Health, Housing & Human Services
CLACKAMAS COUNTY

Rodney A. Cook
Director

February 10, 2022

Board of County of Commissioners
Clackamas County

Members of the Board:

Approval of a Construction Public Improvement Agreement for the Clackamas Volunteers in Medicine health clinic construction with Petra Build Design, LLC. for $650,000 funded through Community Development Block Grant.
No County General Funds

Purpose/ Outcome	Signature approval of a Public Improvement Contract to fund a portion of the construction expenses for a new Health Clinic Project for Clackamas Volunteers In Medicine (CVIM) in Oregon City.
Dollar Amount and Fiscal Impact	Community Development Block Grant CARES Act funds (CDBG CV3) of $ 650,000: CDBG Funds as a Grant (executed Cooperative Agreement) $ 473,000: CVIM Secured Funds $1,123,000: Total estimated project costs
Funding Source	U.S. Department of Housing and Urban Development CDBG CARES Act funds **No County General Funds** are included in this Agreement
Duration	Upon signature to 20 years after completion of the project (est. 2042)
Previous Board Action/ Review	October 21, 2021 BCC approval of Cooperative Agreement with CVIM. October 19, 2021 BCC policy session, project funding recommendations approved.
Strategic Plan Alignment	Increase self-sufficiency for our clients. Ensure safe, healthy and secure communities.
County Review	The Public Improvement Contract was reviewed and approved by County Counsel AN on 1/20/2022.
Procurement Review	1. Was the ítem processed through Procurement? *yes* X *no* ☐ 2. Worked with Procurement Department, Community Development Division distributed an ORBuys advertisement.
Contact Person	Mark Sirois, Manager - Community Development: 503-655-8591
Contract No.	H3S# 10533

BACKGROUND: The Community Development Division of the Health, Housing and Human Services Department requests the approval of a Public Improvement Contract for the Clackamas Volunteers in Medicine health clinic construction on the Clackamas Community College campus in Oregon City.

The County applied for this CDBG CAREs ACT grant funding in October 2020. In May of 2021, the Community Development Division advertised and distributed a Notice of Funding Opportunity (NOFO). The purpose of the NOFO was to partner with community based organizations ("CBO") to assist eligible low-income County residents impacted by COVID-19 with health care services and homeless shelter and services. A total of six (6) proposals were submitted. All were reviewed and evaluated in the context of other available and awarded state and federal funding for these types and

projects and services in Clackamas County. This health clinic project was one of two projects recommended to the BCC for funding.

PROJECT OVERVIEW: Clackamas Volunteers in Medicine (CVIM) applied for funding to remodel an existing building on the campus of the Clackamas Community College (CCC) to be operated by CVIM. Since 2010, CVIM has been part of a nationwide affiliation of health clinics. The college has provided CVIM a long-term lease of the building that will be remodeled. The Cooperation Agreement with CVIM for this project was approved by the Board on October 21, 2021, allowing for public procurement of the project for a contractor to be advertised.

Community Development Department partnered with the Procurement Department in a formal solicitation for a contractor to perform the remodel construction for CVIM on the CCC campus. Petra Build Design, LLC., was the low bidder and awarded contractor for this Public Improvement Contract and it is anticipated that the construction will begin in February of 2022.

RECOMMENDATION: We recommend signature approval of this Public Improvements Contract.

Respectfully submitted,

Rodney Cook

Rodney A. Cook, Director
Health, Housing, and Human Services

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

This Public Improvement Contract (the "Contract"), is made by and between the Clackamas County, a political subdivision of the State of Oregon, hereinafter called "Owner," and **Petra Design Build, LLC.**, hereinafter called the "Contractor" (collectively the "Parties"), shall become effective on the date this Contract has been signed by all the Parties and all County approvals have been obtained, whichever is later.

Project Name: **Clackamas Volunteers In Medicine – New Health Clinic Project (CD# 1802)**
Location: **City of Oregon City, Oregon**

1. Contract Price, Contract Documents and Work.
The Contractor, in consideration of the sum of **one million one hundred and twenty-three thousand dollars ($1,123,000.00)** (the "Contract Price"), to be paid to the Contractor by Owner in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the Clackamas County General Conditions for Public Improvement Contracts (10/13/2021) ("General Conditions") referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. The Contract Price is the amount contemplated by the Base Bid, as indicated in the accepted Bid.

Also, the following documents are incorporated by reference in this Contract and made a part hereof:

- Notice of Contract Opportunity
- Supplemental Instructions to Bidders
- Bid Form
- Performance Bond and Payment Bond
- Supplemental General Conditions
- Payroll and Certified Statement Form
- Instructions to Bidders
- Bid Bond
- Public Improvement Contract Form
- Clackamas County General Conditions
- Prevailing Wage Rates
- Plans, Specifications and Drawings

2. Representatives.
Contractor has named Eli Kimmel as its Authorized Representative to act on its behalf. Owner designates, or shall designate, its Authorized Representative as indicted below (check one):

☒ Unless otherwise specified in the Contract Documents, the Owner designates Amy Counsil as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment, authorization, and to carry out the responsibilities of the Owner.

☐ Name of Owner's Authorized Representative shall be submitted by Owner in a separate writing.

3. Key Persons.
The Contractor's personnel identified below shall be considered Key Persons and shall not be replaced during the project without the written permission of Owner, which shall not be unreasonably withheld. If the Contractor intends to substitute personnel, a request must be given to Owner at least 30 days prior to the intended time of substitution. When replacements have been approved by Owner, the Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the project concurrently. Once a replacement for any of these staff members is authorized, further replacement shall not occur without the written permission of Owner. The Contractor's project staff shall consist of the following personnel:

Project Executive: Eli Kimmel / 503-858-9437 shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

Project Manager: **Devin Millard / 503-858-9437** shall be the Contractor's project manager and will participate in all meetings throughout the project term.

Job Superintendent: **Devin Millard / 503-858-9437** shall be the Contractor's on-site job superintendent throughout the project term.

Project Engineer: Eli Kimmel / 503-858-9437 shall be the Contractor's project engineer, providing assistance to the project manager, and subcontractor and supplier coordination throughout the project term.

4. Contract Dates.

COMMENCEMENT DATE: Upon Issuance of Notice to Proceed (–estimated to be February 1, 2022).
SUBSTANTIAL COMPLETION DATE: 90 Days from Notice to Proceed (–estimated to be May 3, 2022).
FINAL COMPLETION DATE: 105 Days from Notice to Proceed (–estimated to be May 18, 2022).

Time is of the essence for this Contract. It is imperative that the Work in this Contract reach Substantial Completion and Final Completion by the above specified dates.

5. Insurance Certificates.

In accordance with Section G.3.5 of the General Conditions and item SC-2 of the Supplemental General Conditions, Contractor shall furnish proof of the required insurance naming Clackamas County as an additional insured. Insurance certificates may be returned with the signed Contract or may be emailed to acounsil@clackamas.us

6. Tax Compliance.

Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle County to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

7. Confidential Information.

Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Contract, be exposed to or acquire information that is confidential to Owner. Any and all information of any form obtained by Contractor or its employees or agents in the performance of this Contract shall be deemed confidential information of Owner ("Confidential Information"). Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purpose unless specifically authorized in writing under this Contract.

8. Counterparts.

This Contract may be executed in several counterparts, all of which when taken together shall constitute an agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of the Contract so executed shall constitute an original.

9. Integration.
All provisions of state law required to be part of this Contract, whether listed in the General or Special Conditions or otherwise, are hereby integrated and adopted herein. Contractor acknowledges the obligations thereunder and that failure to comply with such terms is a material breach of this Contract.

The Contract Documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

10. Liquidated Damages
The Contractor acknowledges that the Owner will sustain damages as a result of the Contractor's failure to substantially complete the Project in accordance with the Contract Documents. These damages may include, but are not limited to delays in completion, use of the Project, and costs associated with Contract administration and use of temporary facilities. Liquidated Damages shall be $1,000.00 per Calendar day if the actual Substantial Completion exceeds the required date of Substantial Completion, and $1,000.00 per Calendar day if the actual Final Completion exceeds the required date of Final Completion.

11. Compliance with Applicable Law. Contractor shall comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the Work to be done under this Contract including, but not limited to, compliance with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

12. Compliance with Applicable Funding Source Requirements. Contractor shall further comply with any and all terms, conditions, and other obligations as may be required by the applicable State or Federal agencies providing funding for performance under this Contract, whether or not specifically referenced herein. Contractor agrees to take all necessary steps, and execute and deliver any and all necessary written instruments, to perform under this Contract including, but not limited to, executing all additional documentation necessary for County to comply with applicable State or Federal funding requirements.

In witness whereof, Clackamas County executes this Contract and the Contractor does execute the same as of the day and year first above written.

Contractor DATA:
Petra Design Build, LLC
29030 SW Town Center Loop E. Suite 202
Wilsonville, OR 97070

Contractor CCB #235866 Expiration Date:
Oregon Business Registry #: 1813385-92 Entity Type: DLLC State of Formation: OR
Federal Tax I.D. No. or Last Four SSN: 86-3399808

Signature page to follow.

Payment information will be reported to the IRS under the name and taxpayer ID# provided by the Contractor. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 28 percent backup withholding.

Petra Design Build, LLC
29030 SW Town Center Loop E. Suite 202
Wilsonville, OR 97070

01/19/2022
Signature Date

Eli Kimmel, President

Clackamas County

Chair, Tootie Smith
Commissioner Sonya Fischer
Commissioner Paul Savas
Commissioner Martha Schrader
Commissioner Mark Shull

Chair Date

Recording Secretary

APPROVED AS TO FORM

01/20/2022
County Counsel Date

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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CONSTRUCTION PROJECT MANUAL

for

Clackamas Volunteers In Medicine
New Health Clinic Project
(Oregon City, Oregon)

December 2021

CLACKAMAS COUNTY

COMMUNITY DEVELOPMENT
CLACKAMAS COUNTY, OREGON

FEDERALLY FUNDED

by

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

through

CLACKAMAS COUNTY
DEPARTMENT OF HEALTH, HOUSING and HUMAN SERVICES
COMMUNITY DEVELOPMENT DIVISION
2051 Kaen Road, Suite 245, Oregon City, OR
(503) 655-8591

CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID
Clackamas Volunteers In Medicine
New Health Clinic Project (CD #1802)
December 2021

Clackamas County ("County"), on behalf of Community Development Division, through their Board of County Commissioners is accepting sealed bids for the Clackamas Volunteers In Medicine – New Health Clinic Project until **January 6, 2022, 2:00 PM,** Pacific Time, ("Bid Closing"). The project site is located at Clackamas Community College – Clairmont Hall, 19600 Molalla Avenue, Oregon City, OR, 97045. The prospective bidders will be required to attend one of the two scheduled walk-throughs on site either December 15, 2021 @ 2pm or December 29, 2021 @ 2pm.

DELIVER BIDS VIA EMAIL:
Bidding Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address: https://oregonbuys.gov/bso/view/login/login.xhtml, Document No.S-C01010-000001417.
Prospective Bidders will need to sign in to download the information and that information will be accumulated for a Plan Holder's List. Prospective Bidders are responsible for obtaining any Addenda from Website listed above.

Project Estimate: $1,072,000.00

Project Schedule: Notice to Proceed, 90 Days to Substantial Completion and 105 Days to Final Completion. Mandatory Walk-throughs.

Project Key Note(s):
1) The City of Oregon City will require Building Permits and other associated Permits.
2) Clackamas Volunteers In Medicine is the "operator" of the new clinic.
3) Clackamas Community College is the "owner" of the building.

Contact Information:
All Questions – Amy Counsil, Project Coordinator: acounsil@clackamas.us

Mandatory Walk-throughs for this Project:
1st scheduled walk-through: December 15, 2021 @ 2pm on-site
2nd scheduled walk-through: December 29, 2021 @ 2pm on-site.
Attendance to at least one is required for bid submission. Interested parties in this project should be familiar with the construction plans and specifications. Refer to the Bid Schedule provided by the Project Architect for the detailed quantities.

Bids will be opened and read at the above Delivery Address via Emailed Address after the Bid Closing. Bid results will also be posted to the OregonBuys project site shortly after the opening.

State of Oregon Prevailing Wage:
Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than $50,000. Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates. The Bureau of Labor

and Industries ("BOLI") wage rates and requirements set forth in the following BOLI booklet (and any listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Agreement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, July 1, 2021, and amended on October 1, 2021, which can be downloaded at the following web address: https://www.oregon.gov/boli/employers/Pages/prevailing-wage-rates.aspx

The Work will take place in Clackamas County, Oregon.
NOTE 1: Contractors are required to pay the higher wage classification between State ("BOLI") and Federal (Davis-Bacon) for all Community Development Block Grant ("CDBG") funded projects.

Federal Prevailing Wage Rates:
Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than $2,000. Contractor and all subcontractors shall comply with the provisions of the David-Bacon Act (40 U.S.C. 3141 et seq).

PREVAILING WAGE RATES for BUILDING shall be used for Clackamas County, May 28, 2021, which can be downloaded at the following web address: https://sam.gov/wage-determination/OR20210023/5

If the Davis-Bacon Prevailing Wage Rates change 10 days before the Bid Opening Date, Clackamas County Community Development Division will issue an Addendum providing the new wage rates.
NOTE 2: Contractors are required to pay the higher wage classification between State ("BOLI") and Federal (Davis-Bacon) for all Community Development Block Grant ("CDBG") funded projects.

Other Federal Requirements:
This project is financed through the Community Development Block Grant Program with funds obtained from the U.S. Department of Housing and Urban Development. The Contract will be subject to regulations of the federal Department of Labor ("DOL") and Department of Housing and Urban Development ("HUD"). The successful Bidder will be required to comply with the provisions of section 3 of the Housing and Urban Development Act of 1968 as amended (herein referred to as section 3 requirements). Such provisions require that economic opportunities generated by HUD financial assistance shall, to the greatest extent feasible, be given to low income residents of the metropolitan area in which the project is located and to businesses that provide economic opportunities for these persons. Bids exceeding $100,000 must include an indication of whether or not the firm submitting the bid is a "section 3 business concern." The Contractor shall commence no work on the project until the Contractor and every subcontractor has a public works bond filed with the Construction Board in accordance with ORS 279C.830 and all other bonding and insurance requirements have been met and a Notice to Proceed has been issued.

This project will be above $100,000 dollars and will qualify as a "HUD Section 3" covered contract. This desired designation means: Contracts exceeding $100,000 are considered "Section 3 covered contracts." Bids exceeding $100,000 must include an indication of whether or not the firm submitting the bid is a "section 3 business concern."

A Section 3 business concern is defined by HUD regulations as a business concern:

(1) That is 51 percent or more owned by Section 3 residents; or (2) Whose permanent, full-time employees include persons, at least 30 percent of whom are currently section 3 residents or, within three years of the date of first employment with the business concern, were Section 3 residents; or (3) That provides evidence of a commitment to subcontract in excess of 25 percent of the dollar

award of all subcontracts to be awarded to business concerns that meet the qualifications set forth in paragraphs (1) or (2) above.

A Section 3 resident means:

(1) A public housing resident, or (2) An individual who resides in the metropolitan area in which the section 3 covered assistance is expended, and who is a low-income person or a very low-income person. For purposes of this project, residents of the Portland-Vancouver-Hillsboro Area who are members of families meeting the following income limits are considered low or very low-income persons.

HUD 2021 Annual Income Limits for the Portland-Vancouver-Hillsboro Area								
	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7 Person	8 Person
Low Income	$33,850	$38,700	$43,550	$48,350	$52,250	$56,100	$60,000	$63,850
Moderate Income	$54,150	$61,900	$69,650	$77,350	$83,550	$89,750	$95,950	$102,150

Clackamas County encourages bids from Minority, Women, and Emerging Small Businesses.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

Clackamas County Local Contract Review Board Rules ("LCRB Rules") govern this procurement process. LCRB Rules may be found at: http://www.clackamas.us/code/documents/appendixc.pdf. The Instructions to Bidders is applicable to the procurement process for Clackamas County, or any component unit thereof identified on the Notice of Public Improvement Contract Opportunity, herein after referred to as the "Owner."

Article 1. Scope of Work

The work contemplated under this contract with the Owner, includes all labor, materials, transportation, equipment and services necessary for, and reasonably incidental to, the completion of all construction work in connection with the project described in the Project Manual which includes, but is not necessarily limited to, the Notice of Public Improvement Contract Opportunity, Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Bid Bond, Public Improvement Contract Form, Performance Bond, Payment Bond, Clackamas County General Conditions for Public Improvement Contracts (1/1/2017), Supplemental General Conditions, and Plans, Specifications and Drawings.

Article 2. Examination of Site and Conditions

Before making a Bid, the Bidder shall examine the site of the work and ascertain all the physical conditions in relation thereto. The Bidder shall also make a careful examination of the Project Manual including the plans, specifications, and drawings and other contract documents, and shall be fully informed as to the quality and quantity of materials and the sources of supply of the materials. Failure to take these steps will not release the successful Bidder from entering into the contract nor excuse the Bidder from performing the work in strict accordance with the terms of the contract at the price established by the Bid.

The Owner will not be responsible for any loss or for any unanticipated costs, which may be suffered by the successful Bidder, as a result of such Bidder's failure to be fully informed in advance with regard to all conditions pertaining to the work and the character of the work required, including site conditions. No statement made by an elected official, officer, agent, or employee of the Owner in relation to the physical or other conditions pertaining to the site of the work will be binding on the Owner, unless covered by the Project Manual or an Addendum.

Article 3. Interpretation of Project Manual and Approval of Materials Equal to Those Provided in the Specifications

If any Bidder contemplating submitting a Bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications or forms of contract documents, or detects discrepancies or omissions, such Bidder may submit to the Engineer (read "Architect" throughout in lieu of Engineer as appropriate) a written request for an interpretation thereof at least ten (10) calendar days prior to the date set for the Bid Closing.

When a prospective Bidder seeks approval of a particular manufacturer's material, process or item of equal value, utility or merit other than that designated by the Engineer in the Project Manual, the Bidder may submit to the Engineer a written request for approval of such substitute at least ten (10) calendar days prior to the date set for the Bid Closing. The prospective Bidder submitting the request will be responsible for its prompt delivery.

Requests of approval for a substitution from that specified shall be accompanied by samples, records of performance, certified copies of tests by impartial and recognized laboratories, and such other information as the Engineer may request.

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of

material. Whenever a process is designated or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

Any interpretation of the Project Manual or approval of manufacturer's material will be made only by an Addendum duly issued. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item for any Bidder.

When the Engineer approves a substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

Article 4. Security to Be Furnished by Each Bidder

Each Bid must be accompanied by either 1) a cashier's check or a certified check drawn on a bank authorized to do business in the State of Oregon, or 2) a Bid bond described hereinafter, executed in favor of the Owner, for an amount equal to ten percent (10%) of the total amount Bid as a guarantee that, if awarded the contract, the Bidder will execute the contract and provide a performance bond and payment bond as required. The successful Bidder's check or Bid bond will be retained until the Bidder has entered into a contract satisfactory to Owner and furnished a one hundred percent (100%) performance bond and one hundred percent (100%) payment bond. The Owner reserves the right to hold the Bid security as described in Article 10 hereof. Should the successful Bidder fail to execute and deliver the contract as provided for in Article 12 hereof, including a satisfactory performance bond and payment bond within twenty (20) calendar days after the Bid has been accepted by the Owner, then the contract award made to such Bidder may be considered canceled and the Bid security may be forfeited as liquidated damages at the option of the Owner. The date of the acceptance of the Bid and the award of the contract as contemplated by the Project Manual shall mean the date of acceptance specified in the Notice of Intent to Award.

Article 5. Execution of Bid Bond

Should the Bidder elect to utilize a Bid bond as described in Article 4 in order to satisfy the Bid security requirements, such form must be completed in the following manner:

A. Bid bonds must be executed on the County forms, which will be provided to all prospective Bidders by the Owner.

B. The Bid bond shall be executed on behalf of a bonding company licensed to do business in the State of Oregon.

C. In the case of a sole individual, the bond need only be executed as principal by the sole individual. In the case of a partnership, the bond must be executed by at least one of the partners. In the case of a corporation, the bond must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. The corporation seal should then be affixed to the bond.

D. The name of the surety must be stated in the execution over the signature of its duly authorized attorney-in-fact and accompanied by the seal of the surety corporation.

Article 6. Execution of the Bid Form

Each Bid shall be made in accordance with: (i) the sample Bid Form accompanying these instructions; (ii) the appropriate signatures for a sole individual, partnership, corporation or limited liability corporation shall be added as noted in Article 5C above; (iii) numbers pertaining to base Bids shall be stated both in writing and in figures; and (iv) the Bidder's address shall be typed or printed.

The Bid Form relates to Bids on a specific Project Manual. Only the amounts and information asked for on the Bid Form furnished will be considered as the Bid. Each Bidder shall Bid upon the work exactly as specified and provided in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the Contract. The Bidder shall Bid upon all alternates that may be indicated on the Bid Form. When Bidding on an alternate for which there is no charge, the Bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates are shown on the Bid Form, the Bidder shall indicate whether each is "add" or "deduct."

Article 7. Prohibition of Alterations to Bid

Bids that are incomplete, or contain ambiguities or have differing conditions required by the Bidder, including requested changes or exceptions to the Public Improvement Contract form or other portions of the Project Manual, may be rejected in Owner's sole and absolute discretion.

Article 8. Submission of Bid

Each Bid shall be sealed in an envelope, properly addressed to the Owner, showing on the outside of the envelope the name of the Bidder and the name of the project. Bids will be received at the time and place stated in the Notice of Public Improvement Contract Opportunity.

Article 9. Bid Closing and Opening of Bids

All Bids must be received by the Owner at the place and time set for the Bid Closing. Any Bids received after the scheduled Bid Closing time for receipt of Bids will be rejected.

At the time of opening and reading of Bids, each Bid received will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Bids.

Generally, Bid results will be posted to the OregonBuys Website within a couple hours of the opening.

Article 10. Acceptance or Rejection of Bids by Owner

Unless all Bids are rejected, the Owner will award a contract based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the contract, it will be awarded to the next lowest responsible Bidder or Bidders in succession.

The Owner reserves the right to reject all Bids and to waive minor informalities. The procedures for contract awards shall be in compliance with the provisions of the LCRB Rules in effect at that time.

The Owner reserves the right to hold the Bid and Bid security of the three lowest Bidders for a period of thirty (30) calendar days from and after the time of Bid opening pending award of the contract. Following award of the contract the Bid security of the three lowest Bidders may be held twenty (20) calendar days pending execution of the contract. All other Bids will be rejected and Bid security will be returned.

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

If no Bid has been accepted within thirty (30) calendar days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted and request the return of the Bid security.

Article 11. Withdrawal of Bid

At any time prior to the Bid Closing, a Bidder may withdraw its Bid. This will not preclude the submission of another Bid by such Bidder prior to the time set for the Bid Closing.

After the time set for the Bid Closing, no Bidder will

be permitted to withdraw its Bid within the time frames specified in Article 10 for award and execution, except as provided for in that Article.

Article 12. Execution of Contract, Performance Bond and Payment Bond

The Owner will provide the successful Bidder with contract forms within seven (7) calendar days after the completion of the award protest period. The Bidder is required to execute the contract forms as provided, including a performance bond and a payment bond from a surety company licensed to do surety business in the State of Oregon, within seven (7) calendar days after receipt of the contract forms. The contract forms shall be delivered to the Owner in the number called for and to the location as instructed by the Owner.

Article 13. Recyclable Products

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

Article 14. Clarification or Protest of the Solicitation Document or Specifications

Any request for clarification or protest of the solicitation document or specifications must be submitted in the manner provided for in the applicable section of the LCRB Rules to the Procurement Representative referenced in the Notice of Public Improvement Contract Opportunity.

A protest of the Solicitation Document must be received within seven (7) business days of the issuance of the Bid or within three (3) business days of issuance of an addendum.

Requests for clarification may be submitted no less than five (5) business days prior to the Bid Closing Date.

Article 15. Protest of Intent to Award

Owner will name the apparent successful Bidder in a "Notice of Intent to Award" letter. Identification of the apparent successful Bidder is procedural only and creates no right in the named Bidder to the award of the contract. Competing Bidders will be notified by publication of the Notice of Intent to Award on the OregonBuys Website of the selection of the apparent successful Bidder(s) and Bidders shall be given seven (7) calendar days from the date on the "Notice of Intent to Award" letter to review the file at the Procurement Division office and file a written protest of award, pursuant to C-049-0450. Any award protest must be in writing and must be delivered by hand delivery or mail to the Procurement Division Director at: Procurement Division, 2051 Kaen Road, Oregon City, OR 97045.

Article 16. Disclosure of First-Tier Subcontractors

Within two (2) working hours after the Bid Closing, all Bidders shall submit to the County a disclosure form identifying any first-tier subcontractors (those entities that would be contracting directly with the prime contractor) that will be furnishing labor and materials on the contract, if awarded, whose subcontract value would be equal to or greater than: (a) Five percent (5%) of the total contract price, but at least $15,000; or (b) $350,000, regardless of the percentage of the total contract price.

Disclosures may be submitted with the Bid or may be hand delivered to the Bid Closing address or emailed to procurement@clackamas.us.

Article 17. Federal, State and Local Provisions

This project is financed through Federal funds from Clackamas County Health, Housing and Human, Community Development Division. Bidders' attention is particularly directed to the following contract provisions:

17.1 Federal Labor Standards (Davis-Bacon) Prevailing Wage Rates (Is applicable for this project.) The Successful Bidder will be required to comply with Federal Labor Standards Provisions, pay laborers and mechanics not less than the Federal Davis-Bacon prevailing wage rates as determined by the Secretary of Labor, and require his/her subcontractors to comply with these provisions under Davis-Bacon Act, as amended (40 U.S.C. 276a). General Contractor and Subcontractors are required to pay the higher wage classification for workers between BOLI and Davis-Bacon.

17.2 State of Oregon (Bureau of Labor and Industries) Wage Rates (Is applicable for this

project.) The Successful Bidder will be required on various work classifications to comply with State of Oregon Wage Rates. The Successful Bidder will have to compare the Federal (Davis-Bacon) to the State (BOLI) wage rates and pay the higher of the two wage decisions. Public work contracts are subject to ORS 279C.800 to 279C.870 and the Davis-Bacon Act (40 U.S.C. 276a), no bid will be received or considered by the public contracting agency unless the bid contains a statement by the bidder as a part of its bid that the provisions of ORS 279C.800 through ORS 279C.870 or 40 U.S.C. 276a are to be complied with. This is mandated by the Secretary of Labor and the Bureau of Labor and Industries effective as of January 1, 2006. Subcontractors are to comply with these provisions.

17.3 Debarment and Oregon State Licensing Requirements, Local Contract Review Board (LCRB) Rules

The Bidder shall not propose or contract with any subcontractor or other person or organization included in the Debarred, Suspended, and Ineligible Contractors list(s). Furthermore, the Bidder shall not be listed on the State of Oregon Debarred Contractors list, and must be registered on the State of Oregon Construction Contractors Board and possess a current license number.

17.4 Equal Employment Opportunity (General Conditions, Paragraph 15.10)

The Successful Bidder will be required to comply with the provisions as stated in the General Conditions - Abbreviated Construction Contract.

17.5 Federal HUD Section 3 Requirements

The successful Bidder will be required to comply with the provisions of Section 3 of the Housing and Urban Development Act of 1968 as amended (herein referred to as Section 3 requirements). Such provisions require that economic opportunities generated by HUD financial assistance shall, to the greatest extent feasible, be given to low income residents of the metropolitan area in which the project is located and to businesses that provide economic opportunities for these persons.

Contracts exceeding $100,000 are considered "Section 3 covered contracts." Bids exceeding $100,000 must include an indication of whether or not the firm submitting the bid is a "Section 3 business concern."

A Section 3 business concern is defined by HUD regulations as a business concern:

(1) That is 51 percent or more owned by Section 3 residents; or

(2) Whose permanent, full-time employees include persons, at least 30 percent of whom are currently Section 3 residents or, within three years of the date of first employment with the business concern, were Section 3 residents; or

(3) That provides evidence of a commitment to subcontract in excess of 25 percent of the dollar award of all subcontracts to be awarded to business concerns that meet the qualifications set forth in paragraphs (1) or (2) above.

A Section 3 resident means:

(1) A public housing resident; or

(2) An individual who resides in the metropolitan area in which the Section 3 covered assistance is expended, and who is a low-income person or a very low-income person. For purposes of this project residents of the Portland/Vancouver metropolitan area who are members of families meeting the following income limits are considered low or very low income persons.

HUD 2021 Income Limits- Portland-Vancouver-Hillsboro OR-WA Area		
Household Size	Very Low Income	Low Income
1 Person	$33,850	$54,150
2 Person	$38,700	$61,900
3 Person	$43,550	$69,650
4 Person	$48,350	$77,350
5 Person	$52,250	$83,550
6 Person	$56,100	$89,750
7 person	$60,000	$95,950
8 Person	$60,800	$97,300

If applicable, the Section 3 Clause required under 24 C.F.R. § 135.38 will be incorporated into this solicitation and any contract executed between Owner and Successful Bidder.

17.6 Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity - Executive Order 11246 (General Conditions, Paragraph 15.16):

17.7 The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth in the Contract at Paragraphs 15.14 and 15.16 of the General Conditions.

17.8 The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

MINORITY GOALS AND TIMETABLES

TIMETABLE	TRADE	GOAL (Percent)
Until further notice	All	4.5

FEMALE GOALS AND TIMETABLES

TIMETABLE	GOAL (Percent)
Until further notice	6.9

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is Clackamas County, Oregon.

17.9 Certification of Nonsegregated Facilities*

By signing the Bid Proposal, the Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restroom and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which

are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

17.10 Submission of Compliance Documents

In order to document this compliance with Community Development Division requirements and Federal regulations, the Successful Bidder will be required to submit and to require his subcontractors to submit various forms and reports required by the Contract Documents, including: (a) Contract and Sub-Contract Activity Form; (b) Clackamas County Female Owned Business Form; (c) Contractor/Subcontractor Contract Agreement, whether the contractor or subcontractor is a sole proprietor, an owner performing all work on the project, a contractor with no employees, or otherwise.

17.11 Disclosure of Proposed Subcontractors

For Subcontractors that provide bids to the Contractor (i.e. General) for this project, amounts of $5,000 dollars and or greater, provide the following information to Clackamas County:

1) Company Name
2) Oregon CCB Number
3) Full Mailing Address
4) Federal Tax ID Number
5) Type of Trade Work for Project
6) Contracted Dollar Amount

Clackamas County will provide a HUD 2516 Form

17.12 Affirmative Action for Handicapped Workers (General Conditions, Paragraph 15.11)

The Successful Bidder will be required to comply with the U.S. Department of Labor Regulations prohibiting employment discrimination against and requiring affirmative action to employ mentally or physically handicapped workers.

17.13 State of Oregon Equal Employment Opportunity

The Successful Bidder will be required to comply with the requirements of ORS Chapter 659 relating to equal employment opportunity, including nondiscrimination on the basis of mental or physical

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: Clackamas Volunteers In Medicine – New Health Clinic (CD #1802)
(Oregon City, OR)

The following modify the Clackamas County "Instructions to Bidders" for this Project. Where a portion of the Instructions to Bidders has been modified by these Supplemental Instructions to Bidders, the unaltered portions shall remain in effect.

1. Submission of Bids by email: The County is requiring all bids for this project be electronically submitted. Complete Bids (including all attachments) must be received by the closing time and date ***2:00 p.m. Pacific Time, January 6, 2022***. The Bid must be emailed to the following address: acounsil@clackamas.us. The email subject line must read "**Bid for CVIM New Health Clinic**". Upon receiving of the bid, the County will send bidders an email confirmation acknowledging receipt. Bids delayed or lost by email system filtering or failures may be considered at Clackamas County's sole and absolute discretion.

   Bids will be publicly read aloud via the computer application, Zoom. Bidders will be allowed to video conference or listen by phone to the bid results. The projects Zoom meeting can be accessed via the information below:

   Join Zoom Meeting
   https://clackamascounty.zoom.us/j/84618603332?pwd=THpWdGU2L2VudlZ2QWZJUldOb1BGZz09
   Meeting ID: 846 1860 3332
   Passcode: 115415
   One tap mobile
   +12532158782,,84618603332# US (Tacoma)
   +13462487799,,84618603332# US (Houston)
   Dial by your location
   +1 253 215 8782 US (Tacoma)
   +1 346 248 7799 US (Houston)
   +1 408 638 0968 US (San Jose)
   +1 669 900 6833 US (San Jose)
   +1 312 626 6799 US (Chicago)
   +1 646 876 9923 US (New York)
   +1 301 715 8592 US (Washington DC)
   Meeting ID: 846 1860 3332
   Find your local number: https://clackamascounty.zoom.us/u/kbzQJBVTM9

   **The Apparent Low bid results will be posted to the projects OregonBuys listing as soon as possible following the bid opening.

2. The General Contractor awarded this construction contract will pay for all permit fees associated with the building. Moreover, this dollar amount is to be included in the General Contractor's Bid Proposal. The Bid Proposal has a list of specific Permit Items. The Permit Amount is: $5,716 (fees may vary from estimate).

3. **Good Faith Effort:** Clackamas County encourages participation in contracts by Historically Underrepresented Businesses. "Historically Underrepresented Businesses" are State of Oregon-certified and self-identified minority, women and emerging small business as well as firms that are certified federally or by another state or entity with substantially similar requirements as the State of Oregon.

   Bidders must perform Good Faith Effort (defined below) and submit **Form 1 and Form 2** for the Bidders Bid to be considered responsive. **Form 1 and Form 2** must be submitted within **two (2) hours** after the Closing Date and Time. Form 1 and Form 2 may be submitted by hand delivery to the location the Bid was due or may email the completed Forms to Procurement@clackamas.us. "Good Faith Effort" is a requirement of a prime contractor to reach out to at least three Historically Underrepresented Business Subcontractors for each division of work that will be subcontracted out and to complete the required forms. If fewer than three Historically Underrepresented Business Subcontractors are reasonably available for a particular division of work, the Bidder must specifically note the reason for there being fewer than three contacts. The outreach should be performed with sufficient time to give the subcontractors at least 5 calendar days to respond to the opportunity. Form 3, which documents the actual amount of subcontractors on the project, must be submitted with the project final pay application. Compliance with the Good Faith Effort and submission of Forms 1, 2 and 3 is a contractual requirement for final payment.

   The sufficiency of the documentation or the performance of Good Faith Effort shall be in the sole and absolute determination of Clackamas County. Only those Bidders that Clackamas County has determined have not sufficiently performed Good Faith Effort shall have protest rights of the determination for such Bidder. No Bidder shall have protest rights of the sufficiency of any other Bidder completing Good Faith Effort.

CLACKAMAS COUNTY
GOOD FAITH EFFORT
SUBCONTRACTOR AND SELF-PERFORMED WORK LIST
(FORM 1)

Prime Contractor Name: Petra Design Build **Total Contract Amount:**

Project Name: Clackamas Volunteers In Medicine, New Health Clinic Project / Oregon City, OR (CD# 1802)

PRIME SELF-PERFORMING: Identify below **ALL** GFE Divisions of Work (DOW) to be self-performed. Good Faith Efforts are otherwise required.	
DOW BIDDER WILL SELF-PERFORM *(GFE not required)*	

PRIME CONTRACTOR SHALL DISCLOSE AND LIST ALL SUBCONTRACTORS, including those Minority-owned, Woman-owned, and Emerging Small Businesses ("M/W/ESB") that you intend to use on the project. Hand delivery to Procurement, 2051 Kaen Road, Oregon City, OR 97045 or email to procurement@clackamas.us within 2 hours of the BID/Quote Closing Date/Time

LIST ALL SUBCONTRACTORS BELOW Use **correct legal name** of Subcontractor (No Assumed Business Names)	**Division of Work** (Painting, electrical, landscaping, etc.) List **ALL** DOW performed by Subcontractors	**DOLLAR AMOUNT OF SUBCONTRACT**	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box ☑		
			MBE	WBE	ESB
Name Renko **Address** Po Box 1812 **City/St/Zip** Clackamas OR. **Phone#** **OCCB#** 208375	Demo/ Frame, Ceiling Interior finishes	42K	☐	☐	☑
Name Infinity Plumbing **Address** **City/St/Zip** **Phone#** **OCCB#** 224588	plumbing	110K	☐	☐	☐
Name River City NW **Address** **City/St/Zip** **Phone#** **OCCB#** 199619.	HVAC	101K	☐	☐	☐
Name Cash's Drapery. **Address** **City/St/Zip** **Phone#** **OCCB#** 95841	Drapery.	4800	☐	☐	☐

GFE SUBCONTRACTOR AND SELF-PERFORMED WORK LIST (FORM 1) cont'd

Prime Contractor Name: **Total Contract Amount:**

Project Name: Clackamas Volunteers In Medicine - New Health Clinic Oregon City, OR (CD# 1802)

LIST ALL SUBCONTRACTORS BELOW Use **correct legal name** of Subcontractor (No Assumed Business Names)	**Division of Work** (Painting, electrical, landscaping, etc.) List **ALL** DOW performed by Subcontractors	**DOLLAR AMOUNT OF SUBCONTRACT**	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box ✓		
			MBE	WBE	ESB
Name DF Construction **Address** **City/St/Zip** **Phone#** **OCCB#** 171029.	Flooring	54K	☑	☐	☐
Name Insulation contractors. **Address** **City/St/Zip** **Phone#** **OCCB#** 233334	Insulation	4K	☐	☐	☐
Name Jet Fire protection **Address** **City/St/Zip** **Phone#** **OCCB#** 3944.	Sprinkler.	32K	☐	☐	☐
Name Salem Fire Alarm **Address** **City/St/Zip** **Phone#** **OCCB#** 76884	Fire Alarm	14K.	☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name Ambrose Glass **Address** **City/St/Zip** **Phone#** **OCCB#** 179126	3,578	3500	☐	☐	☐
Name NBH **Address** **City/St/Zip** **Phone#** **OCCB#**	openings.	58K	☐	☐	☐

CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)

Prime Contractor: Petra Design Build, LLC
Project: Clackamas Volunteers In Medicine – New Health Clinic Project (CD #1802)

Prime Contractor must contact or endeavor to contact at least 3 M/W/ESB Subcontractors for each Division of Work. Prime Contractor shall record its contacts with M/W/ESB Subcontractors thr required information. All columns shall be completed where applicable. Additional forms may be copied if needed.

NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Sollicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)	
			Date of Call	Person Receiving Call	Will Bid?	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Ot Other, explain in N
Affordable Electric	Electric		01/03/22	Jean	☐ Yes ☑ No ?	☐ Yes ☐ No	☐ Yes ☐ No		
ARock Tech	Low Voltage		01/03/22	Mike	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No		
JBM Plumbing	plumbing		01/03/22	John.	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No		
Andersen Heating	HVAC		01/03/22	Art	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No		
Renko	Demo		01/03/22	Alex	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No		
Ceja's Commercial	Light framing		01/03/22	Jose.	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No		
Azuri	Paint		01/03/22	Jose	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No		

CLACKAMAS COUNTY
GOOD FAITH EFFORT
PROJECT COMPLETION REPORT
(FORM 3)

Prime Contractor Name: **Total Contract Amount:**

Project Name: Clackamas Volunteers In Medicine – New Health Clinic Project (CD# 1802)

Complete this form and submit with your request for final payment upon the project completion. Please list all subcontractors used for the project. Use additional sheets as necessary.

LIST ALL SUBCONTRACTORS BELOW Use **correct legal name** of Subcontractor (No Assumed Business Names)	**Division of Work** (Painting, electrical, landscaping, etc.) List **ALL** DOW performed by Subcontractors	**FINAL DOLLAR AMOUNT OF SUBCONTRACT**	If Certified or self-reported MBE/WBE/ESB Subcontractor Check box ☑		
			MBE	WBE	ESB
Name Cascade Casework **Address** **City/St/Zip** **Phone#** **OCCB#** 198115	Casework Countertop	81K	☐	☐	☐
Name Bridgetown Elec. **Address** **City/St/Zip** **Phone#** **OCCB#** 103824.		220K	☐	☐	☐
Name ARock Tech. **Address** **City/St/Zip** **Phone#** **OCCB#** 227559.	Communications Low Voltage	24K	☑	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐

BY SIGNING BELOW, I HEREBY CERTIFY THAT THE ABOVE LISTED FIRMS HAVE BEEN UTILIZED BY OUR COMPANY IN THE AMOUNTS REPRESENTED ABOVE AND THAT THE INFORMATION CONTAINED HEREIN IS COMPLETE AND ACCURATE. .

Authorized Signature of Contractor Representative

01/06/22
Date

CLACKAMAS COUNTY

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: Clackamas Volunteers In Medicine – New Health Clinic Project
(CD #1802)

We, PETRA DESIGN BUILD, LLC, as "Principal,"
(Name of Principal)

and SURETEC INSURANCE COMPANY, an TEXAS Corporation,
(Name of Surety)

authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto Clackamas County ("Obligee") the sum of ($ **(10%)**)

NOT TO EXCEED TEN PERCENT OF AMOUNT BID**** dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No.) for the project identified above which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document.

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this 6th day of DECEMBER, 20 21.

Principal: PETRA DESIGN BUILD, LLC

By: _____
Signature

Managing Member
Official Capacity

Attest: _____
Corporation Secretary

Surety: SURETEC INSURANCE COMPANY

Michelle Bench
By: Attorney-In-Fact

MICHELLE BENCH
Name

2103 CITY WEST BLVD STE 1300
Address

HOUSTON | TX | 77042
City | State | Zip

541-741-0550 | 541-741-1674
Phone | Fax

POA# 3710043

JOINT LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That SureTec Insurance Company, a Corporation duly organized and existing under the laws of the State of Texas and having its principal office in the County of Harris, Texas and Markel Insurance Company (the "Company"), a corporation duly organized and existing under the laws of the state of Illinois, and having its principal administrative office in Glen Allen, Virginia, does by these presents make, constitute and appoint:

Michelle Bench, Robin Baird, Kyle Hudson, Keith Yam, Ken Price, William Kaufmann

Their true and lawful agent(s) and attorney(s)-in-fact, each in their separate capacity if more than one is named above, to make, execute, seal and deliver for and on their own behalf, individually as a surety or jointly, as co-sureties, and as their act and deed any and all bonds and other undertaking in suretyship provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

Fifty Million and 00/100 Dollars ($50,000,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolutions adopted by the Board of Directors of SureTec Insurance Company and Markel Insurance Company:

"RESOLVED, That the President, any Senior Vice President, Vice President, Assistant Vice President, Secretary, Assistant Secretary, Treasurer or Assistant Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the SureTec Insurance Company and Markel Insurance Company, as the case may be, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, Markel Insurance Company and SureTec Insurance Company have caused their official seal to be hereunto affixed and these presents to be signed by their duly authorized officers on the 3rd day of September , 2021 .

SureTec Insurance Company

By: _____
Michael C. Keimig, President

Markel Insurance Company

By: _____
Lindey Jennings, Vice President

State of Texas
County of Harris:

On this 3rd day of September , 2021 A. D., before me, a Notary Public of the State of Texas, in and for the County of Harris, duly commissioned and qualified, came THE ABOVE OFFICERS OF THE COMPANIES, to me personally known to be the individuals and officers described in, who executed the preceding instrument, and they acknowledged the execution of same, and being by me duly sworn, disposed and said that they are the officers of the said companies aforesaid, and that the seals affixed to the proceeding instrument are the Corporate Seals of said Companies, and the said Corporate Seals and their signatures as officers were duly affixed and subscribed to the said instrument by the authority and direction of the said companies, and that Resolutions adopted by the Board of Directors of said Companies referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the County of Harris, the day and year first above written.

XENIA CHAVEZ
Notary Public, State of Texas
Notary ID# 12911765-9
My Commission Expires
SEPTEMBER 10, 2024

By: _____
Xenia Chavez, Notary Public
My commission expires 9/10/2024

We, the undersigned Officers of SureTec Insurance Company and Markel Insurance Company do herby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, we have hereunto set our hands, and affixed the Seals of said Companies, on the 6TH day of DECEMBER , 2021 .

SureTec Insurance Company

By: _____
M. Brent Beaty, Assistant Secretary

Markel Insurance Company

By: _____
Andrew Marquis, Assistant Secretary

Any Instrument issued in excess of the penalty stated above is totally void and without any validity. 3710043
For verification of the authority of this Power you may call (713)812-0900 on any business day between 8:30 AM and 5:00 PM CST.

**We are advised that Material prices are only good for 20 - 30 days and there will be a definite delays on availability and supply lead time.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: Clackamas Volunteers In Medicine – New Health Clinic Project Project (CD #1802)
BID CLOSING: January 6, 2022, 2:00 PM, Pacific Time
BID OPENING: January 6, 2022, 2:05 PM, Pacific Time

FROM: Petra Design Build, LLC
Bidder's Name (must be full legal name, not ABN/DBA)

EMAIL: Amy Counsil, Project Manager, acounsil@clackamas.us

1. Bidder is (*check one of the following and insert information requested*):

____a. An individual; or

____b. A partnership registered under the laws of the State of _____; or

____c. A corporation organized under the laws of the State of _____; or

✓ d. A limited liability corporation organized under the laws of the State of Oregon;

and authorized to do business in the State of Oregon hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Project Basic Bid Schedule, see Page 2:

One million one hundred twenty three thousand Dollars ($1,123,000.00)

and the Undersigned agrees to be bound by the following documents:

- Notice of Public Improvement Contract Opportunity
- Instructions to Bidders
- Bid Bond
- Public Improvement Contract Form
- Clackamas County General Conditions
- Prevailing Wage Rates
- Plans, Specifications and Drawings
- Supplemental Instructions to Bidders
- Bid Form
- Performance Bond and Payment Bond
- Supplemental General Conditions
- Payroll and Certified Statement Form

- ADDENDA numbered ___1____ through___3____, inclusive *(fill in blanks)*

Clackamas Volunteers In Medicine & Clackamas County
New Health Clinic Project

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications: **N/A.**

3. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items or work relating to the following Unit Price(s) as designated in the Specifications, for which any adjustments in the Contract amount will be made in accordance with Section D of the Clackamas County General Conditions: **Provide attached Bid Schedule with Bid.**

Bid Schedule

Item No.	Description	Quantity	Unit	Unit Price	Total
Div 000-001	General Requirements - Mobilization/Procurement/Contracting	All	LS		143,000
Div 002	Existing Conditions/Demolition	All	LS		42,000
Div 005	Metals	All	LS		98,000
Div 006	* Div. 12 Countertops included Woods, Plastics, and Composites	All	LS		81,000
Div 007	Thermal And Moisture Protection	All	LS		14,500
Div 008	Openings	All	LS		58,000
Div 009	Finishes	All	LS		132,000
Div 010	Specialties	All	LS		8700.00
Div 012	Furnishings	All	LS		4800.00
Div 013	Special Construction	All	LS		19,000
Div 021	Fire Suppression (see MEP basis of design)	All	LS		32,000
Div 022	Plumbing (see MEP basis of design)	All	LS		110,000
Div 023	HVAC (see MEP basis of design)	All	LS		101,000
Div 026	Electrical (see MEP basis of design)	All	LS		220,000
Div 027	Communications (see MEP basis of design)	All	LS		24,000

Div 028	Electronic Safety and Security (see MEP basis of design)	All	LS		35,000
				Base Bid:	1,123,000
	Alternatives **Provide a "Net Add" Cost Estimate for Each Alternative Below**				
Div 023	**Alternative M1**: Rooftop Heat Pump Small Packaged Units				106,000
Div 023	**Alternative M2:** LG Split RTU Heat Pumps for Multi V5 Heat Recovery System				138,000
Div 023	**Alternative M3**: LG VRF Heat Recovery System with DOAS Ventilation Unit M3 Alt. price is included in th M2 Alt. M3 is required if Alt. M2 is selected.				Price included in Alt. M2
Div 008	**Alternative**: Keyed Doors * See note below				

*The specified locks already come with final lock cores, it is usually the owner's locks Dept. to resolve the final keys.

4. The work shall be completed within the time stipulated and specified in the Clackamas County Public Works Improvements, Contract Form B-6 item 4. Contract Dates, page 2.

5. Accompanying herewith is Bid Security which is equal to ten percent (10%) of the total amount of the Basic Bid, plus the total sum of all Alternatives (if any).

6. The Undersigned agrees, if awarded the Contract, to execute and deliver to Clackamas County, within twenty (20) calendar days after receiving the Contract forms, a Contract Form, and a satisfactory Performance Bond and Payment Bond each in an amount equal to one hundred percent (100%) of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

SureTec_____.

(name of surety company - not insurance agency)

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

7. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with Clackamas County; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Contract Form, Performance Bond and Payment Bond, each as published, and that if the Undersigned defaults in either executing the Contract Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract forms, then the Bid Security shall become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Contract Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

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

9. The undersigned ☑ **HAS,** ☐ **HAS NOT** (*check one*) paid unemployment or income taxes in Oregon within the past 12 months and ☑ **DOES,** ☐ **DOES NOT** (*check one*) a business address in Oregon. The undersigned acknowledges that, if the selected bidder, that the undersigned will have to pay all applicable taxes and register to do business in the State of Oregon before executing the Contract Form.

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

11. Contractor's CCB registration number is 235866. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

12. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the contract.

13. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is Travelers Properties and Casulties, Policy No. 1K612042, and that Contractor shall submit Certificates of Insurance as required.

14. Contractor's Key Individuals for this project (supply information as applicable):

Project Executive: Eli Kimmel, Cell Phone: 503.858.9437,
Project Manager: Eli Kimmel / Devin Millard, Cell Phone: 503.858.9437,
Job Superintendent: _____, Cell Phone: _____,
Project Engineer: _____, Cell Phone: _____.

15. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

16. The Undersigned certifies that it has a drug testing program in accordance with ORS 279C.505.

REMINDER: Bidder must submit the below First-Tier Subcontractor Disclosure Form.

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

NAME OF FIRM Petra Design Build, LLC

ADDRESS 29030 SW Town Center Loop E. Suite 202

Wilsonville, OR 97070

TELEPHONE NO 5038589437

EMAIL eli@petradesignbuild.com

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) _____
Authorized Officer or Employee of Corporation

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

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: CLACKAMAS VOLUNTEERS IN MEDICINE – NEW HEALTH CLINIC
(CD #1802)

BID OPENING: January 6, 2022, Thursday, 2:00 PM (Pacific Time)

Failure to submit this Form by the disclosure deadline will result in a nonresponsive bid.

INSTRUCTIONS:

This First-Tier Subcontractor Disclosure Form ("Form") must be submitted and received at the location specified in the Notice of Public Improvement Contract Opportunity on the advertised Bid Closing, and within two working hours after the advertised Bid Closing Time.

The Form may be mailed, hand-delivered or emailed to: acounsil@clackamas.us It is the responsibility of Bidders to submit this Form and any additional sheets with the Project name clearly marked on the envelope or the subject line of the email.

Subcontractor lists may be submitted with the bid in the same envelope or email at the Bid Closing date and time. Subcontractor lists **MUST** be submitted within **two (2) hours** of the Bid Closing date and time.

List below the name of each subcontractor that will be furnishing labor, or labor and materials, for which disclosure is required, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter **"NONE"** if the value of the project bid is less than $100,000 or there are no subcontractors that need to be disclosed. ATTACH ADDITIONAL SHEETS IF NECESSARY.

	SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
1.	River City NW	101,000	HVAC
2.	Infinity Plumbing	110,000	Plumbing
3.	BridgeTown Electric	220,000	Electric
4.			
5.			
6.			

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

a) 5% of the total Contract Price, but at least $15,000. If the Dollar Value is less than $15,000 do not list the subcontractor above; or
b) $350,000 regardless of the percentage of the total Contract Price.

Firm Name: Petra Design Build, LLC

Bidder Signature: _____ Phone # 5038589437

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
SUPPLEMENTAL GENERAL CONDITIONS

PROJECT: Clackamas Volunteers In Medicine – New Health Clinic (CD #1802)
(Oregon City, OR)

The following modifies the October 13, 2021 Clackamas County General Conditions for Public Improvement Contracts ("County General Conditions") for this Contract. Except as modified below, all other terms and conditions of the County General Conditions shall remain in effect.

SC – 1: Permits
Section B.4-Permits of the County General Conditions is hereby deleted in it is entirety and replaced with the following:

B.4 PERMITS

The General Contractor awarded this construction contract will pay for all permit fees associated with the building. Moreover, this dollar amount is to be included in the General Contractor's Bid Proposal. The Bid Schedule has a line item for permits costs.

SC – 2: Liquidated Damages
The following sections are added to Section D.2 - Delays:

D.2.3 **DAMAGES FOR DELAY – LIQUIDATED DAMAGES**

(a) It is imperative that the Work in this Contract reach Substantial Completion, **90 days from issuance from Notice to Proceed, Estimated to be January/February 2022,** and as further required in the Plans and Specifications and Section 13 of the Contract to be completed by May 31, 2022. Time will be of the essence to open the new building for operation of a new clinic, therefore the Owner requires the firm deadline. The Contractor represents and agrees that the Substantial Completion date is reasonable, that it can meet the Substantial Completion date, and it has taken into account in its Offer the requirements of the Contract Documents, the location, the time allowed for the Work, local conditions, weather, availability of materials, equipment, and labor, and any other factor which may affect performance of the Work.

Below is a matrix for Project Contract Amounts regarding Liquidated Damages provide to the Contractor by the Owner, please review carefully:

Levels:	Project Contract Amounts:	Liquidated Damages Amounts:
One	$100,000+ to $999,999 dollars	$750 dollars per day
Two	$1 Million to $2.5 Million dollars	$1,000 dollars per day
Three	$2.5+ to $4.5 Million dollars	1,250 dollars per day
Five	$4.5+ to $7.5 Million dollars	$1,500 dollars per day

(b) If the Contactor fails to achieve Substantial Completion as specified above, then the Contractor and Owner agree that it would be extremely difficult to ascertain the damages incurred by Owner for the Contractor's failure. Therefore, Owner and the Contractor agree that in lieu of actual damages for delay, the Contractor shall reimburse Owner a stipulated sum of $1,000 per calendar day beyond the Substantial Completion Date. The Contractor further agrees the stipulated sum is not a penalty.

Likewise, if the Work does not reach Final Completion defined in Section 4 of the Contract, then the Contractor shall owe to the Owner, not as a penalty but as liquidated damages, the sum of one thousand dollars ($1,000.00) per day for each and every calendar day of delay until Final Completion.

SC – 3: Good Faith Effort

As a condition of Contractor being awarded a Contract for this Project, Contractor must complete Good Faith Effort outreach and documentation as described in the Supplemental Instructions to Bidders of the Solicitation Document.

The Contractor may not change who is performing each Division of Work identified in Form 1 of the Good Faith Effort without the express written advance approval of Owner. This includes substituting identified subcontractors, self-performance of a Division of Work that was identified to be performed by a subcontractor, or the Contractor subcontracting a Division of Work that was identified to be self-performed by the Contractor.

Contractor shall be required to submit the completed Form 3 with its final pay application as a condition of final payment.

CLACKAMAS COUNTY GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS
October 13, 2021

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

TABLE OF SECTIONS

CLACKAMAS COUNTY GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS ("County General Conditions")

SECTION A
GENERAL PROVISIONS

A.1 DEFINITION OF TERMS

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

APPLICABLE LAWS, means all federal, state and local laws, codes, rules, regulations and ordinances, as amended applicable to the Work, to the Contract, or to the parties individually.

APPROVED BY CONTRACTING AGENCY, for purposes of ORS 279C.570(2), means the date a progress payment is approved by the Clackamas County Treasurer's office.

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

AVOIDABLE DELAYS, mean any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that: (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors; (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work nor the completion of the whole Work within the Contract Time; (c) Do not impact activities on the accepted critical path schedule; and (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

BIDDER, means a bidder in connection with Instructions to Bidders or a proposer in connection with a Request for Proposals, or Solicitation Document. May also be referenced as "Offeror," "Quoter" or "Proposer" based on the type of Solicitation Document.

CHANGE ORDER, means a written order which, when fully executed by the Parties to the Contract, constitutes a change to the Contract Documents. Change Orders shall be issued in accordance with the changes provisions in Section D and, if applicable, establish a Contract Price or Contract Time adjustment. A Change Order shall not be effective until executed by both parties.

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

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

CONTRACT DOCUMENTS, means the Contract, County General Conditions, Supplemental General Conditions if any, Plans, Specifications, the accepted Offer, Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors.

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

CONTRACT PRICE, means the total price reflected in the Contract.

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

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

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

DEFECTIVE WORK, means Work that is not completed in accordance with the Specifications or the requirements of the Contract.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents: the cost of materials, including sales tax and the cost of delivery; cost of labor which shall only include the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee) rate plus a maximum of a twelve percent (12%) markup on the prevailing wage (but not the fringe benefit) to cover Contractor's labor burden including but not limited to social security, Medicare, unemployment insurance, workers' compensation insurance, sick leave pay; substantiated Project cost increases for specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater) or bond premiums; rental cost of equipment, and machinery required for execution of the Work; and the additional costs of field personnel directly attributable to the Work; travel expense reimbursement only if specifically authorized and only to the extent allowable under the County Contractor Travel Reimbursement Policy, hereby incorporated by reference.

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

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

NOTICE TO PROCEED, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents.

OFFER, means a bid in connection with Instructions to Bidders or a proposal in connection with a Request for Proposals, or Solicitation Document to do the work stated in the Solicitation Document at the price quoted. May also be referenced as "Bid," "Quote," or "Proposal" based on the type of Solicitation Document.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), labor rates and fringe benefits above the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee), Contractor's labor burden for fringe benefit if paid to the employee, expenses of Contractor's offices and supplies at the Project Site (e.g. job trailer) and at Contractor's principal place of business and including expenses of personnel staffing the Project Site office and Contractor's principal place of business, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means, Clackamas County or any component unit thereof including Clackamas County Development Agency, Clackamas County Service District No. 1, Surface Water Management Agency of Clackamas County, Tri-City Service District, Water Environment Services, North Clackamas Parks and Recreation District, Clackamas County Extension & 4-H Service District, Library Service District of Clackamas County, Enhanced Law Enforcement District, and Clackamas County Service District No. 5. Owner may elect, by written notice to Contractor, to delegate certain duties to more than one agent, including without limitation, to an Architect/Engineer. However, nothing in these County General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

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

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

PRODUCT DATA, means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

PROJECT, means the total undertaking to be accomplished for Owner by architects/engineers, contractors, and other others, including planning, study, design, construction, testing, commissioning, start-up, of which the Work to be performed under the Contract Documents is a part.

PROJECT SITE, means the specific real property on which the Work is to be performed, including designated contiguous staging areas, that is identified in the Plans, Specifications and Drawings.

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

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

SAMPLES, means physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SHOP DRAWINGS, means drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any subsubcontractor), manufacturer, supplier, or distributor to illustrate some portion of the Work.

SOLICITATION DOCUMENT, means an Invitation to Bid, Request for Proposals, Request for Quotes, or other written document issued by Owner that outlines the required Specifications necessary to submit an Offer.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item included in the Solicitation Document. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the Work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

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

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

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Substitutions also means the performance of the Work by a labor force other than what is submitted in the Offer.

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

UNAVOIDABLE DELAYS, mean delays other than Avoidable Delays that are: (a) to the extent caused by any actions of the Owner, or any other employee or agent of the Owner, or by a separate contractor employed by the Owner; (b) to the extent caused by any Project Site conditions which differ materially from the conditions that would normally be expected to exist and inherent to the construction activities defined in the Contract Documents; or (c) to the extent caused by Force Majeure acts, or events or occurrences.

WORK, means the furnishing of all materials, equipment, labor, transportation, services, incidentals, those permits and regulatory approvals not provided by the owner necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents for the Project.

A.2 SCOPE OF WORK

The Work contemplated under the Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all work in connection with the Project described in the Contract Documents. The Contractor shall perform all Work necessary so that the Project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

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

(a) The Contract and any amendments thereto, including Change Orders, with those of later date having precedence over those of an earlier date;
(b) The Supplemental General Conditions;
(c) County General Conditions;
(d) Plans and Specifications;
(e) The Solicitation Document, and any addenda thereto.

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

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

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

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND PROJECT SITE

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

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

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

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

A.4.5 If the Contractor believes that adjustments to cost or Contract Time are involved because of an Unavoidable Delay caused by differing Project Site conditions, the Contractor shall notify the Owner immediately of differing Project Site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the Owner agrees that a differing Project Site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.2.2 for adjustments to or deletions from Work. If the Owner disagrees that a differing Project Site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

A.5 INDEPENDENT CONTRACTOR STATUS

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

A.6 RETIREMENT SYSTEM STATUS AND TAXES

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

A.7 GOVERNMENT EMPLOYMENT STATUS

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

SECTION B
ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

B.1.1 The Owner shall administer the Contract as described in the Contract Documents throughout the term of the Contract, including the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other agents to perform some or all of these tasks.

B.1.2 The Owner may visit the Project Site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not

make exhaustive or continuous on-Project Site inspections to check the quality or quantity of the Work. Unless otherwise required in a Change Order, the Owner will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.

B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other within a reasonable time frame about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

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

B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the Project Site safety thereof and, except as stated below, shall be fully and solely responsible for the Project Site safety of such means, methods, techniques, sequences or procedures.

B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the Project, including those caused by authorized changes, which may affect cost, schedule, or quality.

B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, agents, and Subcontractors on the Project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.3 MATERIALS AND WORKMANSHIP

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

B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's sole expense and within a reasonable time frame.

B.3.3 Work done and materials furnished may be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.

B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.

B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits, licenses and fees, except for those specifically excluded in the Supplemental General Conditions, as required for the project. Contractor shall be responsible for all violations of the law. Contractor shall give all requisite notices to public authorities.

B.5 COMPLIANCE WITH GOVERNMENT REGULATIONS

B.5.1 Contractor shall comply with Applicable Laws, as amended pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable and as may be amended from time to time: (i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended; (vi) all regulations and administrative rules established pursuant to any applicable laws; and (vii) all other applicable requirements of federal, state, county or other local government entity statutes, rules and regulations.

B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and

(a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.

(b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or the Contract when performing the Work.

B.5.3 Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.021 at the time they submit their bids to the Contractor.

B.5.4 Contractor shall certify that each landscape contracting business, as defined in ORS 671.520(2), performing Work under the Contract holds a valid landscape construction professional license issued pursuant to ORS 671.560.

B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (877) 668-4001.

B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a material breach of Contract and constitute

grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.5.7 The Contractor shall include in each subcontract those provisions required under ORS 279C.580.

B.5.8 Contractor shall comply with ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

B.6 SUPERINTENDENCE

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

B.7 INSPECTION

B.7.1 Owner shall have access to the Work at all times.

B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents in the Owner's sole discretion. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner, shall be removed and replaced at the Contractor's expense.

B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.

B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.

B.7.5 If directed to do so by Owner or other permitting authority any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner, the uncovering and restoration will be paid for pursuant to a Change Order.

B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.

B.7.7 In Owner's sole discretion, it may authorize other interested parties to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

B.8 SUBCONTRACTS AND ASSIGNMENT

B.8.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these General Conditions and Supplemental General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.8.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

B.8.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under the Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of the Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.9 OWNER'S RIGHT TO DO WORK

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

B.10 OTHER CONTRACTS

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

B.11 ALLOWANCES

B.11.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances

shall be supplied for such amounts and by such persons or entities as the Owner may direct.

B.11.2 Unless otherwise provided in the Contract Documents:

(a) when finally reconciled, allowances shall cover the cost of the Contractor's materials and equipment delivered at the Project Site and all required taxes, less applicable trade discounts;

(b) Contractor's costs for unloading and handling at the Project Site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;

(c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (ii) changes in Contractor's costs under Section B.17.2(b);

(d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

B.12 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

B.12.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples.

B.12.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.

B.12.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.

B.12.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

B.12.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.

B.12.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.

B.12.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the Project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

B.13 SUBSTITUTIONS

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

B.14 USE OF PLANS AND SPECIFICATIONS

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

SECTION C
WAGES AND LABOR

C.1 PREVAILING WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Pursuant to ORS 279C.830(1)(d), Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts. If the Work is subject to both the state prevailing wage rate law and the federal Davis-Bacon Act, Contractor shall pay the higher of the applicable state or federal prevailing rate of wage. Contractor shall provide written notice to all workers of the number of hours per day and days per week such workers may be required to work.

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner on the form prescribed by the Commissioner of the Bureau of Labor and Industries ("BOLI"), certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the Project and further certifying that no worker employed on the Project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the Project shall be submitted once a month, by the fifth (5^{th}) business day of the following month. The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

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

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

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

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

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

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

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

C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

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

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

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

C.3.4 If the Contractor or a first-tier subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the Contract within 30 days after receiving payment from the contracting agency or a contractor, the Contractor or first-tier subcontractor owes the person the amount due plus interest charges that begin at the end of the 10-day period within which payment is due under ORS 279C.580 (4) and that end upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest on the amount due is nine percent per annum. The amount of interest may not be waived.

C.3.5 If the Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with the 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.

C.3.6 All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements.

C.3.7 In accordance with ORS 279C.570, for all subcontracts that exceed $500,000 that the Contractor withholds retainage, the Contractor shall place amounts deducted as retainage into an interest-bearing escrow account. Interest on the retainage amount accrues from the

date the payment request is approved until the date the retainage is paid to the Subcontractor to which it is due.

C.4 PAYMENT FOR MEDICAL CARE

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

C.5 HOURS OF LABOR

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

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

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

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

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

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

SECTION D
CHANGES IN THE WORK

D.1 CHANGES IN WORK

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

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

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

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

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

(a) Unit Pricing: Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.

(b) Fixed Fee: If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing, the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in Section D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.

(c) Time and Material: In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. The Contractor or Subcontractor who performs the Work shall be allowed to add up to ten percent (10%) markup to the Direct Costs as full compensation for profit, Overhead and other indirect costs for Work performed with the Contractor's or Subcontractor's own agents

Each ascending tier Subcontractor or the Contractor that did not perform the Work, will be allowed to add up to five percent (5%) supplemental markup on the Direct Costs of the Work (but not the above allowable markups) covered by a Change Order. No additional markup shall be permitted for any third tier or greater descending Subcontractor.

Example: $20,000 of Direct Costs Work performed by a 2nd Tier Subcontractor

	Markup	Allowed Total Fee Plus Markup
General Contractor	5%	$1,000.00
1st Tier Sub Contractor	5%	$1,000.00
2nd Tier Sub Contractor	10%	$22,000.00

(d) Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other agents furnished by the Contractor, including Subcontractors, for adjustments to or deletions from the Work pursuant to a Change Order. Owner may establish a maximum cost for additional Work under this Section D.1.3, which shall not be exceeded for reimbursement without additional written

authorization from Owner in the form of a Change Order. Contractor shall not be required to complete such additional Work without additional authorization.

D.1.4 Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment.

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

D.1.5 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of any other part of the Work under the Contract, Contractor shall submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner's request for adjustments to or deletions from the Work by Contractor.

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

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

D.1.6 No request or Claim by the Contractor for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of final payment application under the Contract. Final payment application must be made by Contractor within the time required under Section E.6.4.

D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor agrees that it will work in good faith with Owner to undertake changes, when agreed upon by execution of a Change Order. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

D.2.1 Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.2.2 In the event of Unavoidable Delays, Contractor may be entitled to the following:

(a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).

(b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.2 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing Project Site conditions for which a review process is established under Section A.4.5, Contractor shall submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the Project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

If Contractor does not timely submit the notices required under this Section D.2, Contractor's Claim shall be barred.

D.3 CLAIMS REVIEW PROCESS

D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these County General Conditions. Within thirty (30) Days after the initial Claim, Owner shall receive from Contractor a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim is made in accordance with these time requirements, it shall be barred.

D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include all information, records and documentation necessary for the Owner to properly and completely evaluate the claim, including, but not limited to a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to the Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.

D.3.3 The Owner, through the Architect/Engineer (or other employee or agent assigned by the Owner) will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) recommend approval of all or part of the Claim; (5) arrange a meeting with the Contractor for formal review of the Claim; or (6) propose an alternate resolution.

D.3.4 Once the Engineer or Project Manager determines the Owner is in receipt of a properly submitted claim, the Engineer or Project Manager may arrange a meeting, as agreed by the parties, with the Contractor in order to present the claim for formal review and discussion. A person authorized by the Contractor to execute Change Orders on behalf of the Contractor must be present and attend all claim meetings.

D.3.5 The Owner's decision, through the Architect/Engineer (or other employee or agent assigned by the Owner), shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner, through the appropriate department director, shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

D.3.6 If, at any step in the claim decision or review process, the Contractor fails to promptly submit requested information or documentation that the Owner deems necessary to analyze the claim, the Contractor is deemed to have waived its right to further review, and the Claim will not be considered properly filed and preserved.

D.3.7 Both parties agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the issuance of the appeal in Section D. 3.4 above. If the parties are unable to resolve their issues through mediation or otherwise, either party may seek redress through all available remedies in equity or in law.

D.3.8 Unless otherwise directed by Owner, Contractor shall proceed with the Work while any Claim, or mediation or litigation arising from a Claim, is pending. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease or delay Work, in whole or in part, without a written stop work order from the Owner.

SECTION E
PAYMENTS

E.1 SCHEDULE OF VALUES

The Contractor shall submit, by or before the pre-construction conference (as described in Section H.1.3), a schedule of values ("Schedule of Values") for the Contract Work. This schedule shall provide a breakdown of values for the Contract Work and will be the basis for progress payments. The breakdown shall demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by the Owner, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner, Contractor shall revise the schedule of values and resubmit the same for approval of Owner.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses, in accordance with the requirements of this Section E.2 and ORS 279C.570. Applications for payment shall be based upon estimates of Work completed and the Schedule of Values. As a condition precedent to Owner's obligation to pay, all applications for payment shall be approved by the Owner. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest in accordance with ORS 279C.570 for overdue invoices, not including retainage, due the Contractor. Overdue invoices will be those that have not been paid within the earlier of:

(a) Thirty (30) days after receipt of the invoice; or

(b) Fifteen (15) days after the payment is approved by the County.

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

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

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

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

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

Signed: _____
Dated: _____"

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

(a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.

(b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.

(c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.

(d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.

(e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the Project Site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.

(f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material and/or equipment stored and of payment for the storage site.

(g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under the Contract for the rejection of the Work or materials and/or equipment not in conformance with the Contract Documents.

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

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

(a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents;

(b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;

(c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2);

(d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

(e) damage to the Work, Owner or Owner's agent;

(f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

(g) failure to carry out the Work in accordance with the Contract Documents; or

(h) assessment of liquidated damages, when withholding is made for offset purposes.

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

(a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by a Change Order;

(b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the Project Site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the Project Site at a location agreed upon in writing), less retainage as provided in Section E.5;

(c) Subtract the aggregate of previous payments made by the Owner; and

(d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

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

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

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

E.3 PAYROLL CERTIFICATION REQUIREMENT

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

E.4 DUAL PAYMENT SOURCES

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

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in Local Contract Review Board Rules or the applicable County standard.

E.5.1.1 Owner may reserve as retainage from any progress payment an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of retainage on or may eliminate retainage on any remaining monthly Contract payments after fifty (50) percent of the Work under the Contract is completed if, in the Owner's discretion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is ninety-seven and a half percent (97.5%) completed in Owner's estimation, the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to hundred (100) percent of the value of the Work remaining to be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 If retainage is withheld, unless the Contractor requests and the Owner accepts a form of retainage described in options (a) or (b) below, the Owner (except as otherwise provided below for a contract of $500,000 or less), will deposit the retainage in an interest-bearing escrow account as required by ORS 279C.570(2). The Contractor shall execute such documentation and instructions respecting the interest-bearing escrow account as the Owner may require to protect its interests, including but not limited to a provision that no funds may be paid from the account to anyone without the Owner's advance written authorization. For a Contract over $500,000, if the Contractor requests that the Owner deposit the retainage in an interest-bearing account under ORS 279C.560(5), the Owner will use an interest-bearing escrow account as stated above. For a Contract of $500,000 or less, if the Contractor requests that the Owner deposit the retainage in an interest-bearing account under ORS 279C.560(5), the Owner will use an interest-bearing account (in a bank, savings bank, trust company or savings association) as provided under ORS 279C.450(5).

In accordance with the provisions of ORS 279C.560, Local Contract Review Board Rules, or the applicable County standard, unless the Owner finds in writing that accepting bonds, securities or other instruments described in option (a) below or a security bond described in option (b) below poses an extraordinary risk that is not typically associated with the bond, security or instrument, the Owner will approve the Contractor's written request:

a. to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds, securities or other instruments of equal value with Owner or in a custodial account or other mutually-agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner. Interest or earnings on the bonds, securities or other instruments shall accrue to the Contractor. The Contractor shall execute and provide such documentation and instructions respecting the bonds, securities and other instruments as the Owner may require to protect its interests. To be permissible, the bonds, securities and other instruments must be of a character approved by Owner; or

b. that the Contractor be allowed, with the approval of the Owner, Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims and liens in the manner and priority as set forth for retainage under ORS 279C.550 to ORS 279C.625.

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

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

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

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

E.5.1.6 The Contractor shall comply with all applicable legal requirements for withholding and releasing retainage and for prompt payments, including but not limited to those in ORS Chapters 279C and 701, and 49 CFR 26.29.

E.6 FINAL PAYMENT

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

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

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

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

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

SECTION F
PROJECT SITE CONDITIONS

F.1 USE OF PREMISES

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

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

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

F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the Project Site or otherwise engaged in the undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Project Site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Project Site safety. Project Site safety shall be the responsibility of the Contractor.

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

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

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

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

F.2.7 Contractor shall comply with all Owner safety rules and regulations, if applicable. Prior to commencement of any Work, Contractor and Subcontractors shall be required to complete an Owner Contractor Safety Orientation and submit all Owner required safety plans.

F.2.8 Contractor shall demonstrate that an employee drug testing program is in place.

F.3 CUTTING AND PATCHING

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

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

F.4 CLEANING UP

From time to time as may be prudent or ordered by the Owner and, in any event, immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four (24) hours after notification by the Owner the work may be

done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

F.5 ENVIRONMENTAL CONTAMINATION

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

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

F.5.1.2 Unless otherwise approved in the Solicitation Document, Contractor shall obtain the Owner's written consent prior to bringing onto the Project Site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any Applicable Laws. In any event, Contractor shall provide prior written notice to Owner when hazardous materials are brought on to the Project Site. The Contractor, at all times, shall:

(a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials on the Project Site, in accordance with all Applicable Laws;

(b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Project Site; and

(c) promptly clean up and remediate, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all Applicable Laws.

F.5.2 Contractor shall report all reportable quantity releases, as such releases are defined in Applicable Laws. Upon discovery, regardless of quantity, Contractor must verbally report all releases to the Owner in a prompt manner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:

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

(b) Whether amount of items released is EPA/DEQ reportable, and, if so, when reported.

(c) Exact time and location of release, including a description of the area involved.

(d) Containment procedures initiated.

(e) Summary of communications about the release between Contractor and State, local or federal officials other than Owner. Any communication to the press will be done by Owner and Contractor will defer to Owner.

(f) Description of cleanup procedures employed or to be employed at the Project Site, including disposal location of spill residue.

(g) Personal injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

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

F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the Project Site, not brought on to the Project Site by Contactor, Owner shall arrange for the proper disposition of such hazardous substance(s).

F.7 DEMOLITION

F.7.1 For demolition tasks, if any, the Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective.

SECTION G
INDEMNITY, BONDING, AND INSURANCE

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

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

G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner and its elected officials, officers, directors, agents, and employees (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses, demands and actions of any nature whatsoever which arise out of, result from or are related to: (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1; (b) any accident or occurrence which happens or is alleged to have happened in or about the Project Site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects; (c) any failure of the Contractor to

observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract; (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140); and (e) any lien filed upon the Project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.

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

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

G.2.1 When the Contract Price is $50,000 or more, the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

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

G.2.3 Before execution of the Contract, the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Revised Statutes, Chapter 279C.830 and 279C.836, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

G.3 INSURANCE

G.3.1 Primary Coverage: Insurance carried by Contractor under the Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

G.3.3 Builder's Risk Insurance:

G.3.3.1 Builder's Risk: During the term of the Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of Project due to insured peril. Any deductible shall not exceed $50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or $50,000, whichever is greater. The deductible shall be paid by Contractor. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.2 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of the Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under the Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at its sole and absolute discretion.

G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.

G.3.3.4 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

G.3.4 General Liability Insurance:

G.3.4.1 Commercial General Liability: Upon execution of a Contract, Contractor shall obtain, and keep in effect at Contractor's expense for the term of the Contract, Commercial General Liability Insurance ("CGL") covering bodily injury and property damage in the amount of not less than $1,000,000 per claim and $2,000,000 per occurrence in a form satisfactory to Owner. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the indemnities provided under the Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace), and shall be issued on an occurrence basis written on ISO Form GC 00 01 (12 04 or later) or an equivalent form approved in advance by Owner. The CGL shall provide separation of insured language. The policy or policies obtained by Contractor for purposes of fulfilling the requirements of this section shall be primary insurance with respect to the Owner. Any insurance or self-insurance maintained by the County shall be excess and shall not contribute to it.

G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of the Contract, Automobile Liability Insurance covering owned, and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than $1,000,000 per claim and $2,000,000 per occurrence. Contractor

and its Subcontractors shall be responsible for ensuring that all non-owned vehicles maintain adequate Automobile Liability insurance while on Project Site.

G.3.4.3 Owner may adjust the insurance amounts required in Section G.3.4.1 and G.3.4.2 based upon institution specific risk assessments through the issuance of Supplemental General Conditions and a Contract.

G.3.4.4 To the extent that the Contract Documents require the Contractor to provide professional design services, design-build, or certifications related to systems, materials, or equipment, the Contractor shall (1) purchase and maintain professional liability/errors-and-omissions insurance with limits of not less than $1,000,000 for each claim and $2,000,000 general annual aggregate and (2) cause those Subcontractors (of any tier) who are providing professional design services including any design-build services to procure and maintain professional liability/errors-and-omissions insurance with limits of not less than $1,000,000 for each claim and $2,000,000 general annual aggregate. This policy shall be for the protection of the Owner, its elected officials, officers, agents and employees against liability for damages because of personal injury, bodily injury, death, or damage to property, including loss of use thereof, and damages because of negligent acts, errors and omissions in any way related to the Contract. The Owner, at its option, may require a complete copy of the above policy.

G.3.4.5 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of the Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of the Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

G.3.4.6 Umbrella Liability (if required by Owner through issuance of Supplemental General Conditions): Contractor shall obtain, at Contractor's expense, and keep in effect during the term of the Contract, Umbrella liability Insurance over and above the general liability, automobile liability and workers' compensation coverage if required by Owner in specified limits at time of requirement.

G.3.4.7 Pollution Liability may be required by Owner through issuance of Supplemental General Conditions.

G.3.5 Additional Insured: The general liability insurance coverage, automobile liability, umbrella, and pollution liability if required, shall include the Owner as additional insureds but only with respect to the Contractor's activities to be performed under the Contract. The additional-insured endorsement for CGL insurance must be written on ISO Form CG 20 10 (10 01) and CG 20 37 (10 01), or their equivalent, but shall not use either of the following forms: CG 20 10 (10 93) or CG 20 10 (03 94). Proof of insurance must include a copy of the endorsement showing "Clackamas County, its elected officials, agents, officers, and employees" as scheduled insureds.

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

G.3.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to the Contract at Contractor's expense, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees.

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

G.3.7 Certificate(s) of Insurance/Insurance Carrier Qualification: As evidence of the insurance coverage required by the Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are additional insureds or loss payees for the Contract. A renewal certificate shall be sent to Owner at least 10 days prior to coverage expiration. Insurance coverage required under the Contract shall be obtained from insurance companies or entities acceptable to the Owner and that are eligible to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to conduct an insurance business and issue policies of insurance in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and which are subject to approval by the Owner. The Contractor shall be financially responsible for all deductibles, self-insured retentions and/or self-insurance included hereunder. Any deductible, self-insured retention and/or self-insurance in excess of $50,000 shall be subject to approval by the Owner in writing and shall be a condition precedent to the effectiveness of any Contract.

SECTION H
SCHEDULE OF WORK

H.1 CONTRACT PERIOD

H.1.1 Time is of the essence. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein.

H.1.2 Notice to Proceed. Unless otherwise directed in the Contract Documents, Contractor shall commence Work on the Project Site within fifteen (15) Days of the Notice to Proceed. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted in a form acceptable to Owner.

H.1.3 Unless otherwise not required in the Construction Documents, Contractor shall participate in a pre-construction conference with the Owner's representative and designated design team. The

purpose of this pre-construction conference is to review the Contractor's proposed Schedule of Values and to review any other Project logistics to be coordinated between the parties.

H.1.4 Unless specifically extended by a Change Order, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2(f) and shall be subject to the provisions of Section D.1.

H.1.5 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 SCHEDULE

H.2.1 Contractor shall provide, by or before the pre-construction conference, the initial as-planned schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by Project components, labor trades, and long lead items broken down by building and/or floor where applicable. If Owner shall so elect, Contractor shall provide the schedule in CPM format showing the graphical network of planned activities, including i) a reasonably detailed list of all activities required to complete the Work; ii) the time and duration that each activity will take to completion; and iii) the dependencies between the activities. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. The schedule shall include the following: Notice to Proceed or the date the Work commences, if no Notice to Proceed is issued by Owner, Substantial Completion, and Final Completion. Schedules shall be updated monthly, unless otherwise required by the Contract Documents, and submitted with the monthly application for payment. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.2.2 All Work shall be completed during normal weekdays (Monday through Friday) between the hours of 7:00 a.m. and 5:00 p.m. unless otherwise specified in the Contract Documents. Unless otherwise specified in the Contract Documents, no Work shall be performed during the following holidays:

- New Year's Day
- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Veterans Day
- Thanksgiving Day
- Christmas Day
- President's Day

When a holiday falls on a Sunday, the following Monday shall be recognized as a legal holiday. When a holiday falls on Saturday, the preceding Friday shall be recognized as a legal holiday.

H.3 PARTIAL OCCUPANCY OR USE

The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them. Approval by the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I
CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by the Owner, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (Punch List) work. At the end of the thirty-day period, or earlier if requested by the Contractor, Owner shall arrange for inspection of the Work by the Architect/Engineer. Should the work not be complete, and all corrections made, the costs for all subsequent reinspections shall be borne by the Contractor. If Contractor fails to complete the Punch List work within the thirty (30) Day period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for Defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner except for latent defects which will be remedied by the Contractor at any time they become apparent. The Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such warranty work within a reasonable time after Owner's demand and at Contractors sole expense. If Contractor fails to complete the warranty work within such period as Owner determines reasonable, or at any time in the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand, without affecting Contractor's obligations. The Contractor shall perform the warranty Work by correcting defects within twenty-four (24) hours of notification by Owner, unless otherwise specified in the Contract Documents. Should the Contractor fail to respond within the specified response time, the Owner may, at its option, complete the necessary repairs using another contractor or its agents. If Owner completes the repairs using Owner's agent, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's agent, plus related overhead and any direct non-salary costs. If Owner completes the repairs using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the work, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's agents who

are required to monitor that contractor's work. Work performed by Owner using Owner's own agents or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions.

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

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

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

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

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

SECTION J
SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

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

(a) Failure of the Contractor to correct unsafe conditions;

(b) Failure of the Contractor to carry out any provision of the Contract;

(c) Failure of the Contractor to carry out orders;

(d) Conditions, in the opinion of the Owner, which are unsuitable for performing the Work;

(e) Time required to investigate differing Project Site conditions; or

(f) Any reason considered to be in the public interest.

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

J.2 CONTRACTOR'S RESPONSIBILITIES

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

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

J.3 COMPENSATION FOR SUSPENSION

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

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

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

(a) If Contractor should, voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;

(b) If Contractor should make a general assignment for the benefit of Contractor's creditors;

(c) If a receiver should be appointed on account of Contractor's insolvency;

(d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;

(e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner;

(f) If Contractor is otherwise in breach of any part of the Contract; or

(g) If Contractor is in violation of Applicable Laws, either in the conduct of its business or in its performance of the Work.

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

the Owner's cost of finishing the Work exceeds the unpaid balance of the Contract Price, Contractor shall pay the difference to the Owner.

J.5 TERMINATION FOR CONVENIENCE, NON-APPROPRIATION OF FUNDS, OR FORCE MAJEURE

J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines: (a) that termination of the Contract is in the best interest of Owner or the public; (b) that the Owner failed to receive funding, appropriations, allocations or other expenditure authority as contemplated by Owner's budget and Owner determines, in its sole determination, and its assessment and ranking of the policy objectives explicit or implicit in Owner's budget, Owner may determine it is necessary to and may terminate the Contract.; or (c) in the event of Force Majeure.

J.5.2 The Owner shall provide the Contractor with seven (7) Days prior written notice of a termination for Owner's or for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination. If the Contract is terminated for public convenience, neither the Contractor not its Surety shall be relieved of liability for damages or losses suffered by the Owner as a result of defective, unacceptable or unauthorized Work completed or performed.

J.6 ACTION UPON TERMINATION

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

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

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

SECTION K
CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

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

K.2 OPERATION AND MAINTENANCE MANUALS

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

K.3 COMPLETION NOTICES

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

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

K.4 TRAINING

As part of the Work, and prior to submission of the final application for payment, the Contractor shall schedule with the Owner training sessions for all equipment and systems as required by the Contract Documents. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner to provide its personnel with adequate notice. If assignments arise because of termination under Section J.4, then such assignments shall not relieve Contractor of liability hereunder. The O & M Manual shall be used as a basis for training. In addition to any off-Project Site training required by the Contract Documents, training shall include a formal session conducted at the Project Site after the equipment and/or system is completely installed and operational in its normal operating environment.

K.5 EXTRA MATERIALS

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

K.6 ENVIRONMENTAL CLEAN-UP

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

K.7 CERTIFICATE OF OCCUPANCY

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

K.8 OTHER CONTRACTOR RESPONSIBILITIES

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

The Owner's property is drug free and weapons free areas and the use of tobacco products is only allowed in designated areas. Contractor shall be required to ensure that its employees, Subcontractors and agents shall comply with these requirements.

SECTION L
GENERAL PROVISIONS

L.1 NO THIRD PARTY BENEFICIARIES

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

L.2 SEVERABILITY

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

L.3 ACCESS TO RECORDS

L.3.1 Contractor shall keep, at all times on the Project Site, one record copy of the complete Contract Documents, including the Plans, Specifications, addenda, and Change Orders (if any) in good order and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner access thereto.

L.3.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or the Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

L.4 WAIVER

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

L.5 SUCCESSORS IN INTEREST

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

L.6 GOVERNING LAW

The Contract shall be governed by and construed in accordance with the laws of the State of Oregon without giving effect to the conflict of law provisions thereof.

L.7 APPLICABLE LAW

Contractor hereto agrees to comply in all ways with applicable local, state and federal ordinances, statutes, laws and regulations.

L.8 NON-EXCLUSIVE RIGHTS AND REMEDIES

Except as otherwise expressly provided herein, the rights and remedies expressly afforded under the provisions of the Contract shall not be deemed exclusive, and shall be in addition to and cumulative with any and all rights and remedies otherwise available at law or in equity. The exercise by either Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different times, of any other remedies for the same default or breach, or for any other default or breach, by the other Party.

L.9 INTERPRETATION

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

L.10 DEBT LIMITATION

The Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent.

L.11 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to the Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Clackamas County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the County of any form of defense or

immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THE CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION.

L. 12 SURVIVAL

All warranty, indemnification, and record retention provisions of the Contract, and all of Contractor's other obligations under the Contract that are not fully performed by the time of Final Completion or termination, and all other rights and obligations which by their context are intended to survive, shall survive Final Completion or any termination of the Contract.

L.13 ACCESS TO RECORDS

L.13.1. Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Construction Change Directives and addenda, in good order and marked currently to record field changes and selections made during construction, and one copy of Shop Drawings, Project Data, Samples and similar submittals, and shall at all times give the Owner access thereto.

L.13.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or this Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

L.14 WAIVER

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

L. 15 NO ATTORNEY FEES.

In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 4446830
Project Name: Clackamas Volunteers In Medicine –
New Health Clinic Project (CD#1802)

SURETEC INSURANCE COMPANY (Surety #1)	Bond Amount No. 1:	$1,123,000.00
_____ (Surety #2)*	Bond Amount No. 2:*	$_____
* *If using multiple sureties*	Total Penal Sum of Bond:	$1,123,000.00

We, PETRA DESIGN BUILD, LLC as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) ONE MILLION ONE HUNDRED TWENTY THREE THOUSAND NO/100**($1,123,000.00) (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation; and

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

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

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

arising out of the performance of the Contract by the Principal or its subcontractors, and shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

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

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

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

Dated this 19 day of JANUARY, 2022.

PRINCIPAL: PETRA DESIGN BUILD, LLC

By: _____
Signature

Managing Member
Official Capacity

Attest: _____
Corporation Secretary

SURETY: SURETEC INSURANCE COMPANY
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

ROBIN BAIRD
Name

_____
Signature

2103 CITY WEST BLVD STE 1300
Address

HOUSTON TX 77042
City State Zip

541-741-0550 541-741-1674
Phone Fax

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 4446830
Project Name: Clackamas Volunteers In Medicine – New Health Clinic Project (CD #1802)

SURETEC INSURANCE COMPANY (Surety #1)	Bond Amount No. 1:	$ 1,123,000.00
_____ (Surety #2)*	Bond Amount No. 2:*	$ _____
* *If using multiple sureties*	Total Penal Sum of Bond:	$ 1,123,000.00

We, PETRA DESIGN BUILD, LLC, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) ONE MILLION ONE HUNDRED TWENTY THREE THOUSAND NO/100** (**$1,123,000.00**) (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation; and

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

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

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and

shall permit no lien nor claim to be filed or prosecuted against Clackamas County on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

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

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

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

Dated this 19 day of JANUARY, 2022.

PRINCIPAL: PETRA DESIGN BUILD, LLC

By: _____
Signature

Managing Member
Official Capacity

Attest: _____
Corporation Secretary

SURETY: SURETEC INSURANCE COMPANY
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

ROBIN BAIRD
Name

Robin Baird
Signature

2103 CITY WEST BLVD STE 1300
Address

HOUSTON TX 77042
City State Zip

541-741-0550 541-741-1674
Phone Fax

POA #: 3710008

SureTec Insurance Company
LIMITED POWER OF ATTORNEY

Know All Men by These Presents, That SURETEC INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Texas, and having its principal office in Houston, Harris County, Texas, does by these presents make, constitute and appoint

Michelle Bench, Robin Baird, Kyle Hudson, Keith Yam, Ken Price

its true and lawful Attorney-in-fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include waivers to the conditions of contracts and consents of surety for, providing the bond penalty does not exceed

Fifty Million and 00/100 Dollars ($50,000,000.00)

and to bind the Company thereby as fully and to the same extent as if such bond were signed by the CEO, sealed with the corporate seal of the Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolutions of the Board of Directors of the SureTec Insurance Company:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and of behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached. *(Adopted at a meeting held on 20th of April, 1999.)*

In Witness Whereof, SURETEC INSURANCE COMPANY has caused these presents to be signed by its CEO, and its corporate seal to be hereto affixed this 27th day of June A.D. 2019 .

SURETEC INSURANCE COMPANY

By: _____
John Knox Jr., CEO

State of Texas ss:
County of Harris

On this 27th day of June , A.D. 2019 before me personally came John Knox Jr., to me known, who, being by me duly sworn, did depose and say, that he resides in Houston, Texas, that he is CEO of SURETEC INSURANCE COMPANY, the company described in and which executed the above instrument; that he knows the seal of said Company; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said Company; and that he signed his name thereto by like order.

JACQUELYN GREENLEAF
Notary Public, State of Texas
Comm. Expires 05-18-2021
Notary ID 126903029

_____
Jacquelyn Greenleaf, Notary Public
My commission expires May 18, 2021

I, M. Brent Beaty, Assistant Secretary of SURETEC INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Company, which is still in full force and effect; and furthermore, the resolutions of the Board of Directors, set out in the Power of Attorney are in full force and effect.

Given under my hand and the seal of said Company at Houston, Texas this _____ day of _____, 2022, A.D.

_____
M. Brent Beaty, Assistant Secretary

Any instrument issued in excess of the penalty stated above is totally void and without any validity. 3710008
For verification of the authority of this power you may call (713) 812-0800 any business day between 8:30 am and 5:00 pm CST.

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PROJECT INFORMATION, PLANS, SPECIFICATIONS AND DRAWINGS

PROJECT: Clackamas Volunteers In Medicine – New Health Clinic
(Oregon City, OR)

Background: Clackamas Volunteers In Medicine is building a new facility to serve the citizens of the Greater Oregon City Area to provide Health Services at Clackamas Community College.

Project Estimate: $1,072,000.00

Key Dates:
All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued
Substantial Completion: 90 Days from NTP
Final Completion: 120 Days from NTP – estimated to be May 31, 2022

Holidays will not be include in these number of days (Example Labor Day etc).

Time is of the essence for this Project. Note the Liquidated Damages requirements as described in the Supplemental General Conditions.

The Scope further includes the following Plans, Specifications and Drawings:

PKA Architects – Bid Permit Specifications Set/ CVIM – CCC Tenant Improvement
Issued, November 18, 2021

PKA Architects – Bid Permit Drawings Set/ CVIM – CCC Tenant Improvement
Issued, November 18, 2021

MEP Basis of Design – Clackamas Volunteers In Medicine – Clackamas Community College
Design-Build Tenant Improvement
Prepared by, Jim Sattem, PE, CHC & Rick Silenzi
Issued, November 17, 2021

INVITATION TO BID #
Clackamas Volunteers In Medicine
New Health Clinic Project (CD #1802)

ADDENDUM NUMBER #1
December 28, 2021

On 12/2/2021, Clackamas County ("County") published Invitation to Bid **Clackamas Volunteers In Medicine New Health Clinic Project (CD #1802) December 2021** ("BID") The County has found that it is in its interest to amend the BID through the issuance of this Addendum #1. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

1. Bid Proposal Form revise: see attached

2. BOLI Prevailing Wage Rates: BOLI rates revised effective January 1, 2022. See state website at: https://www.oregon.gov/boli/employers/Pages/prevailing-wage-rates.aspx

3. Federal Prevailing Wage Rates: Revised effective 12/17/2021: See attached and website: https://sam.gov/wage-determination/OR20210023/7

End of Addendum

"General Decision Number: OR20210023 12/17/2021

Superseded General Decision Number: OR20200023

State: Oregon
Construction Type: Building

County: Clackamas County in Oregon.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/15/2021
2	02/12/2021
3	04/02/2021
4	05/21/2021
5	05/28/2021
6	11/26/2021
7	12/17/2021

BROR0001-014 06/01/2020

	Rates	Fringes

BRICK FINISHER.....$ 26.94 14.94
BRICKLAYER.....$ 41.20 22.39
TILE FINISHER.....$ 26.94 14.81
TILE SETTER.....$ 35.35 20.42

CARP0001-025 06/01/2020

	Rates	Fringes
Carpenters:		
Hardwood floors and batt insulation	$ 41.91	18.30
Including metal stud installation, from work and scaffold building	$ 41.75	18.30

CARP9001-003 06/01/2020

	Rates	Fringes
Acoustical Ceiling Installer & Drywall Hanger	$ 42.04	18.01
LATHER	$ 42.04	18.01

ELEC0048-018 01/01/2021

	Rates	Fringes
ELECTRICIAN	$ 50.35	25.48

ELEC0048-019 01/01/2020

	Rates	Fringes
ELECTRICIAN		
Computer Installation, telephone installation, HVAC temperature control installation, Electrical low voltage wiring installer and sound technician only	$ 30.57	19.05
Electrical installer alarms and Low voltage wiring for alarms only	$ 38.87	20.25

ENGI0701-021 01/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 45.90	15.35

GROUP 1A	$ 48.06	15.35
GROUP 1B	$ 50.22	15.35
GROUP 2	$ 43.99	15.35
GROUP 3	$ 42.84	15.35
GROUP 4	$ 41.01	15.35
GROUP 5	$ 39.77	15.35
GROUP 6	$ 36.55	15.35

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: CRANE: Helicopter Operator, when used in erecting work; Whirley Operator, 90 ton and over; LATTICE BOOM CRANE: Operator 200 tons through 299 tons, and/or over 200 feet boom; HYDRAULIC CRANE: Hydraulic Crane Operator 90 tons through 199 tons with luffing or tower attachments

GROUP 1A: HYDRAULIC CRANE: Hydraulic Operator, 200 tons and over (with luffing or tower attachment); LATTICE BOOM CRANE: Operator, 200 tons through 299 tons, with over 200 feet boom;

GROUP 1B: LATTICE BOOM CRANE: Operator, 300 tons through 399 tons with over 200 feet boom; Operator 400 tons and over

GROUP 2: CRANE: Cableway Operator, 25 tons and over; HYDRAULIC CRANE: Hydraulic crane operator 90 tons through 199 tons (without luffing or tower attachment); TOWER/WHIRLEY OPERATOR: Tower Crane Operator; Whirley Operator, under 90 tons; LATTICE BOOM CRANE: 90 through 199 tons and/or 150 to 200 feet boom; HYDRAULIC CRANE: Hydraulic crane operator, 50 tons through 89 tons (with luffing or tower attachment); Rubber tired scraper with tandom scrapers, multi-engineTrenching Machine-Wheel Operator; Excavator over 130,000 lbs; Loader 120,000 lbs and above

GROUP 3: HYDRAULIC CRANE: Hydraulic crane operator, 50 tons through 89 tons (without luffing or tower attachment); LATTICE BOOM CRANES: Lattice Boom Crane-50 through 89 tons (and less than 150 feet boom); Rubber Tired Scraper: with tandom scrapers; self loading, paddle wheel, auger type, finish and/or 2 or more units; Excavator over 80,000 lbs through 130,000; Loader 60,000 lbs and less than 120,000 lbs.

GROUP 4: CRANE: Hydraulic Crane Operator, under 50 tons; LATTICE BOOM CRANE OPERATOR: Lattice Boom Crane Operator, under 50 tons; TRACKHOE/EXCAVATOR-ROBOTIC: up to and including 20,0000 lbs. with any or all attachments; Excavator Operator over 20,000 lbs through 80,000 lbs.; Tractor operator with boom attachment; DRILLING: Churm Drill and Earth Boring Machine Operator; Directional Drill

Operator over 20,000 lbs pullback; CRANE: Chicago boom and similar types; Boom type lifting device, 5 ton capacity or less; HYDRAULIC HOES: Robotic Hydraulic backhoe operator, track and wheel type up to and including 20,0000 lbs. with any or all attachments; Asphalt Paver; Screed Operator; Rubber-Tired Scraper, single engine, single scraper; Compactor-Self Propelled; Trenching Machine, digging capacity over 3 ft Depth; Excavator over 20,000 lbs through 80,000 lbs; Loaders 25,000 lbs and less than 60,000 lbs GROUP 5: TRACKHOE/EXCAVATOR-HYDRAULIC: up to and including 20,000 lbs.; Boom truck operator; DRILLING: Churm Drill and Earth Boring Machine Operator; Directional Drill Operator less than 20,000 lbs pullback; HYDRAULIC HOES: Hydraulic Backhoe Operator, wheel type (Ford, John Deere, Case type); Hydraulic Backhoe Operator track type up to and including 20,000 lbs.; Concrete Pumper; Concrete Paver: Compactor; Loaders, rubber tired type , less than 25,00 lbs; Forklift over 5 ton, Man Lift/Outside Elevator

GROUP 6: LOADERS: (less than 1 cu yd.); Roller (Non-Asphalt); Oiler; Bobcat/Skid Loader; Grade Checker; Crane oiler; Forklift

Zone Differential (add to Zone 1 rates):
Zone 2 - $3.00
Zone 3 - $6.00

For the following metropolitan counties: MULTNOMAH; CLACKAMAS; MARION; WASHINGTON; YAMHILL; AND COLUMBIA; CLARK; AND COWLITZ COUNTY, WASHINGTON WITH MODIFICATIONS AS INDICATED:

All jobs or projects located in Multnomah, Clackamas and Marion Counties, West of the western boundary of Mt. Hood National Forest and West of Mile Post 30 on Interstate 84 and West of Mile Post 30 on State Highway 26 and West of Mile Post 30 on Highway 22 and all jobs or projects located in Yamhill County, Washington County and Columbia County and all jobs or porjects located in Clark & Cowlitz County, Washington except that portion of Cowlitz County in the Mt. St. Helens ""Blast Zone"" shall receive Zone I pay for all classifications.

All jobs or projects located in the area outside the identified boundary above, but less than 50 miles from the Portland City Hall shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone III pay for all classifications.

For the following cities: ALBANY; BEND; COOS BAY; EUGENE; GRANTS PASS; KLAMATH FALLS; MEDFORD; ROSEBURG

All jobs or projects located within 30 miles of the respective city hall of the above mentioned cities shall receive Zone I pay for all classifications.

All jobs or projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone III pay for all classifications.

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* IRON0029-011 07/05/2021

	Rates	Fringes
IRONWORKER (Ornamental, Reinforcing, and Structural)	$ 40.56	29.59

LABO0737-005 06/01/2020

	Rates	Fringes
Laborers: (Mason Tender-Cement/Concrete)	$ 32.71	15.40

LABO0737-006 06/01/2020

	Rates	Fringes
Laborers: (Mason Tender-Brick)	$ 32.71	15.40

LABO0737-007 06/01/2020

	Rates	Fringes
Laborers: (Mason Tender-Stone)	$ 32.71	15.40

LABO0737-014 06/01/2021

	Rates	Fringes
Laborers:		
GROUP 1	$ 33.48	16.23
GROUP 2	$ 34.71	16.23

LABORER CLASSIFICATIONS

GROUP 1: Form-Stripping; Demolition, General Laborer, Power Tool Operator

GROUP 2: Vibrating Plate, Grade Checker, Asphalt Raker

PAIN0055-022 07/01/2020

	Rates	Fringes
PAINTER		
BRUSH, ROLLER AND SPRAY	$ 25.94	13.34

PAIN0055-023 07/01/2019

	Rates	Fringes
DRYWALL FINISHER/TAPER	$ 38.48	16.71

PAIN0740-002 01/01/2021

	Rates	Fringes
GLAZIER	$ 45.30	20.47

PAIN1236-007 06/01/2021

	Rates	Fringes
FLOOR LAYER: Vinyl Flooring	$ 35.77	17.43

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* PLAS0082-004 07/01/2021

	Rates	Fringes
PLASTERER		
Including Stucco	$ 39.65	18.98

PLAS0555-006 07/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 35.52	19.42

PLUM0290-009 04/01/2021

	Rates	Fringes
PIPEFITTER		
Including HVAC Pipe Installation	$ 48.93	30.10

PLUM0290-010 04/01/2021

	Rates	Fringes
PLUMBER	$ 48.93	30.10

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* ROOF0049-004 07/01/2021

	Rates	Fringes
ROOFER		
Excluding Metal Roof	$ 37.43	20.18

SFOR0669-002 01/01/2021

	Rates	Fringes
SPRINKLER FITTER		
Fire Sprinklers	$ 40.71	25.30

SHEE0016-013 07/01/2019

	Rates	Fringes
Sheet Metal Worker		
Excluding HVAC Duct Installation	$ 41.55	20.44

SUOR2009-021 11/09/2009

	Rates	Fringes
LABORER: Landscape	$ 12.38	0.00
LABORER: Pipelayer	$ 22.63	6.07
MILLWRIGHT	$ 17.62	3.19
OPERATOR: Grader/Blade	$ 16.00	2.80
SHEET METAL WORKER (HVAC Duct Installation Only)	$ 24.58	5.76
TRUCK DRIVER: Dump Truck	$ 15.67	4.33
TRUCK DRIVER: Water Truck	$ 18.11	5.05

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1,

2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

HARDWARE GROUP NO. 01

138

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER		FINISH	MFR
		EXISTING DOOR, FRAME & HARDWARE TO REMAIN			

HARDWARE GROUP NO. 02

145 147B 150G2

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	PASSAGE SET	ALX10 ATH			626	SCH
1	EA	SURFACE CLOSER	1450 RW/PA STD			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
3	EA	SILENCER	SR66			GRY	IVE

HARDWARE GROUP NO. 03

147A 150G1

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	POWER TRANSFER	EPT10 CON		✓	689	VON
1	EA	EU STOREROOM LOCK	ND80TDEU ATH RX CON 12V/24V DC		✓	626	SCH
1	EA	FINAL CORE	23-030			626	SCH
1	EA	SURFACE CLOSER	1450 RW/PA STD			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
1	EA	GASKETING	488SBK PSA			BK	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELECTRIFIED HARDWARE- VERIFY LENGTH BEFORE ORDERING)		✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)		✓		SCH
1			ACCESS CONTROL - WORK OF DIVISION 28				

HARDWARE GROUP NO. 04

148 149

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 07A L583-363 L283-722		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	SURFACE CLOSER	1450 RW/PA STD		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA		BK	ZER

HARDWARE GROUP NO. 05

150

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON	✓	689	VON
1	EA	LEVER TRIM	L9080L 07A LLL LLL LESS LOCK CASE		626	SCH
1	EA	LATCH RETRACTION MORTISE LOCK	Z7752 X RX X SCHLAGE LEVERS	✓	626	SDC
1	EA	MORTISE CYLINDER	20-061 ICX 36-083		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	✓	689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813WH	✓	WH	LCN
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA		BK	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELECTRIFIED HARDWARE- VERIFY LENGTH BEFORE ORDERING)	✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)	✓		SCH
1			ACCESS CONTROL - WORK OF DIVISION 28			

AUTO OPERATOR REQUIRES 120VAC AND NORMALLY CLOSED FIRE ALARM INPUT.

HARDWARE GROUP NO. 06

150A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU STOREROOM LOCK	ND80TDEU ATH RX CON 12V/24V DC			626	SCH
1	EA	FINAL CORE	23-030			626	SCH
1	EA	SURFACE CLOSER	1450 EDA STD			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
3	EA	SILENCER	SR66			GRY	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELECTRIFIED HARDWARE- VERIFY LENGTH BEFORE ORDERING)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1			ACCESS CONTROL - WORK OF DIVISION 28				

HARDWARE GROUP NO. 07

150C

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	ALX80T ATH		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR66		GRY	IVE

HARDWARE GROUP NO. 08

150D 150H 152 155 159 161A 161B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T ATH		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	WALL STOP	WS406/407CCV		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 09

150E 162

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 07A L583-363 L283-722		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	SURFACE CLOSER	1450 EDA STD		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 10

150F1 150F2

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	SLIDING DOOR	AD SYSTEMS- OFFICESLIDE			ADS

HARDWARE GROUP NO. 11

153 154 157 160

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	ALX10 ATH		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 12

156 158

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	ALX10 ATH		626	SCH
1	EA	FLOOR STOP	FS436		626	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 13

C146 C146A C146B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50T ATH		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	SURFACE CLOSER	1450 RW/PA STD		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CCV		630	IVE
1	EA	GASKETING	488SBK PSA		BK	ZER

HARDWARE GROUP NO. 14

C146C

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

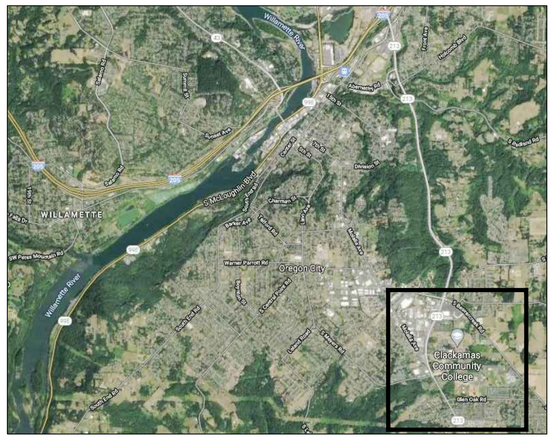
QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	STOREROOM LOCK	ALX80T ATH		626	SCH
1	EA	FINAL CORE	23-030		626	SCH
1	EA	CLOSER W/STOP ARM	1450 SCUSH STD		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	GASKETING	488SBK PSA		BK	ZER

Clackamas Volunteers In Medicine (CVIM) - CCC T.I.

Clairmont Hall

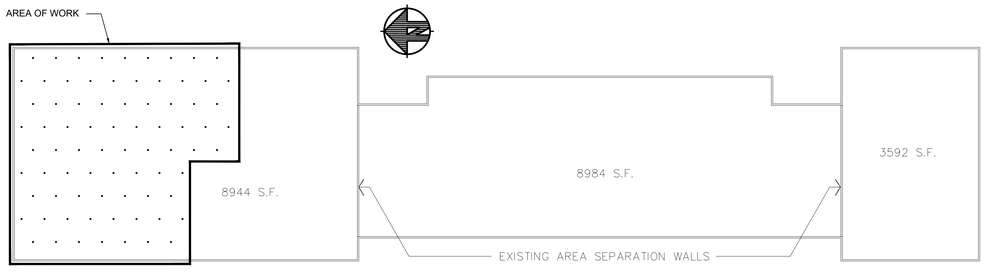
19600 Molalla Avenue, Oregon City, OR 97045

VICINITY MAP



CAMPUS MAP

OVERALL BUILDING MAP



PROJECT SUMMARY

This scope of work includes the Tenant Improvement of leased space on Clackamas Community College (CCC) campus into a clinic for Clackamas Volunteers In Medicine (CVIM). This work includes (7) exam rooms, a point of care lab, and associated staff and support spaces.

CONTACTS

OWNER

Clackamas Volunteers In Medicine (CVIM)
Contact: Martha Spiers Phone: (503) 772-4400

OWNER'S REPRESENTATIVE

Lones Consulting
Contact: Dan Coffin Phone: (406) 370-7396

ARCHITECT

Petersen Kolberg and Associates, P.C.
Contact: Sarah Kershner Phone: (503) 968-6800

Mechanical/Plumbing, Electrical and Structural are Design Build

BUILDING DATA

Building Occupancy:
B

Builiding Construction:
Type V-B (Originally V-N UBC/UFC)

Project Square Footage:
5,027 Square Feet

Building Area (North Suite):
Allowable: 12,000 s.f.
8,000 s.f. + 2 Yards (@ 60') = 50% Increase = 12,000 s.f.

Provided: Level #1 8,944 s.f. (Per Northern Suite) / 12,000 s.f. = .74 < 1.00 - Area is Compliant

Building Area (Central Suite):
Provided: Level #1 8,984 s.f. - Existing

Building Area (South Suite):
Provided: Level #1 3,592 s.f. - Existing

Building Height (above grade plane):
Provided: 13'-2" (top of parapet)

Stories (above grade plane):
Provided: (1) Stories

CODE INFORMATION

REVIEW OF THIS PROJECT IS SUBJECT TO:

Oregon Structural Specialty Code	-2019 Edition
Oregon Zero Energy Ready Commercial Code	-2019 Edition
Oregon Mechanical Specialty Code	-2019 Edition
Oregon Electrical Specialty Code	-2017 Edition
Oregon Plumbing Specialty Code	-2017 Edition
Oregon Fire Code	-2019 Edition
NFPA 70 National Electrical Code	-2017 Edition
NFPA 72 National Fire Alarm Code	-2016 Edition
ASHRAE 170	

pka ARCHITECTS
PETERSEN KOLBERG & ASSOCIATES ARCHITECTS/PLANNERS
6969 SW Hampton Street
Portland, OR 97223
phone: 503-968-6800
www.pkaarchitects.com

Stamp:

REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON STATE OF OREGON

Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:
CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

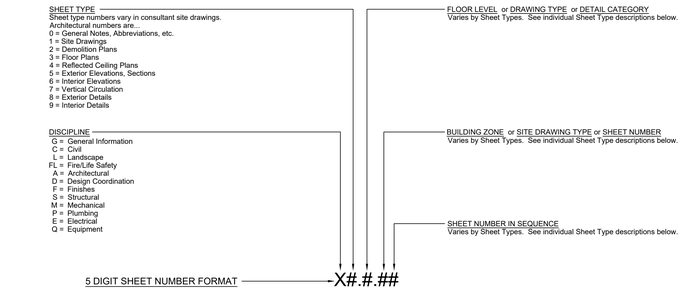
Revisions shown below may not apply to this publication

Revision	Date

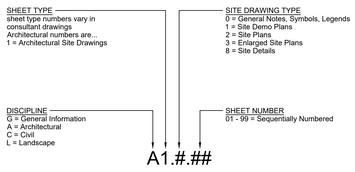
Sheet Title
Cover Sheet

Sheet Number:
G0.1.01

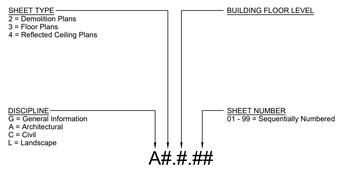
BASIC SHEET NUMBERING SYSTEM



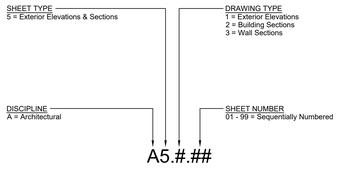
(1) SITE DRAWINGS



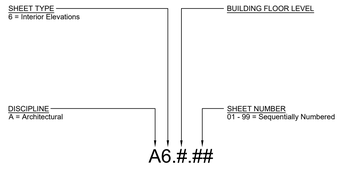
(2,3,4) (DEMOLITION,FLOOR, REFLECTED CEILING) PLANS



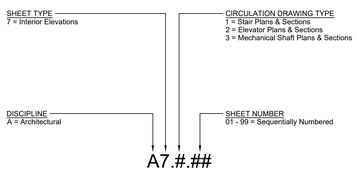
(5) EXTERIOR ELEVATIONS & SECTIONS



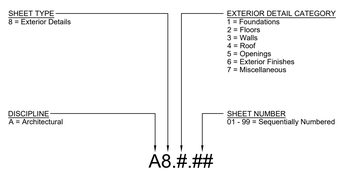
(6) INTERIOR ELEVATIONS



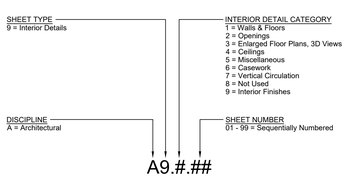
(7) VERTICAL CIRCULATION



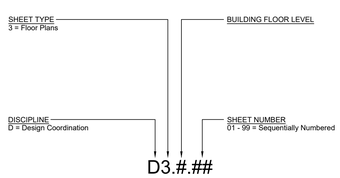
(8) EXTERIOR DETAILS



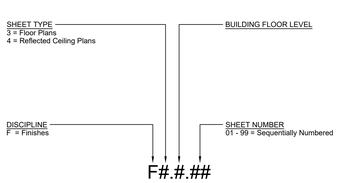
(9) INTERIOR DETAILS



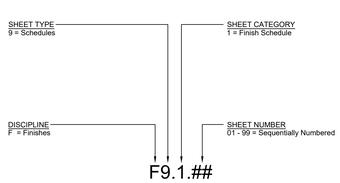
(D) DESIGN COORDINATION



(F) FINISH PLANS



(F) FINISH SCHEDULES



SHEET INDEX

PROJECT NOTES

A. THE ROOF IS IN GOOD CONDITION AND IS TO REMAIN AS IS.

B. ALL NEW PLUMBING FIXTURES WILL REQUIRE CORING/DRILLING/SLAB CUTTING AND EXCAVATION (POTENTIALLY) TO CONNECT TO EXISTING PLUMBING.

C. VOLUNTEER CHECK-IN / BADGING IN STAFF BREAK ROOM.

D. SHARED CORRIDOR ENTRY TO BE PATCHED AND REPAIRED AT AREAS IMPACTED BY CONSTRUCTION; INSTALL NEW FLOORING AND BASE TO THE EXTENTS INDICATED ON THE PLAN; PROVIDE NEW WALL AND CEILING PAINT THROUGHOUT CORRIDOR.

E. PROVIDE ALLOWANCE FOR CUSTOM GRAPHIC PANEL AT CLINIC ENTRY TO PROVIDE SUPPLEMENTAL SIGNAGE THROUGH GRAPHICS, SHAPES AND COLORS TO ASSIST WITH MULTI-LINGUAL SIGNAGE NEEDS; EXTENTS AND DESIGN TBD.

F. CEILINGS ARE TO BE STRAIGHT-LAY ACT THROUGHOUT TO MATCH EXISTING, UNO; TOILET ROOMS ARE TO BE PAINTED GYPSUM BOARD.

G. CASEWORK THROUGHOUT TO BE PLASTIC LAMINATE VERTICAL SURFACES WITH PLASTIC LAMINATE COUNTERTOPS AND SPLASHES WITH STAINLESS STEEL SINKS; PROVIDE 3mm EDGE BANDING, UNO.

H. JCI MONITORS BUILDING IN CASE OF A FIRE EVENT.

J. CVIM TO COORDINATE ANY POTENTIAL CHANGES TO EXISTING BUILDING OPERATIONS (i.e. RELOCATING DOORS, EXITING, SIGNAGE, etc.) WITH LANDLORD.

K. CLINIC WILL NOT BE LICENSED BY OHA.

L. ASSUME 8'-6" CEILING HEIGHT THROUGHOUT PROJECT, UNO.

M. WALL CONSTRUCTION: BASE ESTIMATE SHOULD BE FOR WALL CONSTRUCTION TO 6" ABOVE CEILING. PROVIDE INCREMENTAL LINE ITEM COST FOR STC 45 WALL CONSTRUCTION FOR ALL EXAM ROOM, TREATMENT ROOM, RESTROOM, AND CONSULT ROOM WALLS.

N. DESIGN LAYOUT IN I.T. SPACE - SERVER, SWITCH, UPS, POWER, LOW VOLTAGE, FIRE-TREATED PLYWOOD, ETC. - IS TO BE COORDINATED WITH OWNER.

P. CONFIRM SANITARY SEWER SYSTEM CAN HANDLE ADDITION OF NEW PLUMBING FIXTURES.

Q. COLLEGE REQUIRES ACCESS FOR SECURITY DURING AN EMERGENCY - VENDOR CAN BE SEPARATE.

R. FIRE ALARMS (AUDIBLE AND/OR VISUAL) ARE TO BE DESIGN BUILD - INSTALL PER ALL APPLICABLE CODES.

S. REFERENCE MEP BOD FOR ALL DESIGN / BUILD MEP REQUIREMENTS.

ALTERNATES

1. ALL DOORS WITH CARD READERS ARE TO BE ENTRY/OFFICE LOCKSET (F82A)
2. BASE BID: CARD READERS / ALTERNATE: KEYED DOORS

pka ARCHITECTS

PETERSEN KOLBERG & ASSOCIATES
ARCHITECTS/PLANNERS

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Portland, OR 97223
phone: 503-968-6800
www.pkaarchitects.com

Stamp:

REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON STATE OF OREGON

Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

Revision	Date

Sheet Title

Sheet Index

Sheet Number:

G0.1.02

Drawing Standards

General Notes

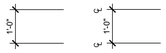
General:

A. Contractor to verify all conditions and dimensions, and notify Architect of any discrepancies prior to any work being done.

B. Dimensions are to face of finish or center line of framing or structure as indicated by the dimension leader line type;

- Face of finish dimension style (U.N.O.)

- Centerline dimension style

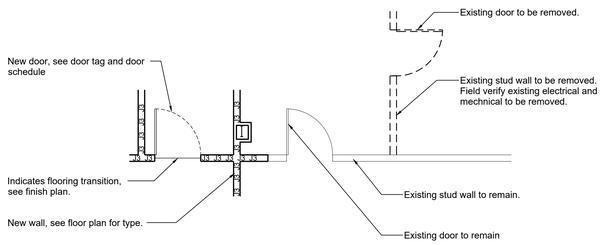


- Clear dimension style is to face of finished material

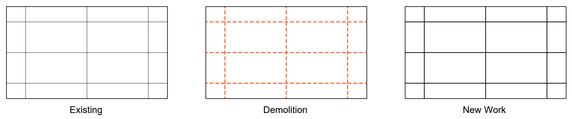
General Line Type Standards for Plans

- Existing conditions are indicated with lighter line weights.
- Existing conditions to be demolished are indicated with dashed line types.
- New work is indicated with heavy black line weights.

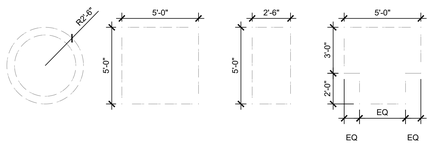
Floor Plan



Ceiling Plan



Clearances



Graphic Line Types

Area of Work

Match Line — SEE SHEET ---

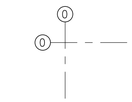
Abbreviations

AFF	Above Finish Floor
ADJ	Adjacent
ALT	Alternative
ALUM	Aluminum
ANCH	Anchor
AB	Anchor Bolt
&	And
∠	Angle
APPROX	Approximate
ARCH	Architectural
AC	Asphaltic Concrete
@	At
AUTO	Automatic
BSMT	Basement
BM OR BMS	Beam
BTW	Between
BLK	Block
BLKG	Blocking
BD	Board
BOT	Bottom
BLDG	Building
CAB	Cabinet
CLKG	Caulking
CLG	Ceiling
CT	Ceramic Tile
CLR	Clear (Clearance)
COL	Column
CONC	Concrete
CMU	Concrete Masonry Unit
CONST	Construction
CONT	Continuous
CONTR	Contractor
CORR	Corrugated
℄	Centerline
CFCI	Contractor Furnished, Contractor Installed
CFOI	Contractor Furnished, Owner Installed
CFVI	Contractor Furnished, Vendor Installed
DTL	Detail
⌀	Diameter
DIM	Dimension
DBL	Double
DF	Douglas Fir
DN	Down
DS	Downspout
DWG	Drawing
DR	Dressing Room
EA	Each
ELEC	Electric (al)
ELEV	Elevation
ENT	Entrance
EQ	Equal
EQUIP	Equipment
ETR	Existing to remain
EX or (E)	Existing
EXP. JT	Expansion Joint
EXP	Exposed
EXT	Exterior
FAB	Fabricate
FEC	Fire Extinguisher Cabinet
FF	Factory Finish
FIN	Finish(ed)
FLSHG	Flashing
FB	Flat Bar
FLR	Floor
FLS	Fire Life Safety
FLUOR	Fluorescent
FTG	Footing
FDN	Foundation
FV	Field Verify
GALV	Galvanized
GA	Gauge
GR	Grade
GWB	Gypsum Wall Board
GYP BD	Gypsum Board
HDW	Hardware
HT	Height
HC	Hollow Core
HM	Hollow Metal
HOR	Horizontal
HVAC	Heating, Ventilating, & Air Conditioning
IBC	International Building Code
ICBO	International Conference Of Building Officials
INCL	Include(d), (ing)
ID	Inside Diameter
INSUL	Insulation
INT	Interior
JT	Joint
LAM	Laminate
LAV	Lavatory
MB	Machine Bolt
MFR	Manufacturer
MO	Masonry Opening
ME	Match Existing
MAT	Material(s)
MAX	Maximum
MECH	Mechanical
MED	Medium
MLT	Metal
MIN	Minimum
MISC	Miscellaneous

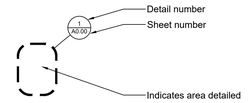
NIC	Not In Contract
NTS	Not To Scale
NO	Number
O/C	On Center(s)
OC	On Center(s)
OPG	Opening
OPP	Opposite
OS	Outside
OD	Outside Diameter
OFCI	Owner Furnished, Contractor Installed
OFOI	Owner Furnished, Owner Installed
OFVI	Owner Furnished, Vendor Installed
PR	Pair
PNL	Panel
d	Penny (nail Size)
PLAST	Plaster
ℙ	Plate
PL	Plate
PLAM	Plastic Laminate
PLMB	Plumbing
PT	Pint
PVC	Polyvinyl Chloride
PLWD	Plywood
PREFAB	Prefabricated
RCP	Reflected Ceiling Plan
REINF	Reinforce(d), (ing)
REQ	Require(ment), (ments)
REV	Revision
RM	Room
ROW	Right of Way
RO	Rough Opening
SCH	Schedule
SHTG	Sheathing
SHT	Sheet
SIM	Similar
SC	Solid Core
SPEC	Specification(s)
SQ	Square
SS	Stainless Steel
ST STL	Stainless Steel
STD	Standard
STL	Steel
STRUCT	Structural (re)
SUSP	Suspended
TEMP	Tempered
THK	Thick(ness)
T & G	Tongue & Groove
T	Top
TR	Toilet Room
TYP	Typical
UL	Underwriter's Laboratory
UNO	Unless Noted Otherwise
VENT	Ventilation
VFY	Verify
VFVI	Vendor Furnished, Vendor Installed
VFOI	Vendor Furnished, Owner Installed
VFCI	Vendor Furnished, Contractor Installed
W/R	Water Resistant
WWM	Welded Wire Mesh
WF	Wide Flange
W	Wide Flange
WDW	Window
W/	With
W/O	Without
WD	Wood

Project Symbols

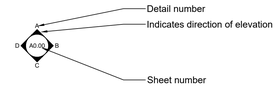
STRUCTURAL GRID



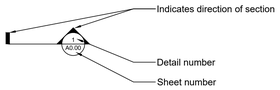
DETAIL CALLOUT



INTERIOR ELEVATION TAG

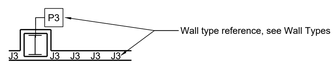


SECTION TAG

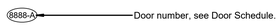


ROOM NAME AND NUMBER

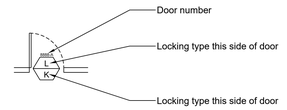
WALL TYPE



DOOR NUMBER TAG

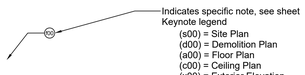


DOOR LOCK SYMBOL



GLAZING TAG

KEYNOTE TAG



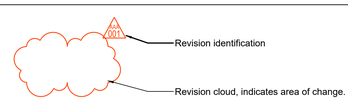
CEILING HEIGHT TAG

ELEVATION TARGET


Indicates elevation of floor relative to a datum

NORTH ARROW

REVISION CLOUD AND DELTA



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Stamp:

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CVIM CCC Tenant Improvement

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Oregon City, OR 97405

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100% Bid / Permit Set

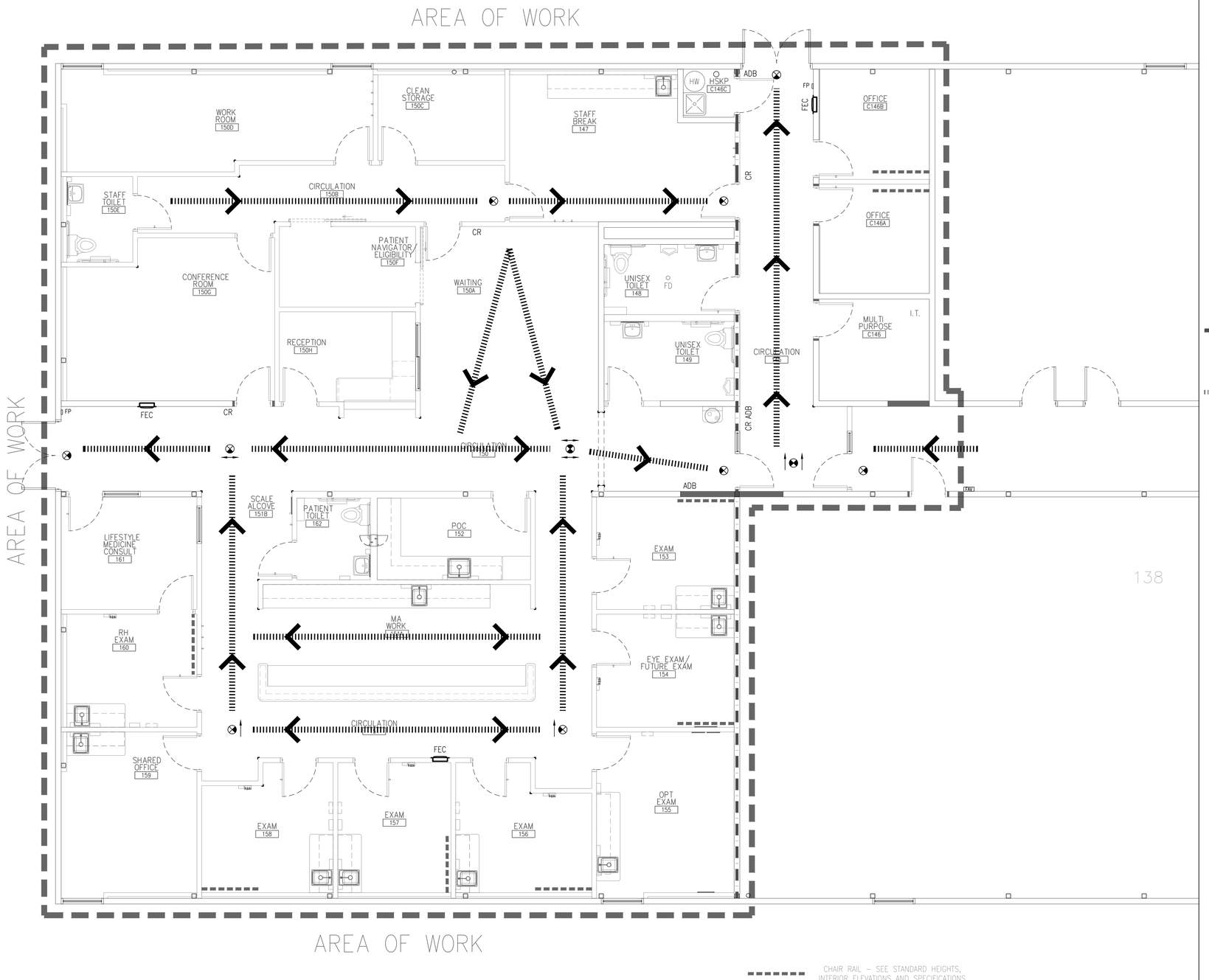
18 Nov 2021

Sheet Title

Drawing Standards

Sheet Number:

G0.2.01



Fire Life Safety Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01

Legend:

EMERGENCY EGRESS SIGNAGE (ARROWS INDICATE TRAVEL DIRECTION)

1-HOUR FIRE BARRIER WALL

FEC FIRE EXTINGUISHER CABINET

EGRESS PATH (MINIMUM 1 FOOT/CANDLE ILLUMINATION PROVIDED AT EGRESS PATH)

Fire Life Safety Plan
SCALE: 1/4"=1'-0" (1)

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18 Nov 2021

Sheet Title
Fire Life Safety Plan

Sheet Number:
FL.1.01

Project General Notes:

A. Architectural drawings are only a portion of this project - see consultant drawings for additional information.

B. Existing fire-rated construction assemblies and fire protection systems within the "limits of work" are to remain intact or provided with interim fire and life safety measures approved by the owner throughout execution of the work. See existing facility Fire and Life Safety drawings for additional information.

C. Existing work indicated on drawings are based on information provided by the owner. If significant deviations are encountered in the field affecting execution of the work, notify the Architect immediately.

D. Existing entities shown outside of limits of work are to remain undisturbed, unless noted otherwise.

E. Contractor will coordinate with vendors and Owner for installation of all equipment.

Design Coordination Plan General Notes:

A. The contractor will obtain, from the owner and vendors, all furniture plans, equipment lists and cut sheets to coordinate all equipment and furniture installations.

B. This drawing was developed during the design phase to facilitate the design process. Information on this drawing is provided for coordination purposes and is supplemental to other contract documents.

C. Electrical and Low Voltage outlets are indicated in preferred locations on the plans and do not represent all of the outlets required for the project. Additional requirements TBD as part of MEP Deign / Build process.

D. If existing outlets are being reused, contractor to verify type and location and present inconsistencies to Architect.

E. Not all items listed below are in part of this project. See drawings for quantity and location.

Finish Plan General Notes:

A. The general intent of the Finish Plans are to show the following content:
- Location and extent of new floor finishes
- Floor transitions, floor patterns and designs
- Location and extent of wall accents

B. Refer to Specifications for Common Finish Materials and finish abbreviations. Refer to Finish Schedule for additional information and locations.

C. Flooring is to be continuous under casework where cabinet bases are not provided.

D. Contractor will: Field verify existing conditions; Confirm extent of new finish transitions to existing conditions; Review transitions with Architect.

Interior Elevation General Notes:

A. The general intent of the Interior Elevations is to show the following content:
- Doors and Windows
- Architectural dimensions
- Plumbing Fixtures
- Electrical Fixtures
- Casework
- Contractor coordinated items

B. Devices where indicated are in preferred locations and do not represent all required for the project.

Roof Plan General Notes:

A. Provide roof walkway around mechanical units, roof hatches, ladders, and scuppers, as required by code.

B. Equipment support pads indicated on this drawings are shown for information purposes only. All required pads might not be shown. Location and sizes of all pads are to be coordinated as required by all trades. See Mechanical/Plumbing and Electrical documents for additional pads and refer to equipment specifications. Contractor is to coordinate dimensions shown with requirements of other documents.

C. Install roof items plumb and level, neatly aligned with adjacent horizontal lines, unless otherwise indicated.

Reflected Ceiling Plan General Notes:

A. The general intent of the Reflected Ceiling Plans are to show the following content:
- Ceilings and Ceiling Heights
- Walls and Wall Types
- Structural Columns and Structural Grid Lines
- Contractor installed Fixtures and Equipment, and other contractor coordinated items

B. Install fire rated covers over all lights which penetrate rated ceilings. Cover rating will match labeled ceiling rating.

C. Field verify existing ceiling layouts prior to the commencement of any work.

D. Refer to sheet A9.4.01 for typical ceiling details.

Floor Plan General Notes:

A. The general intent of the Floor Plans are to show the following content:
- Walls and Wall Types
- Doors and Windows
- Structural Columns and Structural Grid Lines
- Primary Architectural dimensions
- Plumbing Fixtures *(sinks, toilets, shower head/controls, mop sinks, clinic sinks, scrub sinks, eye wash, floor drains and floor sinks, drinking fountains, etc.)*
- Floor mounted Electrical Items (*floor boxes, etc.*)
- Casework
- Contractor installed Fixtures and Equipment, and other contractor coordinated items

B. For fire resistive assemblies see Building Data and Fire & Life Safety drawings.

C. The general contractor will become familiar with the work required for the extent of the project and the interface with what is shown on these drawings.

D. Refer to sheets A9.1.01 and A9.1.02 for partition assemblies.

E. Not all new floor or wall penetrations are shown on architectural drawings - refer to consultant drawings for additional penetrations.

Demolition Floor Plan General Notes:

A. Prior to commencement of any demolition work, install infection control measures, as required by owner.

B. All areas of demolition will be cleared and cleaned of all items and prepared to receive new construction.

C. Contractor will field verify limits of demolition and existing conditions.

D. Locate all wiring, plumbing, utilities, structural members, etc. prior to any demolition work. Damage to any item which is not a part of this project will be repaired by the contractor at no cost to the owner.

E. Repair all areas where penetrations have been capped or removed adjacent to area of work.

F. Existing lights may remain functional in place or be reused. Protect from damage. See Electrical drawings for more information.

Design Coordination Plan Legend:

See floor plan legend for items not noted below.

- Thermostat
- Communications / Data Connection
- Communications / Data Connection - Above Counter
- Phone Connection
- Wall Phone
- Light Switch
- Light Switch - 3 Pole
- Light Switch - Dimmer
- Duplex Outlet
- Duplex Outlet - Ground Fault
- Duplex Outlet - Ground Fault - Above Counter
- Duplex Outlet - Above Counter
- Fourplex Outlet
- Fourplex Outlet - Above Counter
- Special Outlet
- Junction Box

Finish Plan Legend:

See finish schedule and specifications for more information

CON-#	Concrete
CPT-#	Carpet
LN-#	Linoleum
RF-#	Rubber
SV-#	Sheet Vinyl
LVT-#	Luxury Vinyl Tile
T-#	Floor Tile
WOM-#	Walk Off Mat
SPC-#	Specialty Floor
	Accent location
	Direction of floor finish pattern
XX-#	Transition indicator, See finish plan and finish schedule for type (XX-#)

Interior Elevation Legend:

- Wall Protection See Plan for type
- Electrical Devices
- Task light or light in casework

Reflected Ceiling Plan Legend:

- Existing Ceiling to remain - patch and repair as required for new finishes
- Type 'X' gypsum board ceiling
- Suspended acoustical ceiling. See sheet A9.4.01 for typical seismic requirements and see Room Finish Schedule for type
- Suspended wood appearance ceiling
- Mechanical duct/outlet and other equipment - see Mechanical drawings for fixture types
- Smoke Detector - see Mechanical drawings for fixture types
- Sprinkler Head - see Plumbing drawings for fixture types
- Electrical lighting fixtures - see Electrical drawings for fixture types
- Task light or light in casework below - see Electrical drawings for fixture types
- Speaker - see Electrical drawings for fixture types
- Exit Sign - see Electrical drawings for fixture type
- Access Panel in ceiling - see reflected ceiling plan for size
- Ceiling grid origin indicator
- OS — Occupancy Sensor

Floor Plan Legend:

- CASEWORK Solid surface counter tops w/ plastic laminate casework
- CASEWORK Plastic laminate counter tops w/ plastic laminate casework
- CASEWORK Full height plastic laminate casework
- xx-# — Wall mounted fixture/finish - see floor plan for type (xx-#)
- R — Radius countertop - radius will be 2"

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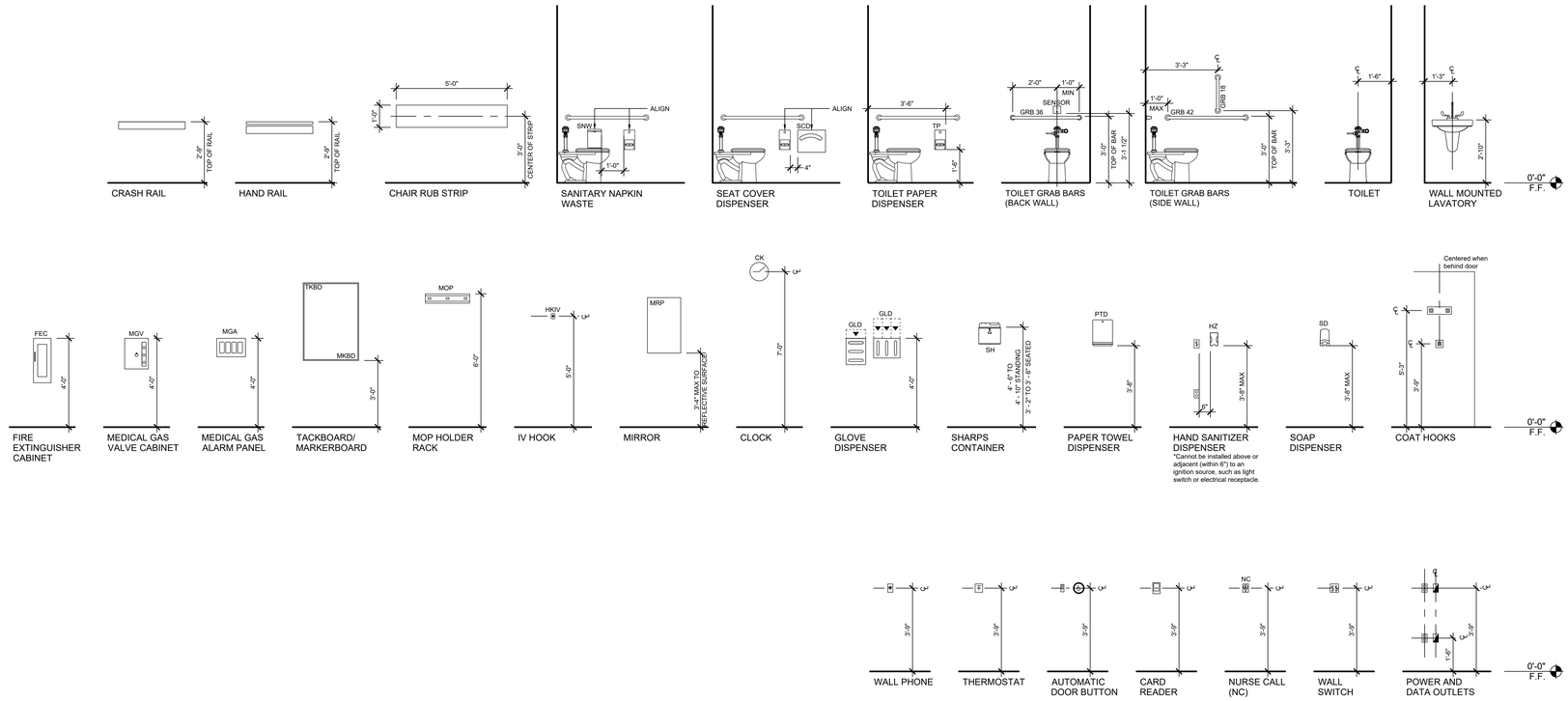
Project General Notes

Sheet Number:

A0.1.01

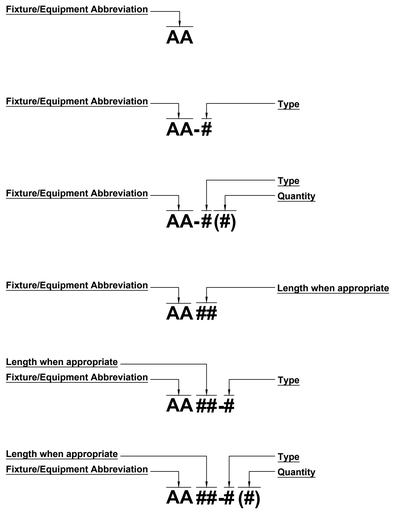
Standard Heights and Clearances

Typical, unless noted otherwise.



Fixture and Equipment Abbreviations Legend

Combinations of abbreviations



Fixture and Equipment Abbreviations

Some abbreviations may not be used in these documents.

OFOI (Owner Furnished Owner Installed)

Object line pattern on plans and elevations . . . . . .

Code	Description	Comments
ADPT	Adapter, Electrical/Medical	
FRZ	Freezer, Upright	
FRZU	Freezer, Undercounter	
MAG	Magazine Rack	
MED	Medication station	
MICRO	Microwave	
PNEU	Pneumatic tube station	
PRJ	Projector	
REF	Refrigerator	
REFU	Refrigerator (under counter)	
REFF	Refrigerator / Freezer	
SPH	Sphygmomanometer	
TRT	Toilet	
WR	Waste Receptacle	
WRR	Waste Recycle bins	

OFCI (Owner Furnished Contractor Installed)

Object line pattern on plans and elevations _ _ _ _ _ _

Code	Description	Comments
ABPM	Ambulatory External Defibrillator	(blank)
BP	Blood Pressure Equipment	
CAM	Camera	See electrical documents for additional information.
CHEM	Chemical Dispenser (Housekeeping)	
CKB	Clock, Battery operated	
COF	Coffee Maker with water supply	See plumbing documents for additional information.
DPH	DPH Mask Holder (Pressurized)	
DW	Dishwasher	See plumbing documents for additional information.
EBH	Emesis Bag Holder	
IM	Ice machine	See plumbing documents for additional information.
KAB	Label Keep Back	
LK	Lockers (Premanufactured)	
NAR	Narcotic cabinet	
OP	Opthalmoscope	(blank)
OTG	Otoscope	
PMB	Patient Medications Box	
RD	Soap Dispenser	
SH	Sharps Receptacle	
TH	Thermometer	(blank)
TV	Television	(blank)
VM	Vending Machine	

CFCI (Contractor Furnished Contractor Installed)

Object line pattern on plans and elevations _____

Code	Description	Comments
AO	Air outlet (Medical Air)	See plumbing documents for additional information.
ADB	Auto-door actuator	
AV	Access Valve	See common finishes for additional information.
AVS	Audio/Visual Support	
BH	Bench (Premanufactured)	
BPS	Bed Pan Storage	
BR	Bike Rack	
BV	Bottle Holder for Vacuum	See plumbing documents for additional information.
CB	Catch Basin	See civil documents for additional information.
CCTR	Cubical Curtain Track	See detail x/xx and common finishes for additional information.
CD	Card Reader	
CG	Corner Guard	See common finishes for additional information.
CHR	Chair Rail	See common finishes for additional information.
CKS	Clock, System	See electrical documents for additional information.
CLIP	Call Strip	
CR	Crash Rail	See common finishes for additional information.
CRH	Cane Holder	See detail x/xx.
DCT	Diaper Changing Table	
DF	Drinking fountain	See plumbing documents for additional information.
DS	Downspout	
DTR	Dressing Trees	
EP	Electrical Panel	See electrical documents for additional information.
ES	Exam Stool Support	See plumbing documents for additional information.
EYE	Eye Wash	See plumbing documents for additional information.
FA	Fire Alarm Device	See electrical documents for additional information.
FAA	Fire Alarm Annunciator panel	See electrical documents for additional information.
FAP	Fire Alarm Pull Station	See electrical documents for additional information.
FAV	Fire Alarm Visual	See electrical documents for additional information.
FD	Floor Drain	See plumbing documents for additional information.
FE	Fire Extinguisher	
FEC	Fire Extinguisher and Cabinet	See detail x/xx.
FH	Fire Hydrant	See civil documents for additional information.
FS	Floor Sink	See plumbing documents for additional information.
GB	Grab Bar	
HED	Hose Reel	
HB	Hose bib Frost proof	See plumbing documents for additional information.
HK	Hooks	See detail x/xx.
HL	Heat lamp	
HR	Hand Rail	See common finishes for additional information.
HS	Hand Sanitizer bottle holder	
IV	Intravenous Track with Holder	
MGA	Medical Gas Alarm Panel	See plumbing documents for additional information.
MGV	Medical Gas Valve Box	See plumbing documents for additional information.
MH	Man Hole and cover	See civil documents for additional information.
MHO	Magazine Hood Open	
MKBD	Marker Board	
MOP	Mop Rack	
MR	Mirror	
N	Nitrogen gas outlet	See plumbing documents for additional information.
NC	Nurse Call	See electrical documents for additional information.
NCA	Nurse Call Annunciator panel	See electrical documents for additional information.
NCB	Nurse Call Code Blue	See electrical documents for additional information.
NCD	Nurse Call Dutty station	See electrical documents for additional information.
NCF	Nurse Call Flag indicator	
NCP	Nurse Call Pant	See electrical documents for additional information.
NCR	Nurse Call Reset	See electrical documents for additional information.
NCS	Nurse Call Staff Station	See electrical documents for additional information.
NL	Night Light	
O	Oxygen Outlet	See plumbing documents for additional information.
PB	Pass Box (Premanufactured)	
PGBD	Peg Board (Premanufactured)	
PS	Projector Screen	
SCD	Soiled Seat Cover Dispenser	
SHL	Shelf (Premanufactured)	
SHR	Shower Rod	
SHS	Shower Shelf	
SHSR	Shower Seat (Recessed) (Premanufactured)	See detail x/xx.
SND	Sanitary Napkin Disperser	
SNK	Sink integral to countertop	See countertops in specifications.
SNW	Sanitary Napkin Waste	
TB	Towel Bar	
TC	Time Clock (Employee)	
TD	Towel Dispenser	
TKBD	Tackboard	See common finishes for additional information.
TPD	Toilet Paper Dispenser	
TSKL	Task Light under upper cabinet	See electrical documents for additional information.
V	Vacuum Outlet	See plumbing documents for additional information.
WP	Wall Protection	See common finishes for additional information.
WTS	Wall Transition Strip	

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REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON STATE OF OREGON

Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

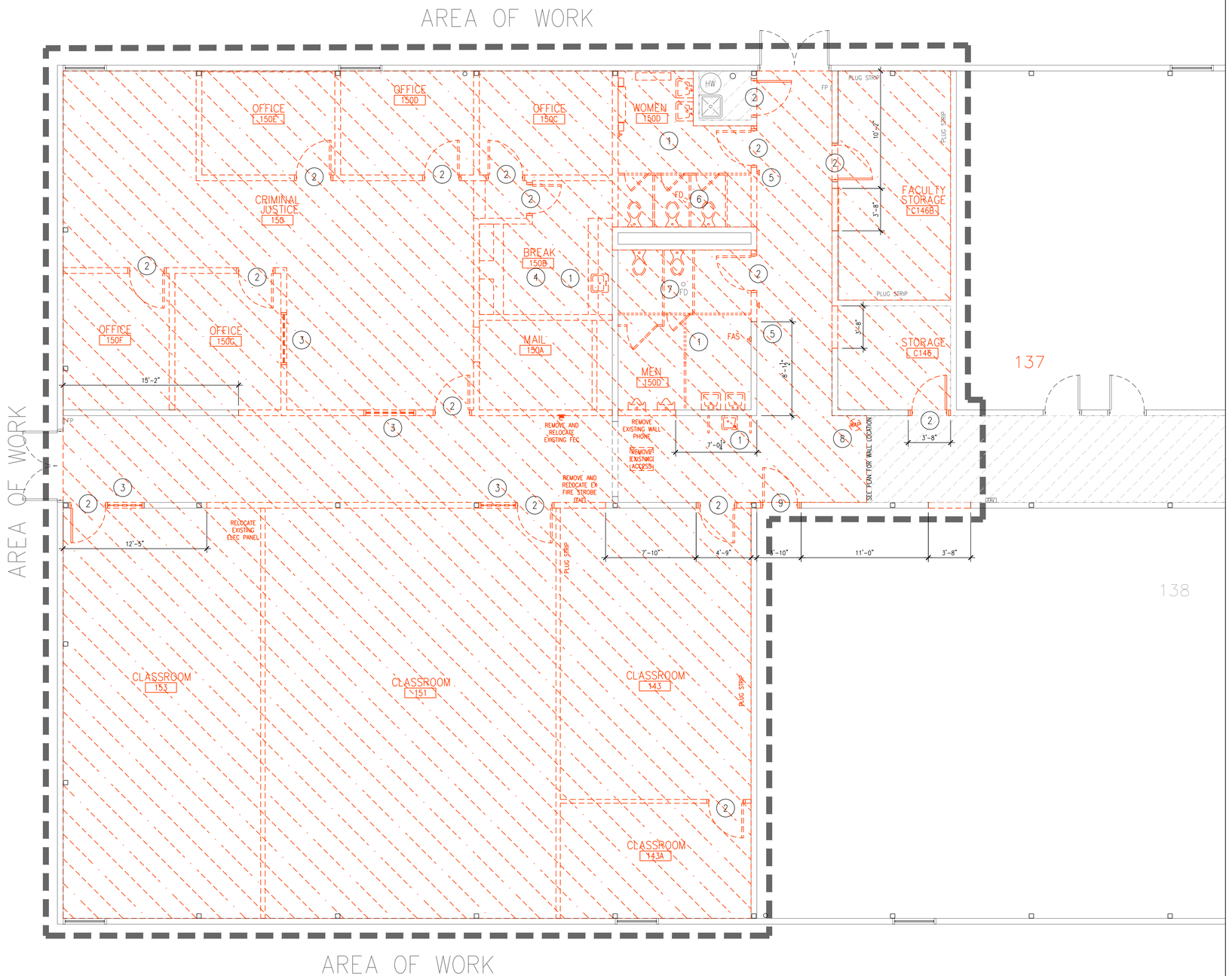
	Revision	Date

Sheet Title

Standard Heights and Fixture Abbreviations

Sheet Number:

A0.2.01



Demolition Floor Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- Prior to the commencement of any demolition work, field verify all dimensions

Demolition Floor Plan Keynotes:

1. Remove existing plumbing fixtures.
2. Remove existing door, hardware and frame.
3. Remove existing window assembly.
4. Demolish existing casework.
5. Remove existing inoperable actuator.
6. Demolish existing floor drain - level floor and prepare for new flooring.
7. Existing floor drain to remain.
8. Remove existing WAP - verify with Owner if this device is to be relocated so the college can continue to use that devise.
9. Remove and relocate existing door and frame - see floor plan for new location.

Demolition Ceiling Keynotes:

Demolish existing ceiling system - remove all ceiling and wall mounted items (light fixtures, speakers, smoke detectors, mechanical accessories, etc.)

Existing ceiling system and existing ceiling components are to remain

Demolition Floor Plan
SCALE: 1/4"=1'-0" (1)

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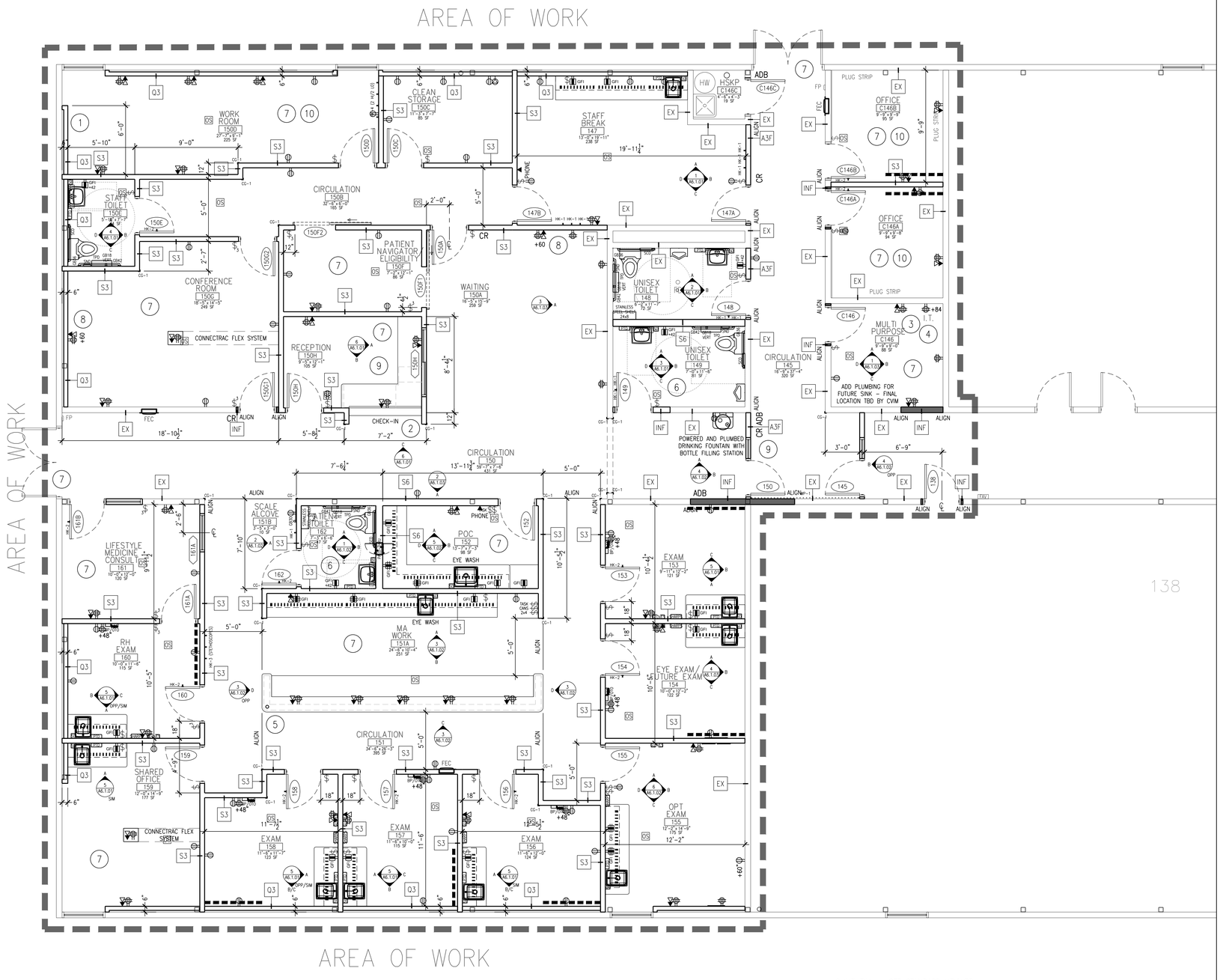
18 Nov 2021

Sheet Title
Demolition Floor Plan

Sheet Number:
A2.1.01



Floor Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01
- Add insulation to all Q3 walls.

Floor Plan Keynotes:

1. Proposed new location for electrical panel. Coordinate field conditions with Owner and Architect, as required.
2. Use surface mounted tracks for the sliding glass windows.
3. Add fire-treated plywood to walls - verify extents with Owner.
4. Coordinate power and low voltage requirements with Owner.
5. Install a decorative conduit to supply power and low voltage to the MA Workstation desk from above ceiling.
6. Provide localized emergency call station with an annunciator outside of door. Reference MEP BOD - GC to coordinate.
7. Provide integral USB type outlets.
8. Provide backing for wall mounted televisions.
9. Provide intercom system between Door #150 and Reception.
10. Final locations of Access Control Head End and Power Supply boxes are to be determined by CVIM.

Floor Plan (1)
SCALE: 1/4"=1'-0"

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Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

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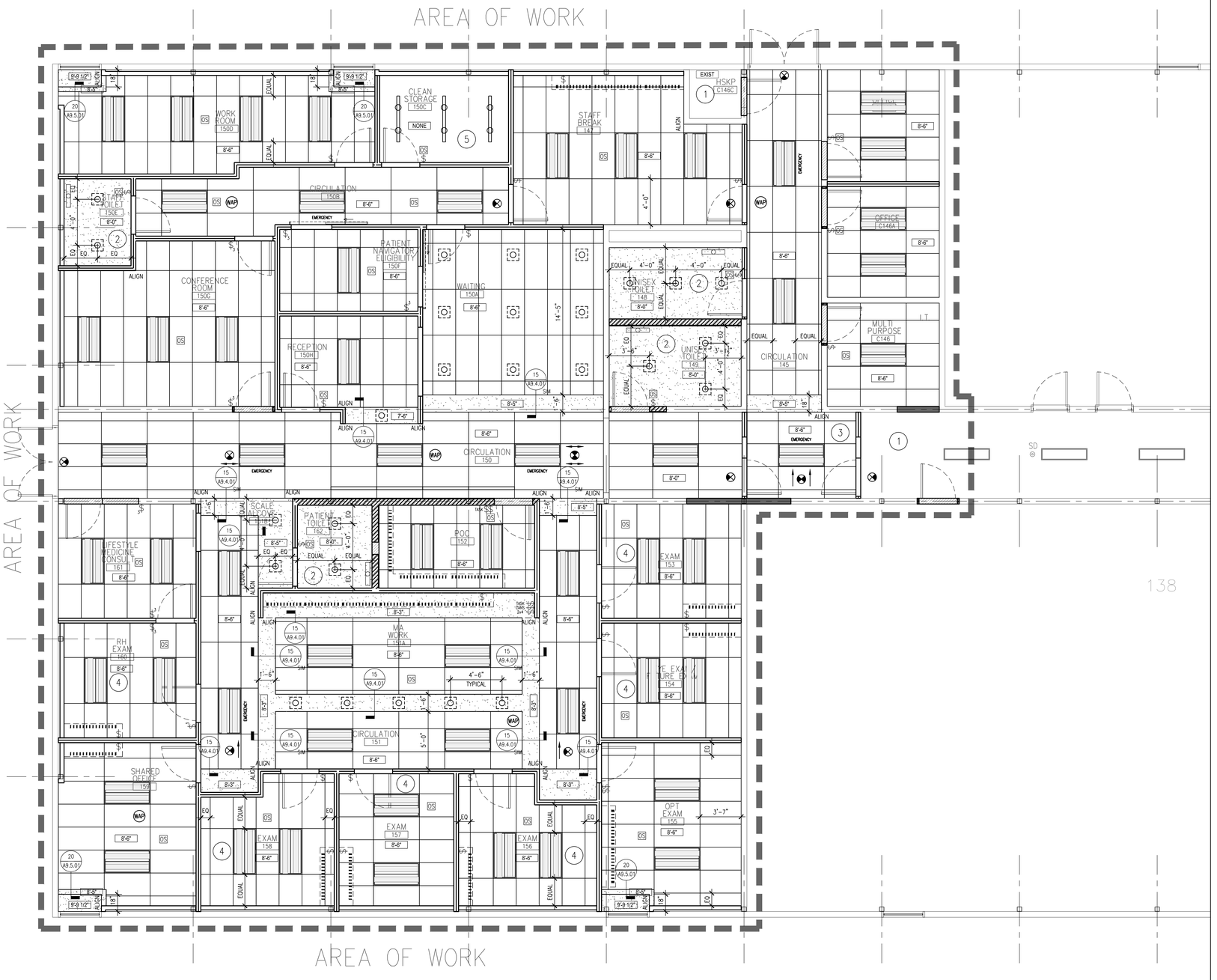
Revision	Date

Sheet Title
Floor Plan

Sheet Number:
A3.1.01



Reflected Ceiling Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01
- See sheet A9.4.01 for standard ceiling details

Reflected Ceiling Plan Keynotes:

1. Existing ceiling is to remain.
2. See detail 11/A9.5.01 for typical gypsum board ceiling.
3. Modify existing ceiling to accommodate for new ceiling. Field verify ceiling heights. Coordinate final transition design with Owner and Architect.
4. Light fixture to receive "Ceiling Scene" light image - refer to specifications and finishes for additional information.
5. This room will not have a ceiling - Owner wants this room open to structure above.

Reflected Ceiling Plan (1)
SCALE: 1/4"=1'-0"

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Project Title:

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PKA Project Number: 200702

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Revisions shown below may not apply to this publication

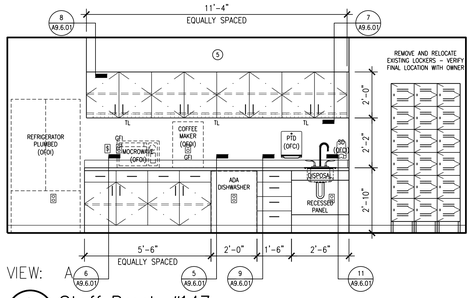
Revision	Date

Sheet Title

Reflected Ceiling Plan

Sheet Number:

A4.1.01



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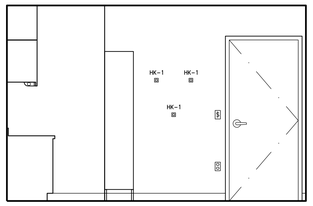
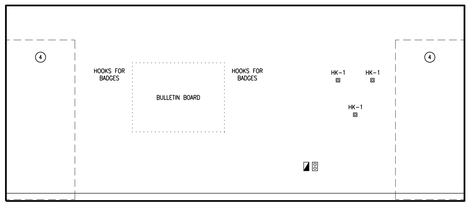
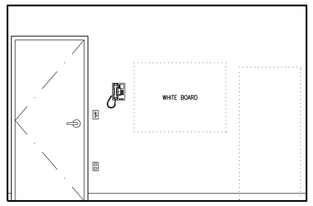


VIEW: B

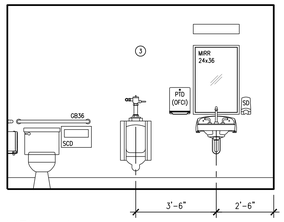


VIEW: C



VIEW: D

1 Staff Break #147
A6.1.01 SCALE: 3/8"=1'-0"



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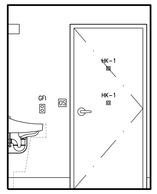

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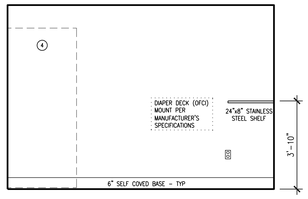

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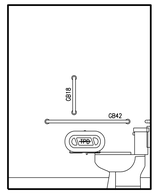
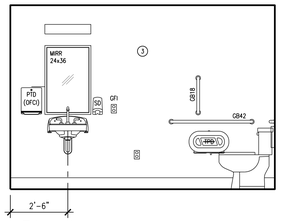
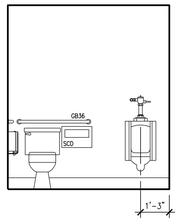


VIEW: D

2 Unisex Toilet #148
A6.1.01 SCALE: 3/8"=1'-0"



VIEW: A



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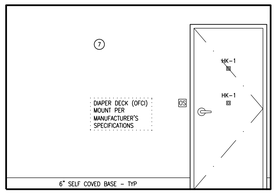

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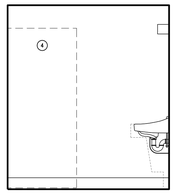
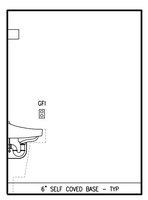


VIEW: D

3 Unisex Toilet #149
A6.1.01 SCALE: 3/8"=1'-0"



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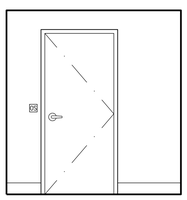

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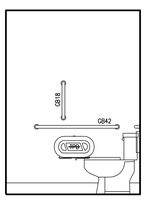

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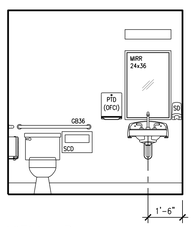
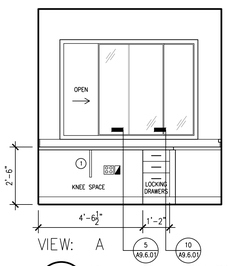
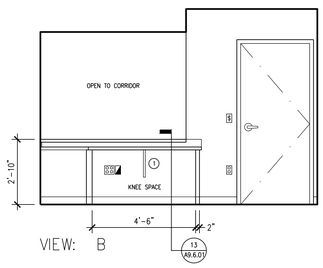


VIEW: D

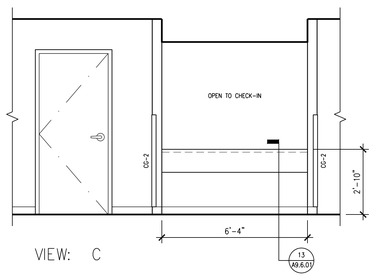
4 Staff Toilet #150E
A6.1.01 SCALE: 3/8"=1'-0"



VIEW: A

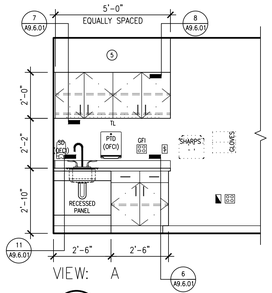


VIEW: B

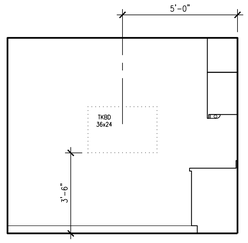


VIEW: C

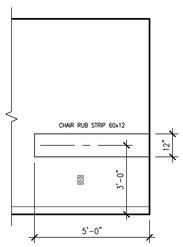
6 Reception #150H
A6.1.01 SCALE: 3/8"=1'-0"



VIEW: A



VIEW: B



VIEW: C

5 Exam Room #153
A6.1.01 SCALE: 3/8"=1'-0"

Exam Room #156 - Similar
Exam Room #157
Shared Office #158 - Opposite Hand / Similar
Shared Office #159 - Similar
Exam Room #160 - Opposite Hand / Similar

Note: See sheet D3.1.01 for actual locations of Tack Panels and Chair Rub Strips in each Exam Room (Dimensions are typical)

Interior Elevations General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01
- Add grommets to all workstations and printer locations

Interior Elevations Keynotes:

1. Counter support - surface mounted counter support brackets - 42" maximum distance between brackets. Size brackets for counter depth. Contractor and/or Installer will ensure brackets are anchored to wall studs or backing plates. Refer to details 8, 12 and 15 on sheet A9.1.03. Color: White
2. Casework access panel.
3. Entire wall to receive accent tile - refer to Common Finish Materials for additional information.
4. Door shown in open position.
5. Casework fascia.
6. Pass-through - install per manufacturer's specifications.
7. Provide localized emergency call station with annunciator outside of door.
8. Stainless steel shelf - 24" x 8".
9. Bottom-up roller shades - see sheet D3.1.01 for locations.

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Consultant:

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Key Plan

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100% Bid / Permit Set

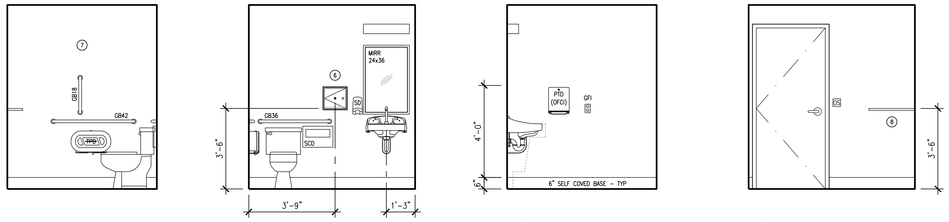
18 Nov 2021

Sheet Title

Interior Elevations

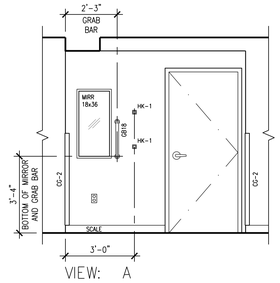
Sheet Number:

A6.1.01



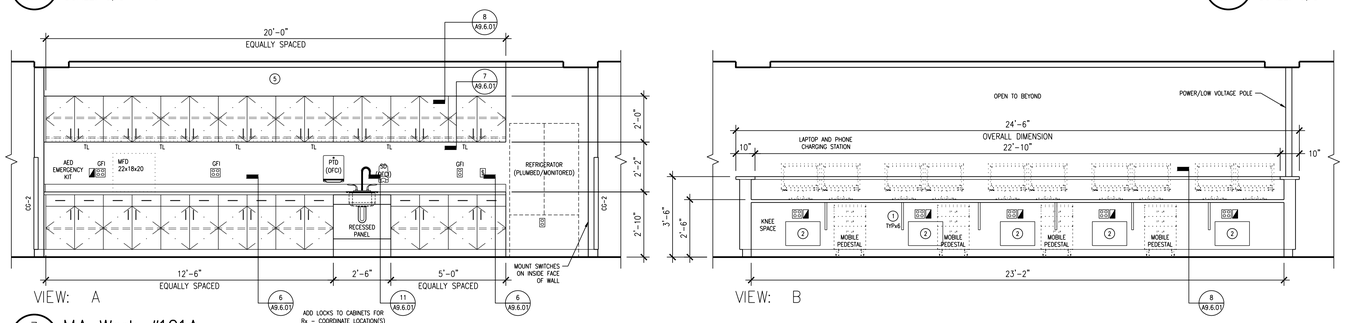
VIEW: A VIEW: B VIEW: C VIEW: D

1 Patient Toilet #162
A6.1.02 SCALE: 3/8"=1'-0"



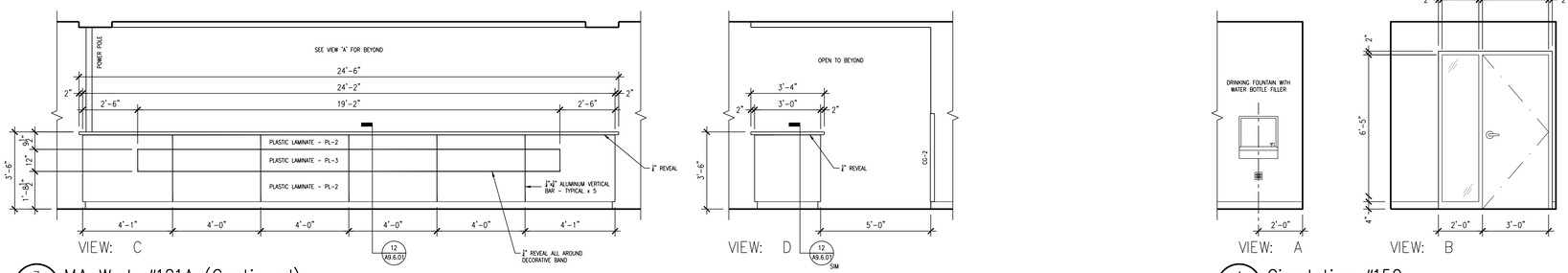
VIEW: A

2 Scale Alcove #151B
A6.1.02 SCALE: 3/8"=1'-0"

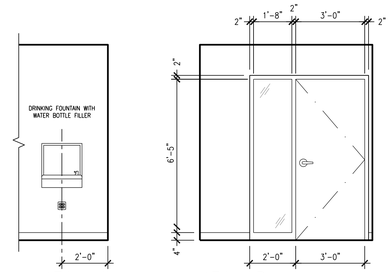


VIEW: A VIEW: B

3 MA Work #121A
A6.1.02 SCALE: 3/8"=1'-0"



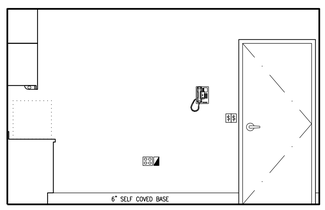
VIEW: C VIEW: D



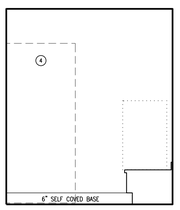
VIEW: A VIEW: B

4 Circulation #150
A6.1.02 SCALE: 3/8"=1'-0"

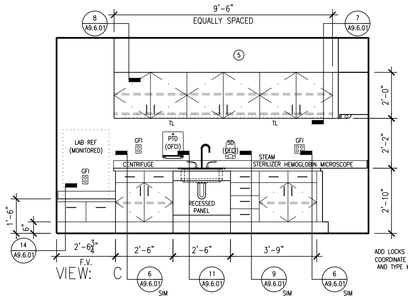
3 MA Work #121A (Continued)
A6.1.02 SCALE: 3/8"=1'-0"



VIEW: A

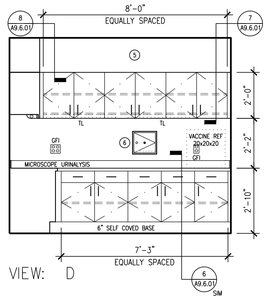


VIEW: B



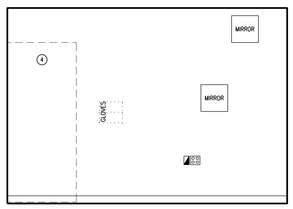
VIEW: C

ADD LOCKS TO CABINETS COORDINATE LOCATION(S) AND TYPE WITH OWNER



VIEW: D

5 POC #152
A6.1.02 SCALE: 3/8"=1'-0"



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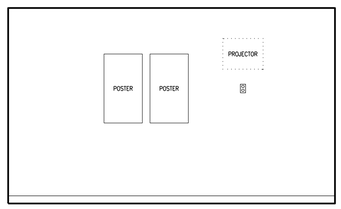
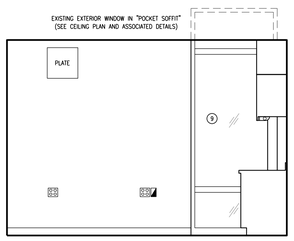
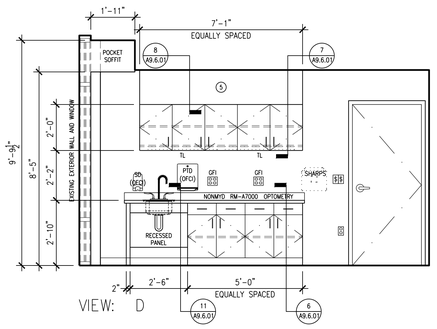


VIEW: B



VIEW: C



VIEW: D

6 OPT Exam #155
A6.1.02 SCALE: 3/8"=1'-0"

Interior Elevations General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
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- For Fixture/Equipment abbreviations see sheet A0.2.01
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3. Entire wall to receive accent tile - refer to Common Finish Materials for additional information.
4. Door shown in open position.
5. Casework fascia.
6. Pass-through - install per manufacturer's specifications.
7. Provide localized emergency call station with annunciator outside of door.
8. Stainless steel shelf - 24" x 8".
9. Bottom-up roller shades - see sheet D3.1.01 for locations.

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REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON DATE OF OREGON

Consultant:

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

△ Revision Date

100% Bid / Permit Set

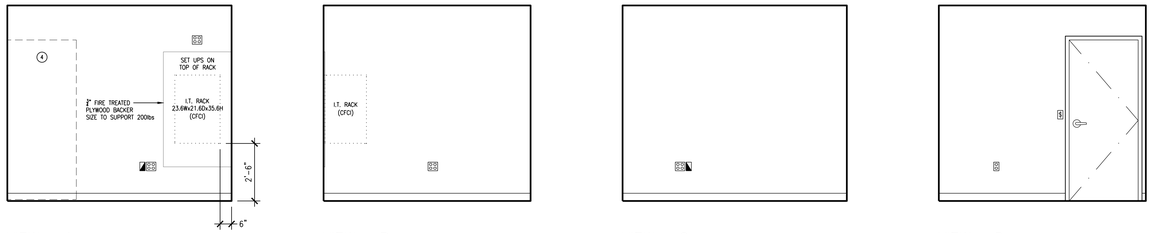
18 Nov 2021

Sheet Title

Interior Elevations

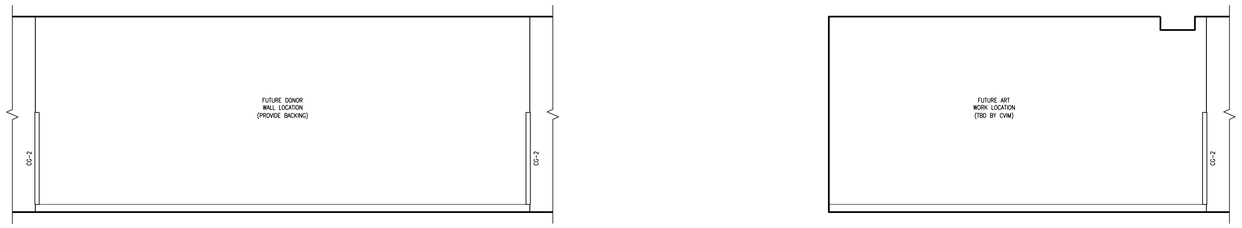
Sheet Number:

A6.1.02



VIEW: A VIEW: B VIEW: C VIEW: D

1 A6.1.03 **MULTI PURPOSE #C146**
SCALE: 3/8"=1'-0"

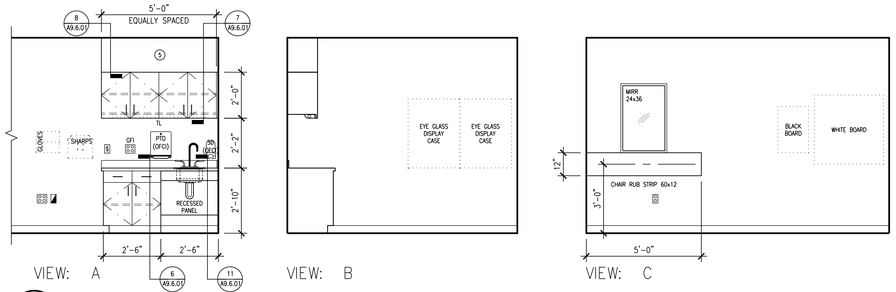


VIEW: A

2 A6.1.03 **CIRCULATION #150**
SCALE: 3/8"=1'-0"

VIEW: A

3 A6.1.03 **WAITING #150A**
SCALE: 3/8"=1'-0"



VIEW: A VIEW: B VIEW: C

4 A6.1.03 **Eye Exam / Furture Exam Room #154**
SCALE: 3/8"=1'-0"

Interior Elevations General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01
- Add grommets to all workstations and printer locations

Interior Elevations Keynotes:

1. Counter support - surface mounted counter support brackets - 42" maximum distance between brackets. Size brackets for counter depth. Contractor and/or Installer will ensure brackets are anchored to wall studs or backing plates. Refer to details 8, 12 and 15 on sheet A9.1.03. Color: White
2. Casework access panel.
3. Entire wall to receive accent tile - refer to Common Finish Materials for additional information.
4. Door shown in open position.
5. Casework fascia.
6. Pass-through - install per manufacturer's specifications.
7. Provide localized emergency call station with annunciator outside of door.
8. Stainless steel shelf - 24" x 8".
9. Bottom-up roller shades - see sheet D3.1.01 for locations.

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Revision	Date

Sheet Title

Interior Elevations

Sheet Number:

A6.1.03

100% Bid / Permit Set

18 Nov 2021

Partition Assemblies:

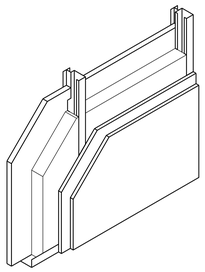
A. Partition assemblies are based on proprietary systems (studs, gypsum wallboard) - see Specifications for additional information.

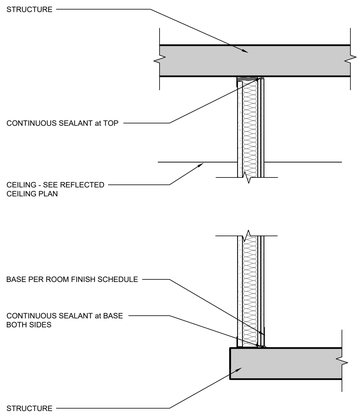
B. Contractor to select spacing of studs based on height limitations, unless specifically noted on drawings.

C. Existing partition assemblies along the 1-hour fire barrier, see sheet FL.1.01, are required to be field verified to ensure they meet, or exceed, the construction requirements of partition assembly A3F - modify and upgrade existing walls as required.

D. Partition assemblies tagged as "INF" are infill walls and their construction is required to match the existing adjacent wall construction - make infill walls flush with existing adjacent walls. Paint to match existing adjacent walls.

Shaft Assembly Rated for Acoustic & Smoke or Fire





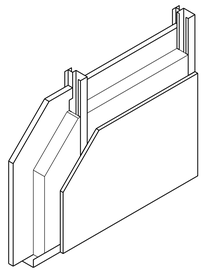
Shaft Partition Assembly - K

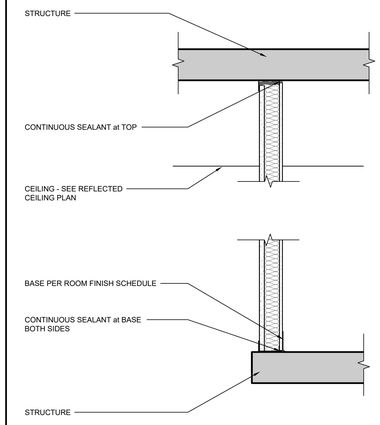
Framing: Steel CT studs, 18 gauge
Insulation: Glass fiber
Side 1: 1" Shaftliner
Side 2: 2 layers 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	2 1/2"	11'-11"	K2A	STC-46 - NGC 2019007	K2F	2 Hour - U497
	4"	17'-11"	K4A	STC-51 - NGC 2019012	K4F	2 Hour - U497

Smoke | Acoustic | Fire

Shaft Assembly Rated for Acoustic & Smoke or Fire





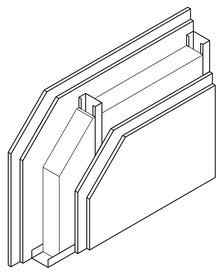
Shaft Partition Assembly - H

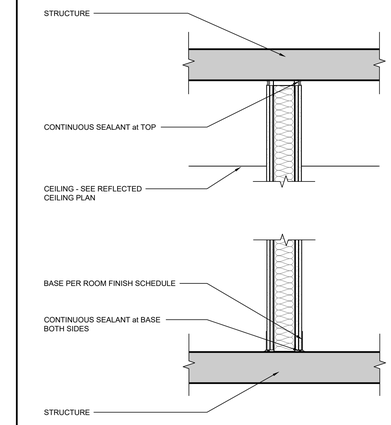
Framing: Steel CT studs, 18 gauge
Insulation: Glass fiber
Side 1: 1" Shaftliner
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	2 1/2"	11'-6"	H2A	STC-43 - NGC 2019008	H2F	1 Hour - U499
	4"	17'-5"	H4A	STC-47 - NGC 2019011	H4F	1 Hour - U499

Smoke | Acoustic | Fire

Partition Assembly Rated for Acoustic & Smoke or Fire





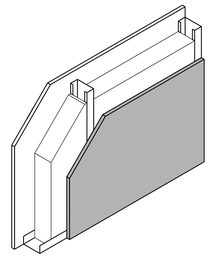
Partition Assembly - F

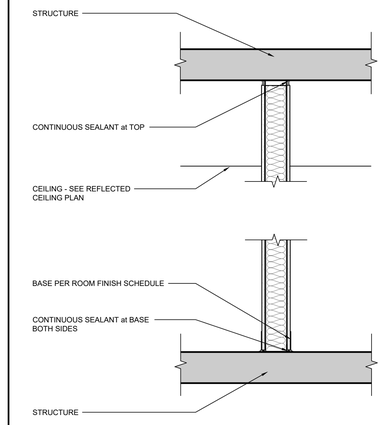
Framing: Steel studs, 20 gauge
Insulation: Glass fiber
Side 1: 2 layers 5/8" Type-X Gypsum Board
Side 2: 2 layers 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-11"	F3A	STC-56 - NGC 2018058	F3F	2 Hour - U411
	6"	18'-6"			F6F	2 Hour - U411
Stud Spacing 16"	3 5/8"	14'-10"	F3A	STC-52 - NGC 2018113	F3F	2 Hour - U411
	6"	21'-2"			F6F	2 Hour - U411

Smoke | Acoustic | Fire

Partition Assembly Rated for Acoustic & Smoke or Fire





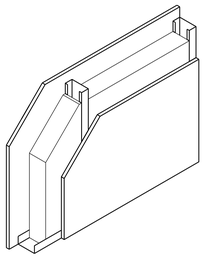
Partition Assembly - D

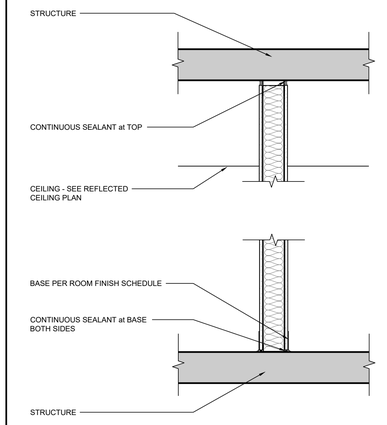
Framing: Steel studs, 20 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" SoundBreak XP Wall Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-11"	D3A	STC-55 - OL14-0404	D3F	1 Hour - U465
	6"	18'-6"			D6F	1 Hour - U465
Stud Spacing 16"	3 5/8"	14'-10"	D3A	STC-48 - NGC 2009057	D3F	1 Hour - U465
	6"	21'-2"	D6A	STC-47 - NGC 2018129	D6F	1 Hour - U465

Smoke | Acoustic | Fire

Partition Assembly Rated for Acoustic & Smoke or Fire





Partition Assembly - B

Framing: Steel studs, 20 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-11"	B3A	STC-44 - NGC 2013015	B3F	1 Hour - U465
	6"	18'-6"			B6F	1 Hour - U465
Stud Spacing 16"	3 5/8"	14'-10"	B3A	STC-46 - NGC 2018106	B3F	1 Hour - U465
	6"	21'-2"	B6A	STC-44 - NGC 2018130	B6F	1 Hour - U465

Smoke | Acoustic | Fire

Shaft Partition Assembly - J

Framing: Steel CT studs, 25 gauge
Insulation: Glass fiber
Side 1: 1" Shaftliner
Side 2: 2 layers 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	2 1/2"	11'-11"	J2A	STC-47 - NGC 2016035	J2F	2 Hour - U497
	4"	16'-9"			J4F	2 Hour - U497

Smoke | Acoustic | Fire

Shaft Partition Assembly - G

Framing: Steel CT studs, 25 gauge
Insulation: Glass fiber
Side 1: 1" Shaftliner
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	2 1/2"	11'-6"	G2A	STC-42 - NGC 2016033	G2F	1 Hour - W419
	4"	16'-5"			G4F	1 Hour - W419

Smoke | Acoustic | Fire

Partition Assembly - E

Framing: Steel studs, 25 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-10"	E3A	STC-56 - NGC 2018112	E3F	2 Hour - U411
	6"	17'-2"	E6A	STC-57 - NGC 2017119	E6F	2 Hour - U411
Stud Spacing 16"	3 5/8"	13'-9"	E3A	STC-56 - NGC 2018109	E3F	2 Hour - U411
	6"	19'-8"			E6F	2 Hour - U411

Smoke | Acoustic | Fire

Partition Assembly - C

Framing: Steel studs, 25 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-10"			C3F	1 Hour - U465
	6"	17'-2"	C6A	STC-57 - NGC 2017115	C6F	1 Hour - U465
Stud Spacing 16"	3 5/8"	13'-9"	C3A	STC-49 - NGC 2009058	C3F	1 Hour - U465
	6"	19'-8"			C6F	1 Hour - U465

Smoke | Acoustic | Fire

Partition Assembly - A

Framing: Steel studs, 25 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud			Acoustic & Smoke Rated Assembly		Fire Rated Assembly	
Size		Height Limit	Type	STC Rating - Test Number	Type	Fire Rating - Test Number
Stud Spacing 24"	3 5/8"	12'-10"	A3A	STC-47 - NGC 2016104	A3F	1 Hour - U465
	6"	17'-2"	A6A	STC-49 - NGC 2017116	A6F	1 Hour - U465
Stud Spacing 16"	3 5/8"	13'-9"	A3A	STC-48 - NGC 2018107	A3F	1 Hour - U465
	6"	19'-8"			A6F	1 Hour - U465

Smoke | Acoustic | Fire

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	Revision	Date

Sheet Title

Partition Assemblies

Sheet Number:

A9.1.01

Partition Assemblies:

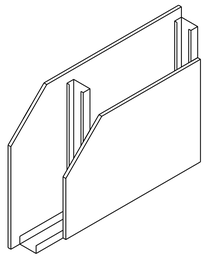
A. Partition assemblies are based on proprietary systems (studs, gypsum wallboard) - see Specifications for additional information.

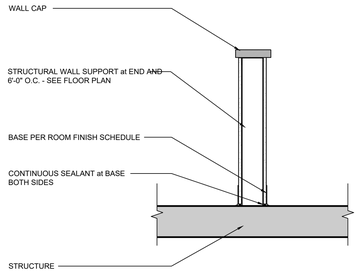
B. Contractor to select spacing of studs based on height limitations, unless specifically noted on drawings.

C. Existing partition assemblies along the 1-hour fire barrier, see sheet FL.1.01, are required to be field verified to ensure they meet, or exceed, the construction requirements of partition assembly A3F - modify and upgrade existing walls as required.

D. Partition assemblies tagged as "INF" are infill walls and their construction is required to match the existing adjacent wall construction - make infill walls flush with existing adjacent walls.

Partition Assembly



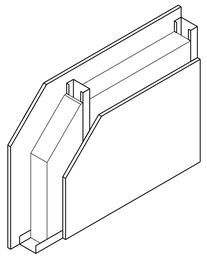


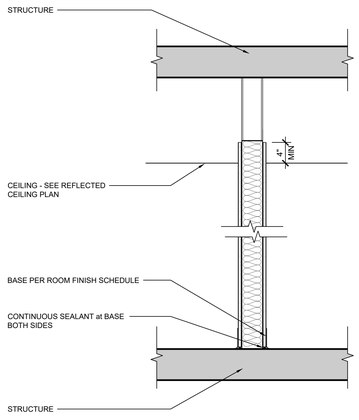
Partition Assembly - V

Framing: Steel studs, 20 gauge
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Assembly Type	Assembly Rated
at 24" O.C.	1 5/8"	7'-10"	V1	Not Rated
	2 1/2"	10'-0"	V2	Not Rated
	3 5/8"	12'-11"	V3	Not Rated
	6"	18'-6"	V6	Not Rated
at 16" O.C.	1 5/8"	9'-1"	V1	Not Rated
	2 1/2"	11'-5"	V2	Not Rated
	3 5/8"	14'-10"	V3	Not Rated
	6"	21'-2"	V6	Not Rated

Partition Assembly



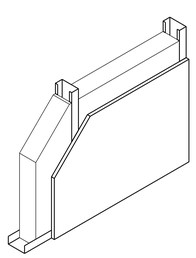


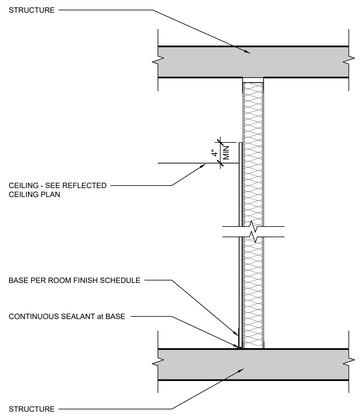
Partition Assembly - T

Framing: Steel studs, 20 gauge
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Assembly Type	Assembly Rated
at 24" O.C.	1 5/8"	7'-10"	T1	Not Rated
	2 1/2"	10'-0"	T2	Not Rated
	3 5/8"	12'-11"	T3	Not Rated
	6"	18'-6"	T6	Not Rated
at 16" O.C.	1 5/8"	9'-1"	T1	Not Rated
	2 1/2"	11'-5"	T2	Not Rated
	3 5/8"	14'-10"	T3	Not Rated
	6"	21'-2"	T6	Not Rated

Furring Partition Assembly



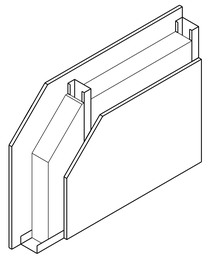


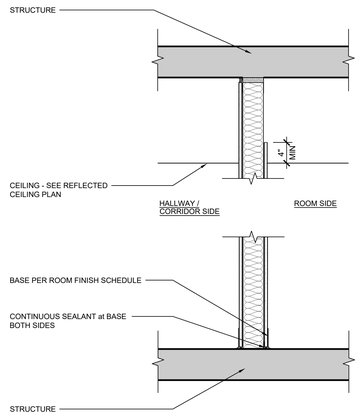
Furring Partition Assembly - R

Framing: Steel studs, 20 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Assembly Type	Assembly Rated
at 24" O.C.	1 5/8"	7'-10"	R1	Non Rated
	2 1/2"	10'-0"	R2	Non Rated
	3 5/8"	12'-11"	R3	Non Rated
	6"	18'-6"	R6	Non Rated
at 16" O.C.	1 5/8"	9'-1"	R1	Non Rated
	2 1/2"	11'-5"	R2	Non Rated
	3 5/8"	14'-10"	R3	Non Rated
	6"	21'-2"	R6	Non Rated

Partition Assembly Rated for Smoke



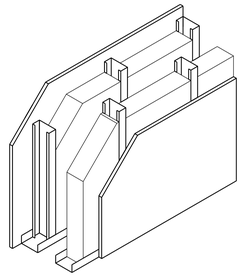


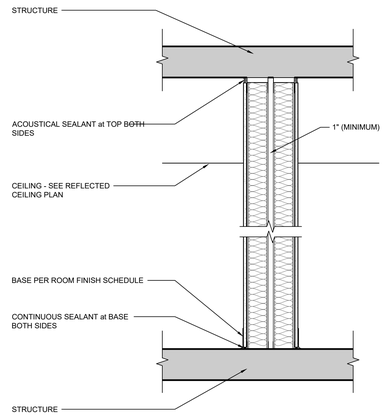
Smoke Partition Assembly - P

Framing: Steel studs, 20 gauge
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Smoke Rated Assembly Rating
at 24" O.C.	1 5/8"	7'-10"	P1S Smoke only
	2 1/2"	10'-0"	P2S Smoke only
	3 5/8"	12'-11"	P3S Smoke only
	6"	18'-6"	P6S Smoke only
at 16" O.C.	1 5/8"	9'-1"	P1S Smoke only
	2 1/2"	11'-5"	P2S Smoke only
	3 5/8"	14'-10"	P3S Smoke only
	6"	21'-2"	P6S Smoke only

Chase Partition Assembly Rated for Acoustic & Smoke or Fire





Chase Partition Assembly - M

Framing: Double row steel studs, 20 gauge , braced with spacer bar
Insulation: Glass fiber both sides
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Smoke	Acoustic	Fire	Acoustic & Smoke Rated Assembly Type	Acoustic & Smoke Rated Assembly STC Rating - Test Number	Fire Rated Assembly Type	Fire Rated Assembly Fire Rating - Test Number
at 24" O.C.	2 1/2"	10'-0"						M2F	1 Hour - V488
	3 5/8"	12'-11"						M3F	1 Hour - V488
at 16" O.C.	2 1/2"	11'-5"						M2F	1 Hour - V488
	3 5/8"	14'-10"	X	X	X	M3A	STC-60 - NGC 2018083	M3F	1 Hour - V488

Partition Assembly - S

Framing: Steel studs, 25 gauge
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Assembly Type	Assembly Rated
at 24" O.C.	1 5/8"	-	S1	Not Rated
	2 1/2"	9'-7"	S2	Not Rated
	3 5/8"	12'-0"	S3	Not Rated
	6"	17'-2"	S6	Not Rated
at 16" O.C.	1 5/8"	8'-10"	S1	Not Rated
	2 1/2"	11'-0"	S2	Not Rated
	3 5/8"	13'-9"	S3	Not Rated
	6"	19'-8"	S6	Not Rated

Furring Partition Assembly - Q

Framing: Steel studs, 25 gauge
Insulation: Glass fiber
Side 1: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Assembly Type	Assembly Rated
at 24" O.C.	1 5/8"	-	Q1	Not Rated
	2 1/2"	9'-7"	Q2	Not Rated
	3 5/8"	12'-0"	Q3	Not Rated
	6"	17'-2"	Q6	Not Rated
at 16" O.C.	1 5/8"	8'-10"	Q1	Not Rated
	2 1/2"	11'-0"	Q2	Not Rated
	3 5/8"	13'-9"	Q3	Not Rated
	6"	19'-8"	Q6	Not Rated

Smoke Partition Assembly - N

Framing: Steel studs, 25 gauge
Insulation: 3-1/2" glass fiber
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Smoke Rated Assembly Rating
at 24" O.C.	1 5/8"	-	N1S Smoke only
	2 1/2"	9'-7"	N2S Smoke only
	3 5/8"	12'-0"	N3S Smoke only
	6"	17'-2"	N6S Smoke only
at 16" O.C.	1 5/8"	8'-10"	N1S Smoke only
	2 1/2"	11'-0"	N2S Smoke only
	3 5/8"	13'-9"	N3S Smoke only
	6"	19'-8"	N6S Smoke only

Chase Partition Assembly - L

Framing: Double row steel studs, 25 gauge , braced with spacer bar
Insulation: Glass fiber both sides
Side 1: 5/8" Type-X Gypsum Board
Side 2: 5/8" Type-X Gypsum Board

Stud Spacing	Stud Size	Stud Height Limit	Smoke	Acoustic	Fire	Acoustic & Smoke Rated Assembly Type	Acoustic & Smoke Rated Assembly STC Rating - Test Number	Fire Rated Assembly Type	Fire Rated Assembly Fire Rating - Test Number
at 24" O.C.	2 1/2"	9'-7"	X	X	X	L2A	STC-56 - NGC 2015108	L2F	1 Hour - V488
	3 5/8"	12'-0"						L3F	1 Hour - V488
at 16" O.C.	2 1/2"	11'-0"	X	X	X	L2A	STC-57 - NGC 2015101	L2F	1 Hour - V488
	3 5/8"	13'-9"						L3F	1 Hour - V488

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Consultant:

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

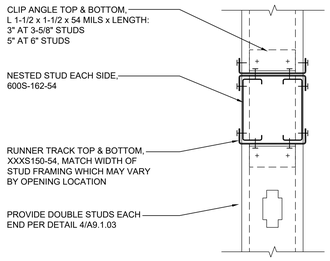
Revision	Date

Sheet Title

Partition Assemblies

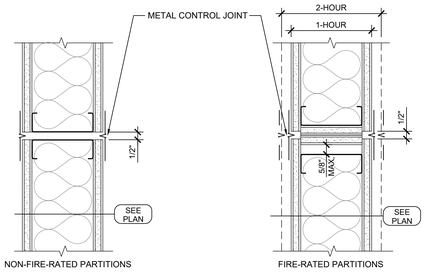
Sheet Number:

A9.1.02

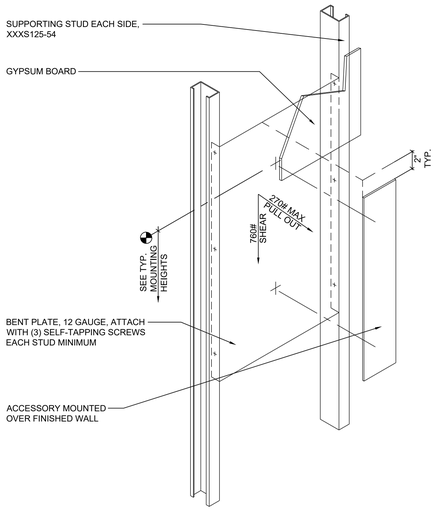


OPENING WIDTH = 4'-7" TO 12'-6"

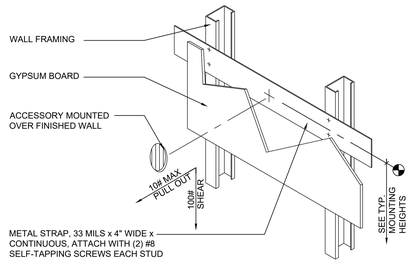
Header at Large Openings 20
3" = 1'-0"



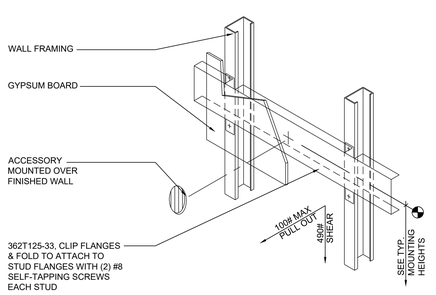
Gypsum Board Control Joints 19
3" = 1'-0"



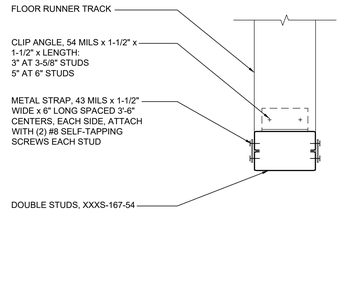
Concealed Backing - Heavy Duty 15
N.T.S.



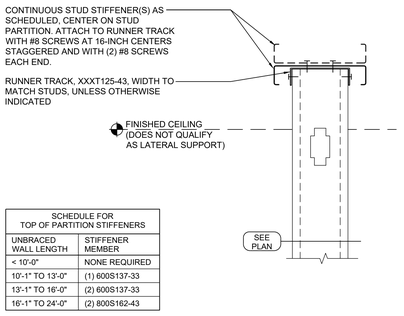
Concealed Backing - Standard 12
3" = 1'-0"



Concealed Backing - Medium Duty 8
3" = 1'-0"

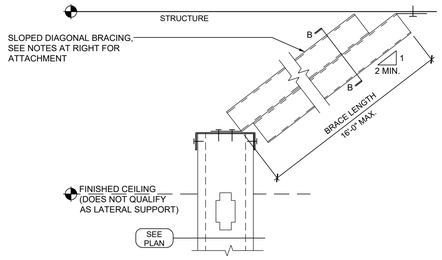


Plan at King Studs 4
3" = 1'-0"



SCHEDULE FOR TOP OF PARTITION STIFFENERS	
UNBRACED WALL LENGTH	STIFFENER MEMBER
< 10'-0"	NONE REQUIRED
10'-1" TO 13'-0"	(1) 600S137-33
13'-1" TO 16'-0"	(2) 600S137-33
16'-1" TO 24'-0"	(2) 800S162-43

OPTION 1: STIFFENER AT TOP OF PARTITION

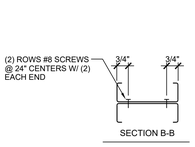


SCHEDULE OF SLOPED DIAGONAL BRACING	
BRACE LENGTH	BRACE MEMBER(S)
LESS THAN 6'-0"	(1) 400S137-43
6'-1" TO 12'-0"	(2) 400S137-43 OR (2) 600S137-33
12'-1" TO 16'-0"	(2) 600S162-43
GREATER THAN 16'-0"	NOT ALLOWED

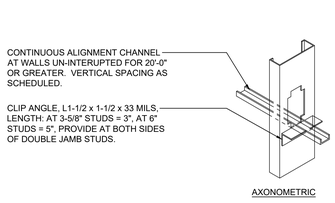
OPTION 2: SLOPED DIAGONAL BRACING

NOTES FOR OPTION 2:
1. LOCATE DIAGONAL BRACING AT 10'-0" MAXIMUM FROM WALL INTERSECTIONS OR CORNERS AND AT 10'-0" CENTERS ELSEWHERE.

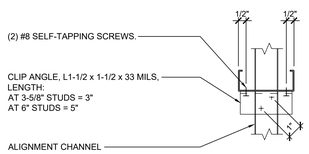
2. ATTACH DIAGONAL BRACE(S) AS FOLLOWS:
A. TO TOP RUNNER TRACK OF PARTITION:
(4) #8 SELF-TAPPING SCREWS.
B. TO CONCRETE STRUCTURE ABOVE:
(4) 0.145" DIA. POWER ACTUATED FASTENERS (PAFs) SPACED AT 3-INCH CENTERS WITH 1-INCH EMBEDMENT.
C. TO METAL DECKING STRUCTURE ABOVE:
(4)#8 SELF-TAPPING SCREWS.
D. TO STRUCTURAL STEEL STRUCTURE ABOVE:
(4)0.145" DIA. POWER ACTUATED FASTENERS (PAFs) SPACED AT 3-INCH CENTERS.



Bracing Options For Partial Height Partitions 3
N.T.S.



AXONOMETRIC

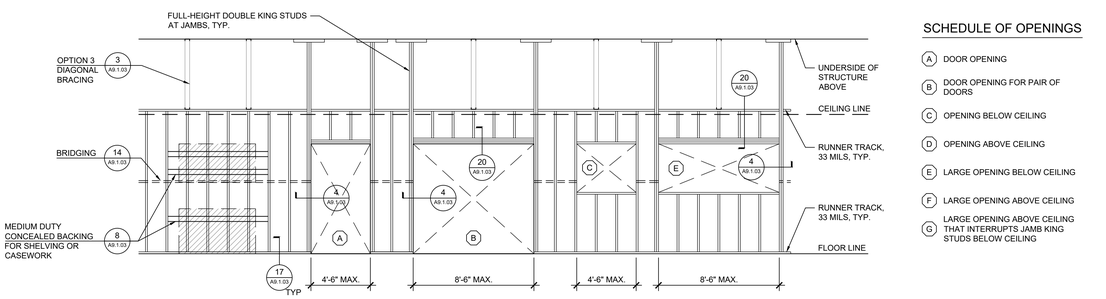


PLAN

THE NUMBER OF ROWS OF BRIDGING SHALL NOT BE LESS THAN THE FOLLOWING:	
PARTITION HEIGHT	VERTICAL SPACING
10'-0" MAXIMUM	(1) ROW AT MID-HEIGHT
GREATER THAN 10'-0"	ROWS SPACED AT 4'-0" CENTERS

BRIDGING OF PARTITION FRAMING PROVIDES RESISTANCE TO ROTATION AND MINOR AXIS BENDING CAUSED BY AXIAL LOADING.

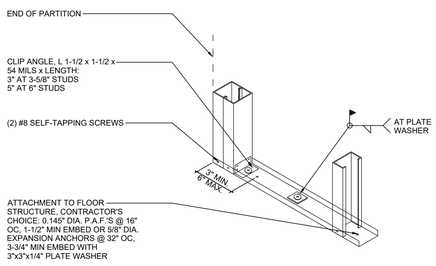
Partition Bridging 14
N.T.S.



SCHEDULE OF OPENINGS

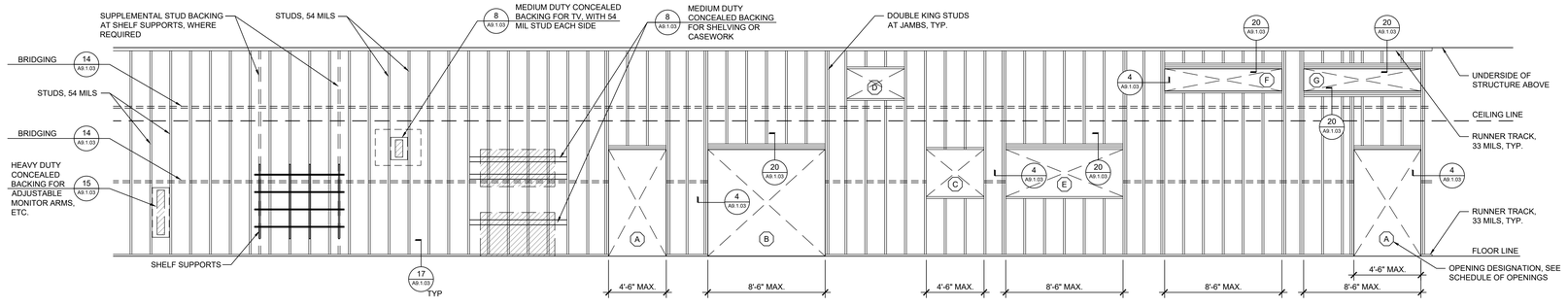
- A — DOOR OPENING
- B — DOOR OPENING FOR PAIR OF DOORS
- C — OPENING BELOW CEILING
- D — OPENING ABOVE CEILING
- E — LARGE OPENING BELOW CEILING
- F — LARGE OPENING ABOVE CEILING
- G — LARGE OPENING ABOVE CEILING THAT INTERRUPTS JAMB KING STUDS BELOW CEILING

Typical Framing at Partial Height Interior, Non-Load-Bearing, Partitions 2
1/4" = 1'-0"



NOTE:
WHERE A GAP GREATER THAN 1/4" OCCURS BETWEEN THE RUNNER TRACK AND THE FLOOR STRUCTURE, PROVIDE LOAD BEARING SHIMS OR GROUT BETWEEN UNDERSIDE OF RUNNER TRACK AND FLOOR STRUCTURE AT STUDS.

Floor Track Attachment 17
N.T.S.



Typical Framing at Full Height Interior, Non-Load-Bearing, Partitions 1
1/4" = 1'-0"

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Key Plan

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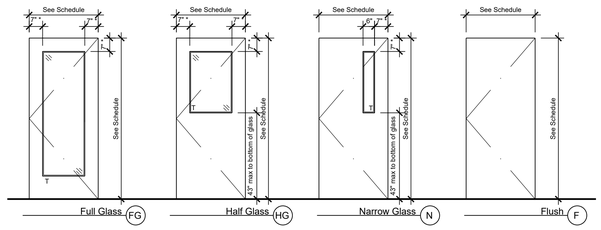
18 Nov 2021

Sheet Title

Framing Details (Typical)

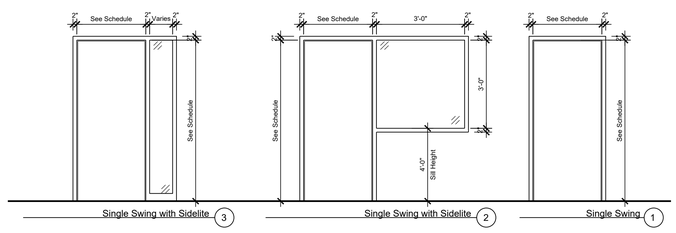
Sheet Number:

A9.1.03



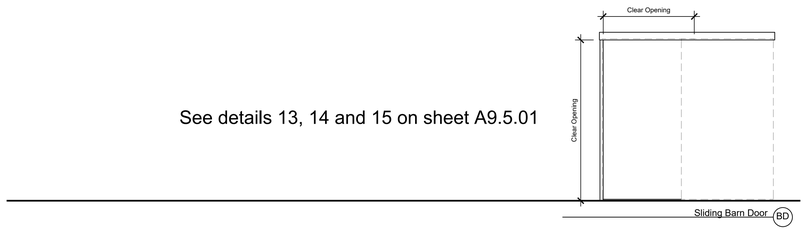
* Or minimum stile/rail thickness required for door warranty (Door top rail dimensions to be consistent throughout the project)

Door Panel Types

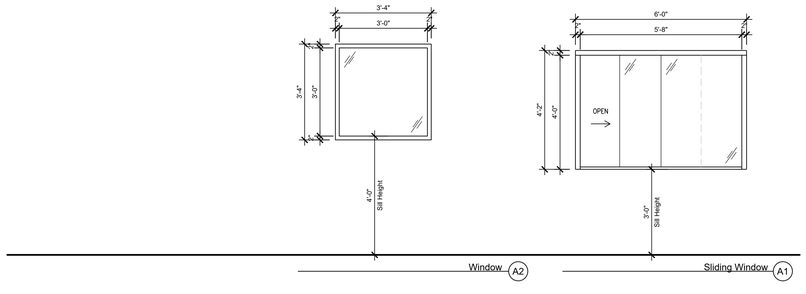


Door Frame Types

See details 13, 14 and 15 on sheet A9.5.01



Door Assembly Types



Window Frame Types

Door / Window Schedules Abbreviations:

- Number (#) after abbreviation refers to specific type - see Common Finish Materials
- See sheet A9.2.02 for standard opening details

AC	Acrovyn Protection	GL-#	Glass	SC	Solid Core
AL	Aluminum	HC	Hollow Core	ST-#	Stain
ANO	Anodized	HM	Hollow Metal	T	Tempered Glass
AP	Armor Plate	KD	Knock Down	WD-#	Wood
CK	Card Key	KP	Kick Plate	20	20 Minute Fire Rating
CLR	Clear	MFR	Manufacturer	45	45 Minute Fire Rating
DF-#	Decorative Film	M/E	Match Existing	60	60 Minute Fire Rating
DP-#	Decorative Panel	MTL	Metal	90	90 Minute Fire Rating
EP-#	Door Edge Protection	P-#	Paint	120	120 Minute Fire Rating
EX	Existing	PL-#	Plastic Laminate		
FF	Factory Finish	PW-#	Paint, Washable		
FP-#	Door Frame Protection	PX-#	Paint, Exterior		

Door Schedule

	OPENING			FRAME					DOOR									
NUMBER	FIRE LABEL	WIDTH	HEIGHT	TYPE	GLAZING	MATERIAL	FINISH	PROTECTION	TYPE	GLAZING	THICKNESS	CORE	FACE	FINISH	PROTECTION	OPERATOR	HARDWARE	KEYNOTES
138	--	EX	EX	EX	--	EX	EX	--	EX	--	EX	EX	EX	EX	--	--	01	Remove and Relocate Door and Frame Assy
145	--	3'-0"	7'-0"	3	GL-1	KD	FF	--	N	GL-1	1 3/4"	SC	WD-1	ST-1	--	--	02	--
C146	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	13	1
C146A	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	13	1
C146B	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	13	1
C146C	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	14	1
147A	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	03	-- Card Reader
147B	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	02	--
148	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	04	--
149	20	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	04	1
150	20	3'-0"	7'-0"	3	GL-1	KD	FF	--	N	GL-1	1 3/4"	SC	WD-1	ST-1	--	YES	05	5 and 7
150A	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	06	-- Card Reader
150C	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	07	--
150D	--	3'-0"	7'-0"	1	--	KD	FF	--	HG	--	1 3/4"	SC	WD-1	ST-1	--	--	08	--
150E	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	09	--
150F1	--	36"	83 1/2"	BD	--	AL	FF	--	BD	--	1 3/4"	SC	WD-1	ST-1	--	--	10	2, 3 and 4
150F2	--	36"	83 1/2"	BD	--	AL	FF	--	BD	--	1 3/4"	SC	WD-1	ST-1	--	--	10	2, 3 and 4
150G1	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	03	1 Card Reader
150G2	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	02	--
150H	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	--
152	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	6
153	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	11	--
154	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	11	--
155	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	--
156	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	12	--
157	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	11	--
158	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	12	--
159	--	3'-6"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	--
160	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	11	--
161A	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	--
161B	--	3'-0"	7'-0"	2	GL-1	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	08	1
162	--	3'-0"	7'-0"	1	--	KD	FF	--	F	--	1 3/4"	SC	WD-1	ST-1	--	--	09	--

Door Schedule General Notes:

- Refer to Floor Plans for door locations.
- Refer to Specification(s) for finish type.

Door Schedule Keynotes:

1. Field verify thickness of infill wall prior to fabrication.
2. Width and Height dimensions shown are Clear Opening dimensions.
3. Select factory finish from Manufacturer's standard colors.
4. Paint metal valance to match.
5. Automatic door opener with automatic door buttons.
6. Prep door frame for 7 1/4" wall thickness.
7. Door to remain unlocked during business hours. Key must be used after hours.

Window Schedule

		SIZE			GLASS	FRAME					
NUMBER	LOCATION	WIDTH	HEIGHT	SILL HEIGHT	TYPE	TYPE	MATERIAL	FINISH	PROTECT.	FIRE LABEL	NOTES
150H	Reception	5'-8"	4'-0"	3'-0"	GL-1	A1	KD	FF	--	--	1
161A	Lifestyle and Medicine Consult Room	3'-0"	3'-0"	4'-0"	GL-1	A2	KD	FF	--	--	--

Window Schedule General Notes:

- Refer to Floor Plans for door locations.
- Refer to Specification(s) for finish type.

Window Schedule Keynotes:

1. Sliding window with surface mounted tracks at base and head only.

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REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON DATE OF OREGON

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18 Nov 2021

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Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

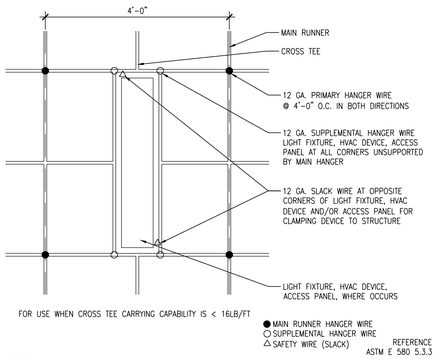
Revision	Date

Sheet Title

Door / Window Schedules and Types

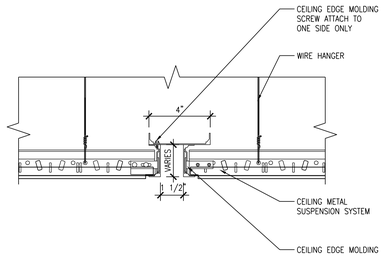
Sheet Number:

A9.2.01



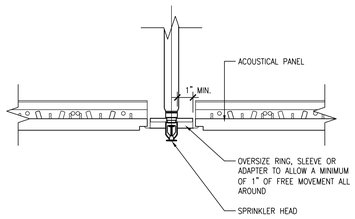
REFERENCE
ASTM E 580 5.3.3

20 A9.4.01 SUPP. HANGER ODD SIZE, ANY LOC.
3/4" = 1'-0"



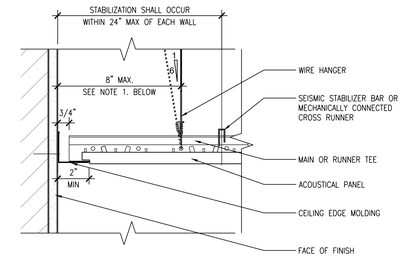
REFERENCE
ASTM E 580 5.2.9

16 A9.4.01 SEISMIC JOINT – DIRECT HUNG
3" = 1'-0"



REFERENCE
ASTM E 580 5.2.8.5

12 A9.4.01 SPRINKLER HEAD
3" = 1'-0"

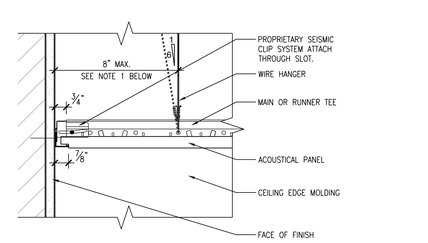


1. OR WITHIN 1/4 LENGTH OF END TEE WHICHEVER IS LESS. PERIMETER WIRES NOT REQUIRED WHEN LENGTH OF END TEE IS 8" OR LESS

REFERENCES
ASTM E 580 5.2.5 FIGURE 6 AND 5.2.6

8 A9.4.01 PERIMETER UNATTACHED
3" = 1'-0"

ASTM E 580 5.2.3

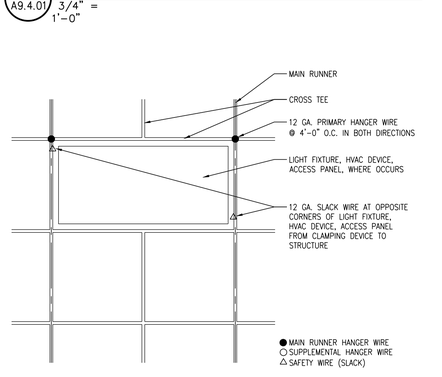


1. OR WITHIN 1/4 LENGTH OF END TEE WHICHEVER IS LESS. PERIMETER WIRES NOT REQUIRED WHEN LENGTH OF END TEE IS 8" OR LESS

REFERENCE
ASTM E 580 5.2 MAY BE ALLOWED AS PART OF AN ENGINEERED SYSTEM PROVIDE ICC-ES REPORT 1308

4 A9.4.01 PERIMETER UNATTACHED – PROPRIETARY
3" = 1'-0"

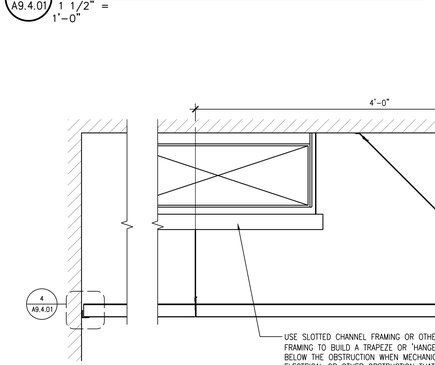
ASTM E 580 5.2.3



ASTM E 580 5.3.3 FOR USE WHEN CROSS TEE CARRYING CAPABILITY IS < 16LB/FT

REFERENCE
ASTM E 580 5.3.3

19 A9.4.01 SUPP. HANGER @ 2x2 ONE SIDE // MAIN RUNNER
3/4" = 1'-0"



REFERENCE
ASTM E 580 5.3.3

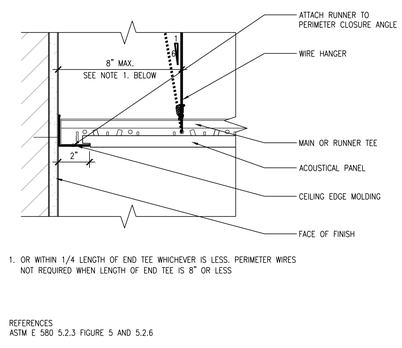
15 A9.4.01 SUSPENDED CEILING TRANSITION
3" = 1'-0"

HILTI X-CC27 C32 (COMBINED FASTENER, CLIP AND WIRE) MEET THE 250 LB ALLOWABLE LOAD CRITERIA FOR 4000 PSI CONC. AND THE SLIGHTLY SMALLER HILTI X-CC27 U27 MEETS THE CRITERIA FOR THE 90 LB ALLOWABLE LOAD. POWER ACTUATED FASTENERS WILL ALSO MEET THE CRITERIA FOR ANCHORING INTO STRUCTURAL STEEL BUT DO NOT APPEAR TO MEET THE CRITERIA FOR METAL DECK AND 3000PSI CONC. POWER ACTUATED FASTENERS ARE NOT ALLOWED IN SUSTAINED TENSION OR BRACE APPLICATIONS PER ASCE 7-10 13.4.5 WITHOUT APPROVAL (ES REPORT) FOR SEISMIC LOADING

IF FIREPROOFING IS REQUIRED FOR FLOOR ASSEMBLY RATING, PLACE ANCHORS FIRST OR REMOVE AND PATCH FIREPROOFING AS REQUIRED.

REFERENCES
ASTM E 580 5.2.7 AND 5.2.8.3

11 A9.4.01 WIRE HANGER AT CONCRETE
3" = 1'-0"

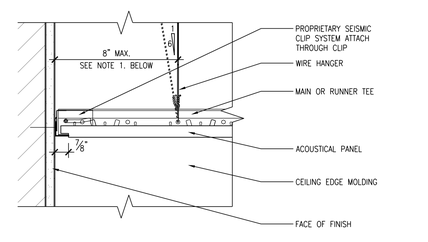


1. OR WITHIN 1/4 LENGTH OF END TEE WHICHEVER IS LESS. PERIMETER WIRES NOT REQUIRED WHEN LENGTH OF END TEE IS 8" OR LESS

REFERENCES
ASTM E 580 5.2.3 FIGURE 5 AND 5.2.6

7 A9.4.01 PERIMETER ATTACHED
3" = 1'-0"

ASTM E 580 5.2.3



1. OR WITHIN 1/4 LENGTH OF END TEE WHICHEVER IS LESS. PERIMETER WIRES NOT REQUIRED WHEN LENGTH OF END TEE IS 8" OR LESS

REFERENCE
ASTM E 580 5.2 MAY BE ALLOWED AS PART OF AN ENGINEERED SYSTEM PROVIDE ICC-ES REPORT 1308

3 A9.4.01 PERIMETER ATTACHED – PROPRIETARY
3" = 1'-0"

ASTM E 580 5.2.3

ASTM E 580 5.3.3 FOR USE WHEN CROSS TEE CARRYING CAPABILITY IS < 16LB/FT

REFERENCE
ASTM E 580 5.3.3

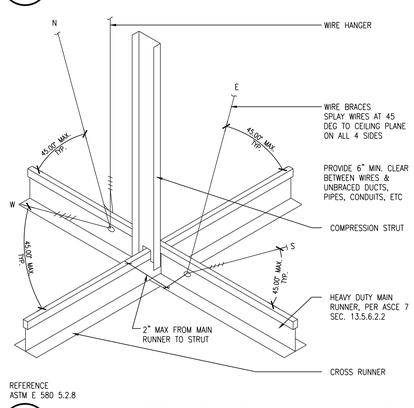
17 A9.4.01 SUPP. HANGER @ 2x4 PERP. TO MAIN RUNNER
3/4" = 1'-0"

ASTM E 580 5.3.3 FOR USE WHEN CROSS TEE CARRYING CAPABILITY IS < 16LB/FT

REFERENCE
ASTM E 580 5.3.3

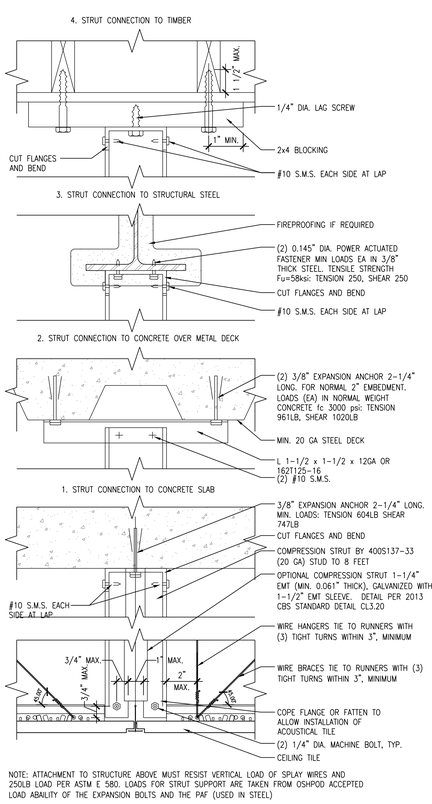
18 A9.4.01 SUPP. HANGER @ 2x4 // TO MAIN RUNNER
3/4" = 1'-0"

14 A9.4.01 TILE WITH LIGHT FIXTURE AND SPRINKLER HEAD
1 1/2" = 1'-0"



REFERENCE
ASTM E 580 5.2.8

10 A9.4.01 TYPICAL LATERAL FORCE BRACING – DIRECT
3" = 1'-0"



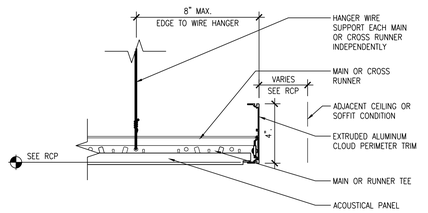
NOTE: ATTACHMENT TO STRUCTURE ABOVE MUST RESIST VERTICAL LOAD OF SPLAY WIRES AND 250LB LOAD PER ASTM E 580. LOADS FOR STRUT SUPPORT ARE TAKEN FROM OSHPOD ACCEPTED LOAD ABAILITY OF THE EXPANSION BOLTS AND THE PAF (USED IN STEEL)

REFERENCE ASTM E 580 5.2.7

5 A9.4.01 COMPRESSION STRUT AT RUNNER
3" = 1'-0"

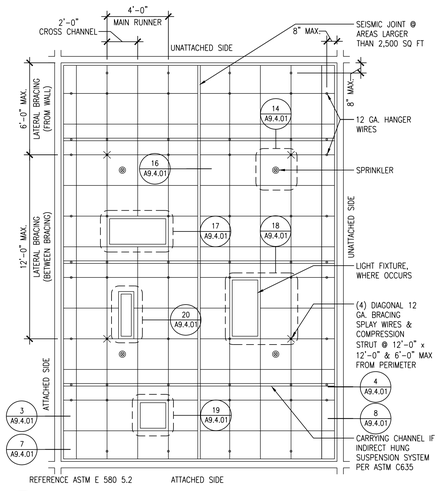
ASTM E 580 5.2.3

ASTM E 580 1.8 FREE FLOATING CEILINGS NOT ATTACHED TO WALLS AND SUPPORTED BY CHAINS OR CABLES ARE NOT REQUIRED TO SATISFY THE SEISMIC FORCE REQUIREMENTS, BUT MAY STILL NEED LATERAL SUPPORT DUE TO DIZE, POSITION, DEPTH FROM STRUCTURE ABOVE, WEIGHT, SERVICES WITHIN THE ISLAND OR POTENTIAL DAMAGE TO NEARBY BUILDING ELEMENTS.

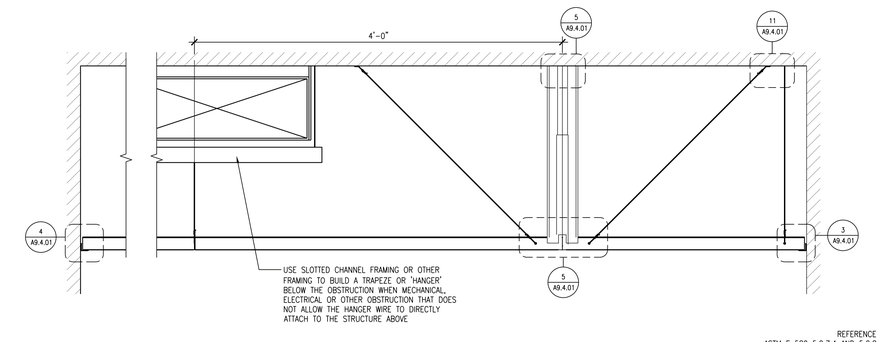


REFERENCES ASTM E 580 5.2.6

2 A9.4.01 CEILING WITH FREE END
3" = 1'-0"



1 A9.4.01 TYPICAL SUSPENDED CEILING – DIRECT HUNG
1/4" = 1'-0"



REFERENCE
ASTM E 580 5.2.7.4 AND 5.2.8

13 A9.4.01 TYPICAL SUSPENDED CEILING DETAIL KEY
1 1/2" = 1'-0"

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Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:
CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

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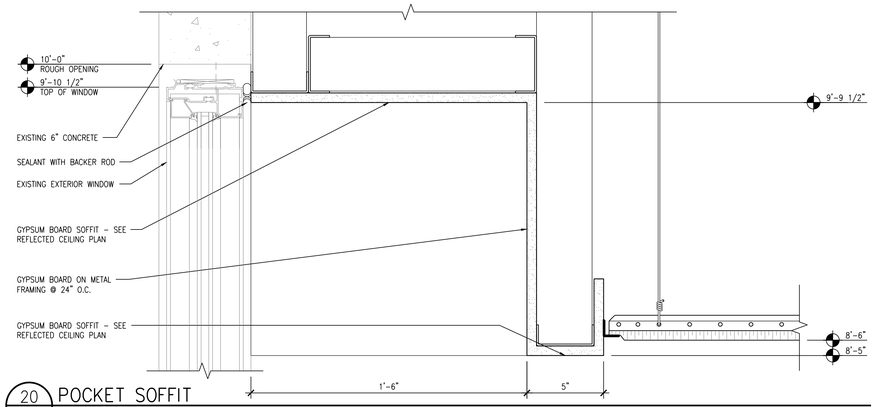
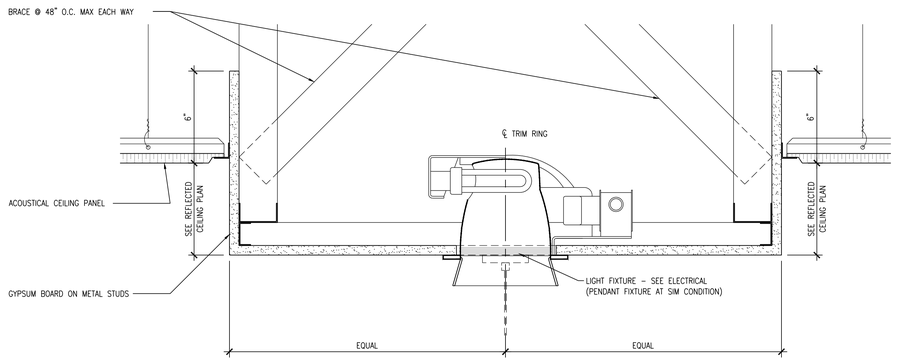
Sheet Title
Ceiling Details

Sheet Number:
A9.4.01



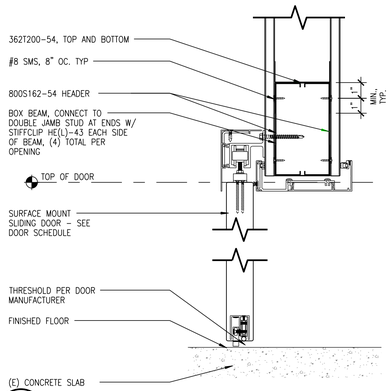
20 A9.5.01 POCKET SOFFIT
Scale: 3"=1'-0"

D-POCKET SOFFIT.dwg

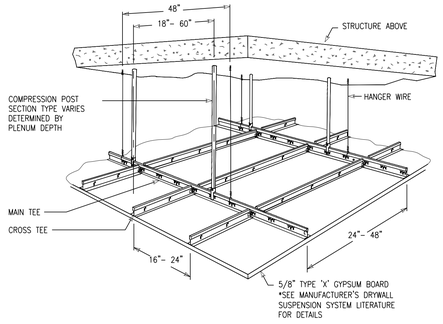


12 A9.5.01 CEILING SOFFIT LIGHTING
Scale: 3"=1'-0"

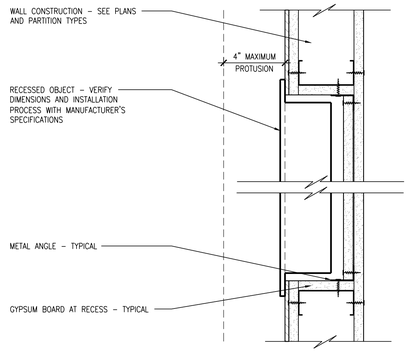
09500 reception soffit



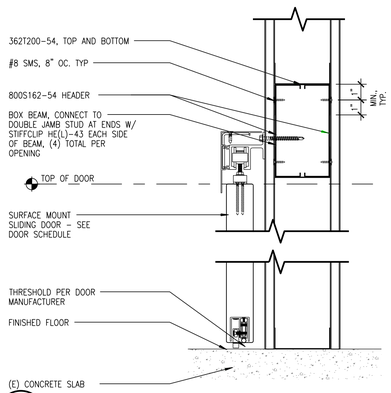
15 A9.5.01 SURFACE MOUNT SLIDING DOOR @ OPENING
Scale: 3"=1'-0"



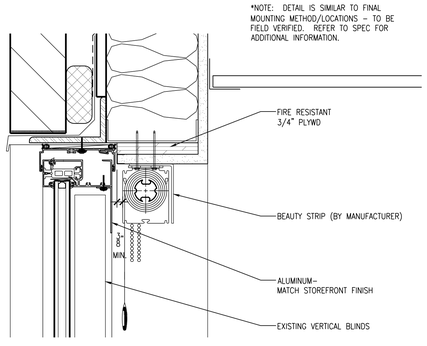
11 A9.5.01 GYPSUM BOARD CEILING - TYPICAL
Scale: NO SCALE



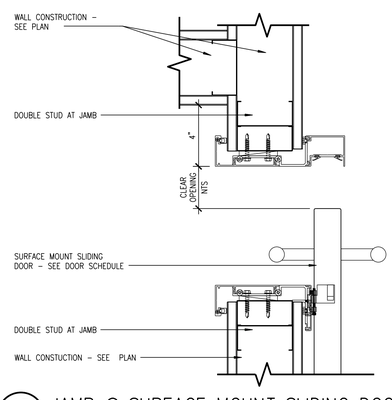
3 A9.5.01 RECESSED OBJECTS IN RATED WALLS
Scale: 3"=1'-0"



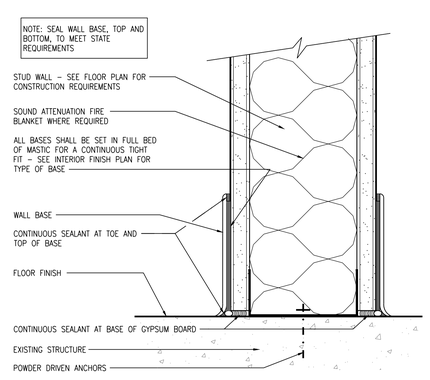
14 A9.5.01 SURFACE MOUNT SLIDING DOOR
Scale: 3"=1'-0"



ROLLER SHADE DETAIL6
3" = 1'-0" A9.5.01

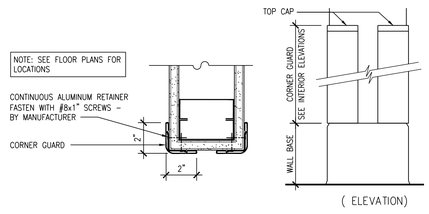


13 A9.5.01 JAMB @ SURFACE MOUNT SLIDING DOOR
Scale: 3"=1'-0"



9 A9.5.01 WALL BASE DETAIL
Scale: 6"=1'-0"

D-WALL BASE



1 A9.5.01 CORNER GUARD
Scale: 3"=1'-0"

D-CORNER GUARD

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Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:

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PKA Project Number: 200702

Client Project Number:

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Key Plan

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Sheet Title

Miscellaneous Details

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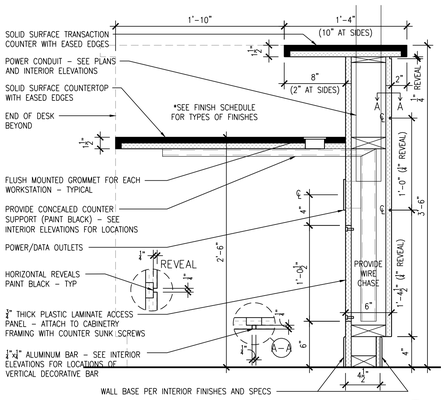
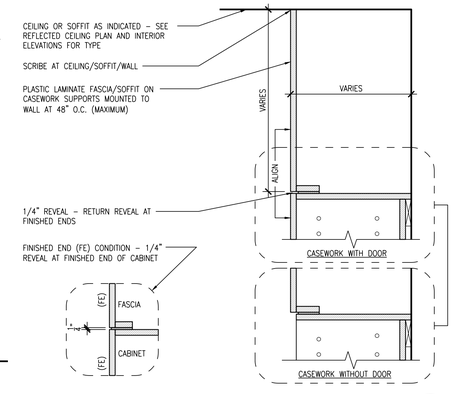


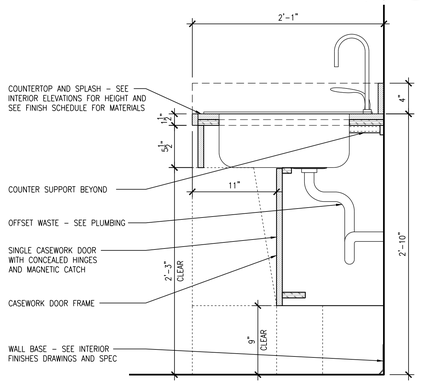
MA WORK STATION DESK2

1 1/2" = 1'-0" A9.6.01



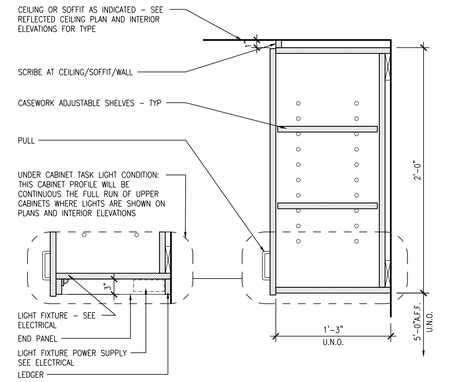
CASEWORK FASCIA – SOFFIT

1 1/2" = 1'-0" A9.6.01



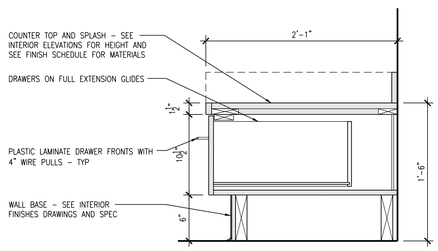
CASEWORK SINK BASE – OFFSET PANEL

1 1/2" = 1'-0" A9.6.01



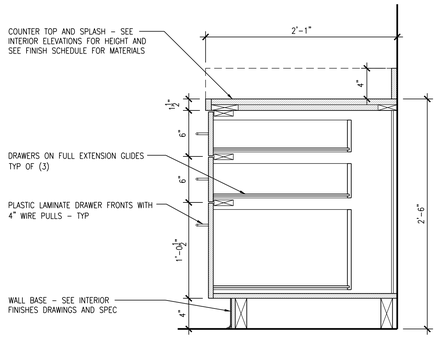
CASEWORK UPPER – FULL DOOR

1 1/2" = 1'-0" A9.6.01



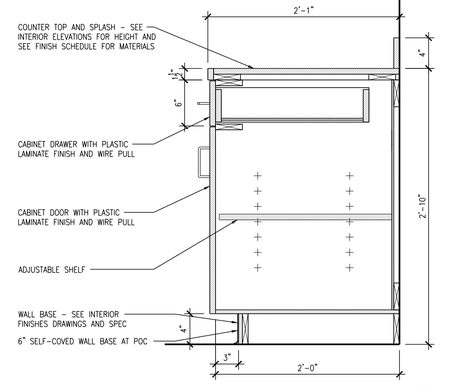
CASEWORK BASE – 18" HIGH PEDESTAL

1 1/2" = 1'-0" A9.6.01



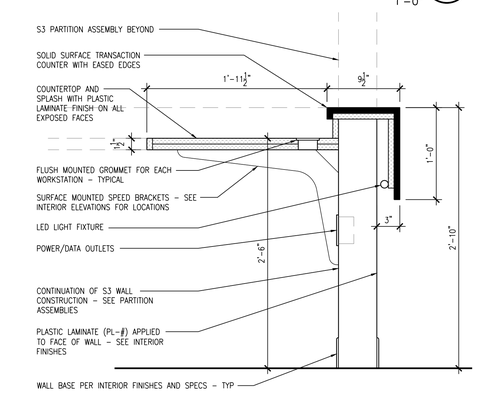
CASEWORK BASE – 3 DRAWERS

1 1/2" = 1'-0" A9.6.01



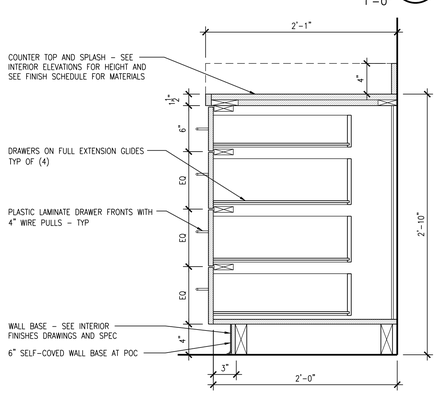
CASEWORK BASE – DOOR AND DRAWER

1 1/2" = 1'-0" A9.6.01



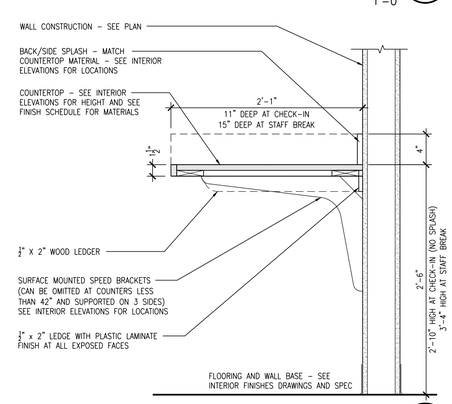
CHECK-IN DESK3

1 1/2" = 1'-0" A9.6.01



CASEWORK BASE – 4 DRAWERS

1 1/2" = 1'-0" A9.6.01



CASEWORK – TYPICAL COUNTERTOP

1 1/2" = 1'-0" A9.6.01

TYPICAL CASEWORK NOTES:

1. CABINET CONFIGURATION AND DIMENSIONS ARE TYPICAL, AS SHOWN, UNLESS NOTED OTHERWISE ON INTERIOR ELEVATIONS.
2. INSTALL BLOCKING IN WALL – SEE SHEET A9.1.03 FOR DETAILS.
3. PLASTIC LAMINATE ON ALL EXPOSED SURFACES INCLUDING INTERIORS OF OPEN CABINETS, U.N.O.
4. BACKSPLASH ONLY WHERE SHOWN ON INTERIOR ELEVATIONS.
5. PROVIDE 3MM EDGE BANDING ON ALL EXPOSED EDGES INCLUDING INTERIOR SHELVING – COLOR TO MATCH PLASTIC LAMINATE FACE.
6. TYPICAL CABINET RESTRAINT: PROVIDE (4) #10 SCREWS (MINIMUM) EQUALLY SPACED ALONG HEIGHT OF UNIT TO WALL STUDS at 16" O.C.
7. SHELVING: USE 3/4" SHELVING WITH SPANS BETWEEN 31" AND 42", U.N.O.
8. INSTALL SEISMIC CLIPS ON ALL ADJUSTABLE SHELVES TO RESTRAIN VERTICAL MOVEMENT. HORIZONTAL MOVEMENT IS REQUIRED TO BE RESTRAINED ON SHELVES WITHOUT CABINET DOORS.
9. INSTALL WIRE PULLS ON ALL CABINETS DOORS, U.N.O.
10. FOLLOW AWI STANDARDS FOR CUSTOM GRADE OVERLAY CASEWORK.
11. COORDINATE SINK SIZES WITH PLUMBING DRAWINGS AND/OR CONTRACTOR.
12. NO SHARP EDGES.
13. AT BASE CABINETS AND TALL CABINETS PROVIDE WALL BASE TO MATCH ADJACENT WALL. SEE INTERIOR FINISHES DRAWINGS AND SPECIFICATIONS.
14. ALL WALL MOUNTED METAL BRACKETS TO BE PAINTED TO MATCH ADJACENT WALL.
15. RUN FLOORING BENEATH CASEWORK, U.N.O.
16. CASEWORK TO RECEIVE WALL BASE, U.N.O. SEE INTERIORS FINISH DRAWINGS AND SPECIFICATIONS.
17. PROVIDE FILLER PANELS AT END(S) OF CABINET RUNS, AS REQUIRED.
18. PRE-FINISH ALL EXPOSED WOOD. SEE SPECIFICATIONS SECTION 09 900.
19. WHERE WOOD IS ADJACENT STAIN TO MATCH, U.N.O.
20. SEE INTERIOR ELEVATIONS FOR QUANTITY OF SHELVES AT BASE AND UPPER CABINETS.
21. FINISH ALL EXPOSED CABINET FACES PER INTERIOR FINISHES DRAWINGS AND SPECIFICATIONS.

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Consultant:

100% Bid / Permit Set

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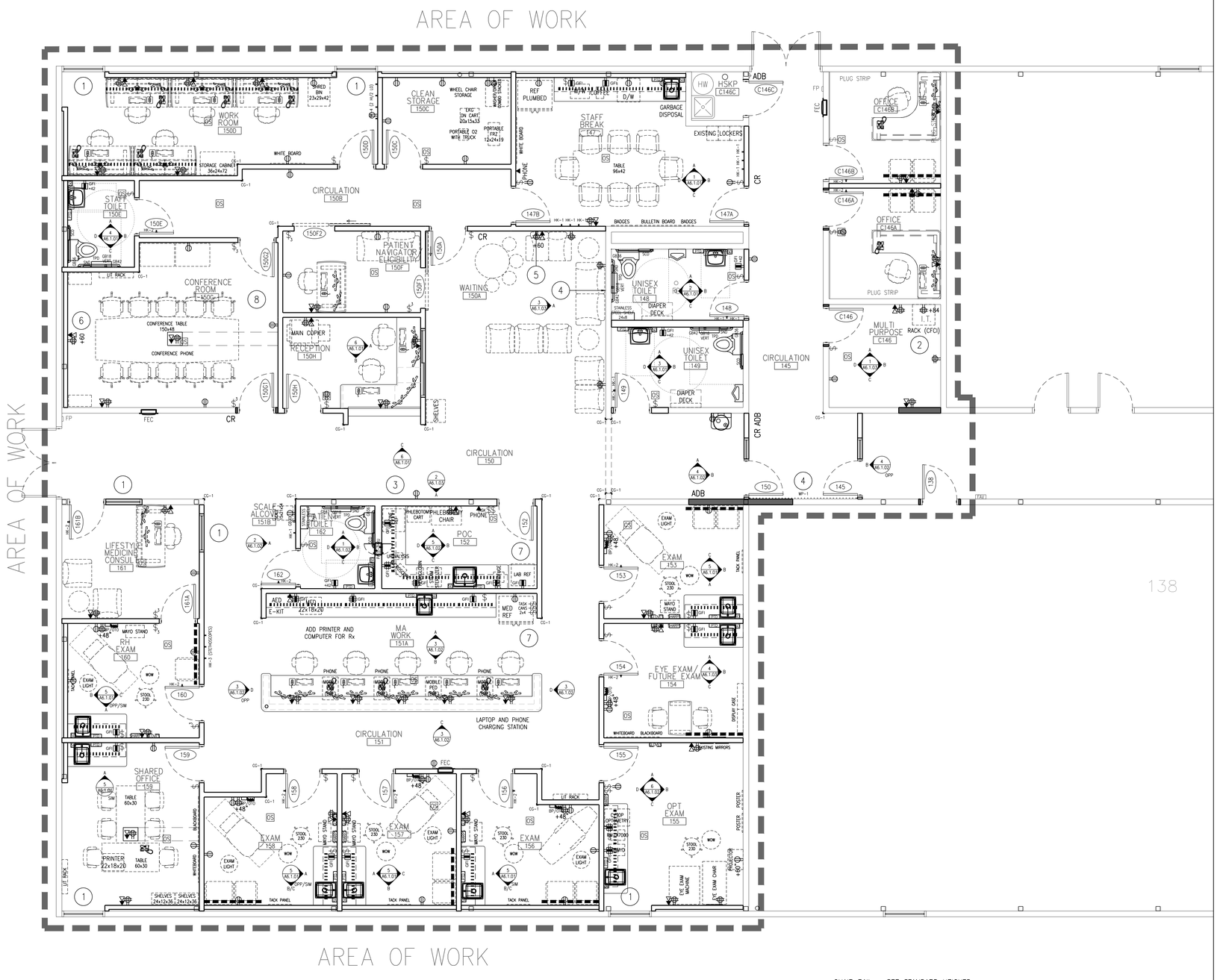

Design Coordination Floor Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- For Standard mounting heights of fixtures/equipment see sheet A0.2.01
- For Fixture/Equipment abbreviations see sheet A0.2.01

Design Coordination Floor Plan Keynotes:

1. Roller shades - mount at 8'-0" (approximate) intermediate horizontal mullion.
2. I.T. rack requires ¾" fire treated plywood to support 200 pounds. See interior elevation for location.
3. Future Donor Wall location - provide backing.
4. Future framed artwork location - TBD by CVIM.
5. TV monitor for digital signage.
6. TV monitor for A/V.
7. Provide monitor for refrigerator.
8. Provide projector screen and shelf. Locations and types are TBD by CVIM.

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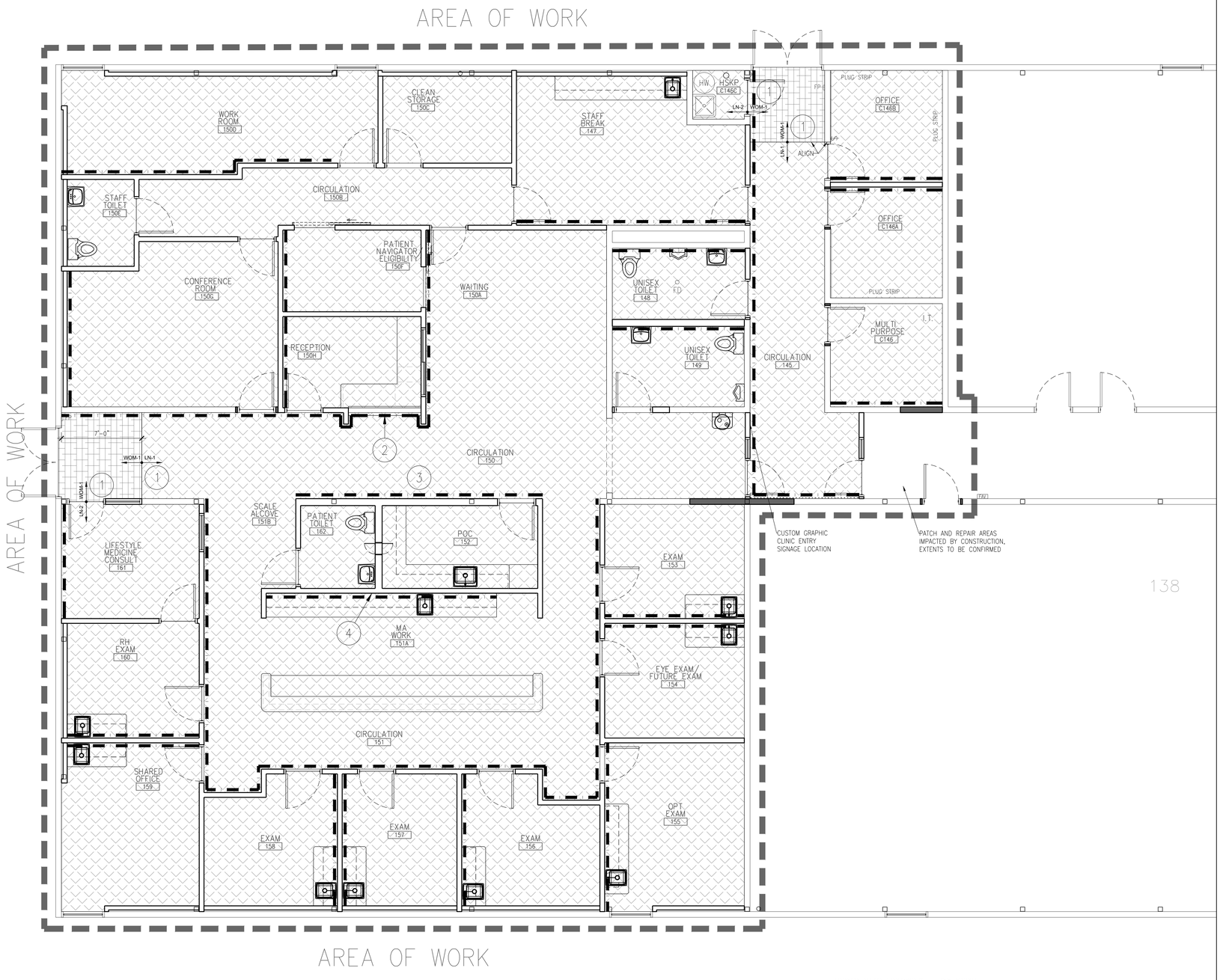
Design Coordination Floor Plan

Sheet Number:

D3.1.01

Design Coordination Floor Plan (1)
SCALE: 1/4"=1'-0"



Finish Floor Plan General Notes:

- For General Drawing Standards and Abbreviations see sheet G0.2.01
- For General Notes see sheet A0.1.01
- Refer to Wall Elevations, Interior Finish Schedule, and Details for additional information.

Finish Floor Plan Keynotes:

1. Provide transition strip - refer to Common Finish Materials for type.
2. Soffit to be painted with accent paint - refer to Finish Schedule for additional information.
3. Accent paint to be P-2 - refer to Finish Schedule for additional information.
4. Wall paint, above backsplash and beneath upper cabinets, to be P-5 - refer to Finish Schedule for additional information.

Finish Floor Plan (1)
SCALE: 1/4"=1'-0"

pka ARCHITECTS

PETERSEN KOLBERG & ASSOCIATES
ARCHITECTS/PLANNERS

6969 SW Hampton Street
Portland, OR 97223
phone: 503-968-6800
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Stamp:

REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON STATE OF OREGON

Consultant:

100% Bid / Permit Set

18 Nov 2021

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

Revision	Date

Sheet Title

Finish Floor Plan

Sheet Number:

F3.1.01

Interior Finish Schedule Abbreviations:

- Number (#) after abbreviation refers to specific type. See Common Finish Materials.
- See sheet A9.9.01 for standard finish details

ACT	Acoustic Ceiling Tile	P	Paint - Interior	SPC	Specialty Flooring
AP	Acoustical Panel	PL	Plastic Laminate	SSF	Solid Surface
CC	Cubicle Curtain	PW	Paint - Washable	SSV	Solid Sheet Vinyl
CLG	Ceiling System	PX	Paint - Exterior	SV	Sheet Vinyl
CPB	Carpet Broadloom	QZ	Quartz	SCB	Self Coved Base (see floor for finish type)
CPT	Carpet	RB	Resilient Base	T	Tile
DF	Decorative Film	RBS	Resilient Wall Base - Sanitary	UPH	Upholstery
DP	Decorative Panel	RF	Rubber Flooring	WC	Window Covering
LN	Linoleum	RFH	Rubber Flooring - Heavy Duty	WD	Wood
LVT	Luxury Vinyl Tile	RSF	Resilient Flooring	WLC	Wall Covering
MTL	Metal	SC	Sealed Concrete	WOM	Walk Off Mat
				WP	Wall Protection

Interior Finish Schedule

NUMBER	LOCATION	FLOOR	BASE	WALL		CEILING	CASEWORK	NOTES
				GENERAL	ACCENT			
145	Circulation	LN-1, WOM-1	RB-1	P-1	P-2, WP-1	ACT-1	-	-
C146	Multi-Purpose Office	LN-2	RB-1	P-1	P-4	ACT-1	-	-
C146A	Office	LN-2	RB-1	P-1	P-3	ACT-1	-	-
C146B	Office	LN-2	RB-1	P-1	P-4	ACT-1	-	-
C146C	Housekeeping	LN-2	RB-1	PW-1	-	EX	-	-
147	Staff Break	LN-2	RB-1	P-1	P-3	ACT-1	A	-
148	Unisex Toilet	LN-2	SCB-2	PW-1	T-1	PW-1	-	-
149	Unisex Toilet	LN-2	SCB-2	PW-1	T-1	PW-1	-	-
150	Circulation	LN-1, WOM-1	RB-1	P-1	P-2, P-5	ACT-1, P-5	B	2
150A	Waiting	LN-1	RB-1	P-1	P-5	ACT-1, P-1	-	-
150B	Circulation	LN-1	RB-1	P-1	P-2	ACT-1	-	-
150C	Clean Storage	LN-2	RB-1	P-1	-	NONE	-	-
150D	Work Room	LN-2	RB-1	P-1	P-3	ACT-1	-	1
150E	Staff Toilet	LN-2	SCB-2	PW-1	-	PW-1	-	-
150F	Patient Navigator/Eligibility	LN-1	RB-1	P-1	P-2	ACT-1	-	-
150G	Conference Room	LN-1	RB-1	P-1	P-2	ACT-1	-	-
150H	Reception	LN-1	RB-1	P-1	P-2	ACT-1	B	-
151	Circulation	LN-1	RB-1	P-1	P-5	ACT-1, P-1	C	-
151A	MA Work	LN-1	RB-1	P-1	P-5	ACT-1,P-1	A	-
151B	Scale Alcove	LN-1	RB-1	P-1	-	P-1	-	-
152	POC	LN-2	SCB-2	PW-1	-	PW-1	A	-
153	Exam	LN-2	RB-1	P-1	P-3	ACT-1	A	-
154	Exam	LN-2	RB-1	P-1	P-4	ACT-1	A	-
155	OPT Exam	LN-2	RB-1	P-1	P-3	ACT-1	A	1
156	Exam	LN-2	RB-1	P-1	P-4	ACT-1	A	-
157	Exam	LN-2	RB-1	P-1	P-3	ACT-1	A	-
158	Exam	LN-2	RB-1	P-1	P-4	ACT-1	A	-
159	Shared Office	LN-2	RB-1	P-1	P-3	ACT-1	A	1
160	RH Exam	LN-2	RB-1	P-1	P-4	ACT-1	A	-
161	Lifestyle Medicine Consult	LN-2	RB-1	P-1	P-3	ACT-1	-	1
162	Patient Toilet	LN-2	SCB-2	PW-1	PW-1	PW-1	-	-

Interior Finish Schedule General Notes:

- Refer to Wall Elevations, Details and Finish Plans for additional information and locations.
- Refer to Specification(s) for finish type.

Project General notes:

- Flooring transitions to be smooth and level, provide feathering between flooring types, UNO
- Typical base throughout to be 4", UNO
- Window coverings at exterior to be WC-1, UNO

Interior Finish Schedule Keynotes:

1. Install WC-1 window coverings; Refer to RCP and Elevations for more information
2. Paint all planes of soffit accent color as scheduled

Interior Finish Schedule Casework Notes:

A. Typical Casework
Vertical Surfaces: PL-2
Counters + splash: SSF-1
Sink: Intergral Corian - Cameo White
Edge banding: To color match, UNO
Cabinet Liner: White melamine, UNO

B. Reception & Check-In Casework
Vertical surfaces: PL-2
Counters + splash: SSF-1
Edge banding: To color match, UNO
Cabinet Liner: White melamine, UNO

C. MA Station Desk Casework
Vertical Surfaces: PL-2
Accent band: PL-3
Counters: SSF-1
Edge banding: To color match, UNO
Cabinet Liner: White melamine, UNO

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18 Nov 2021

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REGISTERED ARCHITECT 6796 JOSHUA A. KOLBERG PORTLAND, OREGON STATE OF OREGON

Consultant:

Project Title:

CVIM CCC Tenant Improvement

PKA Project Number: 200702

Client Project Number:

Clairmont Hall
19600 Molalla Avenue
Oregon City, OR 97405

Key Plan

Revisions shown below may not apply to this publication

	Revision	Date

Sheet Title

Interior Finish Schedule

Sheet Number:

F9.1.01

CVIM CCC Tenant Improvement

Clairmont Hall

Oregon City, OR

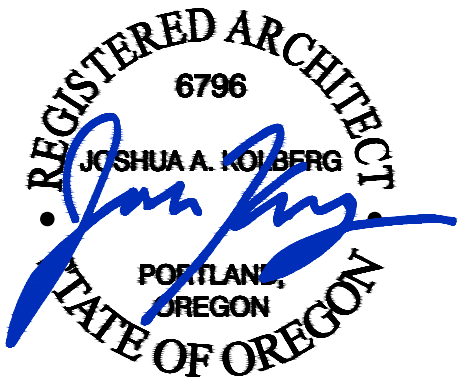
PROJECT MANUAL

Bid/Permit Package

Project No.

PKA Project No. 200702

CVIM CCC



18 Nov 2021 100% Bid / Permit Set

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SECTION 00 0101

PROJECT TITLE PAGE

PACKAGE:

100% BID PERMIT SET

DATE: 19 NOV. 2021

PKA PROJECT # 200702

PROJECT IDENTIFICATION

Project Name: CVIM Tenant Improvement, located at Clackamas Community College.

Clairmont Hall Building.

19600 S. Molalla Ave..

Oregon City, Oregon 97045.

The Owner, hereinafter referred to as Owner: Clackamas Volunteers in Medicine Clinic

Owner's Project Manager: Lones Management Consulting, LLC.
Contact: Daniel Coffin.
Address: PO Box 68478.
City, State, Zip: Portland, Oregon 97267.
Phone: 406.370.7396.

PROJECT DESCRIPTION

Summary Project Description: Tenant improvement of existing space into new Clinic.

Contract Scope: Construction, demolition, and renovation.

Contract Terms: Lump sum (fixed price, stipulated sum).

The currently occupied premises at the project site are open for examination by bidders only during the following hours:
Monday through Friday: 7 a.m. to 7 p.m..

PROJECT:

Clackamas Community College
Clairmont Hall Building
19600 S. Molalla Ave.
Oregon City, Oregon 97045.

TENANT:
Clackamas Volunteers in Medicine
700 Molalla Ave.
Oregon City, Oregon 97045.

OWNER:
Clackamas County Community Development
2051 Kaen Road, Suite 245
Oregon City, Oregon 97045.
Amy Counsil: email - acounsil@clackamas.us

PROJECT CONSULTANTS

CONSTRUCTION MANAGER:
Lones Management Consulting, LLC
PO Box 68478
Portland, Oregon 97267
Phone: 406.370.7396
Dan Coffin

ARCHITECT:

Petersen Kolberg & Associates, P.C. A.I.A.
6969 Southwest Hampton Street
Portland, Oregon 97223
Phone: 503.968.6800

CONTRACTOR:

TBD

MECHANICAL / PLUMBING (DESIGN-BUILD):

ELECTRICAL: (DESIGN-BUILD):

INTERIOR DESIGNER:

Petersen Kolberg & Associates, P.C. A.I.A.
6969 SW Hampton St.
Portland, Oregon 97223
Phone: 503.968.6800

END OF SECTION

SECTION 00 0110

TABLE OF CONTENTS

END OF SECTION

PART 1 GENERAL

1.1 PROJECT

A. Project Name: CVIM Tenant Improvements

B. Owner's Name: Clackamas County Community Development

C. Tenant's Name: Clackamas Volunteers in Medicine Clinic.

D. Architect's Name: Petersen Kolberg Associates Architects.

E. Additional Project contact information is specified in Section 00 0103 - Project Directory.

F. This scope of work includes the Tenant Improvement of leased space on the Clackamas Community College (CCC) campus into a clinic for Clackamas Volunteers in Medicine (CVIM). This work includes (7) exam rooms, a point of care lab, and associated staff and support spaces.

1.2 CONTRACT DESCRIPTION

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

1.3 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 4100.

B. Scope of alterations work is indicated on drawings.

C. Plumbing: Alter existing system and add new construction, keeping existing in operation.

D. HVAC: Alter existing system and add new construction, keeping existing in operation.

E. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

F. Fire Suppression Sprinklers: Alter existing system and add new construction, keeping existing in operation.

G. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.

H. Telephone: Alter existing system and add new construction, keeping existing in operation.

I. Contractor shall remove and store the following prior to start of work, for later reinstallation by Contractor:

1.4 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Substantial Completion. Some items include:
   1. Movable cabinets.
   2. Furnishings.
   3. Small equipment.
   4. Artwork.

B. Owner will supply and install the following:
   1. Refer to Contract Documents for list of equipment.

C. Owner will supply the following for installation by Contractor:
   1. Refer to Contract Documents for list of equipment.

1.5 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

1. Locate and conduct construction activities in ways that will limit disturbance to site.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.
   5. Adjacent Tenant occupancy.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

E. Time Restrictions:
   1. Limit conduct of especially noisy, malodorous, and dusty exterior work to the hours of 7 a.m. to 7 p.m.
   2. Limit conduct of especially noisy, malodorous, and dusty interior work to the hours of 7 a.m. to 7 p.m.

F. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

1.7 WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

1.04 REFERENCE STANDARDS

A. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage); Current Edition.

B. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.

E. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
   1. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing CSI/CSC Form 13.1A - Substitution Request (After Bidding/Negotiating). See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

D. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
      b. Other construction by Owner.
      c. Other unanticipated project considerations.

E. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Construction progress schedule.

G. Contractor's daily reports.

H. Progress photographs.

I. Coordination drawings.

J. Requests for Interpretation (RFI) procedures.

K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 3300 - Submittal Procedures: Form, content, and administration of submittals.

B. Section 01 6000 - Product Requirements: General product requirements.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

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

B. Make the following types of submittals to Architect:
   1. Requests for Interpretation (RFI).
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

1.04 PROJECT COORDINATOR

A. Project Coordinator: Construction Manager.

B. Cooperate with the Project Coordinator and campus security in allocation of mobilization areas of site; for field offices and sheds, for building access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary.

F. All equipment, replacement access and controls shall be accessible as determined by the Owner.

G. Coordinate field engineering and layout work under instructions of the Project Coordinator.

H. Make the following types of submittals to Architect through the Project Coordinator:
   1. Requests for Interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Manufacturer's instructions and field reports.
   6. Applications for payment and change order requests.
   7. Coordination drawings.
   8. Correction Punch List and Final Correction Punch List for Substantial Completion.
   9. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENTATION

A. All documents transmitted for purposes of administration of the contract are to be in searchable electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an email service that sends and receives documents vial Internet-based means.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. Contractor and Architect are required to use this method of delivery.
   3. It is Contractor's responsibility to submit documents in allowable format.
   4. Subcontractors, suppliers, and Architect's consultants will be required to use this method of delivery as well.
   5. All users are required to have an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com).
   6. Only electronic documentation will be reviewed. Paper document transmittals **will not** be reviewed and shall not be submitted.
      a. Exception: Electronic document requirements do not apply to physical material samples or color selection charts.
   7. All other specified submittal and document transmission procedures apply,

B. Project Closeout: All parties for the project are responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice of Award.
   1. Online Meeting Option: As determined by Owner and Architect.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.

5. Designation of personnel representing the parties to Contract, CCC County CM/CVIM and Architect.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Scheduling.

D. Review
1. Project identification/temporary signs
2. System for daily collection and disposal of waste materials from site.
3. Special coordination problems
4. Ingress and egress to site, traffic and parking rules.
5. Demolition procedures
6. Certifications.
7. Safety, Fire and security
8. Insurance responsibilities.
9. Hazardous materials.

E. Confirm
1. Critical layout situations
2. Existing conditions of site and adjacent areas.
3. Sources of temporary utilities.
4. Points of connection to existing facilities.

F. Determine
1. Contractor's plan of operations.
2. Line of authority in contractor's organization
3. Safety and security arrangement contemplated by contractor's.
4. Address and telephone numbers of Architect, Contractor and Subcontractor.
5. Architectural Inspections and Approvals: The following applicable stages of work are to be inspected by the Owner's representative and written approval obtained before proceeding the subsequent work. The Owner's representative is to be notified at a minimum 48 hours prior to the desired time of inspection.
    a. Framing and furring completed
    b. Electrical/Low voltage/ communications work rough-in (boxes only).
    c. Plumbing and Mechanical work rough-in (boxes/outlets only).
    d. Mechanical work completed
    e. Gypsum Board Assemblies completed.
    f. Painting - completion of each coat.
    g. Completion of Contract work.

G. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 SITE MOBILIZATION MEETING

A. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

B. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.

5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 MEP COORDINATION MEETING

A. Owner will schedule meeting at the Project site prior to Contractor occupancy.
1. Online Meeting Option: As determined by Owner and Architect.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. MEP subcontractors.
6. Facility Engineers.

C. Agenda:
1. Owner's requirements and expectations.
2. Construction facilities and controls provided by Owner.
3. Survey and MEP equipment installation layout.
4. Existing systems and coordination.
5. Equipment placement.
6. Equipment access.
7. Rough-in and quality assurance reviews.
8. Procedures for equipment start-up and testing.
9. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.05 PROGRESS MEETINGS

A. Project Coordinator will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's Quality Control (QC) representative.
5. Contractor's superintendent.
6. Major subcontractors.

C. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review Quality Control procedures and implementation for the Project.

a. Report on any results of inspections and findings.
b. Report on any changes to Quality Control procedures.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to work.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.06 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 10 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.07 DAILY CONSTRUCTION REPORTS

A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

B. In addition to transmitting electronically a copy to Owner and Architect, submit two printed copies at weekly intervals.
1. Submit in format acceptable to Owner.

C. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
1. Date.
2. High and low temperatures, and general weather conditions.
3. List of subcontractors at Project site.
4. Approximate count of personnel at Project site.
5. Safety, environmental, or industrial relations incidents.
6. Meetings and significant decisions.
7. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
8. Emergency procedures.
9. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
10. Change Orders received and implemented.
11. Testing and/or inspections performed.
12. Signature of Contractor's authorized representative.

3.08 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Maintain one set of all photographs at project site for reference; same copies as submitted, identified as such.

C. Photography Type: Digital; electronic files.

D. Provide photographs of site and construction throughout progress of work produced by an experienced photographer, acceptable to Architect.

E. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Final completion, minimum of ten (10) photos.

F. Views:
   1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   2. Consult with Architect for instructions on views required.
   3. Provide factual presentation.
   4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

G. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
   4. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.09 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.
   1. Meet requirements specified in MEP Basis of Design documents.

B. Review drawings prior to submission to Architect.

3.10 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
      b. Do not forward requests which solely require internal coordination between subcontractors.
   2. Prepare in a format and with content acceptable to Owner.
   3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 01 6000 - Product Requirements)

c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).

3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
   a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.
3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.
3. Highlight items requiring priority or expedited response.
4. Highlight items for which a timely response has not been received to date.
5. Identify and include improper or frivolous RFIs.

H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
2. Mass RFI's: Six (6) or more RFI's in one (1) day or twenty (20) or more in one (1) week shall be considered "Mass RFI's. If “Mass RFI's" are received, Architect’s review time stated above may be extended as necessary to perform proper review. Architect will review “Mass RFI's" based upon priority determined by Architect after consultation with Owner and Contractor.

I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead

to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.11 SUBMITTAL PROCEDURES

A. As described in Section 01 3300 - Submittal Procedures.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Services of a coordinator for facility services construction.

B. Coordination documents.

1.02 RELATED REQUIREMENTS

1.03 MECHANICAL AND ELECTRICAL COORDINATOR

A. General Contractor will employ and pay for services of a person or firm, technically qualified and administratively experienced in field coordination of the type of work required to be coordinated, for the duration of the Work.

1.04 SUBMITTALS

A. Submit name, address, and telephone number of coordinator and name of principal officer for review.

B. Submit coordination drawings and schedules prior to submitting shop drawings, product data, and samples.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COORDINATION REQUIRED

A. Coordinate the work listed below:
   1. Fire Suppression.
   2. Plumbing.
   3. Heating, Ventilating, and Air Conditioning.
   4. Electrical.
   5. Communications.
   6. Electronic Safety and Security.

B. Coordinate progress schedules, including dates for submittals and for delivery of products.

C. Conduct meetings among subcontractors and others concerned, to establish and maintain coordination and schedules, and to resolve coordination matters in dispute.

D. Participate in progress meetings. Report on progress of work to be adjusted under coordination requirements, and any required changes in schedules. Transmit minutes of meetings and reports to concerned parties.

3.02 COORDINATION DOCUMENTS

A. Prepare coordination drawings to organize installation of products for efficient use of available space, for proper sequence of installation, and to identify potential conflicts.

B. Prepare a master schedule identifying responsibilities for activities that directly relate to this work, including submittals and temporary utilities; organize by specification section.

C. Identify electrical power characteristics and control wiring required for each item of equipment.

D. Maintain documents for the duration of the work, recording changes due to site instructions, modifications or adjustments.

3.03 COORDINATION OF SUBMITTALS

A. Review shop drawings, product data, and samples for compliance with Contract Documents and for coordination with related work. Transmit copies of reviewed documents to Architect.

B. Check field dimensions and clearances and relationship to available space and anchors.

C. Check compatibility with equipment and work of other sections, electrical characteristics, and operational control requirements.

D. Check motor voltages and control characteristics.

E. Coordinate controls, interlocks, wiring of switches, and relays.

F. Coordinate wiring and control diagrams.

G. When changes in the work are made, review their effect on other work.

H. Verify information and coordinate maintenance of record documents.

3.04 COORDINATION OF SUBSTITUTIONS AND MODIFICATIONS

A. Review proposals and requests for substitution prior to submission to Architect.

B. Verify compliance with Contract Documents and for compatibility with work of other sections.

C. Submit with recommendation for action.

3.05 OBSERVATION OF WORK

A. Observe work for compliance with Contract Documents.

3.06 DOCUMENTATION

A. Observe and maintain a record of tests. Record:
   1. Specification section number and product name.
   2. Name of Contractor, subcontractor.
   3. Name of testing agency and name of inspector.
   4. Name of manufacturer's representative present.
   5. Date, time, and duration of tests.
   6. Type of test, and results.

B. Assemble background documentation for dispute and claim settlement.

3.07 EQUIPMENT START-UP

A. Verify utilities, connections, and controls are complete and equipment is in operable condition as required by Section 01 7000.

B. Observe start-up and adjustments, test run, record time and date of start-up, and results.

3.08 INSPECTION AND ACCEPTANCE OF EQUIPMENT

A. Prior to inspection, verify that equipment is tested, operational, clean, and ready for operation.

END OF SECTION

PART 1 -GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.02 RELATED REQUIREMENTS

A. Section 01 2500 - Substitution Procedures: Procedures and requirements for substitutions.

B. Section 01 4000 - Quality Requirements: Additional requirements for submitting test and inspection reports and mockup requirements.

C. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.

D. Section 01 7800 - Closeout Submittals: Project record documents, record specifications, record product data, and submitting warranties.

E. Section 01 7900 - Demonstration and Training: For submitting video recordings of demonstration of equipment and training of Owner's personnel..

F. Divisions 02 through 49 Sections for specific requirements for submittals in those Sections.

1.03 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's and Contractor's responsive action.

B. Informational Submittals: Written information that does not require Architect's and Contractor's responsive action. Submittals may be rejected for not complying with requirements.

1.04 ELECTRONIC DOCUMENTATION

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF) format and transmitted via an Internet-based e-mail service. All parties shall provide ability for electronic stamping and signatures, and addressees via email.
   1. Besides submittals for review, information, and closeout, these procedures apply to requests for information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, and any other document any participant wishes to make part of the project records.

B. Number of copies of Submittals
   1. Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
      a. Verify with Architect the submittal format. Contractor to transfer documents per the preferred format.
   2. Extra Copies at Project Closeout: Per 01 7800 - Closeout Submittals.
   3. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
      a. After review, produce duplicates.
      b. Retained samples will not be returned to Contractor unless specifically so stated.

1.05 SUBMITTAL PROCEDURES

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

B. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals except with special written approval by the Architect.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Submittal Schedule
1. Submit to Architect for review a schedule for submittals in tabular format.
    a. Submit at the same time as the preliminary schedule.
    b. Coordinate with Contractor's construction schedule and schedule of values.
    c. Format schedule to allow tracking of status of submittals throughout duration of construction.
    d. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
    e. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
        1) For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

E. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review:
    a. Allow ten (10) business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise General Contractor when a submittal being processed must be delayed for coordination with related submittals not yet received. Additional time will be required if processing must be delayed to permit review of related subsequent submittals
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Re-submittal Review: If Re-submittal review is necessary, process in same manner as initial review.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, additional time for review may be required.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously from the Contractor to Architect and to Architect's consultants, submittal will be returned to Architect before being returned to Contractor.
6. Mass Submittals: Six (6) or more submittals in one (1) day or twenty (20) or more submittals in one (1) week will be considered "Mass Submittals". If “Mass Submittals” are received, Architect’s review time stated above may be extended as necessary to perform proper review. Architect will review “Mass Submittals" based upon priority determined by Architect after consultation with Owner and Contractor.
7. Submittals received after noon on any day shall be logged in on next business day following receipt.

F. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 3-1/2 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Contractor.
3. Submission Requirements

a. Each separate section of the Specification Divisions 1 through 48 lists the submittals that are requested and will be accepted for review by the Architect. Submittals not requested specifically will be returned to Contractor without review.
b. For Divisions 21, 22, 23, 26, 27, and 28 certain material list and review submittal requests are identified by a "Submittal Code" in the "Submittal" or "Acceptable Manufacturers" paragraph of each section.

4. The contractor should include their review stamp on each shop drawing, as part of the submitted PDF file.
5. Include the following information on label for processing and recording action taken:
   a. Project name
   b. Date
   c. Name and address of Architect
   d. Name and address of Contractor
   e. Name and address of subcontractor
   f. Name and address of supplier
   g. Name of manufacturer
   h. Submittal number or other unique identifier, including revision identifier.
      1) In the lower right corner of each submittal provide the following information in minimum 3/16 inch height. See example below.
         (a) 01 3300-XX
            (1) 01 3300 should be the appropriate specification section for submittal.
            (2) XX should be the chronological number of the submittal if submitted in multiple packages. (i.e. 03 2000-01 would indicate the first of multiple rebar packages, 03 2000-02 the second and so on (numbers shall not be duplicated).
   i. Number and title of appropriate Specification Section.
   j. Drawing number and detail references, as appropriate.
   k. Location(s) where product is to be installed, as appropriate.
   l. Clackamas Volunteers in Medicine Clinic Facilities or Engineering Department's project number and/or Building Identification.
   m. Other necessary identification.
   n. Submittals shall be addressed to:
      1) Architect of record

G. Deviations: Clearly define, highlight or otherwise specifically identify any deviations, variation or departure from the Contract Documents on submittals.

H. Contractor shall provide a copy of each submittal to the Owner for simultaneous review. Owner comments shall be transmitted to the Architect for inclusion on outgoing reviewed shop drawings. The Owner shall provide comments within ten (10) business days of receipt.

I. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Consultants will return submittals, without review, received from sources other than General Contractor.
   1. Transmittal Form: Provide locations on form for the following information:
      a. Project name
      b. Date
      c. Destination (To:)
      d. Source (From:)
      e. Names of subcontractor, manufacturer, and supplier
      f. Category and type of submittal
      g. Submittal purpose and description
      h. Specification Section number and title
      i. Drawing number and detail references, as appropriate
      j. Transmittal number, numbered consecutively

k. Submittal and transmittal distribution record
l. Remarks
m. Signature of transmitter

2. On an attached separate sheet, prepared on General Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Consultant on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.

J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked "No Exceptions Taken" or "Make Corrections as Noted".

K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, Owner and others as necessary for performance of construction activities. Show distribution on transmittal forms.

L. Use for Construction: Use only final submittals with mark indicating "No Exceptions Taken" or "Make Corrections as Noted" taken by Architect.

M. Checking submittals is for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Corrections or comments made on the submittals do not relieve the Contractor from compliance with requirements of the drawings and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site, fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

N. Corrections, modifications or comments made on submittals shall not constitute a change of the contract. The contractor shall inform the Architect of any changes to the contract price prior to any materials being ordered or work started.

PART 2 - PRODUCTS

2.01 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable. Submittals submitted without this information will be returned not reviewed.
3. Include the following information, as applicable:
a. Manufacturer's written recommendations
b. Manufacturer's product specifications
c. Manufacturer's installation instructions
d. Standard color charts (actual samples, not reproductions)
e. Manufacturer's catalog cuts
f. Wiring diagrams showing factory-installed wiring
g. Printed performance curves
h. Operational range diagrams
i. Mill reports
j. Standard product operation and maintenance manuals
k. Compliance with specified referenced standards

l. Testing by recognized testing agency
m. Application of testing agency labels and seals
n. Notation of coordination requirements

4. Submit Product Data before or concurrent with Samples.
5. Number of Copies:
   a. Submit one (1) electronic media copy (in PDF format) of Product Data, unless otherwise indicated. Architect will return electronic media copy. Contractor shall provide and distribute reviewed copies as needed including additional copies to subcontractors, and for Owner.

C. Shop Drawings: Prepare Project specific information in a clear and thorough manner, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a. Dimensions.
      b. Identification of products.
      c. Fabrication and installation drawings.
      d. Roughing-in and setting diagrams.
      e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
      f. Shopwork manufacturing instructions.
      g. Templates and patterns.
      h. Schedules.
      i. Design calculations.
      j. Compliance with specified standards.
      k. Notation of coordination requirements.
      l. Notation of dimensions established by field measurement.
      m. Relationship to adjoining construction clearly indicated.
      n. Seal and signature of professional engineer if specified.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
   1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
   2. Identification: Attach label on unexposed side of Samples that includes the following:
      a. Generic description of Sample.
      b. Product name and name of manufacturer.
      c. Sample source.
      d. Number and title of appropriate Specification Section.
   3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
      a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
      b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
   4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
      a. Number of Samples: Submit three (3) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

5. Samples for Verification: Submit full-size units or samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    a. Number of Samples: Submit three (3) sets of Samples. Architect will retain one (1) sample sets; remainder will be returned
        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Construction Progress Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Schedule" for Construction Manager's action.

F. Submittals Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

2.02 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.
1. Number of Copies: Submit one (1) electronic media copy of each submittal, unless otherwise indicated, to the Architect and the Owner. The Architect will not return copies. Submit other copies to the subcontractors as required.
2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

C. Construction Progress Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Schedule."

D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's Standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
   1. Name of evaluation organization.
   2. Date of evaluation.
   3. Time period when report is in effect.
   4. Product and manufacturers' names.
   5. Description of product.
   6. Test procedures and results.
   7. Limitations of use.

M. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."

N. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

O. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

P. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

Q. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

R. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

S. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

T. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

U. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

V. Construction Photographs: Comply with requirements specified in Division 01 Section “Progress Photographs."

W. Safety Data Sheets (SDSs): Submit information directly to Owner; do not submit to Architect.
1. Architect will not review submittals that include SDSs and will return the entire submittal for Re-submittal.

2.03 DEFERRED SUBMITTALS

A. Definition: Deferred Submittal are submittals required by the Authority Having Jurisdiction (AHJ) for code compliance but which, rather than being submitted at the time of permit application, have been allowed by the AHJ to be deferred until after Contract award to enable the successful Contractor, Subcontractor, or Supplier to submit the applicable submittals.

B. Submit the deferred submittals to the extent indicated on the Deferred Submittal Table located on the Drawing Cover Sheet.

C. Process:
1. Immediately after award of the Contract, the Contractor shall contact the Authority Having Jurisdiction (AHJ) to coordinate and determine specific requirements for deferred submittals. Information obtained shall include such requirements as number of copies; extent of detail of information to be submitted; review, if required, by Professional of Record (Architect or Engineer); and other necessary process and procedural requirements.
2. The Contractor, or other entity, responsible for the submittal shall submit, track, and report submittal status to the Construction Manager through final approval and issue of permit.
3. Communicate with vendors, suppliers, and Subcontractors the AHJ requirements for deferred submittals. Receive, review, and stamp submittals in accordance with submittal requirements herein.
4. Transmit deferred submittals directly to AHJ unless otherwise requested by AHJ to obtain prior review and approval by Professional of Record.
5. Upon approval by AHJ, obtain permits and pay permit fees and other fees required by the AHJ.
6. Attach approved deferred submittals to the approved "Permit Set" documents at the project site.

7. Do not install deferred submittals until corresponding submittal documents have been approved by the AHJ.

2.04 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

A. General Contractor shall review Shop Drawings, Product Data and Samples prior to submission.

B. Determine and verify:
   1. Field measurements.
   2. Field construction criteria.
   3. Catalog numbers and similar data.
   4. Conformance with specifications.

C. Coordinate each submittal with other submittals as well as with requirements of the Work and Contract Documents.
   1. Coordinate transmittal of related items so processing will not be delayed because of need to review submittals concurrently for coordination.

D. Advise priority requirements, if any, for review of submittals.
   1. If submittals are made in large quantities from any one subcontractor or a large quantity of drawings from several subcontractors all at one time, the normal time required by the Architect for review cannot be expected to suffice; Contractor shall, in such instances, indicate the priority and/or sequence of review desired.
   2. If no priority requirement is indicated, Architect will review submittals in the order received.

E. Identify all material list items and submittals by the title of the specification section, paragraph, and page from which they are specified.

F. Contractor and/or manufacturer SHALL NOT use the color red when marking their notations on the submittal.

G. Approval Stamp: Stamp each submittal with a uniform, approval stamp as indicated below. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

H. Each requested submittal shall be checked by the originating contractor (or subcontractor) and General Contractor prior to submission to Architect, and shall carry the following certification on each sheet by both the Construction Manager or the Contractor and the subcontractor.
   1. WE HEREBY STATE THAT WE HAVE REVIEWED, INSPECTED AND CHECKED THE INFORMATION SUBMITTED AND VOUCH FOR ITS ACCURACY AND COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SURROUNDING CONDITIONS.
   2. [Contractor and] [Construction Manager] [Subcontractor]
   3. (Signature)

4. Per _____Date:_____
   Submittals submitted without this certification will be returned, not reviewed, for resubmission.

I. Distribution by Contractor
   1. Distribute reproductions of Shop Drawings and Product Data which carry the Architect review stamp to Owner and subcontractors.
   2. Distribute samples which carry the Architect review stamp as directed by the Architect.

J. Perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved.

3.02 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

C. Except for submittals for record, information or similar purposes, where action and return is required or requested, Architect will review each submittal, mark to indicate action taken, and return promptly.
   1. Compliance with specified characteristics is General Contractor's responsibility.

D. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
   1. Submittal Code Description
      a. No Exceptions Taken: Indicates the submission has been reviewed and conforms generally to the design concept and the information given in the Contract Documents. Architect will not include any comments. Fabrication can proceed. No further submissions are required.
      b. Make Corrections Noted: Indicates the submission conforms generally to the design concept and the information given in the Contract Documents, except for corrections indicated. Fabrication can proceed on the basis that Contractor is fully responsible for incorporating indicated corrections into the work. No further submissions are required.
      c. Revise and Resubmit: Indicates the submission does not conform to the design concept and the information given in the Contract Documents. Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark. Resubmission is required for confirmation of corrections noted.
         1) Do not permit submittals marked "Revise and Resubmit" to be used at Site, or elsewhere where Work is in progress.
      d. Rejected: Procedural or technical nonconformity with the design concept and the information given in the Contract Documents.
         1) Do not permit submittals marked "Rejected," to be used at Site, or elsewhere where Work is in progress.
      e. Submit Specified Item: Indicates that product was neither specified nor has prior approval. and specified item shall be submitted for Architect's review. Fabrication shall NOT proceed.
      f. Per Consultant Review: General Contractor shall be cognizant that certain submittal reviews may cross disciplines of the design team, resulting in multiple review

comments and stamps from appropriate consultants being attached to any submittal. "Per Consultant Review" indicates the submission conforms generally to the design concept and the information given in the Contract Documents, except for corrections indicated by both Architect and Consultant(s) as indicated on their respective attached stamp or submittal letter. If conflicts arise between reviewers, General Contractor shall notify Architect for resolution prior to release of submittal for fabrication or construction. Contractor is fully responsible for incorporating indicated corrections into the work. Resubmission is required for confirmation of corrections noted.

E. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

F. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

G. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

H. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

I. The approval of Architect shall not relieve General Contractor of responsibility for errors in the Drawings or submittals as Architect's checking is intended to cover compliance with the Drawings and Specifications and not enter into every detail of the shop work.

J. Corrections, modifications or comments made on submittals shall not constitute a change of the contract. The contractor shall inform the Architect of any changes to the contract price prior to any materials being ordered or work started.

END OF SECTION

SECTION 01 3525
OWNER SAFETY REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

1.02 SUMMARY

A. The control of Project Safety by the Contractor is an essential element of performing work at CVIM Tenant Improvements. The Contractor shall, at all times, provide adequate resources, equipment, training, and documentation to assure a safe work environment at the Project site and to instill a culture for safety in the behavior of all supervisors and workers. Every worker shall understand that safety and health issues always take precedence over all other considerations, and that identifying, reporting, and correcting unsafe acts and conditions are the responsibility of everyone at the Project site.

B. Owner is dedicated to providing a safe healing and work environment for all patients, visitors, staff, students, guests, and Contractors.

C. The details of this document should be considered as supplemental requirements. The Contractor shall develop, implement, maintain, and submit to the Owner a written Project Safety Program that meets or exceeds all Federal, State, and Local standards and regulations pertaining to construction activities. The Contractor and every Subcontractor shall comply with the rules and guidelines outlined in this guideline. In any circumstances where this section differs with or conflicts with any standard or statutory requirement, the more stringent requirement shall apply. Contractors may use a company-wide safety program in lieu of the Project specific safety program as long as it meets or exceeds the requirements listed in these guidelines.

D. The Owner reserves the right to have any manager, supervisor or worker employed by the Contractor or Subcontractor removed from the Project for disregard of Project Safety requirements.

E. The Owner reserves the right to deduct from the Contract any safety related expenses that the Owner incurs, as a result of the Contractor’s, or any Subcontractor’s, disregard for Project safety.

1.03 REFERENCE STANDARDS

A. 29 CFR 1910.132-138 - Personal Protective Equipment; current edition.

B. 29 CFR 1910.134 - Respiratory protection; current edition.

C. 29 CFR 1910 - Occupational Safety and Health Standards; current edition.

D. 29 CFR 1910.145 - Accident Prevention Signs and Tags; current edition.

E. 29 CFR 1910.146 - Requirments for Confined Spaces; 2011.

F. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

G. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2019.

I. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 DEFINITIONS

A. The term “Owner’s Designated Representative” or “Owner Representative”, as used throughout the document, shall refer any of the Owner’s Project management team, insurance carrier representative(s), Owner’s designated agent, or campus representative(s).

B. The term “Contractor” as used throughout the Contract Documents shall refer to the party having a direct contractual agreement with the Owner to provide services. This term is to apply whether Contractor is known as a Prime Contractor, General Contractor, Construction Manager, or Design/Build Contractor.

C. The term “Subcontractor” as used throughout the Contract Documents shall refer to any on-site Subcontractor, regardless of tier.

1.05 EMERGENCY / IMPORTANT CONTACT INFORMATION

A. Consult with Owner Representative regarding the correct emergency contact information for the facility in which you are working. Each facility may have a different emergency call procedure.

PART 2 PRODUCTS

2.01 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

2.02 QUALITY ASSURANCE

A. Comply with contract clauses entitled "Accident Prevention" and "Permits and Responsibilities". In case of conflicts between Federal, State, and local safety and health requirements, the most stringent shall apply. Equipment or tools not meeting OSHA requirements will not be allowed on the project sites. Failure to comply with the requirements of this section and related sections may result in suspension of work.

2.03 QUALIFICATIONS OF EMPLOYEES

A. All employees must be physically able to perform their assigned duties in a safe manner.

B. Do not allow employees to perform work whose ability or alertness is impaired because of prescription or illegal drug use, fatigue, illness, intoxication, or other conditions that may expose themselves or others to injury.

C. Operators of vehicles, hoisting equipment, and hazardous plant equipment shall be able to understand signs, signals, and operating instructions, and be fully capable of operating such equipment. Provide operating instructions for all equipment. Newly hired operators shall be individually tested by an experienced operator or supervisor to determine if they are capable of safely operating equipment. Retain copies of all operators licenses and/or certifications on-site.

PART 3 EXECUTION

3.01 ASBESTOS CONTAINING MATERIAL

A. Environmental Health and Safety must review all job sites prior to the start of a Project to determine the presence of Asbestos Containing Material (ACM).

B. All suspect materials shall be considered asbestos-containing material until identified otherwise by an EPA approved method of analysis for identifying asbestos-containing material.

C. Any Contractor personnel needing to disturb any suspected asbestos containing building materials shall first contact their Owner Representative. It is then the responsibility of the Owner Representative to contact Environmental Health and Safety to determine if there is any Asbestos Containing Materials present.

D. Contract personnel coming into contact with known or suspected asbestos containing materials (ACM) will:

1. Avoid any physical contact or other actions that may damage or otherwise disturb the material.

2. Submit all requests for sampling suspected asbestos containing materials through your Owner Representative. If the material has not been previously identified as containing asbestos, Environmental Health & Safety personnel will sample the materials, obtain analysis, and report results to the requester.

3.02 RAPID OR WIDESPREAD DISEASE / VIRUS TRANSMISSION

A. **GENERAL - RAPID SPREAD VIRUS**

1. Social Distancing:
   a. Each work site will implement these protocols to ensure six (6) feet working distance between employees. Each project shall complete staffing matrix indicating staff members essential to be working on site.
2. Each worksite will identify a Contractor employee responsible for enforcing the Social Distancing Protocols on site, as indicated above. The “site designated employee” is always required to be onsite or assign an alternate, if the situation mandates.
3. Meetings shall be held via teleconferencing, if possible. Necessary site meetings are to be in accordance with our social distancing requirements.
4. Signage directing visitor to a specific location shall be posted at each entry. In addition, social distancing signage shall also be posted at all entries and gathering areas.
5. “Rules of conduct” will be announced daily and strictly enforced
   a. Do not come to work if you are feeling sick.
   b. Do not shake hands.
   c. Cover your mouth with your elbow when sneezing or coughing.
   d. Avoid touching your eyes nose or mouth with unwashed hands.
   e. Any staff showing symptoms of any sickness shall stay home until symptom free for twenty four (24) hour continuous period.
   f. If a known exposure to virus is confirmed, it is requested that staff self-quarantine for fourteen (14) days.
6. Zero Tolerance: No individual should report to work at a Clackamas Volunteers in Medicine Clinic jobsite who is experiencing illness symptoms such as fever, cough, shortness of breath, sore throat, runny/stuffy nose, body aches, chills, or fatigue. Contractor shall instruct and give authority to thier site designated employee to remove anyone who is visually or otherwise demonstrating symptoms of illness.
7. Daily cleaning shall be in accordance with Contractor cleaning best practices.
   a. Doorknobs, keyboards, counters, and other surfaces will receive routine environmental cleaning.
   b. Additional / increased sanitation (disinfecting) of portable toilets will be requested.
8. Hand Hygiene
   a. All individuals will be expected to clean their hands often with an alcohol-based hand sanitizer that contains at least 60-95% alcohol, or wash hands with soap and water for at least 20 seconds. Soap and water should be used preferentially if hands are visibly dirty.
      1) Soap and water and/or alcohol-based hand rubs will be provided on all jobsites. Subcontractors are expected to supplement these provisions with sufficient sanitizers to meet their crew size(s) and encourage regular hand hygiene.
9. Jobsites
   a. "Site designated employee” will gather subcontractors’ social distancing plans documenting jobsite essential personnel and social distancing protocols.
   b. “Site designated employee” will review daily task plans and observe the site to ensure social distancing is being addressed and maintained.
   c. Foreman and the “site designated employee” will address social distancing issues in their daily pre-task plans and communicate them each day with their crews.
   d. Daily task plans will be filed and stored in the normal manner on site.

e. Contractor shall limit non-essential visitors to the jobsite. Site tours, large gatherings, and the like shall be suspended. Visitors shall be briefed by the “site designated employee” on proper social distancing procedures applicable to the person.
f. Safety Meetings
    1) Limit daily morning gathering to site foremen for the day’s outline. Ensure adequate space to allow for required social distancing.
    2) Consider small crew toolbox meetings to align with start, break and lunch. Keep the meeting quick and to the point. Address information they need from start to break, break to lunch, and lunch to the end of the day.
g. Corridors/Stairs
    1) Minimize conversations to ensure guidelines for social distancing; move to a unit or preferably outdoors to talk.
h. Activity Work Task
    1) Utilize a “Site designated employee” to ensure social distancing is strictly enforced.
    2) Prepare activity pre-task plans, specifically addressing social distancing and personal hygiene.
i. Hand Hygiene
    1) All individuals will be expected to clean their hands often with an alcohol-based hand sanitizer that contains at least 60-95% alcohol, or wash hands with soap and water for at least 20 seconds. Soap and water should be used preferentially if hands are visibly dirty.
        (a) Soap and water and/or alcohol-based hand rubs will be provided on all jobsites. Subcontractors are expected to supplement these provisions with sufficient sanitizers to meet their crew size(s) and encourage regular hand hygiene.
j. Staggered breaks, lunch and beginning/end of the day
    1) Ensure that we eliminate larger congregation of individuals.
    2) Breaks and lunch should be considerate of Contractor agreements, meaning lunches must fall within the required time frame.
    3) Consider how we manage groups at the beginning / end of the day and crafts time in the break room.
    4) Do not congregate in lunch areas.
k. Miscellaneous
    1) Avoid sharing tools, if unavoidable and deemed necessary, clean the handles prior to and after sharing.
    2) Do not share personal protection equipment (PPE).
    3) Sanitize reusable PPE per manufacturer’s recommendation prior to each use.
    4) Ensure used PPE is disposed of properly.
    5) Utilize disposable gloves where appropriate. Workers should wash their hands after removing gloves.
    6) All reusable supplies and equipment must be disinfected after each use.
    7) Each jobsite will identify specific locations and practices for daily trash such as: paper, hand towels, food contains, etc. Instruct all workers responsible for trash removal in proper PPE/hand washing practices.
    8) No common water cooler(s) will be utilized on site. Employees are responsible for providing individual serice or reuseable water bottles on their own.
        (a) If common water dispesers are supplied and utilized, only use new cups from shared water dispensers.
    9) If provided, shoe sanitation tubs (no-bleach sanitizer solution) must be utilized prior to entering or leaving the jobsite.
    10) Workers should change work clothes prior to arriving home; and wash clothes in hot water with laundry sanitizer daily.

11) Schedules will be adjusted to avoid trade stacking when possible.
12) Utilize disposable hand towels and no-touch trash receptacles.
13) Avoid cleaning techniques, such as using pressurized air or water sprays that may result in the generation of bioaerosols.

B. **GENERAL - NON RAPID SPREAD VIRUS**
1. To promote the health, safety and welfare of staff, patients and visitors, Contractor shall be cognizant of the Owner's and Local Health Authorities official declaration of flu season.
   a. Or other viral infection that attack respiratory systems.
2. Contractor shall require all employees, subcontractors, vendors, etc. who will enter the site to receive the current influenza vaccine to be compliant to work within the facility.
   a. Documentation of outside vaccination is acceptable.
3. Those who decline current vaccinations shall be required to wear a mask, while in a building with designated patient care areas.
4. Owner shall determine the areas where the immunization requirements are in effect.

3.03 CONDUCT

A. The use or consumption of alcoholic beverages or controlled substances is strictly forbidden on any Institution owned or controlled property.

B. Contractor shall not permit any person to operate a motor vehicle or heavy equipment while taking prescription or non-prescription medication that may impair their ability to operate safely.

C. Clackamas Volunteers in Medicine Clinic is a Smoke Free Institution. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.

D. Contractor personnel shall be courteous to all tenants, business invitees, patients, visitors, and employees.

E. Unacceptable behavior on the part of the workers anywhere on campus, including parking lots, the project site, the accessible route(s) through the site or through the campus may lead to the identifiable Contractors being removed from the project.

F. Personal grooming, personal hygiene and language by Contractors must be conducted in a professional manner at all times. Use of foul and off-color language will not be tolerated and can result in Contractor removal from jobsite.

G. Shirts must have sleeves of at least 3 inches, measured from the armpit seam. All buttoned shirts must be buttoned to at least the third button from the top. T-shirt styles may be approved if they are part of a company uniform or contain no political or offensive language or images. For additional guidance, see Section regarding Personal Protective Equipment (PPE).

H. Pants that are excessively loose, torn, ragged or with dragging cuffs will not be permitted. Shorts are not allowed.

I. No clothing, accessories, or hardhat stickers that display offensive, derogatory or inflammatory wording or graphics shall be worn on the Worksite.

J. All clothing must be in good repair and free of any large holes or major damage. All clothing must be clean and sanitary at the start of each work shift and periodically cleaned to prevent tracking dust and debris out of the construction area.

K. Workers clothing must be clean of visible dusts and dirt when outside of the Project site.

L. No radios or music shall be allowed on the Project including headphone systems. Personnel must be able to hear alarms and warnings in the immediate area (This does not pertain to the use of two-way hand held communication equipment or phones).

M. No tools or equipment will be loaned by Owner to Contractors to assist them in completing Projects.

N. Contractor personnel shall not tape back lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Personnel may not disconnect any electronic security device or defeat lock systems.

3.04 CONFINED SPACES

A. Owner does not provide any confined space entry support such as sampling, entry permits, rescue personnel, rescue equipment, etc., for contractor personnel.

B. Contractors are responsible for ensuring all of their employees are trained on the recognition and significance of confined space entry procedures in accordance with OSHA 29 CFR 1910.134.

C. It will be the responsibility of the Contractor performing the work inside the confined space to provide the necessary equipment to assess the hazards within the space and prepare the space for entry and to meet the precautions of the entry permit.

D. Contractor shall provide all emergency rescue equipment and personnel as required by OSHA, 29 CFR 1910.146, as applicable.

E. The Contractor conducting the work inside a permit-required confined space shall follow, at a minimum, all applicable OSHA requirements.

3.05 CONSTRUCTION SAFETY SITE INSPECTIONS

A. All construction sites will be subject to periodic inspections by Environmental Health and Safety representatives. The inspector(s) will be looking for life safety, environmental, construction safety, and indoor air quality deficiencies. Once noted, the inspector will notify the Owner Representative responsible for the site. The inspector may also notify the Contractor Representative on site.

B. All noted deficiencies shall be immediately corrected.

C. The inspector will be enforcing IAQ measures found in the “Maintaining Indoor Air Quality During Construction and Renovation” policy / procedures and other requirements set forth in the Owner construction specifications for that Project.

D. A job or activity will be suspended if an imminent danger to patients, animals, visitors, employees, Contractor personnel or facilities is observed.

3.06 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION

A. Contractors must follow any specific check-in procedures for the facilities in which they will be working. Your Owner representative will inform you of these procedures.

B. All Contractors/vendors must wear an Owner-issued ID badge at all times while on property owned or under the control of the Institution. Badge must be worn and be visible at all times. Contact your Owner Representative for assistance in obtaining an ID badge.

C. Contractors/Vendors hired by the Owner's Facilities division must register their activities with Facilities Management before commencing work.

D. Contractors coordinate with Project Managers for access to the campus. Contractors must submit a Construction Schedule to Facilities Management

E. Physical Plant informs Facilities Management of contractors schedule as well as the badge numbers issued to that contractor. Facilities Management will issue badges to contractor for their use while on the property. Contractors are responsible for distributing the badges as needed.

F. Confirm with Owner the location where Contractor/vendor registration will be performed.

G. Contractors/vendors who fail to register with Facilities Management are subject to removal from the property by the proper authorities.

3.07 CONTRACTOR INJURIES AND INCIDENTS

A. Contractors shall make prior provisions for the treatment of minor injures.

B. Contractor is responsible for cleaning up all blood and body fluids and debris from accidents.

C. Contractor employees requiring immediate medical treatment should be taken to the emergency room of the hospital. Owner does not provide medical treatment to Contractors engaged in projects.

D. If an injured worker cannot be moved and assistance is needed, contact the local Fire Department (911) for an ambulance.

E. An injury requiring treatment beyond minor Job Site First Aid, shall be reported immediately to your Owner Representative or Designee.
   1. Notify the Hospital Emergency Department.

F. A copy of the incident / accident report must be provided in a timely manner to your Owner Representative. A preliminary report must be made within 24 hours of the end of the next working day.

G. All incidents that result in property damage must be reported to your Owner Representative.

3.08 CONTRACTOR SAFETY ORIENTATION

A. All Contractor personnel are required to complete the Owner Construction Safety and Infection Control Orientation Training given by the Environmental Health and Safety Office before beginning work at the Institution. This training may be in the form of videos or an in-class presentation. Videos can be requested through the EH&S department or your Owner Representative and are available in both English and Spanish.

B. Completion of orientation is required to obtain a hardhat sticker and emergency contact card.

C. The Contractor may be required to attend orientation again for refresher, and review any changes if deemed necessary by the Owner.

D. The Contractor's Representative must contact the Environmental Health and Safety Office to make arrangements for the orientation session.

E. It is the responsibility of the Contractor to ensure that the information given in the orientation session is understood by all workers (i.e. Spanish or other language translation).

3.09 ELECTRICAL SAFETY

A. Refer to Section following on Lock Out / Tag Out requirements.

B. All electrical power tools, equipment and extension cords shall be inspected daily before use. Defective items shall be immediately removed from service for repair or replacement.

C. NOTICE: RED OUTLETS are for power requirements provided by the Emergency Generator System and shall NOT be used by Contractor personnel.

D. Ground Fault Circuit Interrupters (GFI's) shall be in use between any permanent receptacle and any Contractor equipment.

E. Temporary power panels shall have GFI protected circuits built into the panel.

F. The GFI shall be tested for function before plugging in any Contractor equipment.

G. Electrical power tools shall be grounded, or double insulated, or battery powered. The cord on the tool must be free of defects.

H. Battery powered portable hand tool battery charging stations are not to be plugged into hallway or exit stairs outlets or other areas so as not to create a trip hazard.

I. Extension cord sets shall be the "heavy duty" three-wire grounded type (14 gauge or larger), and must be rated for the particular application in which it is to be used.

J. Three-wire flat type extension cords are NOT permitted.

K. Defective cord ends must be replaced with a UL rated repair end; Contractor must follow the manufacturer instructions for repair installation.

L. Damage to the cord jacket shall not be taped over and must be repaired per manufacturer's recommendations.

M. Extension cords shall be routed overhead whenever possible or otherwise protected against damage or tripping hazard by being securely taped to the floor or secured by other acceptable means and approved by the Owner Representative.

N. Running/hanging extension cords through ceiling spaces is not permitted. Special permission from Environmental Health and Safety is required for any variation from this requirement.

O. Extension cords must be used as designed by the manufacturer. Avoid using extension cords in a manner to cause damage to the electrical system or cause personal injury.

P. All electrical shutdowns and electrical "taps" must be coordinated through the Project Manager or Owner Representative for that Project.

Q. Contractors are not allowed to turn on/off any electrical source breakers or switches without permission from the respective Owner Facilities Management representative for that building/space. This should be accomplished through a Utility Shutdown Request submitted by the Project Manager or Owner Representative.

R. Existing and new electrical equipment must be protected at all times from humidity, liquid material splashes, activities inducing to vapor formation and condensation.

S. No liquid materials shall be handled in electrical rooms, electrical equipment areas or areas adjacent to electrical equipment locations.

T. In the event that the Contractor must handle liquid materials in the vicinity of electrical equipment locations, the Contractor must inform the Owner and seek written approval, prior to bringing those liquid materials to the above-mentioned locations.

3.10 FALL PROTECTION AND PREVENTION

A. Work in areas not protected by a standard guardrail system OR that present a fall hazard greater than six (6) feet shall require compliance with all current applicable OSHA Fall Protection requirements and/or ANSI/WCA I-14.1 Window Cleaning Safety Standard.

B. The Contractor shall ensure that all workers exposed to fall hazards have been properly trained and equipped by their employer.

C. No worker or equipment shall be allowed to perform work directly above another worker unless adequate overhead protection is provided.

D. Covers or fencing of sufficient design shall be placed over holes, roof and floor openings or drop offs to prevent personnel or equipment from penetrating the opening.

E. Covers or fencing shall be physically secured and clearly marked with warning message, such as "Danger", "Hole", or "Cover! Do Not Remove".

F. If a cover is too small for a warning message, it shall be painted bright orange or red.

G. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.

3.11 FIRE PREVENTION

A. All combustible materials shall only be stored in approved areas as designated by the Owner Representative.

B. Clackamas Volunteers in Medicine Clinic is a Tobacco Free facility. No smoking, vaping or use of tobacco products are allowed on any facility property. There are no designated smoking areas. Those found smoking will be immediately removed from the jobsite.

C. Contractor shall coordinate the covering and uncovering of smoke/heat detectors with Owner's Facilities Department prior to starting work or upon discovery of such devices as work progresses. Covering smoke detectors with tape, rubber gloves, or any other method that can agitate or damage a detector is prohibited.

D. Contractor is subject to fines by the AHJ's Fire Marshal or Fire Department Inspector if they are found to negligently activate fire alarm devices.

E. For large or high dust generating Projects, the Contractor shall coordinate with their Project Manager or Owner Representative to arrange for the replacement of smoke detectors with heat detectors. Environmental Health and Safety must approve all changes to any fire alarm or suppression systems.

F. Combustible scrap, trash, and debris shall be removed from the Project site on a daily basis, or, more frequently as required.

G. Contractor shall not tape back door lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Lock cores shall not be removed. Coordinate changing lock cores to the designated construction core lock with your Owner Representative.

H. Flammable products shall be limited to one days supply inside the building. Flammable products shall be stored outside the building or in approved UL Rated flammable storage cabinets. Flammable liquids shall be in approved safety cans or cans designed for their use.

I. Absolutely no gasoline will be allowed inside Owner owned buildings. For temporary use outdoors, only approved metal safety cans will be permitted.

J. Compressed flammable gas cylinders (i.e acetylene) shall not remain inside the building overnight and must be removed from the premises at the conclusion of each workday. Oxygen cylinders must also be removed from the premises at the end of each workday. Gas bottles are not allowed to be stored in areas that are used as Contractor offices.

K. The Contractor shall also have the Safety Data Sheets (SDS) for each gas used available within 15 minutes when requested.

L. Compressed flammable gas cylinders, while on the project site, shall be secured by chain or other suitable method to prevent tipping or falling over. All safety caps shall be securely installed when tanks are not in use.
   1. Coordinate with Owner for additional information.

M. When working in the ceiling space or on rated fire/smoke rated walls and structures, all holes and penetrations for wires, conduits, piping, etc. shall be sleeved and sealed with a UL (FRD) approved fire caulking / sealing compound at the end of each workday. Any holes that must remain overnight must be sealed with an equivalent temporary fire proofing material as approved by the Owner Representative.

N. Work on fire sprinkler and detection systems shall continue until the system operation is fully restored. No impairments will be allowed to extend beyond approved periods of time or during times when the site is unattended.
   1. Minimum 4 Hour fire watch is required.

O. Shutdown of any fire suppression or detection systems/devices shall be coordinated through the Owner's Designated Representative. Unauthorized shutdown or disabling of life safety systems shall be grounds for immediate removal from the jobsite.

P. All Contractors are required to supply and maintain a minimum of one currently tagged ABC fire extinguisher, 10 pound (Class 2-A) or greater. The use of a Owner owned fire extinguisher will not be permitted. Requirements are as follows:
   1. Indoors - Within 100 feet of any Class-A hazard, within 25 feet of any hot work and one for every 3000 square feet of floor space.
   2. Outdoors - between 25 - 50 feet of any hot work.

Q. All Contractor employees shall be trained on the proper use and handing of fire extinguishers.

R. If a Project involves multiple locations on a single floor or on multiple floors, additional multi-purpose fire extinguishers are required.

S. The Owner may require additional extinguishers as dictated by the risk of each project or project area.

3.12 FIRE REPORTING AND EVACUATION PLAN

A. Contractor shall establish a designated emergency evacuation assembly area for all Projects prior to starting work. Contractor shall train all employees on assembly area locations and how to get to each area.

B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA.

C. In the event of a fire alarm, all work is to stop, all sources of ignition or hazardous work shall be immediately halted and all personnel are to proceed to the door of the construction site and wait for further instructions.

D. In the event of a smoke, fire, or emergency incident the following procedures should be followed:
   1. RACER - Rescue, Alarm, Confine, Evacuate/Extinguish, Relocate:
      a. Rescue: Rescue Patients, Visitors, Employees.
      b. Alarm: A fire alarm pull station shall be activated as quickly as possible or call 911.
      c. Confine: Confine the fire or smoke by closing all doors to the area.
      d. Evacuate/Extinguish: Extinguish the fire after you have performed the above operations but only if you can do it safely.
      e. Relocate: Move people (Patients, Visitors, Employees) accordingly per established life safety measures in place.

E. When reporting a fire by phone:
   1. The caller should provide their name, the location of the fire, and a brief description of the incident. The caller should not hang up until emergency services personnel instruct them to do so.
   2. The caller should be prepared to guide the Fire Alarm Response Team and Emergency Responders to the fire location.

F. All Contractor personnel shall report to their designated assembly area immediately. Contractor must coordinate the Designated Assembly Area with their Owner Representative prior to the beginning of the project.

3.13 GENERAL SITE CONDITIONS - LIFE SAFETY

A. Contractors will comply with all OSHA and NFPA life safety requirements as related to emergency exiting and lighting for construction areas.

B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA. Contractor should coordinate the creation of these maps with their Owner Representative.

C. Contractors are required to maintain any required temporary signs directing to exit routes. These signs shall be externally or internally illuminated by lighting that is either on emergency power or of the luminescent “glow-in-the dark” type.

D. All temporary lighting and bulb protective devices shall be maintained and in good working condition. Wiring for temporary lighting shall be removed at the conclusion of the Project scope.

E. All emergency exit doors must be maintained and in good working order. Paths to exits must remain clear at all times.

F. Depending on the size of the project site and number of Contractors working in the site, a Contractor may be required to maintain at least two clearly marked exits per NFPA 101 and NFPA 241 requirements.

G. All exits must be clearly marked with the words “EXIT” or “EMERGENCY EXIT”. Doors that the Contractor does not want to use for daily access may be marked with the words “EMERGENCY EXIT ONLY”.

H. Lock all entry doors/gates to the project site. Due to life safety requirements, chains and/or pad locks will not be permitted on any door. Contact your Owner Representative for the proper lock cores and keys.

I. If a combination key pad is installed on a jobsite, the door must also be equipped with a construction core to ensure emergency personnel maintain access to the site. Key pads without a construction core will not be permitted. Contractor must also ensure that the combination to the key pad is not posted on the wall or door of the site. If this occurs, the combination must be changed immediately.

3.14 HAZARD COMMUNICATION (HAZCOM)

A. The Contractor shall provide training and maintain documentation that their personnel and Subcontractors have received proper training in Hazard Communications under the provisions of OSHA’s requirements in 29 CFR 1910.1200 and/or 29 CFR 1926.

B. A printed, legible copy of the Safety Data Sheet (SDS) shall be made available within 15 minutes of a request for each chemical used on the job site.

3.15 HAZARDOUS WASTE AND WORK IN HAZARDOUS LOCATIONS

A. Owner chemical, biological or radioactive materials (hazardous substances and equipment) must be moved or secured prior to beginning work in any area. Contractor shall coordinate the removal of these items with their Owner Representative.

B. The Contractor’s Owner Representative will coordinate any pre-site assessments with Environmental Health and Safety, the laboratory principle investigator, clinic representative or laboratory manager to prevent disturbing experiments/animals or creating accidents.

C. All Contractors must have permission from their Owner Representative and the laboratory manager or clinic representative before entering laboratory or hospital clinical work areas.

D. Disposal of all hazardous wastes generated by Contractor activities is the responsibility of the Contractor. All wastes must be removed from the premises.

E. No chemicals, trash, paint, paint brush rinse, shop vacuum contents, excess materials, sand, dirt, etc. may be disposed of in storm sewers/drains or sanitary drains.

F. Contractor must prevent dirt from entering exterior storm drains by adding appropriate silt protection screen material to all exterior drains that may be impacted by the project.

G. Contractor must follow all requirements set forth in the Storm Water Pollution Prevention Plan (SWPPP) as indicated in the appropriate Project Specification . Consult the Environmental Health and Safety Office for questions regarding environmental permitting and plans.

H. All hazardous waste, fuel, oils, and chemicals stored outdoors must have adequate secondary containment to prevent discharge onto the ground or in storm or sanitary sewer drains. All containers must be stored to prevent theft or unauthorized access. All containers outdoors must also be protected from weather elements and secured from public access.

I. Contractor shall ensure that adequate spill protection equipment and supplies are readily available during all equipment refueling activities.

3.16 HOT WORK PERMITS

A. A valid and signed Hot Work Permit must be obtained anytime all work being implemented involves the use of any incendiary or heating devices such as:
   1. Electric Arc Welding

2. Oxygen Acetylene Welding
3. Tig/Mig Welding
4. Cutting/Soldering
5. Propane Torch
6. High Heat Producing Sources
7. Spark Producing Activities
8. Propane Powered Equipment used Indoors

B. Permits to work on ANY medical gas systems must be obtained from the Facilities Department responsible for that area prior to work.

C. Hot Work Permits shall be completed by the Contractor 24 hours in advanced and once approved, posted in the vicinity of any burning or welding operations that are to be completed inside or near a building or enclosure. Permits may be issued for up to three (3) days duration only when the work operation is to be continuous in a single area and so approved by the Owner.

D. Hot work applicants must contact the designated Facilities Building Manager or your Owner Representative for specific hot work permitting requirements for the facility in which they are working.

E. Responsibilities of the Contractor:
   1. It is the responsibility of the Contractor, vendor, and/or Owner personnel to read, understand, and acknowledge sections I, II, and III of the Hot Work Permit.
   2. It is the responsibility of the Contractor, vendor, and/or Owner personnel to acknowledge and abide by all precautions stated in section III of the Hot Work Permit.
   3. It is the responsibility of the Contractor, vendor, and/or Owner personnel to complete and sign the appropriate sections of the Hot Work Permit 24 hours prior to the start date of the work to be performed.
   4. Projects that are to begin on Saturday, Sunday, or Monday must have Hot Work Permit request form completed by the preceding Friday.
   5. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Welding, Cutting, and Brazing procedures in accordance with OSHA regulations 29 CFR 1910.252 - .255.
   6. At the end of any cutting operation or at the end of the day, all fuel gas cylinders must be removed from the facility. Fuel gas cylinders will not be allowed to remain in the facility overnight.
   7. Anti-flashback arrestors shall be installed at the base of all Oxyacetylene cutting torches or at the pressure regulator gauges where the hoses are attached, unless the torch is equipped with a built-in arrestor. Only friction strikers shall be used to light and re-light Oxyacetylene torches.
   8. Fire Watchers shall be posted at every operation that produces sparks, flames or sufficient heat to create an ignition. Watchers shall be trained in the use of extinguishers, shall keep other people from entering exposure areas, and shall not be assigned other duties until the rekindling ("smolder watch") possibility is over. Additional fire watch personnel shall be posted in all areas in which hot work sparks, slag, heat, etc. go beyond the sight of the primary fire watch.
   9. Except in a fabrication shop or in front of a properly guarded grinding wheel, the person performing the work may not act as a watcher. When sparks, slag, or fire may fall to a different level, a separate watcher shall monitor each level directly below the work (including exterior locations).
   10. Heaters for welding electrodes shall have a manufacturer's label that certifies the purpose of the unit. Job-built heaters shall be prohibited.
   11. The remains of welding electrodes shall be picked up and disposed of as soon as each electrode is expended. No welding electrode shall be permitted to fall and remain in the work area.

12. All temporary fabrication areas shall be approved by the Facility Manager prior to starting work.

3.17 SEVERE WEATHER PLANS FOR CONSTRUCTION SITES

A. Construction sites may be required to have a Severe Weather Plan specific to that site. Consult with your Owner Representative for applicability, as some departments may require this Plan for small projects.

B. A copy of the Severe Weather Plan must be submitted to your respective Owner Representative prior to starting work.

C. The Owner Emergency Preparedness Office or Campus Director will issue warning levels in the event of possible Severe Weather. Contractors are urged to learn more about the warning system by contacting their Owner Representatives.

3.18 PERSONNEL IDENTIFICATION

A. All Contractors are required to wear an identification (ID) badge while doing work within Clackamas Volunteers in Medicine Clinic facilities.
   1. Provide identification badge to each person authorized to enter premises.
   2. Badge To Include: Personal photograph, name, assigned number, expiration date and employer.
   3. Maintain a list of accredited persons, submit copy to Owner on request.
   4. Require return of badges at expiration of their employment on the Work.

B. All badge requests must be processed by the Owner department that is issuing the contract for work.

C. ID badges must be worn at all times in a highly visible manner while on property owned or under the control of the Owner.

D. Contractors are responsible for returning any badges for personnel that will no longer be providing services to the Institution within one week after termination or conclusion of Project.

E. The badge must be clearly visible to someone facing the wearer.

F. A fee may be required to replace a lost Contractor badge. Lost identification badges that have programmed electronic access must be reported to the contracting department representative (i.e. Project Manager) immediately.

G. Personnel not wearing proper identification may be subject to immediate removal from the jobsite.

3.19 LADDER SAFETY

A. Ladders must be inspected prior to each use. Defective ladders shall be immediately removed from service and removed from the job site.

B. Ladders shall be used only in accordance with the manufacturer’s labeled instructions.

C. Stepladders shall be used only in the fully open position with spreaders locked in place. Using a folded stepladder leaned against a support is prohibited.

D. Employees shall not stand on the top platform, the step below the top platform or the back stretchers.

E. Do not sit on, or straddle the top platform.

F. Stepladders shall not be used for access to platforms or other elevated areas - an extension ladder is required.

G. Extension ladders must be properly positioned and locked in place.

H. Extension ladders used for access to elevated areas shall extend at least three feet beyond the supporting structure.

I. Extension ladders must be secured to the supporting structure or be held at the base by another employee.

J. Job built ladders shall conform to applicable ANSI Standards AND shall be limited to use in excavations or concrete form work only. These types of ladders must be inspected daily.

K. At the end of each workday, remove and store, or secure from use all portable and job-built ladders that provide ground access to any elevated platform or structure so as to prevent unauthorized access.

L. Chaining ladders to equipment or mechanical, electrical, or plumbing fixtures or piping is prohibited. Ladders must be stored in a manner to prevent blocked fire exits or escape routes. Ladders must not block access to equipment or facilities.

M. Portable stepladders and extension ladders shall be rated class I-A.

N. Ladders that have multiple sections that can be manipulated to form multiple surfaces and angles are not allowed.

O. Aluminum ladders are prohibited.

P. All exceptions to these requirements must be approved by Owner's Environmental Health and Safety.

3.20 LOCK OUT / TAG OUT

A. It is the policy of the Owner that its employees and Contractors are protected from all energy sources during maintenance and repair activities.

B. Each facility has a Lock Out/Tag Out program. Contractors whose work will involve the Lock Out/Tag Out process shall comply with the provisions of the respective Facilities Management program and procedures. If there is a difference between the Contractor’s program and the Institution’s program, the more stringent procedure shall prevail.

C. Lock Out/Tag Out procedures may be specific to each type of equipment or device. Consult with the Facility Maintenance Department for specific procedures.

D. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Lock Out/Tag Out procedures in accordance with 29 CFR 1910.147 and must follow these requirements.

E. Only the authorized employee or Contractor who applied a device is allowed to remove his/ her lock out or tag out device from each energy-isolating device so energy can be restored to the equipment. Owner personnel may add locks or tags to tagged-out devices - Contractors are not allowed to remove these locks or tags.

F. Never remove another person’s tag/lock. Unauthorized removal of tags/locks will be grounds for immediate and permanent removal from the jobsite.

G. If tags/locks remain on equipment, contact the appropriate personnel or department for resolution to the removal process.

3.21 MAINTAINING INDOOR AIR QUALITY (IAQ) DURING CONSTRUCTION AND RENOVATION ACTIVITIES

A. It is critical to patient’s health that proper controls are in place to ensure indoor air quality is maintained during construction and renovation activities. These activities disturb existing dust and/or create new dust, which causes the release of Aspergillus and other mold spores into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals.

B. The guideline covers all Contractors involved in building maintenance, construction, renovation and/or repair and applies to all areas of the Institution.

C. An Indoor Air Quality (IAQ) Permit may be required for every Project, no matter the duration. The permit explains the requirements needed to maintain the best possible air quality outside the work site.

D. This permit shall be posted at the site and shall remain posted until the completion of the Project.

E. EH&S will perform periodic inspections, verify that the proper controls are in place and will periodically monitor sites with instruments used to measure applicable indoor air quality (IAQ) parameters.

F. Contractor must follow the requirements of the Indoor Air Quality Permit and the Maintaining Indoor Air Quality During Construction and Renovation Policy.

3.22 PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. The minimum OSHA 29 CFR 1910.132-138 requirements for Personal Protective Equipment (PPE) shall be required of ALL persons on the Project site. Each Contractor/Subcontractor shall provide their workers with all required PPE. The Contractor is responsible to ensure that PPE is inspected and maintained in proper condition.

B. Safety Hard Hats: When required, every person in the Project shall wear a hard hat that meets the minimum OSHA requirements.

C. When required, hardhats are to be worn and maintained in accordance with the manufacturer's recommendations. "Cowboy" style hard hats shall not be allowed, including ANSI approved hats. Hard hats that display noticeable wear or damage shall be replaced or repaired per manufacturer's specifications.

D. Eye Protection: When required, every person on the Project shall wear eye protection. Additional face protection may be required when work operations create airborne particles, chips, or sparks. Eye protection and face protection shall meet the minimum OSHA requirements.

E. Shoes: When required, every worker on the Project shall wear shoes that have soles with a resistance to punctures, leather or leather equivalent uppers that cover the entire foot and ankle and offer resistance to scrapes and cuts. Sandals, open-toed shoes, dress loafers, high-heels, fabric shoes and all athletic style shoes (including those with ANSI markings) are prohibited.

F. When required, exterior toe and metatarsal cover shall be used when activities involve impact exposures to the feet (i.e.; jackhammering, water blasting, concrete demolition etc), unless the shoe has this protection built into the footwear.

G. Clothing: When required, sleeve length shall cover the ball of the shoulder. Shirts shall not have noticeable holes, be long enough to be tucked into pants and be free of profanity, objectionable, or obscene messages. Pants shall be full length and without excessive holes.

H. Hearing Protection: When required, employees shall be provided with hearing protection against the effects of noise exposures from machines, equipment or surrounding operations generating sound levels that exceed OSHA hearing protection requirements. Employees required to use hearing protection shall be tested and trained in the use and limitations of such protection.

I. Hand Protection: When required, employees handling materials or equipment with potential hand injury hazards shall be provided with appropriate hand protection.

J. Harnesses, Lifelines, and Lanyards: When required, employees working in areas where there is an exposure to falls of heights greater than six (6) feet, regardless of work activities (i.e. steel erection, leading edge work, scaffold use, and brick masonry) shall be protected by measures that are equal to or better than fall restraint/arrest systems.

K. Respiratory Protection: When required, employees shall be provided with respirators when it is necessary to protect them from inhalation of toxic or harmful gases, vapors, mists, fumes, and dust.

L. When required, employees required to use respiratory protective equipment shall be medically qualified and thoroughly trained in the use and limitations of such equipment. Employer must demonstrate compliance with OSHA 29 CFR 1910.134.

M. Other PPE: When required, employees working in areas where there is a possible danger to other parts of the body not listed above shall be protected by the appropriate PPE for that body part.

3.23 ROOF WORK

A. All roof work must be approved by the Facilities Campus Operations or Chief Engineer at the campus prior to project start.

B. All roof access to any existing building must be approved prior to access. Roof areas contain multiple radio transmitters and receivers that emit harmful radio and microwaves. Contact the building owner for training requirements.

C. Contractor is responsible for ensuring that they are able to immediately contact emergency forces during an emergency event by providing cell phones, radios, or access to working phones within Owner facilities. Contractor shall ensure personnel working on the jobsite know the address of the building.

D. Any roof repairs that are performed around fresh air intakes shall be scheduled with Facilities Operations Group prior to any planned work. Contractor is required to provide fume control devices when performing roof repair, replacement, or installation to prevent odors from being transmitted inside the facility.

E. Some areas of roofs may be restricted due to potentially hazardous exhaust from laboratories or processes. Contractor must obtain approval from their Owner Representative before proceeding with entering any roof areas.

F. Contractors are required to comply with all applicable OSHA Fall Protection requirements.

G. Contact Facilities Operations Group Campus Operations regarding proper davit use and tie-off areas.

H. All roof work involving heated materials or open flames must have a valid hot work permit.

I. The Contractor shall have a 20 pound ABC Fire Extinguisher on the roof and immediately available for use. Institutional fire extinguishers will not be loaned. Additional extinguishers must be provided as needed.

J. All fire extinguishers must have current annual certification tags and in working order.

K. All open flames must be continuously supervised.

L. A 1-hour fire watch must be provided after any heated materials or open flames have been used during roof work. Fire watch personnel must perform a “touch test” to determine any residual hot spots. A laser thermometer is recommended. Fire watches could be up to two hours in duration.

M. All propane bottles must be removed from the premises daily. Do not store propane cylinders in mechanical or roof spaces.

N. All roofing materials shall be secured at the end of each workday to prevent disruption by wind and rain.

3.24 SANITATION AND HOUSEKEEPING

A. Contractors and Subcontractors are responsible for ensuring that Project sites are effectively cleaned.

B. "Cleaned” shall address all of the following issues:
   1. Place all construction waste, trash, and debris in a designated receptacle. Glass bottles shall not be permitted in the Project site. Trash must be removed on a daily basis as to

prevent accumulation and attraction for pests. Contractor must have an approved method for removing trash from the jobsite (i.e., dumpsters, trucks, etc.) before starting work.

2. Eating is not allowed on the jobsite. Limited amounts of soft drinks and water will be allowed but must be removed on a daily basis as to prevent attraction of insects or rodents.
3. Contractor may only use PUBLIC restroom facilities assigned by their Owner Representative. Contractors may not use staff restrooms.
4. Any waste, trash, and/or debris created by the Contractor shall be cleaned (ie; sweeping, vacuuming, dust mopping, large debris removal etc.) at the end of the day to prevent accumulation of dirt and combustibles on the jobsite.
5. Contractors are NOT allowed to use sinks or drains to clean materials or paint brushes.
6. All holes and penetrations to the outside of the building must be sealed with an appropriate material as to prevent water, insects and rodents from entering the building.
7. All windows must remain closed unless permission is granted by Environmental Health and Safety. All windows or penetrations used for ventilation purposes shall be protected from water, insect/rodent, and dust intrusion by use of protective covers and screen wire materials.
8. Stack (or re-stack) all whole and scrap materials in locations that do not obstruct a clear pathway nor create a risk for toppling onto a person passing by the area.
9. Place all hoses, cords, cables, and wires in locations that prevent them from damage and do not create tripping hazards.
10. Restore all signs, barricades, fire extinguishers, guardrails, gates, etc. to proper locations and condition.
11. Properly store and secure all flammable and combustible liquids and gases in proper containment or flammable storage cabinets.
12. Collect and place all cut-off or waste pieces of rolling stock, as they are created, into waste or scrap containers. No rolling stock shall be permitted to fall and remain in the work area.
13. Used shot strips from powder-actuated tools shall be properly maintained and disposed of in accordance with manufacturer's recommendations.
14. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.
15. All work surfaces shall be maintained in level and smooth condition as to prevent rolling carts from catching and possibly falling over while in transit. Appropriate temporary fill materials shall be installed as warranted.
16. All wheeled equipment shall have non-marking wheels or tape shall be used over wheels when moving through non-project areas to prevent marking and damage to floor surfaces. Tape should be removed if adequate traction is required to perform a task. Tape can be removed once in job-site area.
17. Contractors shall only use their trash dumpsters or dumpsters designated by their Owner Representative.

3.25 SITE POSTINGS

A. Contractor shall securely post the required warning signs (as required by the Owner and OSHA) for the Project area(s).

B. All signs must be approved by your Owner Representative. Consult your Owner representative regarding facility specific informational signs.
   1. Signs that warn of impending danger (i.e., CONSTRUCTION AREA - DO NOT ENTER)
   2. Signs that communicate the level of personal protective equipment that is required (i.e., HARD HATS AND SAFETY GLASSES REQUIRED)
   3. All necessary permits (i.e., Hot Work Permits, Indoor Air Quality Permit, ILSM and/or other State/Local Regulatory Agency Permits as required by law).

C. These postings must consist of the required color, size, and character size lettering and/or symbols as required by OSHA and/or Sate/Local regulations.

D. Signs must be made from a sturdy material that resists tearing and fading. Laminated signs are acceptable for indoor postings.

E. All exterior Projects must contain the above noted required postings in all locations that warrant these warning signs and postings.

F. A single location such as a plywood Project board is acceptable for posting required permits and project information signage. Any required permits should be protected from the elements by covering them in a laminate or waterproof material.

G. Contractor shall install and maintain any additional signs, barricades, warning devices, and traffic warnings.

3.26 SCAFFOLDING

A. All scaffold systems (any temporary elevated platform (supported or suspended) and its supporting structure (including its point of anchorage), used for supporting employees or materials or both) - shall follow the manufacturer instructions and adhere to all applicable OSHA requirements per each type of scaffolding device.

B. Contractor shall be required to receive permission from Owner Facility - Administrative Facilities and Campus Operations before erecting any suspension or stationary scaffolding system on roofs or attaching lines to roof davits. Consult with the Owner Representative for approval before beginning any work.

C. All ground-supported scaffolds shall bear a safety tag that indicates the safety status of the scaffold. The Contractor shall designate a universal Project system for tagging scaffolding that is to be used by any or all personnel.

D. Training and documentation shall be required for all workers on the Project who will erect, maintain, dismantle, or use the scaffolding. A designated competent person must ensure scaffold use requirements are maintained and inspected at the beginning of each work shift as per OSHA requirements. Contractor shall maintain documentation to support this requirement.

E. Contractor will ensure proper fall protection for employees is required and followed per OSHA requirements when using scaffolding and aerial lift.

F. Mudsills and surrounding areas at the base of ground-supported scaffolds shall be maintained in a well-dressed and level condition. Scaffold feet shall be installed on all legs and the maximum number of diagonal braces shall be included in every scaffold section.

G. Every work level shall be fully planked and toe board shall be included along open sides. Overhead protection shall be constructed where walk-through passages are allowed.

H. Brakes shall be secure at all times on rolling scaffolds, except when being moved. Workers shall not be allowed on the platform when the scaffold is being moved.

I. Rolling scaffolds shall not be used on uneven or unstable surfaces. Wheels shall be non-marking or temporarily covered with tape to prevent damage to floor surfaces when being moved through non-project areas.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security measures including formal security program, entry control, personnel identification, and miscellaneous restrictions.

1.02 SECURITY PROGRAM

A. Protect Work, existing premises and Owner's operations from theft, vandalism, and unauthorized entry.

B. Initiate program in coordination with Owner's existing security system at project mobilization.

C. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

1.03 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors, make available to Owner on request.

D. Owner will control entrance of persons and vehicles related to Owner's operations.

E. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

1.04 PERSONNEL IDENTIFICATION

A. Provide identification badge to each person authorized to enter premises.

B. Badge To Include: Personal photograph, name, assigned number, expiration date and employer.

C. Require return of badges at expiration of their employment on the Work.

1.05 RESTRICTIONS

A. General Contractor to inform Campus Safety of work days and schedules.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. References and standards.

D. Testing and inspection agencies and services.

E. Contractor's construction-related professional design services.

F. Control of installation.

G. Mock-ups.

H. Tolerances.

I. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 3300 - Submittal Procedures.

C. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 Quality Assurance

A. Testing Agency Qualifications:
   1. Prior to start of work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

1.06 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.07 Testing and Inspection Agencies and Services

A. Owner will employ and pay for services of an independent testing agency to perform specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

D. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

E. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

F. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

G. Interior Mock-up:

Refer to drawings and individual specification sections for products and materials that are required to construct mock-ups.

1. General Interior wallboard and painting:
   a. Provide project specific, full scale visual mock-up of full height wall section minimum 20 feet long, illustrating coating color, texture, and finish.
      1) Mock up shall demonstrate the proposed range of aesthetic effects and workmanship.
      2) Provide mock-up in location where visual review is possible and any required testing can be conducted.
   b. Include door and frame assembly illustrating paint color, texture, and finish.
   c. After visual mock-up has been approved, document techniques and methods with digital images from different angles, and take close-up shots as required to use as standard for judging of completed Work. Submit photographs to Owner and Architect.

d. Mock-up shall remain as part of the work and shall become the reference from which to construct actual finishes.

3.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

A. Testing Agency Duties:
1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
5. Perform additional tests and inspections required by Architect.
6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
   a. To provide access to Work to be tested/inspected.
   b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
   c. To facilitate tests/inspections.
   d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.05 DEFECT ASSESSMENT

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

B. If, in the opinion of Owner, it is not practical to remove and replace the work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Field offices.

1.02 RELATED REQUIREMENTS

A. Section 01 5100 - Temporary Utilities.

B. Section 01 5213 - Field Offices and Sheds.

C. Section 01 5500 - Vehicular Access and Parking.

1.03 TEMPORARY UTILITIES - See Section 01 5100

1.04 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Internet Connections: Minimum of one; T-1 line or faster.
   3. Email: Account/address reserved for project use.
   4. Project web site.

1.05 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

1.06 BARRIERS

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

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.07 FENCING

A. Construction: Commercial grade chain link fence.

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

1.08 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.09 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

C. Paint surfaces exposed to view from Owner-occupied areas.

1.10 SECURITY - See Section 01 3553

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

1.11 VEHICULAR ACCESS AND PARKING - See Section 01 5500

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

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

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.12 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 FIELD OFFICES - See Section 01 5213

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet from existing and new structures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS

A. Section 01 5000 - Temporary Facilities and Controls:
   1. Temporary telecommunications services for administrative purposes.
   2. Temporary sanitary facilities required by law.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

1.04 TEMPORARY ELECTRICITY

A. Cost: By Contractor.

B. Provide power service required from utility source.

C. Provide temporary electric feeder from existing building electrical service at location as directed.

D. Provide power outlets for construction operations, with branch wiring and distribution boxes located at each floor. Provide flexible power cords as required.

E. Provide main service disconnect and over-current protection at convenient location and meter.

F. Permanent convenience receptacles may be utilized during construction.

G. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.
   1. Provide 20 ampere, single phase branch circuits for lighting.

1.05 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.

B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.

C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

D. Maintain lighting and provide routine repairs.

1.06 TEMPORARY HEATING

A. Cost of Energy: By Contractor.

B. Provide heating devices and heat as needed to maintain specified conditions for construction operations.

C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

D. Existing facilities shall not be used.

E. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.07 TEMPORARY COOLING

A. Cost of Energy: By Contractor.

B. Provide cooling devices and cooling as needed to maintain specified conditions for construction operations.

C. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

D. Existing facilities shall not be used.

1.08 TEMPORARY VENTILATION

A. Existing ventilation equipment may not be used.

1.09 TEMPORARY WATER SERVICE

A. Cost of Water Used: By Contractor.

B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.

C. Connect to existing water source.
   1. Exercise measures to conserve water.
   2. Provide separate metering and reimburse Owner for cost of water used.

D. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary field offices for use of Contractor.

B. Maintenance and removal.

1.02 RELATED REQUIREMENTS

1.03 USE OF EXISTING FACILITIES

A. Existing facilities shall not be used for field offices.

PART 2 PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.02 CONSTRUCTION

A. Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations, with steps and landings at entrance doors.

B. Construction: Structurally sound, secure, weather tight enclosures for office. Maintain during progress of Work; remove when no longer needed.

C. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy requirements.

D. Exterior Materials: Weather resistant, finished in one color.

E. Interior Materials in Offices: Sheet type materials for walls and ceilings, prefinished or painted; resilient floors and bases.

F. Lighting for Offices: 50 fc at desk top height, exterior lighting at entrance doors.

G. Fire Extinguishers: Appropriate type fire extinguisher at each office.

2.03 ENVIRONMENTAL CONTROL

A. Heating, Cooling, and Ventilating: Automatic equipment to maintain comfort conditions.

2.04 Contractor OFFICE AND FACILITIES

A. Size: For Contractor's needs and to provide space for project meetings.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.

3.02 MAINTENANCE AND CLEANING

A. Weekly janitorial services for offices; periodic cleaning and maintenance for offices.

B. Maintain approach walks free of mud, water, and snow.

3.03 REMOVAL

A. At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking.

B. Existing pavements and parking areas.

C. Permanent pavements and parking facilities.

D. Construction parking controls.

E. Haul routes.

F. Maintenance.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: For access to site, work sequence, and occupancy.

PART 3 EXECUTION

2.01 PARKING

A. Use of designated areas of existing parking facilities by construction personnel is permitted.

B. Arrange for temporary parking areas to accommodate use of construction personnel.

C. When site space is not adequate, provide additional off-site parking.

D. Locate as indicated.

2.02 Permanent pavements and parking facilities

A. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.

2.03 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.

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

2.04 HAUL ROUTES

A. Confine construction traffic to designated haul routes.

B. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

2.05 MAINTENANCE

A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Lists of products to be removed from existing building.

B. Section 01 2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

C. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

D. Section 01 7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

C. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
   1. See Section 01 1000 for list of items required to be salvaged for reuse and relocation.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:

C. Where other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 6116.
   2. If wet-applied, have lower VOC content, as defined in Section 01 6116.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Provide protection of stored materials and products against theft, casualty, or deterioration.

B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.

C. Store and protect products in accordance with manufacturers' instructions.

D. Store with seals and labels intact and legible.

E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

F. For exterior storage of fabricated products, place on sloped supports above ground.

G. Provide off-site storage and protection when site does not permit on-site storage or protection.

H. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

I. Comply with manufacturer's warranty conditions, if any.

J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

K. Prevent contact with material that may cause corrosion, discoloration, or staining.

L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Cutting and patching.

D. Surveying for laying out the work.

E. Cleaning and protection.

F. Starting of systems and equipment.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

I. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

C. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

F. Section 01 7900 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections

G. Section 07 8400 - Firestopping.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2019.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
   2. Identify demolition firm and submit qualifications.
   3. Include a summary of safety procedures.

D. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.

5. Work of Owner or separate Contractor.

1.05 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

B. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

C. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.06 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building at any time of day; excessively noisy includes jackhammers.
   2. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

C. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.07 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction indicated on drawings in locations indicated on drawings.
   2. Provide sound retardant partitions of construction indicated on drawings in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.
   3. Relocate items indicated on drawings.
   4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION

A. See Section 01 7900 - Demonstration and Training.

3.11 ADJUSTING

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

3.12 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.14 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Materials transparency manual.

D. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Materials Transparency Manual:
   1. Compile and submit a digital and a printed version of information disclosing materials content for interior finishes, furnishings (including workstations), built-in furniture. Meet IWBI (BS) requirements for format and content.

D. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

E. Electronic Media.
   1. Submit two sets of electronic media compiled on a readable disk or hard drive consisting of all of the documents requested above in pdf format. Organize the disk / drive in the same manner as the submittal documents listed in this section. Provide in final form within 10 days after final inspection.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.

2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
1. Field changes of dimension and detail.
2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

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

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
   1. Include HVAC outdoor and exhaust air damper calibration strategy.
      a. Include provisions which ensure that full closure of dampers can be achieved.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports.

P. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.

a. Source data.
b. Product data, shop drawings, and other submittals.
c. Operation and maintenance data.
d. Field quality control data.
e. Photocopies of warranties and bonds.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

C. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

D. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

E. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2019.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:
   1. Areas for temporary construction and field offices.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

A. Remove other items indicated, for salvage and relocation.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   4. Provide, erect, and maintain temporary barriers and security devices.
   5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   6. Do not close or obstruct roadways or sidewalks without permit.
   7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. If hazardous materials are discovered during removal operations, stop work and notify Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Dismantle existing construction and separate materials.
   2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
   2. Provide sound retardant partitions of construction indicated on drawings in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.

2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
3. Verify that abandoned services serve only abandoned facilities before removal.
4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

1.02 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2020.

C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

D. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2018.

E. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2021.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

G. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2019, with Editorial Revision (2020).

H. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.

I. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2014 (Amended 2015).

J. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020.

K. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2014, with Errata.

L. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; 2018.

M. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).

N. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

O. SSPC-SP 2 - Hand Tool Cleaning; 2018.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
   1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   2. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.

C. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.

D. Designer's Qualification Statement.

E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.04 QUALITY ASSURANCE

A. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.2/D1.2M and dated no more than 12 months before start of scheduled welding work.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Plates: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.

F. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

G. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.

H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

I. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

E. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FINISHES - STEEL

A. Prime paint steel items.
   1. Exceptions: Galvanize items to be embedded in concrete and exposed to exterior conditions.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Prime Painting: One coat.

E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating.

F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

G. Slotted Channel Framing: ASTM A653/A653M, Grade 33.

2.04 FABRICATION TOLERANCES

A. Squareness: 1/8 inch maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch.

C. Maximum Misalignment of Adjacent Members: 1/16 inch.

D. Maximum Bow: 1/8 inch in 48 inches.

E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Furnish setting templates to the appropriate entities for steel items required to be cast into concrete.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Field weld components as indicated on drawings.

D. Perform field welding in accordance with AWS D1.1/D1.1M.

E. Obtain approval prior to site cutting or making adjustments not scheduled.

F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonstructural dimension lumber framing.
B. Roof-mounted curbs.
C. Roofing nailers.
D. Roofing cant strips.
E. Miscellaneous framing and sheathing.
F. Communications and electrical room mounting boards.
G. Concealed wood blocking, nailers, and supports.
H. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

A. Section 07 6200 - Sheet Metal Flashing and Trim: Sill flashings.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
B. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2015.
C. PS 20 - American Softwood Lumber Standard; 2020.
D. WWPA G-5 - Western Lumber Grading Rules; 2017.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

1.05 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
B. Correct defective work within a two-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
    1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
    2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
    3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Western Wood Products Association; WWPA G-5.
B. Sizes: Nominal sizes as indicated on drawings, S4S.
C. Moisture Content: S-dry or MC19.
D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
    1. Machine stress-rated (MSR) as follows:
        a. Fb-single; minimum extreme fiber stress in bending: 1350 psi.
        b. E; minimum modulus of elasticity: 1,300,000 psi.
    2. Species: Allowed under grading rules.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 TIMBERS FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry (23 percent maximum).

C. Beams and Posts 5 inches and over in thickness:
   1. Species: Allowed under referenced grading rules.
   2. Grade: Select Structural.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
   3. Anchors: Bolt or ballistic fastener for anchorages to steel.

B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.

C. Sill Flashing: See Section 07 6200.

PART 3 EXECUTION

3.01 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.

B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.

F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

G. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

3.05 ROOF-RELATED CARPENTRY

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

B. Provide wood curb at each roof opening except where prefabricated curbs are specified and where specifically indicated otherwise; form corners by alternating lapping side members.

3.06 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Hardware.

1.02 RELATED REQUIREMENTS

A. Section 12 3600 - Countertops.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 4.0; 2021.

C. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
   2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

C. Product Data: Provide data for hardware accessories.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.

1.06 MOCK-UPS

A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.

B. See Section 01 4000 - Quality Requirements for additional requirements.

1.07 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Faced Cabinets: Custom grade.

C. Cabinets:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Semi-Exposed Surfaces: Decorative laminate
   4. Finish - Concealed Surfaces: Manufacturer's option.
   5. Door and Drawer Front Edge Profiles: Square edge with thick applied band.
   6. Door and Drawer Front Retention Profiles: Fixed panel.
   7. Casework Construction Type: Type A - Frameless.
   8. Interface Style for Cabinet and Door: Style 1 - Overlay; flush overlay.

9. Adjustable Shelf Loading: 50 psf.
    a. Deflection: L/144.
10. Cabinet Style: Flush overlay.
11. Cabinet Doors and Drawer Fronts: Flush style.
12. Drawer Side Construction: Manufacturer's option.
13. Drawer Construction Technique: As recommended by fabricator.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LAMINATE MATERIALS

A. Manufacturers:
    1. See Section 09 0513 - Common Finish Materials.
    2. Substitutions: See Section 01 6000 - Product Requirements.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

C. Provide specific types as indicated.
    1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, finish as indicated.
    2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, finish as indicated.
    3. Cabinet Liner: CLS, 0.020 inch nominal thickness, through color, colors as indicated, finish as indicated.

2.04 COUNTERTOPS

A. Countertops: See Section 12 3600.

2.05 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Fasteners: Size and type to suit application.

C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

D. Concealed Joint Fasteners: Threaded steel.

E. Grommets: Standard plastic grommets for cut-outs, in color to match adjacent surface.

2.06 HARDWARE

A. Metal Z-Shaped Wall Cabinet Support Clips: Paired, cleated, structural anchorage components applied to back of cabinets and walls for wall cabinet mounting.
    1. Material: Extruded Aluminum.
    2. Thickness: 0.115 inch.

B. Adjustable Shelf Supports: Standard side-mounted system using multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.

C. Fixed Specialty Workstation and Countertop Brackets:
    1. Material: Steel.
    2. Finish: Manufacturer's standard, factory-applied powder coat.

D. Fixed Americans with Disabilities Act (ADA)-Compliant Vanity and Countertop Brackets:
    1. Material: Steel.
    2. Finish: Manufacturer's standard, factory-applied primer.

E. Drawer and Door Pulls: "U" shaped wire pull, steel with satin finish, 4 inch centers.

F. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

G. Cabinet Catches and Latches:
    1. Type: Magnetic catch.

2. Manufacturers:
   a. Knape & Vogt Manufacturing Company: www.knapeandvogt.com/#sle.
   b. Rockler Companies, Inc: www.rockler.com/#sle.
   c. Sugatsune America, Inc: www.sugatsune.com/#sle.
3. Substitutions: See Section 01 6000 - Product Requirements.

H. Drawer Slides:
1. Static Load Capacity: Extra Heavy Duty grade.
2. Mounting: Side mounted.
3. Stops: Integral type.
4. Manufacturers:
   a. Accuride International, Inc; Heavy-Duty Drawer Slides: www.accuride.com/#sle.
   b. Knape & Vogt Manufacturing Company; Heavy-Duty Drawer Slides: www.knapeandvogt.com/#sle.
   c. Sugatsune America, Inc: www.sugatsune.com/#sle.
   d. Substitutions: See Section 01 6000 - Product Requirements.

I. Hinges: Butt five knuckle type, steel with satin finish.

2.07 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

E. Matching Wood Grain: Comply with requirements of quality standard for specified Grade and as follows:
1. Provide center matched panels at each elevation.
2. Provide sequence matching across each elevation.

F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use fixture attachments in concealed locations for wall mounted components.

D. Use concealed joint fasteners to align and secure adjoining cabinet units.

E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

F. Secure cabinets to floor using appropriate angles and anchorages.

G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

A. Adjust installed work.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Identification markings for fire and smoke rated partitions, and fire rated walls.

1.02 REFERENCE STANDARDS

A. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed product literature for each type of marking, indicating font, foreground and background colors, wording, and overall dimensions.

1.04 FIELD CONDITIONS

A. Do not install adhered markings when ambient temperature is lower than recommended by label or sign manufacturer.

B. Do not install painted markings when ambient temperature is lower than recommended by coating manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Partition Identification Labels:
   1. Fire Wall Signs, Inc: www.firewallsigns.com/#sle.
   2. Safety Supply Warehouse, Inc: www.safetysupplywarehouse.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FIRE AND SMOKE ASSEMBLY IDENTIFICATION

A. Regulatory Requirements: Comply with "Marking and Identification" requirements of "Fire-Resistance Ratings and Fire Tests" chapter of ICC (IBC).

B. Adhered Fire and Smoke Assembly Identification Signs: Printed vinyl sign with factory applied adhesive backing.

C. Languages: Provide sign markings in English.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

A. Locate markings as required by ICC (IBC).

B. Install adhered markings in accordance with manufacturer's instructions.

C. Install neatly, with horizontal edges level.

D. Protect from damage until Date of Substantial Completion; repair or replace damaged markings.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, and exterior penetrations.

B. Sealants for joints within sheet metal fabrications.

1.02 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

D. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021.

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

F. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017.

G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).

H. CDA A4050 - Copper in Architecture - Handbook; current edition.

I. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sheet Metal Flashing and Trim Manufacturers:
   1. ALUCOBOND USA: www.alucobondusa.com/#sle.
   2. Petersen Aluminum Corporation: www.pac-clad.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

B. Exterior Penetration Flashing Panel Manufacturers:
   1. Quickflash Weatherproofing Products, Inc: www.quickflashproducts.com/#sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SHEET MATERIALS

A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, 0.0239-inch thick base metal, shop pre-coated with PVDF coating.
   1. Silicone Modified Polyester Coating: Pigmented organic powder coating, AAMA 2603; baked enamel finish system.

2. Polyvinylidene Fluoride (PVDF) Coating: Superior performing organic powder coating, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.

B. Pre-Finished Aluminum: ASTM B209/B209M; 18 gauge, 0.040 inch thick; plain finish shop pre-coated with silicone modified polyester coating.
1. Silicone Modified Polyester Coating: Pigmented organic powder coating, AAMA 2603; baked enamel finish system.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.04 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Underlayment: ASTM D226/D226M, organic roofing felt, Type I, No. 15.

C. Primer: Zinc chromate type.

D. Concealed Sealants: Non-curing butyl sealant.

E. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

F. Asphalt Roof Cement: ASTM D4586/D4586M, Type I, asbestos-free.

G. Reglets: Surface-mounted type, galvanized steel; face and ends covered with plastic tape.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.03 INSTALLATION

A. Comply with drawing details.

B. Insert flashings into reglets to form tight fit; secure in place with lead wedges; pack remaining spaces with lead wool; seal flashings into reglets with sealant.

C. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..

D. Apply plastic cement compound between metal flashings and felt flashings.

E. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

F. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction, and as follows:

1. Secure receiver at perimeter of wall opening with adhesives or fasteners.
2. Place flashing into receiver channel.
3. Secure flashing with receiver clip.

G. Seal metal joints watertight.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of joints and penetrations in fire-resistance-rated and smoke-resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 REFERENCE STANDARDS

A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).

B. ASTM E2174 - Standard Practice for On-Site Inspection of Installed Firestop Systems; 2020a.

C. ASTM E2393 - Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers; 2020a.

D. ASTM E2307 - Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus; 2020.

E. ASTM E2837 - Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies; 2013 (Reapproved 2017).

F. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015 (Reapproved 2021)e1.

G. ITS (DIR) - Directory of Listed Products; current edition.

H. FM (AG) - FM Approval Guide; current edition.

I. SCAQMD 1168 - Adhesive and Sealant Applications; 1989 (Amended 2017).

J. UL (FRD) - Fire Resistance Directory; Current Edition.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on product characteristics, performance ratings, and limitations.

C. Sustainable Design Submittal: Submit VOC content documentation for nonpreformed materials.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

1.04 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
   1. Listing in UL (FRD), FM (AG), or ITS (DIR) will be considered as constituting an acceptable test report.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Verification of minimum three years documented experience installing work of this type.

1.05 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation; maintain minimum temperature before, during, and for three days after installation of materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Firestopping Manufacturers:

1. 3M Fire Protection Products: www.3m.com/firestop/#sle.
2. Hilti, Inc: www.us.hilti.com/#sle.
3. Specified Technologies Inc: www.stifirestop.com/#sle.
4. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Firestopping Materials: Any materials meeting requirements.

B. Volatile Organic Compound (VOC) Content: Provide products having VOC content lower than that required by SCAQMD 1168.

C. Mold and Mildew Resistance: Provide firestopping materials with mold and mildew resistance rating of zero(0) in accordance with ASTM G21.

D. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Provide type of materials as required for tested firestopping assembly.

E. Fire Ratings: Refer to drawings for required systems and ratings.

2.03 FIRESTOPPING ASSEMBLY REQUIREMENTS

A. Perimeter Fire Containment Firestopping: Use system that has been tested according to ASTM E2307 to have fire resistance F Rating equal to required fire rating of floor assembly.
   1. Movement: Provide systems that have been tested to show movement capability as indicated.
   2. Temperature Rise: Provide systems that have been tested to show T Rating as indicated.

B. Head-of-Wall (HW) Joint System Firestopping at Joints Between Fire-Rated Wall Assemblies and Non-Rated Horizontal Assemblies: Use system that has been tested according to ASTM E2837 to have fire resistance F Rating equal to required fire rating of wall assembly.

C. Through Penetration Firestopping: Use system that has been tested according to ASTM E814 to have fire resistance F Rating equal to required fire rating of penetrated assembly.
   1. Temperature Rise: Provide systems that have been tested to show T Rating as indicated.
   2. Air Leakage: Provide systems that have been tested to show L Rating as indicated.

2.04 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: See drawings for required systems and ratings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other materials that could adversely affect bond of firestopping material.

B. Remove incompatible materials that could adversely affect bond.

C. Install backing materials to prevent liquid material from leakage.

3.03 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by Owner's Independent Testing Agency.

C. Install labeling required by code.

3.04 FIELD QUALITY CONTROL

A. Independent Testing Agency: Inspection agency employed and paid by Owner, will examine penetration firestopping in accordance with ASTM E2174 and ASTM E2393.

B. Repair or replace penetration firestopping and joints at locations where inspection results indicate firestopping or joints do not meet specified requirements.

3.05 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.06 PROTECTION

A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Self-leveling pourable joint sealants.

C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.

1.03 REFERENCE STANDARDS

A. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2018.

B. ASTM C834 - Standard Specification for Latex Sealants; 2017.

C. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2018.

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

E. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2016.

F. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

G. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2018.

H. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2014.

I. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2018.

J. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness; 2015 (Reapproved 2021).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.
   6. Sample product warranty.

C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

E. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
   1. Adhesion Testing: In accordance with ASTM C794.
   2. Compatibility Testing: In accordance with ASTM C1087.
   3. Allow sufficient time for testing to avoid delaying the work.
   4. Deliver to manufacturer sufficient samples for testing.
   5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
   6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. Bostik Inc: www.bostik-us.com/#sle.
   2. Dow: www.dow.com/#sle.
   3. Henry Company: www.henry.com/#sle.
   4. Hilti, Inc: www.us.hilti.com/#sle.
   5. Master Builders Solutions: www.master-builders-solutions.com/en-us/#sle.
   6. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
   7. Sika Corporation: www.usa.sika.com/#sle.
   8. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
   9. W.R. Meadows, Inc: www.wrmeadows.com/#sle.
   10. Substitutions: See Section 01 6000 - Product Requirements.

B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
   1. Dayton Superior Corporation: www.daytonsuperior.com/#sle.
   2. Dow: www.dow.com/#sle.
   3. Master Builders Solutions: www.master-builders-solutions.com/en-us/#sle.
   4. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
   5. Sika Corporation: www.usa.sika.com/#sle.
   6. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
   7. W.R. Meadows, Inc: www.wrmeadows.com/#sle.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
      a. Wall expansion and control joints.
      b. Joints between door, window, and other frames and adjacent construction.
      c. Joints between different exposed materials.
      d. Openings below ledge angles in masonry.
      e. Other joints indicated below.

2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
   a. Joints between door, window, and other frames and adjacent construction.
   b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
   c. Other joints indicated below.
3. Do not seal the following types of joints.
   a. Intentional weepholes in masonry.
   b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
   c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
   d. Joints where installation of sealant is specified in another section.
   e. Joints between suspended panel ceilings/grid and walls.

B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
1. Type ___ - Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
2. Type ___ - Control and Expansion Joints in Concrete Paving: Self-leveling polyurethane "traffic-grade" sealant.

C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
1. Type ___ - Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
2. Type ___ - Floor Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion.
3. Type ___ - Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
4. Type ___ - In Sound-Rated Assemblies: Acrylic emulsion latex sealant.

D. Interior Wet Areas: Bathrooms, restrooms, and kitchens; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.

E. Sound-Rated Assemblies: Walls and ceilings identified as "STC-rated", "sound-rated", or "acoustical".

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products with acceptable levels of volatile organic compound (VOC) content; see Section 01 6116.

2.04 NONSAG JOINT SEALANTS

A. Type ___ - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus 100 percent and minus 50 percent, minimum.
2. Non-Staining to Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
4. Color: Match adjacent finished surfaces.
5. Manufacturers:
   a. Dow; DOWSIL 790 Silicone Building Sealant: www.dow.com/#sle.
   b. Sika Corporation; Sikasil WS-290: www.usa.sika.com/#sle.
   c. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com/#sle.
   d. Substitutions: See Section 01 6000 - Product Requirements.

B. Type ___ - Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 25 percent, minimum.

2. Color: Match adjacent finished surfaces.
3. Cure Type: Single-component, neutral moisture curing
4. Manufacturers:
   a. Dow; DOWSIL 999-A Building and Glazing Sealant: www.dow.com/#sle.
   b. Henry Company; Moistop Sealant: www.henry.com/#sle.
   c. Sherwin-Williams Company; Silicone Rubber All Purpose Sealant: www.sherwin-williams.com/#sle.
   d. Sika Corporation; Sikasil GP: www.usa.sika.com/#sle.
   e. Substitutions: See Section 01 6000 - Product Requirements.

C. Type ___ - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: White.

D. Type ___ - Polymer Sealant: ASTM C920; single component, cured sealant is paintable and mold/mildew resistant, low odor and VOC, and ultraviolet (UV) resistant.
   1. Adheres to wet surfaces.
   2. Color: White.
   3. Manufacturers:
      a. ADFAST Corporation; ADSEAL DWSP 1940 Series: www.adfastcorp.com/#sle.
      b. DAP Products Inc; DYNAFLEX 800 Sealant: www.dapspecline.com/#sle.
      c. Substitutions: See Section 01 6000 - Product Requirements.

E. Type ___ - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus ____ percent, minimum.

F. Type ___ - Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface.
   1. Movement Capability: Plus and minus 35 percent, minimum.

G. Type ___ - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
   1. Color: Standard colors matching finished surfaces, Type OP (opaque).
   2. Grade: ASTM C834; Grade 0 Degrees F (Minus 18 Degrees C).
   3. Manufacturers:
      a. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com/#sle.
      b. Sherwin-Williams Company; 950A Siliconized Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
      c. Specified Technologies Inc; Smoke N' Sound Acoustical Sealant: www.stifirestop.com/#sle.
      d. Tremco Commercial Sealants & Waterproofing; Tremstop Smoke and Sound: www.tremcosealants.com/#sle.
      e. Substitutions: See Section 01 6000 - Product Requirements.

H. Type ___ - Non-Curing Butyl Sealant: Solvent-based, single component, non-sag, non-skinning, non-hardening, non-bleeding; non-vapor-permeable; intended for fully concealed applications.
   1. Manufacturers:
      a. Pecora Corporation; Pecora BA-98 Non-Skinning Butyl Sealant: www.pecora.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.05 SELF-LEVELING SEALANTS

A. Type ___ - Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; single or multi-component; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion .
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Color: Gray.
   3. Manufacturers:
      a. Sherwin-Williams Company; Stampede 1SL Polyurethane Sealant: www.sherwin-williams.com/#sle.
      b. Sika Corporation; Sikaflex-1c SL: www.usa.sika.com/#sle.

B. Type ___ - Semi-Self-Leveling Polyurethane Sealant: Intended for expansion joints in sidewalks, swimming pool decks, plazas, floors and other horizontal surfaces with up to 6 percent slope.
   1. Composition: Single or multi-component.
   2. Durometer Hardness, Type A: 35 to 45, minimum, when tested in accordance with ASTM D2240.
   3. Color: Gray.
   4. Manufacturers:
      a. Tremco Commercial Sealants & Waterproofing; Vulkem 45 SSL: www.tremcosealants.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.06 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
   2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
   3. Open Cell: 40 to 50 percent larger in diameter than joint width.
   4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
   5. Manufacturers:
      a. ADFAST Corporation; ADSEAL BR-2600 (Backer Rod): www.adfastcorp.com/#sle.
      b. Nomaco, Inc; _____: www.nomaco.com/#sle.
      c. Substitutions: See Section 01 6000 - Product Requirements.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule of door hardware sets for swinging, sliding, and other door types as indicated on drawings.

1.02 RELATED REQUIREMENTS

A. Section 08 7100 - Door Hardware: Requirements to comply with in coordination with this section.

1.03 REFERENCE STANDARDS

A. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.

1.04 PROJECT INFORMATION

A. Project Name: CVIM Tenant Improvements.

B. Architect: Petersen Kolberg Associates Architects.

C. Contractor: To Be Determined.

D. Hardware Consultant: Allegion- SSC Northwest.
   1. Phone Number: 503.799.9955.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Comply with submittal requirements as indicated in Section 08 7100.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Only manufacturers listed in Door Hardware Schedule or Section 08 7100 are considered acceptable, unless noted otherwise.

B. Obtain each type of door hardware as indicated from a single manufacturer and single supplier.

C. Manufacturer's Abbreviations: Coordinate with manufacturers listed in Section 08 7100.

2.02 FINISHES

A. Finishes: Complying with BHMA A156.18.

PART 3 EXECUTION

3.01 DOOR HARDWARE SCHEDULE

HARDWARE SET # 01

Existing hardware to remain.

HARDWARE SET # 02

For use on Door Number(s): 145, 147B, 150G2.

Provide each door(s) with the following:

Qty	Description	Catalog Number	Finish	Mfr
3 Ea.	Hinge	5BB1 4.5 X 4.5	652	IVE
1 Ea.	Passage Set	ALX10 ATH 626	SCH	
1 Ea.	Kick Plate	8400 10" X 2" LDW B-CS 630	IVE	
1 Ea.	Wall Stop	WS406/407 CVX	630	IVE
1 Ea.	Surface Closer	1450 RW/PA STD	689	LCN
3 Ea.	Silencer	SR66	GRY	IVE

HARDWARE SET # 03

For use on Door Number(s): 147A, 150G1.

Provide each door(s) with the following:

Qty	Description	Catalog Number	Finish	Mfr
3 Ea.	Hinge	5BB1 4.5 X 4.5	652	IVE
1 Ea.	Power Transfer	EPT10 CON	689	VON
1 Ea.	EU Storeroom Lock	ND80TDEU ATH RX CON 12V/24V DC	626	SCH
1 Ea.	Final Core	23-030	626	SCH
1 Ea.	Surface Closer	1450 RW/PA STD	689	LCN
1 Ea.	Kick Plate	8400 10" X 2" LDW B-CS	630	IVE
1 Ea.	Wall Stop	WS406/407 CVX	630	IVE
1 Ea.	Gasketing	488SBK PSA BK	ZER	
1 Ea.	Wire Harness	CON-44P (From EPT to electrified hardware - verify length before ordering))		SCH
1 Ea.	Wire Harness	CON-6W (From EPT or strike to power)		SCH
1		Access Control - Work Of Division 28		

HARDWARE SET # 04

For use on Door Number(s): 148, 149.

Provide each door(s) with the following:

Qty	Description	Catalog Number	Finish	Mfr
3 Ea.	Hinge	5BB1 4.5 X 4.5	652	IVE
1 Ea.	Privacy W/Indicator	L9056T 07A L583-363 L283-722	626	SCH
1 Ea.	Final Core	23-030	626	SCH
1 Ea.	Surface Closer	1450 RW/PA STD	689	LCN
1 Ea.	Kick Plate	8400 10" X 2" LDW B-CS	630	IVE
1 Ea.	Wall Stop	WS406/407 CVX	630	IVE
1 Ea.	Gasketing	488SBK PSA BK	ZER	

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal frames for non-hollow metal doors.

B. Fire-rated hollow metal frames for non-hollow metal doors.

C. Interior glazed borrowed lite frames.

1.02 RELATED REQUIREMENTS

A. Section 08 1416 - Flush Wood Doors: Non-hollow metal door for hollow metal frames.

B. Section 08 7100 - Door Hardware: Hardware, silencers, and weatherstripping.

C. Section 08 8000 - Glazing: Glazed borrowed lites.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames; 2003 (R2009).

C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2017.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

E. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2021.

F. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2018a.

G. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2016.

H. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

I. ITS (DIR) - Directory of Listed Products; current edition.

J. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

K. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

L. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2007.

M. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2014.

N. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2019.

O. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2017.

P. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2013.

Q. UL (DIR) - Online Certifications Directory; Current Edition.

R. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

S. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

D. Samples: Submit one sample of frame metal, 2 by 2 inches, showing factory finishes, colors, and surface textures.

E. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Frames with Applied Casings, Prefinished:
   1. IDP - International Door Products Corp: www.idpframes.com/#sle.
   2. Timely Industries, Inc; C Series: www.timelyframes.com/#sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Refer to Door and Frame Schedule on drawings for frame sizes, fire ratings, sound ratings, finishing, door hardware to be installed, and other variations, if any.

B. Door Frame Type: Provide hollow metal door frames with applied casings.

C. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.

D. Accessibility: Comply with ICC A117.1 and ADA Standards.

E. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturers standard.

F. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.

G. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

H. Frames for Interior Glazing or Borrowed Lites: Construction and face dimensions to match door frames, and as indicated on drawings.

I. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into head of frame, and flush with top.

2.03 HOLLOW METAL DOOR FRAMES WITH APPLIED CASINGS

A. Frame Type: Knockdown, slip-on drywall frames; separate jambs and head with separate snap-on casings both sides; factory-applied finish on exposed surfaces.
   1. Frame Material: Cold-rolled steel complying with ASTM A1008/A1008M.
   2. Casing Material: Formed steel.
   3. Casing Profile: Square corner.
   4. Finish: Factory-applied baked enamel finish, or electrostatically applied water-based paint.
      a. Color: As selected from manufacturer's full line.

B. Interior Door Frames, Non-Fire-Rated:
   1. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.

C. Interior Door Frames, Fire-Rated: Provide smoke gaskets.
   1. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C or NFPA 252 ("positive pressure fire tests").
      a. Provide units listed and labeled by testing agency acceptable to authorities having jurisdiction, ITS (DIR), or UL (DIR).
      b. Attach fire rating label to each fire rated unit.
   3. Smoke and Draft Control Doors (Indicated with Letter "S" on Drawings and/or Door Schedule): In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm/sq ft of door opening at 0.10 inch w.g. pressure at both ambient and elevated temperatures; with "S" label; if necessary, provide additional gasketing or edge sealing.

D. Sound-Rated Door Frames: Provide sound gasketing at jambs and head and adjustable door bottom device.
   1. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   2. Sound Rating: Tested with the door to achieve the rating specified for door opening.

2.04 ACCESSORIES

A. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Comply with glazing installation requirements of Section 08 8000.

E. Install door hardware as specified in Section 08 7100.
   1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

F. Coordinate installation of electrical connections to electrical hardware items.

G. Touch up damaged factory finishes.

3.03 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

3.04 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush and flush glazed configuration; fire-rated, non-rated, and acoustical.

1.02 RELATED REQUIREMENTS

A. Section 08 1213 - Hollow Metal Frames.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

C. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

D. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

E. ASTM E413 - Classification for Rating Sound Insulation; 2016.

F. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

G. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 4.0; 2021.

H. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

I. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2019.

J. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2019.

K. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

L. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

M. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

D. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

E. Test Reports: Show compliance with specified requirements for the following:
   1. Sound-retardant doors and frames; sealed panel tests are not acceptable.

F. Manufacturer's Installation Instructions: Indicate special installation instructions.

G. Manufacturer's qualification statement.

H. Installer's qualification statement.

I. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.

1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Woodwork Quality Assurance Program:
   1. Provide labels indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by quality assurance program.
   3. Provide designated labels on installed products as required by quality assurance program.
   4. Submit documentation upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. High Pressure Decorative Laminate (HPDL) Faced Doors:
   1. Oregon Door; Architectural Series: www.oregondoor.com/#sle.
   2. Masonite Architectural; Aspiro Choice Laminate Doors: www.architectural.masonite.com/#sle.
   3. VT Industries, Inc: www.vtindustries.com/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOORS

A. Doors:
   1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
   2. High Pressure Decorative Laminate (HPDL) Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.
   2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
   3. Smoke and Draft Control Doors (Indicated as "S" on Drawings): In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm per sq ft of door opening at 0.10 inch wg pressure at both ambient and elevated temperatures for "S" label; if necessary, provide additional gasketing or edge sealing.
   4. Smoke and Draft Control Doors (Indicated as "S" on Drawings): In addition to required fire rating, provide flush wood door assemblies in compliance with WDMA I.S. 1A requirements for "S" label; no additional gasketing or edge sealing allowed.

5. Sound-Rated Doors: Minimum STC as indicated on drawings, calculated in accordance with ASTM E413, tested in accordance with ASTM E90.
6. High pressure decorative laminate (HPDL) finish as indicated in Section 09 0513 - Common Finish Materials.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type structural composite lumber core (SCLC), plies and faces as indicated.

B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

C. Sound-Rated Doors: Equivalent to type, with particleboard core (PC) construction as required to achieve STC rating specified; plies and faces as indicated above.

2.04 DOOR FACINGS

A. High Pressure Decorative Laminate (HPDL) Facing for Fire Doors: NEMA LD 3, HGF; color(s) as indicated; finish as selected.

B. High Pressure Decorative Laminate (HPDL) Facing for Non-Fire-Rated Doors: NEMA LD 3, HGS; color(s) as indicated; finish as selected.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:
1. Provide solid blocks at lock edge and top of door for closer for hardware reinforcement.
2. Provide solid blocking for other throughbolted hardware.

C. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.

D. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.

E. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

F. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

G. Provide edge clearances in accordance with the quality standard specified.

2.06 ACCESSORIES

A. Hollow Metal Door Frames: See Section 08 1213.

B. Glazed Openings:
1. Heat-Strengthened and Fully Tempered Glass: ASTM C1048.
2. Laminated Glass: Float glass laminated in accordance with ASTM C1172.
3. Fire-Protection-Rated Glass: Safety Certification, 16 CFR 1201, Category II.
4. Glazing: Single vision units, 1/4 inch thick glass.
5. Tint: Clear.

C. Relites and vison frames: Roll formed steel with overlapping frame; factory-painted finish, color as selected .
1. In Rated Doors: UL or WH-listed, same rating as door.
2. Size: As indicated on drawings.
3. Frame Material: 18 gauge, 0.0478 inch, galvanized steel.
4. Metal Finish: Manufacturer standard color polyester powder coating.
5. Fasteners: Concealed fasteners.
6. Maunfacturer:

a. All Metal Stamping: www.allmetalstamping.com/#sle.
b. Anemostat Door Products: : www.anemostat.com.
c. Advantage Lites & Louvers:: www.a-ll.com
d. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.
   1. Install fire-rated doors in accordance with NFPA 80 requirements.
   2. Install smoke and draft control doors in accordance with NFPA 105 requirements.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Use machine tools to cut or drill for hardware.

D. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

3.05 SCHEDULE - See Drawings

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall- and ceiling-mounted access units.

1.02 REFERENCE STANDARDS

A. ITS (DIR) - Directory of Listed Products; current edition.

B. UL (FRD) - Fire Resistance Directory; Current Edition.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

C. Shop Drawings: Indicate exact position of each access door and/or panel unit.

D. Manufacturer's Installation Instructions: Indicate installation requirements.

E. Manufacturer's qualification statement.

F. Installer's qualification statement.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 ACCESS DOORS AND PANELS ASSEMBLIES

A. Wall-Mounted Units:
   1. Location: As indicated on drawings.
   2. Panel Material: Steel, hot-dipped zinc or zinc-aluminum-alloy coated.
   3. Size: 12 by 12 inches.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
   5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.

B. Wall-Mounted Units in Wet Areas:
   1. Location: As indicated on drawings.
   2. Panel Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
   3. Size: 12 by 12 inches.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
   5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.

C. Fire-Rated Wall-Mounted Units:
   1. Location: As indicated on drawings.
   2. Wall Fire-Rating: As indicated on drawings.
   3. Panel Material: Steel.
   4. Size: 12 by 12 inches.
   5. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle.

D. Ceiling-Mounted Units:
   1. Location: As indicated on drawings.
   2. Panel Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
   3. Size - Lay-In Grid Ceilings: To match module of ceiling grid.
   4. Size - Other Ceilings: 12 by 12 inches.
   5. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.

2.02 Wall- and Ceiling-MOUNTED ACCESS UNITS

A. Manufacturers:
   1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com/#sle.
   2. ACUDOR Products Inc: www.acudor.com/#sle.
   3. Babcock-Davis: www.babcockdavis.com/#sle.
   4. Best Access Doors: www.bestaccessdoors.com/#sle.
   5. Karp Associates, Inc: www.karpinc.com/#sle.
   6. MIFAB, Inc: www.mifab.com/#sle.
   7. Milcor, Inc: www.milcorinc.com/#sle.
   8. Substitutions: See Section 01 6000 - Product Requirements.

B. Wall- and Ceiling-Mounted Units: Factory-fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.
   1. Style: Exposed frame with door surface flush with frame surface.
   2. Door Style: Single thickness with rolled or turned in edges.
   3. Frames: 16 gauge, 0.0598 inch, minimum thickness.
   4. Heavy Duty Single Steel Sheet Door Panels: 14 gauge, 0.0747 inch, minimum thickness.
   5. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
      a. Provide products listed by ITS (DIR) or UL (FRD) as suitable for purpose indicated.
   6. Steel Finish: Primed.
   7. Hardware:
      a. Hardware for Fire-Rated Units: As required for listing.
      b. Hinges for Non-Fire-Rated Units: Continuous piano hinge.
      c. Latch/Lock: Screw driver slot for quarter turn cam latch.
      d. Gasketing: Extruded neoprene, around perimeter of door panel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings are correctly sized and located.

B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to proceeding with this work.

3.03 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

A. Sliding Barn Doors: Consisting of flush wood doors with aluminum frames and related hardware.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Sealing joints between door frames and adjacent construction.

B. Section 08 1416 - Flush Wood Doors

C. Section 08 7100 - Door Hardware: Cylinder locks.

D. Section 08 8000 - Glazing: Glass and glazing accessories.

1.03 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

C. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).

D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2020.

F. ASTM C1036 - Standard Specification for Flat Glass; 2021.

G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

H. ASTM E413 - Classification for Rating Sound Insulation; 2016.

I. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

J. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

K. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

L. BHMA A156.14 - American National Standard for Sliding and Folding Door Hardware; 2013.

M. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.

N. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

O. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

P. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

Q. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2019.

R. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2017.

S. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2019.

T. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's descriptive literature for each component in partition assembly.

C. Shop Drawings: Drawings showing layout, dimensions, identification of components, and interface with adjacent construction.
   1. Include Elevations Showing:
      a. Locations and identification of manufacturer-supplied door hardware and fittings.
      b. Locations and sizes of cut-outs and drilled holes for other door hardware.
   2. Include Details Showing:
      a. Requirements for support and bracing of overhead track.
      b. Installation details.
      c. Appearance of manufacturer-supplied door hardware and fittings.

D. Operation and Maintenance Data: For manufacturer-supplied operating hardware.

E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

F. Manufacturer's Installation Instructions: Include complete preparation, installation, and cleaning requirements.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in, and with not fewer than three years of experience, manufacturing products of the type specified.

B. Installer Qualifications: Company specializing in installation of products of the type specified, with not fewer than three years of experience.

C. Source: Obtain sliding aluminum framed doors from single source

1.06 PERFORMANCE

A. Flame spread test ASTM E84. Passed IBC Code 2006 Class A, Class B and Class C.

B. Barn door acoustical seals are integrated into the wall module connection detail.

C. Soft self-closing mechanism integrated with top track.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site and store in manufacturer's protective cartons until openings are ready for installation.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Aurora Doors Inc.; ExamSlide system: www.specADsystems.com
   2. Western Integrated Materials, Inc.; Alumaglide - with Soft Close: www.alumaglide.com
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 INTERIOR SLIDING ALUMINUM-FRAMED DOORS AND PARTITIONS

A. Interior Aluminum-Framed Top-Hung Sliding Doors: Type: High Performance Sliding Door System, by Aurora Doors

B. Frame Profiles: Extruded aluminum “wrap” frame with integral vertical jamb (stile pocket).
   1. Finish: High performance organic coatings.

a. Factory finish all surfaces that will be exposed in completed assemblies.
b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
c. Finish Color: As indicated in Section 09 0513 - Common Interior Finish Materials.

C. Door Leafs. All Doors to be factory machined for hardware including pilot and function holes.
1. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
2. Door Construction: 5-ply unless otherwise indicated.
3. Non-Rated Solid Core Wood Doors: Type structural composite lumber core (SCLC), plies and faces as indicated.
4. Fire Rated Doors: Tested to ratings as indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc. (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
5. Sound Retardant Doors: Minimum STC as indicated on drawings, calculated in accordance with ASTM E413, tested in accordance with ASTM E90.
6. High Pressure Decorative Laminate (HPDL) Facing for Non-Fire-Rated Doors: NEMA LD 3, HGS; See Section 09 0513 - Common Finishes for color; finish as selected.
a. Matching laminate edges installed before faces

D. Components:
1. Single Top Track: Aurora Systems track
2. Floor Guide: Integral Jamb Aurora floor guide.
3. Valances: Extruded aluminum with integral end caps
a. Standard square valance
b. Sloped valance
4. Top Rollers: tandem nylon roller sized to match door weight

E. Accessories:
1. Soft-Closer: Soft and Self-closing mechanism at one or both sides of door leaf.
2. Handles:
a. Standard Ladder pull: 16” long x 1” diameter. Finish: US32D Satin Stainless Steel
3. Door Locks:
a. ADA Thumbturn inside with occupancy indicator / custodial override outside”, FSB Hook bolt lock (Finish US32D)
4. Automatic Door Bottom with integrated floor guide for improved acoustical performance.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

B. Examine surfaces to receive top and bottom guide.

C. Notify Architect of conditions that would adversely affect installation or subsequent use of sliding doors.

D. Do not begin installation until unacceptable conditions are corrected.

E. Base of door side to be flush or minimal. Rubber Base acceptable.

3.02 INSTALLATION

A. Install sliding door units in accordance with manufacturer's instructions.

B. Install sliding doors plumb, level, square, and in proper alignment.

C. Install sliding doors to close against walls without gaps

D. Install sliding doors to open and close smoothly.

E. Attach frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

F. Use anchorage devices to securely fasten sliding door assembly to wall construction without distortion or imposed stresses.

G. Blocking is required at full width/length of top track.

3.03 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation from Plumb: 1/16 inch.

C. Maximum Variation from Level: 1/16 inch.

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 foot straight edge.

3.04 ADJUSTING

A. Adjust sliding doors for proper operation in accordance with manufacturer's instructions

B. Adjust sliding doors to operate smoothly without binding.

3.05 CLEANING

A. Remove protective material from factory finished surfaces.

B. Remove labels and visible markings.

C. Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.

3.06 PROTECTION

A. Protect installed products from damage during subsequent construction activities.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hardware for wood and hollow metal doors.
B. Hardware for fire-rated doors.
C. Electrically operated and controlled hardware.
D. Thresholds.
E. Weatherstripping and gasketing.

1.02 RELATED REQUIREMENTS

A. Section 08 0671 - Door Hardware Schedule: Schedule of door hardware sets.
B. Section 08 1113 - Hollow Metal Doors and Frames.
C. Section 08 1416 - Flush Wood Doors.
D. Section 10 2600 - Wall and Door Protection: Door and frame protection.
E. Section 28 1000 - Access Control: Electronic access control devices.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
B. BHMA (CPD) - Certified Products Directory; 2016.
C. BHMA A156.1 - American National Standard for Butts and Hinges; 2016.
D. BHMA A156.3 - American National Standard for Exit Devices; 2014.
E. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.
F. BHMA A156.6 - American National Standard for Architectural Door Trim; 2015.
G. BHMA A156.7 - American National Standard for Template Hinge Dimensions; 2016.
H. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2015.
I. BHMA A156.13 - American National Standard for Mortise Locks & Latches Series 1000; 2017.
J. BHMA A156.15 - American National Standard for Release Devices - Closer Holder, Electromagnetic and Electromechanical; 2015.
K. BHMA A156.16 - American National Standard for Auxiliary Hardware; 2018.
L. BHMA A156.21 - American National Standard for Thresholds; 2014.
M. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems Sponsor; 2017.
N. BHMA A156.25 - American National Standard for Electrified Locking Devices; 2018.
O. BHMA A156.31 - American National Standard for Electric Strikes and Frame Mounted Actuators; 2013.
P. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2016.
Q. BHMA A156.115W - American National Standard for Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.
R. DHI (H&S) - Sequence and Format for the Hardware Schedule; 1996.
S. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; 2004.
T. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; 1993; also in WDHS-1/WDHS-5 Series, 1996.

U. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

V. ITS (DIR) - Directory of Listed Products; current edition.

W. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

X. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2019.

Y. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

Z. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2019.

AA. UL (DIR) - Online Certifications Directory; Current Edition.

AB. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.

C. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

D. Keying Requirements Meeting:
   1. Schedule meeting at project site prior to Contractor occupancy.
   2. Attendance Required:
      a. Contractor.
      b. Owner.
      c. Installer's Architectural Hardware Consultant (AHC).
      d. Hardware Installer.
      e. Owner's Security Consultant.
   3. Agenda:
      a. Establish keying requirements.
      b. Verify locksets and locking hardware are functionally correct for project requirements.
      c. Verify that keying and programming complies with project requirements.
   4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
      a. Access control requirements.
      b. Key control system requirements.
      c. Schematic diagram of preliminary key system.
   5. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
   6. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.

C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
   1. Comply with DHI (H&S) using door numbers and hardware set numbers as indicated in construction documents.

a. Submit in vertical format; see Section 08 0671.
2. List groups and suffixes in proper sequence.
3. Provide complete description for each door listed.
4. Provide manufacturer name, product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.

D. Shop Drawings - Electrified Door Hardware: Submit diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
2. Elevations: Submit front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
3. Diagrams: Submit point-to-point wiring diagram that shows each device in door opening system with related colored wire connections to each device.

E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

F. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
1. Submit manufacturer's parts lists and templates.

G. Installer's qualification statement.

H. Supplier's qualification statement.

I. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
1. See Section 01 6000 - Product Requirements, for additional provisions.
2. Lock Cylinders: Ten for each master keyed group.

1.06 QUALITY ASSURANCE

A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

D. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
1. Closers: Ten years, minimum.
2. Locksets and Cylinders: Three years, minimum.
3. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

B. Provide individual items of single type, of same model, and by same manufacturer.

C. Provide door hardware products that comply with the following requirements:
   1. Applicable provisions of federal, state, and local codes.
   2. Accessibility: ADA Standards and ICC A117.1.
   3. Applicable provisions of NFPA 101.
   4. Hardware on Fire-Rated Doors: Listed and classified by UL (DIR) or ITS (DIR) as suitable for application indicated.
   5. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide door hardware that complies with local codes, and requirements of assemblies tested in accordance with UL 1784.
   6. Listed and certified compliant with specified standards by BHMA (CPD).
   7. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
   8. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
   9. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.

D. Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide wiring between hardware and control components and to building power connection in compliance with NFPA 70.

E. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule.

F. Fasteners:
   1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
      a. Aluminum fasteners are not permitted.
      b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
   2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
      a. Self-drilling (Tek) type screws are not permitted.
   3. Provide spacers or sex bolts with sleeves for through bolting of hollow metal doors and frames.
   4. Fire-Rated Applications: Comply with NFPA 80.
      a. Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
      b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

2.02 HINGES

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Hinges: Comply with BHMA A156.1, Grade 1.
   1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
      a. Provide hinge width required to clear surrounding trim.
   2. Provide hinges on every swinging door.
   3. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
   4. Provide ball-bearing hinges at each door with closer.
   5. Provide non-removable pins on interior outswinging doors at locations as indicated.
   6. Provide power transfer hinges where electrified hardware is mounted in door leaf.
   7. Provide following quantity of butt hinges for each door:
      a. Doors From 60 inches High up to 90 inches High: Three hinges.
      b. Doors 90 inches High up to 120 inches High: Four hinges.

2.03 EXIT DEVICES

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Exit Devices: Comply with BHMA A156.3, Grade 1.
   1. Lever design to match lockset trim.
   2. Provide cylinder with cylinder dogging or locking trim.
   3. Provide exit devices properly sized for door width and height.
   4. Provide strike as recommended by manufacturer for application indicated.
   5. Provide UL (DIR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.

2.04 ELECTRIC STRIKES

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Electric Strikes: Comply with BHMA A156.31, Grade 1.
   1. Provide UL (DIR) listed burglary-resistant electric strike; style to suit locks.
   2. Provide non-handed 24 VDC electric strike suitable for door frame material and scheduled lock configuration.
   3. Provide field selectable Fail Safe/Fail Secure modes.
   4. Provide transformer and rectifier as necessary for complete installation.
   5. Connect electric strikes into fire alarm where non-rated doors are scheduled to release with fire or sprinkler alarm condition.

2.05 LOCK CYLINDERS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
   1. Provide cylinders from same manufacturer as locking device.
   2. Provide cams and/or tailpieces as required for locking devices.

2.06 MORTISE LOCKS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Mortise Locks: Comply with BHMA A156.13, Grade 1, Security, 1000 Series.
   1. Latchbolt Throw: 3/4 inch, minimum.
   2. Deadbolt Throw: 1 inch, minimum.
   3. Backset: 2-3/4 inch unless otherwise indicated.
   4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
      a. Finish: To match lock or latch.

2.07 COORDINATORS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Coordinators: Provide on doors having closers and self-latching or automatic flush bolts to ensure that inactive door leaf closes before active door leaf.
   1. Type: Bar, unless otherwise indicated.
   2. Material: Aluminum, unless otherwise indicated.
   3. Ensure that coordination of other door hardware affected by placement of coordinators and carry bar is applied properly for completely operable installation.

2.08 CLOSERS

A. Manufacturers; Surface Mounted:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Closers: Comply with BHMA A156.4, Grade 1.
   1. Type: Surface mounted to door.
   2. Provide door closer on each exterior door.
   3. Provide door closer on each fire-rated and smoke-rated door.
   4. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.
   5. At corridor entry doors, mount closer on room side of door.

2.09 OVERHEAD STOPS AND HOLDERS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
   1. Provide stop for every swinging door, unless otherwise indicated.
   2. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop, unless otherwise indicated.

2.10 PROTECTION PLATES

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Protection Plates: Comply with BHMA A156.6.

C. Metal Properties: Stainless steel.
   1. Metal, Heavy Duty: Thickness 0.062 inch, minimum.

D. Edges: Beveled, on four sides unless otherwise indicated.

E. Fasteners: Countersunk screw fasteners.

2.11 KICK PLATES

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Kick Plates: Provide along bottom edge of push side of every door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
   1. Size: Per section 08 0671 - Door Hardware Schedule

2.12 ELECTROMAGNETIC DOOR HOLDERS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Electromagnetic Door Holders: Comply with BHMA A156.15.
   1. Type: Wall mounted, single unit, standard duty, with strike plate attached to door.
   2. Holding Force, Standard Duty: 40 lbs-force, minimum.
   3. Voltage: 12 VDC, and provide power supplies by same manufacturer as holders.
   4. Fail safe; door released to close automatically when electrical current is interrupted.
   5. Provide interface with fire detectors and fire-alarm system for fire-rated door assemblies.

2.13 WALL STOPS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
   1. Type: Per section 08 0671 - Door Hardware Schedule.

2. Material: Stainless steel housing with rubber insert.

2.14 ASTRAGALS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Astragals: Comply with BHMA A156.22.
   1. Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
   2. Type: Split, two parts, and with sealing gasket.
   3. Material: Aluminum, with neoprene weatherstripping.
   4. Provide non-corroding fasteners at exterior locations.

2.15 THRESHOLDS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Thresholds: Comply with BHMA A156.21.
   1. Provide threshold at interior doors for transition between two different floor types, and over building expansion joints, unless otherwise indicated.
   2. Provide threshold at each exterior door, unless otherwise indicated.
   3. Type: Flat surface.
   4. Material: Aluminum.
   5. Threshold Surface: Fluted horizontal grooves across full width.
   6. Field cut threshold to profile of frame and width of door sill for tight fit.
   7. Provide non-corroding fasteners at exterior locations.

2.16 WEATHERSTRIPPING AND GASKETING

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Weatherstripping and Gasketing: Comply with BHMA A156.22.
   1. Head and Jamb Type: Self-adhesive.
   2. Provide gasketing for smoke and draft control doors (Indicated as "S" on Drawings) that complies with local codes, requirements of assemblies tested in accordance with UL 1784.
   3. Provide frame-applied intumescent gasketing on wood doors that are labeled as smoke and draft control doors (Indicated as "S" on Drawings), unless otherwise indicated.
   4. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
   5. Provide door bottom sweep on each exterior door, unless otherwise indicated.

2.17 SILENCERS

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
   1. Single Door: Provide three on strike jamb of frame.
   2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
   3. Material: Rubber, gray color.

2.18 WIRELESS ACCESS MANAGEMENT SYSTEMS

A. Manufacturers:
   1. Basis of Design: Per division 28.

B. Wireless Access Management Systems: Comply with guidelines of BHMA A156.25, and including necessary hardware for fully functional system.
   1. Reader Formats: Provide proximity to activate access system functionality.
   2. Door Locking Hardware: Provide applicable mortise locksets in compliance with project access control requirements.

2.19 POWER SUPPLY

A. Manufacturers:
   1. Basis of Design: Per section 08 0671 - Door Hardware Schedule.

B. Power Supply: Hard wired, with multiple zones providing eight (8) breakers for each output panel with individual control switches and LED's; UL (DIR) Class 2 listed.
   1. Power: 24 VAC, 10 Amp; with 120 VAC power supply.
   2. Operating Temperature: 32 to 110 degrees F.
   3. Provide with emergency release terminals that release devices upon activation of fire alarm system.

2.20 FINISHES

A. Finishes: Identified in Section 08 0671 - Door Hardware Schedule.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

B. Verify that electric power is available to power operated devices and of correct characteristics.

3.02 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Install hardware for smoke and draft control doors in accordance with NFPA 105.

C. Use templates provided by hardware item manufacturer.

D. Do not install surface mounted items until application of finishes to substrate are fully completed.

E. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
   1. For Steel Doors and Frames: Install in compliance with DHI (LOCS) recommendations.
   2. For Steel Doors and Frames: See Section 08 1113.
   3. For Wood Doors: Install in compliance with DHI WDHS.3 recommendations.
   4. Mounting heights in compliance with ADA Standards:

F. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 FIELD QUALITY CONTROL

A. Perform field inspection and testing under provisions of Section 01 4000 - Quality Requirements.

B. Provide an Architectural Hardware Consultant (AHC) to inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.04 ADJUSTING

A. Adjust work under provisions of Section 01 7000 - Execution and Closeout Requirements.

B. Adjust hardware for smooth operation.

C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.05 CLEANING

A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.06 PROTECTION

A. Protect finished Work under provisions of Section 01 7000 - Execution and Closeout Requirements.

B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glazing units.

B. Glazing compounds.

1.02 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015.

C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

D. ASTM C1036 - Standard Specification for Flat Glass; 2021.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

F. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

G. GANA (GM) - GANA Glazing Manual; 2008.

H. GANA (SM) - GANA Sealant Manual; 2008.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data on Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

D. Manufacturer's qualification statement.

E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM) for glazing installation methods. Maintain one copy on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Float Glass Manufacturers:
   1. AGC Glass North America, Inc: www.agcglass.com/#sle.
   2. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
   3. Guardian Glass, LLC: www.guardianglass.com/#sle.
   4. Pilkington North America Inc: www.pilkington.com/na/#sle.
   5. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle.
   6. Substitutions: See Section 01 6000 - Product Requirements.

2.02 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.

1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
2. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
3. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.

2.03 GLAZING UNITS

A. Monolithic Interior Vision Glazing:
   1. Applications: Interior glazing unless otherwise indicated.
   2. Glass Type: Annealed float glass.
   3. Tint: Clear.
   4. Thickness: 1/4 inch, nominal.

B. Monolithic Safety Glazing: Non-fire-rated.
   1. Applications:
      a. Glazed lites in doors, except fire doors.
      b. Sliding glass doors.
      c. Glazed sidelights to doors, except in fire-rated walls and partitions.
      d. Other locations required by applicable federal, state, and local codes and regulations.
      e. Other locations indicated on drawings.
   2. Glass Type: Fully tempered safety glass as specified.
   3. Tint: Clear.
   4. Thickness: 1/4 inch, nominal.

2.04 ACCESSORIES

A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch by width of glazing rabbet space minus 1/16 inch by height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long by one half the height of the glazing stop by thickness to suit application, self adhesive on one face.

C. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

D. Glazing Clips: Manufacturer's standard type.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

C. Verify that sealing between joints of glass framing members has been completed effectively.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

3.04 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.05 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

PART 1 GENERAL

1.01 SECTION REQUIREMENTS

A. This Section 09 0513 - Common Finish Materials contains a coordinated color system for materials specified below and in the various Sections of this Specification.
   1. Each item is defined by code as listed.
   2. The “Code” defined here in the “Finish Materials Legend” refers to the material finish, color, texture and pattern for each material which is further specified in the various specification sections.
   3. These codes are keyed to the Floor finish plans and interior elevations.

B. Revisions to any item resulting from actions of the Contractor (or failure to act) may result in adjustments to other items at the option of the Owner.
   1. These adjustments shall be implemented by the Contractor at no change in Contract Sum or Contract Time.

C. The “Finish Schedule” located on the drawings use the codes below to define the materials used.

PART 2 PRODUCTS

2.01 INTERIOR PRODUCTS

A. Ceiling - Acoustical Panel: ACT-#

   General Notes: Refer to RCP and finish schedule for more information. Install per manufacturer's recommendations.

   1. Type ACT-1: See Specification Section: 09 5100
      a. Manufacturer: Armstrong
      b. Product: Cortega Second Look II
      c. Style: 2797
      d. Color: White
      e. Size: 24" x 24" x 3/4"
      f. Edge: Angled Tegular 15/16
      g. NRC: 0.55
      h. CAC: 35
      i. Class: A - (UL)
      j. Grid Suspension System: Prelude XL
      k. Suspension System Width: 15/16 inch
      l. Suspension System Color: White
      m. Notes: For questions contact Armstrong local rep Dianne Knight 503.341.4373

B. Ceiling - Ceiling Scenes: CLG-#

   General Notes: Refer to RCP for more information.Ceiling scenes tile to drop into ceiling grid, install per manufacturer's recommendations.

   1. Type CLG-1: See Specification Section: 09 5416
      a. Manufacturer: Ceiling Scenes
      b. Size: Layout I, 2' x 4'
      c. Image: 5120 Sky Ceiling Light Lens
      d. Notes: For questions contact Eric Ward, eward@qdvllc.com. Confirm with Architect prior to ordering

C. Corner Guards: CG-#

   General Notes: Refer to Floor Plan, Design Coordination Plan, and Elevations for locations and heights. Install per manufacturer’s recommendations.

   1. Type CG-1:
      a. Manufacturer: Inpro
      b. Product: 160 Surface Mount
      c. Color: Antique White 0104

d. Size: 2 inch
e. Mounting: Surface
f. Class: A - (UL)

D. Chair Rail: CHR-#
General Notes: Refer to Floor Plan, Design Coordination Plan, and Elevations for locations and heights. Install per manufacturer's recommendations.
1. Type CHR-1: See Specification Section: 10 2601
a. Manufacturer: Inpro
b. Product: Rigid Vinyl Rubrails
c. Thickness:.040"
d. Height: 4"

E. Interior Painting: See Specification Section 09 9123 for approved manufacturer's.
General Notes: For paints listed below include the following prefix "PW" to paint colors where epoxy paint is required.
1. Type P-1: Color to match: Miller
a. Manufacturer: Sherwin Williams
b. Sheen: Eggshell
c. Color: SW 7105 Paperwhite
d. Location: General wall color
2. Type P-2: Color to match: Miller
a. Manufacturer: Sherwin Williams
b. Sheen: Eggshell
c. Color: SW 7038 Tony Taupe
3. Type P-3: Color to match: Miller
a. Manufacturer: Sherwin Williams
b. Sheen: Eggshell
c. Color: SW 9143 Cadet
4. Type P-4: Color to match: Miller
a. Manufacturer: Sherwin Williams
b. Sheen: Eggshell
c. Color: SW 6430 Great Green
5. Type P-5: Color to match: Miller
a. Manufacturer: Sherwin Williams
b. Sheen: Eggshell
c. Color: SW 6207 Retreat

F. Plastic Laminate: PL-#
General Notes: For casework laminates listed below include the following:
Cabinet Edging:
Thickness: 0.018 inch
Color: To match face color of laminate
Cabinet Liner:
Color: White
1. Type PL-1: See Specification Section: 08 1416
a. Manufacturer: Wilsonart.
b. Type: High-pressure laminate.
c. Color: 7996-38 Natural Recon
d. Installation: Grain to run vertically.
e. Location: Solid wood door stain to color match PL-1
f. Notes: Knock down door frame color to be Timely, Browntone (SC101)
2. Type PL-2: See Specification Section: 06 4100
a. Manufacturer: Formica.

b. Type: High-pressure laminate.
c. Color: Ashwood Beige 5785-NG
d. Installation: Grain to run vertically.

3. Type PL-3: See Specification Section: 06 4100
a. Manufacturer: Wilsonart.
b. Type: High-pressure laminate.
c. Color: 4588-60 Kalahari Topaz
d. Installation: Grain to run vertically.

G. Resilient Base: RB-#

General Notes: Refer to Finish Plan and Schedule for locations; Install per manufacturer's recommendations.

1. Type RB-1; Specification Section 09 6500:
a. Manufacturer: Roppe
b. Type: TV with Toe
c. Size: 4 inches
d. Color: 194 Burnt Amber

H. Resilient Flooring - Linoleum: LN-#

General Notes: Refer to Finish Plan and Schedule for locations; Install per manufacturer's recommendations; Net fit seams recommended per manufacturer. Self cove based as scheduled to be Forbo 6" ArmorCove. Prepare flooring substrate per manufacturer's recommendations prior to installation.

1. Type LN-1: See Specification Section: 09 6500
a. Manufacturer: Forbo
b. Product: Striato
c. Color: Withered Prairie 5217
d. Size: 79" x 0.1" gauge
e. Thickness: 2.5 mm
f. Notes: Contractor to provide flooring seaming diagram for approval

2. Type LN-2: See Specification Section: 09 6500
a. Manufacturer: Forbo
b. Product: Fesco
c. Color: Sparrow 3252
d. Size: 79" x 0.1" gauge
e. Thickness: 2.5 mm
f. Notes: Contractor to provide flooring seaming diagram for approval. For installation questions contact Forbo Sales Executive, Cherie McNabb, cherie.mcnabb@forbo.com

I. Solid Surface: SSF-#

General Notes: Refer to Floor Plan, Finish Schedule, and Details for locations. All solid surface countertops with integral sinks shall have:
Backsplash Height: 4 inch

a. Sink bowl Type SNK-4: Corian #804.
Sink Color: Cameo White

1. Type SSF-1F: See Specification Section: 12 3600
a. Manufacturer: DuPont Corian.
b. Type: Solid Surface Material.
c. Color: Whisper

J. Tack Panel: TKBD-#

General Notes: Refer to Elevations for locations and extents; Install per manufacturer's recommendations.

1. Type TBF-1: See Specification Section: 09 8414

a. Manufacturer: Snaptex
b. Product: Polysorb
c. Substrate: 0.5" PolySorb
d. Core Color: Pure Camel
e. Size: 24" x 36"
f. Thickness: 1/2 inch
g. Edge Profile: Square
h. Finish: Carnegie Xorel - Twine 6217, #35
i. Notes: Confirm with Architect prior to ordering

K. Tile: T-#

General Notes: All specifications listed below include the following:
Epoxy Grout: recommended as typical, UNO.

1. Type T-1: See Specification Section: 09 3000
   a. Manufacturer: Florida Tile
   b. Product: Peace of Mind
   c. Color: Serenity Sage
   d. Finish: Glossy
   e. Size: 3" x 12" Artisan
   f. Thickness: 8mm
   g. Pattern: 1/2 offset
   h. Grout joint width: 3/16th inch
   i. Grout: Epoxy
      1) Manufacturer: Latrcrete
      2) Color: From manufactures standard
   j. Notes: Forbo Armorcove base to be installed before tile, top of Armorcove base to be taped off prior to tile installation. Provide clear sealant between tile and base. Confirm with architect prior to ordering.

L. Walk Off Matt: WOM-#

General Notes: Refer to Finish Plan and Finish Schedule for locations. Install Futura #402078 - LVT129 transition at adjacent flooring types.

1. Type WOM-1: See Specification Section: 09 6813
   a. Manufacturer: Shaw Contract
   b. Collection: All Access
   c. Style: Portal 5T035
   d. Color: Black Chocolate 34751
   e. Size: 24 inch x 24 inch
   f. Installation: Monolithic
   g. Notes: Contractor to provide flooring seaming diagram for approval

M. Wall Protection WP-#

General Notes: Refer to Floor Plan, Design Coordination Plan, Elevations, and Details for locations and heights; Install per manufacturer's recommendations.

1. Type WP-1: See Specification Section: 10 2600
   a. Manufacturer: InPro.
   b. Product: Ricochet Sketch
   c. Thickness: 0.040 inch.
   d. Color: Pottery RC-SKE-R710

N. Window Covering - Roller Shade: WC-#

1. Type RS-1: See Specification Section: 12 2400
   a. Manufacturer: Mechosystems - Mech/5 Standard Bracket
   b. Operation: Manual
   c. Shade: MechoShade

1) Fabric: ThermoVeil 1500 Series
2) Pattern: Basketweave
3) Color: 1516 Eggshell
4) Openness Factor: 3%

d. Notes: Confirm with architect prior to ordering.

PART 3 EXECUTION – NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
   1. Resilient tile and sheet.
   2. Carpet tile.

B. Removal of existing floor coverings.

C. Preparation of new and existing concrete floor slabs for installation of floor coverings.

D. Remediation of concrete floor slabs due to unsatisfactory moisture or alkalinity (pH) conditions.
   1. Contractor shall perform all specified remediation of concrete floor slabs. If such remediation is indicated by testing agency's report and is due to a condition not under Contractor's control or could not have been predicted by examination prior to entering into the contract, a contract modification will be issued.

E. Patching compound.

F. Remedial floor coatings.

1.02 REFERENCE STANDARDS

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens); 2021.

B. ASTM C472 - Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete; 2020.

C. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2011.

1.03 SUBMITTALS

A. Visual Observation Report: For existing floor coverings to be removed.

B. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
   1. Moisture and alkalinity (pH) limits and test methods.
   2. Manufacturer's required bond/compatibility test procedure.

C. Remedial Materials Product Data: Manufacturer's published data on each product to be used for remediation.
   1. Manufacturer's qualification statement.
   2. Manufacturer's statement of compatibility with types of flooring applied over remedial product.
   3. Test reports indicating compliance with specified performance requirements, performed by nationally recognized independent testing agency.
   4. Manufacturer's installation instructions.
   5. Specimen Warranty: Copy of warranty to be issued by coating manufacturer and certificate of underwriter's coverage of warranty.

D. Testing Agency's Report:
   1. Description of areas tested; include floor plans and photographs if helpful.
   2. Summary of conditions encountered.
   3. Copies of specified test methods.
   4. Recommendations for remediation of unsatisfactory surfaces.
   5. Submit report to Architect.
   6. Submit report not more than two business days after conclusion of testing.

E. Adhesive Bond and Compatibility Test Report.

F. Copy of RFCI (RWP).

1.04 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

B. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
   1. Submit evidence of experience consisting of at least 3 test reports of the type required, with project Owner's project contact information.

C. Contractor's Responsibility Relating to Independent Agency Testing:
   1. Provide access for and cooperate with testing agency.
   2. Confirm date of start of testing at least 10 days prior to actual start.
   3. Allow at least 4 business days on site for testing agency activities.
   4. Achieve and maintain specified ambient conditions.
   5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

1.05 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.01 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
   1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
   2. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.
   3. Products:
      a. H.B. Fuller Construction Products, Inc; TEC Feather Edge Skim Coat: www.tecspecialty.com/#sle.
      b. USG Corporation; Durock Brand Advanced Skim Coat Floor Patch: www.usg.com/#sle.
      c. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:
   1. Existing concrete slabs (on-grade and elevated) with existing floor coverings:
      a. Visual observation of existing floor covering, for adhesion, water damage, alkaline deposits, and other defects.
      b. Removal of existing floor covering.
   2. Preliminary cleaning.
   3. Specified remediation, if required.
   4. Patching, smoothing, and leveling, as required.
   5. Other preparation specified.
   6. Adhesive bond and compatibility test.
   7. Protection.

3.02 REMOVAL OF EXISTING FLOOR COVERINGS

A. Comply with local, State, and federal regulations and recommendations of RFCI Recommended Work Practices for Removal of Resilient Floor Coverings, as applicable to floor covering being removed.

B. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.03 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.04 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

3.05 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.06 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.
B. Metal stud wall framing.
C. Metal channel ceiling framing.
D. Shaft wall system.
E. Acoustic insulation.
F. Gypsum wallboard.
G. Joint treatment and accessories.
H. Acoustic (sound-dampening) wall and ceiling board.

1.02 PRODUCTS INSTALLED BUT NOT SUPPLIED

A. Access panel in wall, Section 08 3100

1.03 RELATED REQUIREMENTS

A. Section 06 4100 - Architectural Wood Casework
B. Section 07 0553 - Fire and Smoke Assembly Identification: For Life Safety identification.
C. Section 07 2100 - Thermal Insulation: Acoustic insulation.
D. Section 07 8400 - Firestopping: Top-of-wall assemblies at fire-resistance-rated walls.
E. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
F. Section 08 1113 - Hollow Metal Doors And Frames.
G. Section 09 5100 - Acoustical Ceilings: Suspended Gypsum ceilings.
H. Section 13 0541 - Seismic Restraints for Non-Structural Components; For design requirements of suspended components.

1.04 REFERENCE STANDARDS

A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members; 2016, with Supplement (2018).
B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.
D. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.
E. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017.
F. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2017.
G. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2018.
H. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
I. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
J. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2019b.

K. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2018.

L. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2018.

M. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2019.

N. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2018.

O. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

P. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2019.

Q. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2019.

R. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.

S. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C; 2019a.

T. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

U. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

V. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2020.

W. ASTM E413 - Classification for Rating Sound Insulation; 2016.

X. GA-216 - Application and Finishing of Gypsum Panel Products; 2016.

Y. GA-600 - Fire Resistance Design Manual; 2015.

Z. UL (FRD) - Fire Resistance Directory; Current Edition.

1.05 SUBMITTALS

A. See Section 01 3300 - Submittal Procedures.

B. Basis of Design:
   1. Assemblies listed in these contract documents comply with the gypsum wallboard system details and technical support incident to National Gypsum Company "Acoustical Assembly Guide" and its products. These system performance details are the result of tests conducted in accordance with ASTM E90 under controlled laboratory conditions.
   2. Steel Stud Assemblies shown in these contract documents comply with the "Supreme Framing System" details and technical support incident to SCAFCO Steel Stud Company literature and its products.
      a. Studs: Space studs as permitted by standard.
      b. Scheduled maximum height based on flange width: Manufacturer standard 1.438"
      c. Gage: as permitted by standard
      d. Contractor to select spacing of studs based on height limitations unless specifically noted on drawings.
   3. Alternative listed manufacturers in Part 2 of this specification may be submitted along with supporting information providing concurrence to those tested assemblies listed.

C. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
   1. Provide plans indicating stud size and matrix reflecting wall design based on the following items:

a. Sound Transmission Coeffcient (STC) ratings (recognized test reports)
b. Span Ratings (via Manufacturere span rating tables or Engineered by professional structural engineer licenced in State of project)
c. MEP penetrations and size limitations.
d. Fire rating / Fire proofing requirements.
e. Acoustic sealants.
f. Wall deflection criteria.
g. Proposed structural modifications for studs compromised by penetrations.

D. Wall thickness: Notify Architect if stud depth deviates from Construction Documents thus increasing the overall wall thickness.

E. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

F. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

G. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

H. Samples: Submit four (4) samples of gypsum board finished with proposed texture application, 12 by 12 inches in size, illustrating finish color and texture.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing commercial gypsum board application and finishing, with minimum 10 years of documented experience.

B. Copies of Documents at Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.07 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

B. Provide project specific, full scale visual mock-up of full height wall section minimum 20 feet long, illustrating coating color, texture, and finish.
1. Mock up shall demonstrate the proposed range of aesthetic effects and workmanship.
2. Provide mock-up in location where visual review is possible and any required testing can be conducted.

C. Provide door and frame assembly illustrating paint coating color, texture, and finish.

D. Locate where directed.

E. After visual mock-up has been approved, document techniques and methods with digital images from different angles, and take close-up shots as required to use as standard for judging of completed Work. Submit photographs to Owner and Architect.

F. Mock-up shall remain as part of the work and shall become the reference from which to construct actual finishes.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

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

B. Interior Partitions Indicated as Sound-Rated: Provide completed assemblies with the following characteristics:
1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
a. Options to attaining scheduled STC ratings may be any of the following:

1) Installation of acoustical sound dampening wall and ceiling board as specified in this section.
2) Installation of additional layers of gypsum wallboard as specified in this section.
3) Installation of acoustical sound isolation tape as specified in this section.

C. Shaft Walls at HVAC Shafts: Provide completed assemblies with the following characteristics:
1. Air Pressure Within Shaft: Sustained loads of 5 lbf/sq ft with maximum mid-span deflection of L/360.
2. Acoustic Attenuation: STC of 40-44 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

D. Fire Rated Assemblies: Provide completed assemblies complying with applicable code and meeting indicated drawing lables
1. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
2. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:
1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com.
2. SCAFCO Corporation; Basis of Design: www.scafco.com/#sle.
3. Steeler Construction Supply: www.steeler.com.
4. Consolidated Fabricators, Corp.: www.confabbpd.com.
5. Substitutions: See Section 01 6000 - Product Requirements.

B. Interior Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of typical wall framing of L/360 at 5 psf for general.
1. For walls with additional loads (tile, walls hung cabinets, equipment), provide L/360 at 7.5 psf. Confirm requirements with manufacturer/supplier of products to be supported off wall.
2. For stud widths and types see drawings.
3. Studs: "C" shaped with flat or formed webs.
4. Paired Studs for Sound-Rated Assemblies: Engineered single-piece assemblies comprised of paired studs coupled by sound isolators, designed to replace conventional side-by-side, parallel, double-wall partition framing.
a. Products:
1) SCAFCO Corporation; SoundGuard Silent Steel Framing System: www.scafco.com/#sle.
2) Substitutions: See Section 01 6000 - Product Requirements.
5. Runners: U shaped, sized to match studs.
6. Ceiling Channels: C-shaped.
a. Floor track and ceiling track should be same gage as proposed wall stud framing.
7. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.
8. Backing and blocking:
a. Backing Strap: 20 gage (unless otherwise noted) width as required for support where detailed.
b. Stud backing: minimum 3-5/8 inch x16 gage (unless otherwise noted); verify with mounting.

C. Shaft Wall Studs and Accessories: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements. For widths and types see drawings
1. Products:
a. Same manufacturer as other framing materials.
b. Substitutions: See Section 01 6000 - Product Requirements.

c. Stud Spacing: 24" o.c. (unless otherwise noted)

D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.
2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
3. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
4. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-resistance rating of the wall assembly.

E. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.

F. Preformed Top Track Firestop Seal:
1. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems of fire rating and movement required.

G. Non-structural Framing Accessories:
1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
2. Partial Height Wall Framing Support: Provides stud reinforcement and anchored connection to floor.
a. Materials: ASTM A36/A36M formed sheet steel support member with factory-welded ASTM A1003/A1003M steel plate base.
b. Height: 35-3/4 inches.
3. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
4. Flexible Wood Backing: Fire-retardant-treated wood with sheet steel connectors.

2.03 GYPSUM BOARD SUSPENSION SYSTEM(S)

A. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, and perimeter moldings as required.

B. Concealed Suspension System: Formed steel, commercial quality cold rolled; heavy-duty.
1. Profile: Tee; 1 1/2 inch wide face.
2. Construction: Double web.
3. Finish: Mfr. standard.
4. Products:
a. Armstrong Industries; Suspended Drywall Grid - HD8906: www.armstrongceiling.com.
b. USG Corporation; Drywall Suspension System: www.usg.com/#sle.
c. Rockfon LLC; Suspended Drywall Grid System: www.rockfon.com.
d. Substitutions: See Section 01 6000 - Product Requirements.

2.04 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
1. National Gypsum Company; Basis of Design: www.nationalgypsum.com/#sle.
2. USG Corporation: www.usg.com.
3. Substitutions: See Section 01 6000 - Product Requirements.

B. Wallboard: Gypsum wallboard as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends tapered cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
2. Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.

3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   a. Mold resistant board is required at all locations.
4. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
5. Thickness:
   a. Vertical Surfaces: 5/8 inch.
   b. Ceilings: 5/8 inch.
   c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
6. Wallboard Composition: (Manufacturer's normal weight as required to meet STC requirements as indicated on documents).
   a. Reduced weight wallboard shall not be submitted and will not be accepted as a substitution.
7. Glass Mat Faced Products:
   a. National Gypsum Company; Gold Bond eXP Interior Extreme Gypsum Panel: www.nationalgypsum.com/#sle.
   b. National Gypsum Company; Gold Bond eXP Fire-Shield Interior Extreme Gypsum Panel: www.nationalgypsum.com/#sle.
   c. Substitutions: See Section 01 6000 - Product Requirements.

C. Abuse Resistant Wallboard:
1. Application: High-traffic areas indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Type: Fire-resistance-rated Type X, UL or WH listed.
4. Thickness: 5/8 inch.
5. Edges: Tapered.
6. Glass Mat Faced Products:
   a. National Gypsum Company; Gold Bond eXP Interior Extreme AR Gypsum Panel: www.nationalgypsum.com/#sle.
   b. Substitutions: See Section 01 6000 - Product Requirements.

D. Impact Resistant Wallboard:
1. Application: High-traffic areas indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Type: Fire-resistance-rated Type X, UL or WH listed.
4. Thickness: 5/8 inch.
5. Edges: Tapered.
6. Glass Mat Faced Products:
   a. National Gypsum Company; Gold Bond eXP Interior Extreme IR Gypsum Panel: www.nationalgypsum.com/#sle.

E. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including tub and shower surrounds, shower ceilings, and as indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
   a. Regular Type: Thickness 5/8 inch.
   b. Fire-Resistance-Rated Type: Type X core, thickness 5/8 inch.
   c. Products:
      1) National Gypsum Company; Gold Bond eXP Tile Backer: www.nationalgypsum.com/#sle.
      2) Substitutions: See Section 01 6000 - Product Requirements.

F. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.

1. Application: Vertical surfaces behind thinset tile, except in wet areas.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Type: Type X, in locations indicated.
5. Type X Thickness: 5/8 inch.
6. Regular Board Thickness: 5/8 inch.
7. Edges: Tapered.
8. Products:
    a. National Gypsum Company; Gold Bond XP Gypsum Board: www.nationalgypsum.com/#sle.
    b. Substitutions: See Section 01 6000 - Product Requirements.

G. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings, unless otherwise indicated.
2. Thickness: 5/8 inch.
3. Edges: Tapered.

H. Acoustical Sound Dampening Wall and Ceiling Board: Two layers of heavy paper-faced, high-density gypsum board separated by a viscoelastic polymer layer and capable of achieving STC rating of 50 or more in typical stud wall assemblies as calculated in accordance with ASTM E413 and when tested in accordance with ASTM E90.
1. Thickness: 5/8 inch.
2. Long Edges: Tapered.
3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
4. Products:
    a. National Gypsum Company; Gold Bond SoundBreak XP Gypsum Board: www.nationalgypsum.com/#sle.
    b. Substitutions: See Section 01 6000 - Product Requirements.
5. Locations: At all walls requiring additional acoustical performance. See Plans for locations.

I. Shaftwall and Coreboard: Type X; 1 inch thick by 24 inches wide, beveled long edges, ends square cut.
1. Glass Mat Faced Type: Glass mat shaftliner gypsum panel or glass mat coreboard gypsum panel as defined in ASTM C1658/C1658M.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Glass Mat Faced Products:
    a. National Gypsum Company; Gold Bond Brand eXP Shaftliner: www.nationalgypsum.com/#sle.
    b. National Gypsum Company; Gold Bond Fire-Shield Shaftliner XP: www.nationalgypsum.com/#sle.
    c. Substitutions: See Section 01 6000 - Product Requirements.

2.05 GYPSUM WALLBOARD ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 3 1/2 inch.
1. Install at all interior framed walls unless noted otherwise (UNO).

B. Acoustical Shielding: Recycled ethylene vinyl acetate (EVA) sheet membrane; applied between studs and gypsum board.
1. Sound Transmission Class (STC): Minimum of 25, calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
2. Fire Resistance: Where fire-resistance rating is specified for the wall in which the acoustical shielding membrane is mounted, provide assemblies that have been tested in accordance with ASTM E119 for the same rating as the wall.

C. Sound Isolation Tape: Elastomeric foam tape for sound decoupling.
   1. Surface Burning Characteristics: Provide assemblies with flame spread index of 75 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
   2. Tape Thickness: 1/4 inch.
   3. Products:
      a. Armacell LLC; ArmaSound MTD: www.armacell.us/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

D. Acoustical Sound Sealant Putty: Non hardening moldable putty compound used to reduce the sound transmission specifically designed for electrical outlet boxes in through the wall assemblies.
   1. Install at all interior framed walls noted to have STC rating.
   2. Thickness: 1/8 inch.
   3. Color: Black, dark gray, or red.
   4. Manufacturers:
      a. AcoustiGuard; Product Putty Pad: www.acoustiguard.com
      b. 3M Fire Protection Products; Product Moldable Putty Pads MPP+: www.3m.com.
      c. Hilti, Inc.; Product CP 617 series: www.us.hilti.com.
      d. PABCO Gypsum Inc.; Product QuietPutty 380: www.PabcoGypsum.com
      e. L.H. Dottie Company; Product # 68 Insulpad
      f. RectorSeal: www.rectorseal.com.
      g. Specified Technologies, Inc: www.stifirestop.com.
      h. Substitutions: See Section 01 6000 - Product Requirements.

E. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
   1. Products:
      a. Liquid Nails, a brand of PPG Architectural Coatings; _____: www.liquidnails.com/#sle.
      b. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
      c. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com/#sle.
      d. Tremco Commercial Sealants & Waterproofing; Tremstop Smoke & Sound: www.tremcosealants.com/#sle.
      e. PABCO Gypsum , Inc; QuietSeal Pro: www.PabcoGypsum.com.
      f. Substitutions: See Section 01 6000 - Product Requirements.

F. Beads, Joint Accessories, and Other Trim: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.
   2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead and L-bead at exposed panel edges.
   3. Corner Beads: Low profile, for 90 degree outside corners.
      a. Products:
         1) Phillips Manufacturing Co; Everlast Corner Bead: www.phillipsmfg.com/#sle.
         2) Gordon Inc.: www.gordoninteriors.com.
         3) Hamilton Drywall Products Inc.: www.hamiltonnw.com.
         4) Stockton Products: www.stocktonproducts.com.
         5) Flannery, Inc. www.flannerytrim.com
         6) Substitutions: See Section 01 6000 - Product Requirements.
   4. Expansion Joints:
      a. Type: V-shaped metal with factory-installed protective tape.
      b. Products:

1) Phillips Manufacturing Co; 093 Expansion Control Joint: www.phillipsmfg.com/#sle.
2) Substitutions: See Section 01 6000 - Product Requirements.

G. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Fiberglass Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Joint Compound: Drying type, vinyl-based, ready-mixed.
a. Products:
1) Continental Building Products: www.continental-bp.com/#sle.

H. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
1. Products:
a. CertainTeed Corporation; Level V Wall and Ceiling Primer/Surfacer with M2Tech: www.certainteed.com/#sle.
b. USG Corporation; USG Sheetrock Brand Tuff-Hide Primer-Surfacer: www.usg.com/#sle.
c. Substitutions: See Section 01 6000 - Product Requirements.

I. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

J. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 SHAFT WALL INSTALLATION

A. Shaft Wall Framing: Install in accordance with GA-600 requirements.
1. Fasten runners to structure with short leg to finished side, using appropriate power-driven fasteners at not more than 24 inches on center.
2. Install studs at spacing required to meet performance requirements.

B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.

3.03 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
1. Installer shall maintain integrity of stud framing in accordance with manufacturer guidelines and SSMA for framing modifications made in the field for utility installations by himself or BY OTHER TRADES.
a. Inspect and notify the Contractor of any items that do not meet minimum manufacturer requirements for installation.
b. Contractor shall be responsible for any field modifications made by others not in conformance and shall make necessary repairs or reinforcement in a manner that meets manufacturer and industry performance criteria.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
1. Level ceiling system to a tolerance of 1/1200.

C. Studs: Space studs as indicated
1. Fasten floor and ceiling runners to structure using appropriate power-driven fasteners at not more than 24 inches on center.
2. Extend partition framing to structure where indicated and to ceiling in other locations.

3. Partitions Terminating at Ceiling: Attach ceiling runner securely to to ceiling framing in accordance with details.
4. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.

D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs. Increase stud gage to 16ga.
1. Headers:

Opening Size	Minimum Header Construction
<40 inches	industry standard inverted wall track; match wall width
40 inches to 76 inches	box header*: 6"x18 ga with wall track top & bottom
>76 inches	box header*: as detailed or verify with project specific conditions
	* fasten with #10 screws at 12" on center each flange/each stud

2. Specialty Headers: premanufactured and engineered rough opening framing systems are acceptable contractor alternative. Install per manufacturer instructions based on tested load performance and criteria published by the manufacturer.

E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
1. Spacing: As indicated.

F. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

G. Furring for Fire-Resistance Ratings: Install as required for fire-resistance ratings indicated and to GA-600 requirements.

H. Blocking: Install mechanically fastened steel channel blocking for support of:
1. Framed openings.
2. Wall-mounted cabinets.
3. Plumbing fixtures.
4. Toilet accessories.
5. Wall-mounted door hardware.
6. Where shown on drawings.
7. See drawings for spcific blocking requirements.

I. Blocking: Install mechanically fastened steel sheet blocking for support of:
1. Audio / Visual mounting brackets.
2. Toilet accessories.
3. Wall mounted door hardware.
4. Chalkboards and marker boards
5. Wall paneling and trim.

3.04 ACOUSTIC ACCESSORIES INSTALLATION

A. Where acoustic insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.

B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
3. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
4. Facing: Unfaced.
5. Manufacturers:

a. CertainTeed Corporation: www.certainteed.com.
b. Johns Manville: www.jm.com.
c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation: www.ocbuildingspec.com.

6. Substitutions: See Section 01 6000 - Product Requirements.

C. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
1. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
2. Manufacturers:
a. Johns Manville: www.jm.com.
b. Thermafiber, Inc.; SAFB: www.thermafiber.com.
c. ROXUL, Inc; ComfortBatt: www.roxul.com.
d. ROXUL, Inc; Roxul AFB: www.roxul.com.
e. Substitutions: See Section 01 6000 - Product Requirements.

D. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

E. Sound Isolation Tape: Apply to vertical studs and top and bottom tracks/runners in accordance with manufacturer's instructions.

F. Acoustic Sealant: Install in accordance with manufacturer's instructions.
1. Place one bead continuously on substrate before installation of perimeter framing members.
2. Place continuous bead at perimeter of each layer of gypsum board only at conditions where water or dampness does not exist.
3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.
4. Do not place one continuous bead on slab before installation of framing members in wet or damp conditions.

G. Acoustical Shielding: Install in accordance with manufacturer's instructions for application between studs and gypsum board.

3.05 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Place second layer parallel to framing or furring members. Offset joints of second layer from joints of first layer.

D. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

E. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

3.06 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as directed.
1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
2. At exterior soffits, not more than 30 feet apart in both directions.
3. At interior soffits, not more than 30 feet apart in both directions.
4. At top leg of each door jamb, rough opening , cased opening , opening , or recessed area to 6" above finished ceiling

5. For strain releief (control and perimeter joints) in rated gypsum board partition and ceiling structures, comply with GA-600. Install to minimize butt end joints, especially in highly visible locations.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.
   1. Manufacturers:
      a. Phillips Manufacturing Co; J-400 Reveal Trim
      b. Substitutions: See Section 01 6000 - Product Requirements.

3.07 JOINT TREATMENT

A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, embed and finish with setting type joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish.
      a. Provide only where specifically shown on drawings.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
   5. Level 0: Temporary partitions.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
   3. Taping, filling and sanding is not required at base layer of double layer applications.

D. Install control joint in gypsum board walls per GA-216:
   1. Locate at jamb of door, window, or framed opening, as required to meet GA-216.

E. Where Level 5 finish is indicated, apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.08 CONSTRUCTION PROCEDURES

A. Prior to enclosure of concealed spaces, clean up and/or remove dust and surplus debris generated by the construction activities of this specifications section. **DO NOT** encapsulate dust and debris whithin construction.

B. Areas of emphasis include but are not limited to:
   1. Bottom track at all walls, typical.
   2. Concealed or furred spaces: i.e. around building structure.
   3. Plenum spaces, including top sides of lay-in ceilings.
   4. Outsides of ducts, tops of pipes and conduits.
   5. Tops of door and window frame headers.

C. See Section 01 7000 for additional construction progress cleaning requirements.

D. Fire / Life Safety / Smoke Assembly Identification:
   1. Coordinate with Section 07 0553 - Fire and Smoke Assembly Identification.
   2. Coordinate with Section 09 9123 - Interior Painting.

3.09 TOLERANCES

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

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for wall applications.

B. Coated glass mat backer board as tile substrate.

C. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.

B. Section 09 2116 - Gypsum Board Assemblies: Tile backer board.

1.03 REFERENCE STANDARDS

A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2019.

B. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2017.

C. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 2017.

D. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2016).

E. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.

F. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).

G. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

H. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).

I. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).

J. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).

K. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2017.

L. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.

M. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

N. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2016).

O. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2020.

P. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 2013 (Revised).

Q. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2010 (Reaffirmed 2016).

R. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.

S. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014.

T. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2018.

U. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2019.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Tile: 10 square feet of each size, color, and surface finish combination.

1.05 QUALITY ASSURANCE

A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.

C. Installer Qualifications:
   1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.06 FIELD CONDITIONS

A. Do not install solvent-based products in an unventilated environment.

B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 TILE

A. Manufacturers: as indicated in Section 09 0513 - Common Finish Materials.
   1. Substitutions: See Section 01 6000 - Product Requirements.

2.02 TRIM AND ACCESSORIES

A. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, for setting using tile mortar or adhesive.
   1. Applications:
      a. Open edges of wall tile.

b. Open edges of floor tile.
c. Wall corners, outside and inside.
d. Floor to wall joints.
e. Borders and other trim as indicated on drawings.

2. Manufacturers:
a. Schluter-Systems: www.schluter.com/#sle.
b. Genesis APS International: www.genesis-aps.com/#sle.
c. Substitutions: See Section 01 6000 - Product Requirements.

2.03 SETTING MATERIALS

A. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com/#sle.
2. Custom Building Products: www.custombuildingproducts.com/#sle.
3. H.B. Fuller Construction Products, Inc: www.tecspecialty.com/#sle.
4. LATICRETE International, Inc: www.laticrete.com/#sle.
5. Substitutions: See Section 01 6000 - Product Requirements.

B. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
1. Applications: Where indicated on drawings.
2. Products:
a. Custom Building Products; EBM-Lite Epoxy Bonding Mortar: www.custombuildingproducts.com/#sle.
b. LATICRETE International, Inc; LATICRETE LATAPOXY 300 Adhesive: www.laticrete.com/#sle.
c. Sika Corp; SikaTile 350 Flex Set: www.sika.com/#sle.
d. Substitutions: See Section 01 6000 - Product Requirements.

2.04 GROUTS

A. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com/#sle.
2. Custom Building Products: www.custombuildingproducts.com/#sle.
3. H.B. Fuller Construction Products, Inc: www.tecspecialty.com/#sle.
4. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
5. Substitutions: See Section 01 6000 - Product Requirements.

B. Standard Grout: ANSI A118.6 standard cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
3. Color(s): As selected by Architect from manufacturer's full line.
4. Products:
a. Custom Building Products; Polyblend Non-Sanded Grout: www.custombuildingproducts.com/#sle.
b. LATICRETE International, Inc; LATICRETE 1500 Sanded Grout: www.laticrete.com/#sle.
c. Sika Corp; SikaTile 800 Grout Sanded: www.sika.com/#sle.
d. Substitutions: See Section 01 6000 - Product Requirements.

C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
1. Applications: Where indicated.
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
a. ARDEX Engineered Cements; ARDEX WA: www.ardexamericas.com/#sle.

b. Custom Building Products; CEG-IG 100% Solids Industrial Grade Epoxy Grout: www.custombuildingproducts.com/#sle.
c. LATICRETE International, Inc; LATICRETE SPECTRALOCK PRO Premium Grout: www.laticrete.com/#sle.
d. Sika Corp; SikaTile 825 Epoxy: www.sika.com/#sle.
e. Substitutions: See Section 01 6000 - Product Requirements.

2.05 Maintenance Materials

A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
1. Applications: Between tile and plumbing fixtures.
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#sle.
b. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com/#sle.
c. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.
d. Substitutions: See Section 01 6000 - Product Requirements.

B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
1. Composition: Water-based colorless silicone.

2.06 ACCESSORY MATERIALS

A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
1. Crack Resistance: No failure at 1/8 inch gap, minimum.
2. Fluid or Trowel Applied Type:
a. Material: Synthetic rubber or Acrylic.
b. Thickness: 20 mils, maximum.
c. Products:
1) H.B. Fuller Construction Products, Inc; TEC HydraFlex Waterproofing Crack Isolation Membrane: www.tecspecialty.com/#sle.
2) LATICRETE International, Inc; LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com/#sle.
3) Sika Corp; SikaTile 200 Fracture Guard Rapid: www.sika.com/#sle.
4) Substitutions: See Section 01 6000 - Product Requirements.

B. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
1. Crack Resistance: No failure at 1/16 inch gap, minimum; comply with ANSI A118.12.
2. Fluid or Trowel Applied Type:
a. Material: Synthetic rubber or Acrylic.
b. Thickness: 25 mils, minimum, dry film thickness.
c. Products:
1) ARDEX Engineered Cements; ARDEX 8+9: www.ardexamericas.com/#sle.
2) Custom Building Products; RedGard Crack Prevention and Waterproofing Membrane: www.custombuildingproducts.com/#sle.
3) H.B. Fuller Construction Products, Inc; TEC HydraFlex Waterproofing Crack Isolation Membrane: www.tecspecialty.com/#sle.
4) LATICRETE International, Inc; LATICRETE HYDRO BAN: www.laticrete.com/#sle.
5) Sika Corp; SikaTile 100 Moisture Guard: www.sika.com/#sle.
6) Substitutions: See Section 01 6000 - Product Requirements.

C. Backer Board: Coated glass mat type complying with ASTM C1178/C1178M; inorganic fiberglass mat on both surfaces and integral acrylic coating vapor retarder.

D. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

D. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.

E. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.03 INSTALLATION - GENERAL

A. Install tile and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19 , manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install non-ceramic trim in accordance with manufacturer's instructions.

G. Sound tile after setting. Replace hollow sounding units.

H. Keep control and expansion joints free of mortar, grout, and adhesive.

I. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

J. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

K. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - WALL TILE

A. Over coated glass mat backer board on studs, install in accordance with TCNA (HB) Method W245.

B. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.

3.05 CLEANING

A. Clean tile and grout surfaces.

3.06 PROTECTION

A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

C. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2017.

D. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.

E. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2020.

F. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2019.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning.

C. Product Data: Provide data on suspension system components and acoustical units.

D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

E. Manufacturer's Qualification Statement.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.04 QUALITY ASSURANCE

A. Designer Qualifications for Seismic Design: Perform under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the State in which the Project is located.

B. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Armstrong World Industries, Inc: www.armstrongceilings.com/#sle.
   2. CertainTeed Corporation: www.certainteed.com/#sle.
   3. USG Corporation: www.usg.com/ceilings/#sle.
   4. Substitutions: See Section 01 6000 - Product Requirements.

B. Suspension Systems:
   1. Same as for acoustical units.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 Performance Requirements

A. Seismic Performance: Ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:
   1. Local authorities having jurisdiction.

2.03 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.

B. Acoustical Panels: Painted mineral fiber, with the following characteristics:
   1. Classification: ASTM E1264 Type III.
      a. Form: 2, water felted.
      b. Pattern: "A" - perforated, regularly spaced large holes.
   2. Size: 24 by 48 inch.
   3. Thickness: 3/4 inch.
   4. Panel Edge: Square.
   5. Tile Edge: Beveled.
      a. Joint: Kerfed and rabbeted.
   6. Color: White.
   7. Suspension System: Exposed grid.
   8. Products:
      a. Per section 09 0513 - Common Finish Materials.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.04 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.
   1. Materials:
      a. Steel Grid: ASTM A653/A653M, G60 coating, unless otherwise indicated.

B. Exposed Suspension System: Hot-dipped galvanized steel grid with aluminum cap.
   1. Application(s): Seismic.
   2. Structural Classification: Heavy-duty, when tested in accordance with ASTM C635/C635M.
   3. Profile: Tee; 15/16 inch face width.
   4. Finish: Baked enamel.
   5. Color: White.
   6. Products:
      a. Per section 09 0513 - Common Finish Materials.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.05 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Seismic Clips: Manufacturer's standard clips for seismic conditions and to suit application.

D. Perimeter Moldings: Same metal and finish as grid.
   1. Size: As required for installation conditions and specified Seismic Design Category.
   2. Angle Molding: L-shaped, for mounting at same elevation as face of grid.

E. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 Preparation

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

3.03 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

E. Seismic Suspension System, Seismic Design Categories D, E, F: Hang suspension system with grid ends attached to the perimeter molding on two adjacent walls; on opposite walls, maintain a 3/4 inch clearance between grid ends and wall.

F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

I. Do not eccentrically load system or induce rotation of runners.

J. Form expansion joints as detailed. Form to accommodate plus or minus 1 inch movement. Maintain visual closure.

3.04 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

F. Where round obstructions occur, provide preformed closures to match perimeter molding.

3.05 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Modular luminous ceiling system.

B. Luminous infill panels.

1.02 RELATED REQUIREMENTS

A. Section 09 5100 - Acoustical Ceilings: Metal suspension system.

B. Section 09 9123 - Interior Painting.

C. Section 26 5100 - Interior Lighting: Luminaires for installation above luminous infill panels.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate layout of luminaires, support locations and details for ceiling suspension, and orientation of the images or patterns on luminous panels.

C. Product Data: Provide data showing ceiling component construction and finishes.

PART 2 PRODUCTS

2.01 Luminous Ceilings

A. Modular Luminous Ceiling System:
   1. Luminous Panels: High resolution digital image laminated between acrylic sheet material, non-glare matte finish.
      a. Size: 24 by 48 inches.
      b. Image: As selected from manufacturer's standard range.
   2. Products:
      a. Ceiling Scenes Inc.: www.ceilingscenes.com
      b. Sky Factory, Inc: www.skyfactory.com/#sle.
      c. Substitutions: See Section 01 6000 - Product Requirements.

B. Luminaires: See Section 26 5100.

C. Metal Suspension System: See Section 09 5100.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that mechanical work above luminous ceiling has been completed and does not interfere with ceiling installation or performance.

3.02 PREPARATION

A. Paint surfaces and mechanical installations in cavity above luminous elements. Use 90 percent reflectance white paint applied as specified in Section 09 9123.

B. Lay out system on room axis as indicated.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of luminous ceiling panel size.

3.03 INSTALLATION

A. General: Install luminous ceiling in accordance with manufacturer's instructions.

B. Luminous Infill Panels:
   1. Fit panels in place, free from damaged edges or other defects detrimental to appearance and function.
   2. Lay directional patterned panels with pattern parallel to longest room axis.
   3. Install panels level, in uniform plane, and free from twist, warp, and dents.

4. Cut to fit irregular grid and perimeter edge trim using panel manufacturer's recommended tools and methods.

3.04 TOLERANCES

A. Maximum Deflection: 1/360 of span, maximum.

B. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

C. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient tile flooring.

C. Resilient base.

D. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 09 0561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

1.03 REFERENCE STANDARDS

A. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021.

B. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2019.

C. ASTM F2034 - Standard Specification for Sheet Linoleum Floor Covering; 2018.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Shop Drawings: Indicate seaming plans and floor patterns.

D. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of subfloor is acceptable.

E. Manufacturer's Qualification Statement.

F. Installer's Qualification Statement.

G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Stair Materials: Quantity equivalent to 5 percent of each type and color.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

1.07 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 SHEET FLOORING

A. Vinyl Sheet Flooring: Homogeneous without backing, with color and pattern throughout full thickness.
   1. Manufacturers:
      a. Per Section 09 0513 - Common Finish Materials .
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F1913.
   3. Thickness: 0.080 inch nominal.
   4. Seams: Heat welded.
   5. Integral coved base with cap strip.
   6. Pattern: Per Section 09 0513 - Common Finish Materials .
   7. Color: Per Section 09 0513 - Common Finish Materials .

B. Linoleum Sheet Flooring: Homogeneous wear layer bonded to backing, with color and pattern through wear layer thickness.
   1. Manufacturers:
      a. Per Section 09 0513 - Common Finish Materials
      b. Per section 09 0513 - Common Finish Materials.
      c. Substitutions: See Section 01 6000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F2034, Type corresponding to type specified.
   3. Backing: Jute fabric.
   4. Thickness: 0.100 inch, minimum, excluding backing.
   5. Sheet Width: 79 inch, minimum.
   6. Seams: Heat welded.
   7. Color: Per Section 09 0513 - Common Finish Materials.

C. Welding Rod: Solid bead in material compatible with flooring, produced by flooring manufacturer for heat welding seams, and in color matching field color.

2.02 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TP, rubber, thermoplastic; style as scheduled.
   1. Manufacturers:
      a. Per section 09 0513 - Common Finish Materials.
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Height: 4 inch.
   3. Thickness: 0.125 inch.
   4. Finish: Satin.
   5. Length: Roll.
   6. Color: Per Section 09 0513 - Common Finish Materials .

2.03 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

C. Adhesive for Vinyl Flooring:
   1. Manufacturers:
      a. H.B. Fuller Construction Products, Inc; TEC Flexera Premium Universal Adhesive: www.tecspecialty.com/#sle.
      b. Loba-Wakol, LLC; WAKOL D 3120 PVC Adhesive: www.loba-wakol.com/#sle.
      c. Stauf USA, LLC; D737 High-Tack: www.staufusa.com/#sle.

D. Moldings, Transition and Edge Strips: Same material as flooring.

E. Filler for Coved Base: Plastic.

F. Prefabricated Coved Base: Bonded Aluminum Reinforcing Backer.
   1. Manufacturers:
      a. Roppe Corporation; Flashcove Puncture-Proof Reinforced Bases: www.roppe.com/#sle.
      b. Substitutions: Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

3.02 PREPARATION

A. Prepare floor substrates for installation of flooring in accordance with Section 09 0561.

3.03 Installation - General

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Adhesive-Applied Installation:
   1. Place copper grounding strip in conductive adhesive and apply additional adhesive to top side of strip before installing static control flooring. Allow strip to extend beyond flooring in accordance with static control flooring manufacturer's instructions. Refer to Section 26 0526 for grounding and bonding to building grounding system.
   2. Fit joints and butt seams tightly.
   3. Set flooring in place, press with heavy roller to attain full adhesion.

D. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
   1. Metal Strips: Attach to substrate before installation of flooring using stainless steel screws.
   2. Resilient Strips: Attach to substrate using adhesive.

E. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 Installation - Sheet Flooring

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

B. Seams are prohibited in toilet rooms.

C. Cut sheet at seams in accordance with manufacturer's instructions.

D. Seal seams by heat welding where indicated.

E. Coved Base: Install as detailed on drawings, using coved base filler as backing at floor to wall junction. Extend sheet flooring vertically to height indicated, and cover top edge with metal cap strip.

3.05 Installation - Resilient Base

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Miter internal corners. At external corners, 'V' cut back of base strip to 2/3 of its thickness and fold. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.07 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

B. Removal of existing carpet tile.

1.02 RELATED REQUIREMENTS

A. Section 09 0561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Shop Drawings: Indicate layout of joints and location of edge moldings.

D. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

F. Manufacturer's Qualification Statement.

G. Installer's Qualification Statement.

H. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Tile Carpeting:
   1. Per Section 09 0513 - Common Finish Materials.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Tile Carpeting: Tufted, manufactured in one color dye lot.

2.03 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Base Cap: _____ type, _____ finish, _____ color.

C. Edge Strips: Embossed aluminum, _____ color.

D. Adhesives:

1. Compatible with materials being adhered; maximum VOC content of 50 g/L; CRI (GLP) certified; in lieu of labeled product, independent test report showing compliance is acceptable.

E. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive carpet tile.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
1. Test in accordance with Section 09 0561.
2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

A. Remove existing carpet tile.

B. Prepare floor substrates for installation of flooring in accordance with Section 09 0561.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Locate change of color or pattern between rooms under door centerline.

G. Fully adhere carpet tile to substrate.

H. Adhere carpet tile as base finish up vertical surfaces to form base. Terminate top of base with cap strip.

I. Trim carpet tile neatly at walls and around interruptions.

J. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

PART 2 PRODUCTS

1.01 MANUFACTURERS

A. Acoustic Stretched-Fabric Wall Systems:
   1. FabriTRAK Systems, Inc: www.fabritrak.com/#sle.
   2. Snaptex Systems, Inc: www.Snaptex.com
   3. Snaptex
   4. Substitutions: See Section 01 6000 - Product Requirements.

1.02 ACOUSTIC STRETCHED-FABRIC SYSTEM

A. Acoustic Stretched-Fabric System: Field installed, fabric is stretched and set into framework and laid over acoustic material anchored to substrate. Framework consists of continuous perimeter and intermediate mounting frames anchored to substrate, and designed to permit removal and replacement of fabric within framed areas without affecting adjacent areas.
   1. Surface Burning Characteristics: Flame Spread Index of 25, maximum; Smoke Developed Index of 450, maximum; when whole system is tested in accordance with ASTM E84 using mounting specified in ASTM E2573 for stretched systems.
   2. Noise Reduction Coefficient (NRC): 0.80, minimum, when tested in accordance with ASTM C423, Type A mounting per ASTM E795.
   3. Prefabricated, fabric covered and individually framed panels are not permitted.
   4. Install fabric over acoustic material and into framework without use of adhesives, tapes, or fasteners.
   5. Seams in fabric are not permitted; base the frame layout dimensions on fabric at least 72 inch wide.

B. Verify that adhesives and sealants used in installation of acoustic stretched-fabric system have acceptable low VOC emission ratings.

1.03 MATERIALS

A. Frame: Extruded polymer framing system with serrated jaws of sufficient strength to hold fabric in place after repeated applications.
   1. Wall Frame Size: 1/2 inch height from wall substrate with minimum 1 inch wide base.
      a. Wall Frame Shape: Square at perimeter, and square at intermediate abutting joints.
      b. Application: Apply acoustic material, Type _____, to wall locations as indicated on drawings.

B. Acoustic Material:
   1. Provide type of acoustic material in thickness required to achieve Noise Reduction Coefficient (NRC) indicated.
   2. Ensure that thickness of acoustic material fills depth of frame as necessary for application without use of support blocking.
   3. Compressed Fiberglass Board, Type _____: Class A fire rated in accordance with ASTM E84.
      a. Overall Thickness: 1/2 inch.
      b. Density: 3 to 9 lbs/cu ft.
      c. Panel Size: Manufacturer's standard, cut to fit.

C. Rigid Blocking: Fire-retardant treated medium density fiberboard complying with ANSI A208.2, in thickness to meet project requirements.

D. Fabric: Heavy-duty fire-retardant commercial fabric, as provided by manufacturer of acoustic stretched-fabric system; color, pattern, and texture as indicated in Section 09 0513.

E. Fasteners: As recommended by manufacturer of acoustic stretched-fabric system in accordance with project requirements.

F. Adhesives: Low VOC or water-based, approved by acoustic stretched-fabric system manufacturer, and complying with requirements of Section 01 6116.

PART 3 EXECUTION

2.01 EXAMINATION

A. Begin installation only after substrates have been properly prepared.

B. Verify that casework, markerboards, door and window jambs, finished ceiling, and other finished items adjacent or abutting the acoustic stretched-fabric system have been properly installed.

C. When preparation of substrate is the responsibility of another installer, notify Architect of unsatisfactory preparation prior to proceeding with this work.

2.02 PREPARATION

A. Clean surfaces thoroughly prior to installation of this work.

B. Prepare substrate surfaces using methods as recommended by the manufacturer for achieving acceptable result as required for this work.

C. Remove wall plates and other obstacles, and properly prepare substrates to receive frames and acoustic material in accordance with manufacturer's instructions.

2.03 INSTALLATION

A. Install acoustic stretched-fabric system at locations indicated in accordance with approved shop drawings and manufacturer's instructions.

B. Frames: Install perimeter and intermediate frames using appropriate fasteners for prepared substrate, firmly secured to ensure frames do not separate from substrate.
   1. For tile or masonry substrates, apply continuous bead of adhesive along base of framing in addition to spacing of conical anchors and/or fasteners at 6 to 8 inches on center.
   2. Follow contours of wall and scribe to adjoining work at borders, penetrations, and imperfections.
   3. Install framing around openings and penetrations.
   4. Allow for spacing of framework to accommodate insertion of installation tool.

C. Acoustic Material: Cut and trim acoustic material to fit snugly within perimeter and intermediate framework.
   1. Apply adhesive and press acoustic material into place, maintaining constant plane.
   2. At fixtures mounted within areas of acoustic stretched-fabric system, install rigid blocking for backing and maintain plane of fixture surface flush with face of acoustic stretched-fabric system.

D. Fabric: Stretch fabric over acoustic material, locking edges of fabric into frame's serrated jaws using manufacturer's recommended tool. Maintain fabric weave plumb, level and true, in proper relation to building lines, without ripples, waviness, hourglass, or other deleterious effects.
   1. Upon fabric installation, do not employ adhesives or mechanical fasteners of any type, and ensure fabric is free-floating and in contact with acoustic material as necessary.
   2. Stapling or gluing of fabric to cores or channel framework is not permitted.
   3. Provide tension in fabric sufficient to prevent sagging under anticipated changes in temperature and humidity.
   4. At outside corners, wrap as single piece of fabric without joints or seams.

2.04 CLEANING

A. Clean exposed surfaces of acoustic stretched-fabric system in compliance with manufacturers instructions for cleaning and repair of minor damage to exposed surfaces.

B. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage to system.

2.05 PROTECTION

A. Protect installed materials upon completion of this work, using methods that will ensure that the finished work is without damage or deterioration upon Date of Substantial Completion.

2.06 MAINTENANCE

A. See Section 01 7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

B. Provide a separate maintenance contract for specified maintenance service.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 05 5000 - Metal Fabrications: Shop-primed items.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.

C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

E. SSPC-SP 2 - Hand Tool Cleaning; 2018.

F. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. MPI product number (e.g., MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
   4. Manufacturer's installation instructions.

5. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Allow 30 days for approval process, after receipt of complete samples by Architect.
   3. Paint color submittals will not be considered until color submittals for major materials not to be painted, such as masonry, have been approved.

D. Manufacturer's Instructions: Indicate special surface preparation procedures and substrate conditions requiring special attention.

E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience and approved by manufacturer.

1.06 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.
   1. If a single manufacturer cannot provide specified products; minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
   2. Substitution of MPI-approved products by a different manufacturer is preferred over substitution of unapproved products by the same manufacturer.
   3. Substitution of a different paint system using MPI-approved products by the same manufacturer will be considered.

B. Paints:
   1. Miller Paint Company: www.millerpaint.com
   2. PPG Paints: www.ppgpaints.com/#sle.
   3. Rodda Paint Co: www.roddapaint.com/#sle.
   4. Sherwin-Williams Company: www.sherwin-williams.com/#sle.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.

1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Volatile Organic Compound (VOC) Content:
1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
b. Architectural coatings VOC limits of the State in which the Project is located.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

E. Colors: As indicated in section 09 0513 - Common Finish Materials.
1. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.03 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, brick, wood, plaster, uncoated steel, shop primed steel, and galvanized steel.
1. Two top coats and one coat primer.
2. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.
3. Top Coat Sheen:
a. Satin: MPI gloss level 4; use this sheen at all locations.
b. Semi-Gloss: MPI gloss level 5; use this sheen for items subject to frequent touching by occupants, including door frames and railings..

B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:
1. Medium duty applications include doors, door frames, railings, handrails, and guardrails.
2. Two top coats and one coat primer.
3. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.

C. Paint I-OP-MD-WC - Medium Duty Overhead: Including gypsum board and shop primed steel.
1. Two top coats and one coat primer.
2. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.
3. Top Coat Sheen:
a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
1. Alkali Resistant Water Based Primer; MPI #3.

2. Interior Institutional Low Odor/VOC Primer Sealer; MPI #149.
3. Interior Latex Primer Sealer; MPI #50.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
1. Gypsum Wallboard: 12 percent.
2. Plaster and Stucco: 12 percent.
3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Concrete:
1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

H. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

I. Galvanized Surfaces:
1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
2. Prepare surface according to SSPC-SP 2.

J. Ferrous Metal:
1. Solvent clean according to SSPC-SP 1.
2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

K. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

L. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

E. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Bumper rails.

B. Crash rails.

C. Corner guards.

D. Protective wall covering.

1.02 RELATED REQUIREMENTS

A. Section 09 2116 - Gypsum Board Assemblies: Placement of supports in stud wall construction.

1.03 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2010 (Reapproved 2018).

B. ASTM D543 - Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents; 2020.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

D. ASTM F476 - Standard Test Methods for Security of Swinging Door Assemblies; 2014.

E. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015 (Reapproved 2021)e1.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Indicate physical dimensions, features, wall mounting brackets with mounted measurements, anchorage details, and rough-in measurements.

C. Shop Drawings: Include plans, elevation, sections, and attachment details. Show design and spacing of supports for protective corridor handrails, required to withstand structural loads.

D. Manufacturer's Instructions: Indicate special procedures, perimeter conditions requiring special attention.

E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project:
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Stock Materials: One package(s) of minimum 96 inches long unit of each kind of covers for corner guards and bumper rails.
   3. Extra Stock Materials: 32 square feet of each kind of protective wall covering.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver wall and door protection items in original, undamaged protective packaging. Label items to designate installation locations.

B. Protect work from moisture damage.

C. Do not deliver products to project site until areas for storage and installation are fully enclosed, and interior temperature and humidity are in compliance with manufacturer's recommendations for each type of item.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Bumper Rails and Corner Guards:
   1. Construction Specialties, Inc: www.c-sgroup.com/#sle.

2. Inpro: www.inprocorp.com/#sle.
3. Substitutions: See Section 01 6000 - Product Requirements.

B. Protective Wall Covering:
1. Construction Specialties, Inc: www.c-sgroup.com/#sle.
2. Inpro: www.inprocorp.com/#sle.
3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PERFORMANCE CRITERIA

A. Impact Strength: Unless otherwise noted, provide protection products and assemblies that have been successfully tested for compliance with applicable provisions of ASTM D256 and/or ASTM F476.

B. Chemical and Stain Resistance: Unless otherwise noted, provide protection products and assemblies with chemical and stain resistance complying with applicable provisions of ASTM D543.

C. Fungal Resistance: Unless otherwise noted, provide protection products and assemblies which pass ASTM G21 testing.

2.03 PRODUCT TYPES

A. Bumper Rails: Factory- or shop-fabricated, with preformed end caps and internal and external corners:
1. Performance of Installed Assembly:
a. Resist lateral force of 250 lbs at any point without damage or permanent set.
2. Material: Polyethylene terephthalate (PET or PETG); PVC-free, color as indicated.
3. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
4. Mounting: Surface.
5. Return rail to wall.

B. Corner Guards - Surface Mounted:
1. Material: Polyethylene terephthalate (PET or PETG); PVC-free with full height extruded aluminum retainer.
2. Width of Wings: 2 inches.
3. Corner: Square.
4. Color: As indicated.
5. Length: One piece.
6. Preformed end caps.

C. Corner Guards - Surface Mounted:
1. Material: Type 304 stainless steel, No. 4 finish, 22 gauge, 0.032 inch thick.
2. Width of Wings: 1 1/2 inches.
3. Corner: Square.
4. Length: One piece.
5. Mounting: Clear adhesive.

D. Protective Wall Covering:
1. Material: Polyethylene terephthalate (PET or PETG); PVC and PBTs-free.
2. Thickness: 0.060 inch.
3. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
4. Color: As scheduled.
5. Accessories: Provide manufacturer's standard color-matched trim and moldings.
a. Top cap and perimeter Trim: Standard J molding
b. Inside Corner Trim: Standard angle
c. Outside Corner Trim: Standard angle.

d. Vertical Joint: Butt joint - sealant between panels (chamfer vertical edges)
   1) 100% silicon based colored caulking
   2) Product:
      (a) Color Rite Inc.; Product Color Sil; wwwcolorriteinc.com.
      (b) Substitutions: See Section 01 6000 - Product Requirements.

6. Mounting: Adhesive.

E. Adhesives and Primers: As recommended by manufacturer.

F. See Section 09 2116 for supports in stud wall construction.

2.04 FABRICATION

A. Fabricate components with tight joints, corners and seams.

B. Pre-drill holes for attachment.

C. Form end trim closure by capping and finishing smooth.

2.05 SOURCE QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for additional requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.

B. Verify that field measurements are as indicated on drawings.

C. Verify that substrate surfaces for adhered items are clean and smooth.

3.02 INSTALLATION

A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to supporting construction.

B. Position top of bumper rail 36 inches from finished floor.

C. Position corner guard 4 inches above finished floor to 48 inches high.

D. Terminate rails 1 inch short of door openings and intersecting walls.

E. Position protective wall covering no less than 1 inch above finished floor to allow for floor level variation.
   1. Wainscot Installation: Establish a level line at the specified height for entire length of run. Install by aligning top of edge of covering with this line.
   2. Apply adhesive with 1/8 inch V-notch trowel to an area of wall surface that can be completed within cure time of the adhesive.
   3. Install trim pieces as required for a complete installation. Allow tolerance for thermal movement.
   4. At joints indicated to be caulked, allow for a minimum 1/16 inch wide gap between edges of sheets. Gaps are required to be of consistent width throughout the project.
   5. Use a roller to ensure maximum contact with adhesive.
   6. At inside and outside corners cut covering sheets to facilitate installation of trim pieces or corner guards.

3.03 TOLERANCES

A. Maximum Variation From Required Height: 1/4 inch.

B. Maximum Variation From Level or Plane For Visible Length: 1/4 inch.

3.04 CLEANING

A. Clean wall and door protection items of excess adhesive, dust, dirt, and other contaminants.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet accessories.

B. Under-lavatory pipe supply covers.

C. Utility room accessories.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

D. ASTM C1036 - Standard Specification for Flat Glass; 2021.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

F. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2018.

G. ASTM C1822 - Standard Specification for Insulating Covers on Accessible Lavatory Piping; 2021.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

I. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015 (Reapproved 2021)e1.

J. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement and concealed ceiling supports to receive anchor attachments.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Commercial Toilet Accessories:
   1. American Specialties, Inc: www.americanspecialties.com/#sle.
   2. Bobrick Corporation: www.bobrick.com.
   3. Bradley Corporation: www.bradleycorp.com/#sle.
   4. Substitutions: Section 01 6000 - Product Requirements.

B. Under-Lavatory Pipe Supply Covers:
   1. Plumberex Specialty Products, Inc: www.plumberex.com/#sle.
   2. Substitutions: Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

B. Stainless Steel Sheet: ASTM A666, Type 304.

C. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

D. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.

E. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

F. Adhesive: Two component epoxy type, waterproof.

G. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

B. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.

2.04 Commercial Toilet Accessories

A. Toilet Paper Dispenser: Double roll, surface mounted bracket type, stainless steel, spindleless type for tension spring delivery designed to prevent theft of tissue roll.
   1. Products:
      a. Bobrick; B-6997: www.bobrick.com.
      b. Substitutions: Section 01 6000 - Product Requirements.

B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with viewing slots on sides as refill indicator.
   1. Capacity: 400 multifold minimum.
   2. Products:
      a. Bobrick Type TD; B-2620: www.bobrick.com.
      b. Bobrick Type TD-2 (1/2 height); B-2621: www.bobrick.com.
      c. Substitutions: Section 01 6000 - Product Requirements.

C. Waste Receptacle: Stainless steel, freestanding style with swing top.
   1. Products:
      a. Bobrick; B-279: www.bobrick.com.
      b. Substitutions: Section 01 6000 - Product Requirements.

D. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
   1. Size: 24" x 36" inch minimum or as indicated on drawings.
   2. Frame: 0.05 inchangle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.
   3. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
   4. Shelf: Stainless steel; gauge and finish to match mirror frame, turned down edges, welded to frame; 5 inches deep, full width of mirror.
   5. Products:
      a. Bobrick; B-165: www.bobrick.com.

E. Seat Cover Dispenser: Stainless steel, surface-mounted, reloading by concealed opening at base, tumbler lock.

F. Grab Bars: Stainless steel, smooth surface.
   1. Heavy Duty Grab Bars: Floor supports are acceptable if necessary to achieve load rating.

a. Push/Pull Point Load: Minimum 1000 pound-force, minimum.
b. Dimensions: 1-1/2 inch outside diameter, minimum 0.125 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
c. Length and Configuration: As indicated on drawings.
d. Products:
1) Bobrick; B-6806: www.bobrick.com.
2) Substitutions: Section 01 6000 - Product Requirements.

G. Combination Sanitary Napkin/Tampon Dispenser with Disposal: Stainless steel, surface-mounted.
1. Door: Seamless 0.05 inch door with returned edges.
2. Cabinet: Fully welded, 0.03 inch thick sheet.
3. Operation: No charge; no coin slots.

H. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.

I. Hooks:
1. Bobrick Type HK-1; B-6717: www.bobrick.com.
2. Type IV-1: Sugatsune TA-3S.
3. Provide where shown on drawings.
4. Provide backing.

2.05 UNDER-LAVATORY PIPE AND SUPPLY COVERS

A. Under-Lavatory Pipe and Supply Covers:
1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
3. Construction: 1/8 inch flexible PVC.
a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
b. Comply with ASTM C1822, type indicated.
c. Comply with ICC A117.1.
d. Microbial and Fungal Resistance: Comply with ASTM G21.
4. Color: White.
5. Fasteners: Reusable, snap-locking fasteners with no sharp or abrasive external surfaces.
6. Products:
a. Plumberex Specialty Products, Inc; Plumberex Trap Gear: www.plumberex.com/#sle.
b. Substitutions: See Section 01 6000 - Product Requirements.

2.06 Utility Room Accessories

A. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
1. Drying rod: Stainless steel, 1/4 inch diameter.
2. Hooks: Three, 0.06 inch stainless steel rag hooks at shelf front.
3. Mop/broom holders: Three spring-loaded rubber cam holders at shelf front.
4. Length: 36 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

C. Verify that field measurements are as indicated on drawings.

D. See Section 09 2116 for installation of blocking, reinforcing plates, and concealed anchors in walls.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
   1. Grab Bars: As indicated on drawings.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

C. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 09 2116 - Gypsum Board Assemblies: Roughed-in wall openings.

1.03 REFERENCE STANDARDS

A. ASTM E814 - Standard Test Method for Fire Tests of Penetration Firestop Systems; 2013a (Reapproved 2017).

B. FM (AG) - FM Approval Guide; current edition.

C. NFPA 10 - Standard for Portable Fire Extinguishers; 2017, with Errata (2018).

D. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide extinguisher operational features, extinguisher ratings and classifications, color and finish, and anchorage details.

C. Shop Drawings: Indicate locations of cabinets, cabinet physical dimensions, rough-in measurements for recessed cabinets, installation procedures, and accessories required for complete installation.

D. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.

E. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fire Extinguishers:
   1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com/#sle.
   2. Ansul, a Tyco Business: www.ansul.com/#sle.
   3. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
   4. Potter-Roemer: www.potterroemer.com/#sle.
   5. Pyro-Chem, a Tyco Business: www.pyrochem.com/#sle.
   6. Substitutions: See Section 01 6000 - Product Requirements.

B. Fire Extinguisher Cabinets and Accessories:
   1. Activar Construction Products Group, Inc. - JL Industries; Academy Series: www.activarcpg.com/#sle.
   2. Kidde, a unit of United Technologies Corp: www.kidde.com/#sle.
   3. Larsen's Manufacturing Co: www.larsensmfg.com/#sle.
   4. Potter-Roemer: www.potterroemer.com/#sle.
   5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
   1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.

B. Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.

1. Cartridge Operated: Spun shell.
2. Class: A:B:C type.
3. Size and classification 2-A:10 B-C
4. Finish: Baked polyester powder coat, color as selected.
5. Temperature range: Minus 65 degrees F to ___ degrees F.

2.03 FIRE EXTINGUISHER CABINETS

A. Fire Rating: Listed and labeled in accordance with ASTM E814 requirements for fire resistance rating of walls where being installed.

B. Cabinet Construction: Non-fire rated.
   1. Formed primed steel sheet; 0.036 inch thick base metal.

C. Fire Rated Cabinet Construction: One-hour fire rated.
   1. Steel; double wall or outer and inner boxes with 5/8 inch thick fire barrier material.

D. Cabinet Configuration: Semi-recessed type.
   1. Size to accommodate accessories.
   2. Trim: Flat square edge, with 2 inch wide face.
   3. Provide cabinet enclosure with right angle inside corners and seams, and with formed perimeter trim and door stiles.

E. Door: 0.036 inch metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinges.

F. Door Glazing: Acrylic plastic, clear, 1/8 inch thick, flat shape and set in resilient channel glazing gasket.

G. Fabrication: Weld, fill, and grind components smooth.

H. Finish of Cabinet Exterior Trim and Door: No.4 - Brushed stainless steel.

I. Finish of Cabinet Interior: White colored enamel.

2.04 ACCESSORIES

A. Lettering: “FIRE EXTINGUISHER” decal, or vinyl self-adhering, pre-spaced black lettering in accordance with authorities having jurisdiction (AHJ).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify rough openings for cabinet are correctly sized and located.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install cabinets plumb and level in wall openings, 36 inches from finished floor to inside bottom of cabinet.

C. Secure rigidly in place.

D. Place extinguishers in cabinets.

3.03 MAINTENANCE

A. See Section 01 7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior manual roller shades.

1.02 REFERENCE STANDARDS

A. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015 (Reapproved 2021)e1.

B. NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; 2019.

C. WCMA A100.1 - Safety of Window Covering Products; 2018.

1.03 ADMINISTRATIVE REQUIREMENTS

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.

C. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.

D. Source Quality Control Submittals: Provide test reports indicating compliance with specified fabric properties.

E. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation, and installation of product.

F. Operation and Maintenance Data: List of all components with part numbers, sources of supply, and operation and maintenance instructions; include copy of shop drawings.

G. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver shades in manufacturer's unopened packaging, labeled to identify each shade for each opening.

B. Handle and store shades in accordance with manufacturer's recommendations.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
   1. Shade Hardware: One year.
   2. Fabric: One year.
   3. Aluminum and Steel Coatings: One year.

PART 2 PRODUCTS

2.01 Manufacturers

A. Interior Manually Operated Roller Shades:
   1. Draper, Inc; Clutch Operated FlexShade: www.draperinc.com/#sle.
   2. Hunter Douglas Architectural; RB500 Manual Roller Shades: www.hunterdouglasarchitectural.com/#sle.
   3. MechoShade Systems LLC; Mecho/7 System: www.mechoshade.com/#sle.

4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ROLLER SHADES

A. General:
   1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
   2. Provide shade system that operates smoothly when shades are raised or lowered.

B. Roller Shades Type _____:
   1. Description - Interior Roller Shades: Single roller, manually operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
      a. Drop Position: Regular roll.
      b. Roll Direction: Roll down, closed position is at window sill.
      c. Mounting: Window jamb mounted - inside, between jambs.
      d. Size: As indicated on drawings.
      e. Fabric: Per Section 09 0513 - Common Finish Materials .
   2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
      a. Material: Stamped steel.
   3. Roller Tubes: As required for type of shade operation.
      a. Material: Extruded aluminum, clear anodized finish.
      b. Size: As recommended by manufacturer; selected for suitability for installation conditions, span, and weight of shades.
      c. Fabric Attachment: Utilize extruded channel in tube to accept vinyl spline welded to fabric edge.
   4. Hembars: Designed to maintain bottom of shade straight and flat.
      a. Style: Full wrap fabric covered bottom bar, flat profile with heat sealed closed ends.
   5. Manual Operation for Interior Shades:
      a. Clutch Operator: Manufacturer's standard material and design, permanently lubricated.
      b. Drive Chain: Continuous loop beaded ball chain, 95 pounds minimum breaking strength. Provide upper and lower limit stops.
      c. Shade Lift Assistance: Manufacturer's standard spring device contained in the idler end of roller tube to reduce force required to lift shades; as required based on shade weight.
      d. Chain Retainer:
         1) Chain tensioning device complying with WCMA A100.1.
   6. Accessories:
      a. Fascia: Extruded aluminum, size as required to conceal shade mounting, attachable to brackets without exposed fasteners; clear anodized finish.
         1) Color: To match aluminum storefront system.
         2) Profile: Square.
      b. End Caps: Provide manufacturer's standard end caps to cover exposed ends of brackets.
      c. Interior Side Channels: As required for light sealing room-darkening shade applications.
      d. Fasteners: Noncorrosive, and as recommended by shade manufacturer.

2.03 SHADE FABRIC

A. Fabric: Nonflammable, color-fast, impervious to heat and moisture, and able to retain its shape under normal operation.
   1. Material: Vinyl coated polyester.
   2. Performance Requirements:

a. Flammability: Pass NFPA 701 large and small tests.
b. Fungal Resistance: No growth when tested according to ASTM G21.

3. Color: See section 09 0513 - Common Finish Materials.
4. Fabrication:
   a. Fabric Orientation: Railroaded, fabric is turned 90 degrees off the roll.

2.04 ROLLER SHADE FABRICATION

A. Field measure finished openings prior to ordering or fabrication.

B. Dimensional Tolerances: Fabricate shades to fit openings within specified tolerances.
   1. Vertical Dimensions: Fill openings from head to sill with 1/2 inch space between bottom bar and window stool.
   2. Horizontal Dimensions - Outside Mounting: Cover window frames, trim, and casings completely.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine finished openings for deficiencies that may preclude satisfactory installation.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Start of installation shall be considered acceptance of substrates.

3.02 PREPARATION

A. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under the project conditions.

B. Coordinate with window installation and placement of concealed blocking to support shades.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.

B. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

3.04 CLEANING

A. Clean soiled shades and exposed components as recommended by manufacturer.

B. Replace shades that cannot be cleaned to "like new" condition.

3.05 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

B. See Section 01 7900 - Demonstration and Training, for additional requirements.

3.06 PROTECTION

A. Protect installed products from subsequent construction operations.

B. Touch-up, repair, or replace damaged products before Substantial Completion.

3.07 MAINTENANCE

A. See Section 01 7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Countertops for architectural cabinet work.

B. Sinks molded into countertops.

1.02 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2021a.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 4.0; 2021.

D. IAPMO Z124 - Plastic Plumbing Fixtures; 2017.

E. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

F. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation; combine with shop drawings of cabinets and casework specified in other sections.

D. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

E. Installer's qualification statement.

F. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

PART 2 PRODUCTS

2.01 COUNTERTOPS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
   1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
      a. Manufacturers:
         1) See section 09 0513 - Common Finish Materials.
      b. Finish: See section 09 0513 - Common Finish Materials.
   2. Back and End Splashes: Same material, same construction.

C. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Manufacturers:
         1) See section 09 0513 - Common Finish Materials.
      b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
      c. Sinks and Bowls: Integral castings; minimum 3/4 inch wall thickness; comply with IAPMO Z124.
         1) Sink bowl: Corian #804 (Handwash).
         2) Sink Color: Frost White.
      d. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
      e. Color and Pattern: See section 09 0513 - Common Finish Materials.
   3. Other Components Thickness: 1/2 inch, minimum.
   4. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.

2.02 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
   2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
   3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
   2. Height: 4 inches, unless otherwise indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.

C. Seal joint between back/end splashes and vertical surfaces.

3.04 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

C. Field Joints: 1/8 inch wide, maximum.

3.05 CLEANING

A. Clean countertops surfaces thoroughly.

3.06 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION:

A. Provide seismic restraint in accordance with the requirements of this section in order to maintain the integrity of nonstructural components of the building so that they remain safe and functional in case of seismic event.

B. Definitions: Non-structural building components are components or systems that are not part of the building's structural system whether inside or outside, above or below grade. Non-structural components of buildings include:
   1. Architectural Elements: Facades that are not part of the structural system and its shear resistant elements; cornices and other architectural projections and parapets that do not function structurally; glazing; non-bearing partitions; suspended ceilings; stairs isolated from the basic structure; cabinets; bookshelves; medical equipment; and storage racks.
   2. Electrical Elements: Power and lighting systems; substations; switchgear and switchboards; auxiliary engine-generator sets; transfer switches; motor control centers; motor generators; selector and controller panels; fire protection and alarm systems; special life support systems; and telephone and communication systems.
   3. Mechanical Elements: Heating, ventilating, and air-conditioning systems; medical gas systems; plumbing systems; sprinkler systems; pneumatic systems; boiler equipment and components.

1.02 QUALITY CONTROL:

A. See Section 01 3000 - Administrative Requirements,

B. Shop-Drawing Preparation:
   1. Have seismic-force-restraint shop drawings and calculations prepared by a professional structural engineer experienced in the area of seismic force restraints. The professional structural engineer shall be registered in the state where the project is located.
   2. Submit design tables and information used for the design-force levels, stamped and signed by a professional structural engineer registered in the State where project is located.

C. Coordination:
   1. Do not install seismic restraints until seismic restraint submittals are approved by the Structural Engineer of Record (SOR).
   2. Coordinate and install trapezes or other multi-pipe hanger systems prior to pipe installation.

1.03 SUBMITTALS:

A. Submit a coordinated set of equipment anchorage drawings prior to installation including:
   1. Description, layout, and location of items to be anchored or braced with anchorage or brace points noted and dimensioned.
   2. Details of anchorage or bracing at large scale with all members, parts brackets shown, together with all connections, bolts, welds etc. clearly identified and specified.
   3. Numerical value of design seismic brace loads.
   4. For expansion bolts, include design load and capacity if different from those specified.
   5. Seal of registered structural engineer responsible for design; registration shall be for State of Oregon.

B. Submit prior to installation, a coordinated set of bracing drawings for seismic protection of piping, with data identifying the various support-to-structure connections and seismic bracing structural connections, include:
   1. Single-line piping diagrams on a floor-by-floor basis. Show all suspended piping for a given floor on the same plain.
   2. Type of pipe (Copper, steel, cast iron, insulated, non-insulated, etc.).
   3. Pipe contents.

4. Structural framing.
5. Location of all gravity load pipe supports and spacing requirements.
6. Numerical value of gravity load reactions.
7. Location of all seismic bracing.
8. Numerical value of applied seismic brace loads.
9. Type of connection (Vertical support, vertical support with seismic brace etc.).
10. Seismic brace reaction type (tension or compression). Details illustrating all support and bracing components, methods of connections, and specific anchors to be used.
11. Seal of registered structural engineer responsible for design; registration shall for State of Oregon.

C. Submit prior to installation, bracing drawings for seismic protection of suspended ductwork and suspended electrical and communication cables, include:
1. Details illustrating all support and bracing components, methods of connection, and specific anchors to be used.
2. Numerical value of applied gravity and seismic loads and seismic loads acting on support and bracing components.
3. Maximum spacing of hangers and bracing.
4. Seal of registered structural engineer responsible for design; registration shall be for State of Oregon.

D. Submit design calculations prepared and sealed by a registered structural engineer for all bidder-designed seismic bracing.

E. Submit for concrete anchors, the appropriate ICC evaluation reports.

1.04 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

1.05 APPLICABLE PUBLICATIONS:

A. The Publications listed below (including amendments, addenda revisions, supplements and errata) form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only.

B. CISCA (AC) - Guidelines for Seismic Restraint for Direct-hung Suspended Ceiling Assemblies (Zones 3-4).

C. ASCE 7 Chapter 13, Section 13.5.6.

D. ACI 318 American Concrete Institute: Appendix D Anchoring to Concrete Code and Commentary.

E. AISC (COMM) - American Institute of Steel Construction: Latest Edition.

F. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

G. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.

H. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.

I. ASTM A307ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.

J. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated Minimum Tensile Strength; 2014.

K. ASTM A490 - Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength; 2014a.

L. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.

M. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.

N. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.

O. ASTM E488/E488M - Standard Test Method for Strength of Anchors in Concrete and Masonry Elements.

P. ICC (IBC) - International Building Code, .
   1. State of Oregon amendments to the above.

Q. SMACNA (SRM) - Sheet Metal and Air Conditioning Contractors National Association Seismic Restraint Manual -Guidelines for Mechanical Systems, Latest Edition.

1.06 REGULATORY REQUIREMENT:

A. ICC (IBC) - ICC International Building Code, .
   1. State of Oregon amendments to the above.

B. See general structural notes for Building Risk category and Seismic Design Category.

C. Exceptions: The seismic restraint of the following items may be omitted:
   1. Equipment weighing less than 400 pounds, which is supported less than 48" above a floor level or on the roof.
   2. Equipment weighing less than 20 pounds, which is suspended from the roof or floor or hung from a wall.
   3. All piping suspended by individual hangers, 12 inches or less in length from the top of pipe to the bottom of the support for the hanger; hangers are detailed and installed to avoid bending and provisions are made to accommodate expected deflections.
   4. All rectangular air handling ducts less than six square feet in cross sectional area.
   5. All ducts suspended by hangers 12 inches or less in length from the top of the duct to the bottom of support for the hanger and hangers are detailed and installed to avoid/eliminate bending.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION

3.01 CONSTRUCTION, GENERAL:

A. Provide equipment supports and anchoring devices to withstand the seismic design forces, so that when seismic design forces are applied, the equipment cannot displace, overturn, or become inoperable.

B. Provide anchorages in conformance with recommendations of the equipment manufacturer and as shown on approved shop drawings and calculations.

C. Construct seismic restraints and anchorage to allow for thermal expansion.

D. Provide, coordinate and schedule all special inspections per ICC (IBC) Chapter 17; see also Structural Drawings.

3.02 SUPPORT AND BRACING

A. General requirements: Design all support and bracing systems, if required. Provide for attachment to portions of the building structure capable of bearing the loads imposed. Design systems to not overstress the building structure.

B. Seismic Bracing: Design where required by authorities having jurisdiction.
   1. Design and install all support systems to comply with the seismic requirements of the Construction Code of the State in which the Project is located.

2. Design and install seismic bracing so as not to defeat the operation on any required vibration isolation or sound isolation devices.
3. For seismic bracing guidelines for mechanical, electrical and plumbing systems, refer to SMACNA (SRM).

3.03 EQUIPMENT RESTRAINT AND BRACING:

A. See drawings for equipment to be restrained or braced.

3.04 MECHANICAL DUCTWORK AND PIPING; BOILER PLANT STACKS AND BREACHING; ELECTRICAL BUSWAYS, CONDUITS, AND CABLE TRAYS; AND TELECOMMUNICATION WIRES AND CABLE TRAYS

A. Support and brace mechanical ductwork and piping; electrical busways, conduits and cable trays; and telecommunication wires and cable trays including boiler plant stacks and breeching to resist directional forces (lateral, longitudinal and vertical).

B. Brace duct and breeching branches with a minimum of 1 brace per branch.

C. Provide supports and anchoring so that, upon application of seismic forces, piping remains fully connected as operable systems which will not displace sufficiently to damage adjacent or connecting equipment, or building members.

D. Seismic Restraint of Piping:
1. Design criteria: Provide seismic restraints according to one of the following options:
a. Piping resiliently supported: Restrain to support 120 - percent of the weight of the systems and components and contents.
b. Piping not resiliently supported: Restrain to support 60 percent of the weight of the system components and contents.

E. Piping Connections: Provide flexible connections where pipes connect to equipment. Make the connections capable of accommodating relative differential movements between the pipe and equipment under conditions of earthquake shaking.

3.05 PARTITIONS

A. Anchor partitions to only structural elements, such as floor slabs or framing, and separate such partition by a physical gap from all other structural elements. Connections shall allow for vertical deflection in structural floor or roof framing without imposing bearing loads on partitions.

B. Properly anchor partition walls to the structure for restraint, so as to carry lateral loads imposed due to earthquake along with their own weight and other lateral forces. See Section 09 2116 - Gypsum Board Assemblies.

3.06 CEILINGS AND LIGHTING FIXTURES

A. Laterally brace suspended ceilings against lateral and vertical movements, and provide with a physical separation at the walls per ASCE 7 and CISCA (AC) requirements for classified seismic zone.

B. Independently support and laterally brace all lighting fixtures. Refer to applicable portion of lighting specification, 26 5100 - Interior Lighting.

3.07 STORAGE RACKS, CABINETS, AND BOOKCASES

A. Install storage racks to withstand earthquake forces and anchored to the floor or laterally braced from the top to the structural elements.

B. Anchor medical supply cabinets to the floor or walls and equip them with properly engaged, lockable latches.

C. Anchor filing cabinets that are more than 2 drawers high to the floor or walls, and equip all drawers with properly engaged, lockable latches.

D. Anchor bookcases that are more than 30 inches high to the floor or walls, and equip any doors with properly engaged, lockable latches.

END OF SECTION

MEP Basis of Design

Clackamas Volunteers in Medicine -

Clackamas Community College

Design-Build Tenant Improvement

Prepared for:

Clackamas Volunteers in Medicine

Prepared by:

Jim Sattem, PE, CHC

Rick Silenzi

November 17th, 2021

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INTERFACE ENGINEERING

INTERFACE ENGINEERING

Project Summary

PROJECT DESCRIPTION

Clackamas Volunteers in Medicine (CVIM) is a volunteer-based clinic located in Clackamas County that provides healthcare services free of charge to uninsured, low-income members of the local community. The lease on the current location is expiring in early 2022 which requires relocation of the clinic. In a joint effort between Clackamas County and Clackamas Community College (CCC), the project scope includes a tenant improvement of approximately 5,000 square feet in Clairmont Hall located in the northeast corner of the main campus. The existing space will be mostly demolished to the building structure with select items to remain for reuse. The space will then be built to code-minimum standards for a B-occupancy medical clinic. The clinic is not licensed through the Oregon Health Authority.

DESIGN BUILD PERFORMANCE CRITERIA

This is a design-build project. This Basis of Design and Performance Criteria are meant to portray the design intent and quality of materials. Not all systems are sized or documented. It will be the responsibility of each trade to take the design intent, complete all calculations for loads, equipment sizing, duct sizing, and pipe sizing, and to create complete and coordinated construction documents and permitting documents. The Contractor will be the Engineer of Record for the project. The Contractor will be expected to attend all required coordination and design meetings (on a weekly basis or more) as stipulated by the Architect and Owner. All contractors will be required to coordinate routing of all their respective utilities and create composite coordinated construction documents to be sent to the Architect for review. Prior to submission for review, Contractor to stamp all drawings as "coordinated with all trades" with a signature from each trades' project manager. Quantity of drawing submissions will be stipulated by the Architect (minimum of three) and the Project Manager. All design and construction documentation will be completed in AutoCAD 2021 and also include 3D BIM Detailing Drawings after issuance of 100% Construction Documents, and after finalized design. All files will be made available in Revit, CAD, Navisworks, and PDF files to the Architect and Owner for their use.

INTERFACE ENGINEERING

Division 22 - Plumbing

PART 1 - SCOPE OF WORK

1.1 Work Included:

A. Complete permit plans and calculations. Refer to the Design Build Performance Criteria in the Project Summary section for additional requirements.

B. Demolition

C. Domestic Cold Water Systems

1. Alternate P1: Provide water sub meter with analog output and tied into the BMS control system for monitoring.

D. Domestic Hot Water and Hot Water Recirculation Distribution Systems

E. Sanitary Waste and Vent Systems

F. Cooling-coil Condensate Drainage Systems from Mechanical Equipment

G. Natural Gas Systems

1. Alternate P2: Provide gas sub meter with analog output and tied into the BMS control system for monitoring.

H. Seismic Bracing and Control

I. Insulation

J. Plumbing Fixtures and Equipment

K. Commissioning Support for 3rd Party Commissioning Agent.

1.2 Codes - Systems to be designed in accordance with the following codes (or latest edition):

A. Oregon Structural Specialty Code (2019)

B. Oregon Mechanical Specialty Code (2019)

C. Oregon Plumbing Specialty Code (2021)

D. Oregon Electrical Specialty Code (2021)

E. Oregon Fire Code (2019)

F. Oregon Energy Efficiency Specialty Code (2021)

G. NFPA-99, Healthcare Facilities Code Standards (2012)

H. FGI Guidelines for Design and Construction of Outpatient Facilities (2018)

I. ANSI A117.1 Accessible and Usable Buildings and Facilities (2017)

1.3 Standards – The following reference standards to be used in design:

A. ADA – Americans with Disabilities Act

B. ANSI – American National Standards Institute

C. ASHRAE 90.1, Energy Standard for Buildings

D. ASME – American Society of Mechanical Engineers

E. ASSE – American Society of Sanitary Engineering

F. ASTM – American Society for Testing and Materials

G. AWS – American Welding Society

H. AWWA – American Water Work Association

I. CISPI – Cast Iron Soil Pipe Institute

J. CS – Commercial Standards

K. EPA – Environmental Protection Agency

L. ETL – Electrical Testing Laboratories

M. NEMA – National Electrical Manufacturers Association

N. NFPA – National Fire Protection Association

O. NSF – National Sanitation Foundation

P. PDI – Plumbing and Drainage Institute

Q. UL – Underwriters' Laboratory

1.4 Submittals

A. Provide product submittals and shop drawings in electronic format. Electronic format must be one file per division containing bookmarks corresponding to each Specification Section. Arrange

bookmarks in ascending order of Specification Section number. Individual submittals sent piecemeal in a per Specification Section method will be returned without review or comment. All transmissions/submissions to be submitted to Architect. Deviations will be returned without review.

B. Structural/Seismic: Provide weights, dimensions, mounting requirements and like information required for mounting, seismic bracing, and support. Indicate manufacturer's installation and support requirements to meet ASCE 7-16 requirements for non-structural components. Component Importance Factor (Ip) equal to 1.0.

C. Provide electronic files (PDF format) of manufacturer's operation and maintenance instruction manuals and parts lists for equipment or items requiring servicing. Submit data when work is substantially complete and in same order format as submittals. Include name and location of source parts and service for each piece of equipment.

D. Upon project completion, provide record drawings in PDF and AutoCAD that accurately reflect "as constructed or installed" conditions.

E. Contractor to submit complete plumbing calculations and plumbing equipment selections based on calculations, plumbing fixtures, and equipment cutsheets.

1.5 Quality Assurance

A. Contractor's Qualifications: Company with at least 5 years of successful design-build experience and licensed as a plumbing engineer in the state of Oregon.

B. Materials, equipment, and fixtures are to be new, latest products as listed in manufacturer's printed catalog data and are to be UL or ETL listed and labeled or be approved by State, County, and City authorities prior to procurement and installation.

C. Regulatory Requirements: Work and materials installed to conform with all local, State and Federal codes, and other applicable laws and regulations. Where code requirements are at variance with Basis of Design, meet code requirements as a minimum requirement and include costs necessary to meet these in Contract. Machinery and equipment are to comply with OSHA requirements, as currently revised and interpreted for equipment manufacturer requirements. Install equipment provided per manufacturer recommendations.

D. Whenever this Basis of Design calls for material, workmanship, arrangement, or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity take precedence.

E. All potable water system components, devices, material, or equipment containing a weighted average of greater than 0.25 percent lead are prohibited and must be certified in accordance with current editions of the Safe Drinking Water Act (SDWA), NSF 61 & NSF 372. Endpoint devices used to dispense water for drinking to meet the requirements of NSF 61.

F. Piping Insulation products to contain less than 0.1 percent by weight PBDE in all insulating materials.

1.6 Warranty

A. Provide written warranty covering the work for a period of one year from date of Substantial Completion.

1.7 Trade Coordination

A. Coordinate installation and location of HVAC equipment, ductwork, diffusers, piping, plumbing equipment/fixtures, lights, and electrical services with other trades. Provide maintenance access requirements. Coordinate with submitted architectural systems (i.e., roofing, ceiling, finishes).

1.8 Energy Efficiency Design Requirements

A. Per 2021 Oregon Energy Efficiency Specialty Code, design is required to comply with ASHRAE Standard 90.1-2019.

B. Complete COMcheck reports and submit with permit documents.

PART 2 - PLUMBING SYSTEMS DESIGN CRITERIA

2.1 General: The following plumbing systems description is to be verified and updated by the design/build contractor as the design progresses and subject to review and approval by the Owner and Architect.

C. Provide a complete and operational sanitary waste and vent system; domestic hot/cold/hot water return and natural gas piping system.

D. Extend sanitary waste, vent, domestic hot/cold/hot water return and natural gas distribution piping to all new fixtures and equipment.

E. Provide identification for all piping, valves, and equipment.

F. Do not run any piping through stairwells, elevator machine rooms/shafts, IT rooms, telephone rooms, electrical rooms, or switchgear rooms unless it serves that space. If installing overhead piping in any of these areas is unavoidable, provide secondary containment piping to protect electrical equipment.

2.2 Demolition: Review architectural demolition plans and on-site conditions for demolition of existing fixtures.

A. Remove plumbing fixtures as indicated on architectural plans.

B. Domestic water branch piping for all demolished fixtures to be removed back to the mains and capped.

C. Gas piping on roof to be removed and capped for all demolished rooftop units.

D. Underground waste piping to be removed and capped at mains where demolished.

E. Vent piping to be removed and capped for fixtures being demolished.

2.3 Domestic Cold Water Systems Design:

A. Fixture unit values to be per 2021 Uniform Plumbing Code.

B. Pipes to be sized based on 2 psi per 100 feet maximum pressure drop.

C. The most remote plumbing fixture to be provided with minimum supply pressure of 35 psi.

D. Water pressure at any fixture not to exceed 80 psi inside the building.

E. System Description:

1. The domestic water supply system will be connected to the existing domestic water supply piping routed within the building. New piping to be installed to all new fixtures.

2. Provide an isolation valve and on horizontal branch piping to each restroom or bank of restrooms.

3. Above ground domestic cold water piping to be type L copper with brazed or soldered joints depending on pipe size.

2.4 Domestic Hot Water Systems Design:

A. Fixture unit values to be 2021 Uniform Plumbing Code

B. Pipes to be sized on the more stringent of:

1. Pipes to be sized based on 2 psi per 100 feet maximum pressure drop.

2. The most remote fixture to be provided with minimum supply pressure of 35 psi.

C. Water pressure at any plumbing fixtures not to exceed 80 psi inside the building.

D. System Description:

1. Provide new electric water heater in Housekeeping C146C sized for new fixture requirements. Include new master mixing valve at water heater.

2. Provide new domestic hot water piping to all new fixtures. Include point of use mixing valves at lavatories.

3. Provide new hot water return system to include new pump and piping sized for new fixture requirements.

4. Domestic hot water supply and return piping to be type L copper with soldered or brazed joints.

5. Above ground domestic hot water distribution system to be tested at minimum 125 psig, and 1.5 times design operating pressure, as required by code.

2.5 Sanitary Waste and Vent Systems Design:

A. Sanitary waste and vent system to be sized using the fixture unit method as per 2021 Uniform Plumbing Code.

B. Sanitary waste pipes to be sloped at 1/4" per foot, when possible, and 1/8" per foot as per code.

C. Cleanout locations to be accessible and provided in accordance with the 2021 Oregon Plumbing Specialty Code. Cleanouts behind walls to be installed at a height above the flood level rim of the fixture.

D. System Description:

1. New waste piping to all new fixtures. Connect to underground main sewer inside the building and extend to all new fixture locations.

2. New vent piping and VTR penetrations for all new fixtures.

E. Above grade sanitary waste and vent fittings to be service weight no-hub cast iron pipe with FM-1680 approved, standard duty, stainless steel couplings with neoprene gaskets. Below grade installation to be no-hub cast iron pipe and fittings with Husky bands. Schedule 40 PVC piping not allowed for above grade applications.

F. Sanitary waste and water system to be tested at no less than10 feet of head.

2.6 Natural Gas Systems Design:

A. System to be designed in accordance with 2021 Uniform Plumbing Code, NFPA 54 and local gas utility company.

B. Design engineer to determine the gas pressure requirements for the gas distribution system. If the design engineer determines that an elevated pressure is required, it is their responsibility to coordinate and receive approval from the local gas utility company for this request.

C. Alternate P2: Provide gas sub meter with analog output and tied into the BMS control system for monitoring.

2.7 Seismic Bracing and Control:

A. Plumbing piping to be installed and braced per 2021 Uniform Plumbing Code.

B. Provide seismic bracing and seismic movement assemblies as required for equipment and piping.

2.8 Insulation:

A. All domestic hot, hot water return and cold water piping to be insulated with fiberglass insulation, white vapor barrier mastic and PVC fitting covers to meet ASHRAE 90.1 and 2021 Uniform Plumbing Code requirements.

2.9 Plumbing Fixtures and Equipment:

A. Provide factory fabricated fixtures of type, style and material indicated on the plumbing fixture connection schedule shown on the Drawings. For each type fixture, provide fixture manufacturer's standard trim, carrier, seats, and valves as indicated by their published product information; either as designed and constructed, or as recommended by manufacturer, or required for complete installation. Where more than one type is indicated, selection is installer's option; but, fixtures of same type must be furnished by a single manufacturer. Where type is not otherwise indicated, provide fixtures complying with governing regulations.

B. Provide fixtures complete with fittings, supports, fastening devices, bolt caps, faucets, valves, traps, stops and appurtenances.

C. China Fixtures - White Only:

1. American Standard
2. Crane
3. Eljer
4. Kohler

D. Faucet Fittings:

1. American Standard
2. Chicago
3. Delta Commercial
4. Moen Commercial
5. Sloan

E. Stainless Steel Fixtures:

1. Elkay
2. Haws

3. Just

F. Fixture Trim:

1. McGuire
2. Dearborn Brass
3. Oatey

G. Flushometers - Water Closet/Urinal:

1. Delaney
2. Sloan
3. Zurn

H. Plumbing Fixture Flow Rates:

1. Water Closets: Single flush at 1.28 GPF; or Dual flush at 1.6/1.1 GPF.
2. Lavatories in public areas to be set for a maximum of 0.5 GPM flow. Other lavatories to be 1.0 GPM flow.
3. Sinks to be set for a maximum of 1.5 GPM flow.

END OF PLUMBING SECTION

INTERFACE ENGINEERING

Division 23 - HVAC

PART 1 - SCOPE OF WORK

1.1 Work Included:

A. Complete permit plans and calculations. Refer to the Design Build Performance Criteria in the Project Summary section for additional requirements.

B. Demolition

C. Design Load Calculations

D. HVAC Systems:

1. Basis of Design: Rooftop Gas/Electric Small Packaged Units.

2. Alternate M1: Rooftop Heat Pump Small Packaged Units.

3. Alternate M2: LG Split RTU Heat Pumps for Multi V5 Heat Recovery System.

4. Alternate M3: LG VRF System with Heat Recovery and DOAS Ventilation Unit.

E. Exhaust Systems

F. Building Automation and Control Systems

G. Commissioning Support for 3rd Party Commissioning Agent.

1.2 Codes – Systems to be designed in accordance with the following codes:

A. Oregon Structural Specialty Code (2019)

B. Oregon Mechanical Specialty Code (2019)

C. Oregon Plumbing Specialty Code (2021)

D. Oregon Electrical Specialty Code (2021)

E. Oregon Fire Code (2019)

F. Oregon Energy Efficiency Specialty Code (2021)

G. NFPA-99, Healthcare Facilities Code Standards (2012)

H. NFPA-101, Life Safety Code (2012)

I. FGI Guidelines for Design and Construction of Outpatient Facilities (2018)

J. ANSI A117.1 Accessible and Useable Buildings and Facilities (2017)

1.3 Standards – The following reference standards to be used in design:

A. AMCA – Air Movement and Control Association International, Inc.

B. ANSI – American National Standards Institute

C. ARI – Air Conditioning and Refrigeration Institute

D. ASHRAE – American Society of Heating, Refrigeration, and Air Conditioning Engineers

E. SMACNA – Fire and Smoke Damper Installation Guide

F. SMACNA – Guidelines for Seismic Restraints of Mechanical Systems

G. SMACNA – Standards for Duct Construction

H. EPA – Environmental Protection Agency

I. NEMA – National Electrical Manufacturer's Association

J. UL – Underwriters' Laboratories

K. NFPA – National Fire Protection Association:

1. NFPA 90A – Air Conditioning and Ventilating Systems

1.4 Submittals

A. Provide product submittals and shop drawings in electronic format. Electronic format must be one file per division containing bookmarks corresponding to each Specification Section. Arrange bookmarks in ascending order of Specification Section number. Individual submittals sent piecemeal in a per Specification Section method will be returned without review or comment. All transmissions/submissions to be submitted to Architect. Deviations will be returned without review.

B. Structural/Seismic: Provide weights, dimensions, mounting requirements and like information required for mounting, seismic bracing, and support. Indicate manufacturer's installation and support requirements to meet ASCE 7-16 requirements for non-structural components. Component Importance Factor (Ip) equal to 1.0.

C. Provide electronic files (PDF format) of manufacturer's operation and maintenance instruction manuals and parts lists for equipment or items requiring servicing. Submit data when work is substantially complete and in same order format as submittals. Include name and location of source parts and service for each piece of equipment.

D. Upon project completion, provide record drawings in PDF and AutoCAD that accurately reflect "as constructed or installed" conditions.

E. Contractor to submit complete mechanical calculations and mechanical equipment selections based on calculations and equipment cut-sheets.

1.5 Quality Assurance

A. Contractor's Qualifications: Company with at least 5 years of successful design-build experience and licensed as a mechanical engineer in the state of Oregon.

B. Materials, equipment, and fixtures are to be new, latest products as listed in manufacturer's printed catalog data and are to be UL or ETL listed and labeled or be approved by State, County, and City authorities prior to procurement and installation.

C. Regulatory Requirements: Work and materials installed to conform with all local, State and Federal codes, and other applicable laws and regulations. Where code requirements are at variance with Basis of Design, meet code requirements as a minimum requirement and include costs necessary to meet these in Contract. Machinery and equipment are to comply with OSHA requirements, as currently revised and interpreted for equipment manufacturer requirements. Install equipment provided per manufacturer recommendations.

D. Whenever this Basis of Design calls for material, workmanship, arrangement, or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity take precedence.

E. Piping and duct insulation products to contain less than 0.1 percent by weight PBDE in all insulating materials.

1.6 Warranty

A. Provide written warranty covering the work for a period of one year from date of Substantial Completion.

1.7 Trade Coordination

A. Coordinate installation and location of HVAC equipment, ductwork, diffusers, piping, plumbing equipment/fixtures, lights, and electrical services with other trades. Provide maintenance access requirements. Coordinate with submitted architectural systems (i.e., roofing, ceiling, finishes).

1.8 Energy Efficiency Design Requirements

A. Per 2021 Oregon Energy Efficiency Specialty Code, design is required to comply with ASHRAE Standard 90.1-2019.

B. Complete COMcheck reports and submit with permit documents.

1.9 Testing, Adjusting, and Balancing

A. An independent testing and balancing contractor will be required (as a specialty contractor employed directly by the Owner), AABC certified to balance all air and water systems and heating and cooling equipment to the required quantities; and to verify the capacity and operating conditions of each piece of equipment.

1.10 Commissioning

A. The project to have a full BMS control system, mechanical and plumbing systems commissioning procedure performed by an independent commissioning agent, contracted to the Owner. Duties to include, but not limited to, HVAC air balance review and adjustment, DDC control programming assistance, owner orientation and assistance with training and final documentation of the performance of all mechanical/plumbing componentry.

PART 2 - HVAC DESIGN CRITERIA

2.1 General: The following HVAC systems description is to be verified and updated by the design/build contractor as the design progresses and subject to review and approval by the Owner and Architect.

B. Provide a complete and operational ventilation, exhaust, and controls system.

C. HVAC Base Design is to be provided as described in Section 2.4, with alternate system designs as described in Section 2.7.

D. Exhaust systems to be roof mounted and provide code required air change rates.

E. Control systems to be compatible with existing building system and intertied to the campus central system, Automated Logic controls only. Interface with equipment to be BACnet MSTP protocol.

2.2 Demolition:

A. Review architectural demolition plans and on-site conditions for demolition of existing area of work.

B. Remove rooftop units and curbs from roof.

C. Remove all supply, return, and exhaust ductwork in area of work.

2.3 Design Load Calculations:

A. Load Calculation Methodology: All cooling/ heating loads to be completed with industry standard software such as Trace 700, Carrier HAP, etc. Load calculations to meet industry standards as outlined in the most current ASHRAE Fundamental Handbook and ASHRAE Standard 183.

B. Indoor Design Conditions: ASHRAE Climate Zone 4 or Better.

Space	Summer (°F)	Winter (°F)	Relative Humidity (%)
Entry Lobby, Corridors & Waiting Spaces	74±2	68	No Control
IDF/ IT room (if shown)	76±2	No Heating	No Control
Unoccupied Areas (Housekeeping rooms, Mechanical rooms, etc.)	No Cooling	Freeze Protection (if required)	No Control
Offices	74±2	68	No Control
Exam Rooms	74±2	68	No Control
Conference Rooms	74±2	68	No Control

C. Outdoors Design Conditions:

1. Summer – 91.3°F DB / 67.2°F MCWB (0.4% - ASHRAE Climatic Design Conditions 2017)

2. Winter – 22.2°F DB (99.6% – ASHRAE Climatic Design Conditions 2017) for airside system calculations.

D. Internal Air Conditioning Loads Assumptions: ASHRAE Standard 90.1 Minimum

1. Lighting – 0.7 Watts/S.F. for offices, 1.4 Watts/S.F Common area and multi-purpose rooms, 0.6 Watts/S.F. for corridors

2. Miscellaneous Equipment – 1.0 Watts/S.F. offices/exam rooms, 1.5 Watts/S.F. for multi-purpose rooms. If actual computer quantity is known, utilize 600 BTUH per computer and associated flat panel monitor.

3. People – 255 BTUH Sensible / 245 BTUH Latent (Number of people to be based on ASHRAE 62.1-2016 or actual programmed density, whichever is greater). Number of occupants to be presented to the owner for review prior to completing the calculations.

4. Ventilation Rate – ASHRAE Std. 62-2016.

5. Supply Air Quantity: Per load requirements, with 6 air changes per hour minimum in all spaces.

E. Envelope: Envelope characteristics to be determined based on architectural drawings.

F. Systems Sizing:

1. Block Loads: Air Distribution Systems are to be sized based on block loads. Over-sizing by adding all peak loads is not allowed.

2. Airside System: HVAC system supply fans, associated filters, and associated energy recovery devices are to be sized for an extra 10% load capacity than required for calculated loads.

3. Filters: 500 FPM. Provide MERV 13 filters at all supply fans.

4. Ductwork Mains: Size constant volume system supply air and return/exhaust air main and branch ductwork at friction pressure drop of 0.1" H2O per hundred feet of ductwork. Size variable volume system air ductwork mains and branches at friction pressure drop of 0.1" H2O per hundred feet of ductwork. Main return/exhaust air ductwork never to exceed 1,500 FPM. Main supply air ductwork never to exceed 750 FPM. Transfer air sized at a velocity not to exceed 250 feet per minute. Submit pressure drop calculations for review during design phase. Provide balancing dampers for supply, return, and exhaust.

5. Diffusers: Diffusers are to be selected at airflows equal or less than 250 CFM each. Where the load is more than 250 CFM in a room, multiple diffusers will be provided. Design is to include consideration of airflow patterns to make sure that air streams do not collide creating dumping. Diffusers will be selected at 5NC lower than Room Maximum NC values noted for the project.

6. Return and Transfer Grilles: Return air grilles not to exceed more than 500 CFM per grille. Transfer grilles not to exceed 250 FPM in ductwork used for transfer or 250 FPM in face of grille.

G. Temperature Controls and Zoning:

1. Individual temperature control will be provided for each zone by dedicated HVAC unit and thermostat. If Design Builder chooses to reduce zoning, it is only allowed after the bids are completed and upon written agreement from the Owner

H. Acceptable Noise Levels (ASHRAE Applications 2019 Chapter 49, Table 1): NC Level 25 for all spaces.

2.4 HVAC Systems: Base Bid

A. Packaged Rooftop Gas/Electric Units (Basis of Design): System to be single zone either constant volume or variable volume rooftop units. Minimum zoning to be as indicated in the attached suggested zoning diagram. Acceptable manufacturers: Trane, Aaon, Carrier.

B. Units to be factory assembled and tested; designed for outdoor installation; consisting of compressor, indoor and outside refrigerant coils, indoor fan and outside coil fan, refrigeration and temperature controls, gas furnace heat exchanger, filters, dampers and other accessories/devices as indicated.

C. Outdoor/Return Air Section: A return air plenum to be provided with an outdoor air hood. Hood to allow outdoor air to enter at the back of the return air plenum. Hood to include moisture eliminator filters to drain water away from the entering air stream. Return air plenum to allow return air to enter from the bottom of the unit. Upon unit shut down during unoccupied periods, the outdoor air damper to be power driven closed.

D. Economizer: Return- and outside-air dampers with neoprene seals, outside-air filter, and hood. Upon unit shut down during unoccupied periods, the outdoor air damper to be power driven closed. Damper blades to be gasketed with side seals and jamb seals to provide an air leakage rate of no more than 4 cfm/square foot of damper area at 1-inch differential pressure per ASHRAE 90.1 Energy Standard. Leakage rate to be tested in accordance with AMCA Standard 500.

E. Units to be equipped with the following:

1. Service Outlets: 115-V, ground-fault circuit-interrupter type.
2. Condensate drain trap.
3. Dirty-filter switch.
4. Power exhaust fan.

2.5 Exhaust Systems

A. Description: Direct-driven centrifugal fans consisting of housing, wheel, fan shaft, bearings, motor and disconnect switch, drive assembly, curb base, and accessories.

B. Restrooms in public areas will operate continuously and will have roof mounted fans. Fan to exhaust a minimum of 10 air changes per hour.

C. Staff restrooms to have fans operate with light switches or occupancy sensors.

D. All exhaust air terminations to be located 3-feet away from any opening to building and 10-feet away from outside air intakes.

2.6 Building Automation and Control Systems:

A. Automated Logic Controls only to integrate into existing campus system.

B. Integrate all new equipment into the existing DDC network using BACnet MSTP protocol. All systems to be provided with independent DDC panels with resident logic. Central front end graphical terminal to be updated. Smoke detection alarms and other related fire command system requirements are under the Electrical Section.

C. Wall mounted room temperature sensors are to be tamper proof. Public spaces are to have flat plate electronic temperature sensors.

D. Provide temperature monitoring and alarm of medical and laboratory refrigerators.

E. The controls contractor is to provide all power and control wiring per NEC requirements.

F. New sequences of operations for the new equipment to be updated to meet energy code and campus standards requirements.

2.7 Alternate HVAC Designs:

A. Alternate M1: Rooftop Heat Pump Small Packaged Units.

1. System to be installed as described in Section 2.4 except units are to be heat pumps in lieu of gas heat.

2. Provide accessories and operation as described in Section 2.4. Provide electric heat option for use during cold weather and defrost mode.

3. Acceptable Manufacturers: Trane, Aaon, Carrier.

B. Alternate M2: LG Split RTU Heat Pumps for Multi V5 Heat Recovery System.

1. Provide LG Split RTU Heat Pump system with minimum zoning as described in Section 2.4. Roof Mount LG Multi V5 condensing units on roof curbs with spring isolation. Ductwork to space similar to basis of design.

2. Provide RTU units with Economizer, Merv 8 filters, and controls.

3. Acceptable Manufacturers: LG only.

C. Alternate M3: LG VRF Heat Recovery System with DOAS Ventilation Unit.

1. A VRF system will provide heating and cooling for the space with outdoor heat pump (with heat recovery) connected to multiple indoor units. Indoor units to be a combination of ducted fan coils, ductless wall mounted units and ceiling cassettes as required by the space.

2. System will have minimum zoning as described in Section 2.4. Increased zoning is encouraged with ductless units and ceiling cassettes to optimize comfort and minimize ductwork.

3. Ventilation air to be provided by a DOAS HRU system. Ventilation air to be ducted to the return side of each fan coil or directly to the space.. Exhaust air will be ducted to the HRU unit.

4. Acceptable Manufacturers: LG only.

END OF MECHANICAL SECTION

Division 26 – Electrical

PART 1 - DESIGN CRITERA

1.1 Work Included:

A. Complete permit plans and calculations. Refer to the Design Build Performance Criteria in the Project Summary section for additional requirements.

B. Demolition

C. Power Distribution Equipment

D. Branch Circuiting and Devices

E. HVAC/Plumbing Equipment Connections

F. Lighting Systems

G. Lighting Control Systems

H. Commissioning Support for 3rd Party Commissioning Agent

1.2 Work Excluded:

A. Exterior Building Mounted Lighting

B. Site lighting

1.3 Work Provided by Others:

A. HVAC control wiring and power wiring.

1.4 Codes – Systems to be designed in accordance with the following codes:

A. Oregon Structural Specialty Code (2019)

B. Oregon Energy Efficiency Specialty Code (2021)

C. Oregon Electrical Specialty Code (2021)

D. NFPA-70, National Electrical Code (2021)

E. NFPA-99, Healthcare Facilities Code Standards (2012)

F. NFPA-101, Life Safety Code (2012)

G. FGI Guidelines for Design and Construction of Outpatient Facilities (2018)

H. ANSI A117.1 Accessible and Usable Buildings and Facilities (2017)

1.5 Standards – The following reference standards to be used in design:

A. ADA – Americans with Disabilities Act

B. ANSI – American National Standards Institute

C. ASHRAE 90.1, Energy Standard for Buildings

D. ASTM – American Society of Testing and Materials

E. EPA – Environmental Protection Agency

F. ETL – Electrical Testing Laboratories

G. IEEE – Institute of Electrical and Electronic Engineers

H. IES – Illuminating Engineering Society

I. NEMA – National Electrical Manufacturers Association

J. NFPA – National Fire Protection Association

K. UL – Underwriters Laboratories

1.6 Submittals

A. Provide product submittals and shop drawings in electronic format. Electronic format must be one file per division containing bookmarks corresponding to each Specification Section. Arrange bookmarks in ascending order of Specification Section number. Individual submittals sent piecemeal in a per Specification Section method will be returned without review or comment. All transmissions/submissions to be submitted to Architect. Deviations will be returned without review.

B. Structural/Seismic: Provide weights, dimensions, mounting requirements and like information required for mounting, seismic bracing, and support. Indicate manufacturer's installation and support requirements to meet ASCE 7-16 requirements for non-structural components. Component Importance Factor (Ip) equal to 1.0.

C. Provide electronic files (PDF format) of manufacturer's operation and maintenance instruction manuals and parts lists for equipment or items requiring servicing. Submit data when work is substantially complete and in same order format as submittals. Include name and location of source parts and service for each piece of equipment.

D. Upon project completion, provide record drawings in PDF and AutoCAD that accurately reflect "as constructed or installed" conditions.

1.7 Quality Assurance

A. Contractor's Qualifications: Company with at least 5 years of successful design-build experience and licensed as an electrical engineer in the state of Oregon.

B. Materials, equipment, and fixtures are to be new, latest products as listed in manufacturer's printed catalog data and are to be UL or ETL listed and labeled or be approved by State, County, and City authorities prior to procurement and installation.

C. Regulatory Requirements: Work and materials installed to conform with all local, State and Federal codes, and other applicable laws and regulations. Where code requirements are at variance with Basis of Design, meet code requirements as a minimum requirement and include costs necessary to meet these in Contract. Machinery and equipment are to comply with OSHA requirements, as currently revised and interpreted for equipment manufacturer requirements. Install equipment provided per manufacturer recommendations.

D. Whenever this Basis of Design calls for material, workmanship, arrangement, or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity take precedence.

1.8 Warranty

A. Provide written warranty covering the work for a period of one year from date of Substantial Completion.

1.9 Trade Coordination

A. Coordinate installation and location of HVAC equipment, ductwork, diffusers, piping, plumbing equipment/fixtures, lights, and electrical services with other trades. Provide maintenance access requirements. Coordinate with submitted architectural systems (i.e., roofing, ceiling, finishes).

1.10 Energy Efficiency Design Requirements

A. Per 2021 Oregon Energy Efficiency Specialty Code, design is required to comply with ASHRAE Standard 90.1-2019.

B. Complete code compliance forms and submit with permit documents. Pass by a minimum of 5% to qualify for exception allowing elimination of automatic control of receptacles.

C. Feeder conductors and branch circuits combined must be sized for a maximum of 5% voltage drop.

1.11 Commissioning

A. The project to have electrical and lighting control systems commissioning procedure performed by an independent commissioning agent, contracted by the Owner. Contractor to provide commissioning support as necessary.

PART 2 - ELECTRICAL SYSTEMS

2.1 Demolition

A. Project scope includes complete demolition of the existing electrical and lighting systems within the project boundaries unless specifically noted on Architectural Drawings. Disconnect and make safe all equipment to be demolished for removal by others.

B. For circuits extended to panels outside project scope, contractor to remove wiring and conduit complete to serving branch panelboard.

C. Any existing to remain branch circuits fed from panels to be removed must be extended to new or existing panels to accommodate demolition scope.

D. Remove feeders complete to panel on the roof for all rooftop equipment noted for demolition.

E. Existing automatic door operator to remain at exterior door in Circulation 145.

F. Existing exterior building mounted lighting and site lighting to remain operational.

2.2 Power Distribution

A. Utilization Voltage: 208Y/120V, 3-phase, 4-wire.

B. The existing main electrical service will be utilized and extended to serve a new 208Y/120V, 200-amp, 3-phase, 4-wire, 42-circuit, flush mount panelboard to be located in Work Room 150D. Coordinate stud cavity depth with Architect. Refer to Appendix E1 for proposed location.

C. Utilize existing spare 200-amp breaker in existing main distribution panelboard for new feeder.

D. Provide new feeder routed across roof adjacent to existing feeders and extend to new panel location. Provide voltage drop calculation for feeder based on 375-feet and maximum load of 160-amps (80% rating of 200-amp feeder breaker). Size feeder for maximum voltage drop of 2%. Conductors to be XHHW-2. Feeder conduit to be Rigid Metal Conduit (RMC). Refer to Appendix E1 for proposed routing of feeder.

E. Branch circuit panelboard to be of same manufacturer as service equipment, Siemens. Calculate short circuit current rating (SCCR) based on feeder length and available fault current of 32,903 AIC at main distribution equipment.

F. Panelboard to be provided with main breaker and bolt-on circuit breakers. All panel bussing, including ground bus, to be tin-plated copper.

2.3 Energy Monitoring

a. All metering to interface with building automation system (BAS).

b. Meters to be capable of recording the following:

i. Voltage (L-N, L-L)
ii. Amperage (maximum, minimum, and average per phase including neutral)
iii. Real Power (kWh)
iv. Reactive Power (kVAR)
v. Apparent Power (kVA)
vi. Power Factor
vii. Frequency

c. Provide line item alternate pricing for energy monitoring of new electrical branch panel.

d. Provide line item alternate pricing for energy monitoring of new HVAC equipment. Alternate to include new mechanical sub-panel fed from existing rooftop panel.

2.4 Branch Circuiting and Devices

A. Branch circuit design will be based upon a maximum of 1600 volt-amps for each 20-amp, 120-volt circuit. Provide circuiting as required to all devices as indicated on Architectural drawings. Exam rooms will not share circuits. Provide dedicated neutrals in all 120V circuits.

B. Conductors to be stranded copper, THHN/THWN-2, 75-degree C rated insulation and color coded per industry standard for 208V systems. Minimum conductor size of 12 AWG. Aluminum conductors are not permitted.

C. Voltage drop on branch circuits will not exceed 3%.

1. 10 AWG for 20A, 120V homeruns longer than 70-feet.

2. 8 AWG for 20A, 120V homeruns longer than 100-feet.

D. MC Cable is acceptable when limited to the following. Patient care areas to be hospital grade MC Cable.

1. Not permitted for homeruns.

2. Flexible connections from junction or outlet boxes to recessed fixtures. Each individual luminaire is to be serviced by an individual cable drop from the associated junction box in the ceiling space. Maximum length 6-feet.

3. Branch circuit wiring under 50-feet in length. Provide minimum of one junction box per room.

E. Grounding conductors will be provided in all feeder and branch circuits.

F. Minimum conduit size in 0.75-inch. All interior conduit to be EMT, exterior to be RMC.

G. Provide GFCI devices or circuit breakers as required. One GFCI receptacle may not be used to provide GFCI protection to downstream duplex receptacles on the same branch circuit.

H. Wiring devices to be commercial grade except in patient care areas where devices will be hospital grade (indicated by a green dot). Provide tamper proof receptacles in all corridors and waiting areas. Provide nylon faceplates. Finish color to be selected by Architect.

I. Provide USB type receptacles as follows:

1. One receptacle at every workstation and one in Multi-Purpose C146.

2. 50% of receptacles in Staff Break 147, Conference Room 150G, and POC 152

3. All receptacles in Waiting 150A.

J. Provide dual channel power pole at MA Work 151A for branch circuiting and technology connections to workstation island. Basis of design Wiremold 25DTC-4. Finish color to be selected by Architect.

2.5 HVAC and Plumbing Equipment Connections

A. Provide complete electrical connections to HVAC and plumbing equipment as designed and installed by other trades.

B. Extend new feeders from rooftop panel to new packaged rooftop HVAC equipment. Provide load calculations to confirm panel capacity is sufficient. Include new and existing loads. Existing panel is Cutler Hammer (Type PB). Existing feeder is a single set of 250kcmil. Apply derating as required for rooftop routing.

C. Provide duplex receptacles on roof within 25-feet of each rooftop unit.

D. Provide hardwired connections to plumbing fixtures, if required.

2.6 Lighting Systems

A. Lighting power density will not exceed 0.76 watts per square foot. (5% energy savings over 0.81 watts per square foot from energy code).

B. All luminaires to have an LED light source with electronic 0-10V dimming driver, correlated color temperature (CCT) of 3500K and a minimum color rendering index (CRI) of 90. Final luminaire selection and lighting layout to be reviewed and approved by architect and interior designer. All lighting to be provided at 120V.

C. Recommended Design Lighting Levels - Average Maintained Footcandles

1. Circulation/Waiting: Recessed 2x4 volumetric LED troffers, 4-in square LED downlights/ wall washers to provide 10-15 footcandles.

2. Conference Room: Recessed 2x4 volumetric LED troffers to provide 30 footcandles.

3. Offices/Work Areas: Recessed 2x4 volumetric LED troffers to provide 30-40 footcandles at the task plane.

4. Exam Rooms: Recessed 2x4 volumetric LED luminaires to provide 50 footcandles at the task plane.

5. Toilet Rooms: Recessed 4-in square LED downlights and a wall mounted linear LED vanity luminaire above the mirror to provide 15-20 footcandles.

6. Break Room: Recessed 2x4 volumetric LED luminaires to provide 30 footcandles.

7. Clean Storage: Recessed 2x4 volumetric LED luminaires to provide 30 footcandles.

8. Refer to Appendix E2 for basis of design luminaire selections.

9. Provide battery backup ballasts for emergency egress lighting to maintain an average of 1 footcandle (minimum 0.1 footcandle) for a duration not less than 90-minutes at all egress corridors and exits. Illumination levels permitted to decline to 60% of rated output at 90-mintues.

10. Provide exit signs at exterior doors readily visible from any direction of egress to the exit. The path of egress will be marked with readily visible exit signs where the path of travel is not immediately visible to occupants. Exit signs lettering will be green to match building standard.

2.7 Lighting Control Systems

A. All lighting will be automatically controlled in compliance with Oregon Energy Efficiency Specialty Code.

B. Lighting control system will be a distributed, networkable system consisting of local room controllers, occupancy sensors, and wall switches where required. Provide BACnet MSTP interface. Match building standard Blue Ridge Technologies.

C. Lighting control will be controlled as follows:

Area	Lighting Control
Circulation/Waiting	Occupancy sensor with automatic ON and local overrides per Architectural drawings.
Conference Room	Occupancy sensor with manual ON local dimmer switches at both entries.

Area	Lighting Control
Office/Work Area	Occupancy sensor with manual ON local switch. Time delay set to 15 mins. In small spaces where coverage can be appropriately accounted for, sensor switches to be provided. Provide 0-10V dimming.
Exam Rooms	Occupancy sensor with manual ON local switch. Time delay set to 15 mins. In small spaces where coverage can be appropriately accounted for, sensor switches to be provided. Provide 0-10V dimming.
Toilet Rooms	Sensor switch with automatic ON. Time delay set to 5 mins.
Break Room	Occupancy sensor with manual ON local dimmer switches at both entries.
Clean Storage	Sensor switch with manual ON. Time delay set to 5 mins.

END OF ELECTRICAL SECTION

INTERFACE ENGINEERING

Division 27 – Technology

PART 1 - DESIGN CRITERIA

1.1 Work Included:

A. Complete permit plans and calculations. Refer to the Design Build Performance Criteria in the Project Summary section for additional requirements.

B. Demolition

C. Telecommunications Systems

D. Emergency Call Systems

E. Audio-Video Systems

1.2 Work Provided by Others:

A. Telecommunications service equipment including vaults, raceway from 5'-0" outside building footprint, service backbone (fiber/coax), and modem.

B. Telecommunications active equipment including network switches and firewall.

C. Uninterruptible Power Supply (UPS)

D. Wireless Access Points (active equipment only)

E. Audio-Video Systems equipment and cabling by owner.

1.3 Codes – Systems to be designed in accordance with the following codes:

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C. NFPA-70, National Electrical Code (2021)

D. NFPA-101, Life Safety Code (2012)

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C. Upon project completion, provide record drawings in PDF and AutoCAD that accurately reflect "as constructed or installed" conditions.

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A. Contractor's Qualifications: Company with at least 5 years of successful design-build experience.

B. Materials, equipment, and fixtures are to be new, latest products as listed in manufacturer's printed catalog data and are to be UL or ETL listed and labeled or be approved by State, County, and City authorities prior to procurement and installation.

C. Regulatory Requirements: Work and materials installed to conform with all local, State and Federal codes, and other applicable laws and regulations. Where code requirements are at variance with Basis of Design, meet code requirements as a minimum requirement and include costs necessary to meet these in Contract. Machinery and equipment are to comply with OSHA requirements, as currently revised and interpreted for equipment manufacturer requirements. Install equipment provided per manufacturer recommendations.

D. Whenever this Basis of Design calls for material, workmanship, arrangement, or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity take precedence.

1.7 Warranty

A. Provide written warranty covering the work for a period of one year from date of Substantial Completion.

1.8 Trade Coordination

A. Coordinate installation and location of HVAC equipment, ductwork, diffusers, piping, plumbing equipment/fixtures, lights, and electrical services with other trades. Provide maintenance access requirements. Coordinate with submitted architectural systems (i.e., roofing, ceiling, finishes).

PART 2 - TECHNOLOGY SYSTEMS

2.1 Demolition

B. Project scope includes complete demolition of the existing telecommunication systems within the project boundaries unless specifically noted on Architectural Drawings. Disconnect and make safe all equipment to be demolished for removal by others.

C. Remove existing wireless access points to be demolished and return to Clackamas Community College.

D. Relocate existing wireless access point in Circulation 145 to the south of the new corridor separation.

2.2 Telecommunications Systems

A. Utility Service

1. Provide (2) 2" conduits from data rack location directly east to exterior wall. Penetrate wall to an exterior weatherproof pullbox with (2) 2" conduits to below grade, 3'-0" from building. Provide large radius (minimum 24") sweeps and pull strings.

B. Equipment Racks

1. Provide wall mounted, 18U data rack enclosure in Multi-Purpose C146. Mount top of rack at 65" above finished floor and maintain 6" clear on sides for ventilation. Basis of design Tripp Lite SRW18USG.

2. Provide (2) 48-port patch panels. Basis of Design Belden, CommScope, or Panduit.

C. Horizontal Distribution

1. Horizontal cabling will consist of 100-ohm, Category 6, 23 AWG, 4-pair unshielded twisted pair to data/voice outlet and wall phone locations. Provide (2) cables per drop at data/voice outlets and (1) cable per drop at wall phone locations. All cabling to be blue in color. Basis of design Belden, CommScope, or Panduit.

2. Provide plenum rated cable, if required.

3. Provide (2) CAT 6 cables to (5) wireless access points as shown on Architectural drawings.

4. Modular jacks will be eight-position, Category 6, IDC terminals, T568A/B wiring scheme, and stamped to identify as CAT 6. Color to match wiring devices as specified in Division 26. Basis of Design Berk-Tek, Ortronics, or Panduit.

5. Provide 4-port, flush mount faceplates. Color to match wiring devices as specified in Division 26. Match manufacturer of modular jacks.

D. Telecommunications Pathway

1. Cables to be installed in minimum 1" conduit in inaccessible locations and J-hooks above accessible ceiling spaces where unenclosed wiring method may be used.

2. Provide 4-in square deep back boxes with single gang mud-ring for all voice and data outlets. Provide minimum 24-in separation between adjacent room boxes in acoustic rated walls.

3. Utilize power poles provided under Division 26 at MA Work 151A to access the workstation island.

4. Utilize Connectrac Flex System for underfloor connections.

5. Provide all conduit ends with plastic bushings to protect cable sheath.

6. Provide fire rated cable pathways through rated walls. Basis of Design STI EX-PATH.

2.3 Emergency Call Systems

A. A standalone emergency call system will be installed at Toilet Rooms 149 and 151B.

B. Provide flush mount emergency call station with pull-cord inside the room adjacent to the toilet with an audible and visual notification appliance above the door exterior to the room. Basis of design is Edwards C-6537 and 7008BA-N5.

2.4 Audio/Video Systems

A. Provide 1.25" conduit to accessible ceiling space and 4-in square deep back box with single gang mud-ring and blank cover plate in Conference Room 150G and Shared Office 159. Coordinate box height and location with Architect.

B. Provide 1" conduit to accessible ceiling space and single gang back box and blank cover plate at locations indicated for a television.

END OF TECHNOLOGY SECTION

Division 28 – Electronic Safety and Security

PART 1 - DESIGN CRITERIA

1.1 Work Included:

A. Complete permit plans and calculations. Refer to the Design Build Performance Criteria in the Project Summary section for additional requirements.

B. Demolition

C. Access Control Systems

D. Two-Way Communications Systems

E. Fire Alarm Systems

1.2 Work Excluded

A. Video Surveillance

1.3 Codes – Systems to be designed in accordance with the following codes:

A. Oregon Fire Code (2019)

B. Oregon Structural Specialty Code (2019)

C. Oregon Electrical Specialty Code (2021)

D. Oregon Mechanical Specialty Code (2019)

E. NFPA-72, National Fire Alarm and Signaling Code (2019)

F. Municipal ordinances and amendments

1.4 Standards – The following reference standards to be used in design:

A. ADA – Americans with Disabilities Act

B. ASTM – American Society of Testing and Materials.

C. NEMA – National Electrical Manufacturers Association.

D. NFPA – National Fire Protection Association.

E. UL – Underwriters Laboratories.

1.5 Submittals

A. Provide product submittals and shop drawings in electronic format. Electronic format must be Provide one file per division containing bookmarks corresponding to each Specification Section. Arrange bookmarks in ascending order of Specification Section number. Individual submittals sent piecemeal in a per Specification Section method will be returned without review or comment. All transmissions/submissions to be submitted to Architect. Deviations will be returned without review.

B. Provide electronic files (PDF format) of manufacturer's operation and maintenance instruction manuals and parts lists for equipment or items requiring servicing. Submit data when work is substantially complete and in same order format as submittals. Include name and location of source parts and service for each piece of equipment.

C. Upon project completion, provide record drawings in PDF and AutoCAD that accurately reflect "as constructed or installed" conditions.

1.6 Quality Assurance

A. Contractor's Qualifications: Company with at least 5 years of successful design-build experience. Fire alarm designer to be NICET Level III certified.

B. Materials, equipment, and fixtures are to be new, latest products as listed in manufacturer's printed catalog data and are to be UL or ETL listed and labeled or be approved by State, County, and City authorities prior to procurement and installation.

C. Regulatory Requirements: Work and materials installed to conform with all local, State and Federal codes, and other applicable laws and regulations. Where code requirements are at variance with Basis of Design, meet code requirements as a minimum requirement and include costs necessary to meet these in Contract. Machinery and equipment are to comply with OSHA requirements, as currently revised and interpreted for equipment manufacturer requirements. Install equipment provided per manufacturer recommendations.

D. Whenever this Basis of Design calls for material, workmanship, arrangement, or construction of higher quality and/or capacity than that required by governing codes, higher quality and/or capacity take precedence.

1.7 Warranty

A. Provide written warranty covering the work for a period of one year from date of Substantial Completion.

1.8 Trade Coordination

A. Coordinate installation and location of HVAC equipment, ductwork, diffusers, piping, plumbing equipment/fixtures, lights, and electrical services with other trades. Provide maintenance access requirements. Coordinate with submitted architectural systems (i.e., roofing, ceiling, finishes).

PART 2 - ELECTRONIC SAFETY AND SECURITY SYSTEMS

2.1 Demolition

B. Project scope includes complete demolition of the existing fire alarm systems within the project boundaries unless specifically noted on Architectural Drawings. Disconnect and make safe all equipment to be demolished for removal by others.

C. Existing pull stations at exterior doors to remain.

D. Existing door security to remain at exterior door in Circulation 145.

2.2 Access Control Systems

A. Card readers will be installed on the public side of the following doors: 147A, 150, 150A, 150G1.

B. Locate head end equipment and power supplies in work Room 150D, Office C146A, or C146B. Coordinate location with owner.

C. The system will have batteries to provide a secondary power source in case of primary power loss to the head end or any power supply.

D. Match building standard access control system. Basis of design is Reece Complete Security Solutions.

2.3 Two-Way Communications System

A. A standalone video intercom system will be installed with an audio-video door device on the public side of Door 150 and a master station located on the desk in Reception 150H. Basis of design is Aiphone JOS-1VW.

2.4 Fire Alarm Systems

A. The existing automatic, addressable, fire alarm system will be modified and extended to accommodate the remodel and to meet the requirements of the Building Codes and NFPA 72. The existing fire alarm control panel is Johnson Controls IFC-320(E). Refer to Appendix E1 for location.

B. The fire alarm system will provide system alarm, supervisory and trouble signal monitoring, and alarm notification for the remodeled areas. The existing transmitter will provide alarm, supervisory and trouble signals to the off-site monitoring station.

C. The system will have batteries to provide a secondary power source in case of primary power loss to the control panel or any remote power supply.

D. Activation of system fire detectors and manual pull stations will initiate alarm signals on the fire alarm control panel (FACP), and fire alarm annunciator (FAA), and activate the audible and visible notification appliances throughout the building. Activation of HVAC duct mounted smoke detectors will initiate supervisory signals, which will annunciate on the FACP and FAA.

E. Automatic detection and manual pull stations will be provided where required by code.

F. Audible/Visible alarm notification will be provided in public and common use spaces.

G. Control outputs will be provided for fire safety functions.

H. Materials:

I. Materials to be UL Listed for their intended fire protection use, new, free of defects, of current manufacture, and identified.

J. Notification Appliances:

1. Combination speaker strobes with multi-candela settings.

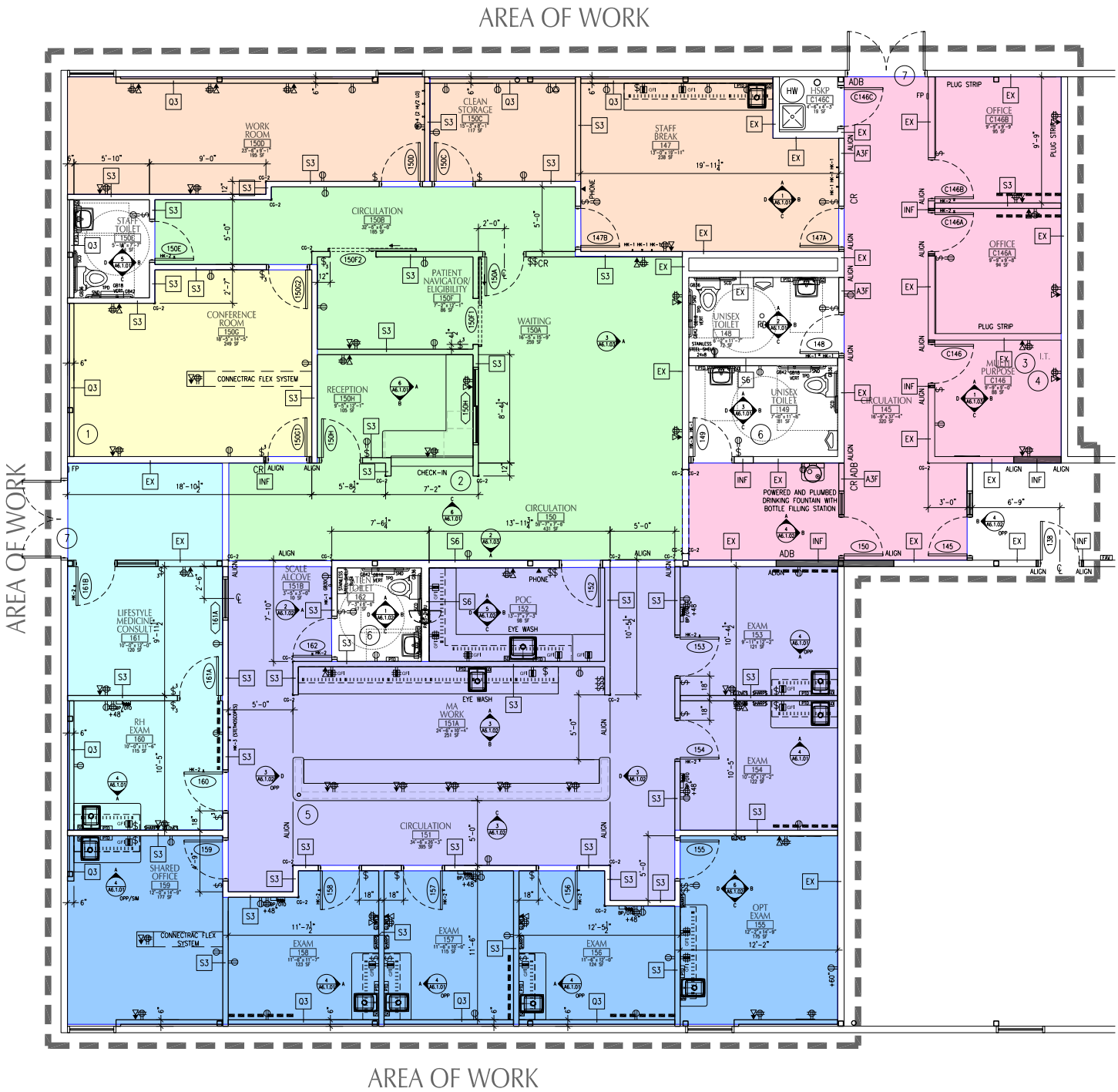
K. Addressable Devices:

1. Compatible with the existing system.

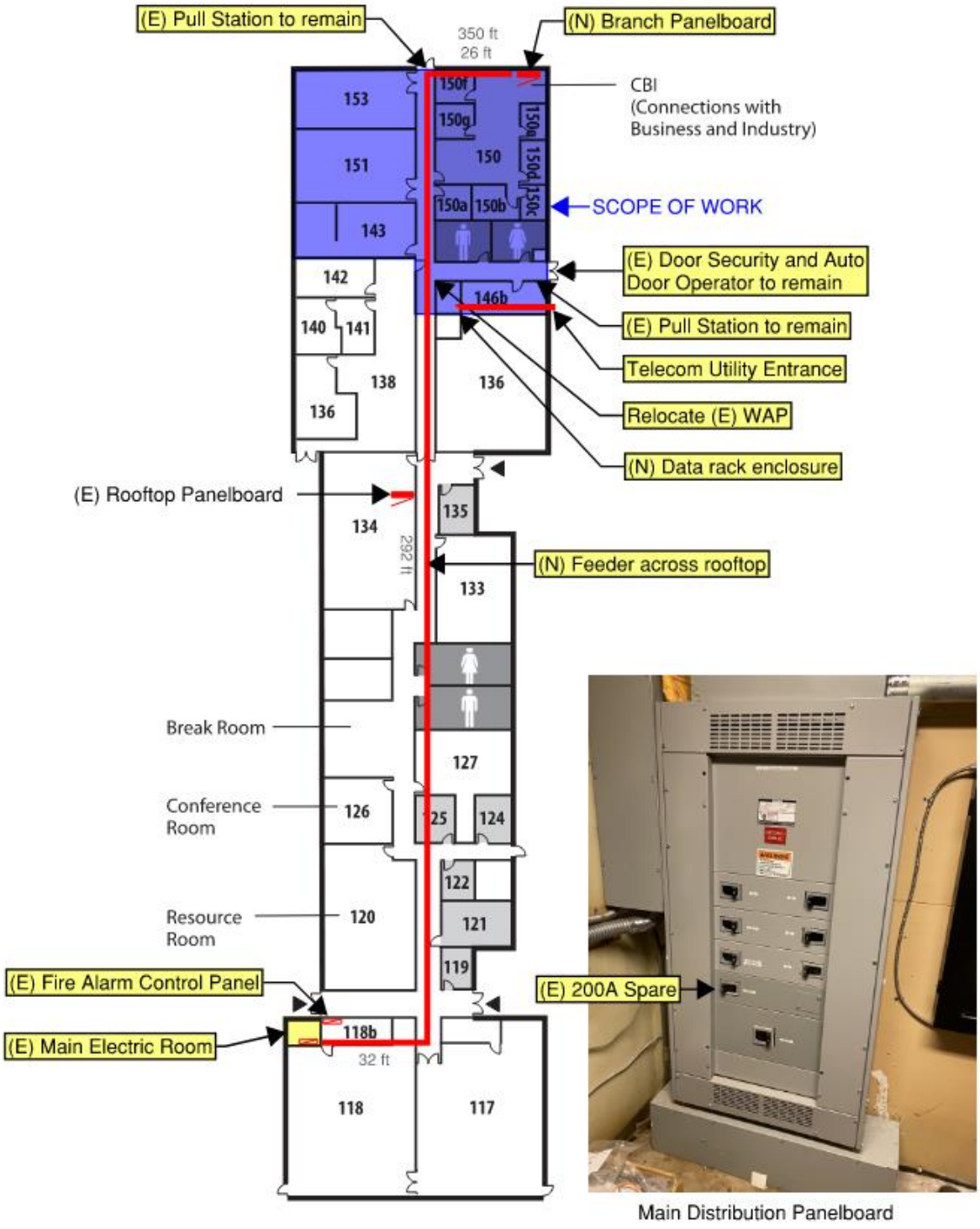
END OF ELECTRONIC SAFETY AND SECURITY SECTION

INTERFACE ENGINEERING

Appendix M1 – HVAC Zoning Diagram



Appendix E1 – Electrical Overall Plan

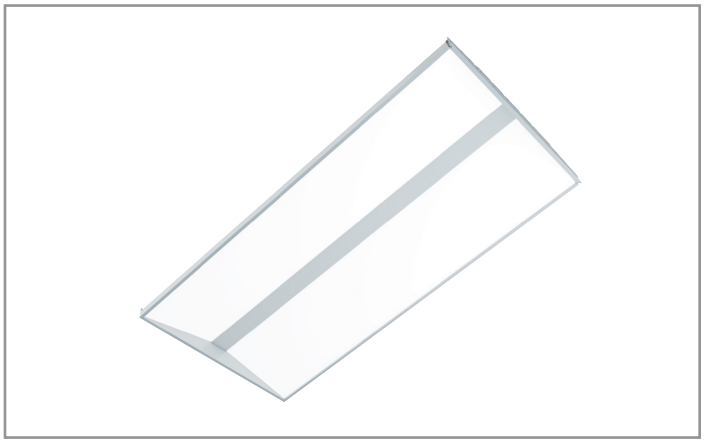


Main Distribution Panelboard

INTERFACE ENGINEERING

Appendix E2 – Lighting Cutsheets

Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	



Metalux

Encounter 24EN LED

2' x 4' Troffer LED Module
Specification Grade Troffer

Typical Applications

• Commercial Office Spaces • Schools • Hospitals • Retail
• Other Indoor Ambient Applications

Interactive Menu

Product Certification

c UL us LISTED · DLC · DLC PREMIUM · damp location · IC RATED · IP40 · ISTA CERTIFIED

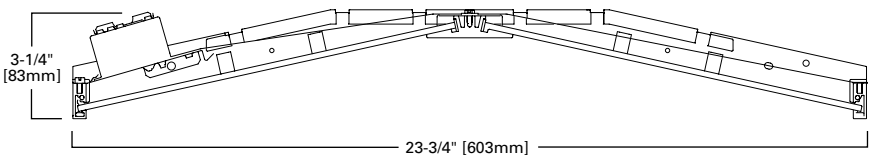
Product Features

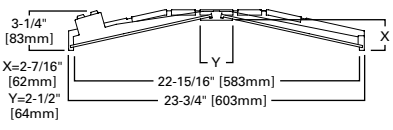
Connected Systems · Bluetooth · VividTune color tuning solutions · MWS MODULAR WIRING SYSTEM CLICK HERE · LINEAR DISCONNECT Safe and convenient means of disconnecting power · Rapid Response CLICK HERE

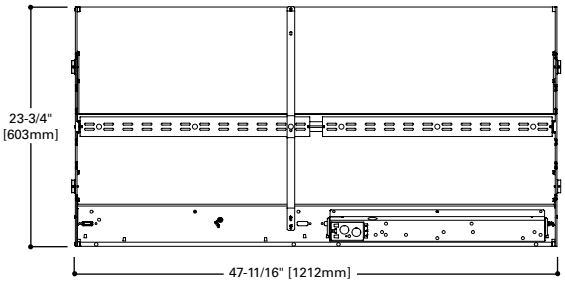
Top Product Features

- Available in 1' x 2', 1' x 4', 2' x 2' and 2' x 4' recessed versions
- Leverages our patented WaveStream Technology with AccuAim™ optics
- Four CCT options: 3000K, 3500K, 4000K, and 5000K at 80CRI or 90 CRI
- White tuning solutions available, either 3000K - 5000K or 2700K - 6500K
- Efficacy up to 143 lumens per watt

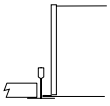
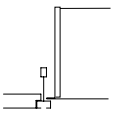
Dimensional and Mounting Details







Ceiling Compatibility

G Grid/Lay-in Standard	G or T 9/16" or 15/16" Slot Grid	F Drywall Frame Kit
		

Ceiling Type	Trim Type
Exposed Grid	G
Concealed T	G or T
Slot Grid	G or T
Flange	*

Notes:
*See Drywall Frame Kit Accessory in Ordering Information section.
**Fixture construction is suitable for use in Air-handling and plenum rated spaces in accordance with Section 300.22 (C) of the National Electrical Code, Section 4.3.11.2.6.5 of NFPA 90A and Section 602.2.1.4 of ICC.

Order Information

SAMPLE ORDER NUMBER: **24EN-LD2-67-UNV-L835-CD1-SVPD1-U**

Rating

Rating
[Blank]=Standard **ATW-SW4**= Chicago Rated (1)
Notes (1) Chicago rated version does not allow for row mounting.

Series

Series (2)
24EN=2' x 4' Encounter Series
Notes (2) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

Air

Air
[Blank]=Standard **A**=Air (Vented) (3)
Notes (3) Air version is vented but does not meet air handling requirements.

Lamp Type

Lamp Type
LD2=LED 2.0

Lumen Outputs

Lumen Outputs
Stock **45**=4500 Lumens **54**=5400 Lumens **67**=6700 Lumens **MTO** **30**=3000 Lumens (4), (5) **34**=3400 Lumens (4), (5) **40**=4000 Lumens **49**=4900 Lumens **58**=5800 Lumens **70**=7000 Lumens (4) **74**=7400 Lumens (4)
Notes (4) Step-dim driver not available with 3000, 3400, 7000 and 7400 lumen options. (5) 5LTD DALI option not available with 3000 and 3400 lumen packages.

Voltage

Voltage (6)
UNV=Universal Voltage 120-277 **347V**=347 Volt (7) **48V**=48 Volt Low-voltage (Class 2) (C) **120V**=120 Volt (16) **277V**=277 Volt (16)
Notes (6) Products also available in non-US voltages and frequencies for international markets. (7) 347V emergency option not available. (16) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult DLVP system pages for additional details and compatibility.

Emergency Options

Emergency Options
EL7W=7-watt, 120V-277V emergency battery pack installed (8) **EL14W**=14-watt 120V-277V emergency battery pack installed (8) **ELV7W**=7-watt, DLVP-compatible low voltage emergency battery pack installed (C) **ELV14W**=14-watt DLVP-compatible low voltage emergency battery pack installed (C) **GTR2**=Bodine Generator Transfer Relay (9), (16) **ETRD**=Iota Emergency Transfer Relay with dimming control (9)
Notes (8) With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (9) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (16) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult DLVP system pages for additional details and compatibility.

CCT

CCT
L830=3000K **L835**=3500K **L840**=4000K **L850**=5000K **L930**=3000K **L935**=3500K **L940**=4000K **L950**=5000K **L83050**=80CRI 3000K-5000K White Tuning (10) **L93050**=90CRI 3000K-5000K White Tuning (10) **L82765**=80CRI 2700K-6500K White Tuning (10) **L92765**=90CRI 2700K-6500K White Tuning (10)
Notes (10) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity.

Flex

Flex
A3/8-4/18GDIM=3/8" Flex with 0-10V Dimming Leads Multiple other configurations available. See below for details. **A3/8-5/18GDIM**=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.
Flexible Metal Conduit Options Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. **A3/8-4/18GDIM series notes:** Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).

Driver Type

Driver Type
CD=0-10V Dimming Driver (1%-100% Dimming) **WN**=WaveLinx Wireless Fixture, No Sensor. (A), (G), (H) **5LTD**=Fifth Light DALI Driver (10%-100% Dimming) (13), (E) **5LTHD**=Fifth Light Dimming Driver (1%-100% Dimming) (12), (E) **LV1**=DLVP Dimming Driver (0%-100% Dimming) (C) **SD**=Step Dimming Driver (50% or 100% Dimming) (11) **LH**=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming (F) **L5**=Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver (F) **W2A**=White Tuning, 2ch, Intensity and CCT Control (14) **SR**=Sensor-ready Dimming Driver (1%-100% Dimming)
Notes (11) Step-dim driver not available with 3000, 3400, 7000 and 7400 lumen options. (12) Two drivers required for 5LTHD option for 6700 lumens and up. (13) 5LTD DALI option not available with 3000 and 3400 lumen packages. (14) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinx system pages for additional details and compatibility. (C) Consult DLVP system pages for additional details and compatibility. (E) Consult Fifth Light system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com. (G) Not compatible with GTR, ETRD, or integrated sensor options. (H) Available with UNV voltage only.

Number of Drivers

Number of Drivers
1=1 Driver **2**=2 Drivers

Integrated Sensing Systems

Integrated Sensing Systems
[Blank]=No Sensor (15) **WAA**=WaveLinx Wireless Integrated Sensor (A), (15) **WAB**=WaveLinx Lite Wireless Integrated Sensor (B), (15) **SLVPD1**=Low-voltage Integrated Sensor (C), (15) **SVPD1**=0-10V Stand-alone Integrated Sensor (D), (15)
Notes (15) W2A driver only available with WAA sensor. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinx system pages for additional details and compatibility. (B) WaveLinx Lite devices are not currently compatible with the WaveLinx Wireless Area Controller. Consult WaveLinx Lite system pages for additional details and compatibility. (C) Consult DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility.

Packaging

Packaging
U=Unit Pack **PALC**=Job Pack, in carton

Accessories

Accessories (order separately)
T3A END E.Q. BRACKET PARTS BAG (Standard with fixture) **DF-24W-U**=2' x 4' Drywall Frame Kit **SK-24-WS**=2' x 4' Shallow Surface Mount Kit **SK-24-WT**=2' x 4' Tall Surface Mount Kit **ISHH-01**=Programming Remote for Integrated Sensor (D) **ISHH-02**=Personal Control Remote for Integrated Sensor (D)
Notes Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (D) For use with SVPD sensor only. Consult SVPD series system pages for additional details and compatibility.

Product Specifications

Construction
- Shallow 3-1/16" deep housing extruded aluminum frame
- Injected molded composite end plates
- End plates screws for strength, rigidity and gap eliminations
- End plates accessory grid-lock feature adds safety
- Four auxiliary fixture end suspension points
- Large access plate for supply connection

Controls
- 0-10V dimming to 1% standard
- WaveLinx wireless fixture for sensor-less wireless control
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- SVPD sensor compatible for standalone functionality
- Low-voltage sensor and driver compatible for DLVP applications
- DALI 2.0, Lutron, and step-dimming available

Electrical
- LED's available in 3000K, 3500K, or 4000K at 80 CRI or 90 CRI minimum
- Color accuracy ≤3-Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L92 and calculated L70 exceeds 288,000 hrs
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting's Vividtune

Emergency Battery Pack Options
- Optional 120V-277V integral emergency battery pack available in 7W or 14W
- 90-minute backup period for code compliance
- Test switch with laser pointer allows safe testing from floor
- Patented EZ Key prevents accidental discharge during construction

Driver Access
- Drivers can be accessed via plenum

Finish
- High reflectance baked matte white enamel finish

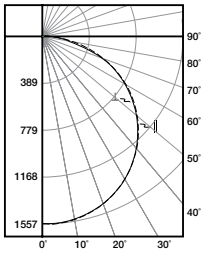
Optics
- Precision formed optical assembly
- Positively retained high optical grade acrylic lenses
- WaveStream technology provides a visually comfortable fully luminous surface

Compliance
- Components are UL recognized
- cULus Damp Location listed for 25C ambient indoor environments
- Complies with IESNA LM-79 and LM-80 standards
- DesignLights Consortium® Qualified and classified for DLC Standard and DLC Premium (refer to www.designlights.org)

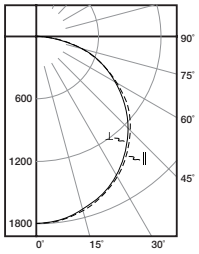
Warranty
- Five year warranty standard. Optional ten year warranty available

Photometric Data

View IES files



24EN-LD2-45-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.29 x mounting height, (⊥) 1.29 x mounting height
Lumens: 4656
Input Watts: 38W
Efficacy: 122.5 lm/W
Test Report: 24EN-LD2-45-UNV-L835-CD1-U.IES



24EN-LD2-54-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.3 x mounting height, (⊥) 1.3 x mounting height
Lumens: 5410
Input Watts: 43.0W
Efficacy: 125.8 lm/W
Test Report: 24EN-LD2-54-UNV-L835-CD1-U.IES

Energy and Performance Data

Stock or MTO	Catalog Logic	Delivered Lumens	Watts	Efficacy (LPW)
MTO	24EN-LD2-30-UNV-L835-CD1-U	3117	24.6	127
MTO	24EN-LD2-34-UNV-L835-CD1-U	3610	28.7	126
MTO	24EN-LD2-40-UNV-L835-CD1-U	4204	33.9	124
STOCK	24EN-LD2-45-UNV-L835-CD1-U	4656	38.0	123
STOCK	24EN-LD2-45-UNV-L840-CD1-U	4748	38.0	125
MTO	24EN-LD2-49-UNV-L835-CD1-U	5099	42.2	121
STOCK	24EN-LD2-54-UNV-L835-CD1-U	5410	43.0	126
STOCK	24EN-LD2-54-UNV-L840-CD1-U	5518	43.0	128
MTO	24EN-LD2-58-UNV-L835-CD1-U	5838	47.0	124
STOCK	24EN-LD2-67-UNV-L835-CD1-U	6731	56.1	120
STOCK	24EN-LD2-67-UNV-L840-CD1-U	6866	56.1	122
MTO	24EN-LD2-70-UNV-L835-CD1-U	7023	60.2	117
MTO	24EN-LD2-74-UNV-L835-CD1-U	7484	63.6	118

Shipping Data

Catalog No.	Weight (lbs)	Units per Pallet 49"L x 52"W x 55"H
24EN-LD2	28	18

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) [1]	Theoretical L70 (Hours) [2]
25°C	> 92%	> 288,000

Notes: (1) Supported by IES TM-21 standards. (2) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Lumen Calculator

CCT Multiplier	80 CRI	90 CRI
3000K	0.970	0.835
3500K	1.000	0.864
4000K	1.020	0.901
5000K	1.110	0.955

Example of Lumen Adjustment Calculation

24EN-LD2-45-UNV-L835-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.864

Total Light Output = 4,651 lm x 0.864 = 4,022 lm

Efficacy = $\frac{4{,}022\ lm}{38W}$ = 105.8 lm/W

Control Systems

- WaveLinx Wireless
- WaveLinx Wired
- WaveLinx Lite
- DLVP
- VividTune

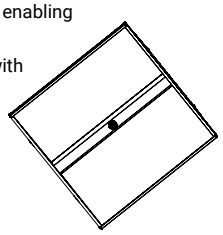
Connected Systems
CLICK HERE

The Encounter with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The Encounter delivers superior lighting with integrated occupancy and daylighting controls.

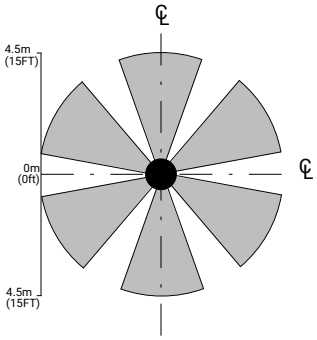
For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

When more connectivity is required, the WaveLinx Wireless sensor meets modern code and utility requirements, delivers energy and cost savings, while enabling buildings to become smart buildings.

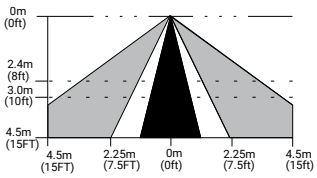
The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation of valuable data.



TOP VIEW:



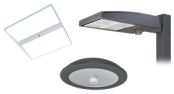
SIDE VIEW:



***Note**: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*

Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.



	Standalone	Controlled WaveLinx Lite	Connected WaveLinx Wireless	Enterprise Trellix
Occupancy	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes
Gateways	–	–	1 WAC	300 WACs
Devices	–	50 per Area (1400 per site)	150 per WAC	45,000 per Core Enterprise
Software	–	WaveLinx Lite Mobile App	WaveLinx Mobile App	Trellix Core
Areas	–	28 per Site	16 per WAC	up to 4,800
Zones	–	16 per Area	16 per Area	up to 76,800
Scheduling	–	–	Local	Global
VividTune™	–	–	Yes	Yes
Plug-Load Control	–	–	Yes	Yes
Integration	–	–	–	BACnet, API
Dashboards	–	–	–	Energy, Occupancy
Configuration	–	Installer	Technician	Technician / IT

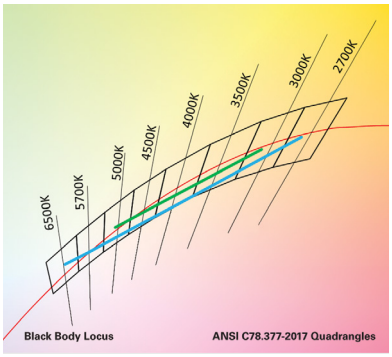
SCALABILITY

devices → areas → floors → buildings

VividTune color tuning solutions

24EN LED with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



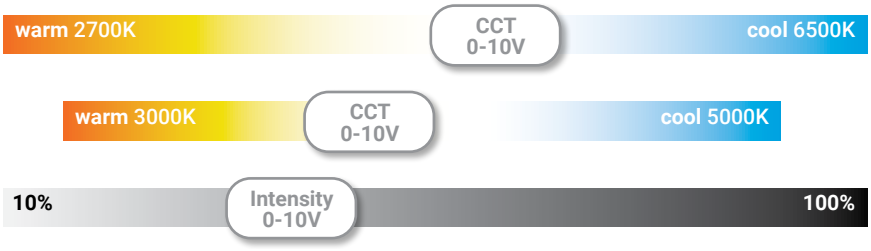
Performance Data*

Tunable White - Lumen Adjustment Factors (example only)				
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.894	0.738
3000K	0.968	0.809	0.903	0.762
3500K	0.984	0.827	0.932	0.779
4000K	0.988	0.860	0.919	0.814
4500K	1.002	0.864	0.946	0.808
5000K	1.003	0.868	0.945	0.829
6500K	-	-	0.949	0.850

2' x 4' Encounter LED - Example of Approximate Lumen Calculation			
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	24EN-LD2-45-UNV-L835-CD1-U	24EN-LD2-45-UNV-L83050-W2A1-U	24EN-LD2-45-UNV-L93050-W2A1-U
3000K	-	4508	3765
3500K	4656	4582	3853
4000K	-	4601	4002
4500K	-	4663	4023
5000K	-	4668	4042

Controlling VividTune Tunable White

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, click here for tunable white application guides.



Example of Lumen Adjustment Calculation

24EN-LD2-45--UNV-L83050-W2A1-U
at 80 CRI tuned to 3500K

Adjusted Lumen =
published lm x adjusted lm factor

*Adjusted Lumen = 4656 * 0.984*

Adjusted Lumen = 4582 lm

** Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.*

Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

DESCRIPTION

4 inch LED square recessed downlight designed for glare free, even illumination. Featuring a two-stage diffused reflector system producing smooth distribution with excellent light control and low aperture brightness. Lumen packages range from 1000 to 6000 with color temperatures of 2400K, 2700K, 3000K, 3500K, 4000K, and 5000K. VividTune: Dim-to-warm technology – similar to halogen at full power, the 3000K LED warms smoothly as dimmed to 1850K creating a rich warm glow within the space. Tunable white technology - adjust the color temperature from warm white to cool white while independently controlling intensity.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Lower Shielding Reflector
Painted die cast aluminum or anodized aluminum lower reflector with a lensed upper optical chamber providing superior lumen output with minimal source brightness. Anodized reflectors are offered in all Portfolio Alzak® finishes. Available with non-conductive polymer trim. Reflector is retained with two torsion springs holding the flange tight to the finished ceiling surface. Plaster lathing ring accessory offered for flush reflector transition.

Plaster Frame / Collar
Galvanized steel plaster frame with adjustable collar adjusts for up to 2" thick ceilings and rotates+/- 7.5°.

Universal Mounting Bracket
Accepts 1/2" EMT, C channel and bar hangers and adjusts 5" vertically from above and below the ceiling.

Junction Box
(4) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs. Listed for (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring and push in lever connectors.

Thermal
Aluminum heat sink conducts heat away from the LED module for optimal performance and long life.

LED
Chip on board with a multitude of highly efficient white LED's, combined with a high reflectance upper reflector and convex transitional lens produce even distribution with no pixilation. Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours) Auto resetting, thermally protected, LED's are turned off when safe operating temperatures are exceeded. Color variation within 3-step MacAdam ellipses. Quick disconnect allows for tool-less replacement of LED engine from below ceiling. Available in 80, 90 or 97 CRI.
D2W™ – dim-to-warm shifts CCT from 3000K to1850K as fixture dims mimicking halogen sources.
W2N - Tunable white CCT range 2700K to 6500K or 2000K to 5000K, 90 CRI.

Driver
Standard 120-277V 0-10V dimming driver provides flicker free dimming from 100% to 1%. Optional 120-277V phase dimming, <1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem. Driver can be serviced from above or through the aperture.

Connected Lighting Systems
Factory installed WaveLinx tile mount sensor kit and Field installed WaveLinx accessory tile mount sensor kit.
The WTA WaveLinx tile mount sensor kit offers daylight dimming, PIR motion sensing control, and optional RLTS - Real Time Location Services available. (Refer to WaveLinx system specifications and application guides for details)

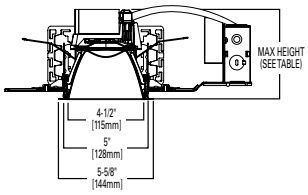
The WTA WaveLinx kit includes control module that mounts on the luminaire electrical junction box via 1/2" knock-out, and tilemount sensor with direct-mount spring clips or for octagon ceiling box with included mounting bracket. (Field mount kit ordered and installed separately).

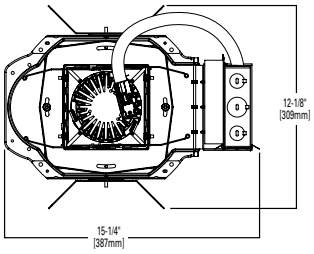
Enlighted wireless tile mount sensor and relay accessory enables wireless control using a tile mount sensor accessory.

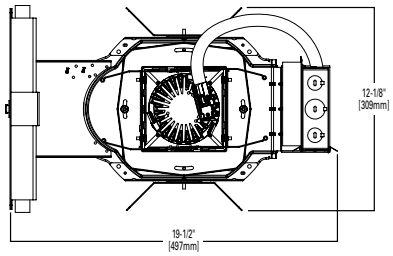
Distributed low voltage power system combines power, lighting, and controls with ease of installation.

Code Compliance
Thermally protected and cULus listed for wet locations with covered ceiling. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits. 2000 lumen and above are non-IC rated - insulation must be kept 3" from top and sides of housing. IC rated up to 1500 lumens. 5000 lumen and above are marked spacing and must follow spacing requirements. RoHS Compliant. Photometric testing completed in accordance with IES LM 79. Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.

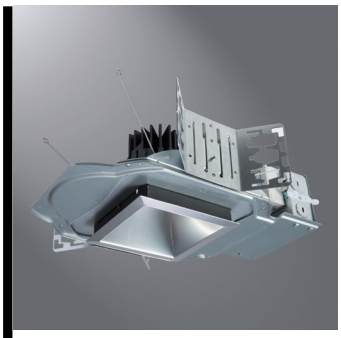
Warranty
5-year warranty







	1000-2000 LUMENS	3000-5000 LUMENS	6000 LUMENS
STANDARD	5-3/8" [137mm]	5-3/8" [137mm]	7-1/8" [181mm]
SHALLOW	4-7/16" [113mm]	4-7/16" [113mm]	NA



LDSQ4B EU4B 4LBSQ

1000-6000 Lumen LED

Die cast or Anodized Aluminum
Square Downlight
New Construction

VividTune color tuning solutions
D2W™

ENERGY STAR
T24 Can be used to comply with California Title 24 High Efficacy requirements
T20 Certified to California Title 20 Appliance Database
RoHS Compliant

Refer to ENERGY STAR® Qualified Products List. Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Title 20 Appliance Efficiency Database.

ORDERING INFORMATION

SAMPLE NUMBER: LDSQ4B15D010EMBOD

Housing	Lumens[1]	Voltage	Driver	Options[6]
LDSQ4B=LED Square Downlight 4" Nominal Aperture **LDSQ4BCP**=LED Square Downlight 4" Nominal Aperture, Chicago Plenum	**10**=1000 lumens **15**=1500 lumens **20**=2000 lumens **30**=3000 lumens **40**=4000 lumens **50**=5000 lumens[12] **60**=6000 lumens[12]	**Blank**=120-277V **3**=347V (step down transformer)	**1000-4000** **D010**=0-10V Dimming, 1% to 100%, 120V-277V **D010TR**=0-10V or Line Voltage Dimming, 5% to 100%, 120V-277V **DE010**=0-10V Linear Dimming, 0% to 100%, 120V-277V **D5LT**=Fifth Light® (DALI) Logarithmic Dimming, 0% to 100%, 120V-277V **DMX**=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V[9] **DL2**=Lutron® Hi-Lume Forward Phase Dimming, 1% to 100%, 120V Only **DLV**=Low voltage dimming driver (1-100%) for use with DLVP system (3000 lumen and below)[6,10] **5000-6000** **D010TE**=0-10V 1% or trailing edge 10%, 120-277V (120V only with trailing edge dimming) **Tunable white 1000-2000 Lumens**[13] **1DE010W2N2050**=0-10V dimming, 0% to 100%, 120V, 2000K - 5000K **1DE010W2N2765**=0-10V dimming, 0% to 100%, 120V, 2700K - 6500K **1D5LTW2N2050**=Fifth Light (DALI), 0% to 100%, 120, 2000K - 5000K **1D5LTW2N2765**=Fifth Light (DALI), 0% to 100%, 120V, 2700K - 6500K **2DE010W2N2050**=0-10V dimming, 0% to 100%, 277V, 2000K - 5000K **2DE010W2N2765**=0-10V dimming, 0% to 100%, 277V, 2700K - 6500K **2D5LTW2N2050**=Fifth Light (DALI), 0% to 100%, 277V, 2000K - 5000K **2D5LTW2N2765**=Fifth Light (DALI), 0% to 100%, 277V, 2700K - 6500K	**EMBOD**=Bodine® Emergency Module with Remote Test Switch **EMBOD7ST**=Bodine® Emergency Module with Self Test Remote Test Switch **EM7**=7W Emergency Module with Remote Test Switch **EM14**=14W Emergency Module with Remote Test Switch **EMV7**=7W Low Voltage Emergency Module with Remote Test Switch[2] **EMV14**=14W Low Voltage Emergency Module with Remote Test Switch[2] **WTA**=Factory installed WaveLinx Sensor Kit (WTA = WaveLinx wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with D010 only[10] **LWTPD1**=Factory installed Enlighted wireless sensor kit

SAMPLE NUMBER: EU4B10208035

Power Module	Lumen Levels[1]	CRI	Color		
EU4B=4" Universal LED Module	**1020**=1000, 1500, 2000 lumens **3040**=3000-4000 lumens **5000**=5000 lumens[12] **6000**=6000 lumens[12] **1015IC**=1000, 1500 lumen IC rated	**80**=80 CRI Minimum **90**=90 CRI Minimum **97**=97 CRI Minimum	**80 CRI** **27**=2700K **30**=3000K **35**=3500K **40**=4000K **50**=5000K	**90 CRI** **24**=2400K **27**=2700K **30**=3000K **35**=3500K **40**=4000K **50**=5000K	**97 CRI** **27**=2700K **30**=3000K
	Dim 2 Warm **109030D2W**=1000 lumen, 90 CRI, Dim 2 Warm, IC rated **159030D2W**=1500 lumen, 90 CRI, Dim 2 Warm, IC rated **209030D2W**=2000 lumen, 90 CRI, Dim 2 Warm **309030D2W**=3000 lumen, 90 CRI, Dim 2 Warm		**Tunable white**[13] **1020W2N902050** =1000, 1500, 2000 lumens, 90 CRI, tunable white 2000K-5000K **1020W2N902765** =1000, 1500, 2000 lumens, 90 CRI, tunable white 2700K-6500K		

SAMPLE NUMBER: 4LBSQ1LI

Trim	Distribution	Flange	Finish
4LB=4" LED	**SQ**=Square Anodized Aluminum **CSSQ**=Cast Shallow Square, Die Cast Aluminum[7] **PSSQ**=Plastic Shallow Non-Conductive[5, 7]	**0**=White Polymer Trim Ring[11] **1**=Self-flanged[8] **2**=White Painted Self-flanged	**LI**=Specular Clear[3] **H**=Semi-Specular Clear[3] **WMH**=Warm Haze[3] **WH**=Wheat[3] **GPH**=Graphite Haze[3] **B**=Specular Black[3] **MW**=Matte White **MB**=Matte Black[4] **MMS**=Matte Metallic Silver[4]

Accessories

PRSQ4=Plaster Lathing Ring for use with Rimless Flange (order with polymer trim ring flange option)
LGSKT4SQIP66 = IP66 Gasket Kit

Bar Hangers
HB26=C-channel Bar Hanger, 26" Long, Pair
HB50=C-channel Bar Hanger, 50" Long, Pair
RMB22=Wood Joist Bar Hanger, 22" Long, Pair

Transformers
H347=347 to 120V Step Down Transformer, 75VA
H347200=347 to 120V Step Down Transformer, 200VA

Connected Lighting Systems
PORLWTPD1=Enlighted wireless sensor kit (0-10V only) field installed[10]
WTA=WaveLinx wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with D010 only (Refer to WaveLinx system specifications and guides for details) Field installed[10]

Notes:
1. Nominal Lumens will vary depending on selected color, driver and reflector finish.
2. UL/US approved only.
3. Available on anodized aluminum
4. Available on cast aluminum only
5. Matte white finish and self flange
6. Not available with Chicago Plenum.
7. Offered up to 4000 lumens
8. Flange is the same finish as the reflector
9. DMX fixtures default to full on upon loss of DMX signal.
10. Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.
11. Not available with cast shallow
12. Product is marked spacing and must be installed with the following minimum spacing
    - Center to center of adjacent luminaire: 36"
    - Center of luminaire to side of building member: 18"
    - Minimum overhead: 1/2"
13. Non-IC

ENERGY

ENERGY DATA
Sound Rating: Class A standards
(Values at non-dimming line voltage)
Minimum Starting Temperature: -30°C (-22°F)
EMI/RFI: FCC Title 47 CFR, Part 15, Class B (Consumer)
Input Voltage: UNV (120V - 277V)
Power Factor: >0.90 (at nominal input 120-277 VAC & 100% of Rated Output Power)
Input Frequency: 50/60Hz

1000 Lumen D010		1500 Lumen D010	
Input Power: 11W	THD: <14%	Input Power: 15.5W	THD: <13%
120V Input Current: 0.09A	277V Input Current: 0.04A	120V Input Current: 0.13A	277V Input Current: 0.06A

2000 Lumen D010		3000 Lumen D010	
Input Power: 21.2W	THD: <9%	Input Power: 27.6W	THD: <10%
120V Input Current: 0.18A	277V Input Current: 0.08A	120V Input Current: 0.23A	277V Input Current: 0.10A

4000 Lumen D010	
Input Power: 41.6W	THD: <13%
120V Input Current: 0.35A	277V Input Current: 0.15A

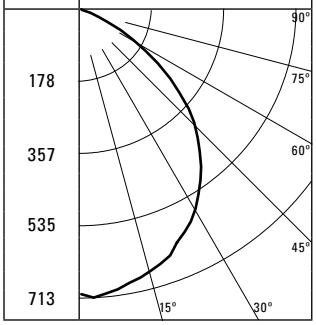
	120V		277V	
Lumens	Inrush (A)	Duration (ms)	Inrush (A)	Duration (ms)
1000 Lumen D010	1.02	0.041	2.18	0.021
1500 Lumen D010	1.02	0.042	2.24	0.064
2000 Lumen D010	1.02	0.077	2.43	0.027
3000 Lumen D010	1.15	0.067	3.26	0.027
4000 Lumen D010	1.2	0.088	3.9	0.03

PHOTOMETRY

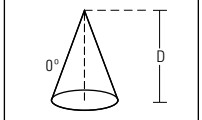
Test Number	P35089
Housing	LDSQ4B15D010
Module	EU4B10208035
Trim	4LBCSSQ1MMS
Lumens	1504
Efficacy	107.4 Lm/W
SC	1.19

CANDLEPOWER DISTRIBUTION

Downlight



CONE OF LIGHT



D	FC	L	W
5.5'	24	6.4	6.4
7'	15	8.2	8.2
8'	11	9.4	9.4
9'	9	10.6	10.6
10'	7	11.8	11.8
12'	5	14.2	14.2

CANDELA TABLE

Degrees Vertical	Candela
0	704
5	690
15	663
25	605
35	515
45	401
55	232
65	76
75	2
85	0
90	0

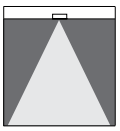
ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	534	35.5
0-40	857	57
0-60	1395	92.7
0-90	1504	100
90-180	0	0
0-180	1504	100

LUMINANCE

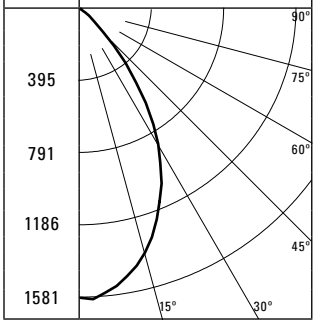
Average Candela Degrees	Average 0° Luminance
45	43408
55	30960
65	13765
75	591
85	0

Test Number	P35088
Housing	LDSQ4B15D010
Module	EU4B10208035
Trim	4LBSQ1LI
Lumens	1453
Efficacy	103.8 Lm/W
SC	0.91

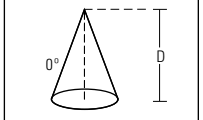


CANDLEPOWER DISTRIBUTION

Downlight



CONE OF LIGHT



D	FC	L	W
5.5'	52	4.8	4.8
7'	32	6.2	6.2
8'	25	7.2	7.2
9'	20	8	8
10'	16	9	9
12'	11	10.8	10.8

CANDELA TABLE

Degrees Vertical	Candela
0	1574
5	1550
15	1364
25	1017
35	440
45	97
55	14
65	4
75	1
85	0
90	0

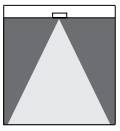
ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	996	68.5
0-40	1322	91
0-60	1447	99.5
0-90	1453	100
90-180	0	0
0-180	1453	100

LUMINANCE

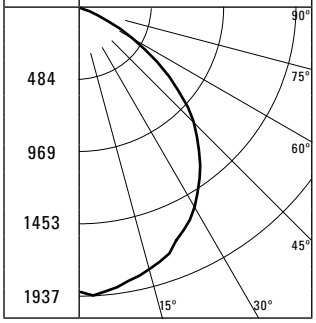
Average Candela Degrees	Average 0° Luminance
45	10500
55	1868
65	724
75	296
85	0

Test Number	P202481
Housing	LDSQ4B40D010
Module	EU4B30508035
Trim	4LBCSSQ1MMS
Lumens	4110
Efficacy	95.5 Lm/W
SC	1.19

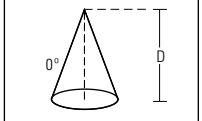


CANDLEPOWER DISTRIBUTION

Downlight



CONE OF LIGHT



D	FC	L	W
5.5'	64	6.4	6.4
7'	40	8.2	8.2
8'	30	9.4	9.4
9'	24	10.6	10.6
10'	19	11.8	11.8
12'	14	14.2	14.2

CANDELA TABLE

Degrees Vertical	Candela
0	1924
5	1886
15	1812
25	1653
35	1408
45	1096
55	634
65	208
75	6
85	0
90	0

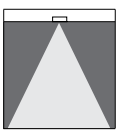
ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	1458	35.5
0-40	2342	57
0-60	3812	92.7
0-90	4110	100
90-180	0	0
0-180	4110	100

LUMINANCE

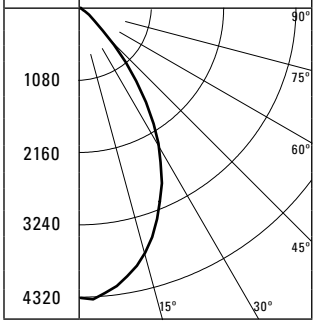
Average Candela Degrees	Average 0° Luminance
45	18216
55	15774
65	10088
75	2368
85	0

Test Number	P202480
Housing	LDSQ4B40D010
Module	EU4B30508035
Trim	4LBSQ1LI
Lumens	3970
Efficacy	92.3 Lm/W
SC	0.91

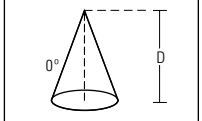


CANDLEPOWER DISTRIBUTION

Downlight



CONE OF LIGHT



D	FC	L	W
5.5'	142	4.8	4.8
7'	88	6.2	6.2
8'	67	7.2	7.2
9'	53	8	8
10'	43	9	9
12'	30	10.8	10.8

CANDELA TABLE

Degrees Vertical	Candela
0	4301
5	4235
15	3727
25	2779
35	1202
45	265
55	38
65	11
75	3
85	0
90	0

ZONAL LUMEN SUMMARY

Zone	Lumens	% Fixture
0-30	2720	68.5
0-40	3613	91
0-60	3952	99.5
0-90	3970	100
90-180	0	0
0-180	3970	100

LUMINANCE

Average Candela Degrees	Average 0° Luminance
45	4058
55	723
65	279
75	113
85	0

DESCRIPTION

4 inch recessed LED lensed wall wash provides glare free, even illumination on vertical surfaces. Featuring a two-stage diffused reflector system producing smooth distribution with excellent light control and low aperture brightness. Lumen packages range from 500 to 6000 with color temperatures of 2400K, 2700K, 3000K, 3500K, 4000K, and 5000K. VividTune: Dim-to-warm technology – similar to halogen at full power, the 3000K LED warms smoothly as dimmed to 1850K creating a rich warm glow within the space. Tunable white technology - adjust the color temperature from warm white to cool white while independently controlling intensity.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Lower Shielding Reflector
Angle cut aluminum lower reflector in combination with spread lens provides even vertical illumination with minimal downlight. Offered in all Portfolio Alzak® finishes. Available with non-conductive polymer trim. Reflector is retained with two torsion springs holding the flange tight to the finished ceiling surface. Plaster lathing ring accessory offered for flush reflector transition.

Plaster Frame / Collar
Galvanized steel plaster frame with adjustable collar adjusts for up to 2" thick ceilings and rotates+/- 7.5°.

Universal Mounting Bracket
Accepts 1/2" EMT, C channel and bar hangers and adjusts 5" vertically from above and below the ceiling.

Junction Box
(4) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs. Listed for (8) #12 AWG (four in, four out) 90°C conductors and feed thru branch wiring. Lever connectors for simple push in wiring.

Thermal
Aluminum heat sink conducts heat away from the LED module for optimal performance and long life.

LED
Chip on board with a multitude of highly efficient white LED's, combined with a high reflectance upper reflector and convex transitional lens produce even distribution with no pixilation. Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours). Auto resetting, thermally protected, LED's are turned off when safe operating temperatures are exceeded. Color variation within 2-step MacAdam ellipses. Quick disconnect allows for tool-less replacement of LED engine from below ceiling. Available in 80, 90 or 97 CRI.
D2W™ – dim-to-warm shifts CCT from 3000K to1850K as fixture dims mimicking halogen sources.
W2N - Tunable white CCT range 2700K to 6500K or 2000K to 5000K, 90 CRI.

Driver
Standard 120-277V 0-10V dimming driver provides flicker free dimming from 100% to 1%. Optional 120-277V phase dimming, <1% 0-10V, Fifth Light, DMX or Lutron® Ecosystem. Driver can be serviced from above or through the aperture.
Distributed low voltage power system combines power, lighting, and controls with ease of installation.

Connected Lighting System Options
Two WaveLinx connected systems to choose from. Refer to WaveLinx system specifications and application guides for details.

WaveLinx Wireless System Tilemount Sensor Kit

- WaveLinx Wireless WTA tile mount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

WaveLinx Lite System Tilemount Sensor Kit

- WaveLinx Lite WTK tile mount sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

WaveLinx Tilemount Kits Application

- The WTA and WTK tilemount kits include a control module mounted on the luminaire junction box via 1/2" knock-out, and a tilemount sensor on 54-inch whip; for ceiling installation by direct-mount spring clips or via mounting bracket in octagon ceiling boxes.
- The WTA and WTK tilemount kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.

Code Compliance
Thermally protected and cULus listed for damp locations with covered ceiling. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 Class B consumer limits. 2000 lumen and above are Non-IC rated - Insulation must be kept 3" from top and sides of housing. IC rated up to 1500 lumens. 5000 lumen and above are marked spacing and must follow spacing requirements. RoHS Compliant. Photometric testing completed in accordance with IES LM 79. Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.

Warranty
5-year warranty

LDSQ4B EU4B 4LBSQLWW

500 - 6000 Lumen LED

Square Wall Wash
New Construction

VividTune color tuning solutions

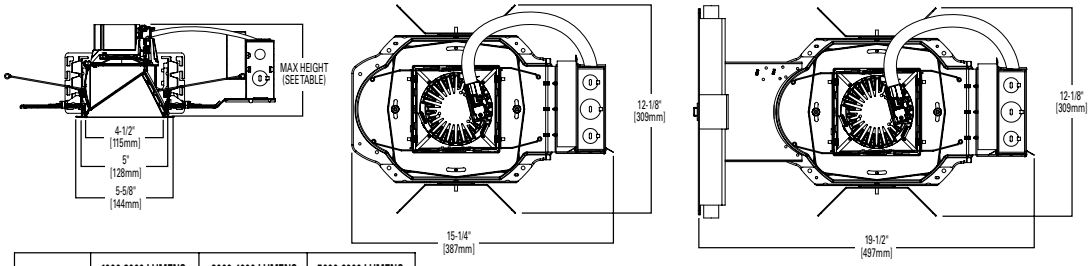
D2W™

ENERGY STAR

T24 Can be used to comply with California Title 24 High Efficacy requirements
T20 Certified to California Title 20 Appliance Database

RoHS Compliant

Refer to ENERGY STAR® Qualified Products List. Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Title 20 Appliance Efficiency Database.



	1000-2000 LUMENS	3000-4000 LUMENS	5000-6000 LUMENS
WALL WASH	5-11/32" [136mm]	5-11/32" [136mm]	7-1/16" [180mm]

ORDERING INFORMATION

SAMPLE NUMBER: LDSQ4B15D010EMBOD

Housing	Lumens[1]	Voltage	Driver	Options[3]
LDSQ4B=LED Square Downlight 4" Nominal Aperture **LDSQ4BCP**=LED Square Downlight 4" Nominal Aperture, Chicago Plenum	**05**=500 lumens[10] **10**=1000 lumens **15**=1500 lumens **20**=2000 lumens **30**=3000 lumens **40**=4000 lumens **50**=5000 lumens[5] **60**=6000 lumens[5]	**Blank**=120-277V **3**=347V (step down transformer)	**500-4000** **D010**=0-10V Dimming, 1% to 100%, 120V-277V **D010TR**=0-10V or Line Voltage Dimming, 5% to 100%, 120V-277V **DE010**=0-10V Linear Dimming, 0% to 100%, 120V-277V **D5LT**=Fifth Light® DALI DT6 Logarithmic Dimming, 0% to 100%, 120V-277V **DMX**=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V[5] **DMXC5**=DMX/RDM Logarithmic Dimming, 0% to 100%, 120V-277V, with RJ45 connection **DL2**=Lutron® Hi-Lume Forward Phase Dimming, 1% to 100%, 120V Only **DL3**=Lutron® Hi-Lume 3 Wire Dimming, 1% to 100%, 120V-277V **DLE**=Lutron Ecosystem dimming 1% to 100%, 120V-277V **DLV**=Low voltage dimming driver (1-100%) for use with DLVP system (3000 lumen and below)[3,4] **5000-6000** **D010TE**=0-10V 1% or trailing edge 10%, 120-277V (120V only with trailing edge dimming) **Tunable white 1000-2000 Lumens**[7] **1DE010W2N2050**=0-10V dimming, 0% to 100%, 120V, 2000K - 5000K **1DE010W2N2765**=0-10V dimming, 0% to 100%, 120V, 2700K - 6500K **1D5LTW2N2050**=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 120, 2000K - 5000K **1D5LTW2N2765**=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 120V, 2700K - 6500K **2DE010W2N2050**=0-10V dimming, 0% to 100%, 277V, 2000K - 5000K **2DE010W2N2765**=0-10V dimming, 0% to 100%, 277V, 2700K - 6500K **2D5LTW2N2050**=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 277V, 2000K - 5000K **2D5LTW2N2765**=Fifth Light DALI DT6 Logarithmic Dimming, 0% to 100%, 277V, 2700K - 6500K	**EMBOD**=Bodine® Emergency Module with Remote Test Switch **EMBOD7ST**=Bodine® Emergency Module with Self Test Remote Test Switch **EM7**=7W Emergency Module with Remote Test Switch **EM14**=14W Emergency Module with Remote Test Switch **EMV7**=7W Low Voltage Emergency Module with Remote Test Switch[2] **EMV14**=14W Low Voltage Emergency Module with Remote Test Switch[2] **WTA** = Factory installed WaveLinx sensor Kit[4,8] **WTK** = Factory installed WaveLinx Lite Sensor Kit[4,9]

SAMPLE NUMBER: EU4B10208035

Power Module	Lumen Levels[1]	CRI	Color		
EU4B=4" Universal LED Module	**05**=500 lumens **1020**=1000, 1500, 2000 lumens **3040**=3000-4000 lumens **5000**=5000 lumens[5] **6000**=6000 lumens[5] **1015IC**=1000, 1500 lumen IC rated	**80**=80 CRI Minimum **90**=90 CRI Minimum **97**=97 CRI Minimum	**80 CRI** **27**=2700K **30**=3000K **35**=3500K **40**=4000K **50**=5000K	**90 CRI** **24**=2400K **27**=2700K **30**=3000K **35**=3500K **40**=4000K **50**=5000K	**97 CRI** **27**=2700K **30**=3000K

Dim 2 Warm
109030D2W=1000 lumen, 90 CRI, Dim 2 Warm, IC rated
159030D2W=1500 lumen, 90 CRI, Dim 2 Warm, IC rated
209030D2W=2000 lumen, 90 CRI, Dim 2 Warm
309030D2W=3000 lumen, 90 CRI, Dim 2 Warm

Tunable white[7]
1020W2N902050 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2000K-5000K
1020W2N902765 =1000, 1500, 2000 lumens, 90 CRI, tunable white 2700K-6500K

SAMPLE NUMBER: 4LBSQW1LI

Trim	Distribution	Flange	Finish	
4LB=4" LED	**SQLWW**=Square Wall Wash	**0**=White Polymer Trim Ring **1**=Self-flanged[6] **2**=White Painted Self-flanged	**LI**=Specular Clear **H**=Semi-Specular Clear **WMH**=Warm Haze **WH**=Wheat	**GPH**=Graphite Haze **B**=Specular Black **MW**=Matte White

Accessories

PRSQ4=Plaster Lathing Ring for Flulsh Mount for use with Rimless Flange (order with polymer trim ring flange option

Bar Hangers
HB26=C-channel Bar Hanger, 26" Long, Pair
HB50=C-channel Bar Hanger, 50" Long, Pair
RMB22=Wood Joist Bar Hanger, 22" Long, Pair

Transformers
H347=347 to 120V Step Down Transformer, 75VA
H347200=347 to 120V Step Down Transformer, 200VA

Connected Lighting Systems[3,4]
WTA = Field installed WaveLinx sensor Kit[8]
WTK = Field installed WaveLinx Lite Sensor Kit[9]

Notes:
1. Nominal Lumens will vary depending on selected color, driver and reflector finish.
2. UL/US approved only.
3. Not available with Chicago Plenum.
4. Refer to system specifications for additional information, features, and benefits. Order either factory installed option or accessory. Use with 0-10V driver.
5. Product is marked spacing and must be installed with the following minimum spacing
   - Center to center of adjacent luminaire: 36"
   - Center of luminaire to side of building member: 18"
   - Minimum overhead: 1/2"
6. Flange is the same finish as the reflector.
7. Non-IC
8. WTA = WaveLinx wireless sensor kit for daylight dimming, PIR motion sensing, and optional RLTS - Real Time Location Services, use with 0-10V only.
9. WTK = WaveLinx Lite tile mount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinx Lite system specifications)
10. Limited to D010 drivers.

ENERGY

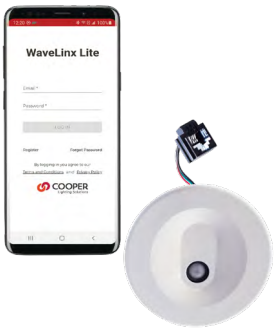
ENERGY DATA
Sound Rating: Class A standards
(Values at non-dimming line voltage)
Minimum Starting Temperature: -30°C (-22°F)
EMI/RFI: FCC Title 47 CFR, Part 15, Class B (Consumer)
Input Voltage: UNV (120V - 277V)
Power Factor: >0.90 (at nominal input 120-277 VAC & 100% of Rated Output Power)
Input Frequency: 50/60Hz

1000 Lumen D010		1500 Lumen D010	
Input Power: 11W	THD: <14%	Input Power: 15.5W	THD: <13%
120V Input Current: 0.09A	277V Input Current: 0.04A	120V Input Current: 0.13A	277V Input Current: 0.06A

2000 Lumen D010		3000 Lumen D010	
Input Power: 21.2W	THD: <9%	Input Power: 27.6W	THD: <10%
120V Input Current: 0.18A	277V Input Current: 0.08A	120V Input Current: 0.23A	277V Input Current: 0.10A

4000 Lumen D010	
Input Power: 41.6W	THD: <13%
120V Input Current: 0.35A	277V Input Current: 0.15A

	120V		277V	
Lumens	Inrush (A)	Duration (ms)	Inrush (A)	Duration (ms)
1000 Lumen D010	1.02	0.041	2.18	0.021
1500 Lumen D010	1.02	0.042	2.24	0.064
2000 Lumen D010	1.02	0.077	2.43	0.027
3000 Lumen D010	1.15	0.067	3.26	0.027
4000 Lumen D010	1.2	0.088	3.9	0.03

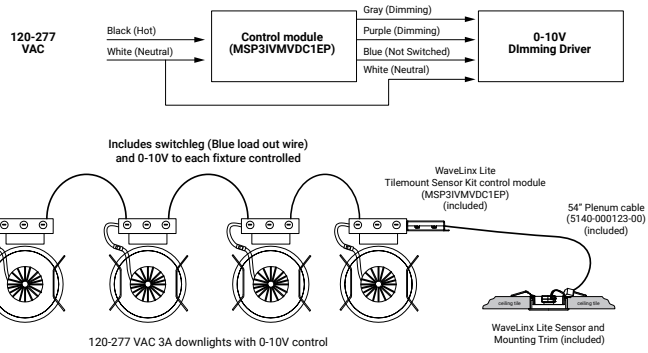


WaveLinx Lite - WTK Tilemount Sensor

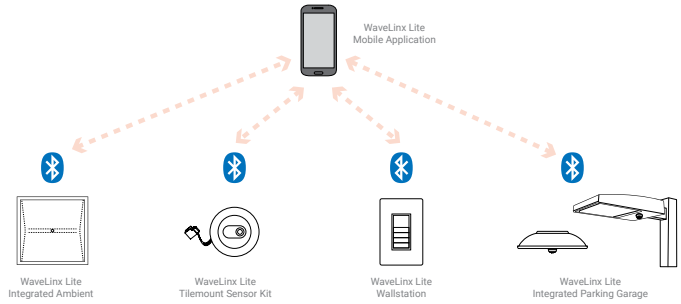
- Intuitive Android™ or Apple® iOS® app for basic system code compliant set up and configuration via Bluetooth
- Up to 28 unique areas per project site (WaveLinx Lite Bluetooth network)
- Up to 50 devices for an area, any one of 16 control zones, up to 6 occupancy sets, and custom lighting scenes
- Automatic occupancy or vacancy, sensor sensitivity, daylight dimming, etc. configurable through the app
- Refer to the WaveLinx system specifications for details

Device Security | Manual Dimmer | Occupancy Sensor | Daylighting Control | Manually Switched ON/OFF | Tuning Control | Lumen Maintenance Control | Scenes

WaveLinx Lite WTK Tilemount Wiring Diagram



WaveLinx Lite Bluetooth Enabled System



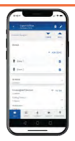
WaveLinx Wireless – WTA Tilemount Sensor

- WaveLinx Wireless functionality configures zones and customizes settings from one secure mobile app
- Automatic code commissioning that meets the strictest codes
- Fixtures and sensors integrate with Wireless Area Controller, Wall Stations, and Control Devices
- Stand-Alone Offices or Entire Building Network Installations

Downlights with tilemount sensor wireless communication
Highly efficient LED fixtures

Wireless Area Controller
Provides centralized coordination of multiple area control options

Wireless Wall Station/Receptacle
Provides customized wireless control of each area



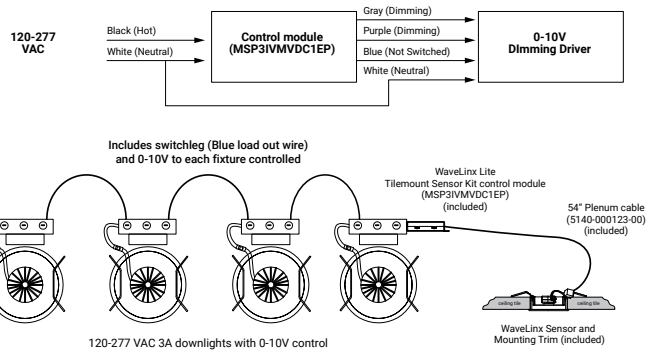
Mobile Applications
Provides personalized, local control from a tablet or smartphone

WaveLinx mobile app settings

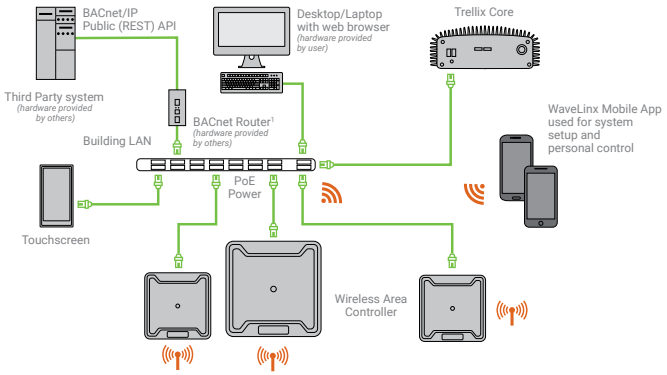
Manual Dimmer | Occupancy Sensor | Lumen Maintenance Control | Daylighting Control

Receptacle Control | Tuning Control | Scheduling | Manually Switched ON/OFF | Demand Response

WaveLinx Lite WTA Tilemount Wiring Diagram



WaveLinx Wireless Trellix Building Management Integration



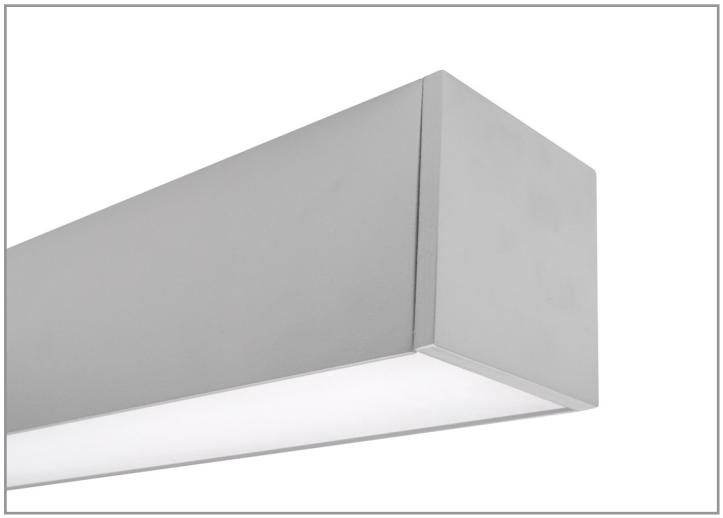
Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

BSS214 | bodhi

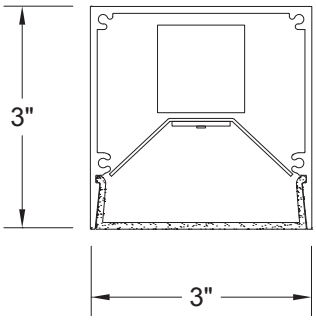
3" square LED luminaire with flush lens

bartco
VISIONS BROUGHT TO LIGHT™

Project: _____ Type: _____



SECTION



FEATURES

The BSS214 is a linear LED luminaire for general lighting applications. The 3" square extrusion, fitted with a flush, frosted lens and machined aluminum end caps. Surface, cable or wall mounting options are available, as well as a variety of dimming drivers and light outputs, to maximize the versatility of this clean design luminaire.

SPECIFICATIONS

Fixture constructed of an extruded aluminum housing, extruded, frosted acrylic lens and machined aluminum end caps

Model variations offered for surface, wall mount and cable suspended applications

Standard finishes as shown below

Available in nominal lengths of 2'-8' single fixtures and continuous runs

Basic continuous run fixtures provided with 18 ga. wiring harness for 6 Amp maximum load (consult factory for runs requiring multiple circuits, sensor integration, etc.)

Standard integral 120-277V driver offered with 0-10V dimming or non-dim (other dimming driver options available)

Integral 120-277V emergency battery backup available for 4' or 8' nominal non-dim or 0-10V (consult factory for all other lengths/drivers)

Passive infrared occupancy sensor available

Standard outputs are 555, 720, and 950 lumens per foot

LEDs available in 2700K, 3000K, 3500K and 4000K, within a 3 step MacAdam ellipse, all with 90+ CRI typical

Life: 50,000 hours L_{70}

Limited five year warranty

UL and C-UL listed for dry and damp locations

PERFORMANCE

NOMINAL LENGTH	OUTPUT	LUMENS/ft.	WATTS/ft.	LUMINAIRE LUMENS	EFFICACY (LPW)
4'	L: low	555	5.6	2071	100
	R: regular	720	7.7	2690	93
	H: high	950	10.6	3535	88

Note: All data reflects fixture with 3500K LEDs

c UL us LISTED

Made in USA

BSS214 -

____ - ____ - ____ - ____ - ____ - ____ - ____ - ____

NOMINAL FIXTURE LENGTH*

2: 22-3/4"
3: 33-3/4"
4: 44-3/4"
5: 55-3/4"
6: 66-3/4"
7: 77-3/4"
8: 88-3/4"

CORRELATED COLOR TEMPERATURE

27: 2700K-90+ CRI
30: 3000K-90+ CRI
35: 3500K-90+ CRI
40: 4000K-90+ CRI

DRIVER

ND: non-dimming
[Dimming]
D: 0-10V, 1%
HES: Lutron EcoSystem, soft-on/fade-to-black, 1%
H2: Lutron Hi-lume 2-wire forward phase, 1%, (120V ONLY)
E5: Lutron EcoSystem 5-Series, 5%
EL: eldoLED ECOdrive 0-10V, 1%

LIGHT OUTPUT (lumens per foot)

L: low - 555
R: regular - 720
H: high - 950
CF: consult factory for custom output

MOUNT

SM: surface mount
WD: wall mount - direct
WI: wall mount - indirect
C4: cable mount 4' cable length
C8: cable mount 8' cable length

RUN CONFIGURATION

SN: single
ST: starter
AD: adder
TR: terminator

OPTIONS

ED: emergency driver (4' or 8' non-dim or 0-10V only)
S1: occ sensor pos.1 (see options section)
S2: occ sensor pos.2 (see options section)
S3: occ sensor pos.3 (see options section)

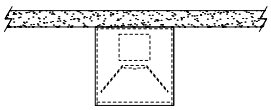
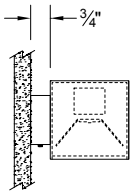
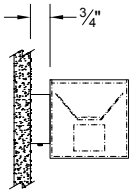
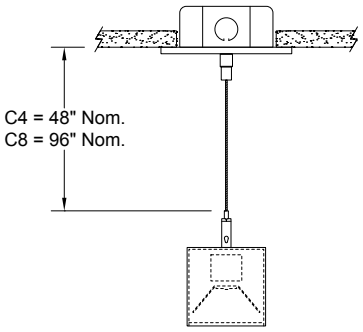
FINISH

AW: architectural white (semi-matte)
WH: white (semi-gloss)
BL: black (semi-matte)
MB: matte black
ESS: environmental satin silver
BZ: bronze
PR: primer
CF: consult factory for custom finish

SA: satin anodize (may require additional lead time)

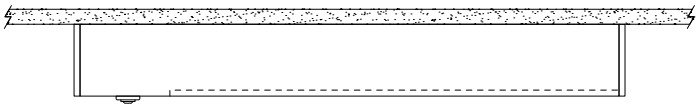
* Actual dimension dependent on run configuration and sensor option

MOUNTING

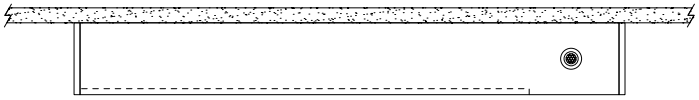
	ORDERING CODE	DESCRIPTION
	SM	SURFACE MOUNT Use appropriate fastener through Ø3/16" holes in housing
	WD	WALL MOUNT – DIRECT ORIENTATION Mounting option includes: • 1-7/8" H x 4-1/2" W aluminum bracket projects the fixture housing 3/4:" from the wall surface
	WI	WALL MOUNT – INDIRECT ORIENTATION Mounting option includes: • 1-7/8" H x 4-1/2" W aluminum bracket projects the fixture housing 3/4:" from the wall surface
	C4 and C8	CABLE MOUNT Mounting option includes: • Ø 1/16"x 48" (C4) or 96" (C8) aircraft cables • 60" (C4) or 108" (C8) power cable (in coordinating finish) • Bracket bars • Ø 5" white canopies • Ceiling couplers • Side exit cable grippers

OPTIONS

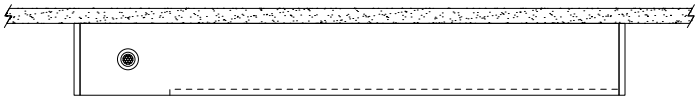
ORDERING CODE	DESCRIPTION	SPECIFICATIONS
ED	EMERGENCY LED DRIVER	• Universal 120-277V input voltage emergency driver delivers initial minimum power of 10W for 90 minutes • Available for 4' or 8' nominal length non-dim or 0-10V fixture only (consult factory for all other lengths/drivers) • Indicator light/test switch located on housing side for surface mount and upper side for cable suspended mount
	OCCUPANCY SENSOR	Passive infrared occupancy sensor with hold-off daylighting adjustment (10-120 foot candles) and time delay adjustment from 30 seconds to 30 minutes Sensor adds 4" to overall fixture length
S1	OCCUPANCY SENSOR - POSITION 1	Sensor located on the lens side at an end



S2	OCCUPANCY SENSOR - POSITION 2	Sensor located on the housing side at the **right** end



S3	OCCUPANCY SENSOR - POSITION 3	Sensor located on the housing side at the **left** end



BSS214 | bodhi

3" square LED luminaire with flush lens

LENGTH/MOUNTING DIMENSIONS

ORDERING CODE	LENGTH A*	LENGTH B*	LENGTH C*	LENGTH D*	LENGTH E*
2	22-3/4"	22-1/2"	22-1/4"	16-3/4"	19-1/2"
3	33-3/4"	33-1/2"	33-1/4"	27-3/4"	30-1/2"
4	44-3/4"	44-1/2"	44-1/4"	38-3/4"	41-1/2"
5	55-3/4"	55-1/2"	55-1/4"	49-3/4"	52-1/2"
6	66-3/4"	66-1/2"	66-1/4"	60-3/4"	63-1/2"
8	77-3/4"	77-1/2"	77-1/4"	71-3/4"	74-1/2"
9	88-3/4"	88-1/2"	88-1/4"	82-3/4"	85-1/2"

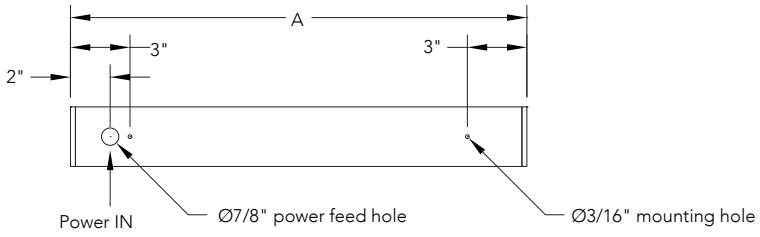
* Add 4" to dimension for any fixture using the S1, S2 or S3 occupancy sensor option

RUN CONFIGURATION INFORMATION

ORDERING CODE	DESCRIPTION
SN	Single
ST	Starter
AD	Adder
TR	Terminator

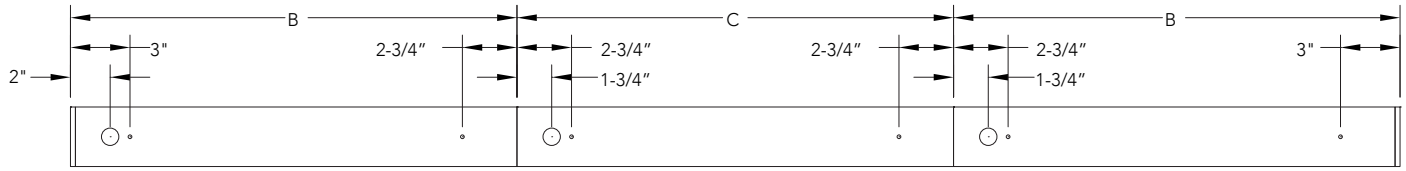
RUN INFORMATION

Back Plan - Surface Mount Single Fixture Option



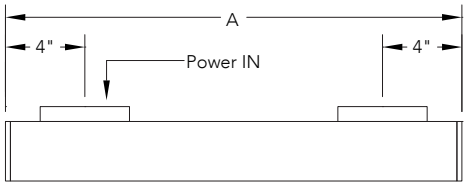
SN

Back Plan - Surface Mount Continuous Run Option



ST AD TR

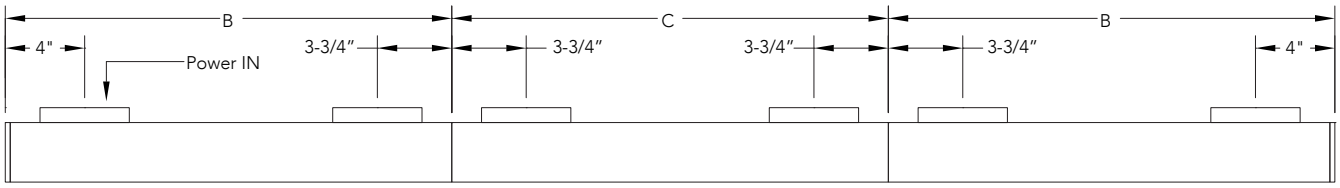
Plan - Wall Mount Single Fixture Option



SN

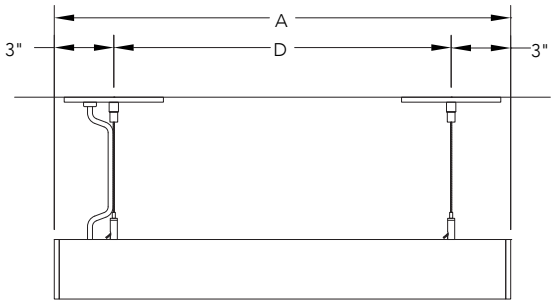
RUN INFORMATION

Plan - Wall Mount Continuous Fixture Option



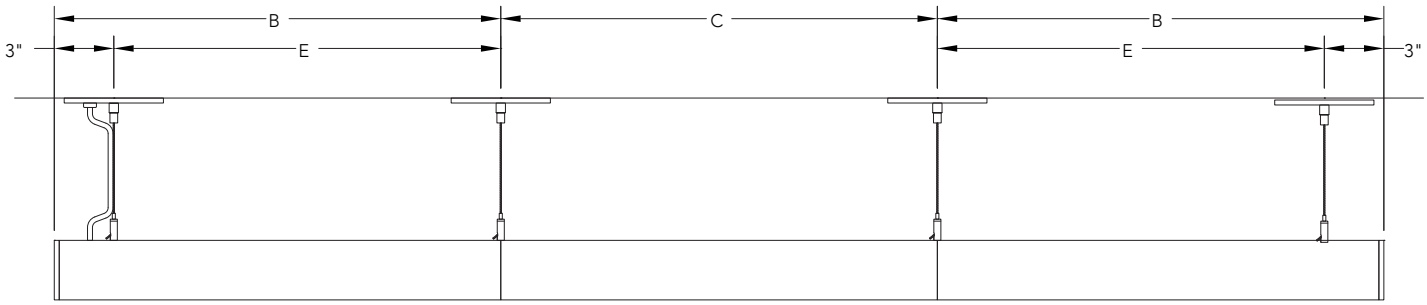
ST AD TR

Side View - Cable Mount Single Fixture Option



SN

Side View - Cable Mount Continuous Run Option



ST AD TR

CONTECH LIGHTING | a LEVITON company

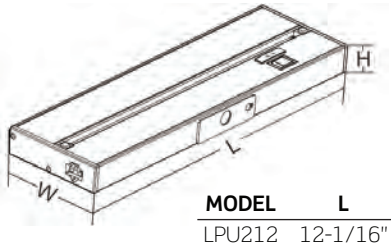
CATALOG NO.

DATE PROJECT TYPE

LPU2 SERIES | 120V 3-CCT (27K-30K-40K) LED Undercabinet Lighting

	LPU212	LPU218	LPU224	LPU232
WATTAGE	5W	8W	12W	16W
LUMEN OUTPUT[1]	250Lm – 300Lm	380Lm – 450Lm	850Lm – 900Lm	950Lm – 1050Lm
COLOR TEMPERATURE	Switch allows selection between three different color temperatures: 2700K, 3000K and 4000K			
CRI	90			
DIMMING TYPE	120V Triac			
SYSTEM RATING	50,000 Hours @ 70% Lumen Maintenance			
LISTING	cETLus Listed Suitable for dry locations Can be used to comply with 2019 Title 24 Part 6 JA8 high efficacy LED light source requirements			
WARRANTY	Five (5) year replacement after date of purchase			

1. Lumen values are approximate, see photometric test results



MODEL	L	W	H
LPU212	12-1/16"	3-5/8"	1"
LPU218	18-1/16"	3-5/8"	1"
LPU224	24-1/16"	3-5/8"	1"
LPU232	32-1/16"	3-5/8"	1"

Ordering Information

Example Order: LPU2241 – P

LPU2 —

Luminaire	Length	Voltage	Finish
LPU2	**12** - 12-1/16" **18** - 18-1/16" **24** - 24-1/16" **32** - 32-1/16"	**1** - 120V	**BZ** - Bronze **P** - White

Accessories

LPAOCC-BZ - Occupancy Sensor
LPACE-(B,P) - End-to-End Connector
LPAC6-(B,P) - 6" Jumper Cable
LPAC12-(B,P) - 12" Jumper Cable
LPAC24-(B,P) - 24" Jumper Cable
LPAC72-(B,P) - 72" Jumper Cable
LPAPL72-(B,P) - 72" Plug-and-Play Connector

Finish Codes: -B (Black), **-BZ** (Bronze), **-P** (White)

Product Details

Construction

- Bronze or white finish with frosted lens
- Built in LED driver and large knockout plate in the back makes for effortless installation
- Resistant to shock and vibration
- No infrared or ultraviolet radiation
- Assorted flexible connections allow for continuous row applications as well as applications with bends and corners
- Linkable to 200W max.
- Integral ON/OFF switch as well as High/Low switch
- Optional Occupancy Sensor accessory available in bronze finish only; see LPAOCC Spec Sheet for details

Performance Summary

- Superior versatility, color rendering and efficiency
- Each unit includes: 72" Power Connector (LPAPL72), 12" JumperCable (LPAC12), End-to-End Connector (LPACE), Conduit Connector and Mounting Screws
- Thin profile; less than 1" in depth
- Selectable switch allows selection of three (3) different color temperatures: 2700K, 3000K, and 4000K
- Can be used to comply with 2019 Title 24 Part 6 JA8 high efficacy LED light source requirements

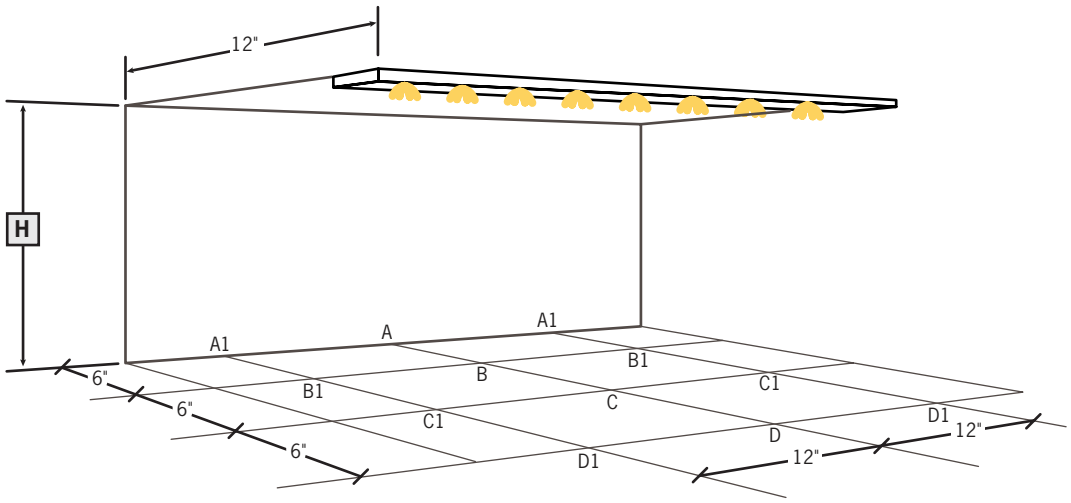
CONTECH LIGHTING | a LEVITON company

CATALOG NO.

DATE PROJECT TYPE

LPU2 SERIES | 120V 3-CCT (27K-30K-40K) LED Undercabinet Lighting

Photometrics



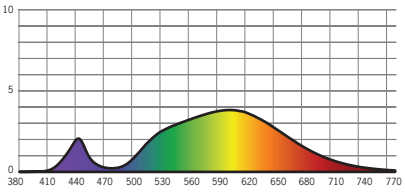
LPU2 – HIGH

Fixture Delivered Lumens: 337
Total Watts@120V: 5.5
Lumens Per Watt: 61
Color Rendering Index (CRI)[1]: 90
Color Temperature (CCT)[2]: 3000K

Designed for 50,000 Hour Lamp Life[3]
LM-79 Test No. 63753

Lamp Spacing From Wall	Cabinet Elevation (H)	Footcandles on Horizontal Plane							
		A	A1	B	B1	C	C1	D	D1
12"	12"	42	20	79	33	36	18	8	5
12"	18"	32	19	45	25	27	16	10	8
12"	24"	23	16	28	19	19	14	10	8

Spectral Power Distribution Chart[4]



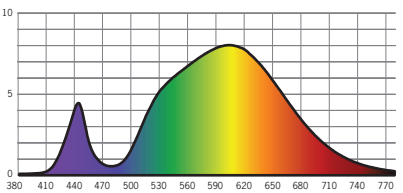
LPU2 – LOW

Fixture Delivered Lumens: 287
Total Watts@120V: 5.7
Lumens Per Watt: 50
Color Rendering Index (CRI)[1]: 90
Color Temperature (CCT)[2]: 3000K

Designed for 50,000 Hour Lamp Life[3]
LM-79 Test No. 63754

Lamp Spacing From Wall	Cabinet Elevation (H)	Footcandles on Horizontal Plane							
		A	A1	B	B1	C	C1	D	D1
12"	12"	35	17	67	28	31	15	7	5
12"	18"	27	16	38	22	23	14	9	6
12"	24"	19	14	24	16	17	12	9	7

Spectral Power Distribution Chart[4]



1. Accuracy of rendering colors 2. Color appearance of light source 3. Dependent on surrounding temperatures 4. Colors present within the light source

EVENLITE

LIFE SAFETY LIGHTING SOLUTIONS

TYPE 'X'

PROJECT NAME:	APPROVED BY:
CATALOG NO:	TYPE NO:

SOVEREIGN - LED Exit Signs

Architectural Edgelit

EYE APPEAL

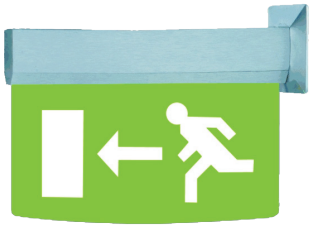
Sovereign LED edgelit exit signs set the standard for architectural appeal; always enhancing their surroundings and pleasing even the most discerning eye. Subtle lines and soft curves create a distinctive "floating" edgelit look. Quality construction includes precision die cast aluminum housings with a unique, crystal clear, laser-formed thin acrylic legend. The Sovereign has been designed with the latest high efficiency LED light sources to provide vivid pronouncement of its exit legend with exceptional uniformity and luminance levels – 4X the UL requirement. Engineered for reliability and ease of installation, Sovereign comes in many cost-effective configurations offering superlative quality, performance, and aesthetics.

Construction

- Recessed ceiling back box features universal adjustable mounting brackets with quick-fit retaining clips to suit most ceiling types
- Full size universal, self-adhesive Chevron arrows with template enable on-site configuration
- Lens Panel is "Last-to-Assemble" snap-in for versatility and ease of installation
- Hinged retaining springs eliminate exposed mounting hardware on recessed model
- Slim line low profile surface mount housing eliminates need for recessing box in wall mount applications
- Low profile recessed housing is suitable for old or new work installations and is type IC Rated
- Modular design provides ease of installation and matching configurations
- Quality brushed aluminum sealed finish is standard, optional White, Black, brushed painted Brass finishes available. Consult factory for custom finishes.
- Contoured, crystal clear laser formed edge lit lens
- Custom legends with white LED light source available to order
- Precision pressure die cast aluminum legend holder, trim and surface mount housing
- Available with a range of information signage or custom graphics to order
- Recessed AC Indicator and Test Switch

Surface Wall Mount

Surface Ceiling Mount



Surface End Mount

Electrical

- Unique electronic driver circuit provides current control and protection ensuring optimum LED efficiency and life
- Available with Master/Remote combinations
- Zero current LVCO ensures positive charge acceptance following extended discharge
- Brownout sensing assures emergency illumination during periods of low line voltage
- All versions feature fully integrated electronic components
- Universal 120/277 VAC field selectable input
- Battery Diagnostic Circuit monitors battery status, detects cell failure and issues alert of reduced capacity and the need to replace battery
- Diagnostic Battery Monitoring on all "EM" models
- Premium long life high temperature rated, fused Nickel Cadmium battery, operating temperature 10º to 40ºC

Illumination

- Refractive light guide engineered to optimize LED utilization and illumination uniformity
- Maintenance free LED Light source with 25+ years life expectancy

Certification

- Approved for use in New York City calendar #48851
- UL Listed 3 hour emergency duration standard
- UL 924 Listed by Underwriters Laboratories and meets or exceeds all performance standards as required by NFPA 101, NFPA 70- NEC and OSHA
- California Energy Commission (CEC) Title 20 Compliant

UL LISTED

CEC Title 20 E Compliant

Warranty

- 5 year limited warranty

2575 Metropolitan Drive | Trevose, PA 19053 | T: 1.800.872.0879 | F: 215.244.4208 | mail@evenlite.com | www.evenlite.com

Sovereign LED Exit Signs

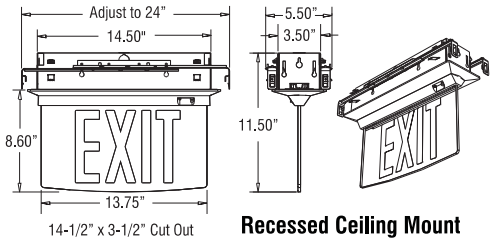
ORDERING GUIDE – SOV

Example: SOV-EM-R-1C-BA-RC-AR-SD-FT

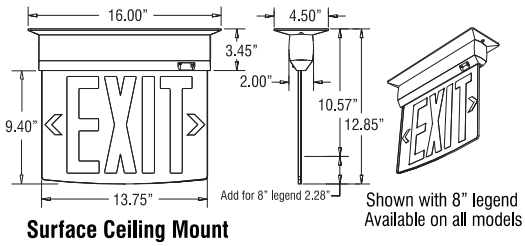
Model	Operation	Legend Size/ Letter Color	Faces/ Background	Trim/ Housing Color	Mounting	Chevron Direction	Options
SOV	**AC** AC Only 120/277 VAC **EM** Battery Backup Emergency	**R** RED Standard 6" EXIT **G** GREEN Standard 6" EXIT **NR** RED 8" EXIT **NG** GREEN 8" EXIT	**1C** Single Face, Clear Background (standard) **1M** Single Face, Mirror Background **2M** Double Face, Mirror Background (Mirror simulates clear background for double face exits) **1W** Single Face, White Background **2W** Double Face, White Background	**BA** Brushed Aluminum (standard) **WH** White Finish **BK** Black Finish **BR** Brushed Brass Painted Finish **CC** Custom Color (specify)	**Standard Mounting** **RC** Recessed Ceiling **SC** Surface Ceiling **SW** Surface Wall **SE** Surface End **Optional Mounting** **MM** Mullion Mount **PA** 12 " Swivel Pendant Mount **PB** 24" Swivel Pendant Mount **PC** 36" Swivel Pendant Mount **PD** 48" Swivel Pendant Mount **UP** Back Box Pre Shipped	**UC** Field Installed Adhesive Chevron Indicators **AR** Arrow Right EXIT> **AL** Arrow Left <EXIT **AA** Double Arrow <EXIT> **LR** Arrow Left/ Arrow Right <EXIT/EXIT> (Double Face units only) Factory installation of Chevrons is recommended for Double Face Signs	**DK** Two Circuit Input –Specify Input Voltage AC Models only) **DL** Damp location listed **EU** Euro Legends (Consult factory for full range) **F** Flash in Emergency Mode (EM Models) or continuous Flash in AC models **FA** Flash in AC and Emergency mode on 12-24V (AC or DC) normally-off fire alarm signal (Available for AC and EM models) **FB** FA Option including Buzzer **FZ** F Option including Buzzer **FP** Flat Panel (no curve on panel bottom) **FT** Flat Trim for Recessed Ceiling Mount **IN** Inverted Legend – Use with Mullion Mount **IR** Self-Diagnostics with Infrared remote Testing (EM models only) **TLRT** Infrared hand held Transmitter (order separately) **LL** Remote is the Razor Mk3 LL model with security cover **SD** Self-Test / Self-Diagnostic (EM models Only) **VA** Other Input Supply Voltage (Consult Factory)
SOV							

Fill in fields from categories above and complete type and part number.

Type Number:	*Full Part Number:*



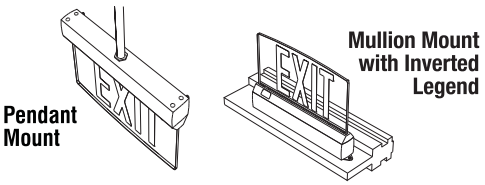
Recessed Ceiling Mount

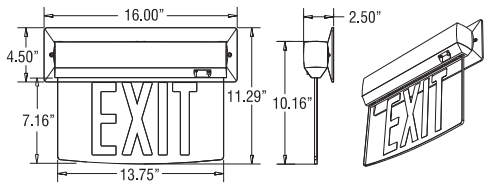


Surface Ceiling Mount

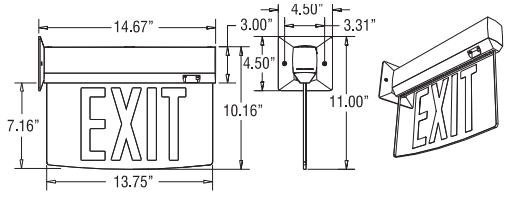
Shown with 8" legend Available on all models

Surface Wall Mount





Surface Wall Mount



Surface End Mount

Power Consumption

Type		Volts	Max Watts	Power Factor
RED	AC Only	120 / 277	1.5	.70
RED	Battery Backup	120 / 277	2.5	.70
RED	Battery Backup with Remote	120 / 277	3.0	.73
GREEN	AC Only	120 / 277	2.3	.70
GREEN	Battery Backup	120 / 277	3.0	.76
GREEN	Battery Backup with Remote	120 / 277	4.0	.81

EVENLITE

LIFE SAFETY LIGHTING SOLUTIONS

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