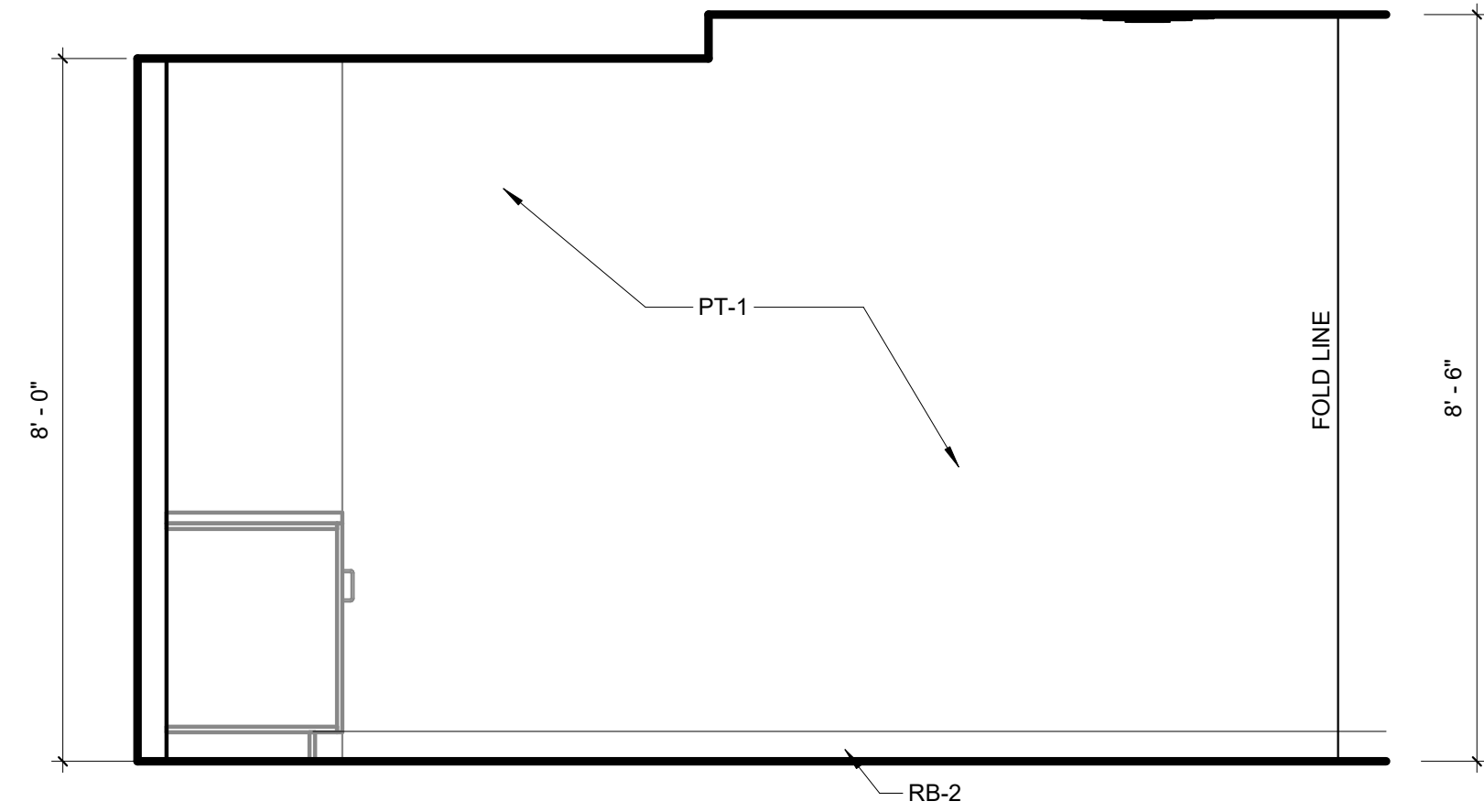
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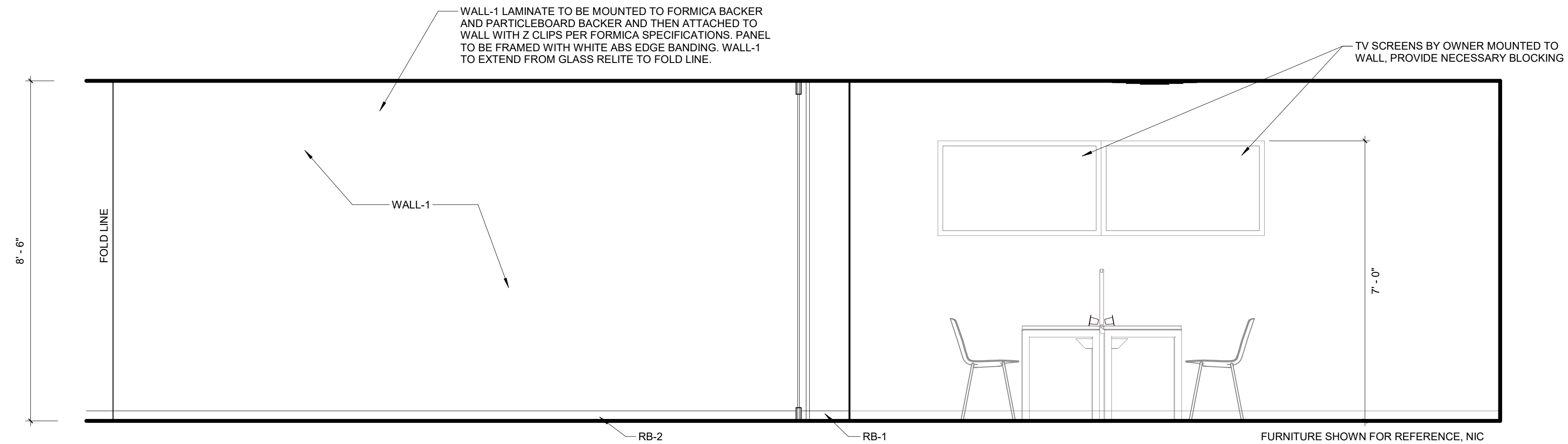
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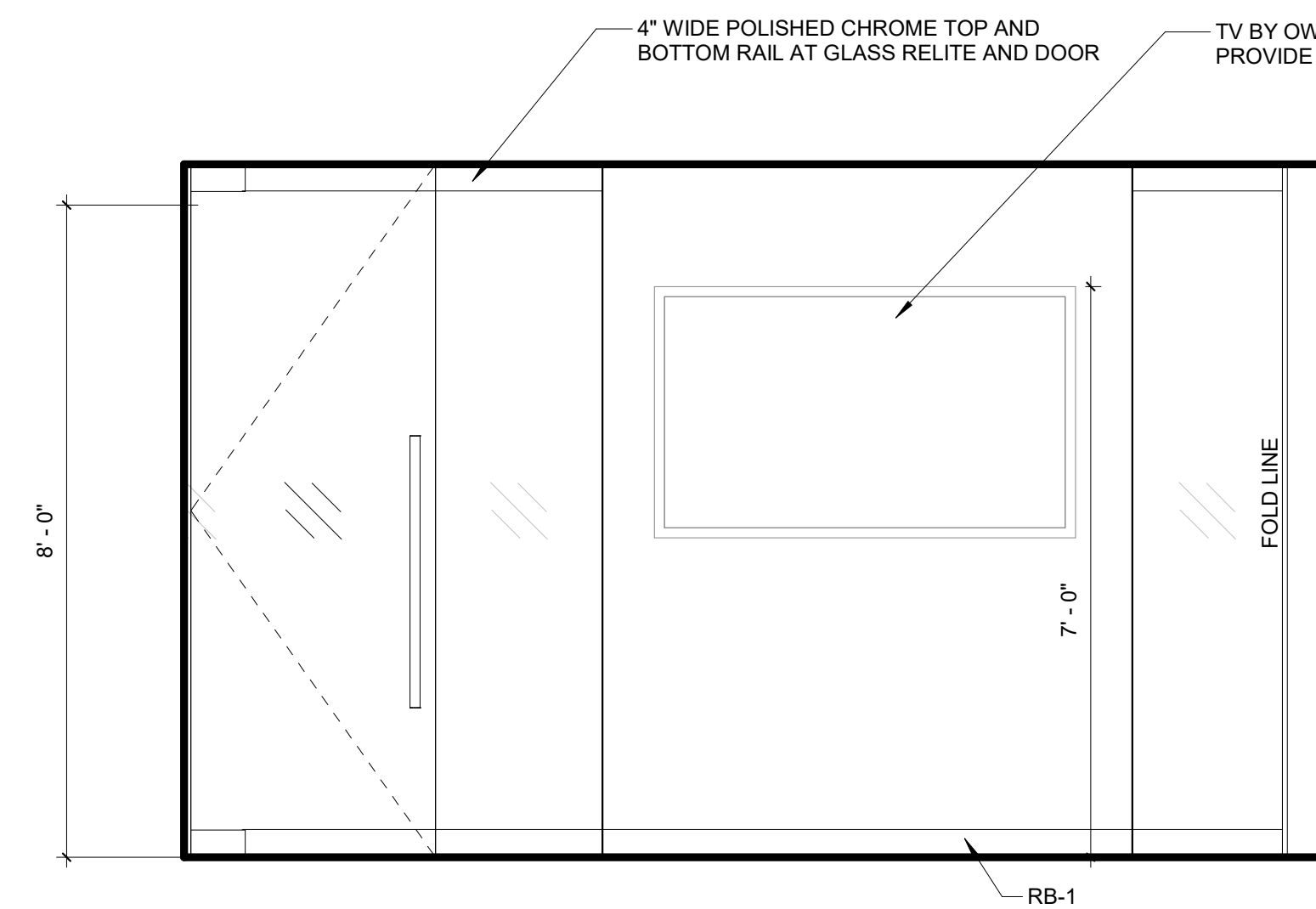
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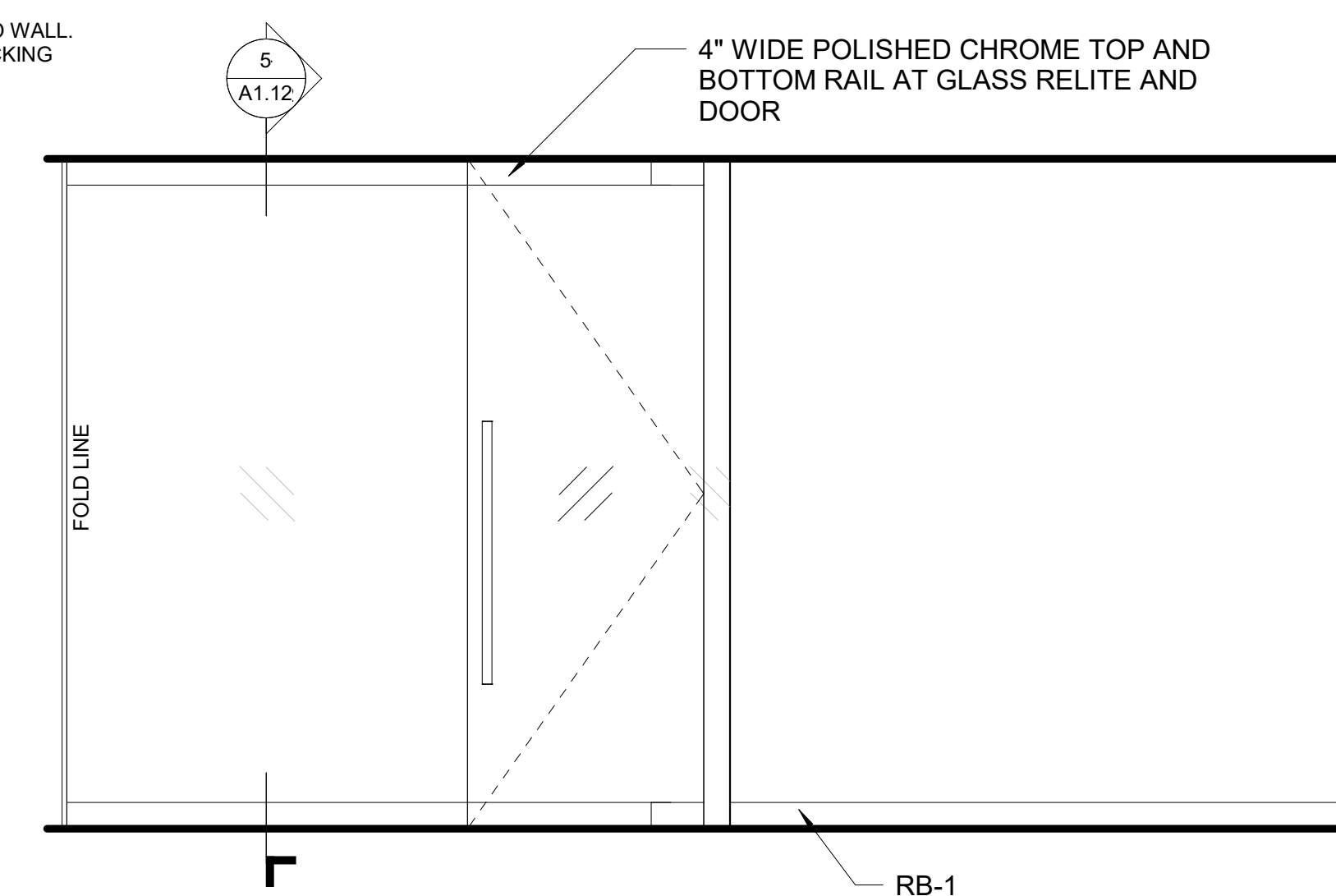
2 CONFERENCE ROOM - SOUTH
1/2" = 1'-0"



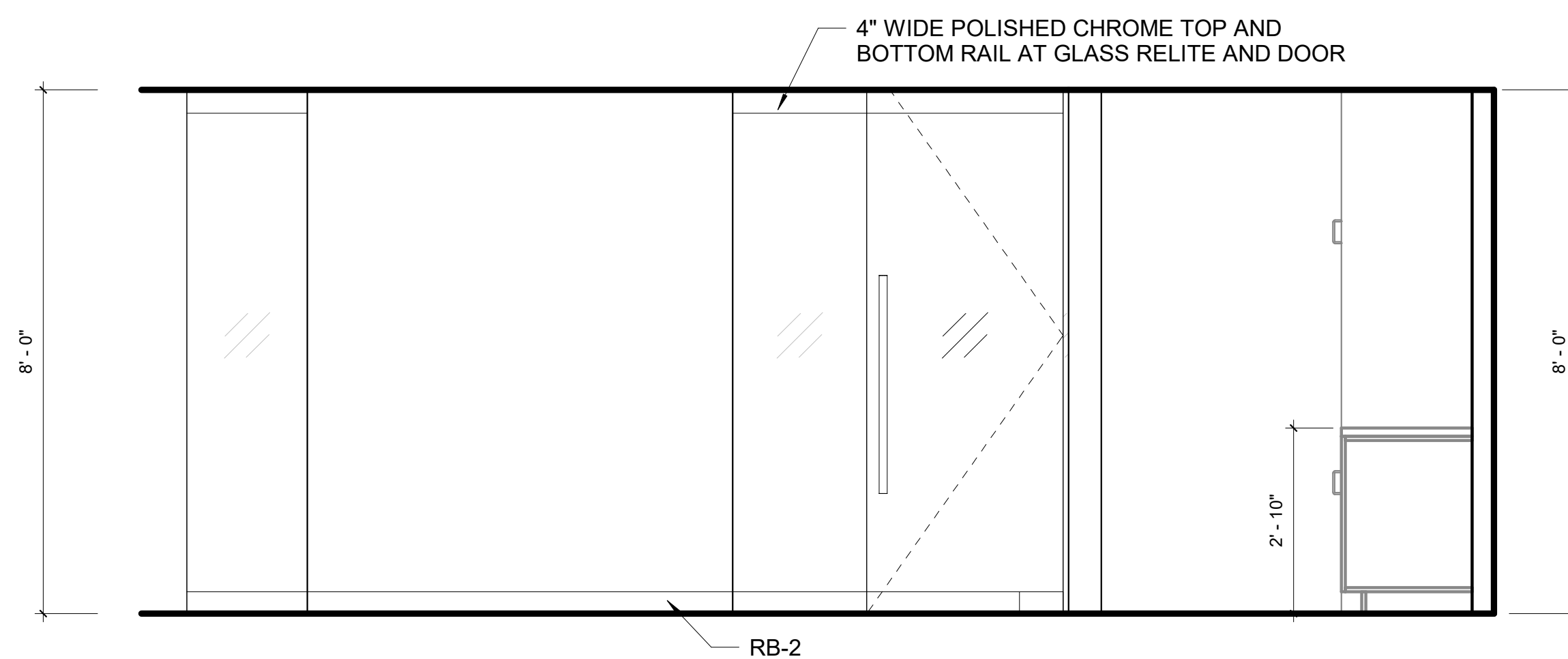
1 BREAKROOM WORKSTATIONS
1/2" = 1'-0"



4 BREAKROOM - SOUTH
1/2" = 1'-0"



3 BREAKROOM - EAST
1/2" = 1'-0"



5 CONFERENCE ROOM - NORTH
1/2" = 1'-0"



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INTERIOR
ELEVATIONS -
BREAKROOM
CONFERENCE ROOM

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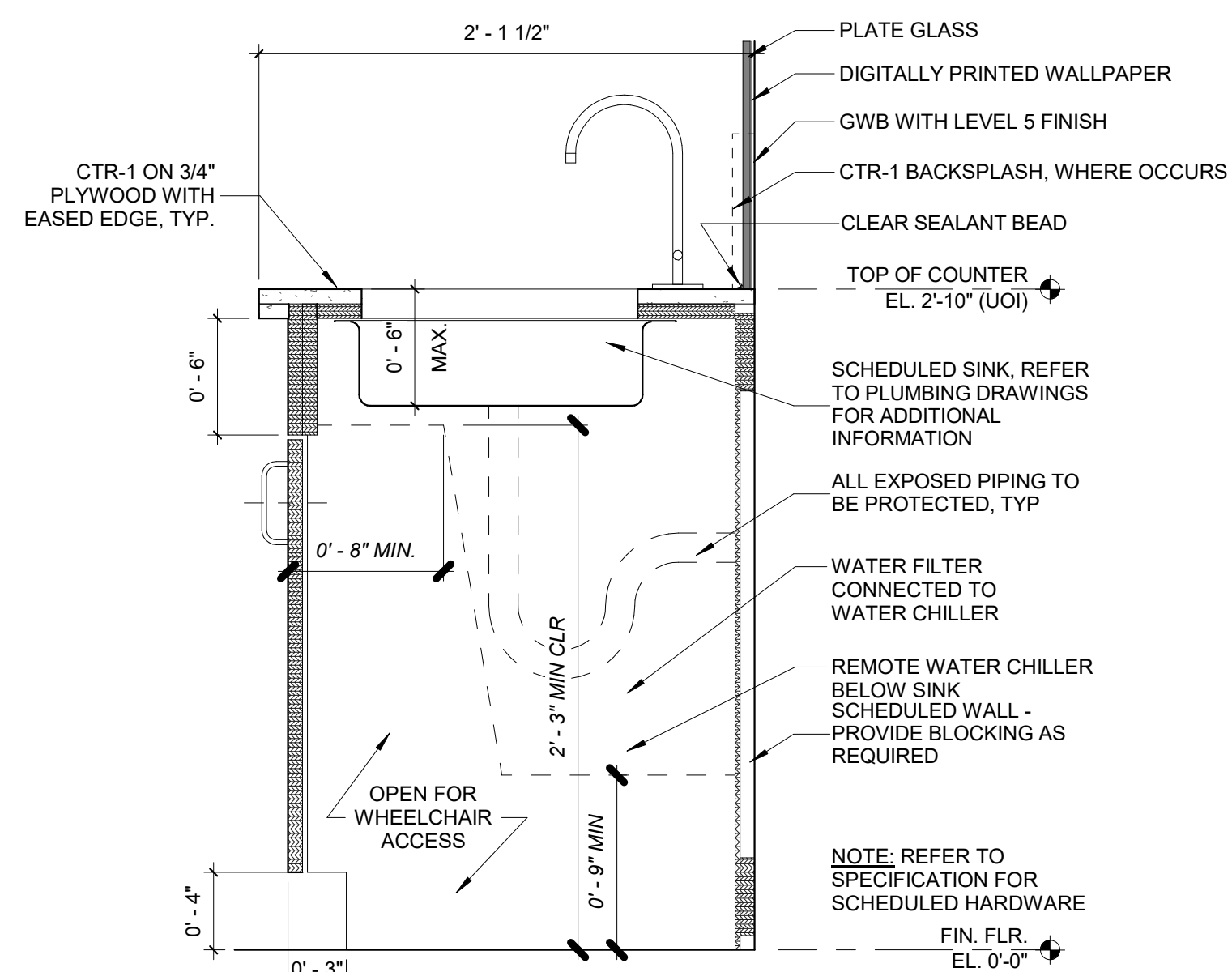
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Scale 1/2" = 1'-0"

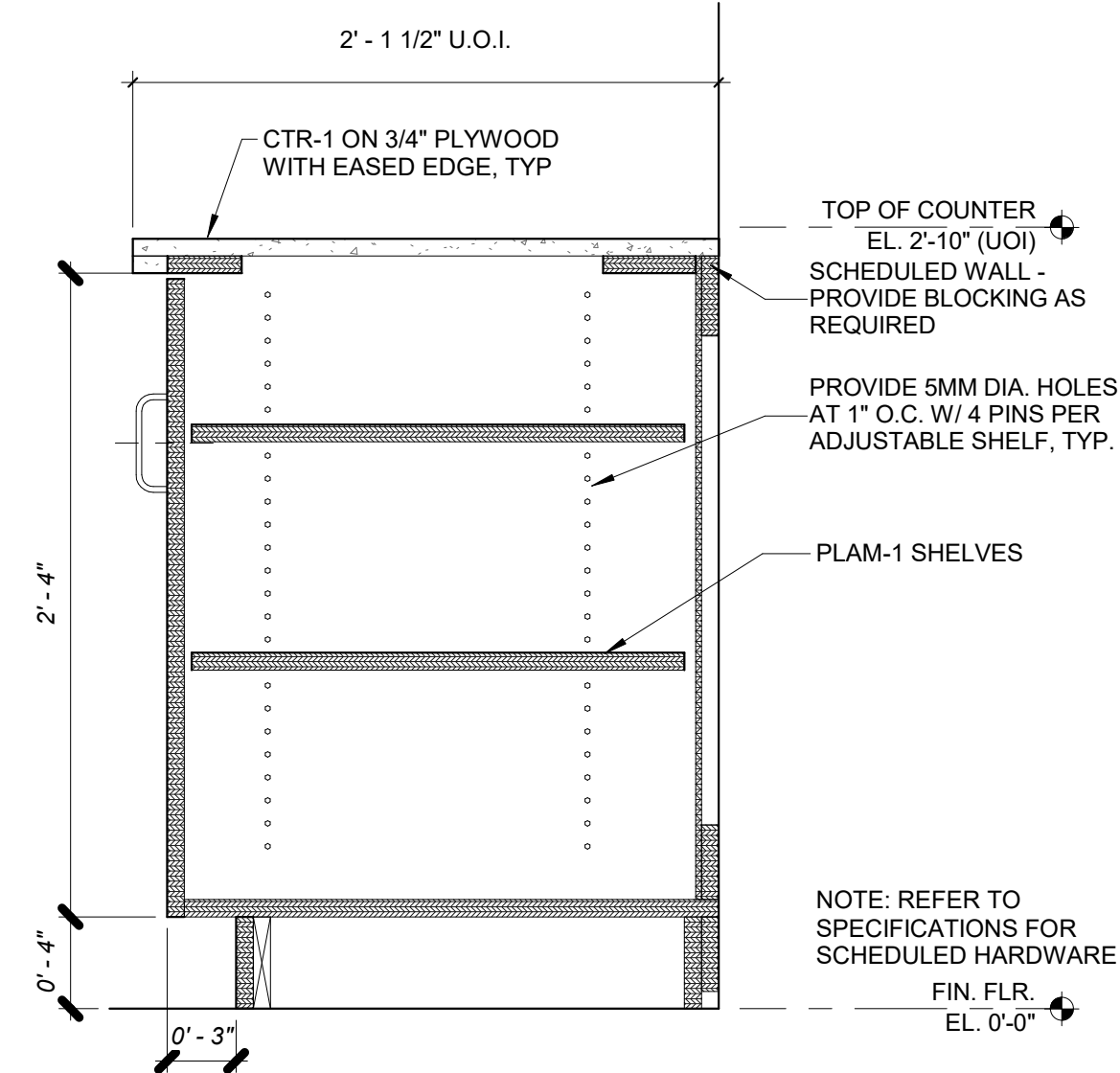
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Project No. 107400

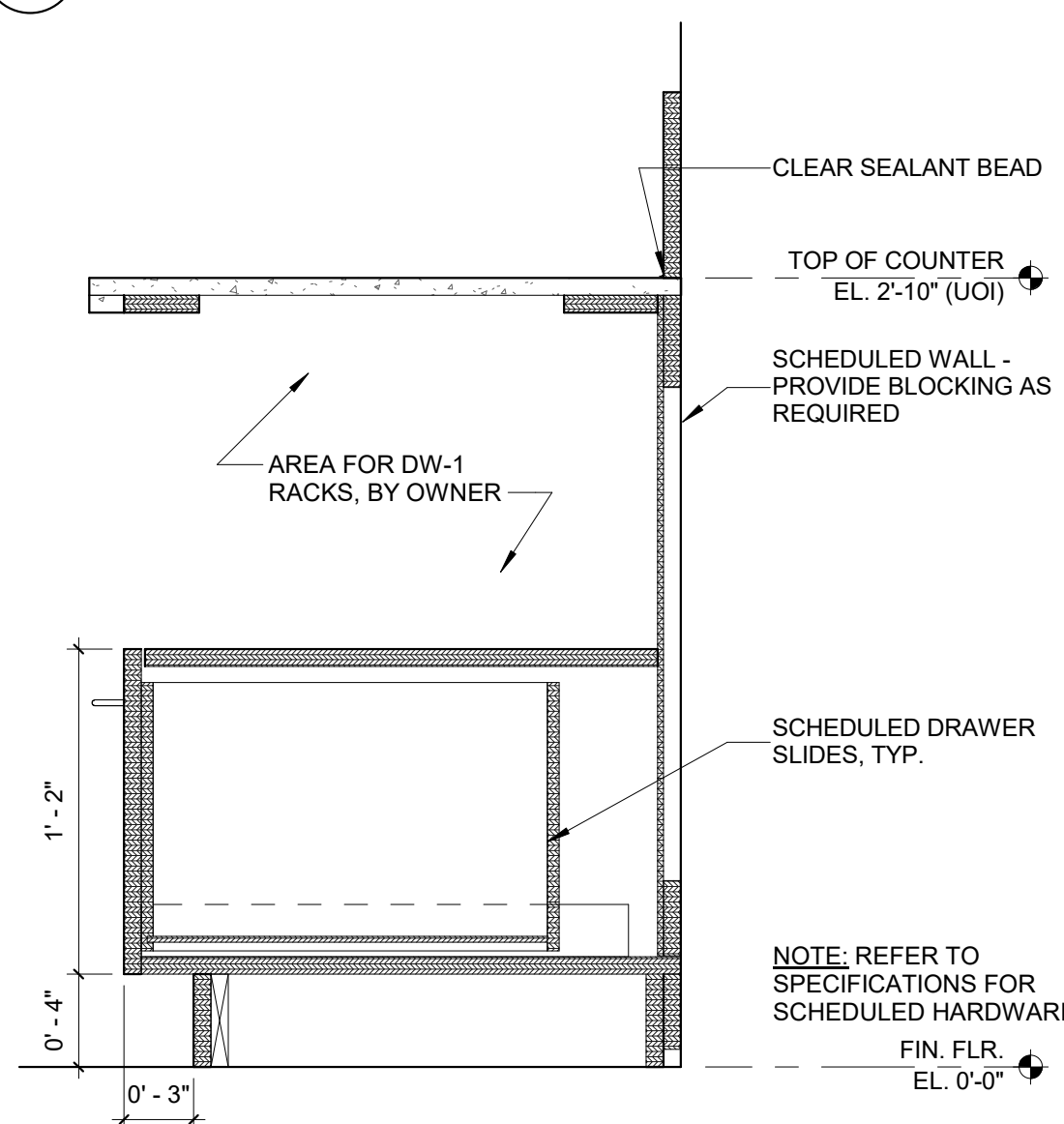
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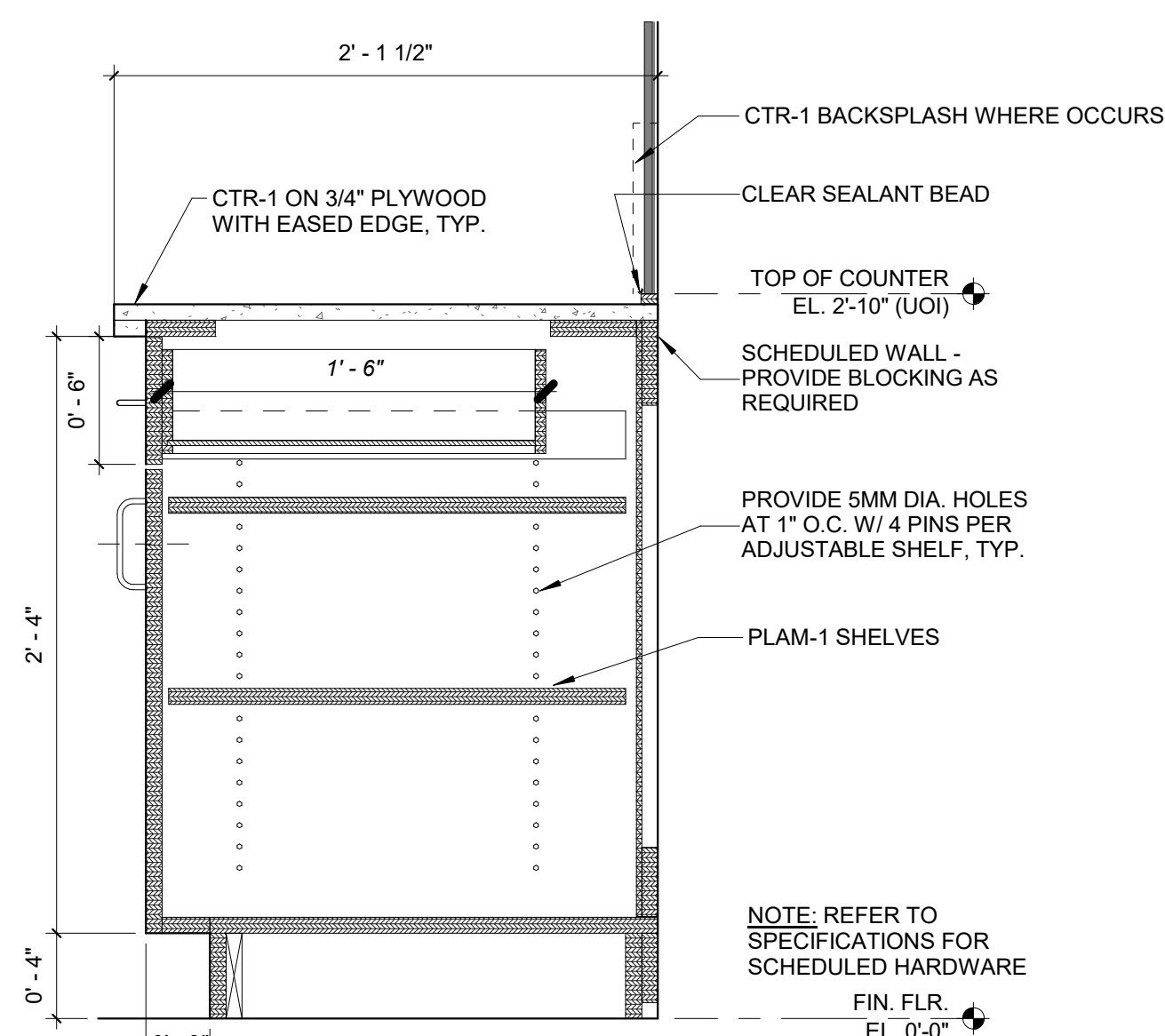
4 ADA BASE CABINET AT SINK
1 1/2" = 1'-0"



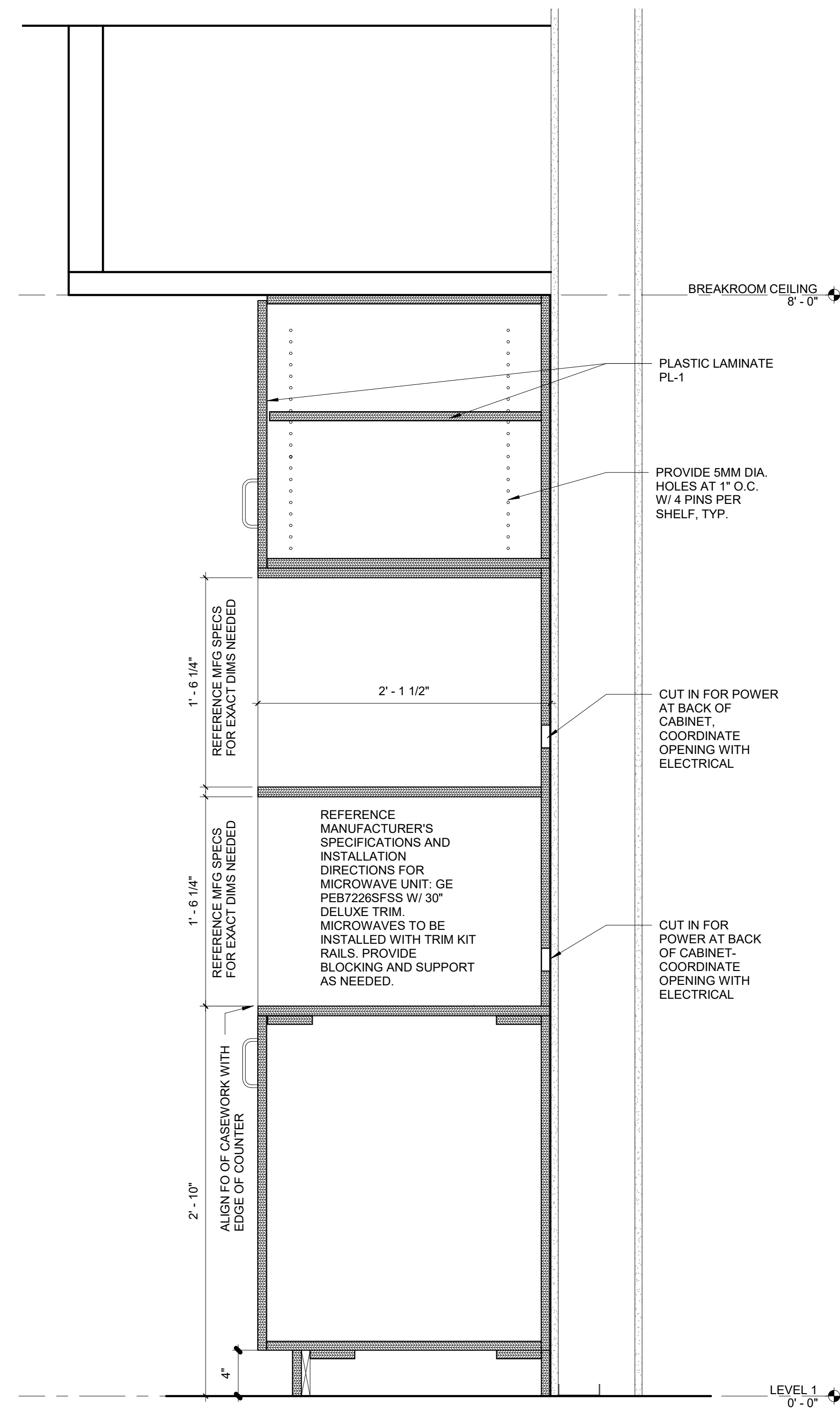
2 BASE CABINET W/DOOR
1 1/2" = 1'-0"



5 BASE CABINET W/ MICRO SHELF
1 1/2" = 1'-0"



3 BASE CABINET W/ DOOR AND DRAWER
1 1/2" = 1'-0"



1 CABINET WITH MICROWAVES
1 1/2" = 1'-0"

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KITCHEN CASEWORK
DETAILS

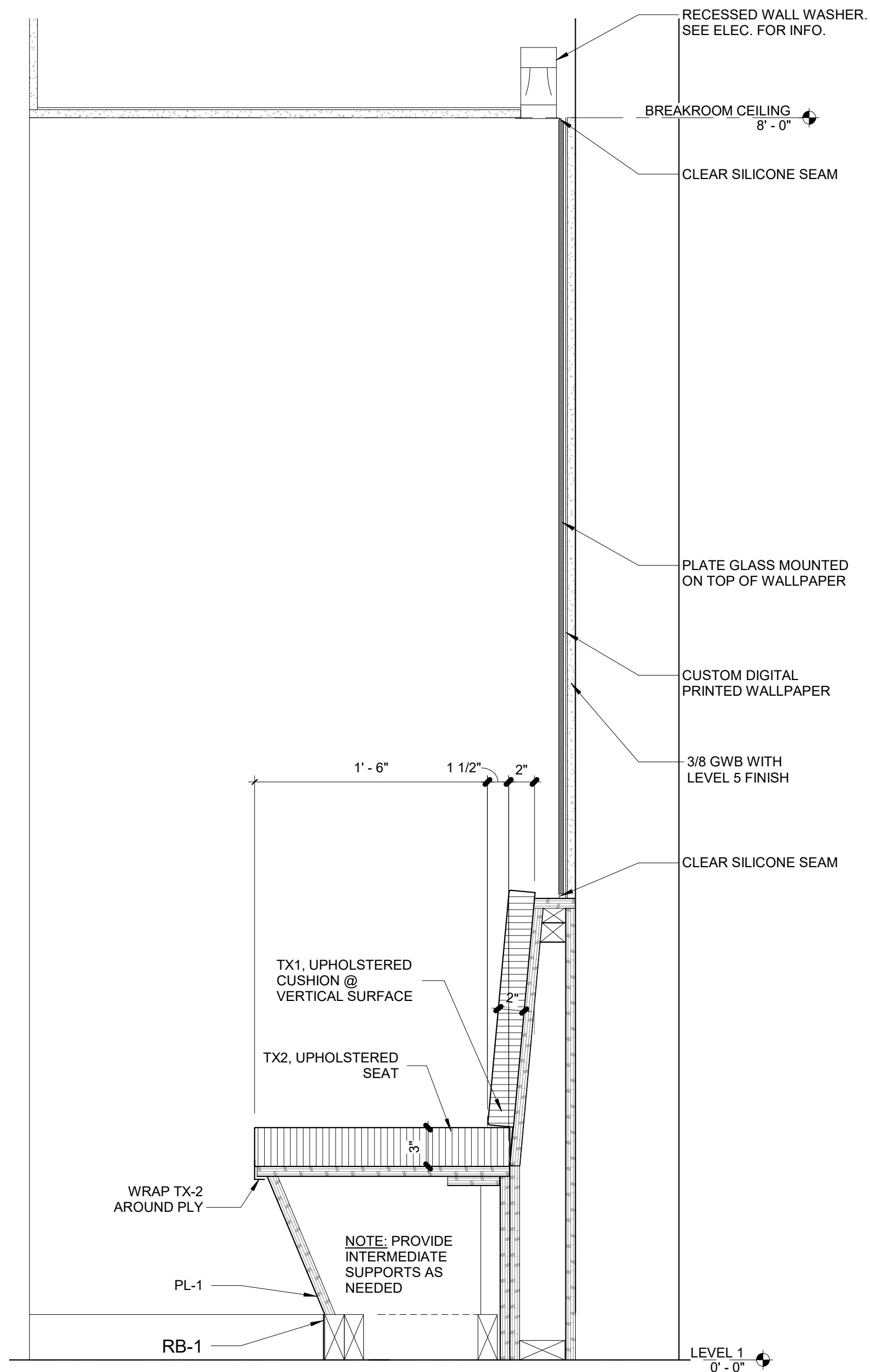
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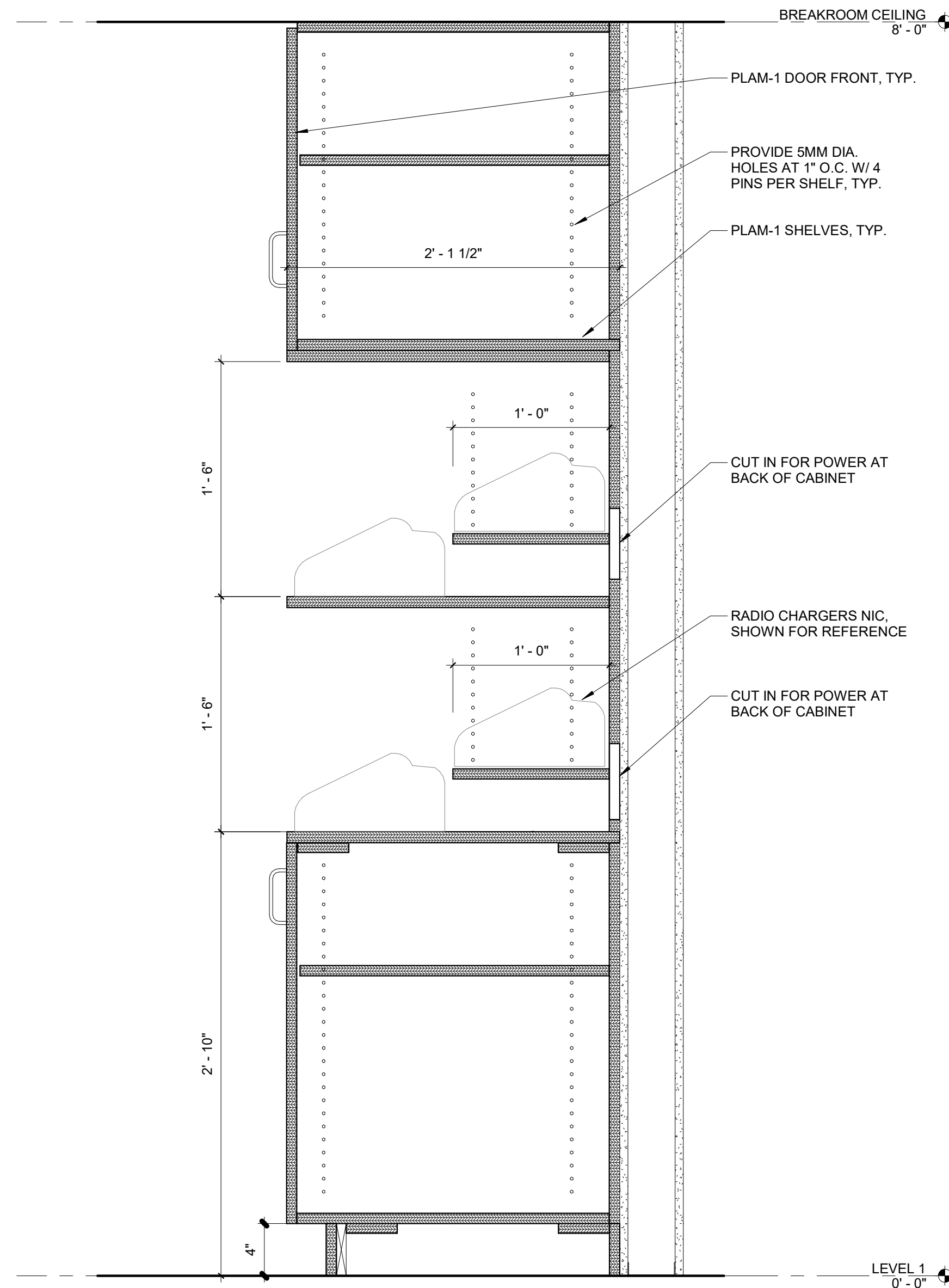
Scale 1 1/2" = 1'-0"

Date SEPT. 20, 2017

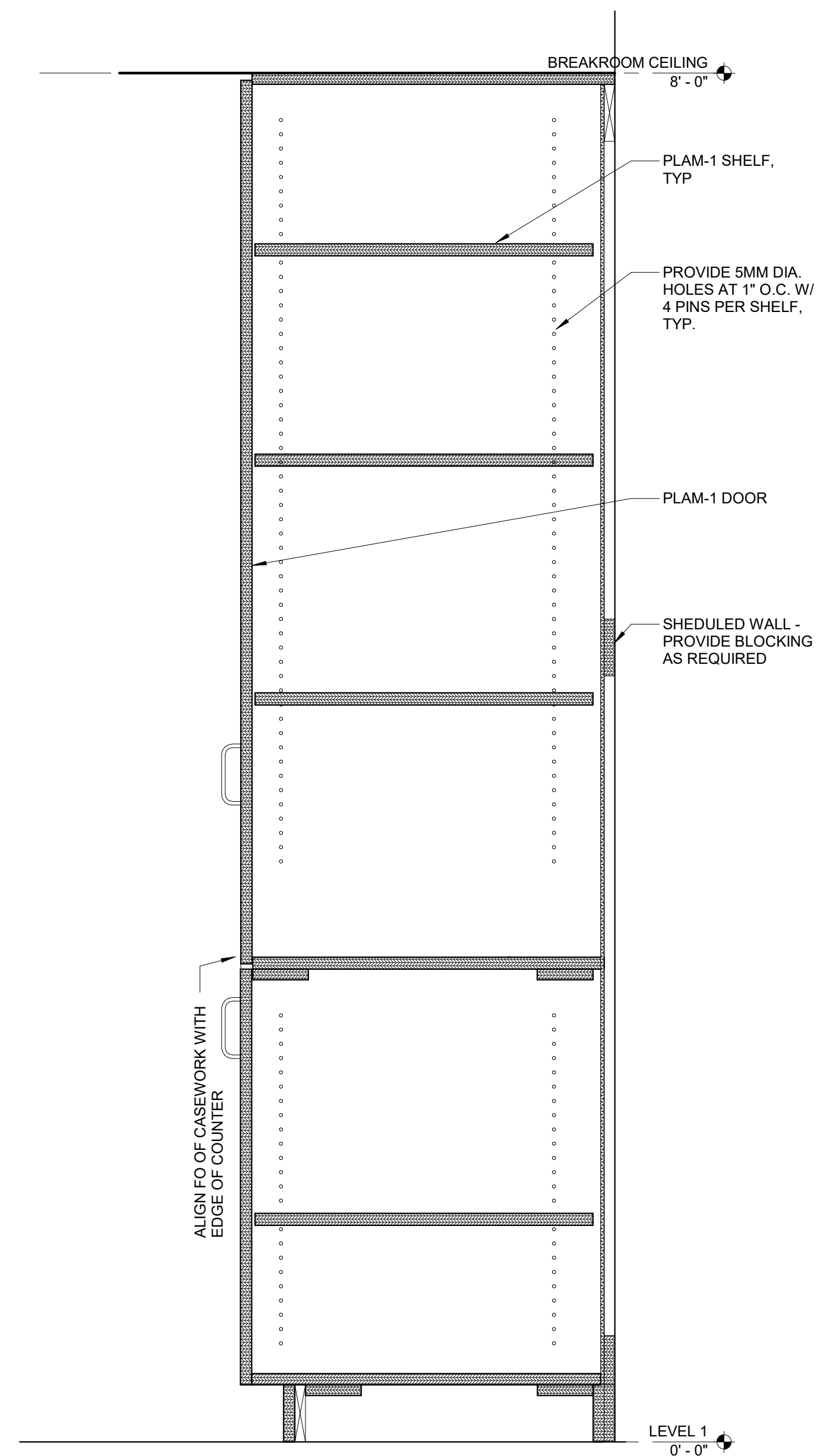
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3 BANQUETTE SECTION
1 1/2" = 1'-0"



2 RADIO CHARGER CABINET
1 1/2" = 1'-0"



1 FULL HEIGHT CABINET
1 1/2" = 1'-0"



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CASEWORK DETAILS

Drawing No.

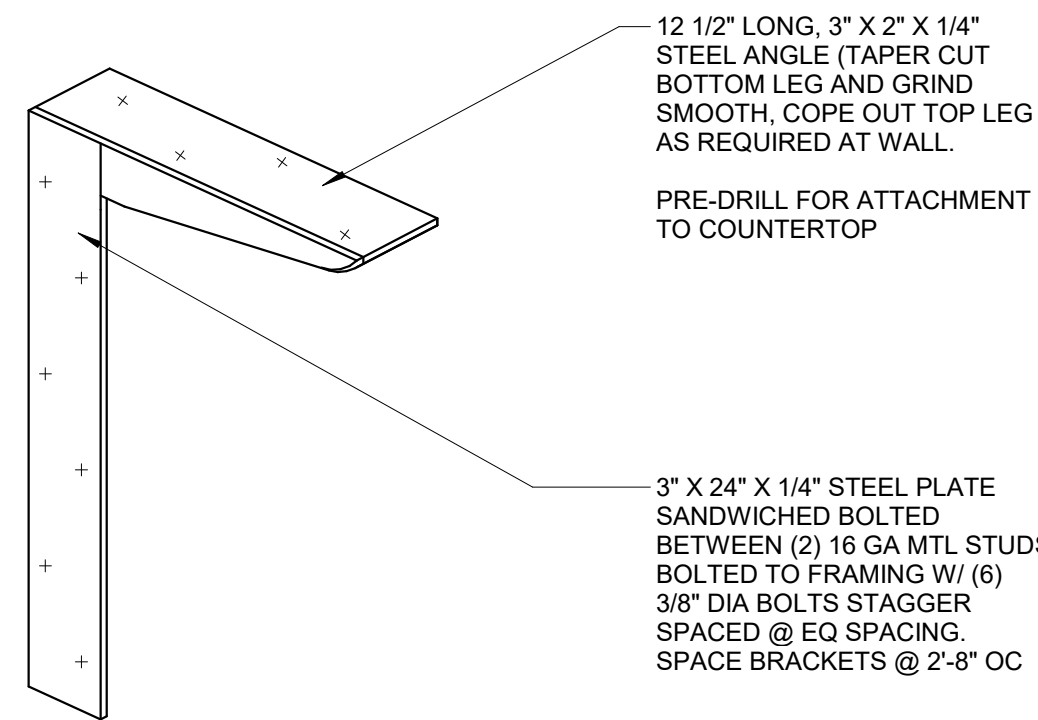
A1.10

Scale 1 1/2" = 1'-0"

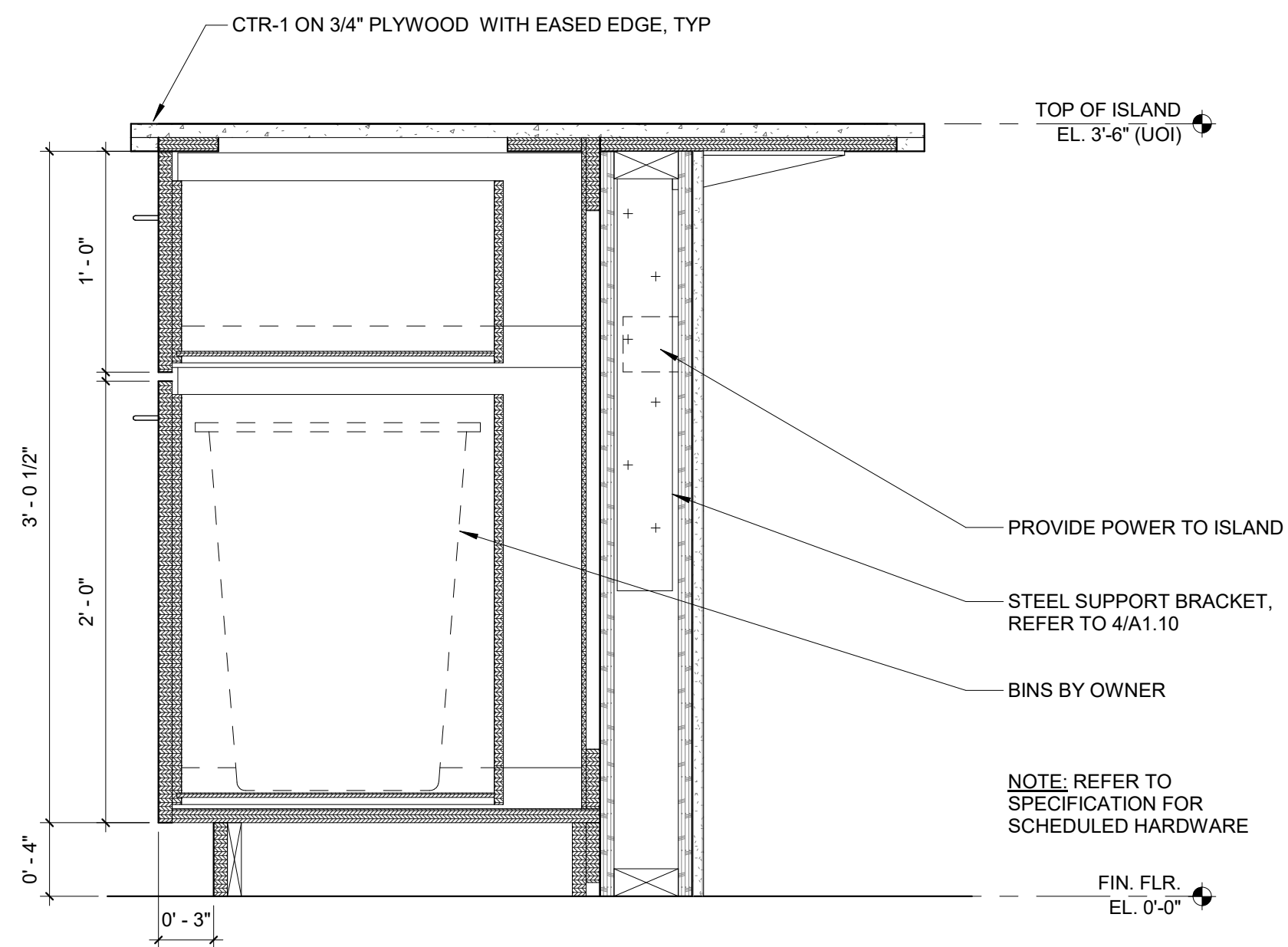
Date SEPT. 20, 2017

Project No. 107400

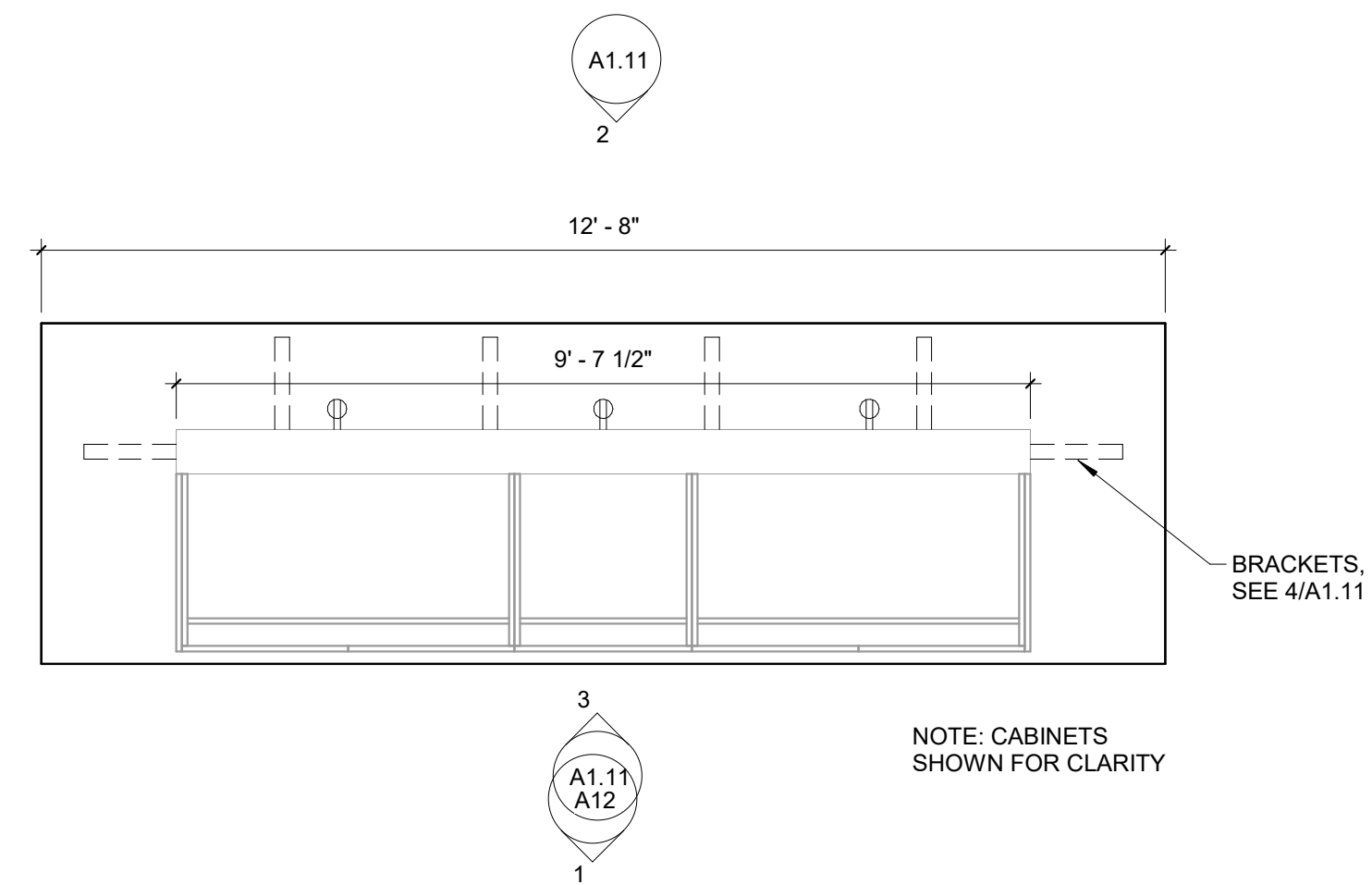
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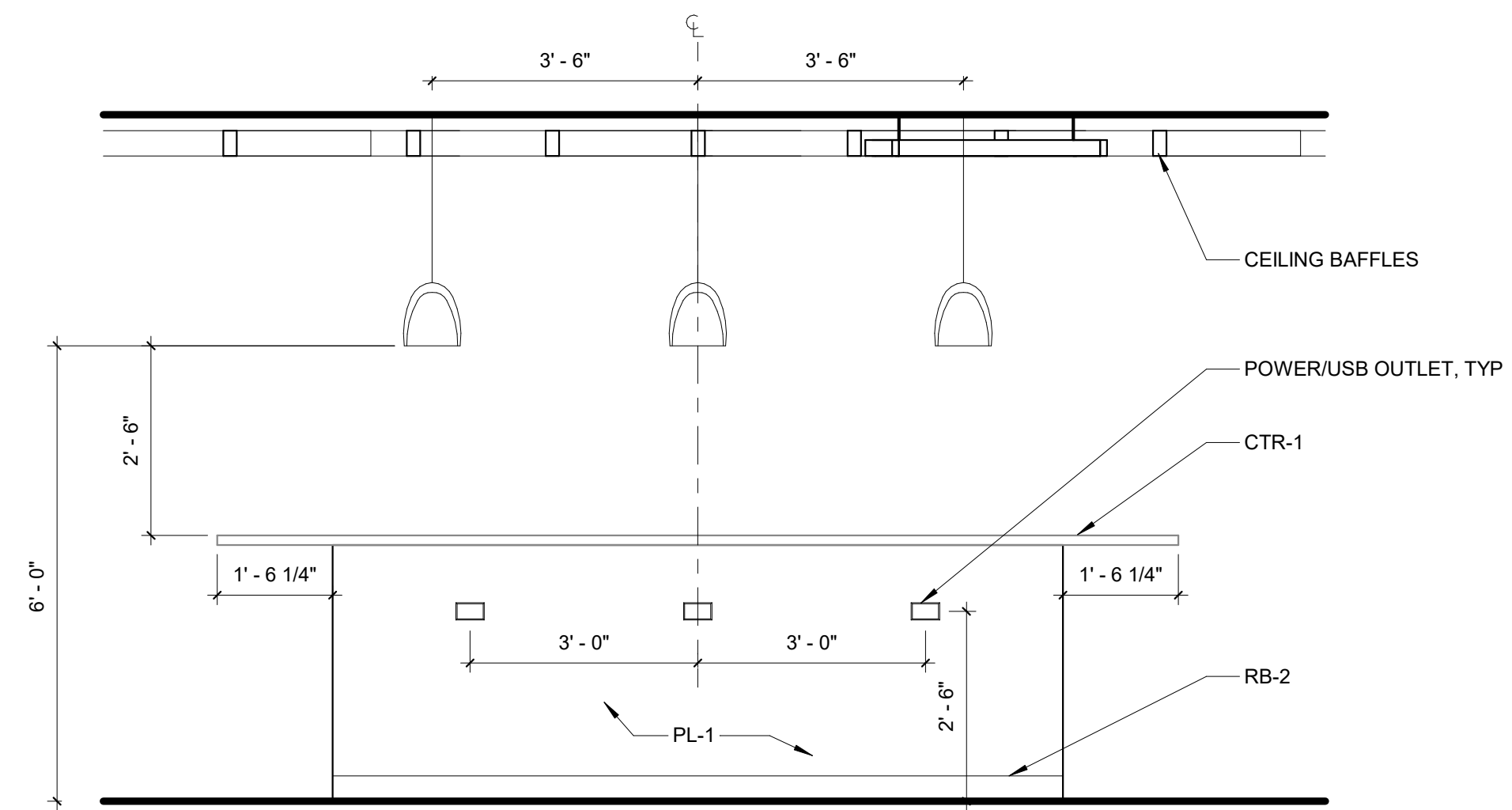
4 STEEL SUPPORT BRACKET
1 1/2" = 1'-0"



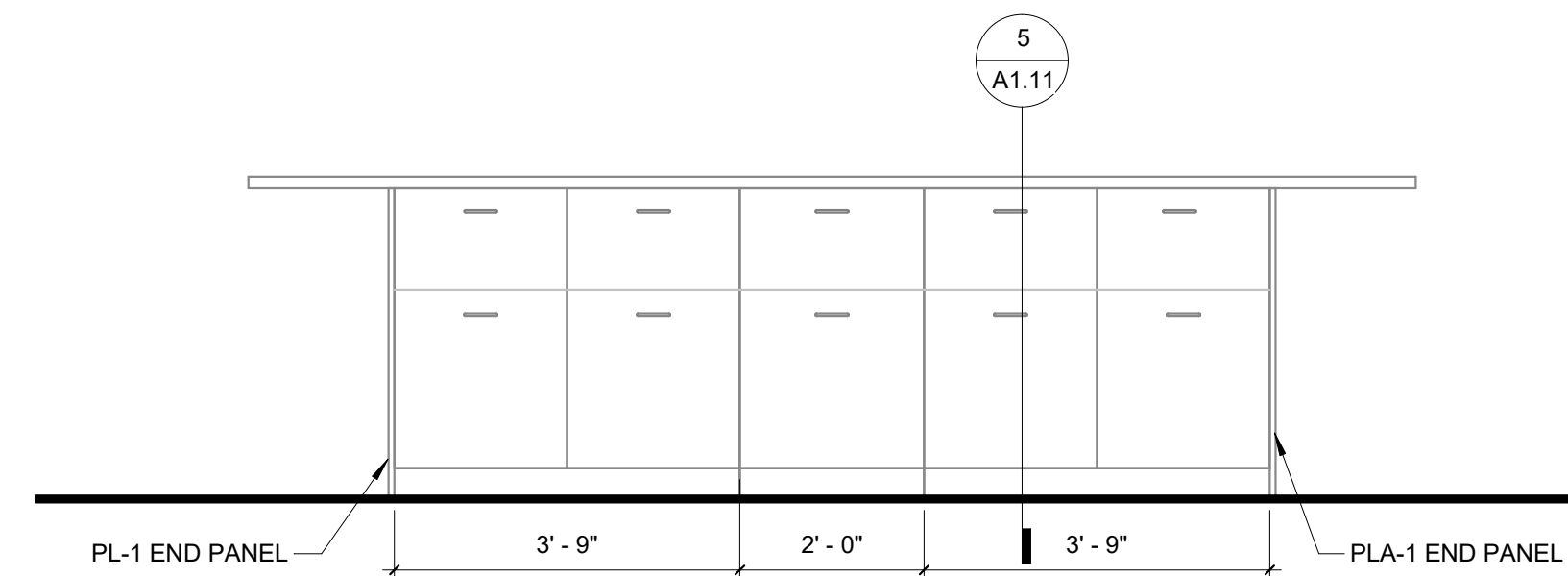
5 BASE CABINET FOR RECYCLING - FRONT ACCESS
1 1/2" = 1'-0"



1 ENLARGED PLAN - KITCHEN ISLAND
1/2" = 1'-0"



2 KITCHEN ISLAND - WEST
1/2" = 1'-0"



3 KITCHEN ISLAND - EAST
1/2" = 1'-0"



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Sheet Title
KITCHEN ISLAND DETAILS

Drawing No.

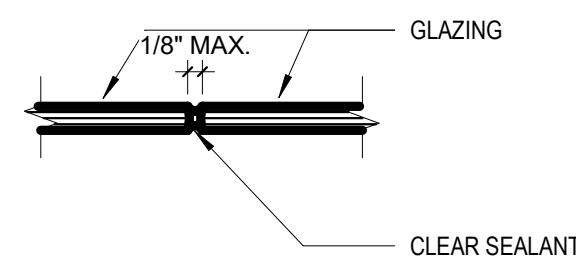
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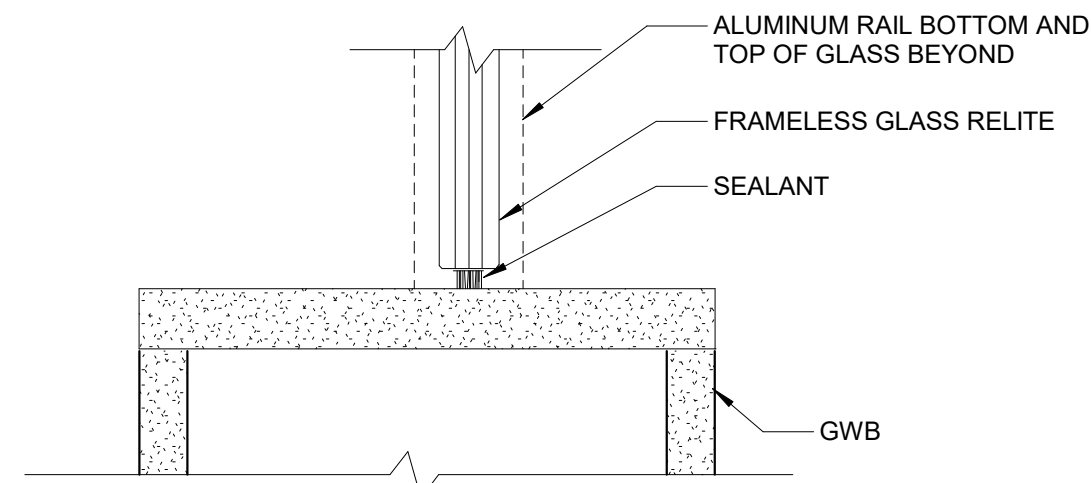
Date SEPT. 20, 2017

Project No. 107400

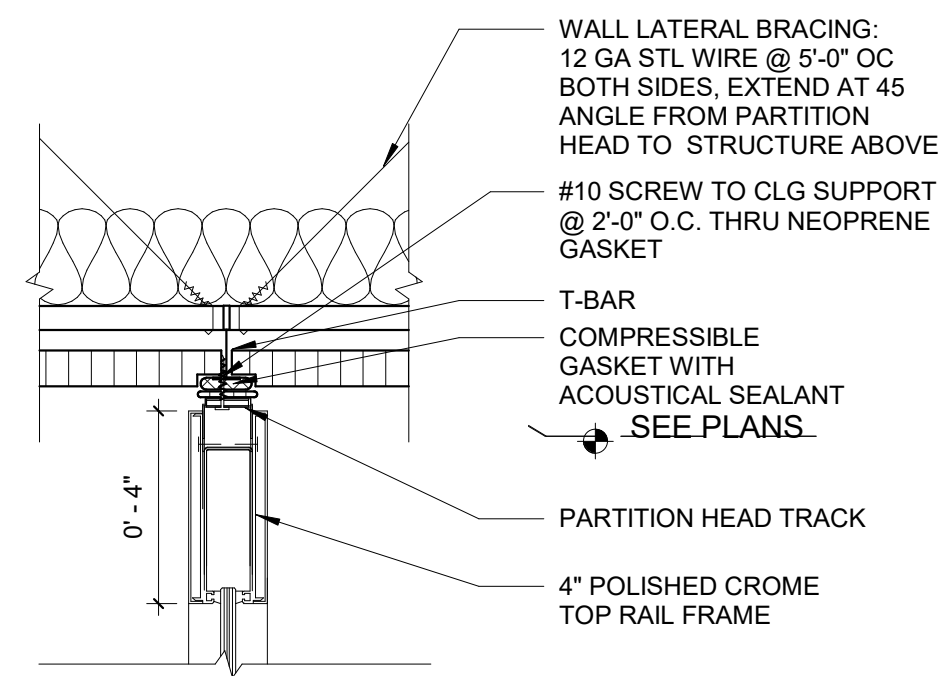
ISSUED FOR CONSTRUCTION



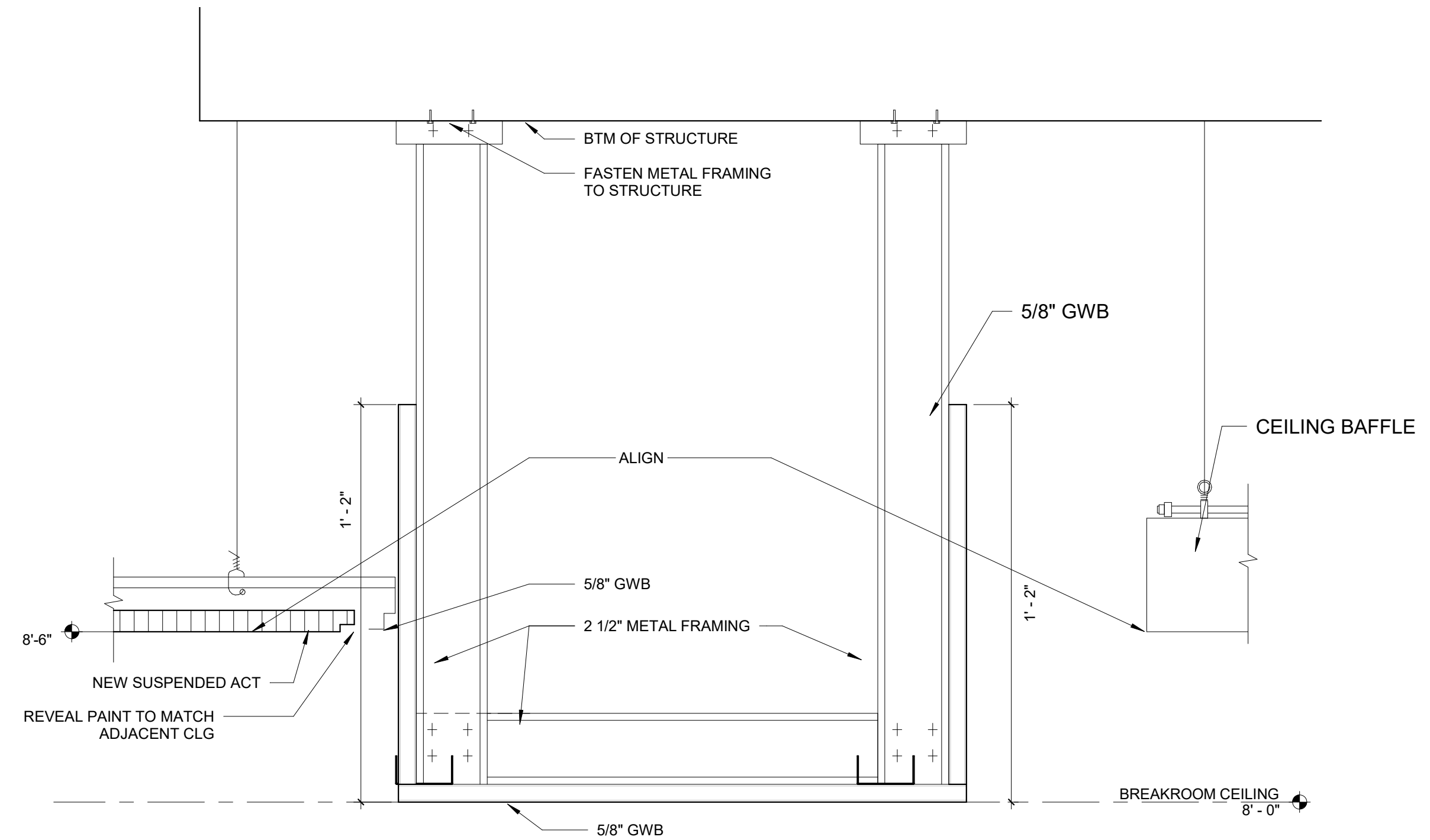
10 TYP GLAZING BUTT JOINT
3" = 1'-0"



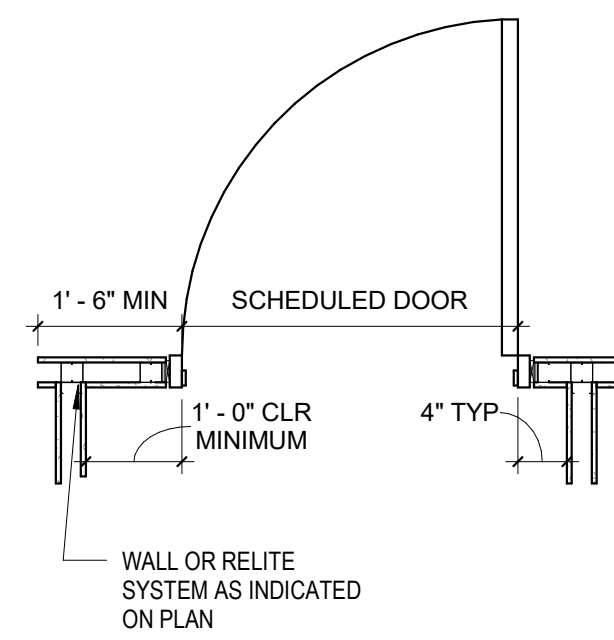
6 PLAN - GLASS RELITE
6" = 1'-0"



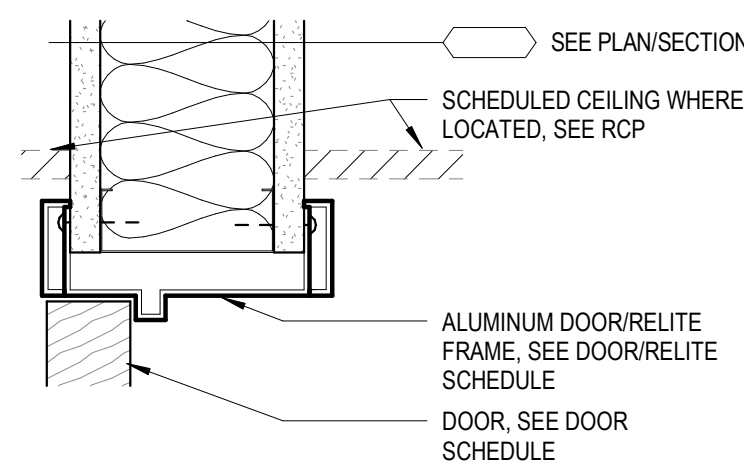
4 SECTION - SILL & HEAD @ FRAMELESS GLASS
3" = 1'-0"



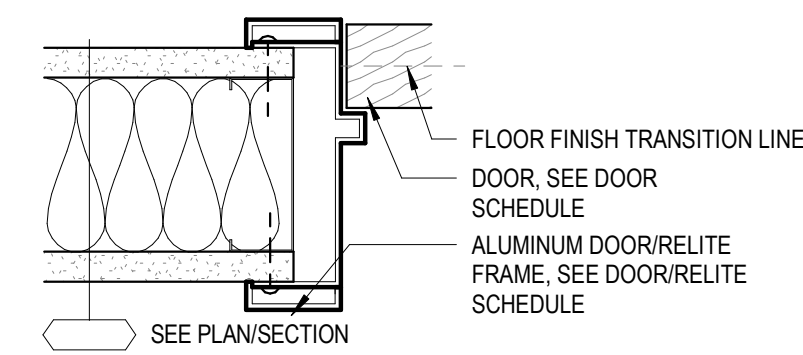
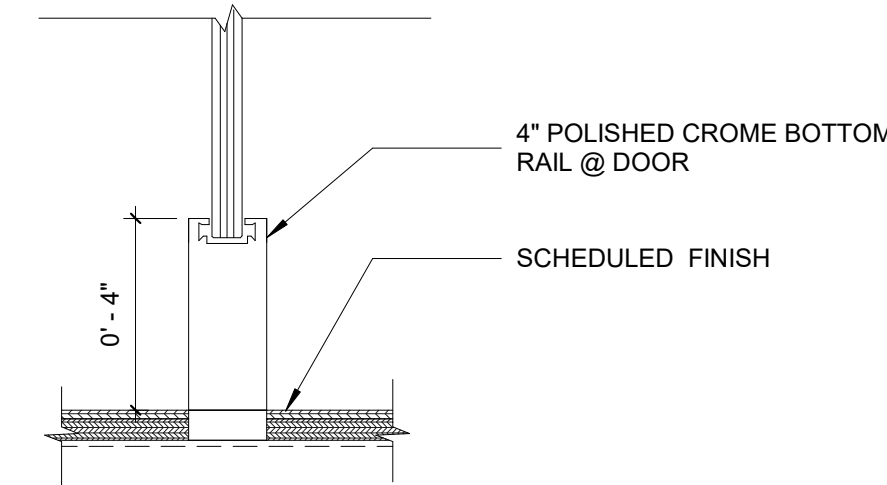
1 TRANSITION FROM ACT TO GWB
3" = 1'-0"



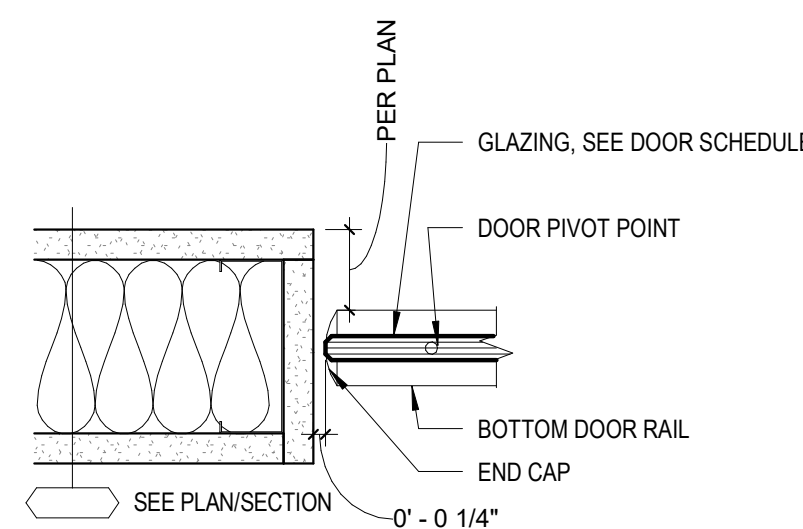
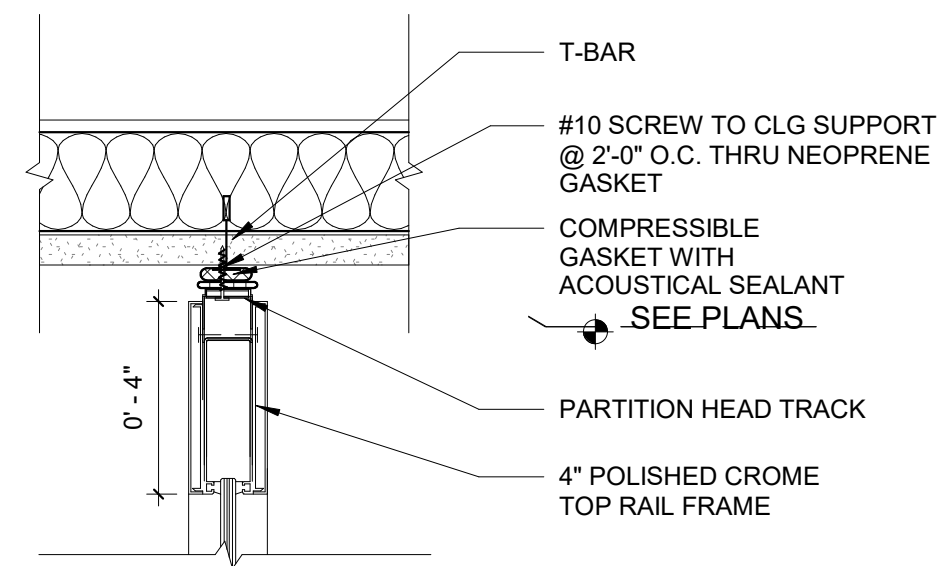
11 TYP INT DOOR CLEARANCES
1/2" = 1'-0"



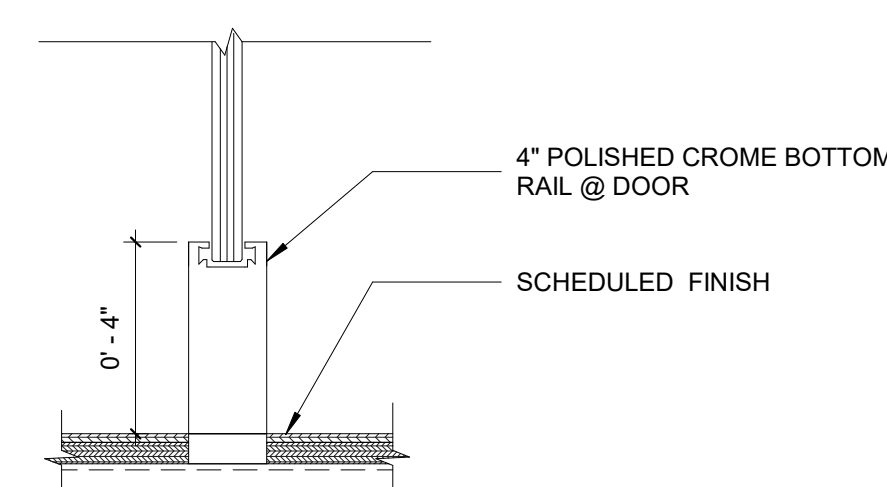
7 WD DOOR - HEAD
3" = 1'-0"



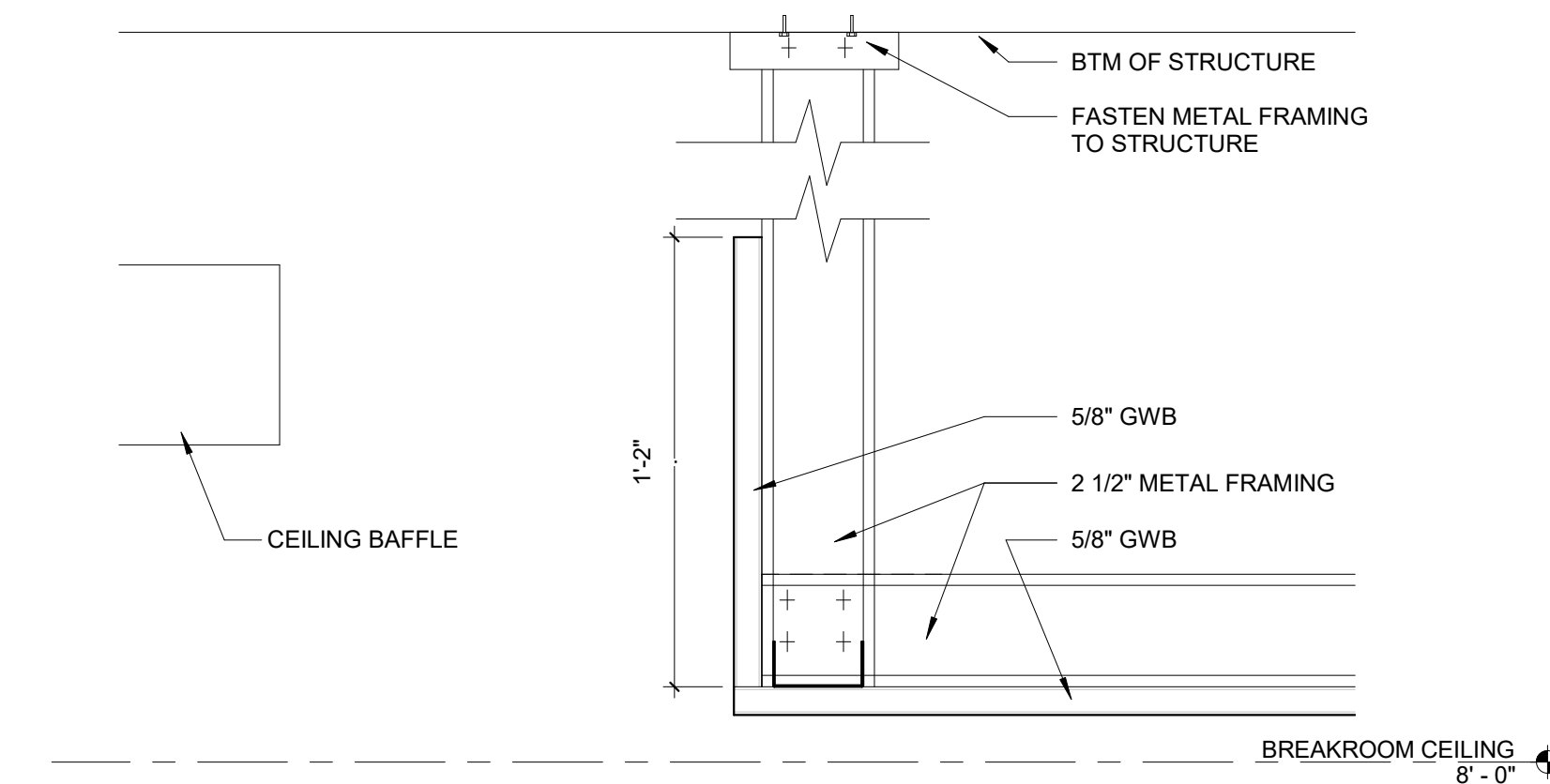
8 WD DOOR - JAMB
3" = 1'-0"



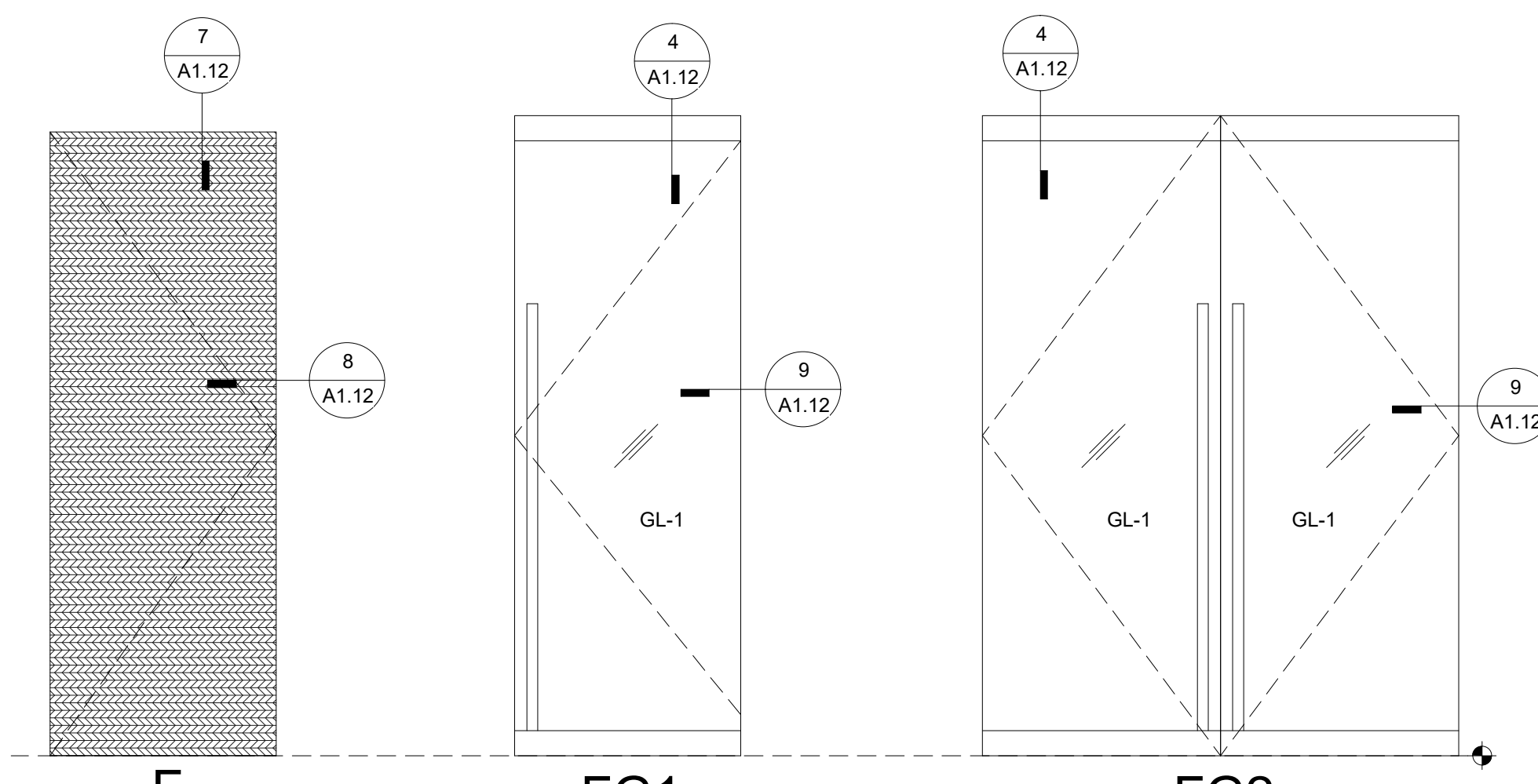
9 FRAMELESS GLASS DOOR - JAMB
3" = 1'-0"



5 SECTION - SILL & HEAD @ FRAMELESS GLASS GWB
3" = 1'-0"



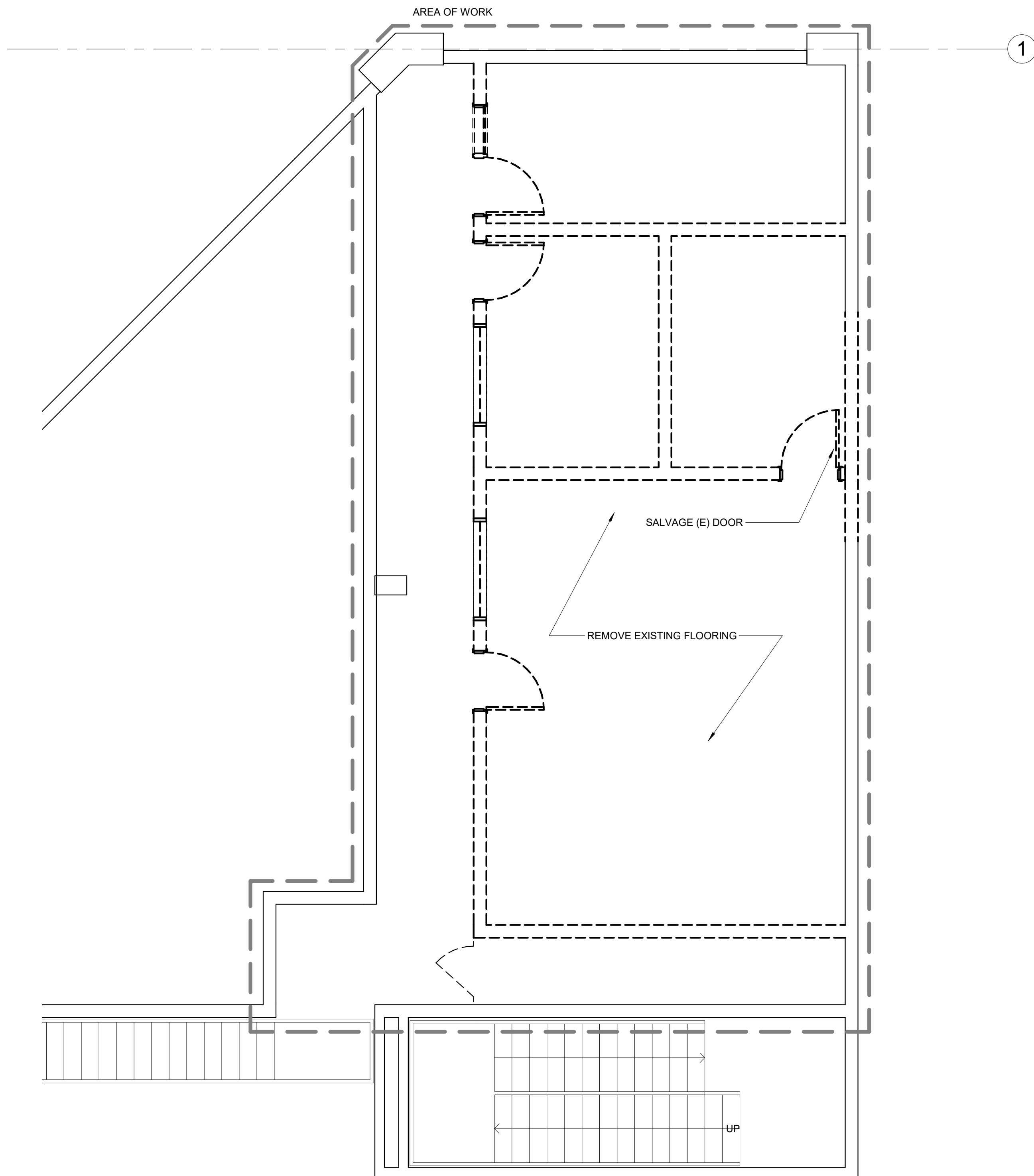
2 TRANSITION FROM GWB TO CEILING BAFFLES
3" = 1'-0"



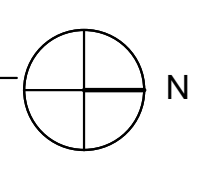
3 DOOR TYPES
1/2" = 1'-0"

DOOR SCHEDULE											
MARK	TO ROOM	TYPE	DOOR				FRAME			COMMENTS	
			WIDTH	HEIGHT	MATERIAL	FINISH	RATING	HARDWARE	TYPE		MATERIAL
LEVEL 1											
101	BREAK ROOM	FG2	6' - 0"	8' - 3"	-	-	-	-	-	-	HARDWARE PER BLDNG STANDARD, SEE A10.00 FOR TOP & BOTTOM RAIL AND CONCEALED CLOSER
102A	CONFERENCE ROOM	FG1	3' - 0"	8' - 6"	-	-	-	-	-	-	
102B	CONFERENCE ROOM	FG1	3' - 0"	8' - 6"	-	-	-	-	-	-	
103	ENTRY	F	3' - 0"	7' - 0"	HM	BLDNG STDR.	-	-	HM	-	(E) DOOR, TO BE PAINTED PT-1
104	ELECTRICAL / IDF	F	3' - 0"	7' - 0"	HM	BLDNG STDR.	-	-	HM	-	(E) STORAGE DOOR TO BE RELOCATED IN NEW ELEC/IDF ROOM, PAINTED PT-1
LEVEL 2											
201	OPEN OFFICE	FG1	3' - 0"	7' - 9 1/2"	-	-	-	-	-	-	
202	OFFICE	FG1	3' - 0"	7' - 9 1/2"	-	-	-	-	-	-	
203	OFFICE	FG1	3' - 0"	7' - 9 1/2"	-	-	-	-	-	-	
204	STORAGE	F	3' - 0"	7' - 0"	HM	BLDNG STDR.	-	-	HM	-	PAINT PT-1




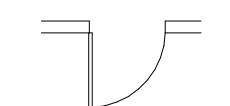
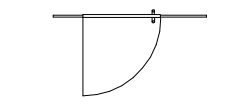

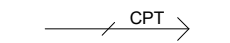
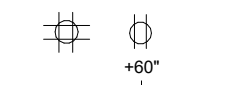






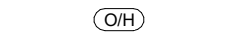



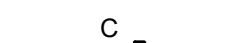




MARK	DATE	DESCRIPTION
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1 SECOND FLOOR EXISTING & DEMOLITION PLAN
1/4" = 1'-0"



LEGEND

-  NEW PARTITION
-  EXISTING PARTITION OR OBJECT TO BE REMOVED/SALVAGED
-  EXISTING WALL TO REMAIN
-  EXISTING DOOR
-  GLASS PIVOT DOOR
-  GLASS PARTITION
-  FLOOR MATERIAL CHANGE
-  NEW QUADRAPLEX DUPLEX OUTLET
-  OUTLET HEIGHT AFF
-  SWITCH/OCCUP. SENSOR
-  VOICE/DATA OUTLET
-  DATA PORT - TELEPHONE
-  DATA PORT - NETWORK
-  COAXIAL CONNECTION
-  "P" POWER BASED FEED
-  OVERHEAD PROJECTOR
-  J-BOX WITH PULL STRING
-  FLUSH FLOOR OUTLET
-  THERMOSTAT
-  48" TALL KOROGARD R100 CORNERGUARDS TRIM COLOR: VAPOR
-  FEC FIRE EXTINGUISHER CABINET
-  CR CARD READER
-  REX REQUEST TO EXIT



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Sheet Title
SECOND FLOOR
EXISTING &
DEMOLITION PLAN

Drawing No.

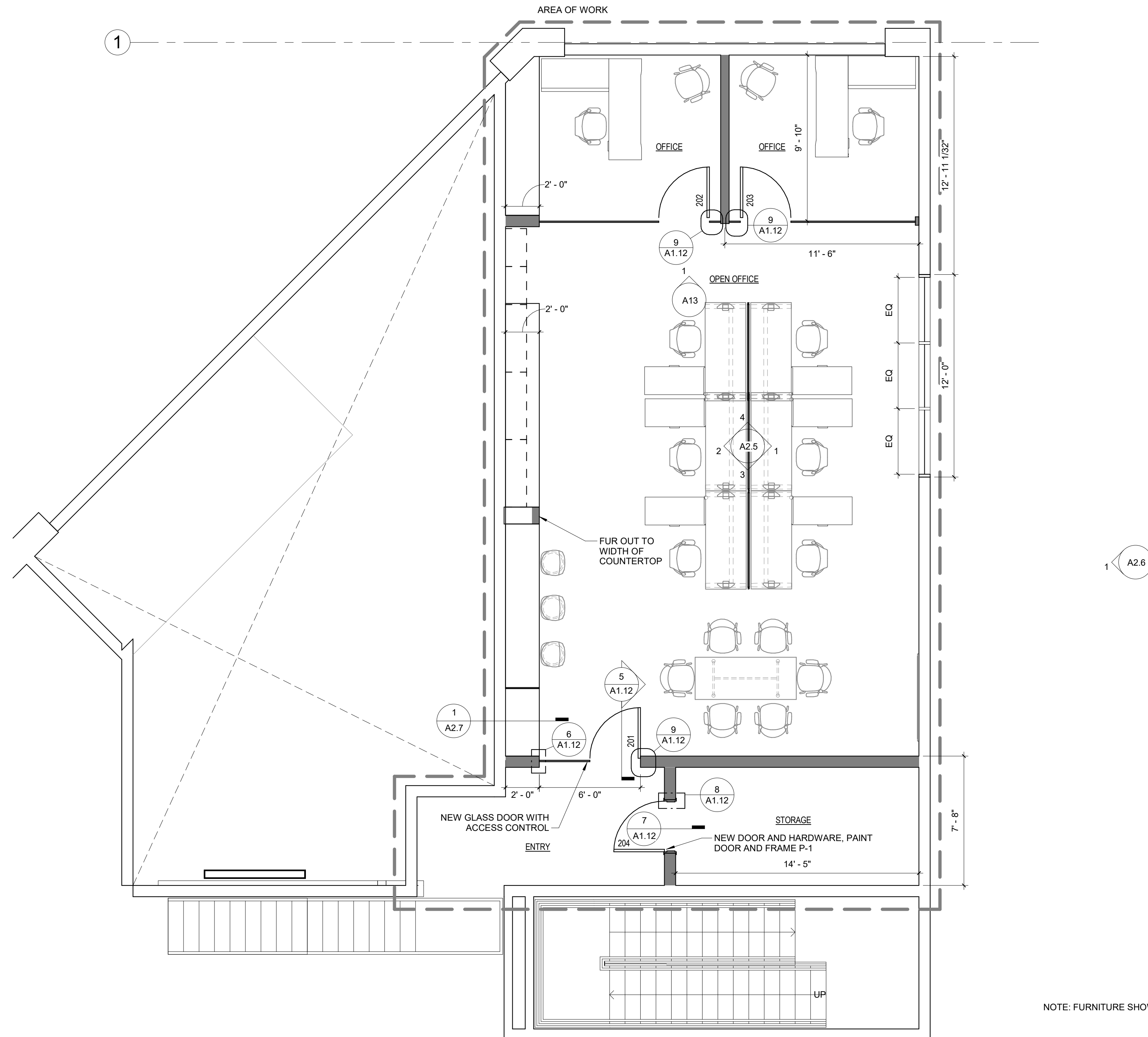
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Scale As indicated

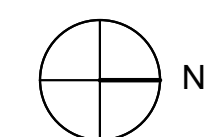
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NOTE: FURNITURE SHOWN FOR REFERENCE, NIC



LEGEND

- NEW PARTITION
- EXISTING PARTITION OR OBJECT TO BE REMOVED/SALVAGED
- EXISTING WALL TO REMAIN
- EXISTING DOOR
- GLASS PIVOT DOOR
- GLASS PARTITION
- FLOOR MATERIAL CHANGE
- NEW QUADRAPLEX DUPLEX OUTLET
- OUTLET HEIGHT AFF
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- THERMOSTAT
- 48" TALL KOROGARD R100 CORNERGUARDS TRIM COLOR: VAPOR
- FIRE EXTINGUISHER CABINET
- CARD READER
- REQUEST TO EXIT

1 PROPOSED SECOND FLOOR PLAN
1/4" = 1'-0"



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Sheet Title
SECOND FLOOR
PROPOSED PLAN

Drawing No.

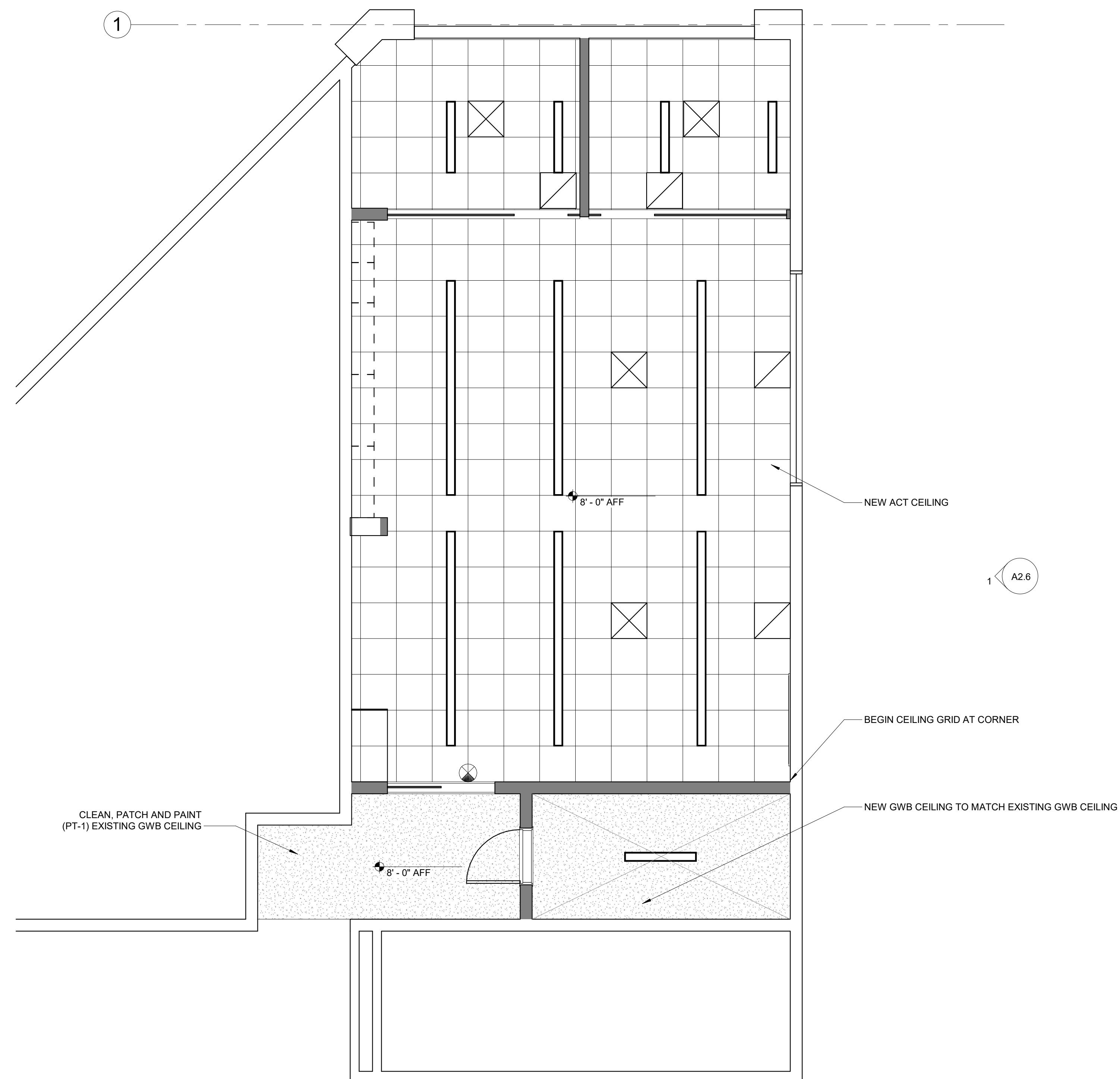
A2.2

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1 SECOND FLOOR REFLECTED CEILING PLAN
1/4" = 1'-0"

LEGEND

- CAN LIGHT FIXTURE
- SPOT LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
- RECESSED LINEAR LIGHT FIXTURE
- RETURN AIR DIFFUSER
- SUPPLY AIR
- SLOT SUPPLY REGISTER
- SUSPENDED ACOUSTIC CEILING TILE "CLOUD", 2'-0" X 4'-0" O.C.
- GYPSUM WALLBOARD CEILING
- ACOUSTIC INSULATION ABOVE RELOCATABLE WALL PARTITION
- EXIT SIGN
- SPEAKER
- SMOKE DETECTOR
- OCCUPANCY SENSOR
- WIRELESS ACCESS POINT
- SECURITY CAMERA



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SECOND FLOOR REFLECTED CEILING PLAN

Drawing No.

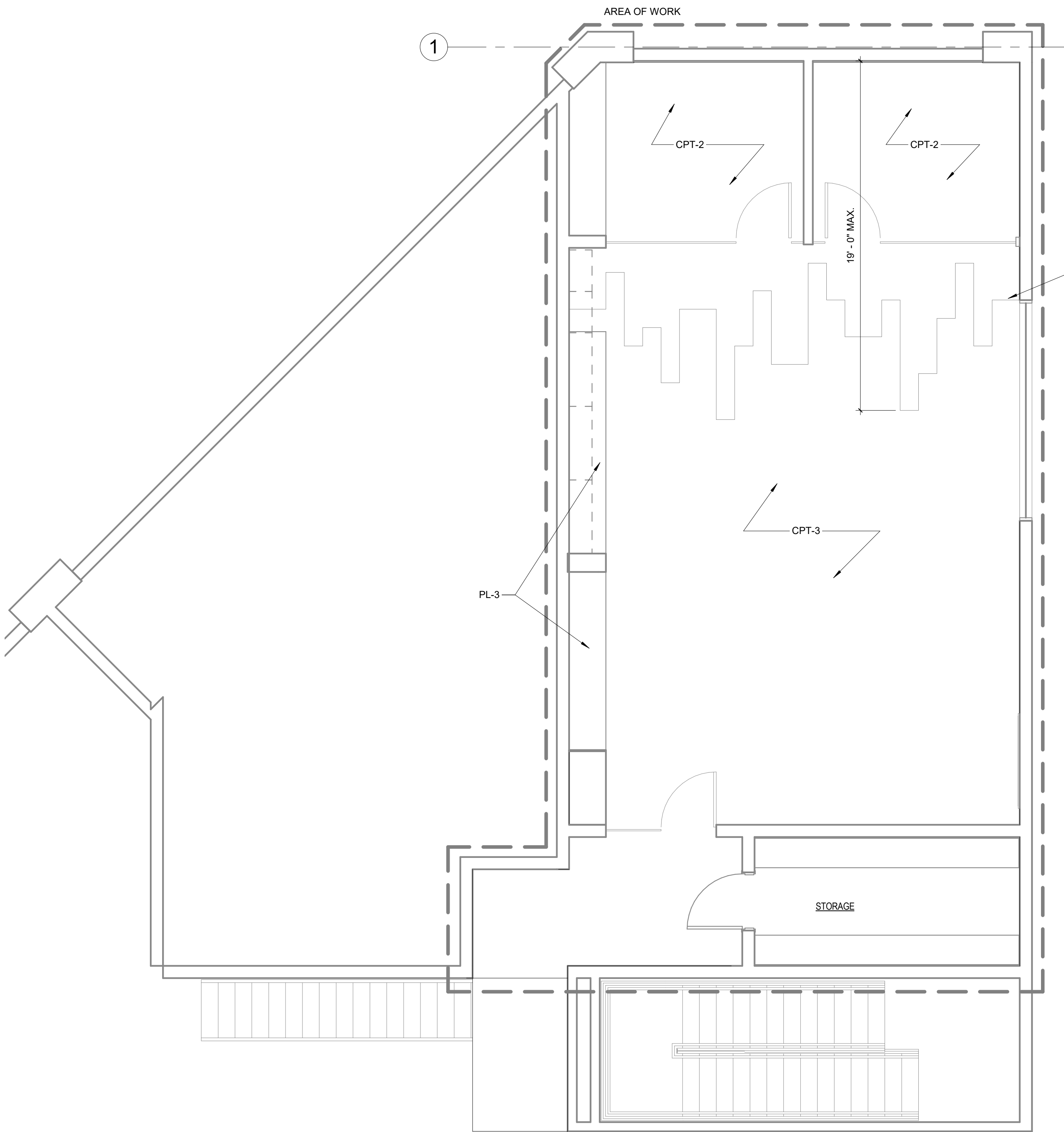
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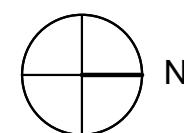
Date SEPT. 20, 2017

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1 SECOND FLOOR FINISH PLAN
1/4" = 1'-0"



FINISH NOTES:

1. PAINT ALL GWB SURFACES AND WOOD DOORS THROUGHOUT SCOPE OF WORK P-1, UOI. INSTALL NEW FLOORING AND BASE THROUGHOUT SCOPE OF WORK.
2. ALL PAINTS AND COATINGS APPLIED ON SITE ARE TO BE ZERO/LOW VOC, LOW EMITTING MATERIALS. PAINTS, COATINGS AND PRIMERS APPLIED TO INTERIOR WALLS AND CEILINGS SHALL NOT EXCEED THE VOC CONTENT LIMITS ESTABLISHED IN GREEN SEAL STANDARD GS-11, PAINTS, FIRST EDITION, MAY 20, 1993. [FLATS: 50 g/L, NON-FLATS: 15g/L]
3. PAINTS APPLIED TO FERROUS METAL SUBSTRATES SHALL NOT EXCEED THE V.O.C. CONTENT LIMIT OF 250 g/L.
4. ADHESIVES, SEALANTS AND SEALANT PRIMERS SHALL COMPLY WITH THE REQUIREMENTS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE #1168, EFFECTIVE JANUARY 1, 2003 AND AMENDED OCTOBER 3, 2003.
5. AEROSOL ADHESIVES SHALL COMPLY WITH THE REQUIREMENTS OF GREEN SEAL STANDARD GS-36, EFFECTIVE OCTOBER 19, 2000.
6. ALL CARPET AND CUSHION SHALL MEET THE REQUIREMENTS ESTABLISHED IN THE CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM. ALL CARPET ADHESIVES SHALL MEET THE REQUIREMENTS OF 4.1, LOW-EMITTING MATERIALS. ADHESIVES AND SEALANTS. [V.O.C. LIMIT OF 50 g/L]
7. COMPOSITE WOOD, AGRIFIBER PRODUCTS AND LAMINATING ADHESIVES USED TO FABRICATE ON-SITE AND SHOP-APPLIED COMPOSITE WOOD AND AGRIFIBER SHALL CONTAIN NO UREA-FORMALDEHYDE RESINS.
8. NO PVC/VINYL PRODUCTS SHALL BE USED, WITH THE EXCEPTION OF PLUMBING AND ELECTRICAL WIRING.
9. ALL RUBBER BASE AT CARPET LOCATIONS SHALL BE STRAIGHT TYPE. RESILIENT FLOORING LOCATIONS SHALL RECEIVE COVE TYPE RUBBER BASE.
10. FLOOR FINISH TRANSITIONS OCCUR AT CENTERLINE OF DOORWAY U.O.I.
11. REFERENCE BOTH THE FINISH PLAN AND ELEVATION SHEETS FOR PAINT, AND OTHER FINISHES.
12. PAINT ALL CORE & SHELL DOORS & FRAMES P-1.
13. ALL EXPOSED GWB TO BE PAINTED P-1 UNLESS OTHERWISE INDICATED.
14. ALL DOORS TO BE PAINTED TO MATCH THE ASSOCIATED WALL U.O.I.
15. AT PERIMETER WINDOW WALL ALL PAINTED SURFACES TO MATCH P-1



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SECOND FLOOR
FINISH PLAN

Drawing No.

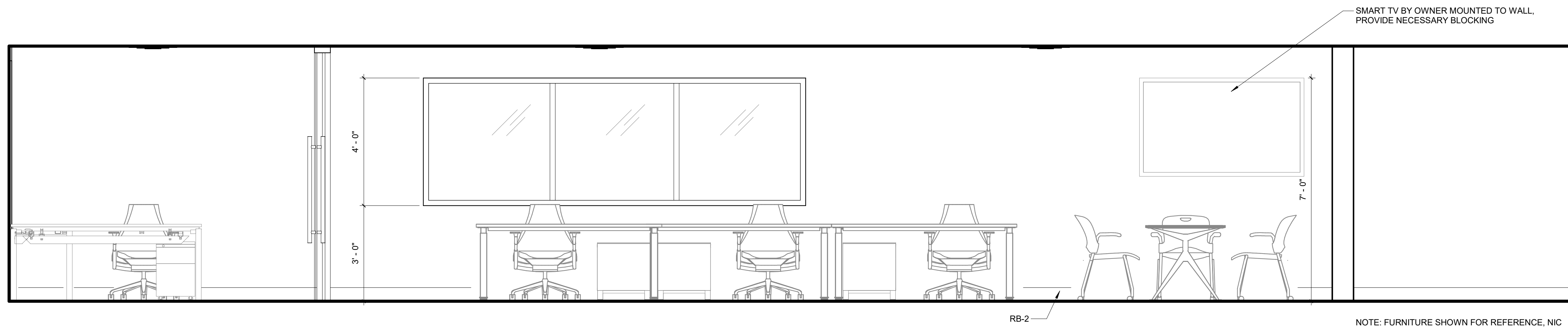
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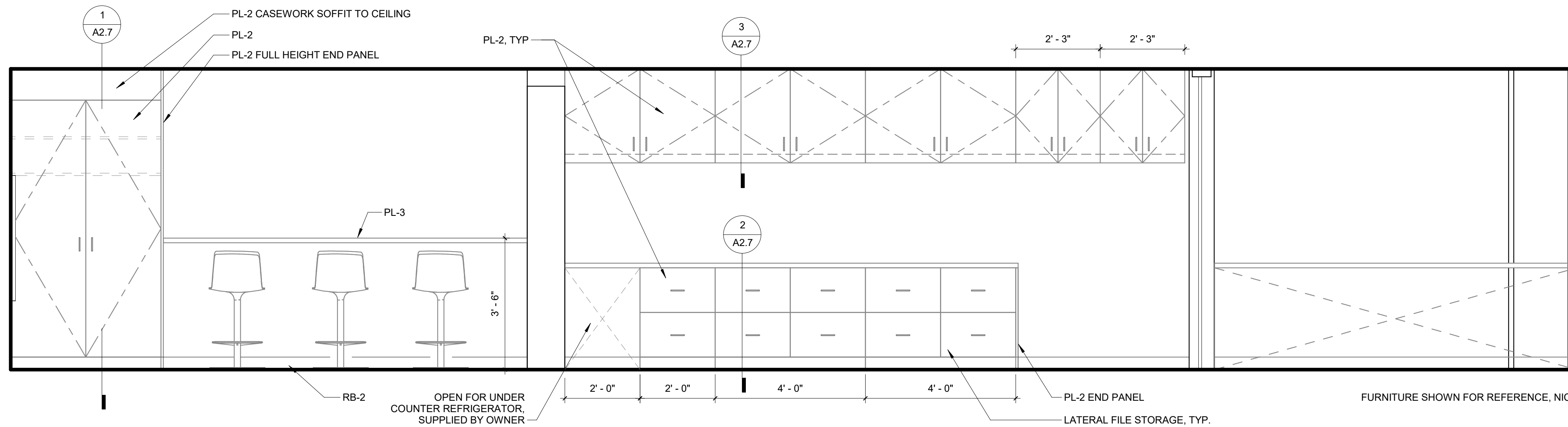
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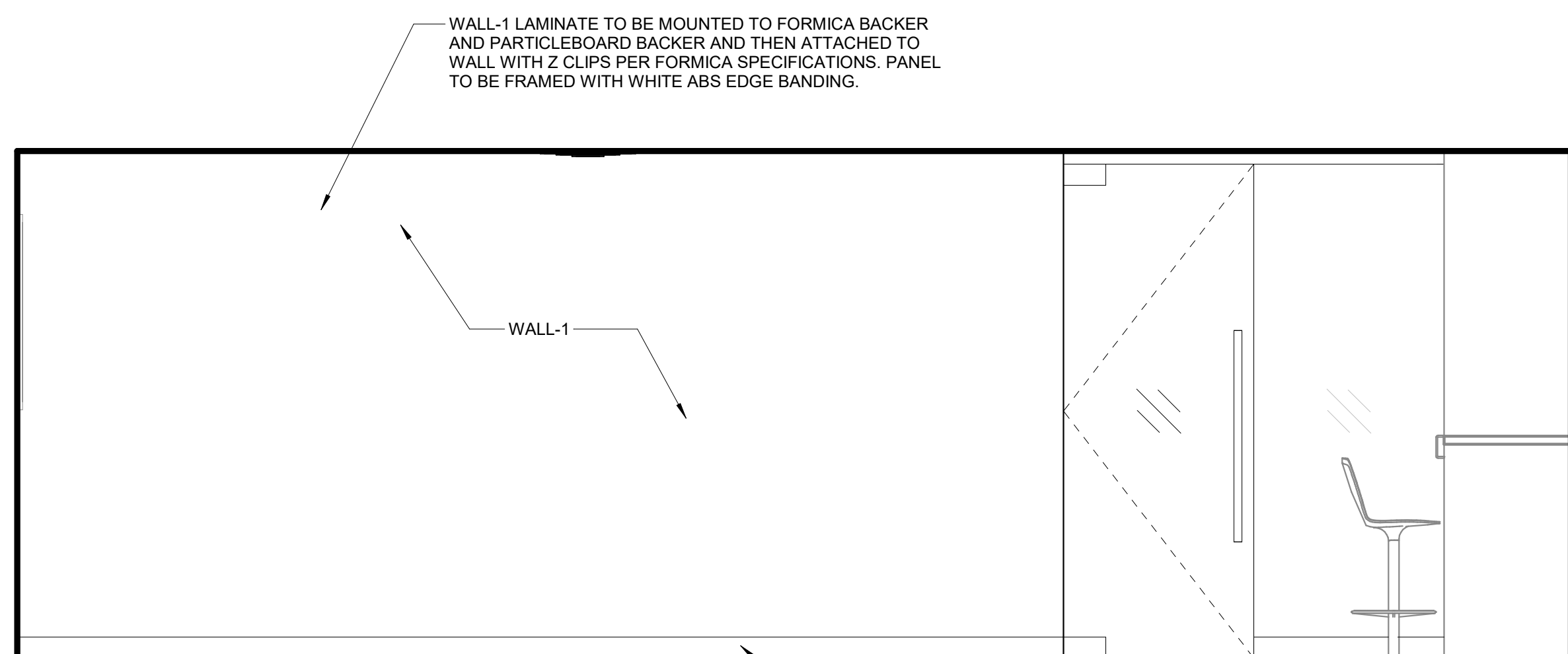
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1 SECOND FLOOR OFFICES - NORTH
1/2" = 1'-0"

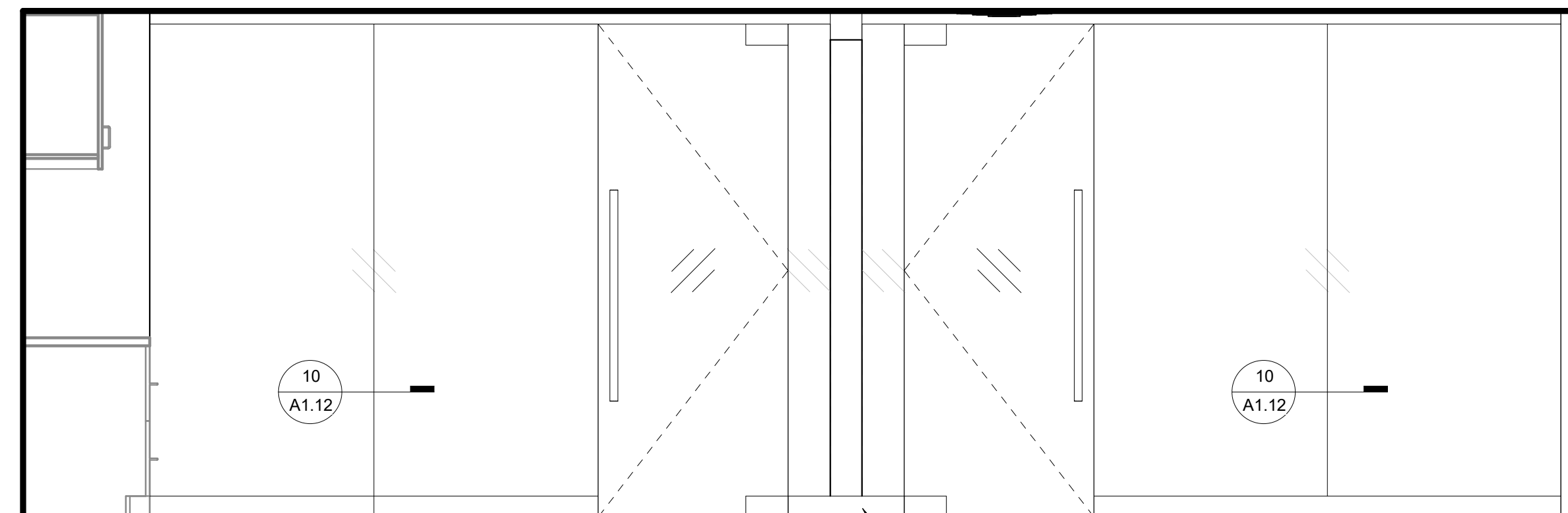


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2 SECOND FLOOR OFFICES - SOUTH
1/2" = 1'-0"



3 SECOND FLOOR EAST
1/2" = 1'-0"



4 SECOND FLOOR WEST
1/2" = 1'-0"



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Sheet Title
INTERIOR
ELEVATIONS -
OFFICE

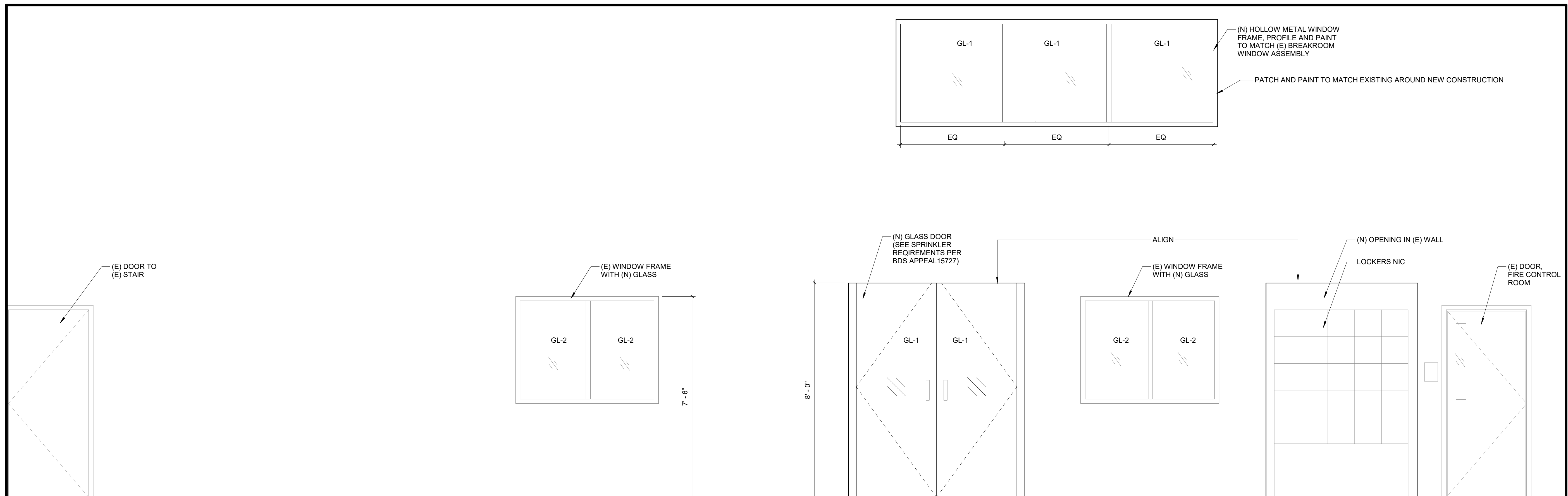
Drawing No.
A2.5

Scale 1/2" = 1'-0"

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Project No. 107400

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1 CORRIDOR ELEVATION - EAST

1/2" = 1'-0"

DEMO AND/OR RELOCATION OF CONDUIT BY OWNER PRIOR TO START OF CONSTRUCTION

KEY BOX TO BE DEMOLISHED BY OWNER PRIOR TO START OF CONSTRUCTION



CORRIDOR ELEVATION IMAGE - FOR REFERENCE

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Sheet Title
CORRIDOR ELEVATIONS

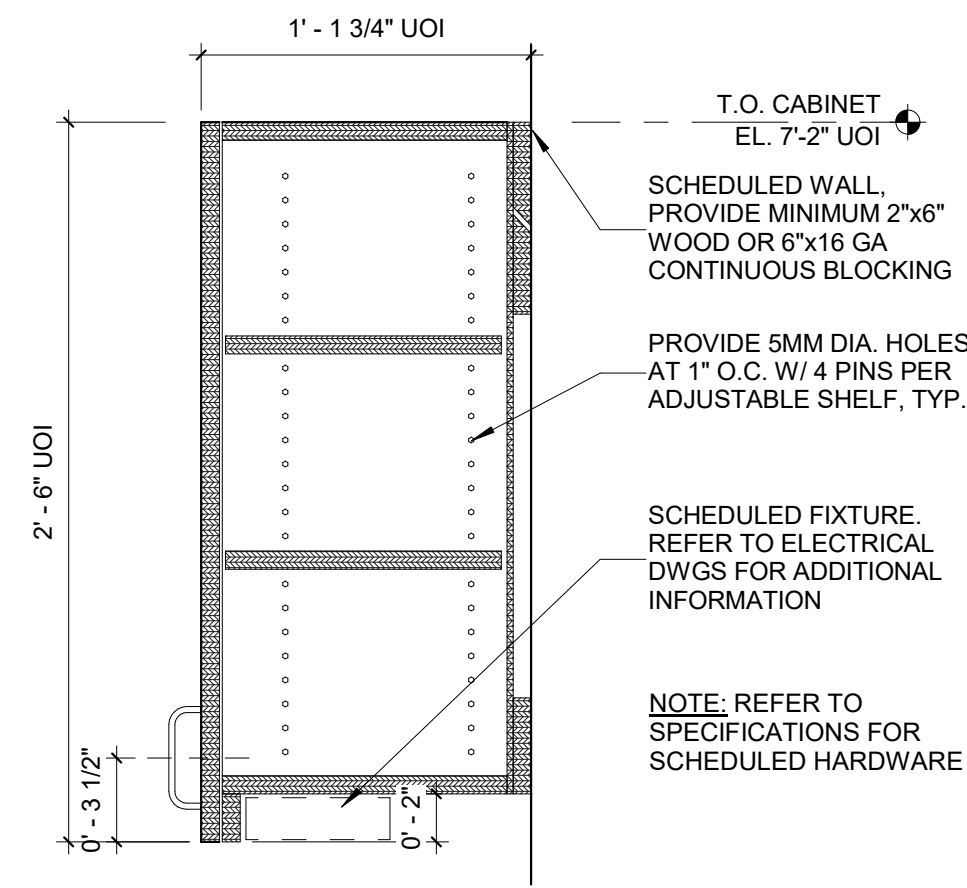
Drawing No.

A2.6

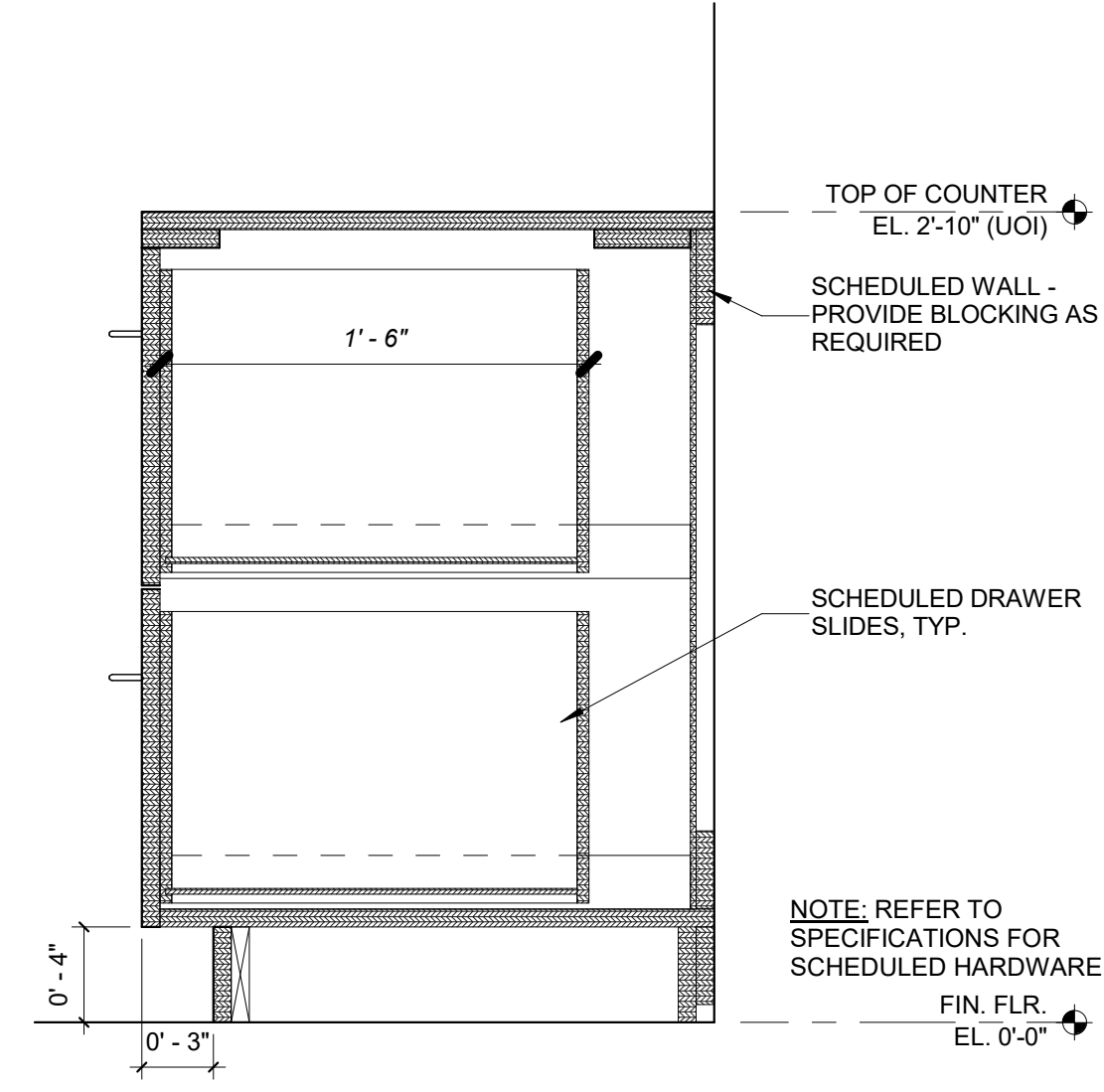
Scale 1/2" = 1'-0"

Date SEPT. 20, 2017

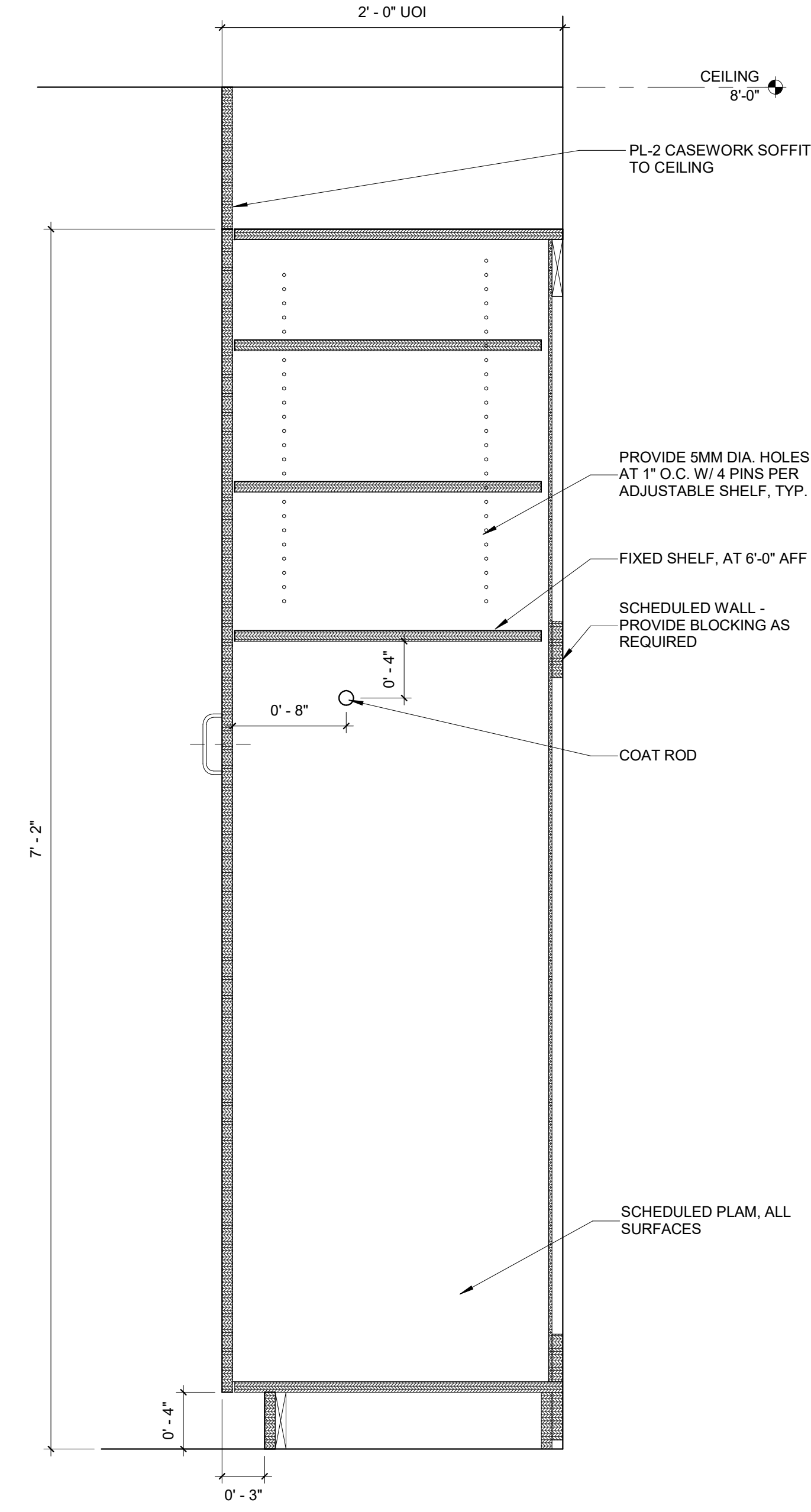
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3 UPPER CAB W/ DOORS
1 1/2" = 1'-0"



2 BASE CABINET W/ 2 DRAWERS
1 1/2" = 1'-0"



1 CABINET - SHELVING AND COATS
1 1/2" = 1'-0"



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Sheet Title
DETAILS

Drawing No.
A2.7

Scale 1 1/2" = 1'-0"

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Project No. 107400

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EQUIPMENT SCHEDULE

MW-1
24" PROFILE SERIES MICROWAVE OVEN
MANUFACTURER: GE APPLIANCES
MODEL #: PEB72295SS WITH 30" TRIM KIT
FINISH: STAINLESS STEEL

REF/FRZ-1
36" BUILT-IN PRE-ASSEMBLED BOTTOM-FREEZER REFRIGERATOR WITH PROFESSIONAL HANDLES
MANUFACTURER: THERMADOR
84" X 24-3/4" X 35-3/4"
MODEL #: T36BB820SS
FINISH: STAINLESS
SWING: RIGHT-HAND

REF/FRZ-2
36" BUILT-IN PRE-ASSEMBLED BOTTOM-FREEZER REFRIGERATOR WITH PROFESSIONAL HANDLES
MANUFACTURER: THERMADOR
84" X 24-3/4" X 35-3/4"
MODEL #: T36BB820SS
FINISH: STAINLESS
SWING: LEFT-HAND

WCH-1
UNDER COUNTER REMOTE WATER CHILLER
MANUFACTURER: ELKAY
MODEL #: ERS11Y

WILL-1
UNDER COUNTER WATER FILTER
MANUFACTURER: ELKAY
MODEL #: LF2

FAUCET-1
KITCHEN FAUCET
MANUFACTURER: PFISTER
MODEL #: GT529-FLS
FINISH: STAINLESS STEEL
AERATOR: 1.0gpm

FAUCET-2
GLASS FILLER/BEVERAGE FAUCET
MANUFACTURER: ELKAY
MODEL #: LK1110

DW-1
DISHWASHER
MANUFACTURER: HOBART
MODEL #: LX6R

ICE-1
COUNTERTOP NUGGET ICE MAKER & DISPENSER
MANUFACTURER: MANITOWOC
MODEL #: RNS-20AT

SINK-1
BLANCO UNDERMOUNT SINK
MODEL #: 442079
STAINLESS STEEL

UNDER COUNTER TRASH & RECYCLING BINS FURNISHED BY OWNER

NOTE:
ALL EQUIPMENT IS OFCI

PART 2 PRODUCTS

2.1. SUMMARY OF REFERENCED STANDARDS

A. Credit WEp1 – Water Use Reduction

- Plumbing fixtures must not exceed the following rates:
 - Pressure assist water closet (\leq 1.28 gpf)
 - Low-flow urinal (\leq 0.125 gpf)
 - Low-flow shower (\leq 1.0 gpm)
 - Aerators on lavs (\leq 0.35 gpm)
 - Aerators on kitchen sinks (\leq 1.0 gpm)

B. Credit EA c1.4 Optimize Energy Performance - Equipment and Appliances- For all E1 STAR® eligible equipment and appliances installed as part of the tenant's scope of work, provide documentation demonstrating they have been labeled as ENERGY STAR. This requirement applies to appliances, office equipment, electronics, and commercial for equipment. Excluded are HVAC, lighting, and building envelope products.

C. Credit MRc3 – Materials Reuse:

- Hardwood floors, salvaged brick, and reclaimed timbers can be reused, salvaged and refurbished for project use.

D. Credit MRc4 – Recycled Content:

- This product must contain a minimum post-consumer and post-industrial recycled content.

E. Credit MRc5 – Regional Materials:

- This product must be sourced by a manufacturer or supplier that harvests, extracts, processes and manufactures the product within 500 miles of the project site.

F. Credit MRc7 – Certified Wood:

- This product must contain Forest Stewardship Council Certified wood.
- Forest Stewardship Council website: <http://www.fsc.org/>

G. Credit EQc4.1: Adhesives and Sealants

- Adhesives and sealants used on the interior of the building during construction shall comply with the VOC limits of the South Coast Rule #1168 by the South Coast Air Quality Management District, dated July 1, 2005 and rule amendment date of January 7, 2005 (www.aqmd.gov/rules/reg/reg11/r1168.pdf).

VOC limits in grams per liter for adhesives and sealants used on interior of building are as follows:

Welding and Installation	VOC Limit (g/L)
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Dry Wall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
PVC Welding	510
CPVC Welding	490
ABS Welding	325
Plastic Cement Welding	250
Adhesive Primer for Plastic	550

Contact Adhesive	80
Special Purpose Contact Adhesive	250
Structural Wood Member Adhesive	140
Sheet Applied Rubber Lining Operations	850
Top & Trim Adhesive	250
Substrates	VOC Limit (g/L)
Metal to metal	30
Plastic foams	50
Porous material except wood	50
Wood	30
Fiberglass	80
Sealants	VOC Limit (g/L)
Architectural	250
Other	250
Sealant Primers	VOC Limit (g/L)
Architectural- Nonporous	250
Architectural- Porous	775
Other	750

- Aerosol adhesives used on the interior of the building shall comply with the VOC limits of Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

VOC limits in percent by weight for aerosol adhesives used on interior of building are as follows:

Aerosol Adhesives	VOCs by weight
General purpose spray mist	65%
General purpose web spray	55%
Special purpose aerosol adhesive	70%

- Limits on VOCs in grams per liter for carpet adhesives shall comply with the VOC limits shown below:

Adhesives	VOC Limit (g/L)
Total VOCs	50

H. Credit EQc4.2: Paints and Coatings

- Paints applied on the interior of the building shall comply with Green Seal Product Specific Environmental Requirements (www.greenseal.org/standard/paints.htm). The Green Seal standard is intended for paints and anti-corrosive paints. Both interior and exterior paints are addressed by the standard, but only limits for interior paints apply to a LEED project. Architectural paints coating and primers applied to interior walls as well as Anti-corrosive paints applied to interior ferrous metal shall not exceed the VOC limits set forth in Green Seal Standards GS-11 and GS-03, respectively. Limits on VOCs in grams per liter for paints and anti-corrosive paints are as follows:

Interior Paint Coatings	VOC Limit (g/L minus water)
Flat coating or flat primer (GS-11, 1993 edition)	50
Non-flat coating or non-flat primer (GS-11, 1993 edition)	150
Anti-Corrosive/Anti-Rust paint (GS-03, 1997 edition)	250

- Clear wood finishes, floor coatings, stain, sealers and shellacs applied to interior elements during construction shall comply with the VOC limits set forth in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, dated January, 2004.

Other Interior Coatings	VOC Limit (g/L minus water)
Sealers and Undercoaters	200
Concrete-curing compounds	350
Waterproofing sealers	250
Waterproofing concrete / masonry sealers	400
Floor coatings	100
Japans/faux finishing coatings	350
Magnesite cement coatings	450
Stains	250
Clear wood finish: Lacquer	550

FINISH SCHEDULE

ROOM IDENTITY			WALL						CASEWORK		COUNTER		CEILING	COMMENTS
NUMBER	NAME	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	VERTICAL	HORIZONTAL	TOP				
LEVEL 1														
101	BREAK ROOM	LINO-1	RB-1	PT-1	PT-1	PT-1	PT-1	PL-1			CTR-1	BAF-1		
102	CONFERENCE ROOM	CPT-1	RB-2	GL-1	PT-1	PT-1	GL-1	PL-1			CTR-1	ACT-1		
103	ENTRY	LINO-1	RB-1	PT-1	PT-1	PT-1	-							
104	ELECTRICAL / IDF	-	RB-1	PT-1	PT-1	PT-1	PT-1							
105	CORRIDOR	-	-	-	-	PT-1	-						TOUCH UP REPAIR & PAINT AROUND NEW CONSTRUCTION	
LEVEL 2														
201	OPEN OFFICE	CPT-3	RB-1	PT-1	PT-1	PT-1	GL-1	PL-2			PL-3	GWB/ACT-1		
202	OFFICE	CPT-2	RB-1	PT-1	GL-1	PT-1	PT-1					GWB/ACT-1		
203	OFFICE	CPT-2	RB-1	PT-1	GL-1	PT-1	PT-1					GWB/ACT-1		
204	ENTRY	-	RB-1	PT-1	PT-1	PT-1	PT-1							
205	STORAGE	-	RB-1	PT-1	PT-1	PT-1	PT-1							

PHOTO MURALS

- EAST AND WEST WALLS TO EACH HAVE CUSTOM PHOTO MURAL OF DIGITALLY PRINTED WALLPAPER WITH PLATE GLASS MOUNTED ON TOP.
- PHOTOS SUPPLIED BY OWNER.
- PHOTOS TO BE SENT DIRECTLY TO WOLF GORDON IN COORDINATION WITH YGH TO BE FORMATTED FOR WALLPAPER PRINTING.
- PHOTOS TO BE PRINTED ON VINYL-FREE WOLF GORDON NOLAR CDP-306 WALLPAPER.
- MURAL DIMENSIONS TO BE VERIFIED IN FIELD AND COORDINATED WITH YGH BEFORE ORDERING.
- FULL-SCALE CROP AND MAGNIFICATION TEST BY WOLF GORDON TO BE APPROVED BY YGH BEFORE INSTALL.
- PRE-PRODUCTION SAMPLE BY WOLF GORDON TO BE APPROVED BY YGH BEFORE INSTALL.

HARDWARE

DOOR 101 TOP/BOTTOM RAIL:
CR LAURENCE 4" CUSTOM SQUARE DOOR RAIL
WITHOUT LOCK FOR 1/2" GLASS DR4SS12C BRUSHED STAINLESS

DOOR 101 LADDER PULL:
CR LAURENCE 72LPSB 72" BRUSHED STAINLESS

DOOR 101 CONCEALED CLOSER:
CR LAURENCE STANDARD SPINDLE
ADJUSTABLE SPRING POWER OVERHEAD CONCEALED DOOR CLOSER CRL6760

CABINETRY HARDWARE:
SUGASTUNE 304 STAINLESS SUG-1650

Clear wood finish: Sanding sealer	350
Clear wood finish: Varnish	350
Clear brushing lacquer	680
Pigmented lacquer	550
Shellac: Clear	730
Shellac: Pigmented	550
Wood preservatives	350
Low-solids coatings	120

Credit EQc3: Flooring Systems

- Carpets installed within the building during construction shall meet the testing and product requirements of the Carpet and Rug Institute Green Label Plus program.
- Carpet cushion installed within the building during construction shall meet the requirements of the Carpet and Rug Institute Green Label program.
- Carpet adhesives shall meet the requirements of EQ credit 4.1: VOC limit of 50 g/l.
- Hard surface flooring installed within the building must be certified as compliant with the FloorScore standard by an independent third-party. Flooring products covered by FloorScore include vinyl, linoleum, laminate flooring, wood flooring, rubber flooring and wall base.
- Finishes, such as sealers and stains, applied to concrete, wood, bamboo and cork flooring shall comply with the VOC limits set forth in South coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, dated January, 2004.
- Tile setting adhesives and grout shall comply with the VOC limits set forth in South coast Air Quality Management District (SCAQMD) Rule 1168, effective date of July 1, 2005 and rule amendment date of January 7, 2005.

J. Credit EQc4: Composite Wood

- Composite wood and agri-fiber products installed inside the exterior moisture barrier shall contain no added urea-formaldehyde resins.
- Laminating adhesives used to fabricate on-site and shop-applied composite wood and agri-fiber assemblies shall contain no added urea-formaldehyde resins.

K. Credit EQc5 – Indoor Chemical and Pollutant Source Control:

- Provide MERV 13 or greater air filtration media on all supply air.

L. Credit EQc4.5: System Furniture and Seating

- System Furniture and Seating used shall comply with GreenGuard Indoor Air Quality requirements, comply with ANSI/BIFMA M7.1-2007 and ANSI/BIFMA X7.1-2007, or the indoor air concentrations are less than or equal to the limits from EPA VOC standards. See table below for EPA VOC limits.

Chemical Contaminant	Emission Limits Systems Furniture	Emission Limits Multiple Office Seating
TOVC	0.5 mg/m ³	0.25 mg/m ³
Formaldehyde	50 parts per billion	25 parts per billion
Total Aldehydes	100 parts per billion	50 parts per billion
4 – PC (as an odorant)	0.0065 mg/m ³	0.00325 mg/m ³

FINISH LEGEND

- PT-1 GENERAL WALL/DOOR PAINT**
MANUFACTURER: BENJAMIN MOORE
COLOR: COTTON BALLS 2145-70
FINISH: SATIN
ZERO VOC, RED LIST FREE
- ACT-1 ACOUSTIC CEILING TILE**
MANUFACTURER: ARMSTRONG
MODEL: OPTIMA PLANT BASED
SIZE: 24"X48"
- ACT-2 ACOUSTIC CEILING TILE**
MANUFACTURER: ARMSTRONG
MODEL: OPTIMA PLANT BASED
SIZE: 24"X24"
- BAF-1 ACOUSTIC FELT BAFFLES**
MANUFACTURER: FILZFELT
MODEL: AKOUSTIKA25
- GL-1 GLAZING**
1/2" TEMPERED GLASS
- GL-2 1/2" FIRE RATED GLASS**
- CPT-1 CARPET TILE: CONFERENCE ROOM**
MANUFACTURER: BOLYU
STYLE: SVELTE
COLOR: ZESTY ORANGE SVL83
BACKING: NEXTERRA
SIZE: 24"X24"
- CPT-2 CARPET TILE: OFFICE**
MANUFACTURER: SHAW CONTRACT
STYLE: ADVANCE 5T202
COLOR: STRENUOUS 04870
BACKING: 12"X48"
- CPT-3 CARPET TILE: OFFICE**
MANUFACTURER: SHAW CONTRACT
STYLE: TRACK 5T2024
COLOR: STRENUOUS 04870
BACKING: 12"X48"
- CTR-1 COUNTERTOP: ENGINEERED STONE**
MANUFACTURER: OTM SEQUEL QUARTZ
COLOR: Horizon SEQ HORIZONSLAB3P
THICKNESS: 3 CM
- LINO-1 LINOLEUM**
MANUFACTURER: FORBO
STYLE: STRIATO SHEET MARMOLEUM
COLOR: TRACE OF NATURE 3573
- PL-1 PLASTIC LAMINATE**
MANUFACTURER: WILSONART
COLOR: DESIGNER WHITE D354-60
FINISH: HIGH GLOSS 01
- PL-2 PLASTIC LAMINATE**
MANUFACTURER: WILSONART
COLOR: ASTRO STRANDBZ 4940K-18
FINISH: LINEARITY FINISH
- PL-3 PLASTIC LAMINATE**
MANUFACTURER: FORMICA
COLOR: EARTH WASH 7213-58
FINISH: MATTE
- RB-1 RUBBER BASE: BREAKROOM**
MANUFACTURER: ROPPE
STYLE: PINNACLE RUBBER BASE
COLOR: 123 CHARCOAL
- RB-2 RUBBER BASE: CONFERENCE ROOM**
MANUFACTURER: ROPPE
STYLE: PINNACLE RUBBER BASE
COLOR: 195 LIGHT GRAY
- TX-1 TEXTILE AT BANQUETTE: SEAT**
MANUFACTURER: KNOLL TEXTILES
STYLE: VIBE K1029/27
COLOR: TATTOO
- TX-2 TEXTILE AT BANQUETTE: BACK**
MANUFACTURER: HBF TEXTILES
STYLE: MOVING BLANKET 925
COLOR: 59 BROOKLYN NAVY
FINISH: ALTA FOOD & BEVERAGE
- WALL-1 PROJECTION MAGNETIC DRY-ERASE MARKERBOARD**
MANUFACTURER: FORMICA
PRODUCT: M8207
COLOR: WHITE MATTE

SPECIFICATION NOTES

- SEE ATTACHED LEED SPECIFICATIONS FOR COMPLETE OWNER'S SUSTAINABILITY REQUIREMENTS.
 - 018113 LEED REQUIREMENTS
 - 017419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
 - 018119 CONSTRUCTION INDOOR AIR QUALITY REQUIREMENTS
 - 018120 FLUSH OUT
 - 019100 COMMISSIONING
- THE ATTACHED LEED SPECIFICATIONS INCLUDE GENERAL REQUIREMENTS AND PROCEDURES FOR COMPLIANCE WITH CERTAIN U.S. GREEN BUILDING COUNCIL (USGBC) LEED® PREREQUISITES AND CREDITS NEEDED FOR THE PROJECT TO MAINTAIN THE INTEGRITY OF THE EXISTING FACILITY'S LEED PLATINUM CERTIFICATION STATUS. THIS PROJECT WILL SUPPORT THE ACHIEVEMENT OF THE LEED FOR EXISTING BUILDINGS: OPERATIONS & MAINTENANCE RECERTIFICATION CURRENTLY UNDERWAY BY ADHERING TO LEED-CI CREDIT REQUIREMENTS AS DEFINED IN LEED 2009 COMMERCIAL INTERIOR RATING SYSTEM (LEED-CI 2009) CONTAINED WITHIN THE INTERIOR DESIGN AND CONSTRUCTION, 2009 EDITION REFERENCE GUIDE (ID+C).
- ALL APPLIANCES, OFFICE EQUIPMENT, ELECTRONICS AND COMMERCIAL FOOD SERVICE EQUIPMENT TO BE ENERGY STAR PER OWNER'S SUSTAINABILITY REQUIREMENT
- SINKS TO BE 1.5 GPM PER OWNER'S SUSTAINABILITY REQUIREMENTS



YOST GRUBE HALL ARCHITECTURE

707 SW Washington Street | Suite 2201 | Portland, OR 97205
1303 221 0150 | 503 286 0640

Owner

600 NE Grand Ave
Portland, OR 97232
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Project

OREGON CONVENTION CENTER
Breakroom & Office
777 NE Martin Luther King Jr Blvd, Portland, OR 97232

MARK DATE DESCRIPTION

1 8.18.17 Addendum 01

Sheet Title
SPECIFICATIONS

Drawing No.

A10.00

Scale 1/8" = 1'-0"

Date SEPT. 20, 2017

Project No. 107400

ISSUED FOR CONSTRUCTION

ABBREVIATIONS

AAV ABV AC ACCEPT ACU AD ADD AF AFF AHJ AHU AMB AP APPROX ARCH AS AUTO AUX BAS BDD BEL BHP BOD BOP BFP BV BYV CAP CAV CEG CER CFF CFM CFS CL CLG CO COL CONC CONN CONT CONTR CRG CRR CSD CUFT CUIN CV CW D DBT DDC DIA DIFF DN DP DSD DWG(S) (E) EA EAT EER EER EFF EL ELEC EQUIP ESP EWB EXH EXT F FC FD FF FLR FO FPM FPS FSD FT G GA GAL GALV GC GN GPM GND GV H HC HD HOR HP HP HR HRU HS HTR HVAC HW	AUTOMATIC AIR VENT ABOVE AIR CONDITIONING ACCEPTANCE AIR CONDITIONING UNIT ACCESS DOOR ADDITION AFTER FILTER ABOVE FINISHED FLOOR AUTHORITY HAVING JURISDICTION AIR HANDLING UNIT AMBIENT ACCESS PANEL APPROXIMATELY ARCHITECT AIR SEPARATOR AUTOMATIC AUXILIARY BUILDING MANAGEMENT SYSTEM BACKDRAFT DAMPER BELOW BRAKE HORSEPOWER BOTTOM OF DUCT BOTTOM OF PIPE BACKFLOW PREVENTER BALL VALVE OR BALANCING VALVE BUTTERFLY VALVE CAPACITY CONSTANT AIR VOLUME CEILING EXHAUST GRILLE CEILING EXHAUST REGISTER CAP FOR FUTURE CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CENTERLINE CEILING CLEANOUT COLUMN CONCRETE CONNECTION CONTINUATION CONTRACTOR CEILING RETURN GRILLE CEILING RETURN REGISTER CEILING SUPPLY DIFFUSER CUBIC FEET CUBIC INCHES CONSTANT VOLUME OR CONTROL VALVE COLD WATER DROP OR DRAIN DRY BULB TEMPERATURE DIRECT DIGITAL CONTROL DIAMETER DIFFERENCE DOWN DIFFERENTIAL PRESSURE DUCT SMOKE DETECTOR DRAWINGS(S) EXISTING EXHAUST AIR OR EACH ENTERING AIR TEMPERATURE ENERGY EFFICIENCY RATING EXHAUST FAN EFFICIENCY ELEVATION ELECTRICAL EQUIPMENT EXTERNAL STATIC PRESSURE ENTERING WET BULB TEMPERATURE EXHAUST EXTERNAL FAHRENHEIT FLEXIBLE CONNECTION OR FAIL CLOSED FIRE DAMPER FINAL FILTER OR FINISHED FLOOR FLOOR FAIL OPEN FEET PER MINUTE FEET PER SECOND FIRE/SMOKE DAMPER FOOT OR FEET GAS GAUGE, GAGE GALLONS GLAVANIZED GAS COCK OR GENERAL CONTRACTOR GENERAL NOTE GALLONS PER MINUTE GROUND GATE VALVE HEIGHT HEATING COIL HEAD HORIZONTAL HIGH PRESSURE HORSEPOWER HEAT PUMP HOUR(S) HEAT RECOVERY UNIT HUMIDITY SENSOR HEATER HEATING, VENTILATING AND AIR CONDITIONING HEATING WATER	ID IN JB KW KWH L LAT LDB LF LWB LWT M MAX MC MCA MCC MD MECH MIN MV (N) N/A NC NIC NO NOM NTS OA OAD OAT OBD OD OV P PC PD PF PG PH POC POD PRESS PS PSIA PSIG QTY R RA RAD REFRIG REQ'D REV RF RM RPM S SCFM SEN SF SP SPEC SQ IN STD STRUCT T TCP TEMP TRG TS TSP TT (TYP) UH UON V VAV VB BD VEL VFD VOL W W/ W/O WB WC WEG WG WP WPD WRR WSR WT Z	INSIDE DIAMETER INCHES JUNCTION BOX KILOWATT KILOWATT HOUR LENGTH LEAVING AIR TEMPERATURE LEAVING DRY BULB LINEAR FEET LEAVING WET BULB LEAVING WATER TEMPERATURE MOTOR MAXIMUM MECHANICAL CONTRACTOR MINIMUM CIRCUIT AMPACITY MOTORIZED CONTROL CENTER MOTORIZED DAMPER MECHANICAL MINIMUM MANUAL AIR VENT NEW NOT APPLICABLE NORMALLY CLOSED NOT IN CONTRACT NORMALLY OPEN OR NUMBER NOMINAL NOT TO SCALE OUTSIDE AIR OUTSIDE AIR DAMPER OUTSIDE AIR TEMPERATURE OPPOSED BLADE DAMPER OUTSIDE DAMPER OUTLET VELOCITY PUMP OR PRESSURE OR POLE PUMPED CONDENSATE PRESSURE DROP PREFILTER PIPE GUIDE OR PRESSURE GAUGE PHASE (ELECTRICAL) POINT OF CONNECTION POINT OF DISCONNECTION PRESSURE PRESSURE SENSOR PSI ABSOLUTE PSI GAUGE QUANTITY RISERS, RELOCATE OR RISE RETURN AIR RETURN AIR DAMPER REFRIGERATION REQUIRED REVISE, REVISION OR REVOLUTIONS RETURN FAN ROOM REVOLUTIONS PER MINUTE SUPPLY OR SLOPE SUPPLY AIR CFM, STANDARD CONDITIONS SENSIBLE SUPPLY FAN OR SQUARE FEET STATIC PRESSURE SPECIFICATIONS SQUARE INCH STANDARD STRUCTURAL THERMOSTAT OR THERMOMETER TEMPERATURE CONTROL PANEL TEMPERATURE TRANSFER GRILLE TEMPERATURE SENSOR TOTAL STATIC PRESSURE TEST TAP OR TEST TEE TYPICAL UNIT HEATER UNLESS OTHERWISE NOTED VENT OR VOLUME OR VELOCITY VARIABLE AIR VOLUME VACUUM BREAKER VOLUME DAMPER VELOCITY VARIABLE FREQUENCY DRIVE VOLUME WASTE OR WIDTH OR WATTS WITH WITHOUT WET BULB TEMPERATURE WATER COLUMN WALL EXHAUST GRILLE WATER GAUGE WORKING PRESSURE WATER PRESSURE DROP WALL RETURN REGISTER WALL SUPPLY REGISTER WEIGHT ZONE
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HVAC LEGEND

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS ARE APPLICABLE TO THIS PROJECT. REFER TO DETAILS AND NOTES FOR MOUNTING HEIGHTS.

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HVAC DRAWING LIST

M0.0	MECHANICAL LEGEND AND ABBREVIATIONS
M0.2	SCHEDULES
M1.1	FIRST FLOOR - HVAC DEMO PLAN
M2.1	FIRST FLOOR - HVAC PLAN
M2.2	SECOND FLOOR - HVAC PLAN
M7.1	HVAC SPECIFICATION
M9.1	MECHANICAL DETAILS
P1.1	FIRST FLOOR - PLUMBING PLAN - DEMO
P2.1	FIRST FLOOR - PLUMBING PLAN
P7.1	PLUMBING SPECIFICATIONS
P7.2	FIRE PROTECTION SPECIFICATIONS
P9.1	PLUMBING DETAILS

GENERAL

SYMBOL	DESCRIPTION
	NEW WORK
	EXISTING WORK TO REMAIN
	EXISTING WORK TO BE REMOVED
	FUTURE WORK
	RELOCATE EXISTING
	CENTER LINE
	POINT OF CONNECTION OR POINT OF DISCONNECTION
	DETAIL 1, DRAWING M-1
	SECTION A, DRAWING M-1
	ELEVATION 1, DRAWING M-1
	RISER IDENTIFICATION EXHAUST #1
	EQUIPMENT IDENTIFICATION HEAT PUMP UNIT #1
	KITCHEN EQUIPMENT TAG
	KEYED NOTE
	DIRECTION OF TRANSFER AIRFLOW (150 CFM)
	78 DEGREES FAHRENHEIT

VALVES & GAUGES

SYMBOL	DESCRIPTION
	BALL VALVE
	SOLENOID CONTROL VALVE
	PRESSURE AND TEMP. RELIEF VALVE
	BUTTERFLY VALVE
	MOTORIZED BUTTERFLY VALVE
	GATE VALVE
	BALANCING VALVE
	ANGLE GATE VALVE
	GLOBE VALVE
	ANGLE GLOBE VALVE
	CHECK VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	NON-SLAM WAFER CHECK VALVE
	PRESSURE REDUCING VALVE (PRV)
	DIAPHRAGM VALVE
	LOCK SHIELD VALVE
	NEEDLE VALVE
	QUICK OPENING VALVE
	VENTURI FLOW METER
	PRESSURE GAUGE
	PRESS. GAUGE WITH COCK AND SNUBBER
	THERMOMETER

DUCTWORK

SYMBOL	DESCRIPTION
	ACCESS DOOR / ACCESS PANEL
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT RUNOUT TO DIFFUSER
	RECTANGULAR DUCT SIZE (WIDTH x DEPTH IN INCHES)
	ROUND DUCT SIZE (DIAMETER IN INCHES)
	OVAL DUCT SIZE (WIDTH x DEPTH IN INCHES)
	DUCT THROUGH BEAM PENETRATION
	DUCT OFFSET (RISE OR DROP)
	VOLUME DAMPER OR REMOTE VOLUME DAMPER
	FIRE, SMOKE OR FIRE/SMOKE DAMPER
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	EXHAUST DUCT UP
	EXHAUST DUCT DOWN
	RETURN DUCT UP
	RETURN DUCT DOWN
	CROSS SECTION OF SUPPLY DUCT
	CROSS SECTION OF EXHAUST AIR DUCT
	CROSS SECTION OF RETURN AIR DUCT
	CROSS SECTION OF ROUND DUCT
	DUCT ELBOW WITH TURNING VANES
	SMOOTH RADIUS DUCT ELBOW WITHOUT TURNING VANES
	CONICAL BRANCH FITTING
	45 DEGREE BOOT LO-LOSS BRANCH FITTING
	WYE BRANCH FITTING
	ACOUSTICAL LINING DUCT (DIMENSION IS INSIDE DIMENSION)
	MOTORIZED DAMPER INSIDE DUCT
	TRANSFER DUCT (WITH LINER)
	INDICATES 8'11" TO BOTTOM OF DUCT
	RECTANGULAR OR ROUND SUPPLY DIFFUSER OR REGISTER (SEE SCHEDULE). 4-WAY THROW UNLESS INDICATED OTHERWISE. EXAMPLE: S812X12-400 REFERS TO TAG S8 WITH 12'X12" NECK AND 400 CFM
	RECTANGULAR OR ROUND EXHAUST GRILLE OR REGISTER (SEE SCHEDULE)
	RECTANGULAR OR ROUND RETURN GRILLE OR REGISTER (SEE SCHEDULE)
	WALL SUPPLY GRILLE OR REGISTER (SEE SCHEDULE)
	WALL RETURN OR EXHAUST GRILLE OR REGISTER (SEE SCHEDULE)
	LINEAR SLOT DIFFUSER (SEE SCHEDULE FOR NUMBER OF SLOTS). 2-WAY THROW UNLESS NOTED OTHERWISE. EXAMPLES: SN10-48-250 REFERS TO TAG SN WITH 10" ROUND NECK, 48" SLOT LENGTH AND 250 CFM.
	VARIABLE AIR VOLUME TERMINAL UNIT
	VARIABLE AIR VOLUME TERMINAL UNIT W/ REHEAT
	FAN POWERED TERMINAL UNIT
	FAN POWERED TERMINAL UNIT W/ REHEAT

PIPING

SYMBOL	DESCRIPTION
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	PIPE UP (OR UP & DOWN WITH NOTATION)
	PIPE DOWN
	PIPE DROP/PIPE RISE
	TOP CONNECTION - BRANCH LINE
	BOTTOM CONNECTION - BRANCH LINE
	PIPE ANCHOR
	TEE UP
	TEE DOWN
	STRAINER
	STRAINER WITH BLOW OFF
	INLINE PUMP
	BASE MOUNTED PUMP
	TEST TAP (PETE'S PLUG)
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	VACUUM BREAKER
	VENT THRU ROOF
	PIPE GUIDE
	EXPANSION JOINT
	FLEXIBLE CONNECTOR
	UNION
	CAPPED OR PLUGGED TEE
	BLIND FLANGE, CAP
	CONCENTRIC REDUCER
	EXPANSION LOOP
	VALVE ON RISE
	PIPE SIZE (DIAMETER IN INCHES)

CONTROLS

SYMBOL	DESCRIPTION
	THERMOSTAT OR THERMOMETER
	DUCT SMOKE DETECTOR
	TEMPERATURE SENSOR
	STATIC PRESSURE SENSOR
	PRESSURE SENSOR OR SWITCH
	MOTOR
	ACTUATOR
	ANALOG INPUT
	ANALOG OUTPUT
	DIGITAL INPUT
	DIGITAL OUTPUT
	BUILDING AUTOMATION SYSTEM PULSING INPUT

YOST GRUBE ARCHITECTURE
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Project
OREGON CONVENTION CENTER
Breakroom & Office
777 NE Martin Luther King Jr Blvd., Portland, OR 97232

MARK	DATE	DESCRIPTION

Sheet Title
MECHANICAL LEGEND AND ABBREVIATIONS

Drawing No.

M0.0

Scale NONE

Date AUGUST 8, 2017

Project No. 107400

DIFFUSER AND GRILLE SCHEDULE

TAG	MANUFACTURER	MODEL	DESCRIPTION	FACE TYPE	FACE SIZE	COLOR	MATERIAL	OBD	NOTES
SA	TITUS	CT-580	LINEAR BAR SUPPLY	1", 1 SLOT	48"	WHITE	ALUMINUM	NO	2,3,4,5,6
SB	TITUS	PAR	SQUARE CEILING SUPPLY	PERFORATED	24"x24"	WHITE	STEEL	NO	2,3,4,5,6,7
RA	TITUS	PAR	SQUARE CEILING RETURN	PERFORATED	24"x24"	WHITE	STEEL	NO	2,3,4,5,6,7
EA	TITUS	PAR	SQUARE CEILING EXHAUST	PERFORATED	24"x24"	WHITE	STEEL	NO	2,3,4,5,6,7

NOTES:

- ANY GRILLE/DIFFUSER MOUNTED DIRECTLY ON EXPOSED DUCT SHALL MATCH COLOR OF DUCT (IF PAINTED) OR SHALL HAVE CLEAR ANODIZED FINISH (IF DUCT IS UNPAINTED).
- MAXIMUM TOTAL PRESSURE DROP SHALL NOT EXCEED 0.15" WG WITH DUCT TRANSITION.
- MAXIMUM NC LEVEL SHALL BE (20 / 25 / 30).
- ALL VISIBLE SURFACES AND DUCTWORK BEHIND FACE SHALL BE PAINTED FLAT BLACK.
- COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLANS FOR BORDER TYPES.
- NECK SIZE AND CFM SHOWN ARE ON PLANS (EXAMPLE: SA12x12-400 REFERS TO TAG "SA" WITH 12x12 NECK AND 400 CFM).
- PROVIDE RECTANGULAR/SQUARE TO ROUND TRANSITION AS REQUIRED AND SIZED FOR MAXIMUM 0.01" WG TOTAL PRESSURE DROP.
- ADJUSTABLE HORIZONTAL / VERTICAL DISCHARGE
- PROVIDE BORDER TYPE (11 / 22 / xx) (WITH BORDER TYPE 2CRA FOR TWO-SLOT DIFFUSERS).
- PLENUM CONNECTION SIZE, SLOT LENGTH, AND CFM SHOWN ON PLANS (EXAMPLE: SL8-120-2000 REFERS TO TAG "SL" WITH 8" ROUND CONNECTION, 120" CONTINUOUS SLOT LENGTH AND 2000 CFM).
- PROVIDE MANUFACTURER'S INSULATED PLENUM.

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	MANUFACTURER	MODEL	ADA (Y/N)	FLOW (GPF/GPM)	CONNECTION SIZE				ELECTRICAL			REMARKS
						W	V	HW	CW	VOLTS	PHASE	AMPS	
S-1	SINK	BLANCO	442079	YES	1.5	2"	1 1/2"	1/2"	1/2"				ELKAY LF2 WATER FILTER, ELKAY LK1110 GLASS FILLER

EXHAUST FAN SCHEDULE

TAG	#	MANUFACTURER	MODEL NUMBER	LOCATION	AREA SERVED	DISCH	TYPE	DRIVE	AIR FLOW (CFM)	SP (IN WG)	MIN. EFF. (%)	FAN RPM	MTR RPM	ELECTRICAL						UNIT SIZE (L"xW"xH")	OPER. WT. (LBS)	NOTES	
														BHP	HP	VOLTS	PH	VFD (Y/N)	EMERG POWER (Y/N)				
EF	1	GREENHECK	SQ-85E	ELECTRICAL 18	ELECTRICAL 18	SIDE	INLINE	DIRECT	200	0.2	0	0	0	0	0	1/40	120	1	No	No	19x15x15	41	

NOTES

- COORDINATE WITH ELECTRICAL FOR POWER AND DISCONNECT AS REQUIRED.
- PROVIDE NON-OVERLOADING MOTOR.
- PROVIDE VIBRATION ISOLATION AND SEISMIC RESTRAINT PER SPECIFICATIONS.
- PROVIDE BACKDRAFT DAMPER.
- PROVIDE (LINE-VOLTAGE / 24V) THERMOSTAT (AND CONNECT TO BAS).

OUTDOOR AIR CALCULATION

BASED ON ASHRAE 62.1-2007 - TABLE 6-1

ROOM #	ZONE	DESCRIPTION	APPLICATION	AREA (SF)	TABLE 6-1 OUTDOOR AIR (CFM/SF)	TABLE 6-1 OCCUPANCY (P/1000 SF)	CALCULATED OCCUPANTS	OVERRIDE # OCCUPANTS/ # FIXTURES	NUMBER OF OCCUPANTS / FIXTURES	OUTDOOR AIR REQ. (CFM/PERSON)	EXHAUST RATE REQ. (CFM/SF)	BREATHING ZONE OUTDOOR AIR FLOW (CFM)	TABLE 6-2 ZONE AIR DIST. EFFECTIVENESS	ZONE OUTDOOR AIR FLOW (CFM) Voz	EXHAUST REQUIRED (CFM)	OSA/EXH AIRFLOW PROVIDED (CFM)	
CONFERENCE ROOM	L01	CONFERENCE ROOM	CONFERENCE/ MEETING	357	0.06	50	17.9	14	14.0	5.0	-	91	0.8	114	-		
BREAKROOM	L01	BREAKROOM	BREAK ROOMS	1293	0.12	50	64.7	36	36.0	5.0	-	335	0.8	419	-		
ENTRY AREA	L02	ENTRY AREA	MAIN ENTRY LOBBIES	97	0.06	10	1.0	0	0.0	5.0	-	6	0.8	7	-		
SMALL OFFICE 1	L02	SMALL OFFICE 1	OFFICE SPACE	110	0.06	5	0.6	1	1.0	5.0	-	12	0.8	15	-		
SMALL OFFICE 2	L02	SMALL OFFICE 2	OFFICE SPACE	123	0.06	5	0.6	1	1.0	5.0	-	12	0.8	15	-		
OPEN OFFICE SPACE	L02	OPEN OFFICE SPACE	OFFICE SPACE	778	0.06	5	3.9	15	15.0	5.0	-	122	0.8	152	-		
				2,758					TOTAL ALL ZONES PZ:	67.0							
LEED EQC2 - 30% INCREASED VENTILATION?:													NO				
OUTDOOR AIR INTAKE FLOW (CFM) , Vot													722				

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Scale 12" = 1'-0"

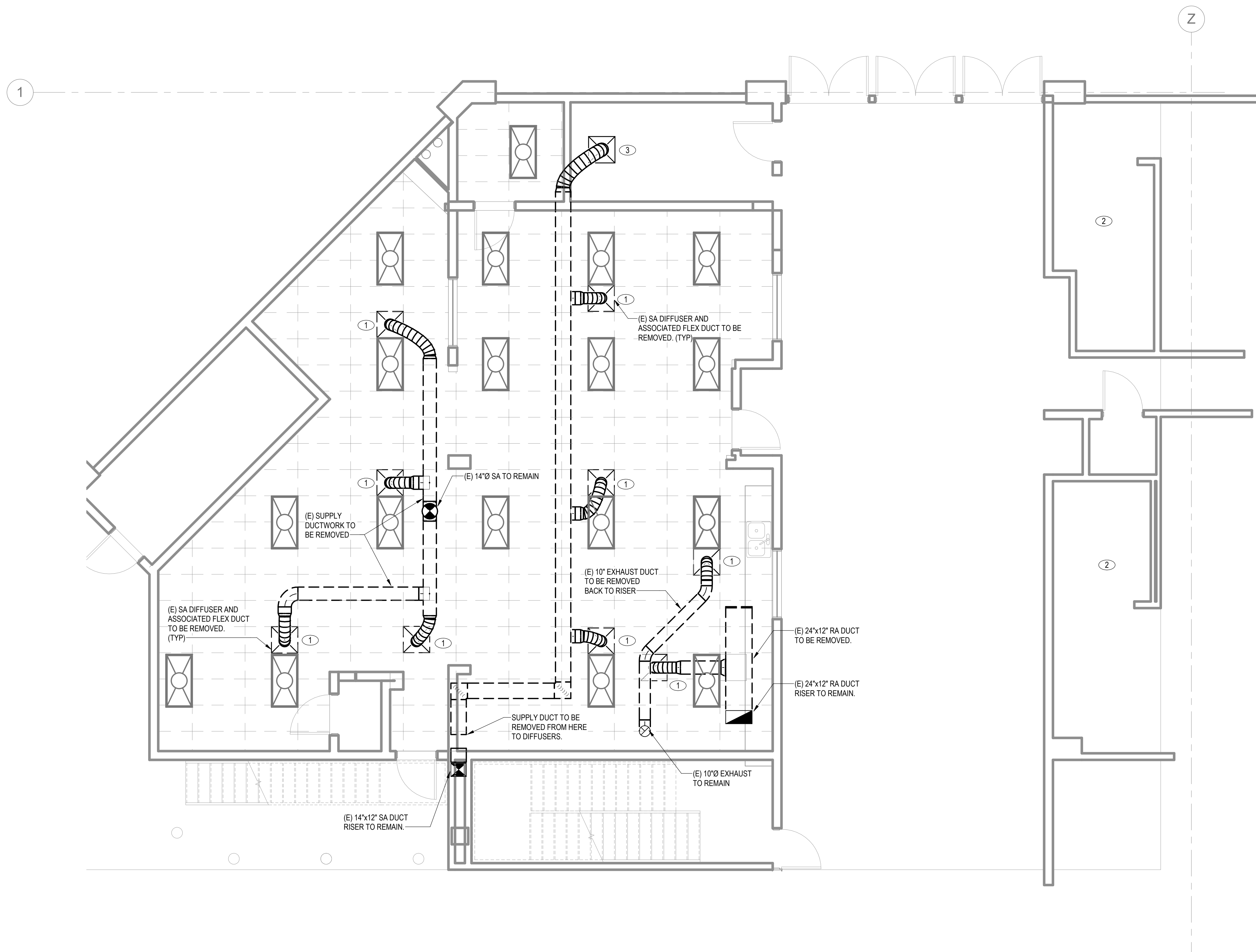
Date AUGUST 8, 2017

Project No. 107400



SHEET NOTES

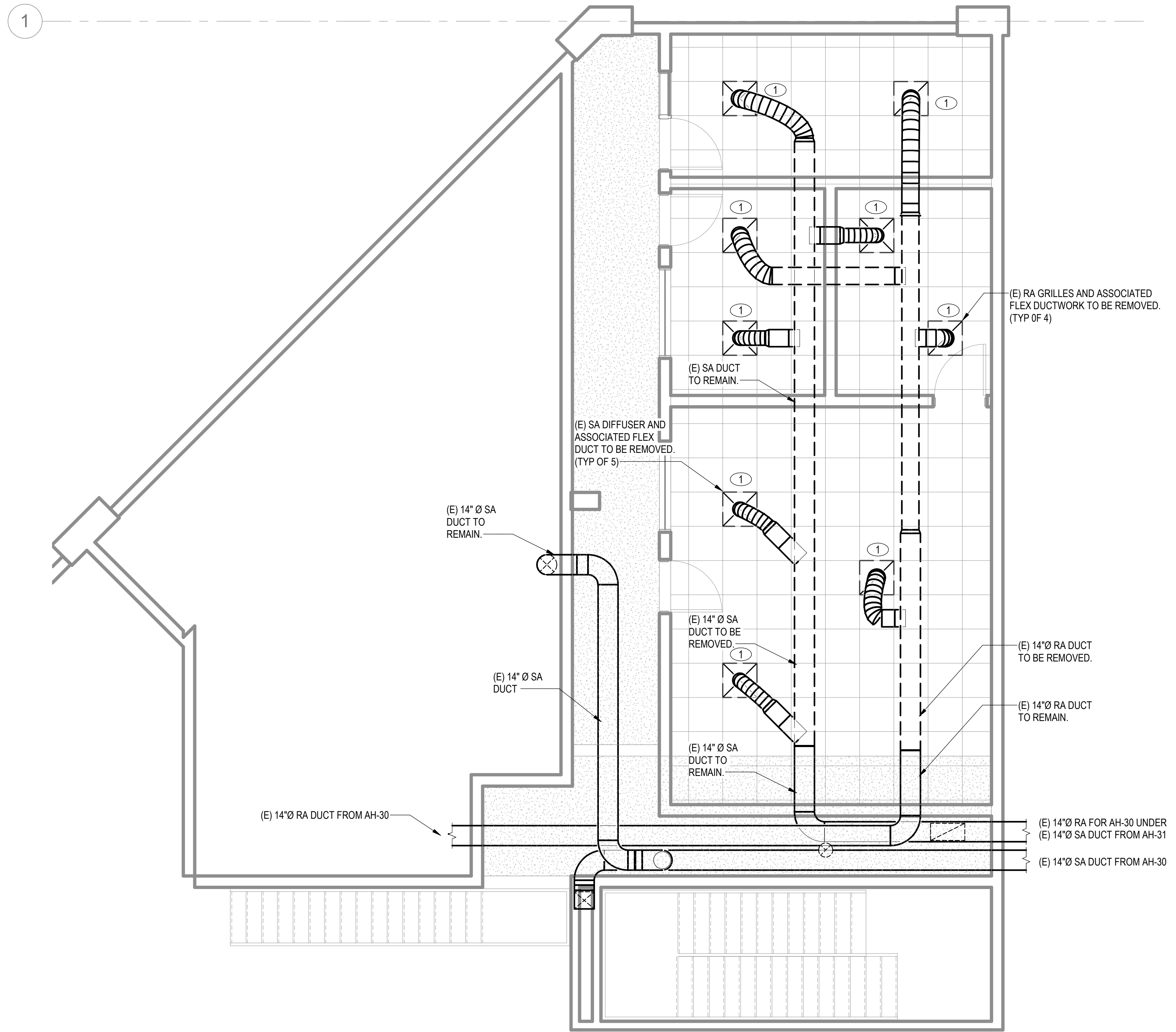
1. FIELD VERIFY (E) SA & RA CFMS PRIOR TO DEMOLITION.
2. FIELD VERIFY (E) SA & EX AIR CFMS IN MENS & WOMENS LOCKER ROOMS & MAIN SHOPS.
3. (E) SA DIFFUSER TO REMAIN.



1 LEVEL 1 - FLOOR PLAN - HVAC - DEMO
 SCALE: 1/4" = 1'-0"

SHEET NOTES

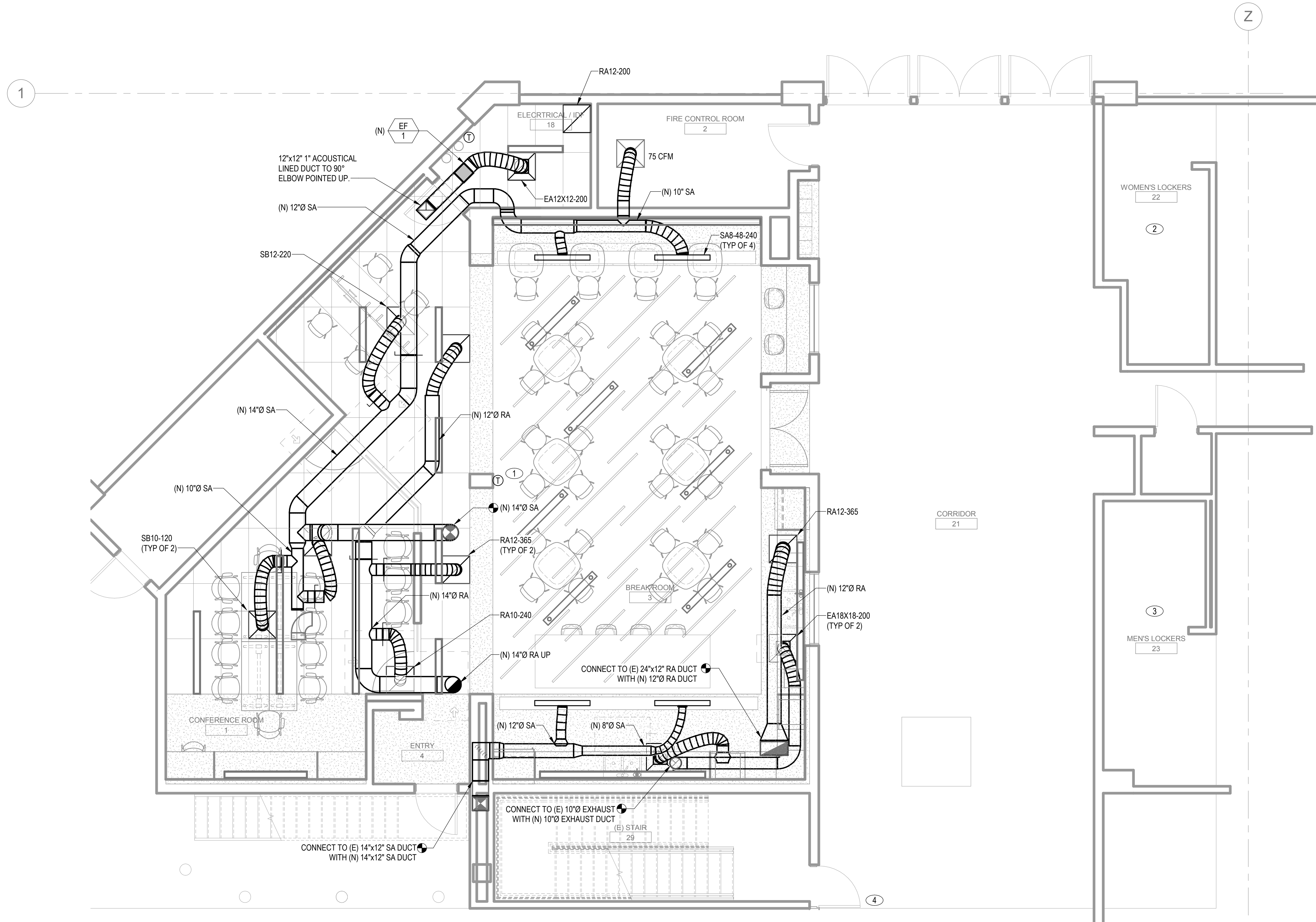
1. FIELD VERIFY, (E) SA & RA CFM'S PRIOR TO DEMOLITION.



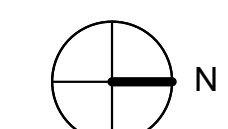
1 LEVEL 2 - FLOOR PLAN - HVAC - DEMO
 SCALE: 1/4" = 1'-0"

SHEET NOTES

1. (N) THERMOSTAT FOR AH-30. PROVIDED AND INSTALLED BY OWNER.
2. REBALANCE (E) WOMEN'S LOCKER ROOM TO 655 CFM.
3. REBALANCE (E) MEN'S LOCKER ROOM TO 650 CFM.
4. REBALANCE MAINTENANCE SHOP SUPPLY AIR TO 600 CFM.
5. REBALANCE (E) AH-30 TO 2810 CFM, 535 OSA CFM.
6. REBALANCE (E) AH-31 TO 1625 CFM, 200 OSA CFM.

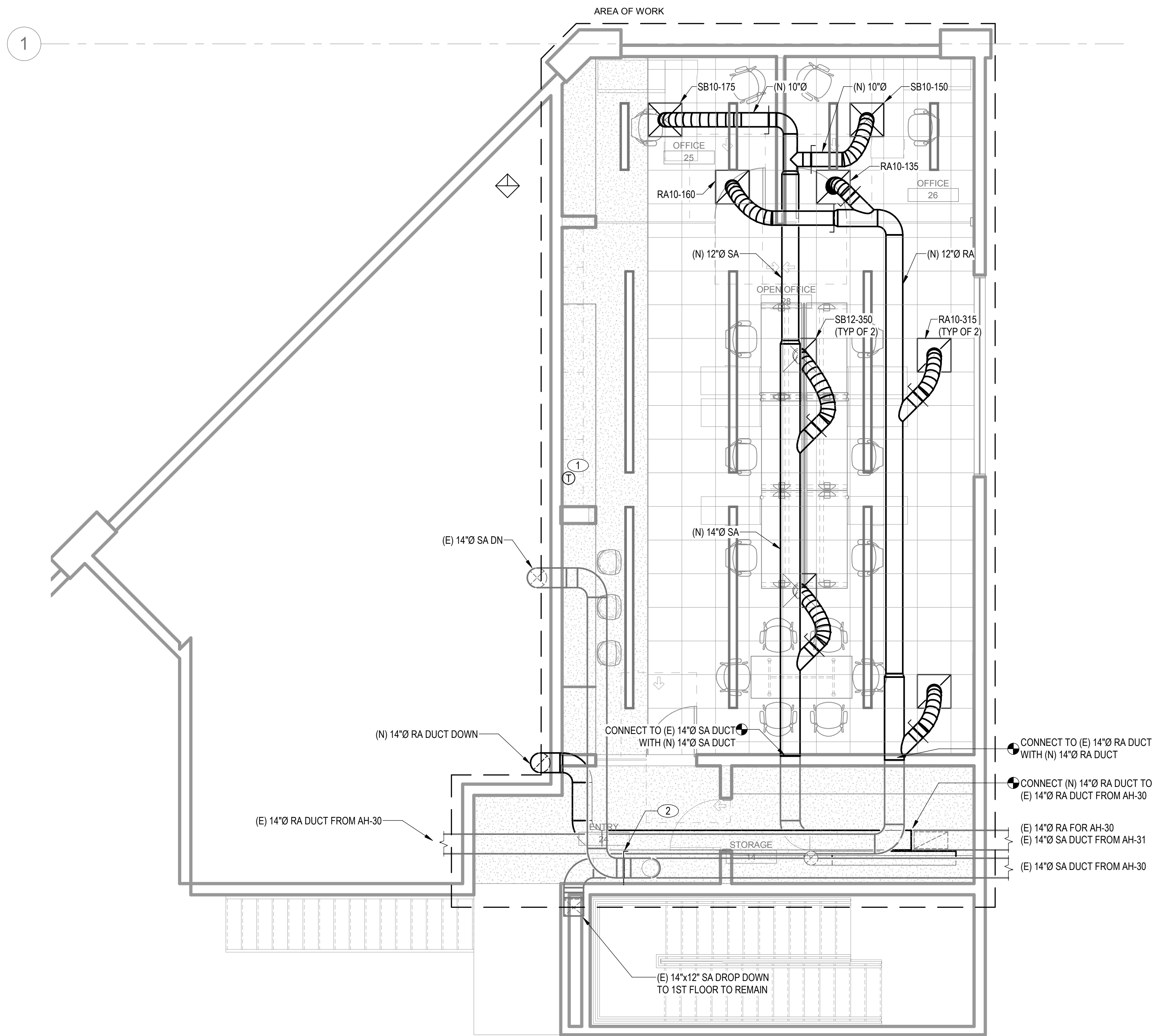


1 LEVEL 1 - FLOOR PLAN - HVAC
 SCALE: 1/4" = 1'-0"

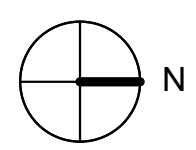


SHEET NOTES

- (N) THERMOSTAT FOR AH-31. PROVIDED AND INSTALLED BY OWNER.
- ADD VOLUME DAMPER TO (E) 14"x12" SA DUCT.



1 LEVEL 2 - FLOOR PLAN - HVAC
 SCALE: 1/4" = 1'-0"



HVAC SPECIFICATIONS

230000 - HVAC SHEET SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. DEFINITIONS – "CONTRACTOR" MEANS "MECHANICAL CONTRACTOR" WHEN REFERENCED ANYWHERE IN THE MECHANICAL CONSTRUCTION DOCUMENTS UNLESS WORK AND EQUIPMENT HAS BEEN COORDINATED BETWEEN MECHANICAL AND GENERAL CONTRACTORS TO BE PROVIDED BY OTHERS. "NEEDED," "PROVIDE," AND "INSTALL" MEANS ALL ITEMS CALLED OUT IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL ITEMS NOT CALLED OUT BUT REQUIRED TO MAKE A COMPLETE AND OPERATIONAL SYSTEM.
- B. PLANS ARE DIAGRAMMATIC. DO NOT SCALE FOR MATERIAL QUANTITIES. ALL SCALING SHOULD BE REFERENCED TO ARCHITECTURAL PLANS ONLY. FURNISH AND INSTALL ALL COMPONENTS NEEDED WHETHER INDICATED OR NOT TO PROVIDE A COMPLETE AND OPERATING SYSTEM.
- C. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL CONNECTIONS TO EXISTING WORK PRIOR TO BIDDING.
- D. SCOPE – THE INTENT OF THE SPECIFICATIONS AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE MECHANICAL WORK. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS INDICATED ON DRAWINGS, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.
- E. PERMITS AND FEES – THE MECHANICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE MECHANICAL SCOPE OF WORK.
- F. WARRANTY – THE MECHANICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
- G. CODES – ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL CODES AND ORDINANCES, IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE MECHANICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT EXTRA COST.
- H. STANDARDS – EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF CSA, UL, ARI, ASME, ASTM, UL, NEMA, ANSI SMACNA, ASHRAE, AND NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
- I. SUBSTITUTIONS – ALL PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED PRIOR TO BIDDING AND PREAPPROVED IN WRITING. ALL COORDINATION ASSOCIATED WITH SUBSTITUTED MATERIALS OR EQUIPMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- J. SUBMITTALS – THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, TECHNICAL DATA AND OPERATING AND MAINTENANCE DATA FOR ALL EQUIPMENT AND MATERIALS SCHEDULED AND SPECIFIED INCLUDING AIR DISTRIBUTION AND PIPING SYSTEMS. IN ADDITION, SUBMIT SEISMIC CALCULATIONS FOR RESTRAINT OF EQUIPMENT.
- K. OPERATING AND MAINTENANCE INSTRUCTIONS – AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING PERIODIC SERVICE.

1.2 COORDINATION WITH EXISTING CONDITIONS AND OTHER TRADES

- A. THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE. CONTRACTORS, BY SUBMITTING A BID ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITIONS OF THE BUILDING AS IT INFLUENCES THE WORK DESCRIBED. NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERRABLE FROM A CAREFUL EXAMINATION OF THE EXISTING BUILDING CONDITIONS.
- B. CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE "AS BUILT" CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT AFFECT THE EXISTING CONDITIONS WILL HAVE ON THE WORK POTENTIAL. PROBLEM AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- C. CONTRACTOR SHALL CONNECT THEIR WORK TO THE EXISTING PIPING, DUCTWORK, AND CONTROL SYSTEMS. NEW WORK SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM MATERIALS, AND CONSTRUCTION METHODS. COORDINATE ALL WORK WITH OTHER TRADES AND INSTALL ALL WORK IN COORDINATION WITH ARCHITECTURAL AND STRUCTURAL DOCUMENTS. EXCEPT FOR NECESSARY CONNECTIONS TO ASSOCIATED EQUIPMENT, NO PIPING OR DUCTWORK IS TO BE IN CONTACT WITH EQUIPMENT.
- D. COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR AND OTHER DISCIPLINES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO HIS WORK.
- E. OBTAIN WRITTEN PERMISSION OF STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY CUTTING OR PATCHING OF STRUCTURAL SYSTEMS. DO NOT CUT ROOF FRAMING.
- F. CARE SHALL BE TAKEN DURING INSTALLATION OF THE WORK TO NOT DAMAGE OR INTERRUPT THE EXISTING BUILDING SYSTEMS AND SERVICES INSTALLED. DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY CONTRACTOR DURING THE INSTALLATION OF THEIR WORK SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE BUILDING OWNER.
- G. NOTIFICATIONS AND COMPLIANCE WITH BUILDING STANDARDS AND RULES:
 - 1. OBTAIN A COPY OF ANY APPLICABLE BUILDING TENANT DEVELOPMENT AND BUILDING CONSTRUCTION STANDARDS AND COMPLY WITH THESE STANDARDS.
 - 2. SHUTDOWN OF EXISTING SYSTEMS FOR CONNECTION TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL SUBMIT REQUESTS WHERE THEY AFFECT THE OPERATION OF THE BUILDING SYSTEMS AT LEAST ONE (1) WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AGREED TO BY THE OWNER'S REPRESENTATIVE.
- H. DEMOLITION SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE, ARCHITECT AND GENERAL CONTRACTOR.
- I. CONTRACTOR SHALL PROVIDE THE FOLLOWING SERVICES AS APPLICABLE, ON ALL EXISTING HVAC EQUIPMENT INDICATED TO REMAIN: BALANCING; CALIBRATE UNIT CONTROL COMPONENTS; VERIFY CONTROLS OPERATION.
- J. CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE OWNER'S REPRESENTATIVE WITHIN FIVE (5) DAYS OF DISCOVERY.

1.3 MECHANICAL - GENERAL

- A. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW UNLESS OTHERWISE DESIGNATED IN THESE DOCUMENTS.
- B. THE MECHANICAL CONTRACTOR SHALL COORDINATE HVAC WORK WITH OTHER TRADES. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONED DIFFUSER LOCATIONS AND MOUNTING HEIGHTS WHERE EXPOSED.
- C. ALL HVAC DUCTWORK AND EQUIPMENT SHALL BE SUPPORTED FROM STRUCTURE (CONFIRM) AND NOT FROM OTHER DUCTS, PIPING, CONDUITS OR CEILING SUPPORTS.
- D. PROVIDE VIBRATION ISOLATION PER EQUIPMENT SCHEDULE REQUIREMENTS. PROVIDE SEISMIC RESTRAINTS PER CODE REQUIREMENTS. MECHANICAL CONTRACTOR SHALL PROVIDE SEISMIC CALCULATIONS AND CONFIRM ADEQUACY OF EXISTING STRUCTURE TO RESTRAIN THE LOADS IMPOSED.

1.4 TESTING, ADJUSTING, BALANCING

- A. INDEPENDENT AIR BALANCE CONTRACTOR SHALL ACCURATELY BALANCE THE AIR (SUPPLY, RETURN, AND EXHAUST AIR) AND HYDRONIC SYSTEMS (HEATING WATER), WHERE APPLICABLE, TO PROVIDE AIR AND WATER QUANTITIES INDICATED ON THE DRAWINGS AND IN THIS SPECIFICATION. BALANCER SHALL BE QUALIFIED FOR TAB WORK PER NEBB OR AABC STANDARDS. OPERATE AUTOMATIC CONTROLS SYSTEM AND VERIFY SET POINTS. SUBMIT TWO (2) COPIES OF THE BALANCE REPORT TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL.

PART 2 - PRODUCTS AND EXECUTION

2.1 HVAC EQUIPMENT

- A. EXHAUST FANS – ALL FANS TO BE PERFORMANCE RATED IN ACCORDANCE WITH AMCA. PROVIDE WITH SCHEDULED ACCESSORIES. MANUFACTURERS SHALL BE GREENHECK, CARNES, TWIN CITY, PENN OR APPROVED EQUAL.

2.2 DUCTWORK AND ACCESSORIES

- A. SHEETMETAL DUCTWORK – ALL DUCTWORK SHALL BE RIGID SHEETMETAL CONSTRUCTED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA LOW VELOCITY DUCT CONSTRUCTION STANDARDS. FIBERGLASS DUCTBOARD IS NOT ALLOWED. ALL EXPOSED DUCTWORK SHALL BE ROUND, FLAT, OVAL, SPIRAL, OR RECTANGULAR LOCK-SEAM TYPE, AS SHOWN ON HVAC PLAN. ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICE FOR ACHIEVING AIR TIGHT (5% LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE) SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. FURNISH ALL REQUIRED DAMPERS, TRANSITIONS, CONNECTIONS TO AIR TERMINALS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE OPERATING SYSTEM. NO VARIATION OF DUCT CONFIGURATION OR SIZES WILL BE PERMITTED EXCEPT BY PERMISSION FROM THE ENGINEER.
 - 1. ALL MEDIUM PRESSURE SUPPLY DUCTWORK UPSTREAM OF AIR TERMINAL DEVICES SHALL BE 4 INCH W.G. PRESSURE CLASS
 - 2. ALL LOW PRESSURE SUPPLY DUCTWORK DISTRIBUTION SHALL BE 2 INCH W.G. PRESSURE CLASS.
 - 3. ALL RETURN AND EXHAUST DUCTWORK SHALL BE 2 INCH PRESSURE CLASS.
 - 4. DUCTWORK CROSSING OVER CORRIDORS SHALL BE NOT LESS THAN 26 GAUGE.
- B. FLEXIBLE DUCTWORK – FLEXIBLE DUCTWORK SHALL ONLY BE INSTALLED AS SHOWN IN PLAN AND NOT ABOVE HARD LID CEILINGS OR IN EXPOSED LOCATIONS. FLEXIBLE DUCTWORK SHALL NOT EXCEED 7'- 0" IN LENGTH AND TWO 45° ELBOWS. FLEXIBLE DUCTWORK SHALL BE PULLED TAUT AND APPROPRIATELY FASTENED TO RIGID BRANCH DUCT AND DIFFUSER. BENDS SHALL BE MINIMIZED AND WHERE NEEDED BE A FULL, RADIUS BEND. SUPPORT BANDS SHALL BE INSTALLED SO AS TO NOT CRIMP FLEX DUCT. FLEXIBLE DUCTWORK SHALL BE UL 181 LISTED AS A CLASS 1 AIR DUCT.
- C. SOUND BOOTHS – WHERE A RETURN AIR PLENUM IS USED, PROVIDE LINED RETURN AIR SOUND BOOTHS AT ALL RETURN GRILLES OR AS INDICATED ON PLANS.
- D. DUCT SEALANT – SEAL LONGITUDINAL AND TRANSVERSE JOINTS WITH NON-HARDENING, NON- MITIGATING MASTIC OR LIQUID ELASTIC SEALANT, WITH VOC CONTENT NO GREATER THAN 250G/L AND OF A TYPE RECOMMENDED BY THE MANUFACTURER FOR SEALING JOINTS AND SEAMS IN SHEET METAL DUCTWORK. COVER ALL FIELD JOINTS, JOINTS AROUND SPIN-IN FITTINGS AND FASTENING SCREWS WITH MASTIC. FOR EXPOSED LOCATIONS, ALL SEALANT SHALL BE INSIDE THE DUCTWORK WITH NOTHING EXPOSED TO VIEW.
- E. SUPPORTS – PROVIDE HOT-DIPPED GALVANIZED STEEL, FASTENERS, ANCHORS, RODS, STRAPS, TRIM AND ANGLES FOR SUPPORT OF DUCTWORK.
- F. DAMPERS – FURNISH AND INSTALL OPPOSED-BLADE, MULTI-LEAF MANUAL VOLUME CONTROL DAMPERS WHERE INDICATED ON DRAWINGS. PROVIDE MANUAL VOLUME DAMPERS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AND IN ALL BRANCH DUCTS TO INDIVIDUAL DIFFUSERS, GRILLES, AND REGISTERS. PROVIDE UL LISTED FIRE DAMPERS AND/OR COMBINATION FIRE/SMOKE DAMPERS. COMPLETE WITH SMOKE DETECTORS WHERE NEEDED AND IN ACCORDANCE WITH NFPA AND LOCAL CODES. COORDINATE WITH GENERAL CONTRACTOR AND ELECTRICAL FOR FIRE ALARM INTERFACE AND POWER. PROVIDE CONVENIENTLY LOCATED AND LABELED ACCESS DOORS OF AMPLE SIZE AND QUANTITY FOR SERVICING THE DAMPERS. WHERE INDICATED, REQUIRED BY CODE OR AHJ, PROVIDE MOTORIZED DAMPERS.
- G. GRILLES, REGISTERS AND DIFFUSERS – GRILLES, REGISTERS AND DIFFUSERS SHALL BE INDICATED ON THE DRAWINGS AND SCHEDULES. PROVIDE ALL MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND PROPER INSTALLATION IN THE TYPE OF WALLS AND CEILINGS USED IN THIS PROJECT.
- H. THERMAL INSULATION – PROVIDE EXTERNAL THERMAL INSULATION WITH AN INTEGRAL VAPOR BARRIER FACING OF SUFFICIENT THICKNESS TO MEET LOCAL ENERGY CODE REQUIREMENTS AND ASHRAE 90.1, WHICHEVER IS MORE STRINGENT. PROVIDE INSULATION ON EXHAUST DUCTS AND PLENUMS, AND ON CONCEALED PORTIONS OF SUPPLY AND RETURN AIR DUCTS. DO NOT EXTERNALLY INSULATE EXPOSED DUCTWORK AND PORTIONS OF DUCTWORK THAT ARE INTERNALLY LINED WITH CODE REQUIRED THICKNESS. WHERE SYSTEMS ARE EXPOSED TO DAMAGE THE INSULATION SHALL BE PROTECTED WITH A SHEET METAL OR PLASTIC COVER. THERMAL INSULATION MATERIALS TO MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATING OF 25/50 OR LESS.
- I. ACOUSTIC DUCT LINER – PROVIDE 1" GLASS FIBER ACOUSTICAL DUCT LINER AS INDICATED ON THE PLANS. INCREASE DUCT SIZE INDICATED ON PLANS AS NEEDED TO ACCOMMODATE LINER. LINER SHALL BE FASTENED TO DUCT WITH MECHANICAL LINER FASTENERS IN ACCORDANCE WITH SMACNA.
- J. ACCESS PROVISIONS – PROVIDE ACCESS DOORS IN HARD WALLS AND CEILINGS FOR ALL EQUIPMENT AND DUCTWORK REQUIRING SERVICE. PROVIDE ACCESS DOORS IN DUCTWORK AS REQUIRED.

END OF SECTION 230000

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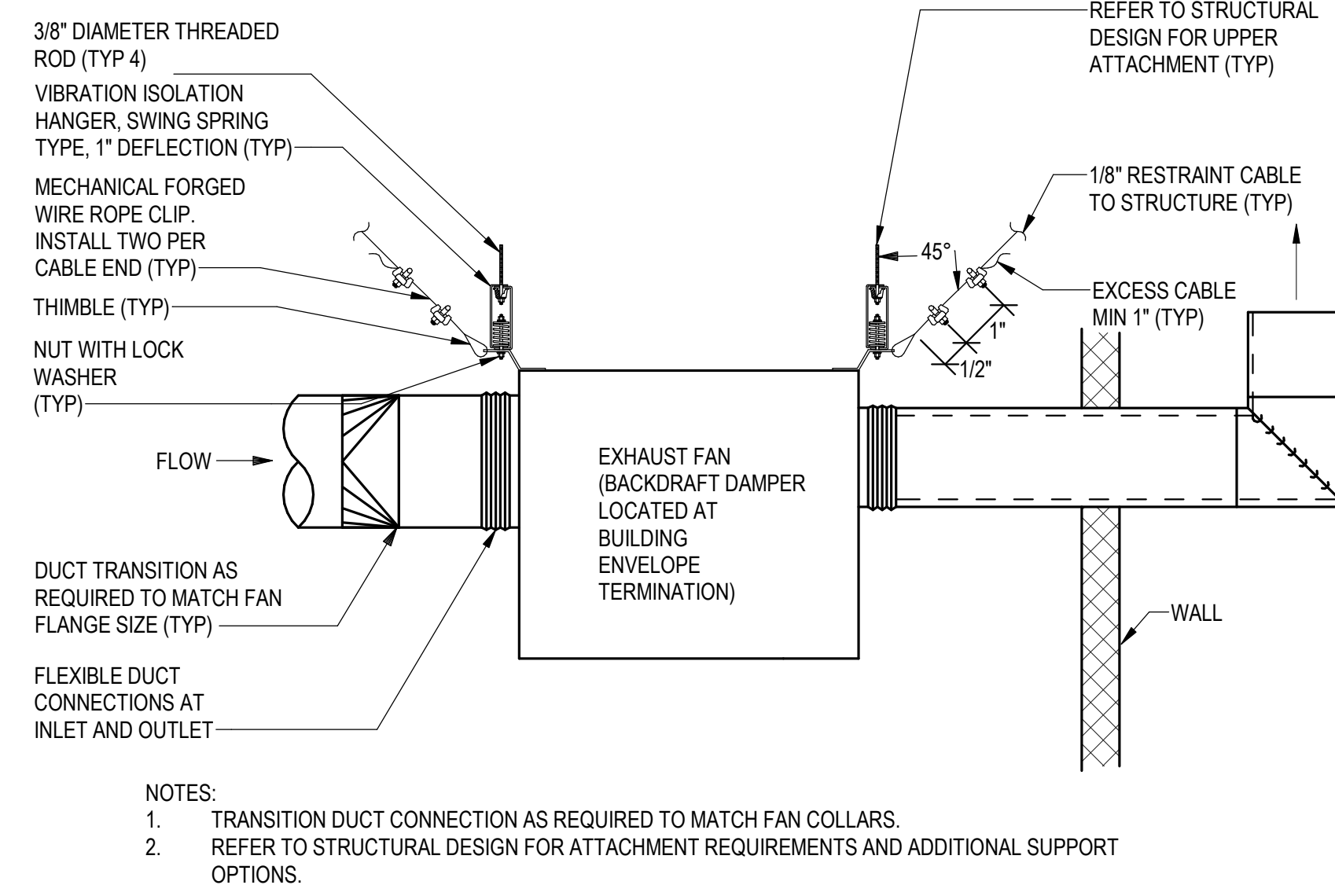
Drawing No.
M7.1

Scale 12" = 1'-0"

Date AUGUST 8, 2017

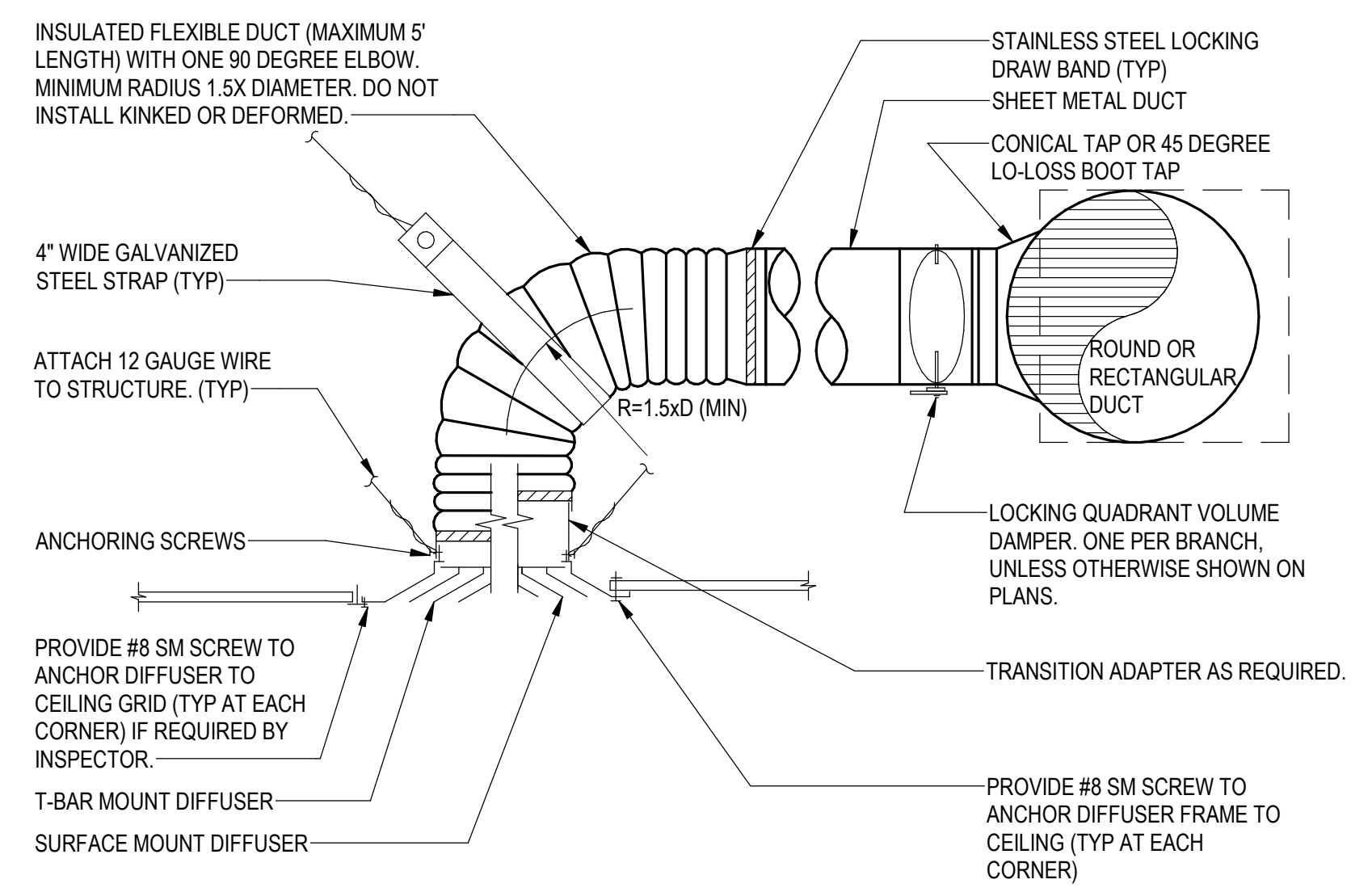
Project No. 107400

6 EXHAUST FAN INLINE
SCALE: 1/8" = 1'-0"



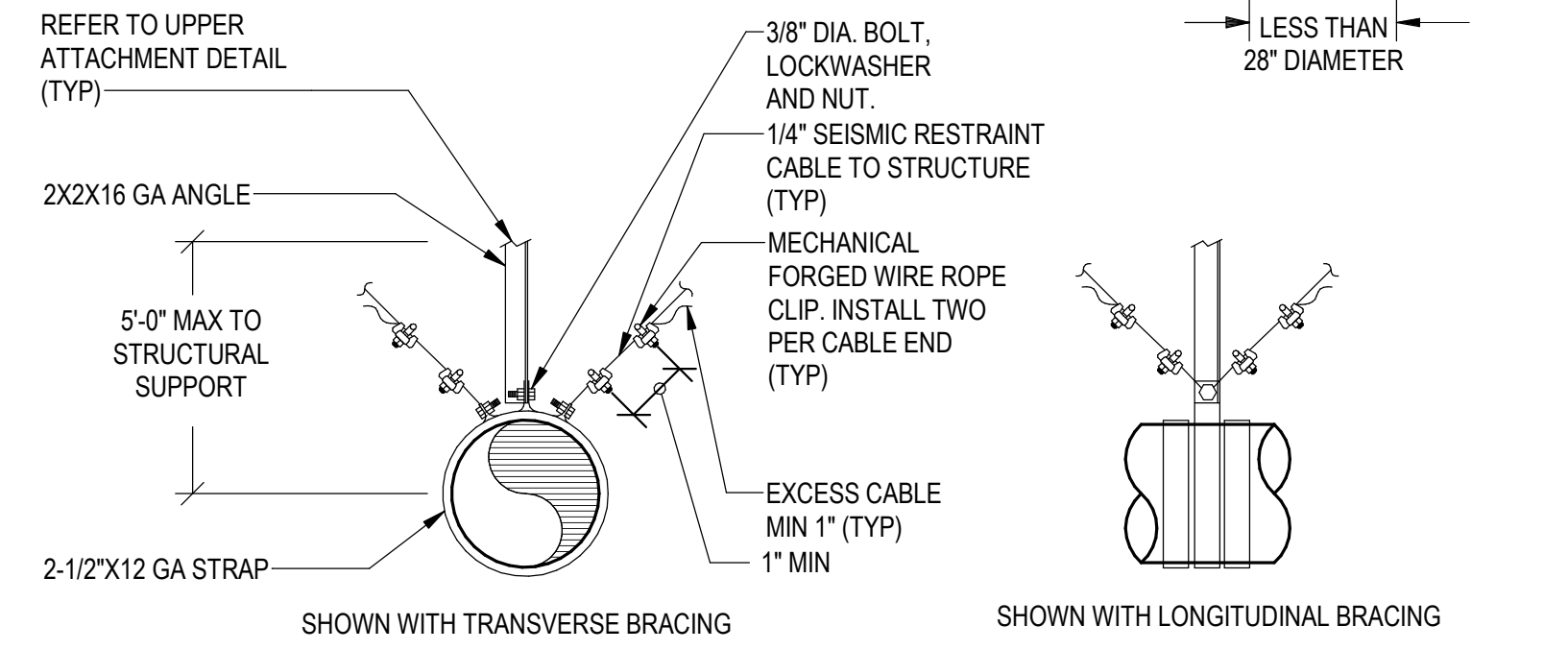
- NOTES:
1. TRANSITION DUCT CONNECTION AS REQUIRED TO MATCH FAN COLLARS.
2. REFER TO STRUCTURAL DESIGN FOR ATTACHMENT REQUIREMENTS AND ADDITIONAL SUPPORT OPTIONS.

5 CEILING DIFFUSER MOUNTING-FLEXIBLE
SCALE: NONE



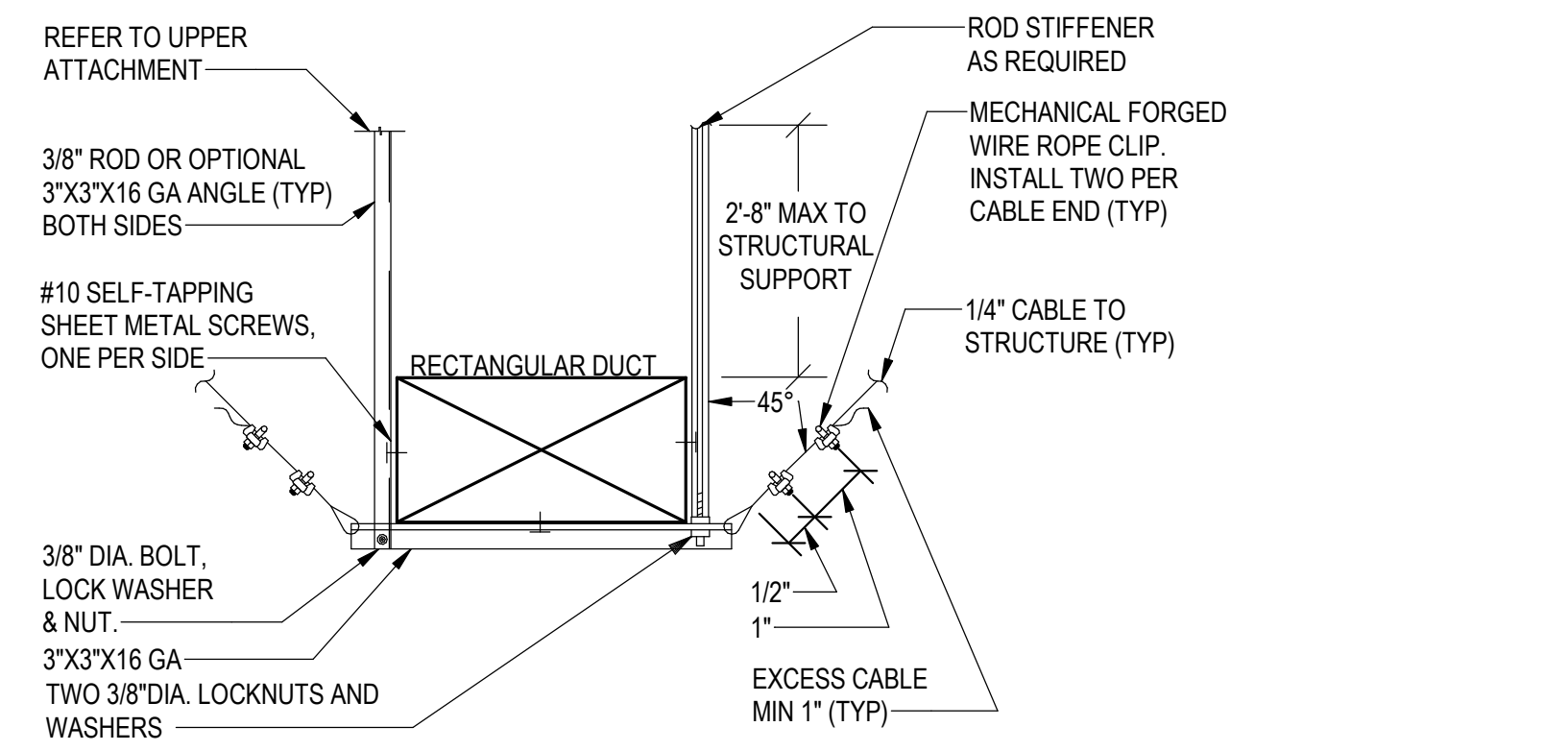
- NOTES:
1. ACCESS TO BALANCING DAMPER MAY BE PROVIDED THRU REMOVABLE RETURN AIR REGISTER OR HINGED LIGHT FIXTURE.
2. FOR INACCESSIBLE CEILING USE REMOTE FLEXIBLE STEEL SHAFT DAMPER OPERATOR OR PROVIDE 18\"/>

4 ROUND DUCT SUPPORT
SCALE: NONE



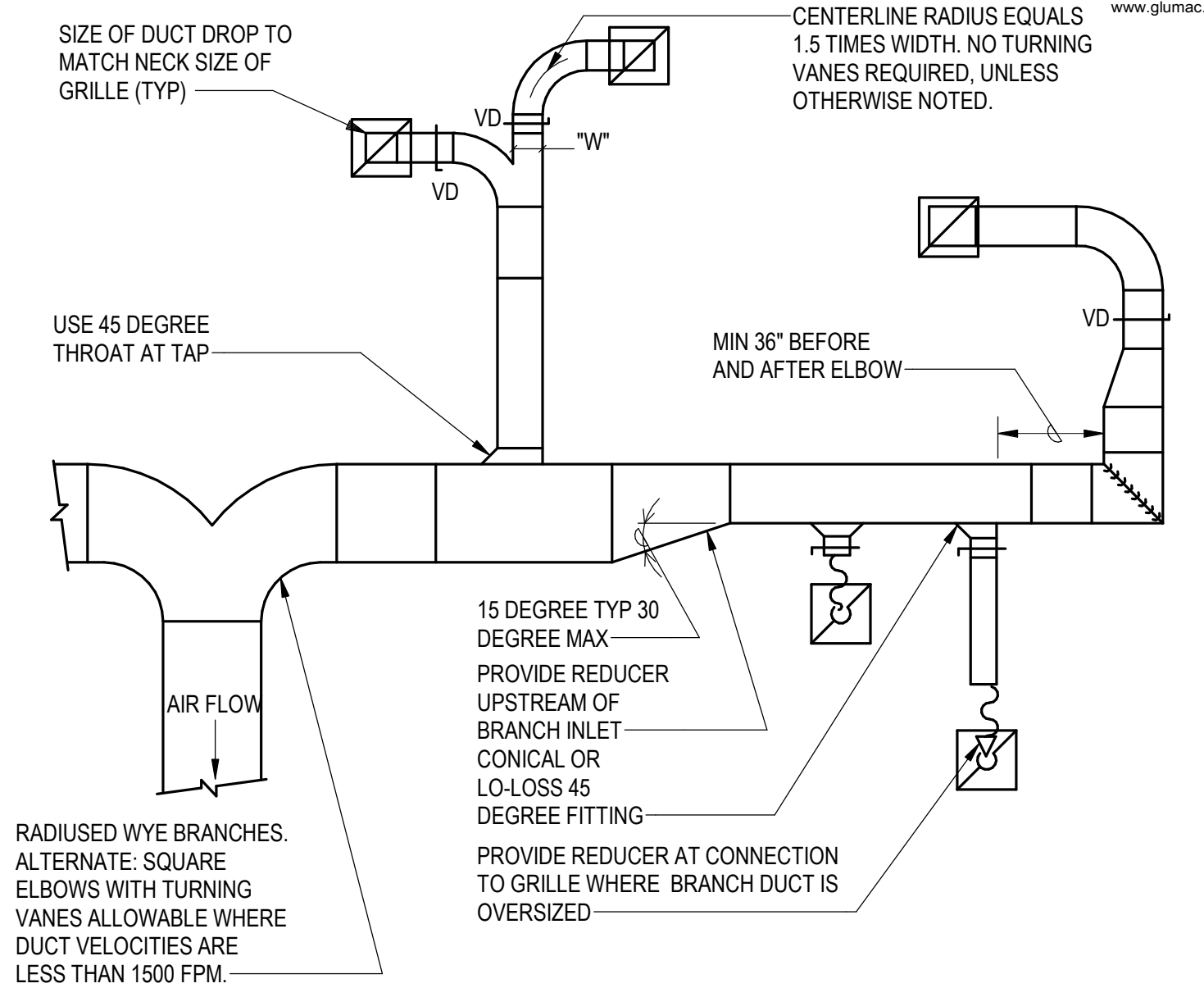
- NOTES:
1. HANGERS SHALL BE INSTALLED AT EVERY CHANGE OF DIRECTION AND NO MORE THAN 10'-0\"/>

3 RECTANGULAR DUCT SUPPORT
SCALE: NONE



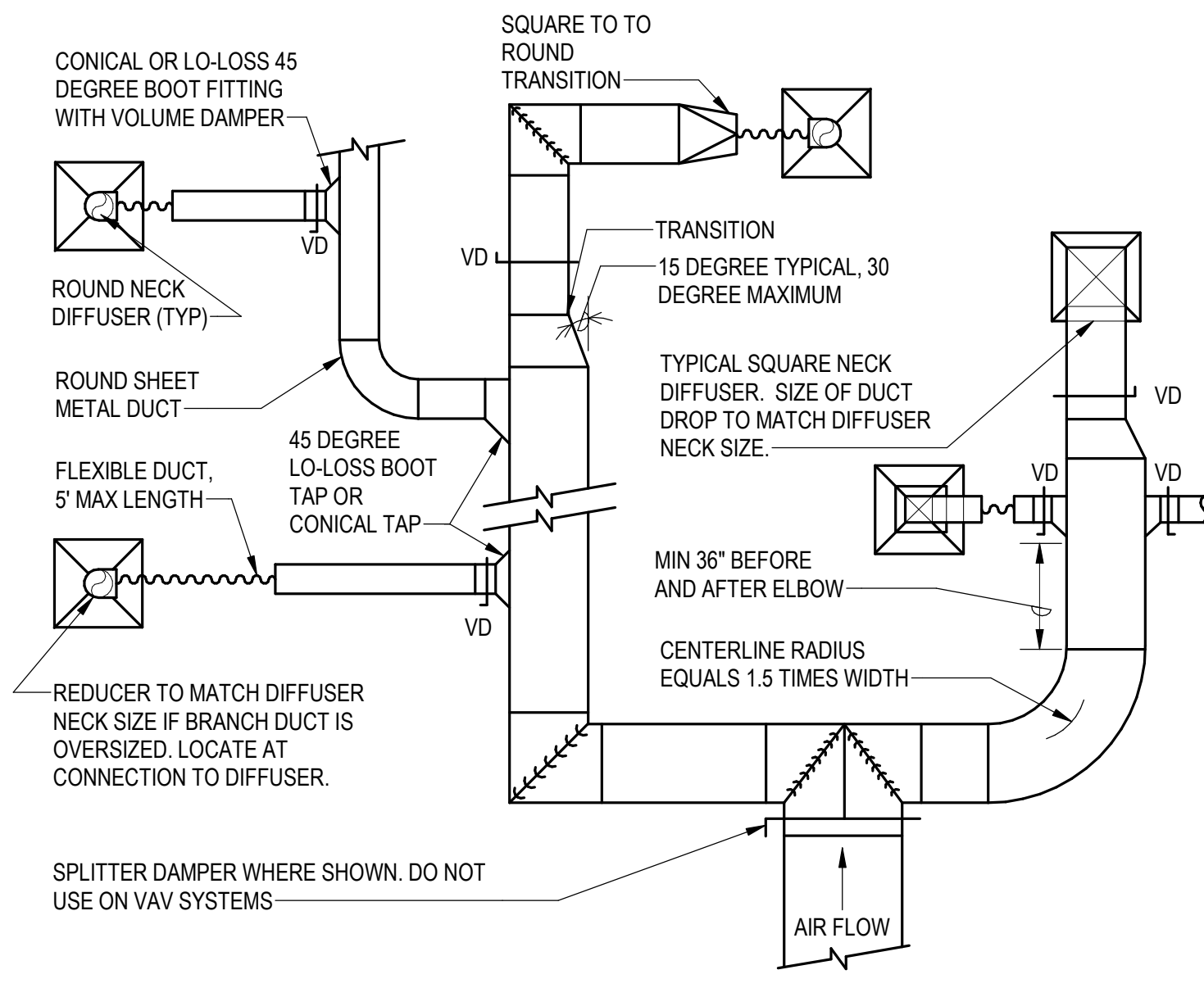
- NOTES:
1. MAXIMUM SPACING OF HANGERS SHALL BE 5'-0\"/>

2 RETURN EXHAUST DUCT FITTINGS
SCALE: NONE

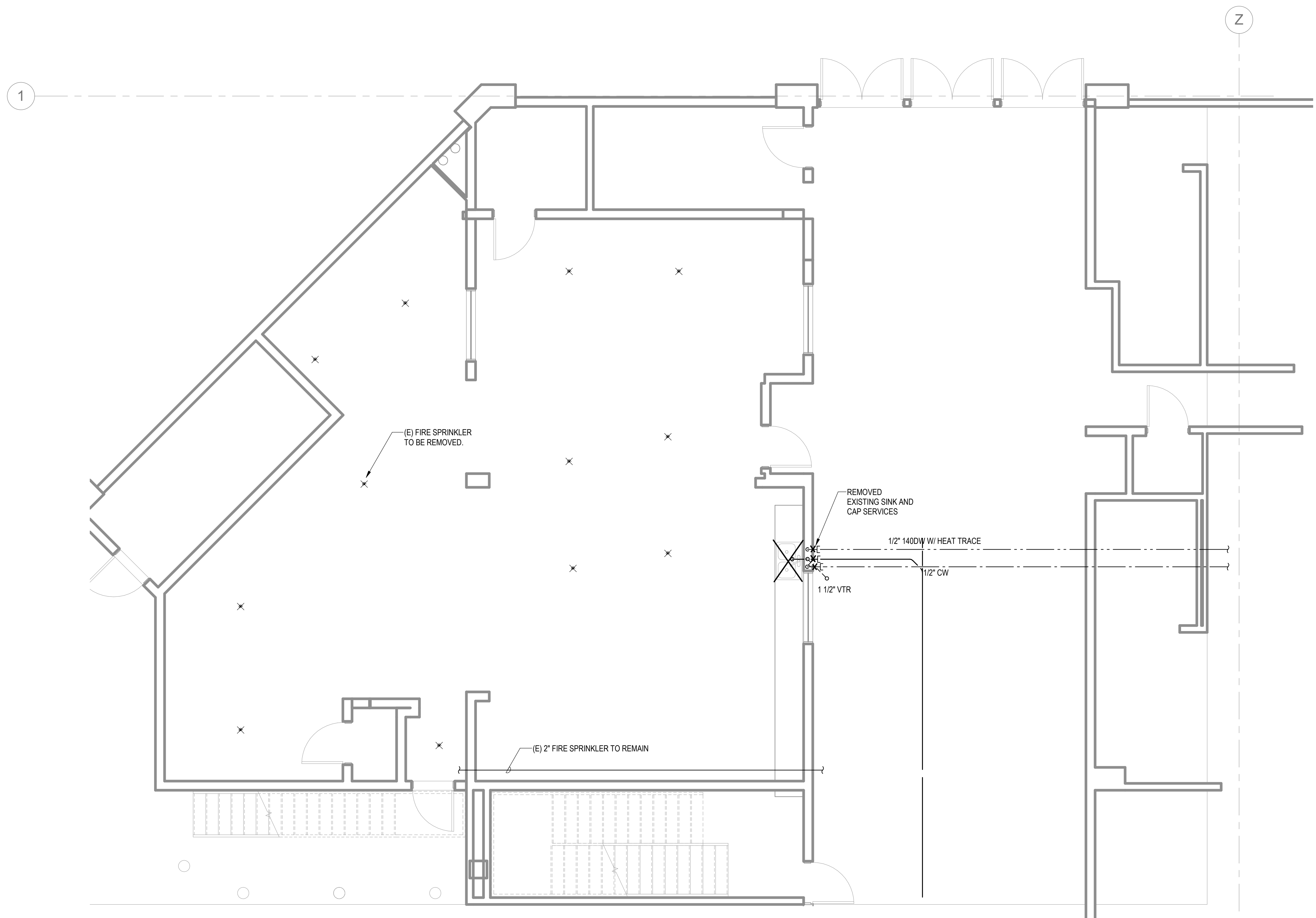


- NOTES:
1. PROVIDE DUCT LINER AND/OR EXTERNAL DUCT INSULATION AS NOTED ON PLANS OR IN SPECIFICATIONS.
2. PROVIDE HANGERS AND SEISMIC BRACING PER SMACNA AND BUILDING CODE.
3. LOCATE MANUAL BALANCING DAMPERS IMMEDIATELY DOWNSTREAM OF EACH DUCT TAP.
4. MAINTAIN MINIMUM 36\"/>

1 SUPPLY DUCT FITTINGS
SCALE: NONE



- NOTES:
1. PROVIDE DUCT LINER AND/OR EXTERNAL DUCT INSULATION AS NOTED ON PLANS OR IN SPECIFICATIONS.
2. PROVIDE HANGERS AND SEISMIC BRACING PER SMACNA AND BUILDING CODE REQUIREMENTS.
3. LOCATE MANUAL BALANCING DAMPERS IMMEDIATELY DOWNSTREAM OF EACH DUCT TAP.
4. CUSHION HEADS OR BULLHEAD TEES ARE NOT ALLOWED.
5. MAINTAIN MINIMUM 36\"/>



1 LEVEL 1 - FLOOR PLAN - PLUMBING - DEMO
 SCALE: 1/4" = 1'-0"

PLUMBING SPECIFICATIONS

220000 PLUMBING SHEET SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. DEFINITIONS- "CONTRACTOR" MEANS "PLUMBING CONTRACTOR" WHEN REFERENCED ANYWHERE IN THE PLUMBING CONSTRUCTION DOCUMENTS UNLESS WORK AND EQUIPMENT HAS BEEN COORDINATED BETWEEN PLUMBING AND GENERAL CONTRACTORS TO BE PROVIDED BY OTHERS. "NEEDED," "PROVIDE," AND "INSTALL" MEANS ALL ITEMS CALLED OUT IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL ITEMS NOT CALLED OUT BUT REQUIRED TO MAKE A COMPLETE AND OPERATIONAL SYSTEM.
- B. PLANS ARE DIAGRAMMATIC. DO NOT SCALE FOR MATERIAL QUANTITIES. ALL SCALING SHOULD BE REFERENCED TO ARCHITECTURAL PLANS ONLY. FURNISH AND INSTALL ALL COMPONENTS NEEDED WHETHER INDICATED OR NOT TO PROVIDE A COMPLETE AND OPERATING SYSTEM.
- C. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL CONNECTIONS TO EXISTING WORK PRIOR TO BIDDING.
- D. SCOPE - THE INTENT OF THE SPECIFICATIONS AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE PLUMBING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS INDICATED ON DRAWINGS, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.
- E. PERMITS AND FEES - THE PLUMBING CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING SCOPE OF WORK.
- F. WARRANTY - THE PLUMBING CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
- G. CODES: ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL CODES AND ORDINANCES, IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT EXTRA COST.
- H. STANDARDS: EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF UPC, CPC, CSA, ULC, ARL, ASME, ASTM, UL, NEMA, ANSISMACNA, ASHRAE, AND NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
- I. THE WORK, MATERIALS AND EQUIPMENT ARE TO BE PROVIDED TO MEET SPECIFIC LEED CREDIT REQUIREMENTS AS STATED ON SCHEDULES AND PLANS.
- J. ALL PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED PRIOR TO BIDDING AND PREAPPROVED IN WRITING. ALL COORDINATION ASSOCIATED WITH SUBSTITUTED MATERIALS OR EQUIPMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- K. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND TECHNICAL DATA FOR ALL EQUIPMENT AND MATERIALS SCHEDULED AND SPECIFIED INCLUDING AIR DISTRIBUTION AND PIPING SYSTEMS.
- L. OPERATING AND MAINTENANCE INSTRUCTIONS - AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING PERIODIC SERVICE.
- 1.2 COORDINATION WITH EXISTING CONDITIONS AND OTHER TRADES
- A. THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE. CONTRACTORS, BY SUBMITTING A BID ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITIONS OF THE BUILDING AS IT INFLUENCES THE WORK DESCRIBED. NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERRABLE FROM A CAREFUL EXAMINATION OF THE EXISTING BUILDING CONDITIONS.
- B. CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE "AS BUILT" CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT AFFECT THE EXISTING CONDITIONS WILL HAVE ON THE WORK POTENTIAL. PROBLEM AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
- C. CONTRACTOR SHALL CONNECT THEIR WORK TO THE EXISTING PIPING SYSTEMS. NEW WORK SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM MATERIALS, AND CONSTRUCTION METHODS. COORDINATE ALL WORK WITH OTHER TRADES AND INSTALL ALL WORK IN COORDINATION WITH ARCHITECTURAL AND STRUCTURAL MEMBERS. EXCEPT FOR NECESSARY CONNECTIONS TO ASSOCIATED EQUIPMENT, NO PIPING OR DUCTWORK IS TO BE IN CONTACT WITH EQUIPMENT.
- D. COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR AND OTHER DISCIPLINES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO HIS WORK.
- E. OBTAIN WRITTEN PERMISSION OF STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY CUTTING OR PATCHING OF STRUCTURAL SYSTEMS. DO NOT CUT ROOF FRAMING.
- F. CARE SHALL BE TAKEN DURING INSTALLATION OF THE WORK TO NOT DAMAGE OR INTERRUPT THE EXISTING BUILDING SYSTEMS AND SERVICES INSTALLED. DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY CONTRACTOR DURING THE INSTALLATION OF THEIR WORK SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE BUILDING OWNER.
- G. NOTIFICATIONS AND COMPLIANCE WITH BUILDING STANDARDS AND RULES:
- OBTAIN A COPY OF ANY APPLICABLE BUILDING TENANT DEVELOPMENT AND BUILDING CONSTRUCTION STANDARDS AND COMPLY WITH THESE STANDARDS.
 - SHUTDOWN OF EXISTING SYSTEMS FOR CONNECTION TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER. CONTRACTOR SHALL SUBMIT REQUESTS WHERE THEY AFFECT THE OPERATION OF THE BUILDING SYSTEMS AT LEAST ONE (1) WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AGREED TO BY THE OWNER.
- H. DEMOLITION SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE, ARCHITECT AND GENERAL CONTRACTOR.
- I. CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE ARCHITECT WITHIN FIVE (5) DAYS OF DISCOVERY.

PART 2 - PRODUCTS AND EXECUTION

2.1 BASIC MATERIALS AND METHODS

- A. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW UNLESS OTHERWISE DESIGNATED IN THESE DOCUMENTS.
- B. CUTTING, CORING AND FITTING - PERFORM REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE FIXTURE. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, AND/OR OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES AND HOLES IN SLABS, WALLS, AND CASEWORK.
- C. HANGERS AND SUPPORTS - THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTS NEEDED FOR EQUIPMENT AND MATERIAL. PROVIDE HANGERS FOR INSULATED PIPE SIZES 1/2" TO 1-1/2" OF THE ADJUSTABLE STEEL BAND TYPE. HANGERS FOR INSULATED PIPE SIZES 2" AND OVER SHALL BE ADJUSTABLE STEEL CLEVIS TYPE. SHIELDS SHALL BE USED WHERE HANGER SUPPORTS INSULATED PIPE. HANGERS AND PIPE ATTACHMENTS TO BE FACTORY FABRICATED WITH GALVANIZED COATINGS; NONMETALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING. HANGERS SHALL BE LOCATED 12" MAXIMUM FROM ANY CHANGE IN DIRECTION AND SPACES AS FOLLOWS FOR STRAIGHT RUNS:
- D. CONNECTIONS - INSTALL UNIONS ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. SCREW JOINT STEEL PIPING UP TO AND INCLUDING 1-1/2". WELD PIPING USE NON-LEAD, NON-ANTIMONY SOLDER FOR SOLDERING DOMESTIC WATER COPPER PIPE.
- E. INSTALLATION - INSTALL PIPING FREE OF SAGS AND BENDS, PROVIDE BRACKET STANDOFFS FROM MOUNTING SURFACES SUFFICIENT TO ALLOW 1" CLEANING SPACE AROUND ALL PIPING, INCLUDING ANY ADDED PIPING INSULATION. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS/STRUCTURE. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRE-STOPPING SEALANT MATERIAL MEETING CODE, AHJ, AND ARCHITECT'S REQUIREMENTS. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
- F. ALL PLUMBING AND PLUMBING EQUIPMENT SHALL BE SUPPORTED FROM STRUCTURE (CONFIRM) AND NOT FROM OTHER EQUIPMENT, PIPING, CONDUITS OR CEILING SUPPORTS.

2.2 PLUMBING EQUIPMENT

- A. EQUIPMENT - THE PLUMBING CONTRACTOR SHALL VERIFY ANY EQUIPMENT LOCATION AND SIZES REQUIRING PLUMBING CONNECTION(S) WITH THE TRADE AND VENDOR SUPPLYING THE EQUIPMENT PRIOR TO ROUGH-IN.
- B. CLEANOUTS - F&I J.R. SMITH OR EQUIVALENT FLOOR AND WALL CLEANOUTS AS INDICATED ON THE DRAWINGS AND WHERE NEEDED IN ALL SOIL, WASTE, AND DRAIN LINES. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
- C. TESTING - ALL PIPES SHALL BE TESTED BY AN APPROVED METHOD BEFORE THEY ARE BACKFILLED OR CONCEALED. AFTER TESTING IS COMPLETE, THE PLUMBING CONTRACTOR SHALL DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY AHJ. TEST WATER PURITY ACCORDING TO AHJ AND SUBMIT CERTIFIED TEST RESULTS TO AHJ FOR REVIEW AND APPROVAL.
- 2.3 INSULATION
- A. WATER PIPING - PROVIDE THERMAL INSULATION ON ALL HOT AND COLD WATER, AND HORIZONTAL WASTE PIPING IN CEILING SPACES, AND ON ALL COLD WATER PIPING IN CASEWORK AND BAR AREAS. USE SELF-SEALING CLOSED CELL FOAM OR JACKETED FIBERGLASS INSULATION WITH MANUFACTURER APPROVED ADHESIVES, SEALERS, AND COATINGS. ALL MATERIALS USED SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 A SMOKE DEVELOPED INDEX NOT MORE THAN 50 OR 50 FOR FUEL CONTRIBUTED. PIPING INSULATION SHALL BE AS REQUIRED BY THE APPLICABLE ENERGY CODE.
- B. INSTALL NO-SCALD SAFETY COVERS WIT INSULATED FOAM LINER AND TAMPER PROOF STRAP AT EXPOSED PIPING UNDER ADA SINKS AS FURNISHED BY STARBUCKS.
- C. INSULATE ICE BIN COPPER DRAIN LINES WITH 1/2" THICK, SELF-SEALING, SECTIONAL, CLOSED CELL FOAM.
- D. INSULATE RAIN WATER CONDUCTORS WHICH PASS THROUGH OCCUPIED AREAS WITH 1/2" THICK FIBERGLASS.
- 2.4 PIPING
- A. SOIL, WASTE AND VENT PIPING
- SOIL, WASTE AND VENT PIPING 10" AND SMALLER SHALL BE SERVICE WEIGHT, HUBLESS, CAST IRON PIPE AND FITTINGS WITH NEOPRENE GASKET AND STAINLESS STEEL SHIELD AND CLAMP. PROVIDE HUB-TYPE PIPE AND FITTINGS BELOW GRADE WHERE REQUIRED BY LOCAL CODES OR AHJ. SCHEDULE 40 ABS AND FITTINGS WITH SOLVENT WELD MAY BE SUBSTITUTED FOR SOIL, WASTE AND VENT PIPING ABOVE AND BELOW GROUND IF ALLOWED BY AHJ. ADHESIVES SHALL NOT EXCEED A VOC CONTENT OF 510 G/L FOR PVC AND 325 G/L FOR ABS. HORIZONTAL RUNS SHALL DRAIN AT A GRADE OF 1/4" PER FOOT. IF SLOPE OF 1/4" IS NOT POSSIBLE, APPLY TO BUILDING DEPARTMENT FOR VARIANCE IF 1/8" IS NEEDED. RELOCATE ANY VENTS NECESSARY TO GIVE 10' CLEARANCE FROM HVAC INTAKE. COORDINATE WITH HVAC CONTRACTOR.
 - COORDINATE WITH LOCAL AUTHORITIES FOR DRAINAGE REQUIREMENTS FOR EQUIPMENT DESIGNED WITH INDIRECT WASTE 50 FLOOR SINKS. PROVIDE PIPED DRAIN (P-TRAP AND VENT) TO SANITARY IF REQUIRED BY LOCAL JURISDICTION.
- B. DOMESTIC WATER PIPING - 2" AND SMALLER SHALL BE COPPER TUBE WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH LEAD FREE SOLDER. PROVIDE TYPE "L" COPPER TUBE ABOVE GROUND TYPE "K" BELOW GROUND.
- C. CONDENSATE DRAINAGE PIPING - THE PLUMBING CONTRACTOR SHALL F&I CONDENSATE DRAINS FOR AIR HANDLING UNITS, REFRIGERATION EQUIPMENT AND ANY OTHER APPLICABLE EQUIPMENT. CONDENSATE DRAINAGE PIPING SHALL BE TYPE "M" COPPER TUBING WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH 50/50 SOLDER.
- 2.5 VALVES
- A. GENERAL - PLUMBING CONTRACTOR TO PROVIDE VALVES WHERE INDICATED ON PLANS AND AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT. PROVIDE BRAIDED STAINLESS STEEL HOSE (UNLESS OTHERWISE NOTED) BETWEEN VALVE AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. LOCATE SHUT-OFF VALVES WITHOUT MOVING EQUIPMENT. PROVIDE STOP VALVES FOR ALL EQUIPMENT WHETHER SHOWN ON THE DRAWINGS OR NOT. VALVES SHALL BE LISTED/APPROVED FOR USE BY AHJ AND CODE REQUIREMENTS.
- B. VALVES - PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER. UNLESS NOTED OTHERWISE VALVES SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
- VALVE TYPE: DESCRIPTION
 - CHECK VALVE (UP TO 2"): BRONZE, HORIZONTAL SWING, Y-PATTERN, RENEWABLE SEAT/DISC.
 - BALL VALVE (UP TO 3"): BRASS, FULL PORT, QUARTER TURN.
 - GATE VALVE (UP TO 3"): BRONZE, NON-RISING STEM, SOLID WEDGE.
 - TEMPERATURE AND PRESSURE RELIEF VALVE: RATED FOR POTABLE WATER HEATING STORAGE VESSEL WITH SAFETY CERTIFICATION PER AHJ.
 - WATER HAMMER ARRESTOR: PRE-CHARGED, SEALED CHAMBER.
 - BACKFLOW PREVENTER (WHOLE-HOUSE): DOUBLE CHECK VALVE ASSEMBLY WITH UNION BALL VALVES AND SAFETY CERTIFICATION PER AHJ.
 - VACUUM RELIEF VALVE: BRASS BODY AND STAINLESS STEEL INTERNALS
 - PRESSURE REDUCING VALVE: BRONZE, 25 TO 75 PSI REDUCED PRESSURE RANGE AND UPSTREAM/DOWNSTREAM PRESSURE GAUGES.
 - TRAP SEAL PRIMER: BRONZE, PRESSURE BASED AUTOMATIC PRIMING.
- C. SUPPLY WATER SERVICE - IF WATER PRESSURE SUPPLIED TO STORE IS GREATER THAN 65 PSI, THEN PROVIDE A PRESSURE REGULATOR IN MAIN SUPPLY TO REDUCE WATER PRESSURE. PROVIDE BACKFLOW PREVENTION ON WATER SERVICE IF REQUIRED BY LOCAL CODE.
- D. THERMOSTATIC MIXING VALVE
- PROVIDE A SINGLE THERMOSTATIC MIXING VALVE (TMV) LOCATED AT HOT WATER TANK AND SET FOR 110°F (OR AS REQUIRED BY AHJ) TO SERVE HAND SINKS. MIXING VALVE TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS WITH CHECK VALVES AT SUPPLY INLETS.
 - FOR REMODELS, PROVIDE MIXING VALVE UNDER HAND SINK(S) IF THERE IS NOT EXISTING TMV AND PIPING.
- 2.6 TESTING
- WATER DISTRIBUTION PIPING TEST: BEFORE FIXTURES ARE SET, SUBJECT THE HOT AND COLD WATER PIPING SYSTEMS TO A HYDROSTATIC PRESSURE TEST OF 150 POUNDS PER SQUARE INCH WITH WATER FOR NOT LESS THAN 8 HOURS IN ORDER TO PERMIT INSPECTION OF ALL JOINTS WITH NO EVIDENCE OF LEAKAGE. WHERE A PORTION OF THE WATER DISTRIBUTION PIPING IS TO BE CONCEALED BEFORE COMPLETION, TEST THIS PORTION SEPARATELY AS SPECIFIED FOR THE ENTIRE SYSTEM.
 - SANITARY WASTE AND VENT PIPING TEST: BEFORE THE INSTALLATION OF ANY FIXTURES OR DRAINS, CAP THE ENDS OF THE SYSTEM AND FILL ALL LINES WITH WATER AND ALLOW TO STAND FOR AT LEAST 30 MINUTES WITHOUT LEAKAGE. MAKE TESTS WITHIN BUILDING WITH PIPING EXPOSED. IF THE SYSTEM IS TESTED IN SECTIONS, TIGHTLY LUG EACH OPENING, EXCEPT THE HIGHEST OPENING OF THE SECTION UNDER TEST, AND FILL EACH SECTION WITH WATER AND TEST WITH AT LEAST A 10 FEET HEAD OF WATER FOR WASTE PIPING AND UP TO THE TOP OF VENT TERMINAL FOR VENT PIPING. PERFORM FINAL TEST FOR SANITARY DRAINAGE, VENT AND FIXTURE SYSTEM.

END OF SECTION 220000

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MARK DATE DESCRIPTION

Sheet Title
PLUMBING
SPECIFICATIONS

Drawing No.

P7.1

Scale 12" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

FIRE PROTECTION SPECIFICATIONS

210000 FIRE PROTECTION SHEET SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. DEFINITIONS- "CONTRACTOR" MEANS "FIRE SPRINKLER CONTRACTOR" WHEN REFERENCED ANYWHERE IN THE FIRE PROTECTION CONSTRUCTION DOCUMENTS UNLESS WORK AND EQUIPMENT HAS BEEN COORDINATED BETWEEN PLUMBING AND GENERAL CONTRACTORS TO BE PROVIDED BY OTHERS. "NEEDED," "PROVIDE," AND "INSTALL" MEANS ALL ITEMS CALLED OUT IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL ITEMS NOT CALLED OUT BUT REQUIRED TO MAKE A COMPLETE AND OPERATIONAL SYSTEM.
- B. PLANS ARE DIAGRAMMATIC. DO NOT SCALE FOR MATERIAL QUANTITIES. ALL SCALING SHOULD BE REFERENCED TO ARCHITECTURAL PLANS ONLY. FURNISH AND INSTALL ALL COMPONENTS NEEDED WHETHER INDICATED OR NOT TO PROVIDE A COMPLETE AND OPERATING SYSTEM.
- C. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL CONNECTIONS TO EXISTING WORK PRIOR TO BIDDING.
- D. SCOPE - THE INTENT OF THE SPECIFICATIONS AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL FIRE PROTECTION AND SPRINKLER PLUMBING SYSTEM. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE FIRE PROTECTION WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS INDICATED ON DRAWINGS, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.
- E. PERMITS AND FEES - THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE SCOPE OF WORK.
- F. WARRANTY - THE CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.
- G. CODES: ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL BUILDING CODES AND ORDINANCES, IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT EXTRA COST.
- H. STANDARDS: EQUIPMENT AND MATERIALS SHALL CONFORM TO APPROPRIATE PROVISIONS OF NFPA.
- I. ALL PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED PRIOR TO BIDDING AND PREAPPROVED IN WRITING. ALL COORDINATION ASSOCIATED WITH SUBSTITUTED MATERIALS OR EQUIPMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- J. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND TECHNICAL DATA FOR ALL EQUIPMENT AND MATERIALS SCHEDULED AND SPECIFIED INCLUDING AIR DISTRIBUTION AND PIPING SYSTEMS.
- K. OPERATING AND MAINTENANCE INSTRUCTIONS - AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING PERIODIC SERVICE.
- 1.2 COORDINATION WITH EXISTING CONDITIONS AND OTHER TRADES
- A. THIS PROJECT INVOLVES CONSTRUCTION INSIDE AN EXISTING STRUCTURE. CONTRACTORS, BY SUBMITTING A BID ARE DEEMED TO BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITIONS OF THE BUILDING AS IT INFLUENCES THE WORK DESCRIBED. NO CLAIMS FOR EXTRA COMPENSATION WILL BE CONSIDERED FOR EXISTING CONDITIONS VISIBLE OR REASONABLY INFERRABLE FROM A CAREFUL EXAMINATION OF THE EXISTING BUILDING CONDITIONS.
- B. CONTRACTOR SHALL INSPECT THE EXISTING FIELD CONDITIONS AT THE SITE AND THE "AS BUILT" CONTRACT DOCUMENTS PRIOR TO THE START OF ANY WORK TO DETERMINE WHAT AFFECT THE EXISTING CONDITIONS WILL HAVE ON THE WORK POTENTIAL. PROBLEM AREAS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
- C. CONTRACTOR SHALL CONNECT THEIR WORK TO THE EXISTING PIPING SYSTEMS. NEW WORK SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM MATERIALS, AND CONSTRUCTION METHODS. COORDINATE ALL WORK WITH OTHER TRADES AND INSTALL ALL WORK IN COORDINATION WITH ARCHITECTURAL AND STRUCTURAL MEMBERS. EXCEPT FOR NECESSARY CONNECTIONS TO ASSOCIATED EQUIPMENT, NO PIPING OR DUCTWORK IS TO BE IN CONTACT WITH EQUIPMENT.
- D. COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR AND OTHER DISCIPLINES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO HIS WORK.
- E. OBTAIN WRITTEN PERMISSION OF STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY CUTTING OR PATCHING OF STRUCTURAL SYSTEMS. DO NOT CUT ROOF FRAMING.
- F. CARE SHALL BE TAKEN DURING INSTALLATION OF THE WORK TO NOT DAMAGE OR INTERRUPT THE EXISTING BUILDING SYSTEMS AND SERVICES INSTALLED. DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY CONTRACTOR DURING THE INSTALLATION OF THEIR WORK SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE BUILDING OWNER.
- G. NOTIFICATIONS AND COMPLIANCE WITH BUILDING STANDARDS AND RULES:
 - 1. OBTAIN A COPY OF ANY APPLICABLE BUILDING TENANT DEVELOPMENT AND BUILDING CONSTRUCTION STANDARDS AND COMPLY WITH THESE STANDARDS.
 - 2. SHUTDOWN OF EXISTING SYSTEMS FOR CONNECTION TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER. CONTRACTOR SHALL SUBMIT REQUESTS WHERE THEY AFFECT THE OPERATION OF THE BUILDING SYSTEMS AT LEAST ONE (1) WEEK IN ADVANCE OF ANY REQUIRED SHUTDOWN. THE ACTUAL SHUTDOWN PERIOD SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AGREED TO BY THE OWNER.
- H. DEMOLITION SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE, ARCHITECT AND GENERAL CONTRACTOR.
- I. CONTRACTOR SHALL REPORT ANY EQUIPMENT DEFICIENCIES FOUND TO THE ARCHITECT WITHIN FIVE (5) DAYS OF DISCOVERY.

PART 2 - PRODUCTS AND EXECUTION

2.1 BASIC MATERIALS AND METHODS

- A. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW UNLESS OTHERWISE DESIGNATED IN THESE DOCUMENTS.
- B. CUTTING, CORING AND FITTING - PERFORM REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE FIXTURE. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, AND/OR OWNER. PROPERLY FILL, SEAL, FIREPROOF, AND WATERPROOF ALL OPENINGS, SLEEVES AND HOLES IN SLABS, WALLS, AND CASEWORK.
- C. HANGERS AND SUPPORTS - THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTS NEEDED FOR EQUIPMENT AND MATERIAL TO MEET OR EXCEED MINIMUM REQUIREMENTS OF NFPA-13.
- D. INSTALLATION - INSTALL PIPING FREE OF SAGS AND BENDS.
- 2.2 PIPE AND FITTINGS - ABOVE GROUND
- A. PIPING OR FITTINGS SHALL BE NEW AND CLEAN. PIPING OR FITTINGS THAT SHOW SUBSTANTIAL RUST OR BREAKS IN COATING WILL BE REMOVED AND REPLACED.
- B. SCHEDULE 40 BLACK STEEL, ASTM A-135 STAMPED ON PIPE, UV CURED ACRYLIC FINISH.
- C. ALLIED TUBE: SCHEDULE 10 BLACK STEEL PIPE, ASTM A-135 STAMPED ON PIPE, UV CURED ACRYLIC FINISH; VICTAULIC ROLL-GROOVED FITTINGS AND COUPLINGS.

2.3 SPRINKLER HEADS AND ESCUTCHEONS

- A. SPRINKLER HEADS INSTALLED SHALL BE UPRIGHT OR PENDENT, AS CONDITIONS REQUIRE, AND SHALL BE OF THE FOLLOWING TYPE AND FINISH FOR THE AREAS DESIGNATED. UNLESS OTHERWISE SPECIFIED, SPRINKLERS SHALL BE SMALL FRAME TYPE, CENTER BULB CAPSULE FOR FINISHED AREAS, FUSIBLE LINK FOR UNFINISHED AREAS, AND 1/2" ORIFICE.
 - 1. UNFINISHED SPACE, EXPOSED CEILING RETAIL, EXPOSED CEILING OFFICE, PARKING STRUCTURE, MECHANICAL ROOMS: UPRIGHT OR PENDENT STYLE, BRASS FINISH, 155°F TEMPERATURE RATING.
 - 2. ELECTRICAL, TELEPHONE & SWITCHGEAR ROOMS: UPRIGHT, BRASS FINISH, 286°F TEMPERATURE RATING.
 - 3. FINISHED CEILINGS: SEMI-RECESSED PENDANT, WHITE FINISH, WHITE ESCUTCHEON, 155°F TEMPERATURE RATING.
 - 4. FINISHED CEILINGS IN CONFERENCE ROOMS AND LOBBIES: CONCEALED PENDANT STYLE, BRASS FINISH, WHITE COVER PLATE, 155°F TEMPERATURE RATING.
 - 5. SOFFIT & SIDEWALL: FLUSH SIDEWALL, WHITE FINISH, WHITE ESCUTCHEON PLATE, 155°F TEMPERATURE RATING.
 - 6. EXTERIOR BALCONIES & OVERHANGS: DRY SIDEWALL, BRASS FINISH, CHROME ESCUTCHEON PLATE, 175°F TEMPERATURE RATING.
- B. MANUFACTURER: TYCO, RELIABLE, VIKING, GLOBE, VICTAULIC, VENUS OR EQUAL.
- 2.4 VALVING
- A. 2" OR SMALLER:
 - 1. CONTROL VALVE: OS&Y RISING STEM TYPE GATE VALVE BRONZE BODY, BONNET AND DISC, COPPER ALLOY STEM, THREADED ENDS, 175 PSI WOG MIN. PROVIDE WITH TAMPER SWITCH.
- B. 2-1/2" OR LARGER:
 - 1. CONTROL VALVE: GROOVED BUTTERFLY VALVE WITH TAMPER SWITCH, DUCTILE IRON BODY, ALUMINUM BRONZE DISC, STAINLESS STEEL STEM AND EPDM LINER, 200 PSI WOG MINIMUM.
 - 2. CONTROL VALVE: OS&Y RISING STEM TYPE GATE VALVE, CAST IRON BODY AND BONNET, BRONZE STEM, SEAT AND DISC, FLANGED ENDS, 175 PSI WOG MIN. PROVIDE WITH TAMPER SWITCH.
 - 3. MANUFACTURER: GRINNELL, STOCKHAM, MILWAUKEE, MUELLER, KENNEDY, ELKART, VICTAULIC, OR AGF.
- 2.5 BACKFLOW PREVENTER
- A. PROVIDE LISTED BACKFLOW PREVENTION DEVICE AS REQUIRED BY LOCAL CODES AND ORDINANCES. BACKFLOW PREVENTION DEVICES INSTALLED IN THE VERTICAL POSITION SHALL BE APPROVED FOR THAT ORIENTATION.
- 2.6 SEISMIC RESTRAINT
- A. EQUIPMENT, PIPING, AND ALL SYSTEM APPURTENANCES (INCLUDING WEIGHT OF NORMAL OPERATING CONTENTS) SHALL BE ADEQUATELY RESTRAINED TO RESIST SEISMIC FORCES. RESTRAINT DEVICES SHALL BE DESIGNED AND SELECTED TO MEET SEISMIC REQUIREMENTS AS DEFINED IN THE APPLICABLE NFPA STANDARDS AND BUILDING CODE WITH STATE AMENDMENTS.

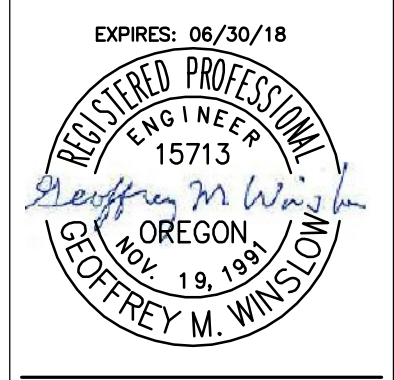
PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. FIRE PROTECTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED DRAWINGS. THE FINISHED CEILING IS NOT TO BE ERECTED UNTIL ALL FIRE PROTECTION PIPING HAS BEEN INSTALLED, TESTED, AND INSPECTED. SPRINKLER HEADS LOCATED IN THE ELECTRICAL EQUIPMENT, ELEVATOR, OR SIMILAR ROOMS SHALL BE FURNISHED WITH DEFLECTORS TO PREVENT WATER SPRAY ON EQUIPMENT.
 - B. SPRINKLER HEADS IN ALL FINISHED AREAS ARE TO BE INSTALLED ON A TRUE AXIS LINE IN BOTH DIRECTIONS, WITH MAXIMUM DEVIATION FROM THE AXIS LINE OF 1/2 INCH PLUS OR MINUS AND SHALL BE PLUS OR MINUS 1" WITHIN CENTER OF TILE. AT THE COMPLETION OF THE INSTALLATION, IF ANY HEADS ARE FOUND TO EXCEED THE ABOVE-MENTIONED TOLERANCE, THEY SHALL BE REMOVED AND REINSTALLED.
 - C. THE ARRANGEMENT, POSITIONS, AND CONNECTIONS OF PIPES, DRAINS, VALVES, ETC., SHALL BE AS REQUIRED BY NFPA-13 FOR ALL AREAS TO BE SPRINKLERED. HOWEVER, THE RIGHT IS RESERVED BY THE ARCHITECT TO CHANGE THE LOCATION OF ANY ITEM TO ACCOMMODATE CONDITIONS, WHICH MAY ARISE DURING PROGRESS OF THE WORK, WITHOUT ADDITIONAL COMPENSATION FOR SUCH CHANGES PROVIDED THAT NO ADDITIONAL HEADS ARE REQUIRED PRIOR TO THE INSTALLATION OF THE WORK.
 - D. WHERE REQUIRED, PIPING SHALL BE INSTALLED CONCEALED IN BUILDING CONSTRUCTION, OR THROUGH STEEL BEAMS, TO OBTAIN ADEQUATE HEAD ROOM.
 - E. ALL PIPE THROUGHOUT THE JOB SHALL BE REAMED SMOOTH BEFORE BEING INSTALLED. PIPE SHALL NOT BE SPLIT, BENT, FLATTENED, OR OTHERWISE INJURED EITHER BEFORE OR DURING INSTALLATION.
 - F. LOCATION OF SPRINKLER PIPING IS CRITICAL.
 - 1. WHERE CEILING SPACE IS AT A MINIMUM UNDER BEAMS LOCATION OF DUCTWORK TAKES PRECEDENCE, COORDINATE ACCORDINGLY.
 - 2. INCLUDE IN BASE BID THREE (3) TWO-HOUR COORDINATION MEETINGS WITH THE OWNER'S REPRESENTATIVE FOR COORDINATION OF SPRINKLER PIPE ROUTING.
 - 3. COORDINATE BEAM AND SHEAR WALL PENETRATIONS WITH STRUCTURAL ENGINEER. OBTAIN WRITTEN APPROVAL FOR ALL BEAM PENETRATIONS FROM STRUCTURAL ENGINEER.
 - 3.2 TESTING
 - A. PROVIDE ALL TESTS SPECIFIED HEREINAFTER AND AS OTHERWISE REQUIRED. PROVIDE ALL TEST EQUIPMENT, INCLUDING TEST PUMPS, GAUGES, INSTRUMENTS, AND OTHER EQUIPMENT REQUIRED. UPON COMPLETION OF TESTING, CERTIFY TO THE OWNER'S REPRESENTATIVE, IN WRITING, THAT THE SPECIFIED TESTS HAVE BEEN PERFORMED AND THAT THE INSTALLATION COMPLIES WITH THE SPECIFIED REQUIREMENTS AND PROVIDE A REPORT OF THE TEST OBSERVATIONS SIGNED BY QUALIFIED INSPECTOR.
- END OF DIVISION 21 SHEET SPECIFICATION

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MARK DATE DESCRIPTION

Sheet Title
 FIRE PROTECTION SPECIFICATIONS

Drawing No.
P7.2

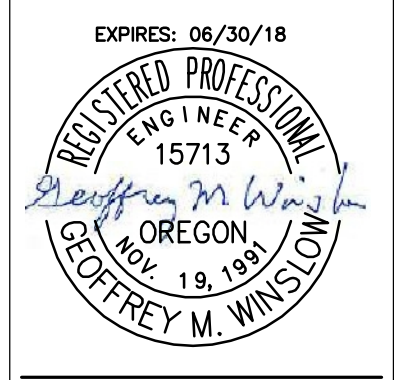
Scale 12" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

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MARK	DATE	DESCRIPTION

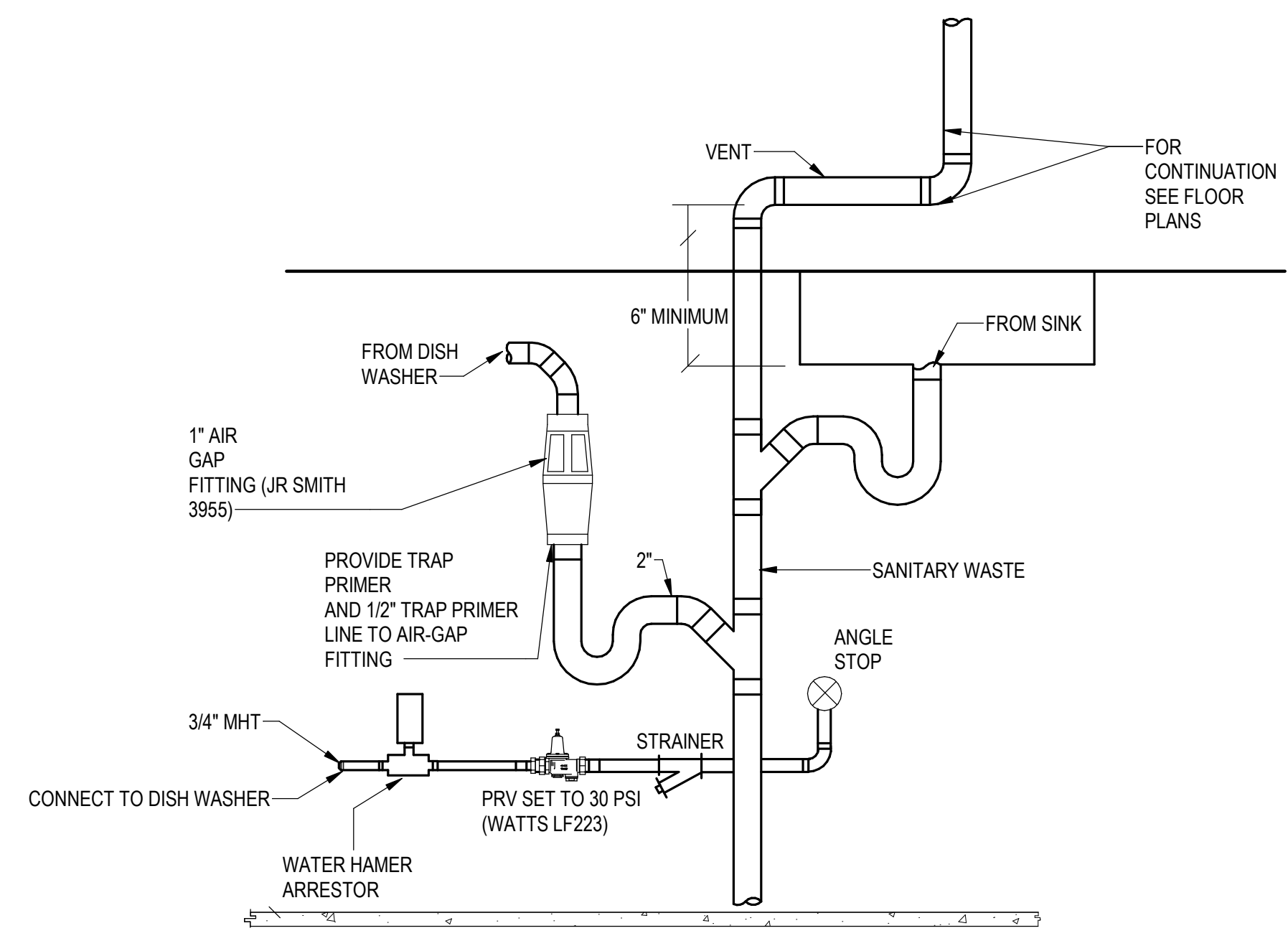
Sheet Title
 PLUMBING DETAILS

Drawing No.
P9.1

Scale 1/8" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400



NOTES:
 1. REFER TO PLANS FOR SIZING AND CONTINUATION.

1 SINK AND DISHWASHER SANITARY AND WATER CONNECTIONS
 SCALE: 1/8" = 1'-0"

ELECTRICAL LEGEND

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS ARE APPLICABLE TO THIS PROJECT. REFER TO DETAILS AND NOTES FOR MOUNTING HEIGHTS.

LIGHTING

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for recessed and surface mounted luminaires, wall wash, track lighting, ceiling and surface adjustable point sources, wall mounted luminaires, fluorescent striplights, and exit signs.

DISTRIBUTION & EQUIPMENT

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for branch circuit panelboards, transformers, motor connections, disconnect switches, fuses, breakers, and dampers.

DIAGRAMS

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for pipe ground, surge protection, LED indicators, grounded wye connections, circuit breakers, fuses, and various types of switches.

POWER DEVICES

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for simple and duplex receptacles, special purpose receptacles, controlled duplex receptacles, and floor devices.

SWITCHING CONTROLS

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for single pole switches, three way switches, dimmer switches, timer switches, low voltage momentary contact switches, motor-rated thermal switches, and pushbutton stations.

REFERENCE SYMBOLS

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for keyed note references, branch circuit tags, elevation and section tags, kitchen equipment tags, and mechanical equipment identification tags.

WIRING

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for new work, existing work, future work, conduit runs, telephone/data sleeves, cable trays, and junction boxes.

SECURITY SYSTEM

Table with 2 columns: SYMBOL and DESCRIPTION. Includes symbols for CCTV cameras, intelligent card readers, door position monitors, duress pushbuttons, card readers, local door monitors, electric bolts, electric locklatches, electric strikes, magnetic locks, glass break sensors, and electric power transfer hinges.

ELECTRICAL EQUIPMENT NAMING CONVENTION LEGEND

Table with columns: EXAMPLES/LEGEND, EQUIPMENT TYPE, POWER SYSTEMS, VOLTAGE, FLOOR, and SEQUENTIAL LETTERS. Provides a key for naming electrical equipment.

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MARK DATE DESCRIPTION

Sheet Title
ELECTRICAL LEGEND AND ABBREVIATIONS

Drawing No.

E0.0

Scale NONE

Date AUGUST 8, 2017

Project No. 107400

ELECTRICAL BASIS OF DESIGN	
GENERAL REQUIREMENTS	THE COMPLETE INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, UTILITY COMPANY REQUIREMENTS AND REGULATIONS INCLUDING NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES.
BUILDING CODE	INTERNATIONAL BUILDING CODE (IBC) 2012
STRUCTURAL CODE	INTERNATIONAL BUILDING CODE 2012 WITH OREGON STRUCTURAL SPECIALTY CODE (OSSC) AMENDMENTS, 2014.
ELECTRICAL CODES	NATIONAL ELECTRICAL CODE (NEC) 2014 WITH OREGON ELECTRICAL SPECIALTY CODE (OSSC) AMENDMENTS, 2014. OREGON ADMINISTRATIVE RULES (OAR) THAT APPLY TO THIS SCOPE OF WORK.
TECHNOLOGY	ANSI/TIA-568, 569, 942, ANSI/TIA/EIA 606, ANSI-J-STD-607-A, NFPA 75
ENERGY CODE	INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2010 WITH OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC) AMENDMENTS, 2014.
FIRE/LIFE SAFETY CODE	INTERNATIONAL FIRE CODE 2012 WITH OREGON AMENDMENT, 2014. NFPA 101 LIFE SAFETY CODE, 2015 EDITION. NFPA 110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 2016 EDITION.
ACCESSIBILITY/ADA CODE	OREGON STRUCTURAL SPECIALTY CODE 2014, CHAPTER 11.
GENERAL AND ARCHITECTURAL ITEMS	
PROJECT DESCRIPTION	RENOVATION OF 3,500 SQ. FT. OFFICE, CONFERENCE ROOM, & BREAK ROOM.
SEISMIC CRITERIA	SEISMIC ZONE: D - SEISMIC DESIGN CATEGORY: D
NOISE AND VIBRATION CRITERIA	NO SPECIAL NOISE ATTENUATION ASSUMED TO BE REQUIRED FOR ELECTRICAL SYSTEMS.
HOURS OF OPERATION	6AM-6PM 7 DAYS A WEEK, 365 DAYS PER YEAR
PROJECT PHASING	ELECTRICAL DISTRIBUTION FROM EXISTING SWITCHBOARD HPE TO NEW BRANCH PANEL LEB ALONG WITH NEW TRANSFORMER XFR-LEB ARE TO BE PROVIDED AND INSTALLED BY OWNERS IN-HOUSE ELECTRICIANS. ELECTRICAL DISTRIBUTION COMPONENTS AND DEVICES FED FROM BRANCH PANEL LEB SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
ELECTRICAL SYSTEMS	
POWER FACTORS USED FOR DESIGN	0.95 FOR IT EQUIPMENT 0.95 FOR MECHANICAL EQUIPMENT
STANDBY/EMERGENCY POWER	NEC 700 EMERGENCY LOADS - EGRESS LIGHTING WILL BE FED FROM PANEL ELA AND BACKED UP BY THE EXISTING DIESEL GENERATOR.
POWER DISTRIBUTION	DISTRIBUTION PANELS SHALL HAVE FIXED BREAKER DISTRIBUTION, FRONT ACCESS ONLY. PANEL BOARDS TO HAVE DOOR-IN-DOOR CONSTRUCTION. BOLT-IN BREAKERS, COPPER BUSSING. 80% RATED BREAKERS UNLESS OTHERWISE NOTED. BUSSING TO BE COPPER 20% SPARE CAPACITY IN ELECTRICAL DISTRIBUTION IS REQUIRED. SELECTIVE COORDINATION REQUIREMENTS PER CODE.
GROUNDING	GROUND SERVICE NEC REQUIREMENTS. TELECOMMUNICATIONS PER GROUNDING RISER DIAGRAM. GROUNDING TO CABLE TRAY, EACH CABINET, ELECTRICAL EQUIPMENT, AND MECHANICAL EQUIPMENT WILL BE PROVIDED WITH GREEN OR BARE COPPER GROUNDING CONDUCTOR. GREEN GROUND CONDUCTORS IN ALL POWER CONDUITS.
WIRING /CABLING	COPPER CONDUCTORS ONLY (NO ALUMINUM). STRANDED CABLING ONLY FOR UNDER #10S, SOLID OR STRANDED FOR CONDUCTORS OVER #10S. SEE WIRE & CABLING METHOD BY SPACE/AREA. UPSIZE CONDUCTORS FOR VOLTAGE DROP (3% VD 60% LOADED OR ACTUAL LOAD IF HIGHER) DEDICATED NEUTRALS FOR EACH CIRCUIT WILL BE PROVIDED TO COMPLY WITH NEC 210.4(B)
RACEWAY REQUIREMENTS	LIGHTING - CONDUIT AND WIRE FOR ALL HOMERUNS AND IN ALL EXISTING EXPOSED AREAS. METAL CLAD (MC) FOR BRANCH WIRING CONCEALED IN WALLS. POWER - CONDUIT AND WIRE FOR ALL HOMERUNS AND IN ALL EXISTING EXPOSED AREAS. METAL CLAD (MC) FOR BRANCH WIRING CONCEALED IN WALLS. EMERGENCY POWER - CONDUIT AND WIRE. FIRE ALARM - CABLING IN CONDUIT WHERE REQUIRED FOR PHYSICAL PROTECTION OR WHERE EXPOSED. OPEN CABLING ON J-HOOKS TO BASKET CABLE TRAY. BOXES PAINTED RED. TELECOM OUTLET - 1 INCH CONDUIT FROM OUTLET TO CABLE TRAY OR ACCESS FLOOR SOLUTION. FOR SURFACE MOUNTED LOCATIONS A MINIMUM OF 1 INCH CONDUIT FROM J-BOX TO CABLE TRAY. SECURITY - CABLING IN CONDUIT WHERE REQUIRED FOR PHYSICAL PROTECTION. OPEN CABLING ON J-HOOKS TO BASKET CABLE TRAY. CONTROL/POWER MONITORING - CABLING IN CONDUIT WHERE REQUIRED FOR PHYSICAL PROTECTION. OPEN CABLING ON J-HOOKS TO BASKET CABLE TRAY. PVC SCHEDULE 40 BELOW GRADE OR IN CONCRETE SLAB ON GRADE.
WIRING AND CABLING METHOD BY SPACE/AREA	ELECTRICAL POWER AND SIGNAL IN WALLS <ul style="list-style-type: none"> POWER - CONDUIT OR ACCESS FLOOR SOLUTION TELECOM - CONDUIT TO CABLE TRAY OR ACCESS FLOOR SOLUTION FIRE ALARM - CONDUIT TO CABLE TRAY SECURITY - CONDUIT TO CABLE TRAY OR ACCESS FLOOR SOLUTION LIGHTING CONTROL - CONDUIT TO CABLE TRAY OR ACCESS FLOOR SOLUTION EXPOSED CEILING SPACE/ NON-ACCESSIBLE CEILING SPACES <ul style="list-style-type: none"> POWER - CONDUIT. ALL HOME RUNS WILL BE IN CONDUIT BACK TO POWER PANEL. TELECOM - CONDUIT TO CABLE TRAY FIRE ALARM - CONDUIT TO CABLE TRAY SECURITY - CONDUIT TO CABLE TRAY LIGHTING CONTROL - CONDUIT TO CABLE TRAY
FIRE ALARM	
FIRE ALARM SYSTEM	DESIGN BUILD COMPLETE FIRE ALARM SYSTEM COMPATIBLE WITH EXISTING SYSTEM LOCATED AT FIRE COMMAND CENTER. DETECTORS AND NOTIFICATION DEVICES WILL BE LOCATED AS REQUIRED BY CODE. FULLY SPRINKLED BUILDING.
TELECOMMUNICATION	
EQUIPMENT RACKS/CABINETS	CABINETS AND RACKS - APPROXIMATE 2 KW LOAD PER IDF PROVIDE VERTICAL WIRE MANAGEMENT BETWEEN RACKS AND CABINETS AND AT END OF EACH ROW. PROVIDE HORIZONTAL WIRE MANAGEMENT ABOVE/BELOW/BETWEEN EACH PATCH PANEL AND DEVICE IN THE EQUIPMENT RACK.
CABLE TRAY/BASKET TRAY/CABLE RUNWAY	CABLE TRAY SHALL INCLUDE A GROUNDING/ BONDING CONDUCTOR ROUTED IN THE TRAY. EACH RACK/CABINET SHALL BE BONDED TO THIS CONDUCTOR USING EIA/ TIA #6 AWG GREEN COPPER GROUNDING CONDUCTOR.
FLOOR ROUTING/DISTRIBUTION	VIA FREEAXEZ FLOOR SOLUTION AND THOMAS & BETTS FLOOR BOXES.
TELECOM OUTLETS	STANDARD OUTLETS TO HAVE TWO (2) CAT 6A CABLES IN 1 INCH CONDUIT MINIMUM.
WIRELESS SYSTEM	COMPLETE COVERAGE THROUGHOUT THE BUILDING IS REQUIRED.
CATV	CATV DISTRIBUTION PER SECTION 27 41 33
COMMUNICATION CABLING	CABLING IS PERMITTED TO BE RISER-RATED
DAS SYSTEM	DISTRIBUTED ANTENNA SYSTEM (DAS) WAPS TIED BACK TO EXISTING SYSTEM TO PROVIDE COMPLETE COVERAGE THROUGHOUT THE RENOVATED SPACE IS REQUIRED. OFC 510.
AV	BY OTHERS
ACCESS CONTROL	CARD READER AT SELECTIVE ENTRY DOORS AS INDICATED ON FLOORPLANS.
ELECTRICAL DEVICES FINISH/ELECTRICAL SYSTEM LABELING	
FINISH/COLOR	BY ARCHITECT
LABELING	PER LABELING DETAILS ON DRAWINGS.
GENERAL COMMENTS	1. CONTRACTOR TO PROVIDE THE MOST ENCOMPASSING SCOPE OF WORK, IF CONFLICTS BETWEEN BOD AND DRAWINGS OR SPECIFICATIONS ARE DISCOVERED. 2. SEE DRAWINGS AND SPECIFICATION FOR ADDITIONAL DETAILED INFORMATION.

GENERAL DEMO NOTES

- A EXISTING WALLS AND CEILINGS TO BE DEMOLISHED ARE SHOWN DASHED. REFER TO ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION.
- B REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION SCOPE OF WORK.
- C FOR WALLS, SOFFITS, CASEWORK, ISLANDS, CEILINGS, ETC. SHOWN TO BE DEMOLISHED REMOVE THE FOLLOWING:
 - 1. TELECOM OUTLET BOXES AND RACEWAYS. COORDINATE CABLE REMOVAL WITH GENERAL CONTRACTOR AND OWNER.
 - 2. POWER OUTLETS, WIREMOLD, RECEPTACLES AND ALL OTHER ELECTRICAL DEVICES INCLUDING THEIR J-BOXES, CONDUIT AND WIRE.
 - 3. LIGHT SWITCHES INCLUDING THEIR J-BOXES, CONDUIT AND WIRE.
 - 4. FIRE ALARM AND OTHER LOW-VOLTAGE DEVICES INCLUDING THEIR J-BOXES, CONDUIT AND WIRE.
 - 5. ALL J-BOXES ON EXPOSED CEILINGS AND WALLS. REWORK CONDUIT AND WIRING IF CIRCUIT CONTAINED OR USED IN J-BOX SERVES EXISTING TO REMAIN LIGHTING OR DEVICES. RELOCATE J-BOX AS REQUIRED TO ABOVE ACCESSIBLE CEILING. INTENT IS TO HAVE NO BLANK COVERPLATES ON FINISHED SURFACES AT COMPLETION OF PROJECT.
 - 6. EXISTING LUMINAIRES, ASSOCIATED CONDUIT AND CONDUCTORS.
 - 7. ALL EXIT SIGNS. LEAVE EXISTING CONDUIT AND WIRING, WHERE APPROPRIATE, THAT IS LOCATED ABOVE CEILINGS. INTENT IS TO KEEP EXISTING EMERGENCY POWER SYSTEM WIRING AND INSTALL NEW EXIT SIGNS IN SAME LOCATION, IF APPLICABLE.
- D FOR WALL, COLUMNS, CASEWORK, SOFFITS, ISLANDS, ETC. SHOWN EXISTING TO REMAIN PERFORM THE FOLLOWING:
 - 1. OPEN WALL AS REQUIRED TO ALLOW FOR INSTALLATION IN NEW SCOPE OF WORK.
 - 2. REMOVE RECEPTACLES AND COVERPLATES. INSTALL NEW DEVICES AND COVERPLATES IN THE NEW SCOPE OF WORK, EXISTING CONDUIT AND WIRING TO REMAIN IF IN GOOD CONDITION.
 - 3. REMOVE LIGHT SWITCHES AND COVERPLATES. INSTALL NEW DEVICES AND COVERPLATES IN THE NEW SCOPE OF WORK. EXISTING CONDUIT AND WIRING TO REMAIN IF IN GOOD CONDITION.
 - 4. FOR LIGHT SWITCHES THAT SERVE EXISTING LIGHTING TO BE REMOVED, REMOVE LIGHT SWITCHES INCLUDING THEIR J-BOXES, CONDUIT AND WIRE.
 - 5. REMOVE FIRE ALARM DEVICES AND COVERPLATES, INSTALL NEW DEVICES, COVERPLATES AND WIRING IN THE NEW SCOPE OF WORK, EXISTING J-BOX AND CONDUIT TO REMAIN.
 - 6. REMOVE EXIT SIGNS, EXISTING J-BOX AND CONDUIT TO REMAIN.
- E WHERE REMODELING INTERFERES WITH EXISTING CIRCUITS AND EQUIPMENT WHICH IS NOT TO BE REMOVED, SUCH CIRCUITS AND EQUIPMENT SHALL BE REWORKED AND RELOCATED AS REQUIRED TO MAINTAIN SERVICE TO ITEM. REFER ALL QUESTIONABLE SITUATIONS TO THE ENGINEER. DO NOT LOCATE J-BOXES ON WALLS, EXCEPT ONES REQUIRED TO MOUNT THE ITEM. I.E. AT THE COMPLETION OF THE PROJECT THERE SHALL BE NO J-BOXES WITH BLANK COVERPLATES ON WALLS OR CEILINGS. THE PROJECT SHALL APPEAR AS NEW CONSTRUCTION.
- F REMOVE ALL EXISTING BRANCH CIRCUIT CONDUCTORS AND CONDUITS ASSOCIATED WITH REMOVED ELECTRICAL EQUIPMENT AND DEVICES BACK TO THE EXISTING HOMERUN FROM WHICH THEY ARE FED OR THE NEAREST ACTIVE DEVICE THAT IS TO REMAIN. REMOVE ALL OLD TYPE WIRING IF IT IS NOT RATED FOR 90°C.
- G IF POSSIBLE, EXISTING BRANCH CIRCUIT HOMERUN CONDUITS AND WIRES ARE TO REMAIN AND BE REUSED IN THE NEW CONSTRUCTION PHASE OF WORK. DOWNSTREAM BRANCH CIRCUIT CONDUITS AND WIRING SERVING EXISTING-TO-BE-REMOVED EQUIPMENT, RECEPTACLES AND LUMINAIRES ARE TO BE REMOVED. INTENT IS TO REUSE THE MAIN INFRASTRUCTURE AND REMOVE ALL THE BRANCH CIRCUITING THAT WILL NO LONGER BE USED. REMOVE EXISTING HOMERUNS BACK TO PANEL IF THEY WILL NOT BE USED AT THE COMPLETION OF THE PROJECT.
- H CONTRACTOR SHALL VERIFY CIRCUITS WITH TRACING DEVICE AND LABEL CIRCUITS AVAILABLE AT EACH J-BOX. MODIFY DRAWINGS AS REQUIRED TO DOCUMENT ACTUAL CIRCUITING.
- I DO NOT REMOVE ANY CONDUITS SERVING EXISTING TO REMAIN ITEMS, ESPECIALLY TO:
 - 1. FAN POWERED BOXES AND OTHER MECHANICAL EQUIPMENT TO REMAIN. REFER TO MECHANICAL DRAWINGS FOR SCOPE OF WORK.
 - 2. PANELS, DISTRIBUTION PANELS, TRANSFORMERS, ETC., UON.
 - 3. HVAC CONTROLS AND CONTROL PANELS, UNLESS THE PIECE OF HVAC EQUIPMENT IS TO BE REMOVED. REFER TO MECHANICAL DRAWINGS AND SPECS. FOR SCOPE OF WORK.
 - 4. CONDUITS AND J-BOXES TO FIRE ALARM DEVICES ON EXISTING TO REMAIN WALLS.
 - 5. BRANCH CIRCUIT WALK SERVING THE EXISTING CORE AND EXTERIOR LIGHTING.
 - 6. DOOR HOLDERS, ROLL-DOWN FIRE DOORS, ROLL-UP DOORS AND THEIR ASSOCIATED POWER AND CONTROL WIRING, UON.
 - 7. EXTERIOR LIGHTING AND ASSOCIATED LIGHTING CONTROL WIRING.
 - 8. CONTROL, POWER WIRING AND TELECOM WIRING ASSOCIATED WITH ALL ELEVATORS.
 - 9. SECURITY DEVICES, EQUIPMENT, CONDUIT AND WIRING, UON.
- J DO NOT REMOVE ANY TELECOM INFRASTRUCTURE, I.E. CONDUITS CONNECTING TELECOM CLOSETS, CABLE TRAYS, BRIDAL RINGS IN AREAS THAT WILL BE ABOVE SUSPENDED CEILINGS.
- K ALL SALVAGED 2'x4' LUMINAIRES IF NOT REUSED IN NEW CONSTRUCTION SHALL BECOME THE PROPERTY OF THE OWNER UNLESS OWNER DIRECTS OTHERWISE. IF NOT TO BE RETAINED THEN THEY SHALL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE JOB SITE.
- L ALL REMOVED ELECTRICAL MATERIAL INCLUDING WIRING, RACEWAYS, OUTLETS, DEVICES, SUPPORTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE.
- M ALL SALVAGED LUMINAIRES, EXIT SIGNS, PANELS, DISTRIBUTION PANELS, TRANSFORMERS, AND POWER BUSWAY SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER TO OWNER'S STORAGE SITE. IF NOT TO BE RETAINED THEN THEY SHALL BECOME THE PROPERTY OF THE OWNER UNLESS OWNER DIRECTS OTHERWISE.
- N COORDINATE STORAGE LOCATION AND PROTECTION OF SALVAGED LUMINAIRES THAT ARE TO BE REUSED WITH GENERAL CONTRACTOR.
- O DAMAGE TO OTHER TRADE'S WORK AS A RESULT OF THIS WORK IS TO BE PROMPTLY REPAIRED AT NO EXPENSE TO THE OWNER AND TO THE COMPLETE SATISFACTION OF THE OWNER.
- P CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMISSION OF BID AND FIELD VERIFY ALL EXISTING CONDITIONS AND THE EXTENT OF THE DEMOLITION WORK. ALL ASSOCIATED DEMOLITION COSTS SHALL BE INCLUDED IN THE BID PRICE. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK REQUIRED BECAUSE OF DISCERNIBLE CONDITIONS, WHETHER OR NOT SPECIFICALLY SHOWN ON THESE DRAWINGS.
- Q THE EXISTING BUILDING INCLUDING PORTIONS OF THE RENOVATED AREA SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PHASE OF THIS PROJECT. ANY MODIFICATIONS TO THE EXISTING ELECTRICAL SYSTEMS THAT MAY REQUIRE THE TEMPORARY INTERRUPTION OF EXISTING SERVICES SHALL BE COMPLETED AFTER NORMAL WORKING HOURS. PRE-SCHEDULE ANY SERVICE INTERRUPTIONS WITH THE OWNER PRIOR TO STARTING ANY WORK. DO NOT DISTURB THE EXISTING TENANTS IN THE EXISTING BUILDING WITHOUT WRITTEN AUTHORIZATION.
- R UTILITY OUTAGES: NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO A REQUIRED UTILITY (POWER, TELE, NET) OUTAGE, NOTIFY AND OBTAIN APPROVAL IN WRITING OF SAID OUTAGE FROM THE FACILITY. NO OUTAGE SHALL BE ACCOMPLISHED PRIOR TO THE RECEIPT OF APPROVAL. CONTRACTOR SHALL LOCK-OUT AND RED-TAG THE APPROPRIATE CIRCUIT BREAKER, SWITCH, ETC. RED-TAG SHALL INDICATE WHEN THE OUTAGE WILL BE TERMINATED, AND A TELEPHONE NUMBER TO CONTACT REGARDING THIS OUTAGE. THE TAG SHALL ALSO WARN PEOPLE NOT TO RE-ENERGIZE THE CIRCUIT SYSTEM BECAUSE OF POTENTIAL DANGER TO PERSONNEL AND EQUIPMENT. ALL WORK ASSOCIATED WITH ANY POWER OUTAGES SHALL BE COMPLETED AFTER NORMAL WORKING HOURS.
- S EXISTING WIRING WHERE SHOWN ON THE DRAWINGS IS BASED ON AVAILABLE AS-BUILT DRAWINGS AND FIELD INFORMATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.



GENERAL POWER NOTES

- A WHERE POSSIBLE, BOXES SHALL BE IN SEPARATE STUD SPACES FROM BOXES SERVING OTHER ROOMS TO MINIMIZE SOUND TRANSFER.
- B COORDINATE EXACT MECHANICAL EQUIPMENT LOCATIONS AND REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. COORDINATE CONDUIT REQUIREMENTS FOR ALL HVAC EQUIPMENT WITH CONTROLS CONTRACTOR.
- C PROVIDE 4" HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- D REFER TO ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION ON NAMED ELECTRICAL EQUIPMENT SHOWN.
- E REFER TO DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DETAILS APPLY FOR ALL APPLICABLE SITUATIONS WHETHER REFERENCED OR NOT, UON.
- F REFER TO ARCHITECTURAL FLOOR PLANS, INTERIOR ELEVATIONS AND DETAIL DRAWINGS PRIOR TO ROUGH-IN FOR EXACT LOCATION OF RECEPTACLES, FLOOR BOXES AND OUTLETS. INFORM ENGINEER OF CONFLICTS.
- G CONTRACTOR IS RESPONSIBLE TO REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM CEILING TYPES IN ALL ROOMS (ACCESSIBLE, EXPOSED, OR "HARD") AND TO USE THE APPROPRIATE WIRING METHOD FOR EACH TYPE. INSURE ALL J-BOXES ARE ACCESSIBLE AFTER ALL OTHER TRADE'S WORK IS COMPLETED. DO NOT LOCATE ANY J-BOXES ON "HARD" CEILINGS; ALL WIRING MUST BE ACCESSIBLE THROUGH DEVICE ONLY IN "DAISEY-CHAIN" METHOD OR WITH DEDICATED HOMERUNS TO EACH DEVICE. J-BOXES MAY BE LOCATED ABOVE OTHER TRADE'S ACCESS DOORS IF FEASIBLE AND DOES NOT INTERFERE WITH ACCESS.
- H FLOOR PLANS INDICATE THE APPROXIMATE LOCATIONS (PLUS/MINUS A FEW FEET) AND THE MINIMUM QUANTITY OF CONDUIT-TO-SOFT-WIRING TRANSITION POINTS TO BE PROVIDED UNDER THIS CONTRACT. CONTRACTOR MAY ADD ADDITIONAL CONDUIT-ONLY CONNECTED TRANSITION POINTS AS NECESSARY.
- I CIRCUIT SIZES ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL USE CIRCUIT SIZES INDICATED IN NOTES OR RESPECTIVE SCHEDULES (PNL, MCC, ETC.) AND INFORMATION IN THE FEEDER AND BRANCH CIRCUIT SCHEDULES.
- J INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. THESE DRAWINGS ARE DIAGRAMMATIC.
- K PROVIDE #10 AWG NEUTRALS TO ALL 15A AND 20A RECEPTACLES THAT SHARE A COMMON NEUTRAL, UNLESS OTHERWISE NOTED.
- L PROVIDE SPECIAL RECEPTACLES THAT MATCH CORD AND CAP PROVIDED WITH EQUIPMENT, UON. USE ADJACENT NEMA CONFIGURATION NUMBER, IF ONE IS SHOWN.
- M ALL NEW RACEWAYS AND CONDUCTORS SHALL BE INSTALLED CONCEALED, CUT AND PATCH EXISTING WALLS TO ACCOMMODATE NEW RACEWAY INSTALLATION. ALL CONDUITS TO BE INSTALLED 90° TO BUILDING LINES.
- N FOR ELECTRICAL CONNECTIONS AND CIRCUITING TO MECHANICAL EQUIPMENT SHOWN ON THIS SHEET, REFER TO MECHANICAL-ELECTRICAL EQUIPMENT SCHEDULE.
- O THE EXISTING BUILDING INCLUDING PORTIONS OF THE RENOVATED AREA SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PHASE OF THIS PROJECT. ANY MODIFICATIONS TO THE EXISTING ELECTRICAL SYSTEMS THAT MAY REQUIRE THE TEMPORARY INTERRUPTION OF EXISTING SERVICES SHALL BE COMPLETED AFTER NORMAL WORKING HOURS. PRE-SCHEDULE ANY SERVICE INTERRUPTIONS WITH THE OWNER PRIOR TO STARTING ANY WORK. DO NOT DISTURB THE EXISTING DEPARTMENTS IN THE EXISTING BUILDING COMPLEX.
- P UTILITY OUTAGES: NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO A REQUIRED UTILITY (POWER, TELE, NET) OUTAGE, NOTIFY AND OBTAIN APPROVAL IN WRITING OF SAID OUTAGE FROM THE FACILITY. NO OUTAGE SHALL BE ACCOMPLISHED PRIOR TO THE RECEIPT OF APPROVAL. CONTRACTOR SHALL LOCK-OUT AND RED-TAG THE APPROPRIATE CIRCUIT BREAKER, SWITCH, ETC. RED-TAG SHALL INDICATE WHEN THE OUTAGE WILL BE TERMINATED, AND A TELEPHONE NUMBER TO CONTACT REGARDING THIS OUTAGE. THE TAG SHALL ALSO WARN PEOPLE NOT TO RE-ENERGIZE THE CIRCUIT SYSTEM BECAUSE OF POTENTIAL DANGER TO PERSONNEL AND EQUIPMENT. ALL WORK ASSOCIATED WITH ANY POWER OUTAGES SHALL BE COMPLETED AFTER NORMAL WORKING HOURS.
- Q EXISTING WIRING WHERE SHOWN ON THE DRAWINGS IS BASED ON AVAILABLE AS-BUILT DRAWINGS AND FIELD INFORMATION. CONTRACTOR SHALL VERIFY EXISTING INSTALLATIONS AND THE TIME FOR DOING SO SHALL BE INCLUDED IN THIS BID.
- R WHERE NOTED AS OWNER-SUPPLIED ON DRAWINGS, CONTRACTOR SHALL RECEIVE, INSTALL, AND CONNECT EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. PRIOR TO INSTALLATION OF OWNER-SUPPLIED EQUIPMENT, CONTRACTOR SHALL INSPECT/TEST EQUIPMENT AND INFORM PROJECT MANAGER OF ANY DEFECTS. FAILURE TO DO SO SHALL MEAN THAT THE EQUIPMENT IS IN GOOD WORKING CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND TESTING OF SUCH EQUIPMENT.

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MARK DATE DESCRIPTION

Sheet Title
BASIS OF DESIGN AND CALCULATION TABLES

Drawing No.

E0.1

Scale 1/8" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

COPPER FEEDER SCHEDULE

Table with columns: FEEDER TAG, CONDUITS (MET, SETS, RNC), CONDUCTORS PER SET (PHASE/NEUTRAL, GROUND), NOTES, FEEDER TAG, CONDUITS (MET, SETS, RNC), CONDUCTORS PER SET (PHASE/NEUTRAL, GROUND), NOTES. Lists various feeder tags and their specifications.

NOTES:

- 1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL FEEDERS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER...
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS AND BRANCH CIRCUITS...
4. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
5. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75 DEG. C TERMINALS.

BRANCH CIRCUIT SCHEDULE

Table with columns: CIRCUIT TAG, CONDUITS (MET, SETS, RNC), CONDUCTORS PER SET (PHASE/NEUTRAL, GROUND), WIRING CONFIG., NOTES. Lists various circuit tags and their specifications.

NOTES:

- 1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL BRANCH CIRCUITS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER...
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL BRANCH CIRCUITS.
4. NOT ALL BRANCH CIRCUITS SHOWN ABOVE ARE NECESSARILY USED ON THIS PROJECT.
5. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND...
6. THIS SCHEDULE APPLIES TO STANDARD LENGTH CIRCUITS ONLY. CONTRACTOR TO UPSIZE WIRING AS REQUIRED TO MEET MINIMUM VOLTAGE DROP REQUIREMENTS...
7. THESE BRANCH CIRCUITS TAGS ARE TYPICALLY NOT SHOWN ON PLANS FOR CLARITY REASONS...
8. CONTRACTOR MAY COMBINE 20A 1 AND 2-POLE CIRCUITS. UP TO A MAXIMUM OF (3) PHASE CONDUCTORS, IN ONE CONDUIT...
9. ALL HOMERUNS SHALL USE 0.75" CONDUIT SIZE MINIMUM.

MOTOR CIRCUIT SCHEDULE

Table with columns: FEEDER TAG, CONDUITS (MET, SETS, RNC), CONDUCTORS PER SET (PHASE/NEUTRAL, GROUND), NOTES. Lists various feeder tags and their specifications for motor circuits.

GENERAL NOTES:

- 1. THE NUMBER PORTION BEFORE THE PERIOD IS THE AMPACITY OF THE BREAKER SERVING THE MOTOR LOAD, NOT THE AMPACITY OF THE FEEDER.
2. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
3. THIS MOTOR BRANCH CIRCUIT SCHEDULE SHALL BE USED FOR ALL CIRCUITS WHERE THE CIRCUIT BREAKER SIZE PROTECTING THE LOAD IS LARGER THAN THE AMPACITY OF THE CIRCUIT CONDUCTORS...
4. PROVIDE GROUND WIRE NOTED ABOVE IN ALL CONDUITS. WHERE MULTIPLE CONDUITS ARE INDICATED PROVIDE NOTED GROUND WIRE IN EACH CONDUIT.
5. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
6. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75 DEG. C TERMINALS.

KEYED NOTES:

- 1. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND...
2. TERMINATIONS. ON CIRCUITS SHOWN WITH A "6M" SUFFIX, PROVIDE SIX PHASE CONDUCTORS AND ONE GROUND WIRE IN CODE SIZED CONDUIT. INCLUDE 80 % DERATING FACTOR ON PHASE CONDUCTOR SIZE.

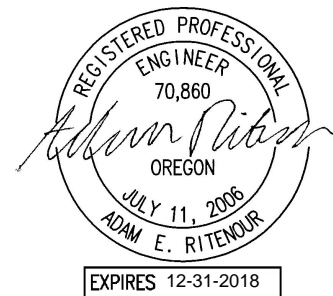
TRANSFORMER SCHEDULE

Table with columns: KVA, 480V PRIMARY (C.B., FEEDER), 480Y/277V SECONDARY (C.B., FEEDER, GND), 208Y/120V SECONDARY (C.B., FEEDER, GND), WEIGHT. Lists transformer specifications.

NOTES:

- 1. THIS SCHEDULE APPLIES TO 3-PHASE, 480-480Y/277V AND 480-208Y/120V DRY-TYPE STEP-DOWN TRANSFORMERS ONLY.
2. ON ONE-LINE DIAGRAMS AND SCHEDULES WHERE FEEDERS AND CIRCUIT BREAKERS ARE SHOWN AS "XFR", PROVIDE RESPECTIVE FEEDERS, GROUND CONDUCTORS AND BREAKERS NOTED ABOVE...
3. GROUND CONDUCTOR SIZES INDICATED ABOVE SUPERSEDE GROUND CONDUCTORS SHOWN ON FEEDER SCHEDULE...
4. NOT ALL TRANSFORMER SIZES INDICATED IN THIS SCHEDULE ARE NECESSARILY USED ON THIS PROJECT.
5. WEIGHTS INDICATED ABOVE ARE APPROXIMATE, ACTUAL VALUES MAY VARY. CONFIRM WITH SUBMITTAL INFO.

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MARK DATE DESCRIPTION

Sheet Title ELECTRICAL SCHEDULES

Drawing No.

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Scale 1/8" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

ELECTRICAL SPECIFICATION:

1. THE WORK OF THIS DIVISION SHALL INCLUDE ALL LABOR, MATERIALS AND APPARATUS NECESSARY FOR THE COMPLETION OF ALL ELECTRICAL WORK AS SHOWN ON THE DRAWINGS AND AS HEREINAFTER SPECIFIED, LEFT READY FOR SATISFACTORY OPERATION.
2. ANY APPLIANCE, MATERIALS OR LABOR THAT ARE OBVIOUSLY A PART OF THE ELECTRICAL WORK NECESSARY TO ITS PROPER PERFORMANCE, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.
3. WITHOUT INTENDING TO LIMIT AND/OR RESTRICT THE VOLUME OF WORK REQUIRED AND SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR, THE WORK OF THIS DIVISION SHALL, IN GENERAL COMPRISE THE FOLLOWING:
 - A. COMPLETE LIGHT AND POWER BRANCH WIRING, INCLUDING NEW PANELS AS REQUIRED.
 - B. LIGHTING FIXTURES AND LAMPS.
 - C. CONNECTION TO ALL ELECTRICAL EQUIPMENT FURNISHED BY OTHER TRADES OR BY THE OWNER.
 - D. CONNECTION OF NEW HVAC EQUIPMENT AND ASSOCIATED CONTROLS.
 - E. CONFORMING TO ALL EXISTING CONDITIONS AT THE SITE.
 - F. TEMPORARY FACILITIES.
 - G. REMOVALS AS REQUIRED.
 - H. LOW VOLTAGE SYSTEMS RACEWAY.

WORK NOT INCLUDED

1. FURNISHING OF MOTORS AND CONTROL DEVICES.
2. TELEPHONE WIRING, SIGNAL WIRING AND DEVICES.
3. DATA WIRING.

SHOP DRAWINGS

SUBMIT TO ENGINEER COMPLETE SHOP DRAWINGS, CATALOG CUTS, WIRING DIAGRAMS AND ASSOCIATED DATA, FOR ALL MAJOR ELEMENTS OF THE ELECTRICAL WORK FOR REVIEW, CHECKING AND APPROVAL. NO EQUIPMENT SHALL BE FABRICATED, DELIVERED, ERRECTED OR RECONNECTED OTHER THAN FROM DRAWINGS APPROVED BY THE ENGINEER. SHOP DRAWINGS IN THE NUMBER DIRECTED SHALL BE SUBMITTED FOR NOT LESS THAN THE FOLLOWING:

1. PANELBOARDS AND CABINETS.
2. LIGHTING FIXTURES.
3. WIRING DEVICES AND PLATES.
4. SPECIAL SYSTEMS & EQUIPMENT AS INDICATED ON DRAWINGS.
5. SPECIAL SYSTEMS DEVICES AND EQUIPMENT AS INDICATED ON DRAWINGS.

IT SHALL BE UNDERSTOOD THAT APPROVAL OF DRAWINGS WILL NOT BIND THE ENGINEER OR THE OWNER TO THE FINAL ACCEPTANCE OF SUCH EQUIPMENT AS THE COMPLETED INSTALLATION AND TEST OF EQUIPMENT AS A WHOLE MUST BE PROVIDED AND GUARANTEED HEREIN AS SPECIFIED.

MATERIALS

1. GENERAL
 - A. ELECTRIC RACEWAY AND SUPPORTING SYSTEMS SHALL BE FURNISHED AND INSTALLED COMPLETE, WITH ALL MATERIALS, FITTINGS, CONNECTIONS AND ACCESSORIES NECESSARY TO PROVIDE IN EACH INSTANCE, A COMPLETE OPERATING INSTALLATION, AS DESCRIBED HEREIN, AND INDICATED ON THE DRAWINGS, AND/OR AS APPROVED BY BUILDING OWNER.
 - B. THE DRAWINGS ARE DIAGRAMMATIC AND GENERALLY INDICATIVE OF THE WORK TO BE INSTALLED, BUT DO NOT SHOW ALL BENDS, FITTINGS, AND BOXES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE JOB CONDITIONS INCLUDING STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL HIS WORK AND ARRANGE SAME ACCORDINGLY, FURNISHING SUCH FITTINGS, BOXES AND SIMILAR ITEMS AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
2. WIRING
 - A. ALL WIRE AND CABLE, AS INDICATED, SPECIFIED OR REQUIRED, SHALL BE INSTALLED COMPLETE, INCLUDING ALL NECESSARY SPLICES AND CONNECTIONS TO EQUIPMENT DEVICES.
 - B. ALL WIRE SHALL BE COPPER OF NO LESS THAN 98% CONDUCTIVITY. NO. 8 WIRE AND LARGER SHALL BE SINGLE CONDUCTOR STRANDED WITH 600 VOLT TYPE THIN POLYVINYLCHLORIDE INSULATION. NO. 10 WIRE AND SMALLER SHALL BE SOLID.
 - C. WIRE AND CABLE SHALL BE NO. 12 AWG MINIMUM, UNLESS OTHERWISE INDICATED OR SPECIFIED.
 - D. 20A BRANCH CIRCUIT CONDUCTORS OPERATING IN THE RANGE OF 100 TO 250 VOLTS TO NEUTRAL AND EXTENDING IN EXCESS OF 75 FEET FROM THE POINT OF SUPPLY TO THE FIRST OUTLET SHALL BE #10 AWG COPPER TO THE FIRST OUTLET.
 - E. BRANCH CIRCUIT NUMBERS INDICATED ON THE DRAWINGS ON MULTI-CIRCUIT HOMERUNS ARE FOR IDENTIFICATION OF DEVICES OR EQUIPMENT THEY ARE CONNECTED TO AND DO NOT NECESSARILY REFER TO PANELBOARD CIRCUIT NUMBERS. ASSIGNMENT OF BRANCH CIRCUIT NUMBERS SHALL BE PART OF THIS WORK AND INDICATED ON PANEL DIRECTORIES. BRANCH CIRCUITS SHALL BE CONNECTED TO CIRCUITS ON PANELBOARDS SO AS TO SECURE A REASONABLE BALANCE ON THE THREE PHASES. WHERE MORE THAN ONE CIRCUIT, WITH A COMMON NEUTRAL IS INSTALLED IN THE SAME CONDUIT, EACH PHASE WIRE SHALL BE CONNECTED TO A DIFFERENT LEG OF THE SYSTEM.
 - F. ALL CONDUCTORS SHALL BE COLOR CODED THROUGHOUT AND NUMBERED AND TAGGED AT EACH JUNCTION BOX, PULL BOX, PANEL AND DEVICE WITH SUITABLE FIREPROOF TAGS OR ADHESIVE IDENTIFICATION BANDS.
 - G. PROVIDE PRODUCTS BY SOUTHWIRE, OKONITE, AFC CABLE OR APPROVED EQUAL.

3. CONDUIT
 - A. EXCEPT AS OTHERWISE INDICATED OR SPECIFIED, ALL WIRING INSIDE AND FOUR FEET (4) BEYOND CONFINES OF ELECTRIC CLOSET SHALL BE INSTALLED IN FULL WEIGHT RIGID CONDUIT EMT.
 - B. ELECTROGALVANIZED STEEL ELECTRICAL METALLIC TUBING NO LARGER THAN 4" I.D. MAY BE USED CONCEALED IN WALLS, ABOVE HUNG CEILING.
 - C. LIQUIDTIGHT FLEXIBLE, GALVANIZED STEEL CONDUIT, WITH CONTINUOUS COPPER BONDING CONDUCTOR, SHALL BE USED FOR CONNECTIONS, NOT EXCEEDING 18" IN LENGTH, TO MOTORS AND AT OTHER LOCATIONS WHERE VIBRATION, MOVEMENT OR OIL VAPOR ATMOSPHERES ARE ENCOUNTERED.
 - D. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL WIRING SHALL BE INSTALLED CONCEALED IN CEILINGS, WALLS, SLABS, PIPE CHASES AND FURRED SPACES WHENEVER POSSIBLE.
 - E. CONDUIT AND FITTINGS SHALL CONFORM TO LATEST ACCEPTABLE LOCAL CITY CODE AND ALL OTHER CODES HAVING JURISDICTION.
 - F. CONDUIT SHALL BE 3/4" TRADE SIZE MINIMUM, UNLESS OTHERWISE INDICATED OR SPECIFIED.
 - G. ALL CONDUITS WHICH ARE TO REMAIN EMPTY FOR FUTURE INTRODUCTION OF CONDUCTORS SHALL BE PROVIDED WITH A #12 NYLON DRAG WIRE WITH IDENTIFICATION TAG AT BOTH ENDS.
 - H. METAL CLAD CABLE (MC) CAN BE USED FOR LIGHTING AND APPLIANCE BRANCH CIRCUITRY IN VOIDS OF CEILING AND PARTITIONS, PROVIDED THAT THIS TYPE OF WIRING IS ACCEPTABLE TO THE BUILDING OWNER OR THEIR REPRESENTATIVE, AND IN COMPLIANCE WITH GOVERNING ELECTRICAL CODE. VERIFY ALL OF THE ABOVE PRIOR TO SUBMITTAL OF BID PROPOSAL.

- I. PROVIDE PRODUCTS BY ALLIED TUBE & CONDUIT, O-Z GEDNEY, TRIANGLE PWC, WESTERN TUBE AND CONDUIT OR APPROVED EQUAL.

4. JUNCTION BOXES

JUNCTION BOX AND PULL BOXES SHALL BE PROVIDED WHERE INDICATED OR SPECIFIED AND WHERE NECESSARY TO FACILITATE THE INSTALLATION OF EQUIPMENT OR WIRING.

5. OUTLET BOXES

- A. EACH OUTLET FOR LIGHTING FIXTURE, WALL SWITCH, WALL RECEPTACLE, TELEPHONE OR OTHER USE SHALL BE PROVIDED WITH AN OUTLET BOX SUITABLE FOR THE USE FOR WHICH THE OUTLET IS TO BE PUT AND TO THE LOCATION IN WHICH IT OCCURS, SECURED FIRMLY IN PLACE AND SET TRUE AND SQUARE WITH THE FINISHED SURFACE.
- B. CONNECTION TO RECESSED CEILING FIXTURES SUPPLIED WITH PIGTAILS MAY BE ARRANGED SO THAT MORE THAN ONE BUT NOT MORE THAN FOUR, SUCH FIXTURES ARE CONNECTED INTO A SINGLE OUTLET BOX. NO FIXTURE SHALL BE SUPPLIED FROM AN OUTLET IN ANOTHER ROOM.

6. FASTENINGS, SUPPORTS AND HANGERS

- A. ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING CONSTRUCTION USING APPROVED METHODS AND SEISMIC EQUIPMENT AS REQUIRED. IN NO CASE SHALL THE HUNG CEILING MEMBERS OR WIRES BE USED TO SUPPORT CONDUIT.
- B. ALL FASTENINGS, SUPPORTS, CLAMPS, ANCHORS, AND SIMILAR ITEMS SHALL BE OF TYPE SUITABLE FOR THE PURPOSE.

7. WIRING DEVICES

ALL DEVICES SHALL BE SPECIFICATION GRADE, U.L. APPROVED.

DEVICES TO BE BY HUBBELL, PASS AND SEYMOUR, LEVITON OR APPROVED EQUAL.

- A. SINGLE POLE SWITCH, 20 AMP, 120 VOLT.
- B. 3 WAY SWITCH, 20 AMP, 120 VOLT, QUIET TYPE.
- C. RECEPTACLE, 20 AMP, 2 POLE, 3 WIRE DUPLEX 125 VOLT GRD. TYPE.
- D. RECEPTACLE, RATED 30 AMP, AND ABOVE ARE SPECIAL PURPOSE OUTLETS AND SHALL BE FURNISHED AS SPECIFIED ON DRAWINGS.
- E. DEVICE PLATES, COLOR AND FINISH SHALL BE AS SELECTED BY ARCHITECT.
- F. COLOR AND TYPE OF ALL DEVICES SHALL BE APPROVED BY ARCHITECT PRIOR TO PURCHASE/INSTALLATION.

8. PANELBOARD AND CABINETS

- A. CIRCUIT PROTECTIVE DEVICES SHALL BE BOLT ON CIRCUIT BREAKERS. MAIN BUS BARS INCLUDING FULL CAPACITY NEUTRAL WHERE INDICATED SHALL HAVE AN AMPERE RATING NOT LESS THAN THAT OF THE MAIN BREAKER OR LUGS.
- B. DISTRIBUTION EQUIPMENT SHALL BE BRACED TO WITHSTAND THE AVAILABLE SHORT CIRCUIT CURRENT.

9. CIRCUIT BREAKERS

- A. CIRCUIT BREAKERS FOR PANEL OR INDIVIDUAL MOUNTING SHALL BE MOLDED CASE TYPE, QUICK MAKE, QUICK BREAK ON MANUAL OR AUTOMATIC OPERATION.
- B. AMPERE RATING AND NUMBER OF POLES SHALL BE AS INDICATED ON THE DRAWINGS.
- C. CIRCUIT BREAKER MANUFACTURER SHALL BE SQUARE D, EATON, SIEMENS OR OTHER APPROVED MANUFACTURER AS NOTED.
- D. BREAKERS SHALL COMPLY WITH UL 489 WITH INTERRUPTING CAPACITY TO COMPLY WITH AVAILABLE FAULT CURRENTS. MINIMUM CIRCUIT BREAKER INTERRUPTING CAPACITY SHALL BE 10,000 SYM RMS AMPERES.
- E. NEW CIRCUIT BREAKERS DESIGNATED FOR INSTALLATION IN EXISTING PANELS SHALL BE OF THE SAME TYPE, MAKE AND SHORT CIRCUIT INTERRUPTING CAPACITY AS EXISTING C.B.'S.

10. SAFETY SWITCHES

- A. SAFETY SWITCHES SHALL BE OF SIZE NOTED ON THE DRAWINGS, OR AS REQUIRED, FUSIBLE OR NON FUSIBLE AND EACH CONTAINED IN A GENERAL PURPOSE NEMA I ENCLOSURE (UNLESS OTHERWISE NOTED). EXTERIOR SWITCHES SHALL BE CONTAINED IN A NEMA 3R ENCLOSURE (UNLESS OTHERWISE NOTED), ALL SWITCHES SHALL BE HEAVY DUTY TYPE AND SHALL HAVE QUICK MAKE, QUICK BREAK MECHANISM.
- B. ALL SWITCHES SHALL BE OF PROPER HORSEPOWER RATING AS APPLICABLE AND HAVE DUAL INTERLOCKS DESIGNED TO INTERLOCK THE SWITCH BOX DOOR WITH THE SWITCH OPERATING MECHANISM.
- C. PROVIDE PRODUCTS BY SQUARE D, EATON, GE OR APPROVED EQUAL.

11. FUSES

- EXCEPT AS OTHERWISE SPECIFIED, A CARTRIDGE OR PLUG FUSE SHALL BE INSTALLED IN EACH FUSE GAP IN THE WORK. FUSES SHALL BE DUAL ELEMENT NON-RENEWABLE TYPE.
- A. PROVIDE PRODUCTS BY COOPER BUSSMAN, FERRAZ SHAWMUT, LITTLE FUSE OR APPROVED EQUAL.

12. GROUNDING

- A. ALL ENCLOSURES AND OTHER NON CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND EQUIPMENT GROUND BUSES SHALL BE EFFECTIVELY GROUNDED TO THE BUILDING GROUNDING SYSTEMS THROUGH THE SYSTEM GROUND CONDUCTORS, METALLIC CONDUITS AND OTHER RACEWAYS AND ENCLOSURES FOR CONDUCTORS SHALL BE METALLICALLY JOINED TOGETHER INTO A CONTINUOUS ELECTRICAL CONDUCTOR, AS TO PROVIDE EFFECTIVE ELECTRICAL CONTINUITY.
- B. EQUIPMENT LOCATED REMOTELY FROM THE GROUND CONDUCTORS SHALL BE GROUNDED TO THE NEAREST AVAILABLE COLD WATER PIPING, MOTOR FRAMES SHALL BE GROUNDED THROUGH THEIR CONDUITS.

13. LIGHTING FIXTURES

- A. ALL LIGHTING FIXTURES SHALL COMPLY WITH LOCAL ELECTRICAL CODE AMENDMENTS AND SHALL BE U.L. APPROVED.
- B. ALL LIGHTING FIXTURES SHALL BE APPROVED PRIOR TO PURCHASE.
- C. ALL LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE, WITH NECESSARY COMPONENTS, ACCESSORIES AND LAMPS OF CORRECT TYPE AND RATING, AS INDICATED ON ARCHITECT DRAWINGS.
- D. FIXTURES SHALL BE CAREFULLY SUPPORTED AND ALIGNED WITH NECESSARY HANGERS, SUPPORTING MEMBERS AND PLASTER FRAMES FOR PROPER INSTALLATION, ALL AS REQUIRED AND AS APPROVED.
- E. ALL FIXTURES SHALL BE PROPERLY WIRED AND CONNECTED TO BRANCH CIRCUITS, TESTED AND LEFT READY FOR OPERATION.
- F. FOR TYPE, MAKE AND QUANTITIES OF LIGHTING FIXTURES REQUIRED SEE ARCHITECT'S DRAWINGS AND SPECIFICATIONS.
- G. FIXTURES AND/OR FIXTURE OUTLET BOXES SHALL BE PROVIDED WITH HANGERS TO ADEQUATELY SUPPORT THE COMPLETE WEIGHT OF THE FIXTURE.

14. LIGHTING CONTROLS

LIGHTING CONTROLS SHALL BE INSTALLED AS INDICATED ON DRAWINGS. A COMPLETE LIGHTING CONTROL SYSTEM SHALL BE PROVIDED AND INSTALLED AND SHALL FUNCTION AS THE CONTROL INTENT IS INDICATED ON THE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ALL DEVICES AND EQUIPMENT REQUIRED FOR A FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM. THIS INCLUDES BUT IS NOT LIMITED TO CONTROL DEVICES, EMERGENCY INTERFACE, OCCUPANCY SENSORS, POWER PACKS/RELAYS, WIRING, CONTROL PANELS, ETC.

15. INSTALLATION

- A. ALL ELECTRICAL WORK TO BE PERFORMED SHALL COMPLY WITH THE LATEST ELECTRICAL CODE, ENERGY CODE AND ALL OTHER CODES HAVING JURISDICTION.
- B. CONTRACTOR SHALL CHECK ALL EXISTING CONDITIONS IN THE FIELD, RELOCATE ALL EXISTING WIRING WHICH INTERFERES WITH NEW INSTALLATION AND MUST BE MAINTAINED.
- C. ANY NECESSARY SERVICE SHUTDOWN SHALL BE AT A TIME CONVENIENT TO THE BUILDING OWNER AND AFTER SUFFICIENT TIME HAS BEEN GIVEN AND APPROVAL OBTAINED BY OWNER.
- D. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ADDITIONAL CONDUITS, CABLES AND PULL BOXES AS REQUIRED FOR ROUTING OF CONDUITS AND PULLING OF CABLES.
- E. ALL PENETRATIONS THROUGH SLABS AND FIRE RATED PARTITIONS SHALL BE FIRE STOPPED USING APPROVED METHOD TO MAINTAIN THE FIRE RESISTANCE RATING.
- F. ELECTRICAL CONTRACTOR SHALL FILE AND OBTAIN AN APPROVED ELECTRICAL PERMIT FROM THE AUTHORITY HAVING JURISDICTION.
- G. LOCATION OF ALL ELECTRICAL EQUIPMENT IS APPROXIMATE, EXACT LOCATION TO BE VERIFIED IN THE FIELD.
- H. CONTRACTOR SHALL CONSULT WITH BUILDING MANAGER AND CONFORM WITH ALL BUILDING REQUESTS.

16. EXISTING ELECTRICAL WORK

THE PREMISES OF THE PROJECT CONTAINS EXISTING ELECTRICAL INSTALLATIONS. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OTHER TENANT SPACES ARE BEING FED FROM ELECTRICAL WORK TO BE REMOVED.

- A. EXCEPT FOR ITEMS SPECIFICALLY INDICATED AS BEING REUSED, COMPLETELY ABANDON EXISTING ELECTRICAL WORK BY:
 - DE-ENERGIZING IT AND/OR CUTTING IT LOOSE FROM EVERY LIVE SOURCE.
 - CUTTING AWAY ALL EXPOSED PORTIONS AND ANY CONCEALED PORTIONS WHICH CREATE INTERFERENCES WITH THE NEW INSTALLATIONS OF THE VARIOUS TRADES WORKING AT THE PROJECT.
 - REMOVING ALL EXISTING WIRES AND CABLES FROM EXISTING RACEWAYS WHICH REMAIN.
 - DISPOSE OF ALL ABANDONED ELECTRICAL DEVICES/EQUIPMENT AS NECESSARY.

- B. EXCEPT WHERE IT IS INTEGRATED INTO A NEW INSTALLATION, MAINTAIN ALL EXISTING ELECTRICAL WORK OPERATING AND INTACT BY INCLUDING ALL PROCEDURES AND MATERIALS NECESSARY TO:
 - MAINTAIN THE ACCESSIBILITY AND FUNCTIONALITY OF ALL OUTLETS, JUNCTION BOXES, PULL BOXES, WIRING DEVICES, PANELS, SWITCHGEAR, FIXTURES AND THE LIKE, THAT MAY BE COVERED OVER OR INTERFERED WITH BY THE NEW CONSTRUCTION WORK OF ALL TRADES.
 - MAINTAIN CONTINUITY IN THE EXISTING LIGHT AND POWER CIRCUITRY, COMMUNICATIONS AND SIGNAL CIRCUITRY OR OTHER ELECTRIC RUNS WHICH MUST BE DISRUPTED TO ALLOW THE NEW WORK OF ALL TRADES TO PROCEED.
 - CUT BACK AND TERMINATE AT ACCESSIBLE POINTS, IN A SAFE MANNER, ALL LIVE WIRING MADE UNNECESSARY OR OBSOLETE BY THE NEW CONSTRUCTION WORK OF ALL TRADES.

- C. NO PORTION OF EXISTING ELECTRICAL INSTALLATIONS SHALL BE USED TO MAKE UP ANY OF THE REQUIRED WORK ACCEPT AS FOLLOWS:
 - EQUIPMENT AND DEVICES, AS SPECIFICALLY INDICATED.
 - RACEWAYS (WITH ASSOCIATED JUNCTION BOXES AND PULL BOXES) ONLY FOR FEEDERS AS SPECIFICALLY INDICATED.
 - RACEWAYS (WITH ASSOCIATED JUNCTION BOXES AND PULL BOXES) AND CABLES FOR FEEDERS AS SPECIFICALLY INDICATED.
 - CONCEALED RACEWAYS (WITH ASSOCIATED OUTLET BOXES) ONLY FOR LIGHTING AND APPLIANCE BRANCH CIRCUITRY AND MISCELLANEOUS SYSTEM CIRCUITRY TO THE MAXIMUM EXTENT POSSIBLE.

- D. SPECIFICATIONS PERTAINING TO EQUIPMENT AND DEVICES, HEREINAFTER INCLUDED, APPLY TO NEW WORK. WHERE IT IS REQUIRED THAT ITEMS BE MADE UP WITH COMPONENTS WHICH ARE BOTH NEW AND EXISTING, IT SHALL BE INTERPRETED THAT THE SPECIFICATIONS GOVERN ONLY AS THEY ARE APPLICABLE TO THE NEW COMPONENTS.

- E. SPECIFICATIONS PERTAINING TO WIRING METHODS, HEREINAFTER INCLUDED, APPLY ONLY TO THOSE PORTIONS OR ELEMENTS OF REQUIRED CIRCUITRY WHICH ARE SPECIFICALLY INDICATED AS BEING NEW OR FOR WHICH THE USE OF EXISTING MATERIALS IS NOT POSSIBLE.

- F. OUTAGES OF EXISTING ELECTRICAL SYSTEMS NECESSITATED BY THE NEW CONSTRUCTION WORK OF ALL TRADES SHALL BE IN ACCORDANCE WITH A SCHEDULE ISSUED IN THE FIELD BY THE ARCHITECT. INCLUDE ALL ELECTRICAL WORK, OVERTIME LABOR AND SUPERVISION NECESSARY TO ADHERE TO THIS SCHEDULE.

- G. ANY EXISTING ELECTRICAL WORK WHICH IS PULLED OUT OR CUT AWAY IN COMPLIANCE WITH THE ABOVE REQUIREMENTS SHALL BE REMOVED FROM THE SITE AS IF IT WERE RUBBISH.

- H. DURING DEMOLITION PROCEDURES, PROVIDE ALL NECESSARY PROTECTION FOR EXISTING ELECTRICAL WORK REQUIRED FOR REUSE.

17. BASIC REQUIREMENTS
 - A. STUDY OTHER SECTIONS OF THE SPECIFICATIONS AND DRAWINGS. COOPERATE WITH OTHER TRADES. COORDINATE WORK TO AVOID INTERFERENCES. WHEN IN DOUBT, CONSULT ENGINEER BEFORE PROCEEDING WITH WORK.
 - B. PERFORM ALL NECESSARY CUTTING AND PATCHING.
 - C. OBTAIN PERMISSION OF ARCHITECT BEFORE CUTTING STRUCTURAL MEMBERS.
 - D. NOTIFY ENGINEER OF CONFLICTS BETWEEN DRAWINGS AND SPECIFICATIONS BEFORE BIDDING. THE ENGINEER'S DECISION WILL GOVERN EITHER BEFORE OR AFTER BIDDING.
 - E. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT WHERE DIMENSIONED. DO NOT SCALE. FOLLOW ARCHITECTURAL, STRUCTURAL AND MANUFACTURER'S SHOP DRAWINGS FOR GREATER ACCURACY. CONSULT ENGINEER IN CASE OF DOUBT OR CONFLICT. UNLESS NOTED, FIXED DIMENSIONS ARE BASED ON THE PRODUCT OF ONE MANUFACTURER, VERIFY DIMENSIONS WITH THE SHOP DRAWINGS OF THE MATERIALS ACTUALLY APPROVED OR PURCHASED.
 - F. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL COST AND DELAYS IN THE WORK RESULTING FROM SUBSTITUTION UNDER THIS DIVISION; INCLUDING, BUT NOT LIMITED TO, ANY CHANGES IN DECISION, INSTALLATION, OR THE WORK OF OTHER TRADES.

18. IDENTIFICATION

- A. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL TYPE WRITTEN DIRECTORIES IN ALL NEW AND EXISTING PANELS INDICATING TYPE AND LOCATION OF LOAD BEING SERVED BY INDIVIDUAL CIRCUIT BREAKERS.
- B. ALL PARTS OF EQUIPMENT, SUCH AS PANELS, JUNCTION BOXES, SAFETY SWITCHES, MOTOR STARTERS, CIRCUIT BREAKERS, AND SIMILAR ITEMS SHALL BE IDENTIFIED BY NAME, LOAD SUPPLY AND/OR AND CIRCUIT NUMBER AS REQUIRED.
- C. RECEPTACLE FACEPLATES SHALL INCLUDE ADHESIVE LABELING INDICATING PANEL AND CIRCUIT FEEDING RECEPTACLE.

19. TELEPHONE SERVICE

- A. EMPTY CONDUIT SHALL BE OF SIZE INDICATED TO CABLE TRAY.
- B. TELEPHONE OUTLETS HAVE PLATES AS REQUIRED BY SYSTEM (MODULAR OR DIRECT CONNECT) AND SHALL MATCH COLOR & FINISH OF OTHER DEVICE PLATES (AS SPECIFIED BY ARCHITECT).
- C. TELEPHONE CONDUIT SHALL BE 3/4" MIN. UNLESS OTHERWISE NOTED.

20. DATA WIRING

REQUIREMENTS SHALL BE THE SAME AS TELEPHONE EXCEPT DEVICE PLATE SHALL BE AS SPECIFIED BY EQUIPMENT SUPPLIER BUT SHALL MATCH IN FINISH & TYPE WITH OTHER PLATES (AS SPECIFIED BY ARCHITECT).

21. GUARANTEE

ALL ELECTRICAL EQUIPMENT SHALL BE GUARANTEED FOR ONE (1) YEAR. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL MANUFACTURER'S WARRANTIES AND GUARANTEES FOR ALL ELECTRICAL EQUIPMENT AND MATERIALS AND TURN SAME OVER TO OWNER.

22. TEMPORARY LIGHT AND POWER

PROVIDE A TEMPORARY LIGHT AND POWER SYSTEM (AS PART OF THIS CONTRACT) ADEQUATE FOR THE REQUIREMENTS OF ALL TRADES DURING CONSTRUCTION. TEMPORARY SYSTEM SHALL BE DISCONNECTED AND REMOVED WHEN PERMANENT SERVICE IS IN OPERATION.

23. FIRE ALARM

THE FIRE ALARM SYSTEM SHALL BE DESIGN BUILD BY THE ELECTRICAL CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NOTIFICATION DEVICES, DETECTION DEVICES, ACCESSORIES AND WIRING NECESSARY TO PROVIDE COVERAGE FOR THE REMODEL AREA. DEVICES WILL BE TIED BACK TO THE EXISTING FIRE ALARM SYSTEM SERVING THE BUILDING.

THE DESIGN SHALL MEET ALL LOCAL CODES AND REQUIREMENTS OF THE LOCAL

PROUDER AND SHOP DRAWINGS INCLUDING BATTERY CALCS AND VOLTAGE DROP FOR THE AREA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASE.

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Sheet Title
SHEET
SPECIFICATION

Drawing No.

E0.3

Scale 12" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

LIGHTING BASIS OF DESIGN

1. LIGHT LEVELS WILL COMPLY WITH IESNA RECOMMENDATIONS AS A MINIMUM AVERAGE LIGHT LEVEL AVERAGES AND UNIFORMITY LEVELS (MAX. TO MIN.) ARE AS FOLLOWS.
 - 1A CORRIDORS, STAIRS AND VESTIBULES - 8FC
 - 1B OFFICES AND WORKSTATIONS - 30FC
 - 1C CONFERENCE AND ENCLAVE ROOMS - 30FC
 - 1D BREAK ROOMS - 20FC
 - 1E MECHANICAL, ELECTRICAL, IT AND SUPPORT BACK OF HOUSE SPACES - 20FC
2. ENERGY EFFICIENT TECHNOLOGIES WITH LONGER LAMP LIFE SUCH AS LINEAR FLUORESCENT AND LED LAMPS WILL BE THE PRIMARY SOURCES OF ILLUMINATION.
3. NO MORE THAN 5 DISTINCT LAMP TYPES WILL BE USED ACROSS THE ENTIRE PROJECT TO SIMPLIFY MAINTENANCE REQUIREMENTS. LIGHT SOURCES WILL STANDARDIZE AROUND 3500KELVIN LAMPS WHEREVER POSSIBLE.
4. MOST FLUORESCENT LAMPS WILL BE 2' AND 4' IN LENGTH. COMPACT FLUORESCENT LAMPS WILL BE AVOIDED DUE TO THEIR RELATIVELY SHORT LIFE, LONG WARM UP CYCLE WHEN USED WITH OCCUPANCY/VACANCY SENSORS, AND THEIR POOR LAMP AND LUMINAIRE EFFICIENCY.
5. HIGH EFFICIENCY LUMINAIRES WILL BE USED WHEREVER POSSIBLE TO MAXIMIZE ENERGY SAVINGS AND LIGHT OUTPUT. RECESSED FIXTURES WILL BE USED SPARINGLY DUE TO THEIR INEFFICIENCY.
6. UNSHIELDED LAMPS WILL BE AVOIDED TO MAXIMIZE VISUAL COMFORT
7. ALL BALLASTS AND DRIVERS IN THE OPEN OFFICE SPACES, PRIVATE OFFICES AND CONFERENCE SPACES WILL ALLOW DIMMING DOWN TO 10% OR BETTER AND BE FULLY COMPATIBLE WITH THE SUPPLIED CONTROL SYSTEM.
8. LUMINAIRES NOTED ON THE LUMINAIRE SCHEDULE ARE THE BASIS OF DESIGN. PRODUCT SUBSTITUTIONS MUST COMPLY IN ALL ASPECTS.

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	LAMP	COLOR TEMP	MANUFACTURER	MODEL	POWER SUPPLY	VOLTAGE	LOAD	MOUNTING	COMMENTS
LA1	LED STRIP LIGHT	LED	3500K	LITHONIA	ZL1D-L48-SMR-7000LM-FST-MVOLT-35K-80CRI-WH		120 V	59 W	SURFACE	
LA4	LED LINEAR PENDANT	LED	3500K	FINELITE	HP-2D-4-B-835-BG-277V-FA		120 V	18.4 W	PENDANT	
PA1	PENDANT	60W INCAND.		REJUVENATION	HALEIGH A1160		120 V	60 W	PENDANT	
RA4	LED LINEAR RECESSED - 4FT IN LENGTH	LED	3500K	FINELITE	HP-4R-4-B-F-277V		120 V	18.4 W	RECESSED	
RA6	SAME AS RA4 - 6FT IN LENGTH	LED	3500K	FINELITE	HP-4R-6-B-F-277V		120 V	27.6 W	RECESSED	
RA10	SAME AS RA4 - 10FT IN LENGTH	LED	3500K	FINELITE	HP-4R-10-B-F-277V		120 V	46 W	RECESSED	
RA12	SAME AS RA4 - 12FT IN LENGTH	LED	3500K	FINELITE	HP-4R-12-B-F-277V		120 V	55.2 W	RECESSED	
RB1	LED STRIP LIGHT	LED	3500K	FINELITE	HP-WS-6W-6D-835-SC-SW		120 V		RECESSED	4.6 W/FT.

NOTES

1. PROVIDE UL 924 RELAY OR EQUIVALENT MEANS OF ENERGIZING EGRESS AND EMERGENCY LIGHTING TO FULL POWER UPON LOSS OF NORMAL POWER SOURCE OR RECEIPT OF ALARM SIGNAL FROM FIRE ALARM SYSTEM.
2. OCCUPANCY SENSORS TO DIM STAIRWAY LIGHTING TO PROVIDE 1 FC WHEN UNOCCUPIED. OCCUPANCY SENSORS WILL ENERGIZE LIGHTING TO FULL POWER ON THE OCCUPIED FLOOR AS WELL AS THE FLOORS ABOVE AND BELOW.
3. PROVIDE MANUAL OVERRIDE SWITCHES FOR ALL SITE LIGHTING AT SECURITY DESK OR AS DIRECTED BY OWNER. PROVIDE MANUAL OVERRIDE SWITCHES FOR ALL SITE LIGHTING ZONES IN MAIN ELECTRICAL ROOM FOR MAINTENANCE.

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 LUMINAIRE SCHEDULE

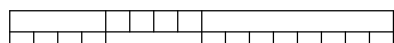
Drawing No.

E2.0

Scale

Date AUGUST 8, 2017

Project No. 107400

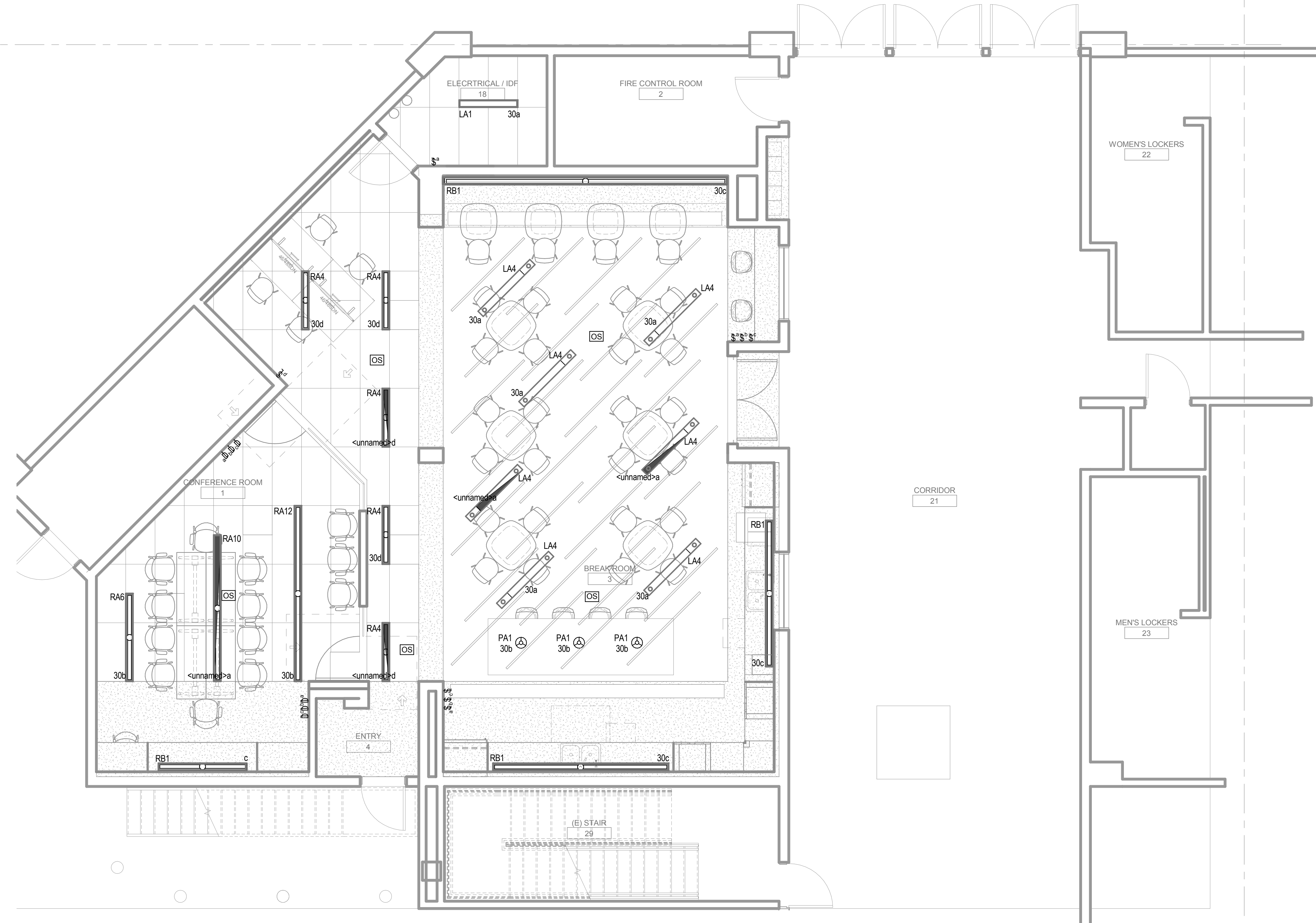


SHEET NOTES

- A ALL NORMALLY POWERED LUMINAIRES ARE TO BE FED FROM PANEL LEB. ALL EGRESS LUMINAIRES ARE TO BE FED FROM NEXT AVAILABLE SPARE ON PANEL ELA, LOCATED IN GENERATOR ROOM.
- B PROVIDE UL924 DEVICES FOR EACH EGRESS LUMINAIRE. UNDER NORMAL OPERATION, ALL LUMINAIRES SHALL BE CONTROLLED AS INDICATED BY SWITCHLEGS ON FLOORPLANS. UPON LOSS OF POWER, ALL EGRESS LUMINAIRES SHALL PROVIDE FULL OUTPUT.

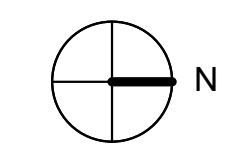
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1 LEVEL 1 - FLOOR PLAN - LIGHTING

SCALE: 1/4" = 1'-0"





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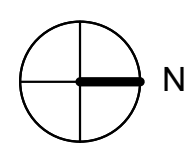
Sheet Title
 SECOND FLOOR - LIGHTING PLAN

Drawing No.
E2.2

Scale 1/4" = 1'-0"

Date AUGUST 8, 2017

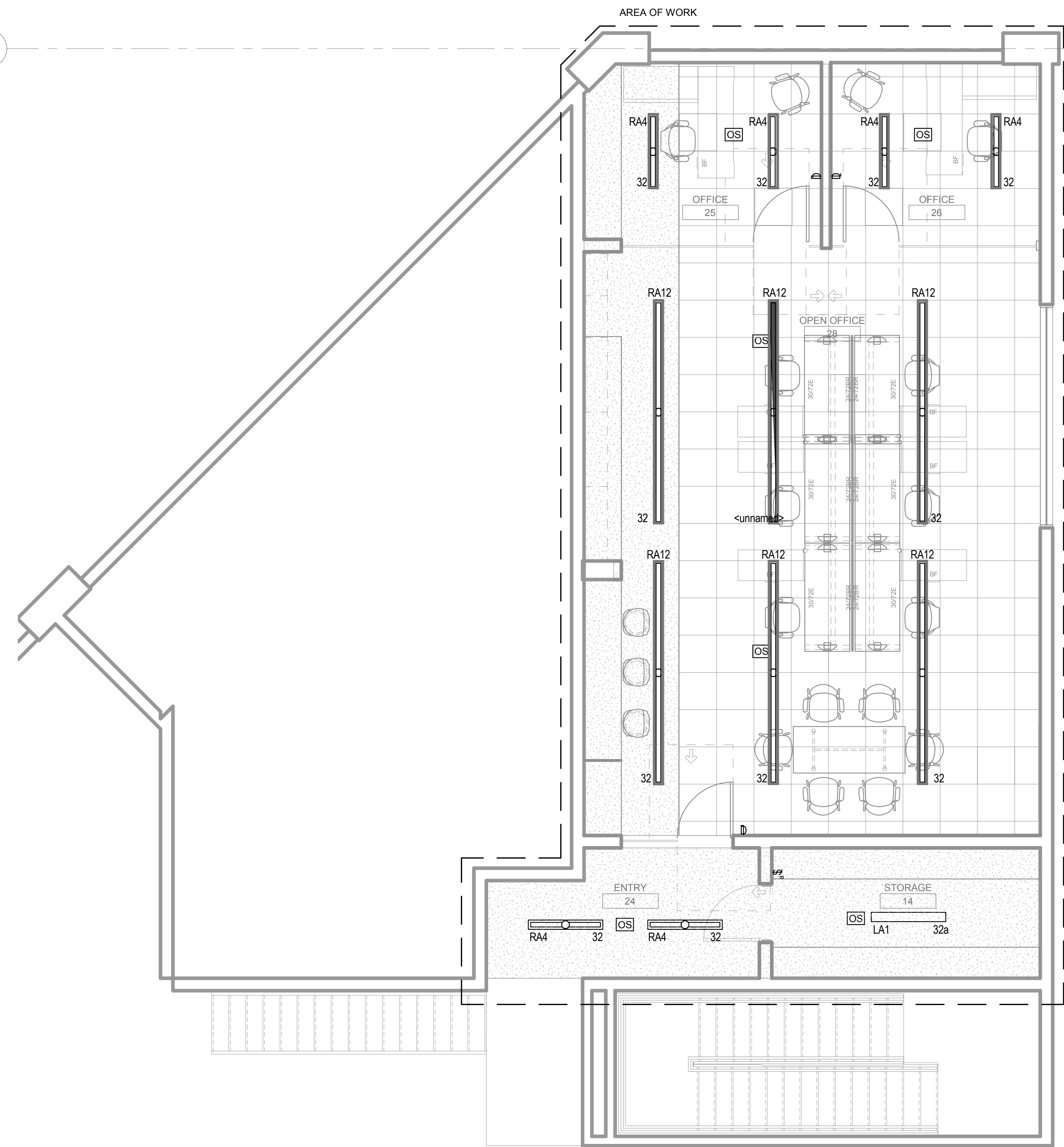
Project No. 107400



SHEET NOTES

- A ALL NORMALLY POWERED LUMINAIRES ARE TO BE FED FROM PANEL LEB. ALL EGRESS LUMINAIRES ARE TO BE FED FROM NEXT AVAILABLE SPARE ON PANEL ELA, LOCATED IN GENERATOR ROOM.
- B PROVIDE UL924 DEVICES FOR EACH EGRESS LUMINAIRE. UNDER NORMAL OPERATION, ALL LUMINAIRES SHALL BE CONTROLLED AS INDICATED BY SWITCHLEGS ON FLOORPLANS. UPON LOSS OF POWER, ALL EGRESS LUMINAIRES SHALL PROVIDE FULL OUTPUT.

1



1 LEVEL 2 - FLOOR PLAN - LIGHTING

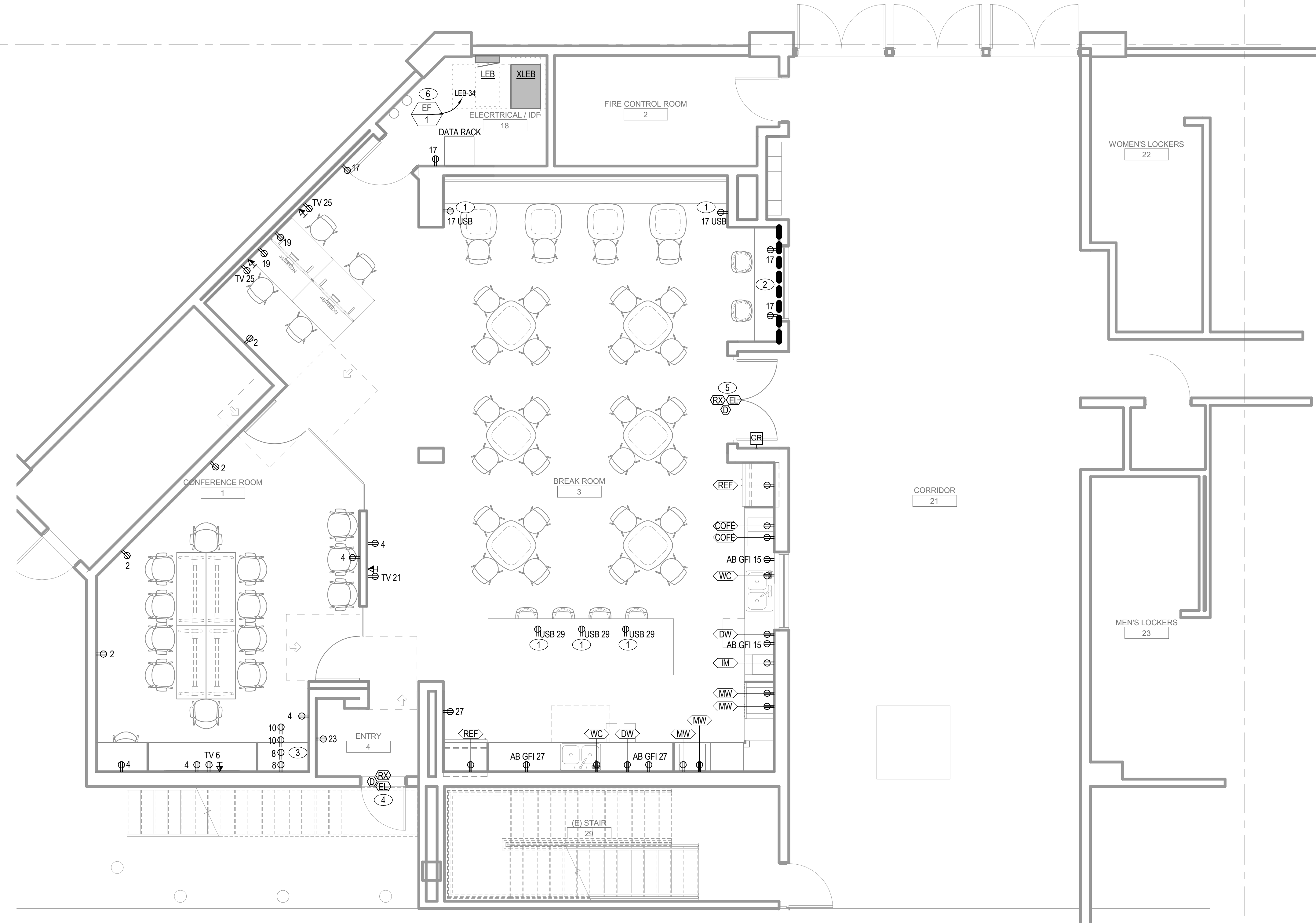
SCALE: 1/4" = 1'-0"

KEYED NOTES

- 1 PROVIDE 20A DUPLEX RECEPTACLE WITH DUAL USB PORTS.
- 2 PROVIDE AL2000 SERIES LEGRAND WIREMOLD MOUNTED ABOVE BACKSPASH. CONFIRM DEVICE COLOR AND EXACT MOUNTING HEIGHT WITH ARCHITECT.
- 3 COORDINATE EXACT MOUNTING HEIGHTS OF RECEPTACLES WITH FURNITURE SHELVES SUCH THAT THERE IS ONE DUPLEX AT EACH SHELF.
- 4 DOOR HANDLE TO INCLUDE IDH MAX SERIES INTEGRATED CARD READER. CONFIRM HARDWARE FINISHES WITH ARCHITECT. VERIFY AVAILABLE CAPACITY ON EXISTING ACCESS CONTROL PANEL. PROVIDE POWER SUPPLIES AND CABLING AS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
- 5 PROVIDE OWNER SPECIFIED ACCESS CONTROL DOOR HARDWARE. LOCATE DOOR CONTROLLER IN JUNCTION BOX ABOVE NEAREST ACCESSIBLE CEILING SPACE. WITH POWER AND DATA WIRING TO NEAREST IDF ROOM. CONFIRM EXACT CARD READER LOCATION AND MOUNTING HEIGHT WITH ARCHITECT.
- 6 PROVIDE 20A, 1P MOTOR RATED SNAP SWITCH FOR LOCAL DISCONNECT.

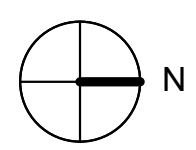
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1 LEVEL 1 - FLOOR PLAN - ELECTRICAL

SCALE: 1/4" = 1'-0"





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 SECOND FLOOR -
 POWER AND SIGNAL
 PLAN

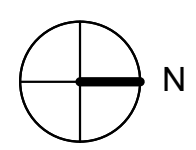
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Date AUGUST 8, 2017

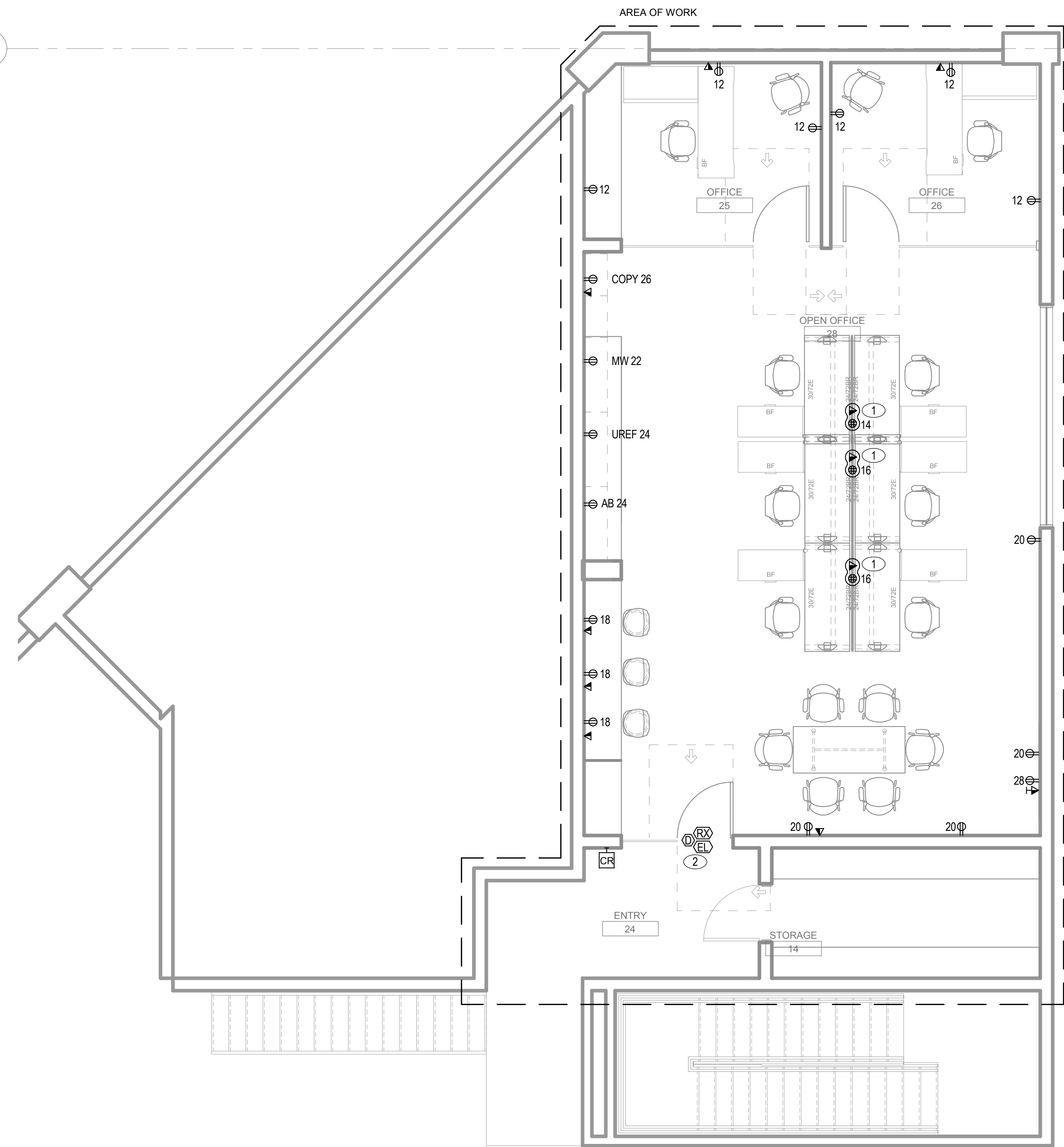
Project No. 107400



KEYED NOTES

- 1 PROVIDE LEGRAND EVOLUTION 6AT TYPE POKE THRU OR APPROVED EQUAL WITH (2) DUPLEX RECEPTACLES AND (6) RJ45 DATA JACKS. CONFIRM FINISHES WITH ARCHITECT. SEE DETAIL 3 ON SHEET E9.1 FOR ADDITIONAL INFORMATION.
- 2 PROVIDE OWNER SPECIFIED ACCESS CONTROL DOOR HARDWARE. LOCATE DOOR CONTROLLER IN JUNCTION BOX ABOVE NEAREST ACCESSIBLE CEILING SPACE. WITH POWER AND DATA WIRING TO NEAREST IDF ROOM. CONFIRM EXACT CARD READER LOCATION AND MOUNTING HEIGHT WITH ARCHITECT.

1



1 LEVEL 2 - FLOOR PLAN - ELECTRICAL

SCALE: 1/4" = 1'-0"

BUILDING ELECTRICAL LOAD SUMMARY: (E) SWITCHBOARD- HPE

VOLTAGE: 480Y/277V, 3PH, 4W
 MOUNTING: PAD
 MAIN AMPS/ TYPE: 2,000 A 2000A MCB
 BUS AMPS: 2,000 A

INTEGRAL SPD: No
 HINGED PANEL COVER: Yes
 AIC RATING:
 100% OR 80% RATED: 80%

POWER SOURCE TYPE: NORMAL
 LOCATION:
 SUPPLY FROM:

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND/ ADJUSTED	LEGEND	PANEL TOTALS	
C	0 kVA	0%	0 kVA	R= RECEPTACLE	KVA	AMPS
D	0 kVA	0%	0 kVA	C= CONTINUOUS	TOTAL CONNECTED LOAD:	35 kVA 42 A
K	16.34 kVA	65%	10.62 kVA	N= NON-CONTINUOUS	TOTAL DEMAND LOAD:	31 kVA 37 A
L	1.33 kVA	125%	1.66 kVA	K= KITCHEN	SPARE CAPACITY:	
M	0.21 kVA	100%	0.21 kVA	L= LIGHTING	REQUIRED PANEL CAPACITY:	30.92 kVA 37 A
				M= MOTOR		
N	0 kVA	0%	0 kVA	MOTOR = LARGEST MOTOR		
R	10.12 kVA	99%	10.06 kVA			

PANEL: LEB

VOLTAGE: 208Y/120V, 3PH, 4W
 MOUNTING: SURFACE
 BUS RATING: 225 A
 MAIN AMPS: 150 A MCB
 AIC RATING: SEE SINGLE-LINE DIAGRAM

NEMA RATING: Type 1
 INTEGRAL SPD: No
 ISOL GROUND BAR: No
 FEED-THRU LUGS: Yes
 DOUBLE-LUGS: No

LOCATION: ELECTRICAL / IDF 18
 SUPPLY FROM: XLEB

CKT	TRIP	POLE	DESCRIPTION	TYPE	A (kVA)	B (kVA)	C (kVA)	TYPE	DESCRIPTION	POLE	TRIP	CKT	
1	20 A	1	BREAKROOM COFFEE MAKER	K	0.18	0.72		R	CONFERENCE RECEPTACLES	1	20 A	2	
3	20 A	1	BREAKROOM ICE MAKER	K		1.24	0.9	R	CONFERENCE RECEPTACLES	1	20 A	4	
5	20 A	1	BREAKROOM REFRIGERATOR	K			1.2	0.3	R	CONFERENCE MONITOR	1	20 A	6
7	20 A	1	BREAKROOM MICROWAVE	K	1.1	1		R	CONFERENCE AV UNIT	1	20 A	8	
9	20 A	1	BREAKROOM MICROWAVE	K		1.1	0.36	R	CONFERENCE RADIO CHARGERS	1	20 A	10	
11	40 A	2	BREAKROOM DISHWASHER	K			3.15	1.08	R	OFFICE WORKSTATIONS	1	20 A	12
13	--	--	--	--	3.15	0.18		Other	OFFICE WORKSTATIONS	1	20 A	14	
15	20 A	1	BREAKROOM RECEPTACLES	R; K		0.54	0.36	R	OFFICE WORKSTATIONS	1	20 A	16	
17	20 A	1	BREAKROOM RECEPTACLES	R			1.08	0.54	R	OFFICE WORKSTATIONS	1	20 A	18
19	20 A	1	BREAKROOM WORKSTATIONS	R	0.36	0.72		R	OFFICE RECEPTACLES	1	20 A	20	
21	20 A	1	BREAKROOM MONITOR	R		0.3	1.1	K	OFFICE MICROWAVE	1	20 A	22	
23	20 A	1	BREAKROOM VENDING	R			0.18	0.36	R; K	OFFICE REFRIGERATOR	1	20 A	24
25	20 A	1	BREAKROOM MONITORS	R	0.6	0.18		R	OFFICE COPIER	1	20 A	26	
27	20 A	1	BREAKROOM RECEPTACLES	R; K		0.72	0.18	R	OFFICE MONITOR	1	20 A	28	
29	20 A	1	BREAKROOM RECEPTACLES	R			0.54	0.88	L	CONFERENCE & BREAKROOM LIGHTING	1	20 A	30
31	20 A	1	BREAKROOM COFFEE MAKER	K	0.18	0.45		L	OFFICE LIGHTING	1	20 A	32	
33	20 A	1	BREAKROOM MICROWAVE	K		1.1	0.21	M	ELECTRICAL ROOM - EF-1	1	20 A	34	
35	20 A	1	BREAKROOM MICROWAVE	K			1.1	0	--	SPARE	1	20 A	36
37	40 A	2	BREAKROOM DISHWASHER	K	3.15	0		--	SPARE	1	20 A	38	
39	--	--	--	--		3.15	0	--	SPARE	1	20 A	40	
41	20 A	1	BREAKROOM REFRIGERATOR	K			1.2	0	--	SPARE	1	20 A	42

SPECIAL PANEL FEATURES				CIRCUIT NOTES			
		11.97 kVA	11.22 kVA			11.61 kVA	
		100.2 A	93.5 A			97.3 A	

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND/ADJUST...	LOAD TYPE KEY	PANEL TOTALS	
K	16.34 kVA	65%	10.62 kVA	C = CONTINUOUS	KVA	AMPS
L	1.33 kVA	125%	1.66 kVA	E = ELEVATOR	TOTAL CONNECTED LOAD:	34.79 kVA 96.6 A
M	0.21 kVA	100%	0.21 kVA	K = KITCHEN	TOTAL DEMAND LOAD:	30.92 kVA 85.8 A
R	10.12 kVA	99%	10.06 kVA	L = LIGHTING	SPARE CAPACITY:	25%
Other	0.54 kVA	100%	0.54 kVA	M = MOTOR	REQUIRED CAPACITY:	38.65 kVA 107 A
Motor	6.3 kVA	125%	7.88 kVA	MOTOR = LARGEST MOTOR		
				N = NON-CONTINUOUS		
				R = RECEPTACLE		

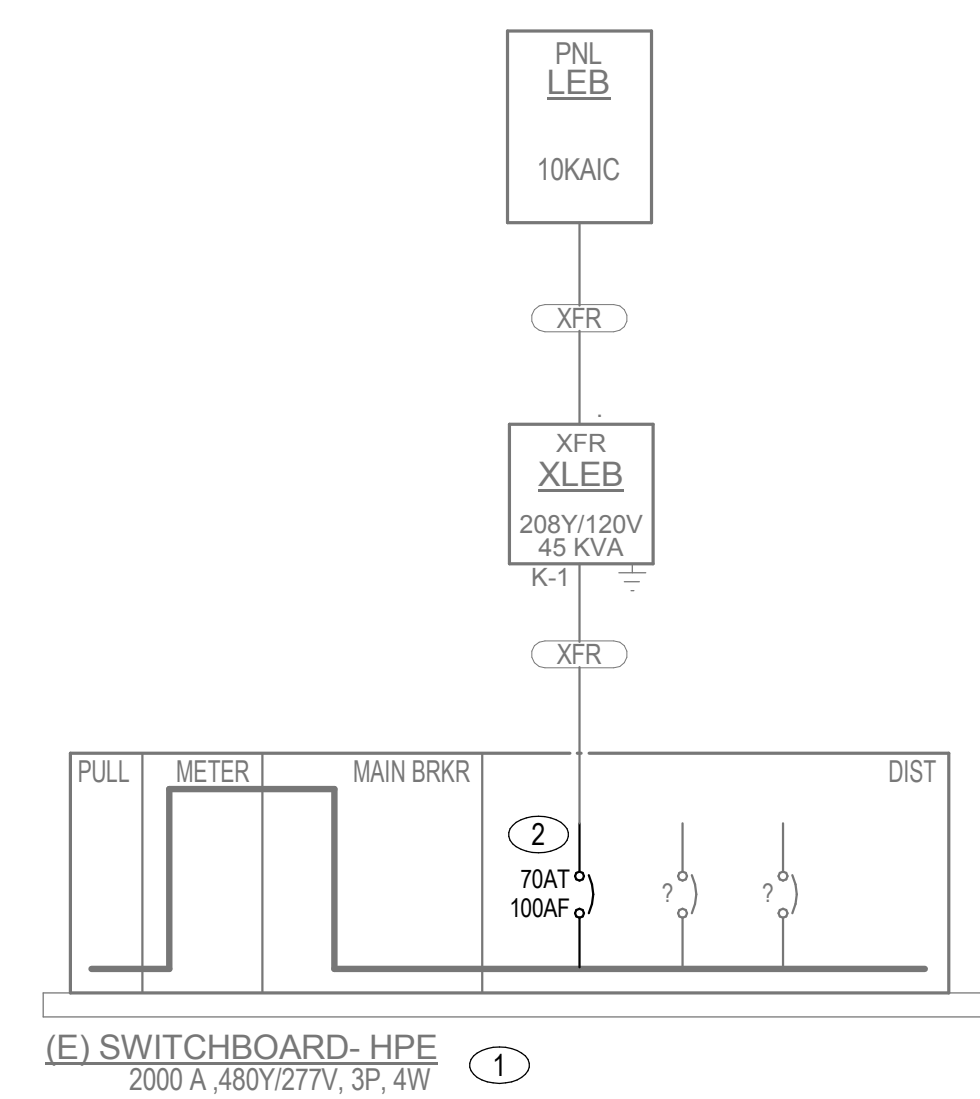


SHEET NOTES

- A PURCHASE AND INSTALLATION OF ALL ELECTRICAL DISTRIBUTION EQUIPMENT FROM SWITCHBOARD HPE TO BRANCH PANEL LEB INCLUDING ALL BRANCH PANEL CIRCUIT BREAKERS NOTED IN THE PANEL SCHEDULE FOR PANEL LEB SHALL BE COMPLETED BY OWNER. CONTRACTOR TO PROVIDE ALL ELECTRICAL DISTRIBUTION COMPONENTS AND DEVICES DOWNSTREAM OF BRANCH PANEL LEB.

KEYED NOTES

- 1 OWNER TO PERFORM 30 DAY METERING OF EXISTING SWITCHBOARD HPE LOCATED IN ELECTRICAL ROOM 1192 AND NOTIFY ENGINEER OF RESULTS FOR APPROVAL TO PROCEED WITH MATERIALS PURCHASE AND INSTALLATION.
- 2 OWNER TO REMOVE EXISTING 400A BREAKER AND PROVIDE NEW 70A BREAKER COMPATIBLE WITH EXISTING SWITCHBOARD. NEW CIRCUIT BREAKER SHALL MATCH KAIC RATING OF EXISTING BREAKER TO BE REMOVED.



1 ELECTRICAL SINGLE LINE DIAGRAM

SCALE: NONE

YOST GRUBE ARCHITECTURE

707 SW Washington Street | Suite 1200 | Portland, OR 97205
 1303 221 0150 1303 235 0840

Owner
 600 NE Grand Ave
 Portland, OR 97232
 503.797.1700

Project
OREGON CONVENTION CENTER
Breakroom & Office
 777 NE Martin Luther King Jr Blvd, Portland, OR 97232

MARK DATE DESCRIPTION

Sheet Title
 ELECTRICAL SINGLE LINE DIAGRAM

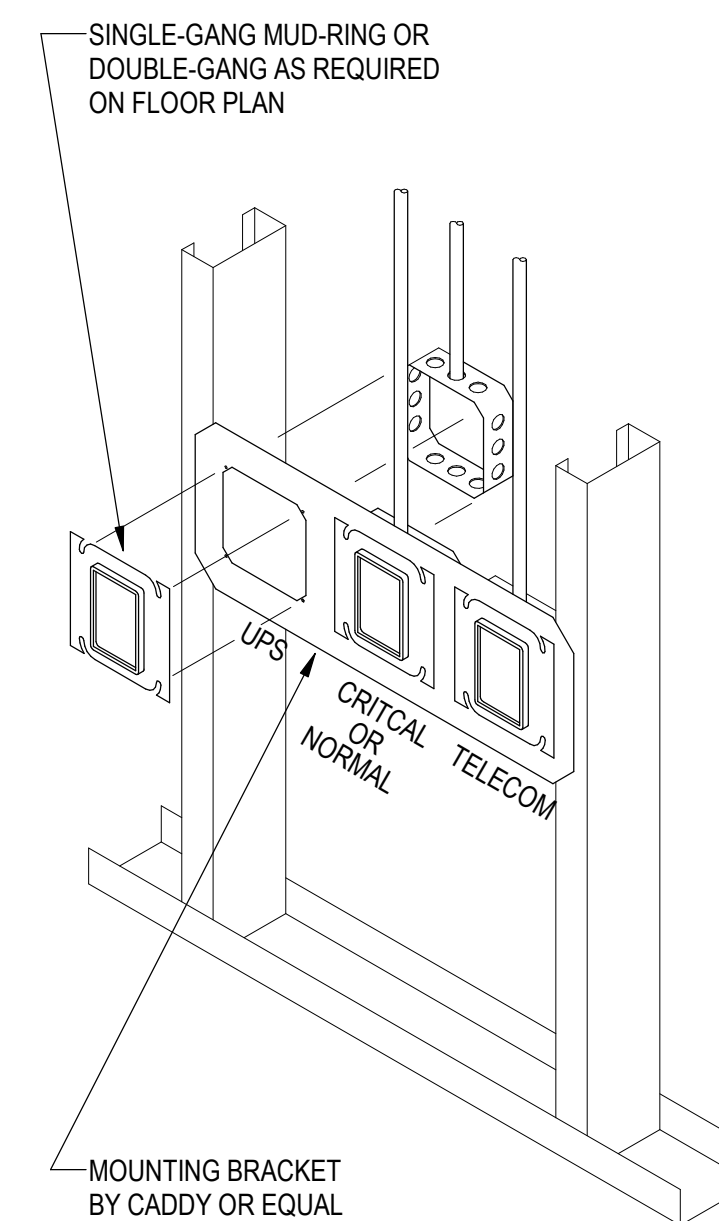
Drawing No.

E5.1

Scale 12" = 1'-0"

Date AUGUST 8, 2017

Project No. 107400

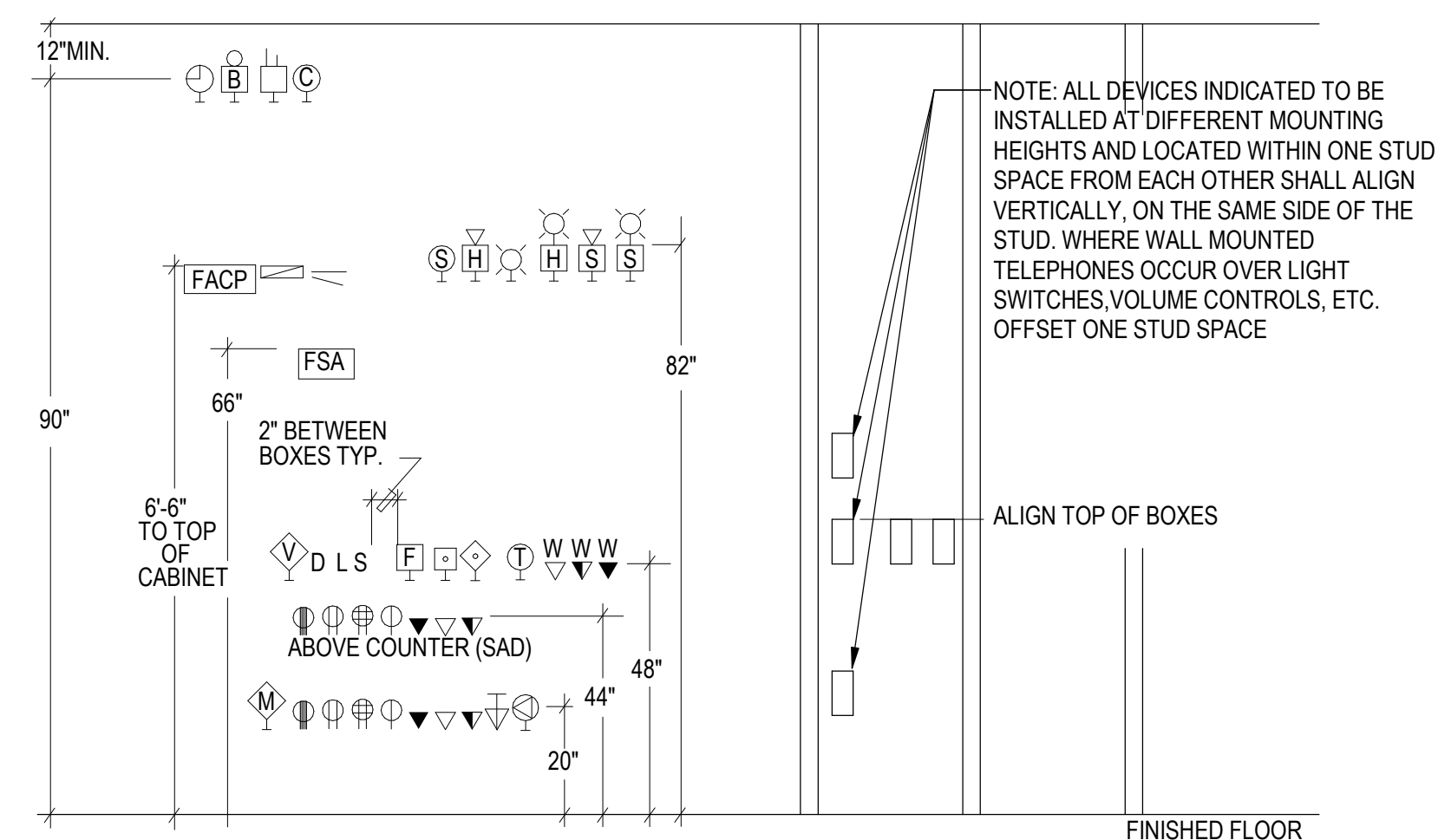


NOTES

- A. THIS DETAIL APPLIES FOR ALL SITUATIONS WHERE TWO OR MORE POWER AND TELECOM DEVICES ARE SHOWN ON THE DRAWINGS, UON.

2 POWER/TELECOM DEVICE BOX INSTALLATION

SCALE: NONE

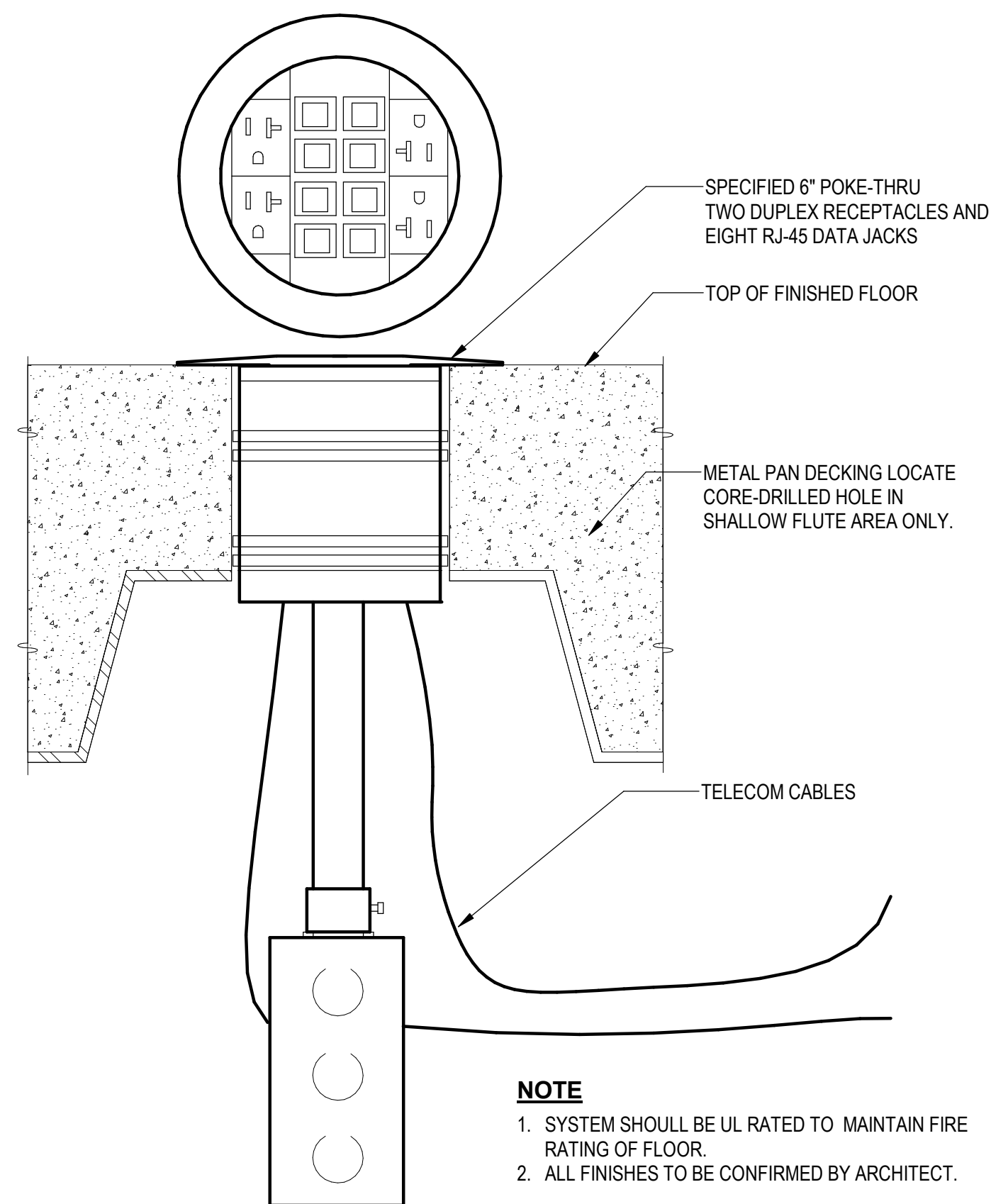


NOTES

1. HEIGHTS SHOWN ARE TYPICAL TO TOP OF BOX, UNLESS OTHERWISE NOTED.
2. WHERE EVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED VERTICALLY BETWEEN TOP OF DOOR TRIM AND CEILING LINE AND CENTERED HORIZONTALLY ON DOOR OPENING, UNLESS OTHERWISE NOTED.
3. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE. CONTRACTOR SHALL ALWAYS REFER TO ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING J-BOXES AND BACKBOXES. INFORM ENGINEER AND ARCHITECT OF CONFLICTS.
4. DO NOT MOUNT THERMOSTATS OR TEMPERATURE SENSORS ABOVE DIMMERS. INFORM ENGINEER OF CONFLICTS.

1 ELECTRICAL TELECOM DEVICE MOUNTING

SCALE: NONE

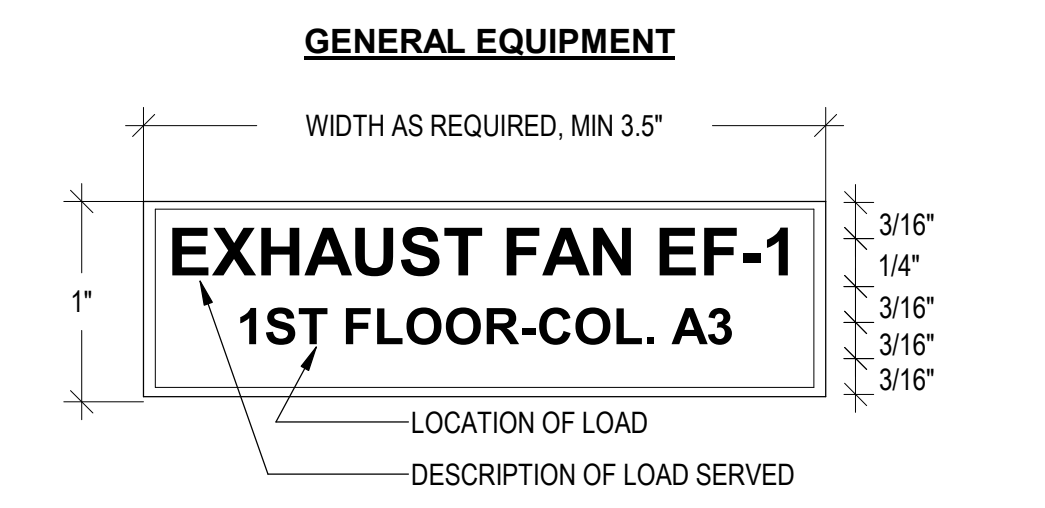
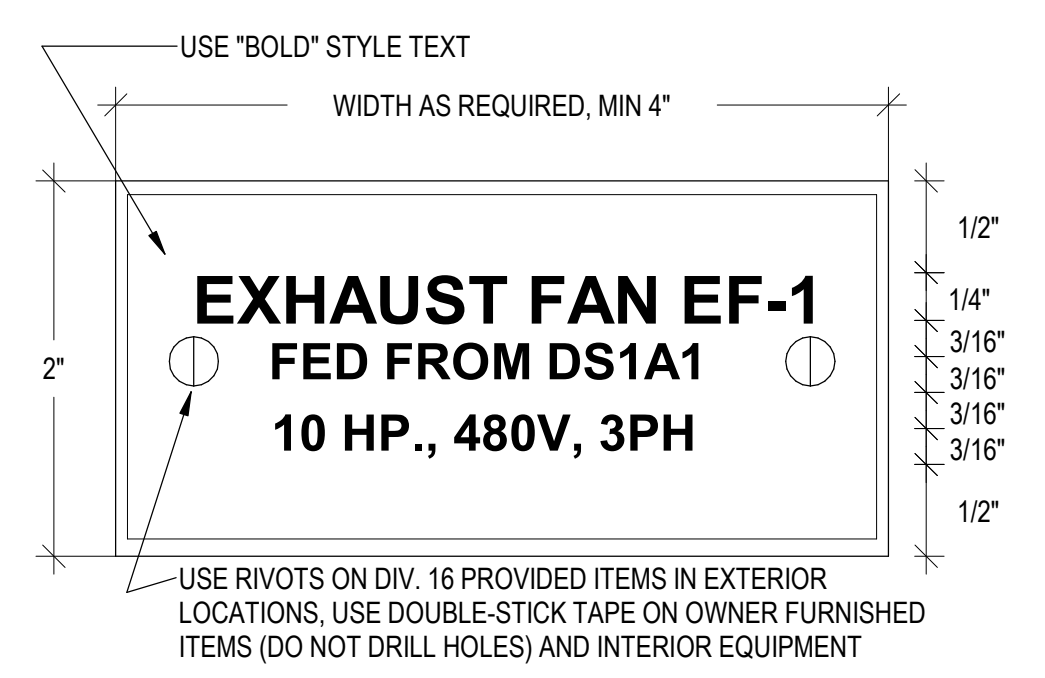


NOTE

1. SYSTEM SHOULD BE UL RATED TO MAINTAIN FIRE RATING OF FLOOR.
2. ALL FINISHES TO BE CONFIRMED BY ARCHITECT.

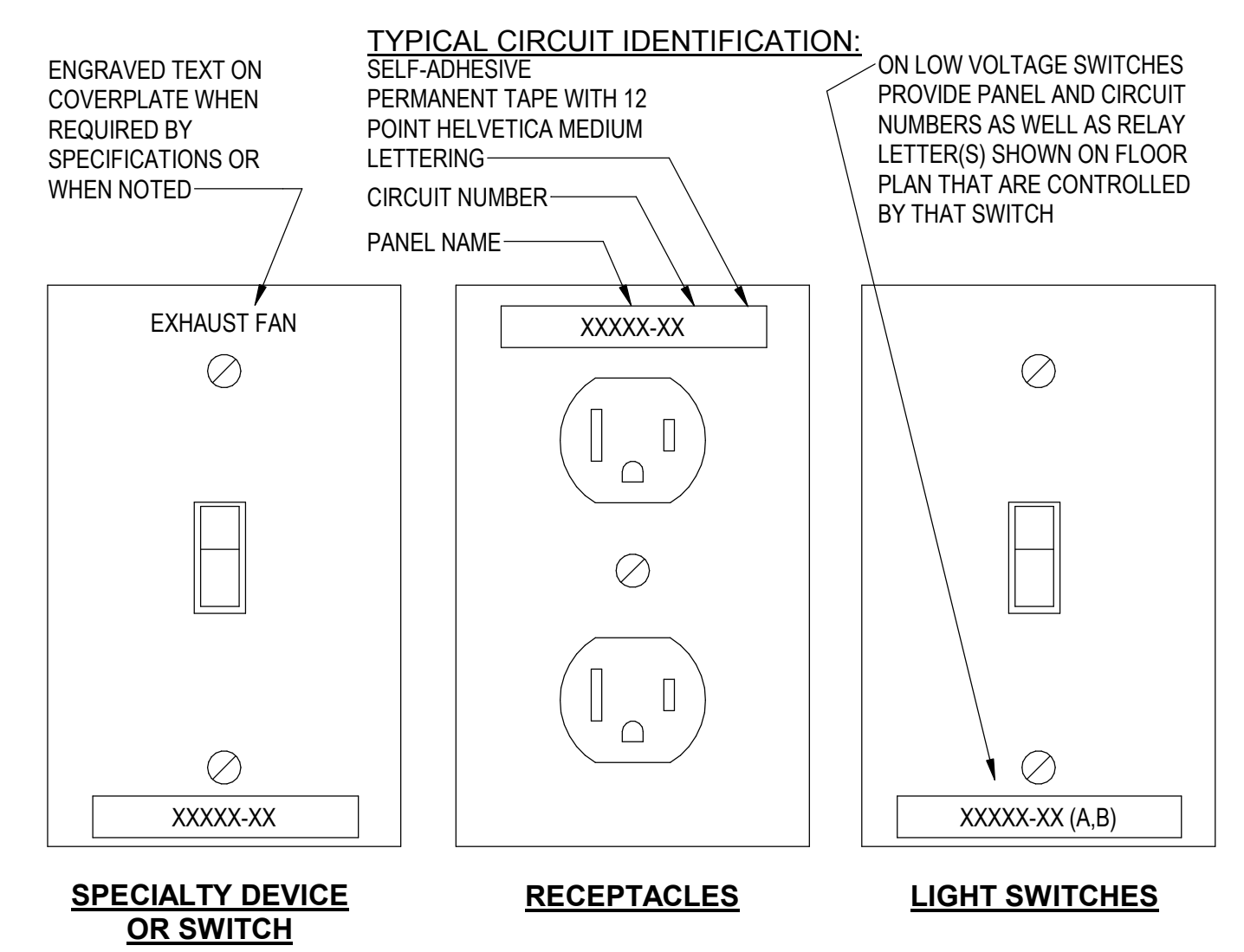
3 FLUSH POWER/TELECOM POKE-THRU

SCALE: NONE



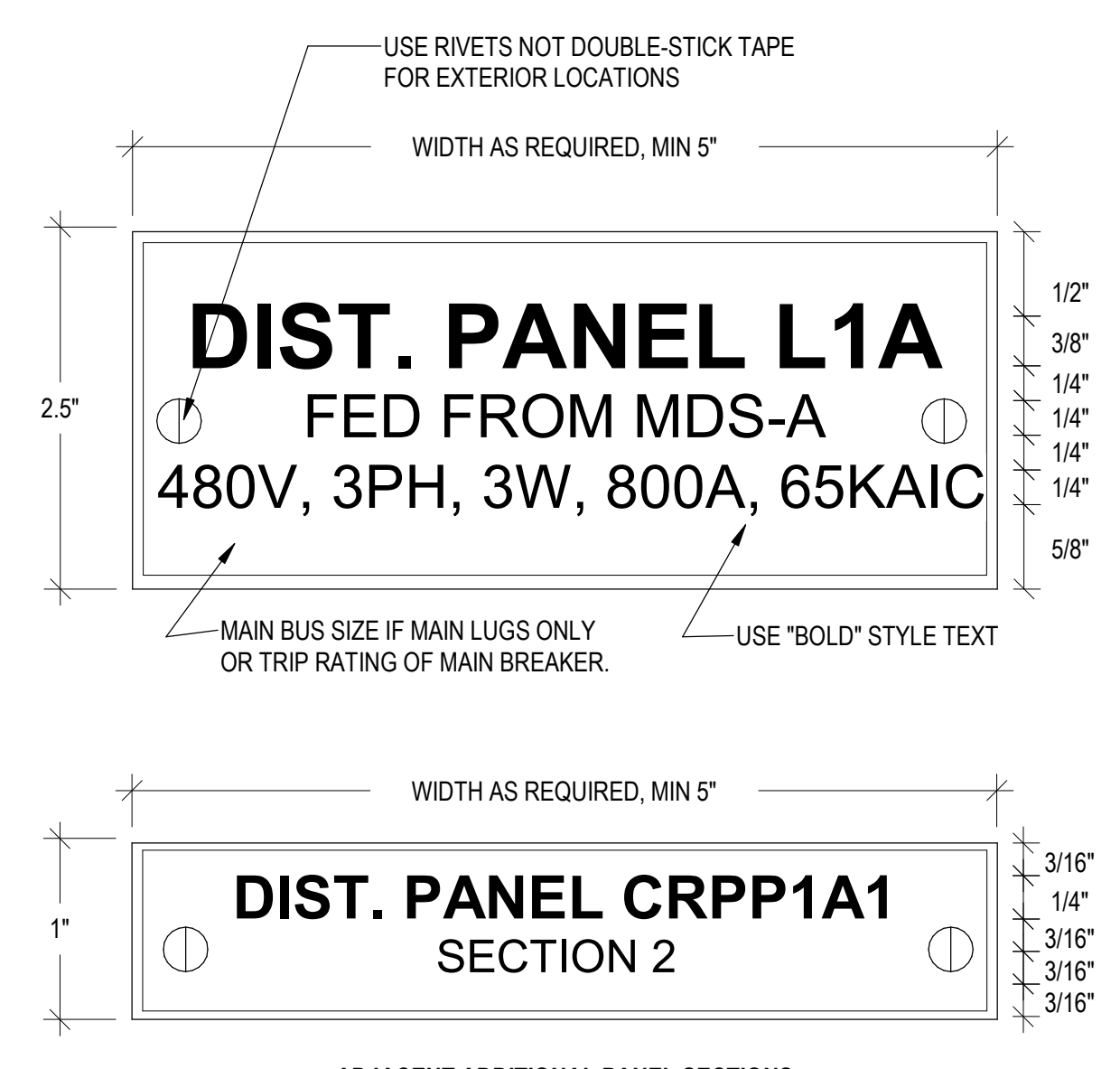
- CIRCUIT BREAKERS IN DIST. PANELS**
- NOTES:**
- SEE DRAWINGS FOR ADDITIONAL NAMEPLATE INFORMATION AND COLORS OF NAMEPLATES FOR DIFFERENT SYSTEMS.
 - TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH EQUIPMENT SPECIFICATIONS.
 - CENTER ALL TEXT HORIZONTALLY

2 EQUIPMENT IDENTIFICATION NAMEPLATES
SCALE: NONE



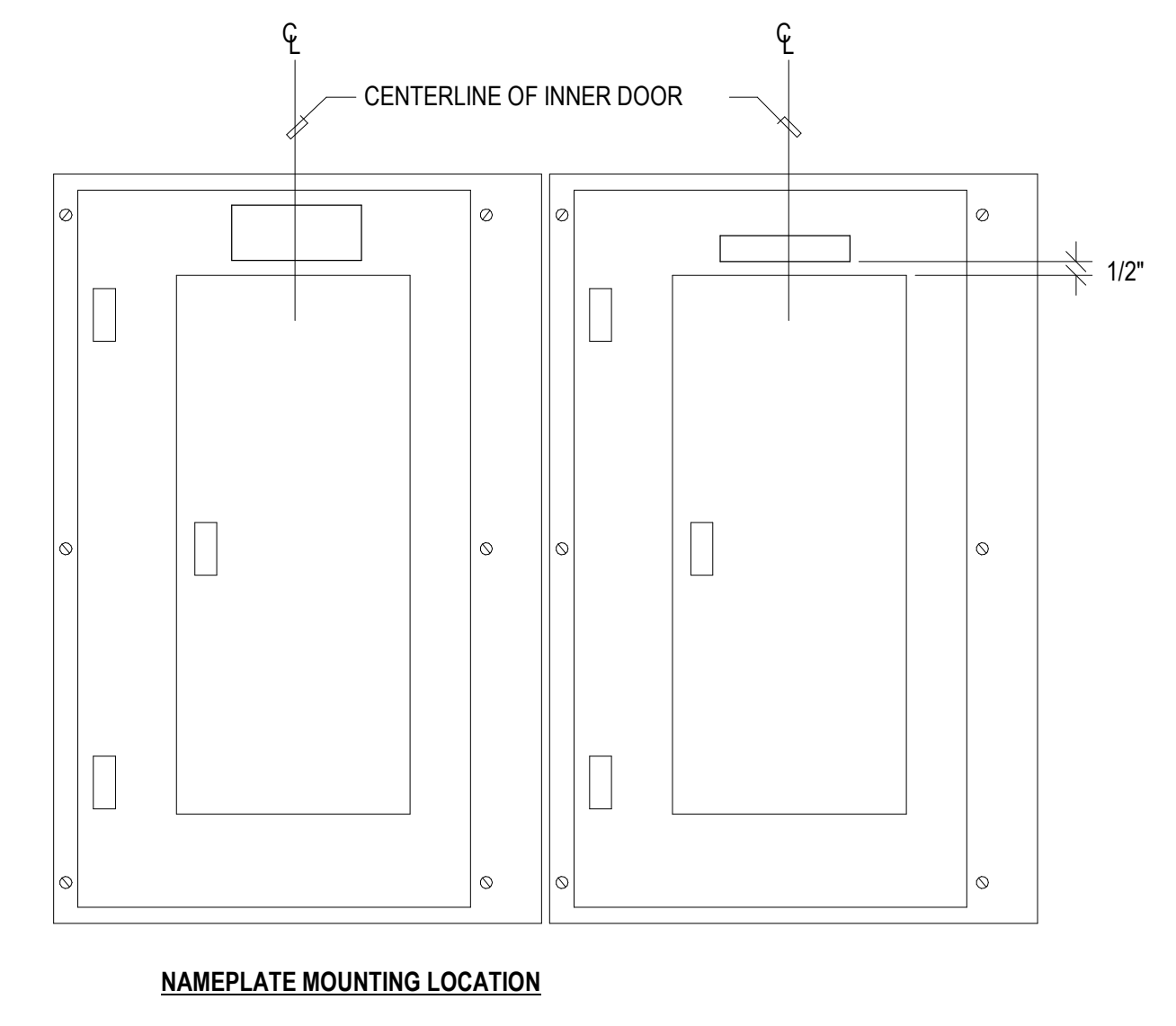
- NOTES:**
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND COLORS OF TAPE REQUIRED FOR DIFFERENT SYSTEMS.
 - TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED AS MATCH INSTALLATION.
 - LABEL DEVICES IN SURFACE METAL RACEWAYS, POWER POLES, FLOOR BOXES, CONCEALED MULTI-SERVICE POWER BOXES, ETC. SIMILARLY.
 - WHERE MULTIPLE SWITCHES ARE GROUPED UNDER COMMON COVERPLATE AND ARE SERVED FROM SAME CIRCUIT, PROVIDE ONLY ONE LABEL FOR MIDDLE SWITCH. PROVIDE MULTIPLE LABELS IF DIFFERENT CIRCUITS ARE USED.

3 DEVICE & SWITCH LABELING
SCALE: NONE



- NOTES:**
- SEE DRAWINGS FOR ADDITIONAL NAMEPLATE INFORMATION AND COLORS OF NAMEPLATES FOR DIFFERENT SYSTEMS.
 - PROVIDE ONE NAMEPLATE FOR EACH PANEL OR MCC SECTION. WHERE SECTION NUMBER TWO AND ABOVE ARE WITHIN SAME ROOM AND WITHIN 10' OF EACH OTHER USE THE SMALLER SIZE NAMEPLATE.
 - CENTER ALL TEXT HORIZONTALLY.
 - TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH EQUIPMENT SPECIFICATIONS.

1 DISTRIBUTION PANEL, MOTOR CONTROL CENTER & BRANCH PANEL NAMEPLATES
SCALE: NONE



MERC STAFF REPORT

Agenda Item: For the purpose of approving the contract with First Cascade Corporation for the Oregon Convention Center's "Staff and Setup Supervisor Support Space Renovation" and authorizing the General Manager of Visitor Venues to execute the contract.

Resolution No: 17-30

Date: October 4, 2017

Presented by: Nancy Strening

BACKGROUND:

The OCC staff and setup supervisor support spaces date to 2002 and lack necessary infrastructure, equipment, and amenities for the number of staff who use the spaces for trainings, meetings, event briefings, breaks, meals, and as office space. This is both a functional issue and a staff morale issue. This two-level renovation project consists of two scopes.

The at grade break room will receive a complete renovation and upgrade to its infrastructure and usability. The space will be reconfigured to create a shift briefing room, including radio storage and audio-visual capability, for start of shift team huddles; a training area with four computer work stations available to staff for business messaging, training and other career development activities; a more functional dining area with additional microwaves, refrigerators, a larger dishwasher, new lighting, flooring and seating. The lunch break for most staff that use the space is a half-hour and the number of appliances is inadequate to support staff needs; and upgrades to the currently underserved HVAC, power and network capabilities.

The area directly above the break room on the second level will be renovated for the seven setup supervisors to improve infrastructure and usability. This work will include private and shared office spaces for the setup supervisors; meeting and training spaces for the setup supervisors; and an appropriately sized and secured storage space for supplies and materials.

MERC staff prepared and issued an Invitation to Bid (ITB) that included a scope of work to upgrade the staff and setup supervisor support spaces. Staff issued the ITB in accordance with MERC's purchasing and contracting rules and in compliance with Metro Policy and state of Oregon requirements. To communicate the opportunity, the ITB was published on ORPIN and advertised broadly and with the intent of notifying minority contractors via the Business Tribune, the Skanner, El Hispanic, the Portland Observer, and the Asian Reporter. On September 14, 2017, MERC received two bids to complete the renovation, which ranged from \$421,933 to \$489,000. Staff recommends First Cascade Corporation as the lowest responsive and responsible bidder with the bid of \$421,933.

Neither bidder is a Certified Office of Business Inclusion and Diversity (COBID) contractor. First Cascade Corporation demonstrated extensive outreach to COBID subcontractors, and intends to award \$30,000 of the contract to a COBID subcontractor.

FISCAL IMPACT: The FY 2017-18 Amended Budget and Capital Improvement Plan (CIP) includes \$644,000 for the proposed renovation.

RECOMMENDATION: Staff recommends that the Metropolitan Exposition-Recreation Commission, by Resolution No 17-30, approve the contract award and written contract (attached hereto) with First Cascade Corporation, for the amount four hundred twenty one thousand nine hundred thirty three dollars and 00/100 (\$421,933.00) for the Oregon Convention Center's Staff and Setup Supervisor

Support Space Renovation and authorize the General Manager of Visitor Venues to execute the contract.