McMAHON
ENGINEERS ARCHITECTS

AGREEMENT
FOR PROFESSIONAL SERVICES

VILLAGE OF HARRISON
Attn: Chad Pelishek – Assistant Village Manager
W5298 State Road 114
Harrison, WI 54952

JANUARY 10, 2025
McM. No. H0006-06-24-00138
VILLAGE GARAGE EXPANSION STUDY
FINAL PLANS FOR BIDDING & CONST.

PROJECT DESCRIPTION

In July of 2024, the Village of Harrison contracted with McMahon Associates, Inc. (McMahon) to provide architectural & structural services to 50% level of completion, civil / site services to 25% level of completion, and mechanical, electrical, and plumbing design services for the project were to be written narratives. All design services were used for an Opinion of Probable Cost to finalize this phase of design, with final design services in a later phase. The plans stemming from this agreement were approved in September of 2024 and presented to the Village Board on October 29th of 2024.

The Village of Harrison has requested these plans, designed by McMahon in 2024, be finished for bidding and construction in 2025. It is understood that bidding is to be completed in March of 2025 with construction following shortly thereafter if approved by the Village Board. This proposal covers the finalization of the previously approved drawings, creating Mechanical, Electrical, and Plumbing plans from the written narratives for bidding & State of Wisconsin plan approval.

It is understood that Construction Administration (shop drawing review and construction phase services) and Client's Representation during construction are to be an additional service at this time. Fee's for Construction Administration and Owners Representation during construction are based on 2025 billing rates. Should the Construction Phase begin in 2026 a new proposal will be required.

With this agreement, it is understood that the schematic design phase is now complete, and the floor plan / design concept is locked in. Please see the attachments to the proposal for the plans and narratives that will be used going forward for the completion of the design.

SCOPE OF SERVICES

A. GENERAL DESIGN SERVICES

1. Planning (Preliminary Design)
    a. Attend Up to two virtual meetings for design coordination as required.
    b. Coordinate design review meeting with Client.
2. Design
    a. Develop construction documents based on previously approved preliminary design.
    b. Develop specifications (including procurement and contracting requirements, general requirements, and technical sections).
    c. Attend drawing coordination meeting reviews as required.

d. Drawings to be developed in AutoDesk Revit format or Civil 3D, taken to a maximum coordination level of LOD:300.

e. Coordinate 90% review meeting with Client.

3. Provide PDF format drawings and specifications for state submittals and bidding.

4. Submit drawings, specifications, calculations, and documentation as required for applicable agency reviews and permitting.

B. SURVEY SERVICES

1. Topographic Survey Services

   a. Research public records for survey control data.

   b. Contact Diggers Hotline to field locate public utilities.

   c. Establish horizontal and vertical control points throughout the project.

   d. Prepare a topographical survey of the project area to locate visible site features. Survey to include sufficient spot elevations to produce 1-foot contours.

   e. Prepare an AutoCAD drawing of the topographical survey to be used as a base drawing to the engineering drawings.

C. CIVIL / SITE DESIGN SERVICES

1. Design

   a. Stormwater Management Design / Plan

      1) Provide a stormwater management system design for only on-site stormwater runoff.

      2) Perform hydrologic, hydraulic, water quality, and infiltration analysis.

      3) Prepare a Stormwater Management Plan Report.

   b. Civil / Site Design

      1) Prepare a Request for Proposal for Geotechnical Engineering services on behalf of the Client.

      2) Develop civil / site drawings and specifications.

      3) Prepare an existing conditions base AutoCAD drawing using information collected from the topographic land survey.

      4) Provide site grading design.

      5) Provide site utility design for sanitary sewer (gravity), water main and storm sewer that will serve the building.

      6) Perform an erosion and sediment control analysis and design.

      7) Prepare an erosion and sediment control narrative and sequence of construction.

      8) Prepare and submit to local authorities a Plan Review Package and assist the Client with coordinating the site plan review process.

2. Drawings include symbols, abbreviations, and basic erosion control notes sheet, existing conditions and survey control sheet, site plan, grading plan, erosion control plan, utility plan (storm sewer, sanitary sewer, and water main), and construction detail sheets.

D. ARCHITECTURAL DESIGN SERVICES

1. Design
    a. Develop / finish architectural drawings and specifications.
    b. Code review.
    c. Prepare energy calculations (ComCheck).
    d. The Client will sign off on design documents prior to bidding and state review.
2. Drawings include title sheet, architectural site plan, code sheets, floor, and roof plans, building sections and elevation, wall sections and architectural details, room finish and door schedules, and reflected ceiling plans.

E. STRUCTURAL DESIGN SERVICES

1. Planning (Preliminary Design)
    a. Conceptual framing and foundation systems.
    b. Basis of Design establishing systems and design loads.
2. Design
    a. Develop structural drawings and specifications.
    b. Structural design calculations. Design of structural system will be based on current Wisconsin Building Code.
3. Drawings include outline specifications and schedules, foundation and framing plans, column and bracing elevations, and foundation and framing details.

F. PLUMBING DESIGN SERVICES

1. Planning (Preliminary Design)
    a. Develop Basis of Design including standards, codes, fixture types, and materials.
    b. Plumbing site utility identification for water, not potable and sanitary.
2. Design
    a. Develop plumbing drawings and specifications on sheet.
    b. Site coordination and direction of utilities.
    c. Identify water pressure, sanitary size, and elevation.
    d. Plumbing flow calculations.
    e. Construction administration; assume two RFIs and four submittal reviews.
    f. Book specifications.

g. Riser diagram and details.

h. One onsite walk through.

i. Design meetings via video conferencing, quantity of two, one hour each.

3. Drawings include cover sheet with abbreviations and symbols, underfloor DWV, above floor DWV piping, water piping.

G. HVAC DESIGN SERVICES

1. Planning (Preliminary Design)
   a. Design based on previous HVAC Design Basis (Job# M22632) done for Village of Harrison.
2. Design
   a. Develop HVAC drawings and specifications.
   b. Final heating and cooling calculations.
   c. Select final system option.
   d. Design ventilation and exhaust ductwork and condensate system piping.
   e. Fuel system design and layout from utility connections to HVAC equipment.
   f. Final selection and design of system controls.
   g. Construction administration: assume two RFI's, four submittal reviews, and one site visit.
   h. Generate probable cost estimate.
   i. Book specifications.
   j. One onsite walk through.
   k. Design meetings via video conferencing, quantity of two, one hour each.
   l. Provide construction administration support.
3. Drawings include cover sheet with abbreviations and symbols, floor plans with ductwork and component layout, equipment schedules, and details.

H. ELECTRICAL/LIGHTING DESIGN SERVICES

1. Planning (Preliminary Design)
   a. Coordination with electrical utility.
   b. Develop one-line diagrams.
   c. Selection of major distribution equipment.
2. Design
   a. Develop electrical drawings and book specifications.
   b. Final electrical design.
   c. Electrical power distribution. Generator design is part of a separate contract.
   d. Interior and exterior lighting, including lighting controls and egress lighting photometrics.

SCOPE OF SERVICES

e. Exterior lighting photometrics for permit submittal. *Site photometrics per IES recommendations and local zoning code lighting requirements.*

f. Fire alarm system.

g. Voice / Data System Includes network cabling, fiber optic cabling, racks, cable tray, jacks, patch panels, outlets, etc. It does not include IT equipment (rack-mount-UPS, network switches, wireless access points, VOIP phone systems).

h. Provide coordination of security systems for empty conduit and power. Low voltage systems to be designed by the Client's vendors.

i. COMCHECK energy calculations.

3. Drawings include electrical floor plans (general power distribution, receptacles, motors, and special outlets), circuiting, lighting (general and emergency egress, and lighting controls), special systems (voice / data, fire alarm, and provisions for security), one-line power distribution diagrams (service entrance and feeders), electrical schedules (motor and special outlet, light fixture schedule, lighting controls, panelboard, feeder, voltage drop, fault current, and disconnect switch), and electrical details.

I. BIDDING PHASE SERVICES

1. Assist with bidding documents.
2. Organize and conduct a pre-bid conference for prospective bidders.
3. Bid tabulation.
4. Answer bidder questions.

ITEMS NOT INCLUDED IN THE SCOPE OF SERVICES

The following is not intended to be a comprehensive list. It is intended to highlight general areas not included in the Scope of Services.

A. GENERAL

1. Redesign efforts necessitated by changes to site and building layout after planning phase approval or due to project budget reductions after bidding phase.
2. Permit / review fees to municipal / state agencies, including review and recording fees (McMahon will invoice as a reimbursable expense if required).
3. Geotechnical Services including soil borings, geotechnical report, and services during construction.
4. **Construction Administration services or Owner's Representation during construction. (Optional Service)**
5. Reproduction of plans and specifications (McMahon will invoice as a reimbursable expense if required).
6. Construction Administration services.
7. LEED administrative service, design, and LEED commissioning.

ITEMS NOT INCLUDED IN THE SCOPE OF SERVICES

8. Project BIM coordination.
9. Record / final BIM model.
10. Review change orders for completeness and compare scope of work against previously contracted scope of work.
11. Review contractor payment requests.
12. Obtain and review operation and maintenance manuals from contractors. Submit O&M manuals to Client.
13. Conduct site visits to observe construction.
14. Record drawings and certifications.

B. SURVEY / CIVIL / SITE

1. CSM.
2. ALTA/NSPS Land Title Survey.
3. Title/easement searches.
4. Environmental site assessments.
5. Wetland Delineation Report.
6. Applications for DNR and/or wetland permits.
7. Landscape design and plan.
8. Private utility locates.
9. Attendance at Village meetings. If required, meetings will be attended on a Time and Expense basis.
10. Archaeological, historical, endangered/threatened species.
11. Sampling and testing of soil, air, groundwater, building materials, and/or other media on the subject property.
12. Design of new services and/or relocation/demolition of existing gas, electric, telephone, fiber, and cable; and coordination with the respective utility companies.
13. Applications for rezoning, Conditional Use Permit, and / or variances to the Village Zoning Ordinance.
14. Preparation of easement documents, development, and lease agreements.
15. Design of public improvements in public right-of-way including street and utility upgrades.
16. Construction staking services.
17. Post-construction stormwater management.
18. Traffic Impact Analysis.
19. Design of pavement section(s).
20. Industrial Stormwater Permit and Stormwater Pollution Prevention Plan.
21. Irrigation design.
22. Stormwater infiltration analysis and design of stormwater infiltration devices.

ITEMS NOT INCLUDED IN THE SCOPE OF SERVICES

23. Wisconsin DNR Construction Site Stormwater Runoff Permit Application (land disturbance is assumed to be less than 1-acre).

C. ARCHITECTURAL / STRUCTURAL

1. Documentation of existing building conditions outside the immediate work area.
2. Finish color selections or interior design.
3. Renderings and animations.

D. HVAC / ELECTRICAL / PLUMBING

1. Design of mechanical systems not identified in HVAC services above such as compressed air system, solar panels (Photovoltaic system) atop roof, etc.
2. HVAC energy modeling of the buildings.
3. Review of existing construction documents of HVAC and / or plumbing systems not related to the scope of work.
4. Site surveys.
5. Any non-MEP engineering design services (civil, environmental, etc.).
6. Fire protection design services.
7. Alternative Systems/Design Evaluation & Analysis.
8. Any LEED-related reviews, designs, and documentation.
9. Construction cost estimates.
10. Detailed controls design, controls wiring diagrams, control panel component specification, etc.
11. Any fees including, but not limited to, application fees, impact fees, permit fees, resubmittal fees, AHJ inspection fees, etc.
12. Natural gas meter sizing, underground piping, and installation.
13. Plumbing DSPS submittal (under limit of 16 fixtures).
14. Design of voice / data and audio / visual systems.
15. Design of replacement electrical service entrance and replacement of major electrical gear.
16. Final design of fire alarm system and the final installation drawings are by fire alarm design/build contractor.
17. Design of security systems and audio / visual systems.
18. Design of generator – part of separate contract.

CLIENT RESPONSIBILITIES

The Scope of Services and fee is based upon the understanding that Client will provide the following:

A. Project information in a timely manner regarding requirements for and limitations to the project which shall establish the Clients objectives; schedule; constraints and criteria, including space requirements and relationships; flexibility; expansion requirements; equipment; systems and site requirements.

B. Identify a representative authorized to act on the Client's behalf with respect to the project. Client shall render decisions and submittal reviews by McMahon in a timely manner in order to avoid unreasonable delays in the orderly and sequential progress of McMahon's services.

C. Establish the overall project budget including the construction cost of the project, the Client's other costs, and reasonable contingency related to all these costs.

D. Payment of all review and recording fees required by the review agencies and County Register of Deeds, which are not included in this Agreement.

E. Geotechnical Report prepared by a Geotechnical Engineer stating the allowable soil bearing pressures and recommend foundation system.

F. Coordinate the services of its own consultants with those services provided by McMahon.

G. Sustainability requirements for the project.

H. Access to the site and existing drawings.

I. Receipt and review of bids.

J. Marking of private utilities.

K. The contractors shall locate and coordinate the final MEP drops/tie-ins to equipment.

L. Equipment cut sheets for equipment being supported by building or foundation.

SPECIAL TERMS & CONDITIONS

A. AGREEMENT CONFIDENTIALITY

Client agrees that the Project Description, Scope of Services and Compensation sections contained in this Agreement, pertaining to this project or any addendum thereto, are considered confidential and proprietary, and shall not be released or otherwise made available to any third party, prior to the execution of this Agreement, without the expressed written consent of the McMahon Associates, Inc.

Refer also to the General Terms and Conditions attached to this Agreement.

COMPENSATION

McMahon Associates, Inc. agrees to provide the Scope of Services described above for the following Lump Sum compensation.

DESIGN, BIDDING & STATE PLAN APPROVAL SERVICES FEE

- Topographic Survey Services.....$1,000.00
- Civil / Site Design Services.....$10,000.00
- Bidding Services.....$4,000.00
- Architectural Design Services.....$18,000.00
- Structural Design Services.....$10,000.00
- Plumbing Design Services.....$21,168.00
- HVAC Design Services.....$27,664.00
- Electrical Design Services.....$16,000.00

DESIGN, BIDDING & STATE PLAN APROVAL SERVICES FEE SUBTOTAL.....$107,832.00

ESTIMATED REIMBURSABLE EXPENSES

- Mileage.....$250.00
- State Fees.....$1,400.00

TOTAL ESTIMATED REIMBURSABLE EXPENSES.....$1,650.00

TOTAL PROJECT FEES THROUGH BIDDING & STATE PLAN APPROVAL.....$109,482.00

CONSTRUCTION ADMINISTRATION SERVICES FEE – BASED ON 2025 RATES

1. Review shop drawings.
2. Respond to Requests for Information (RFIs).
3. Answer questions during the construction phase.
4. Perform walk-through with the Client's Representative at project completion to develop punch list of items to be completed or corrected by the contractor.
5. Prepare Certificate of Completion.

- Civil / Site Construction Administration Services.....$2,000.00
- Architectural Construction Administration Services.....$4,000.00
- Structural Construction Administration Services.....$2,000.00
- Plumbing Construction Administration Services.....$2,500.00
- HVAC Construction Administration Services.....$2,800.00
- Electrical Construction Administration Services.....$4,000.00

CONSTRUCTION ADMINISTRATION SERVICES FEE SUBTOTAL.....$17,300.00

OWNERS REPRESENTATION DURING CONSTRUCTION – BASED ON 2025 RATES

1. Assumes six-month construction schedule.
2. Up to 24 site visits during construction.
3. Includes milage and two hours on site per visit.
4. Review change orders for completeness and compare scope of work against previously contracted scope of work.
5. Review contractor payment requests.

- Client's Construction Representation during Construction (Time & Expense Budget)....**$15,000.00**

COMPLETION SCHEDULE

McMahon Associates, Inc. agrees to complete this project as follows:

- Complete planning and design phase within 8-10 weeks after authorization to proceed and we recommend (4) weeks for the bid phase.

  Please note that the pace of DSPS reviews and approvals for site related submittals may impact the design completion schedule.

ACCEPTANCE

The General Terms & Conditions and the Scope of Services (defined in the above Agreement) are accepted, and McMahon Associates, Inc. is hereby authorized to proceed with the services. The Agreement fee is firm for acceptance within sixty days from date of this Agreement.

VILLAGE OF HARRISON
W5298 State Road 114
Menasha, WI 54952

Authorized Signature

Date

McMAHON ASSOCIATES, INC.
1445 McMahon Drive | PO Box 1025
Neenah, WI 54956 | 54957-1025
920.751.4200 | MGMGRP.COM

Michael A. Martin, AIA
Associate / Senior Architect

January 10, 2025
Date

Attachments: General Terms and Conditions
Fee Schedule
Reimbursable Schedule

McMAHON ENGINEERS ARCHITECTS

McMAHON ASSOCIATES, INC.
GENERAL TERMS & CONDITIONS

MAY 10, 2024

1. STANDARD OF CARE

1.1 Services: McMahon Associates, Inc. (McMahon) shall perform services consistent with the professional skill and care ordinarily provided by engineers/architects practicing in the same or similar locality under the same or similar circumstances. McMahon shall provide its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

1.2 Client's Representative: McMahon intends to serve as the Client's professional representative for those services, as defined in this Agreement, and to provide advice and consultation to the Client as a professional. Any opinions of probable project costs, approvals and other decisions made by McMahon for the Client are rendered based on experience and qualifications and represent our professional judgment. This Agreement does not create, nor does it intend to create a fiduciary relationship between the parties.

1.3 Warranty, Guarantees, Terms and Conditions: McMahon does not provide a warranty or guarantee, expressed or implied, for professional services. This Agreement or contract for services is not subject to the provisions of uniform commercial codes. Similarly, McMahon will not accept those terms and conditions offered by the Client in its purchase order, requisition or notice of authorization to proceed, except as set forth herein or expressly accepted in writing. Written acknowledgment of receipt, or the actual performance of services subsequent to receipt, of any such purchase order, requisition or notice of authorization to proceed is specifically deemed not to constitute acceptance of any terms or conditions contrary to those set forth herein.

2. PAYMENT AND COMPENSATION

2.1 Invoices: McMahon will bill the Client monthly with net payment due in 30-days. Past due balances shall be subject to an interest charge of 1.0% per month. Client is responsible for interest charges on past due invoices, collection agency fees and attorney fees incurred by McMahon to collect all monies due McMahon. Client is responsible for all taxes levied on professional services and on reimbursable expenses. McMahon and Client hereby acknowledge that McMahon has and may exercise lien rights on subject property.

2.2 Reimbursables: Expenses incurred by McMahon for the project including, but not limited to, equipment rental will be billed to the Client at cost plus 10% and sub-consultants at cost plus 12%. When McMahon, after execution of an Agreement, finds that specialized equipment must be purchased to provide special services, the cost of such equipment will be added to the agreed fee for professional services only after the Client has been notified and agrees to these costs.

2.3 Changes: The stated fees and Scope of Services constitute McMahon's professional opinion of probable cost of the fees and tasks required to perform the services as defined. For those projects involving conceptual or process development services, activities often cannot be fully defined during initial planning. As the project progresses, facts uncovered may reveal a change in direction, which may alter the Scope. Changes by the Client during design may necessitate re-design efforts. McMahon will promptly inform the Client in writing of such situations so changes in this Agreement can be negotiated, as required.

2.4 Delays and Uncontrollable Forces: Costs and schedule commitments shall be subject to re-negotiation for delays caused by the Client's failure to provide specified facilities or information, or for force majeure delays caused by unpredictable occurrences, including without limitation, fires, floods, riots, strikes, unavailability of labor or materials, delays or defaults by suppliers of materials or services, process shutdowns, infectious diseases or pandemics, acts of God or the public enemy, or acts or regulations of any governmental agency. Temporary delay of services caused by any of the above, which results in additional costs beyond those outlined, may require re-negotiation of this Agreement.

3. INSURANCE

3.1 Limits: McMahon will maintain insurance coverage in the following amounts:

Worker's Compensation	Statutory
General Liability	
Bodily Injury - Per Incident/Annual Aggregate	$1,000,000 / $2,000,000
Automobile Liability	
Bodily Injury	$1,000,000
Property Damage	$1,000,000
Professional Liability Coverage	$2,000,000

If the Client requires coverage or limits in addition to the above stated amounts, premiums for additional insurance shall be paid by the Client.

McMahon's liability to Client for any indemnity commitments, reimbursement of legal fees, or for any damages arising in any way out of performance of our contract or based on tort, breach of contract, or any other theory, is limited to ten (10) times McMahon's fee not to exceed to $250,000.

3.2 Additional Insureds: Upon request and to the extent permitted by law, McMahon shall cause the primary and excess or umbrella policies for Commercial General Liability and Automobile Liability to include the Client as an additional insured for claims caused in whole or in part by McMahon's negligent acts or omissions. The additional insured coverage shall be primary and non-contributory to any of the Client's insurance policies and shall apply to both ongoing and completed operations.

To the extent permitted by law, Client shall cause the contractor, if any, to include McMahon as an additional insured on contractor's Commercial General Liability, Automobile Liability and Excess or Umbrella policies to include McMahon as an additional insured for claims caused in whole or in part by contractor's negligent acts or omissions. The additional insured coverage shall be primary and non-contributory to any of McMahon's insurance policies and shall apply to both ongoing and completed operations.

4. CLAIMS AND DISPUTES

4.1 General: In the event of a dispute between the Client and McMahon arising out of or related to this Agreement, the aggrieved party shall notify the other party of the dispute within a reasonable time after such dispute arises. The Client and McMahon agree to first attempt to resolve the dispute by direct negotiation.

4.2 Mediation: If an agreement cannot be reached by the Client and McMahon unresolved disputes shall be submitted to mediation per the rules of the American Arbitration Association. The Client and McMahon shall share the mediator's fee and any filing fees equally.

4.3 Binding Dispute Resolution: If the parties do not resolve a dispute through mediation the method of binding dispute resolution shall be litigation in a court of competent jurisdiction.

5. TERMINATION OR SUSPENSION

5.1 Client: Termination of this Agreement by the Client shall be effective upon seven (7) day written notice to McMahon. The written notice shall include the reasons and details for termination; payment is due as stated in above Section 2.

5.2 McMahon: If the Client defaults in any of the Agreements entered into between McMahon and the Client, or if the Client fails to carry out any of the duties contained in these Terms & Conditions, McMahon may, upon seven (7) days written notice, suspend its services without further obligation or liability to the Client unless, within such seven (7) day period, the Client remedies such violation to the reasonable satisfaction of McMahon.

5.3 Suspension for Non-Payment: McMahon may, after giving 48-hours' notice, suspend service under any Agreement until the Client has paid in full all amounts due for services rendered and expenses incurred.

6. COPYRIGHTS AND LICENSES

6.1 Instruments of Service: McMahon and its subconsultants shall be deemed the author and owner of their respective Instruments of Service (IOS), including the Drawings, Specifications, reports, and any computer modeling (BIM, etc.), and shall retain all common law, statutory and other reserved rights, including copyrights.

6.2 Licenses: McMahon grants to the Client a nonexclusive license to use McMahons' IOS solely and exclusively for the purposes of constructing, using, and maintaining the project, provided that the Client substantially performs its obligations under this Agreement, including prompt payment of all sums due.

6.3 Re-use: Use of IOS pertaining to this project by the Client for extensions of this project or on any other project shall be at the Client's sole risk and the Client agrees to defend, indemnify, and hold harmless McMahon from all claims, damages and expenses, including attorneys' fees arising out of such re-use of the IOS by the Client or by others acting through the Client.

7. AGREEMENT CONDITIONS

7.1 The stipulated fee is firm for acceptance by the Client within 60-days from date of Agreement publication.

7.2 Modifications: This Agreement, upon execution by both parties hereto, can be amended only by written instrument signed by both parties.

7.3 Governing Law: This Agreement shall be governed by the law of the place where the project is located, excluding that jurisdiction's choice of law rules.

7.4 Mutual Non-Assignment: The Client and McMahon, respectively bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Client nor McMahon shall assign this Agreement without the written consent of the other.

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

7.6 Third Party: Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action, in favor of a third party against McMahon.

8. MISCELLANEOUS PROVISIONS

8.1 Additional Client Services: The Client agrees to provide such legal, accounting and insurance counseling services as may be required for the project for the Client's purpose.

8.2 Means and Methods: McMahon is not responsible for direction or supervision of construction means, methods, techniques, sequence, or procedures of construction selected by contractors or subcontractors, or the safety precautions and programs incident to the work of the contractors or subcontractors.

8.3 Purchase Orders: In the event the Client issues a purchase order or other instrument related to McMahon's services, it is understood and agreed that such document is for Client's internal accounting purposes only and shall in no way modify, add to, or delete any of the terms and conditions of this Agreement. If the Client does issue a purchase order, or other similar instrument, it is understood and agreed that McMahon shall indicate the purchase order number on the invoice(s) sent to the Client.

8.4 Project Maintenance: The Client (or Owner if applicable) shall be responsible for maintenance of the structure, or portions of the structure, which have been completed and have been accepted for its intended use. All structures are subject to wear and tear, and environmental and man-made exposures. As a result, all structures require regular and frequent monitoring and maintenance to prevent damage and deterioration. Such monitoring and maintenance is the sole responsibility of the Client or Owner. McMahon shall have no responsibility for such issues or resulting damages.

8.5 Consequential Damages: Notwithstanding any other provision of the Agreement, neither party shall be liable to the other for any consequential damages incurred due to the fault of the other party, regardless of the nature of this fault or whether it was committed by the Client or the Design Professional, their employees, agents, subconsultants or subcontractors. Consequential damages include, but are not limited to, loss of use and loss of profit.

8.6 Corporate Protection: It is intended by the parties to this Agreement that McMahon's services in connection with the project shall not subject McMahon's individual employees, officers, or directors to any personal legal exposure for the risks associated with this project. Therefore, and notwithstanding anything to the contrary contained herein, the Client agrees that as the Client's sole and exclusive remedy, any claim, demand, or suit shall be directed and/or asserted only against McMahon, a Wisconsin corporation, and not against any of McMahon's employees, officers, or directors.

8.7 Contingency: McMahon's professional services are not a warranty or guarantee. The project will evolve and be refined over time. The Client shall provide appropriate contingency for design and construction costs consistent with the reasonable progression of the project. The Client and McMahon agree that revisions due to design clarifications or omissions which result in changes in work during the construction phase which amount to 5% or less of construction costs shall be deemed within the contingency and consistent with the professional standard of care. The Client agrees to make no claim for costs related to changes in work within this threshold. Claims in excess of this threshold shall be resolved per the dispute resolution process.

8.8 Project Costs Associated with Agency Plan Review: McMahon will not be responsible for additional project costs due to changes to the design, construction documents, and specifications resulting from the agency plan review process. The project schedule shall either allow for the agency plan review process to occur prior to the Bid Phase or if this review occurs after the Bid Phase the Client agrees that any additional costs would be considered part of the project contingency.

8.9 Hazardous Materials: McMahon shall have no responsibility for the discovery, presence, handling, removal, or disposal of, or exposure of person to, hazardous materials or toxic substance in any form at the project site.

8.10 Climate: Design standards which exceed the minimum requirements within current codes and regulations are excluded. If requested by the Client, climate-related design services or evaluations can be provided for additional compensation.

REIMBURSABLE EXPENSE SCHEDULE * | 2025

McMahon Associates, Inc.

Effective: 01/01/2025

DESCRIPTION	RATE
REIMBURSABLE EXPENSES:	
Commercial Travel	1.1 of Cost
Delivery & Shipping	1.1 of Cost
Meals & Lodging	1.1 of Cost
Review & Submittal Fees	1.1 of Cost
Outside Consultants	1.12 of Cost
Photographs & Models	1.1 of Cost
Misc. Reimbursable Expenses & Project Supplies	1.1 of Cost
Terrestrial Laser Scanner	$1,500.00
REIMBURSABLE UNITS:	
Copy Charges - Black & White	$0.08/Image
Copy Charges - Color / 8½" x 11"	$0.45/Image
Copy Charges - Color / 8½" x 14" and 11" x 17"	$0.75/Image
Mileage	$0.81/Mile
Mileage - Truck/Van	$1.11/Mile
All-Terrain Vehicle	$100.00/Day
Global Positioning System (GPS)	$21.00/Hour
Hand-Held Global Positioning System (GPS)	$15.00/Hour
Robotic Total Station	$20.00/Hour
Survey Hubs	$0.50/Each
Survey Lath	$1.00/Each
Survey Paint	$7.15/Can
Survey Ribbon	$3.00/Roll
Survey Rebars - 1¼"	$10.00/Each
Survey Rebars - ¾"	$3.50/Each
Survey Rebars - ⅝"	$3.50/Each
Survey Iron Pipe - 1"	$4.50/Each
Survey Steel Fence Post - 1"	$7.75/Each
Control Spikes	$2.50/Each
Pin Flags	$0.30/Each

* This schedule is not all inclusive.

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON

MENASHA, WI

SHEET INDEX

SHEET NO.	SHEET DESCRIPTION	ISSUED FOR VILLAGE BOARD REVIEW OCTOBER 29, 2024							
GENERAL									
A001	TITLE SHEET	X							
A011	LIFE SAFETY NOTES	X							
A012	LIFE SAFETY PLAN	X							
A020	ARCHITECTURAL SITE PLAN	X							
E001	ELECTRICAL NARRATIVE	X							
E002	ELECTRICAL NARRATIVE	X							
M001	MECHANICAL NARRATIVE	X							
P001	PLUMBING NARRATIVE	X							
ARCHITECTURAL									
A101	EXISTING PLAN	X							
A111	FIRST FLOOR DEMOLITION PLAN	X							
A211	FIRST FLOOR PLAN	X							
A231	ROOF PLAN	X							
A241	FINISH PLAN	X							
A271	REFLECTED CEILING PLAN	X							
A291	DOOR SCHEDULE, DOOR & WINDOW ELEVATIONS	X							
A301	EXTERIOR ELEVATIONS	X							
A311	BUILDING SECTIONS	X							
A351	WALL SECTIONS	X							
A352	WALL SECTIONS	X							
A411	ENLARGED RESTROOM PLANS & ELEVATIONS	X							
A511	INTERIOR ELEVATIONS	X							
STRUCTURAL									
S001	STRUCTURAL SPECIFICATIONS	X							
S002	STRUCTURAL SCHEDULES	X							
S201	FOUNDATION PLAN	X							
S202	ROOF FRAMING PLAN	X							

PROJECT LOCATION MAP

PROJECT LOCATION
W5298 STATE RD. 114
HARRISON, WI 54952

DESIGN TEAM

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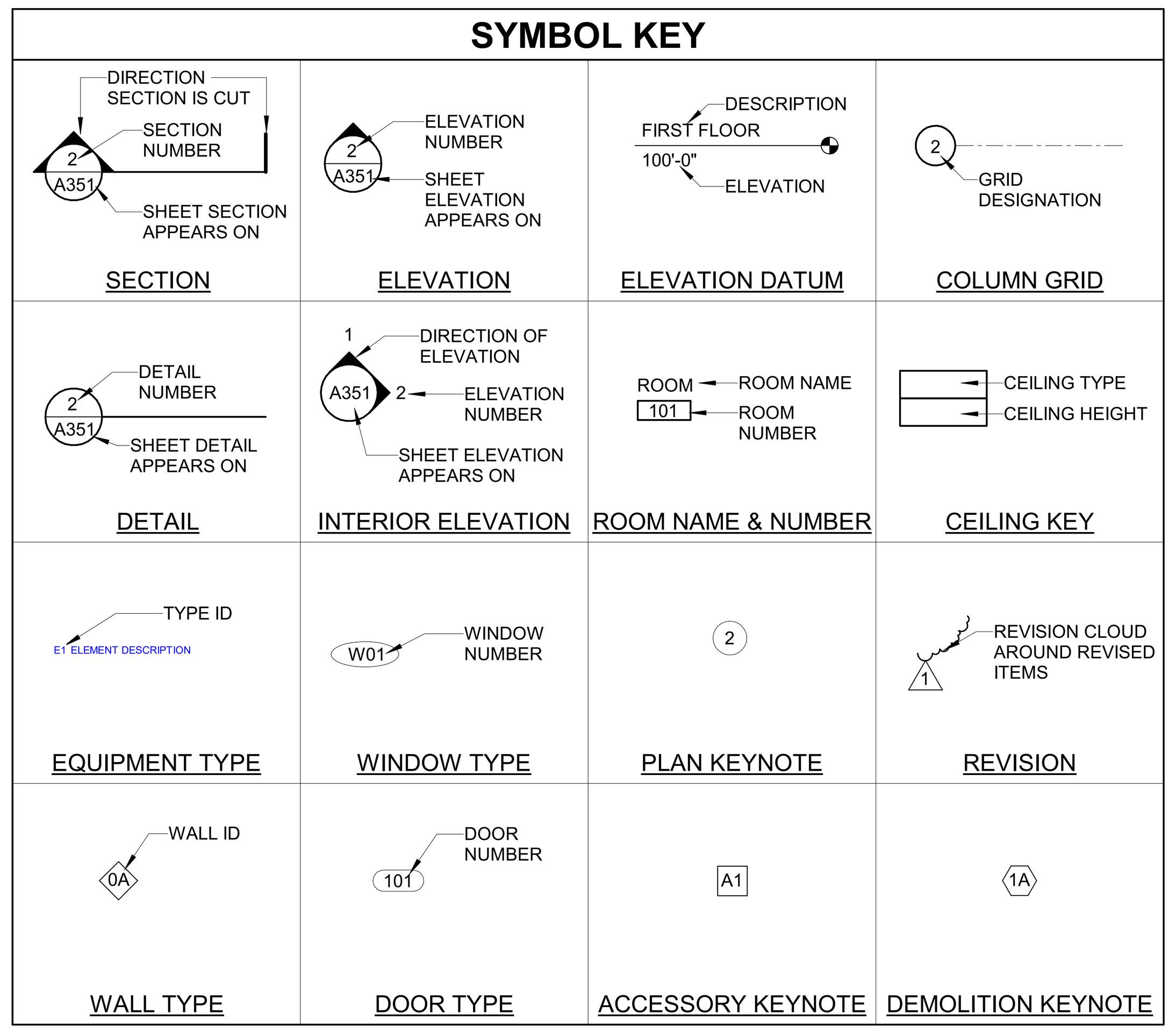
SYMBOL KEY



ABBREVIATIONS

@	AT	FD	FLOOR DRAIN	STD	STANDARD
ACT	ACOUSTICAL TILE	FE	FIRE EXTINGUISHER	STL	STEEL
ADA	AMERICANS W/ DISABILITIES ACT	FEC	FIRE EXTINGUISHER CABINET	STRUCT	STRUCTURAL
ADDL	ADDITIONAL	FIN	FINISH / FINISHED	T&B	TOP AND BOTTOM
ADJ	ADJUSTABLE	FL	FLOOR	T&G	TONGUE & GROOVE
AFF	ABOVE FINISHED FLOOR	FND	FOUNDATION	T	TREAD
ALT	ALTERNATE / ALTERNATIVE	FUT	FUTURE	TBD	TO BE DETERMINED
ALUM	ALUMINUM	GALV	GALVANIZED	TYP	TYPICAL
BLDG	BUILDING	GC	GENERAL CONTRACTOR	UNO	UNLESS NOTED OTHERWISE
BLKG	BLOCKING	GYP BD	GYPSUM BOARD	W/	WITH
BOT	BOTTOM	HB	HOSE BIB	W/O	WITHOUT
BRG	BEARING	HDCP	HANDICAP	WD	WOOD
CL / ℄	CENTERLINE	HM	HOLLOW METAL		
CAB	CABINET	HR	HOUR		
CJ	CONTROL JOINT	ID	INSIDE DIAMETER		
CLG	CEILING	IMP	INSULATED METAL PANEL		
CLO	CLOSET	INSUL	INSULATION		
CLR	CLEAR	INT	INTERIOR		
CMU	CONCRETE MASONRY UNIT	LAV	LAVATORY		
COL	COLUMN	MAX	MAXIMUM		
CONC	CONCRETE	MECH	MECHANICAL		
CONST	CONSTRUCTION	MISC	MISCELLANEOUS		
CONT	CONTINUOUS	MFG	MANUFACTURER		
COORD	COORDINATE	MIN	MINIMUM		
CORR	CORRIDOR	MO	MASONRY OPENING		
CTR	CENTER	NIC	NOT IN CONTRACT		
DF	DRINKING FOUNTAIN	NTS	NOT TO SCALE		
DIA / Ø	DIAMETER	OC	ON CENTER		
DIM	DIMENSION	OD	OUTSIDE DIAMETER		
DS	DOWNSPOUT	OSB	ORIENTED STRAND BOARD		
DTL	DETAIL	PC	PRECAST		
DW	DISHWASHER	PLAM	PLASTIC LAMINATE		
DWG	DRAWING	PR	PAIR		
EA	EACH	QT	QUARRY TILE		
EF	EACH FACE	R	RISER		
ELEC	ELECTRIC / ELECTRICAL	RD	ROOF DRAIN		
ELEV	ELEVATION	REINF	REINFORCING / REINFORCED		
ENCL	ENCLOSURE / ENCLOSED	REQ	REQUIRED		
EQ	EQUAL	RM	ROOM		
EQUIP	EQUIPMENT	RO	ROUGH OPENING		
EW	EACH WAY	SC	SEALED CONCRETE		
EWC	ELECTRIC WATER COOLER	SCHED	SCHEDULE		
EXTG	EXISTING	SF	SQUARE FOOT		
EXH	EXHAUST	SIM	SIMILAR TO		
EXT	EXTERIOR	SPEC	SPECIFICATION		
F	FILLER PANEL	SS	STAINLESS STEEL		

IMPORTANT NOTICE: THE DRAWINGS AND THE SPECIFICATIONS TOGETHER REPRESENT THE CONSTRUCTION DOCUMENTS, AND AS SUCH, MUST BE USED TOGETHER AS THE BASIS OF DESIGN. THE CONTRACTOR IS SPECIFICALLY INSTRUCTED NOT TO LIMIT THEIR UNDERSTANDING OF THE SCOPE OF THIS PROJECT BASED UPON THE SPECIFICATIONS INDEX. THE CONTRACTOR IS RESPONSIBLE TO REVIEW ALL INFORMATION IN BOTH THE DRAWINGS AND SPECIFICATIONS, AND IS THEREFORE, REQUIRED TO PROVIDE ALL DEFINED, AND REASONABLY IMPLIED, SCOPE OF WORK NO MATTER WHERE IT APPEARS IN THE CONSTRUCTION DOCUMENTS. IN ADDITION, THE CONTRACTOR IS TO REVIEW ANY FORMALLY PROVIDED MODIFICATIONS, CLARIFICATIONS, ADDENDUMS AND/OR OTHER INFORMATION AND INCORPORATE THAT INFORMATION INTO THE CONTRACTOR'S UNDERSTANDING OF THE SCOPE OF THE PROJECT.

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

TITLE SHEET

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A001

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CODE SUMMARY

BUILDING ADDITION AND RENOVATION FOR THE VILLAGE OF HARRISON W5298 STATE ROAD 114, HARRISON WI 54952
VILLAGE OF HARRISON, CALUMET COUNTY WI
CLIMATE ZONE: 6A
RENOVATION: B OCCUPANCY w/ S-1 ADDITION: S-2 VEHICLE STORAGE (NO REPAIR)
RENOVATION: TYPE IIB EXISTING BUILDING IS UNSPRINKLERED ADDITION: TYPE IIB UNSPRINKLERED
BOTH AREAS ARE SINGLE STORY RENOVATION = 2,575 SF ADDITION = 8,984 SF
RENOVATION IS SEPARATED FROM THE EXISTING BUILDING BY AN EXISTING (3) HOUR FIRE WALL
ADDITION IS SEPARATED FROM THE EXISTING BUILDING AND RENOVATION AREA BY A NEW (3) HOUR FIRE WALL
RENOVATION IS AN ALTERNATION LEVEL 2 & A CHANGE OF OCCUPANCY FROM S-2 TO B OCCUPANCY
REVIEW FOR: BUILDING & HVAC - COMPONENT- PRE-ENGINEERED METAL BUILDING

PROJECT SUMMARY:

PROJECT NARRATIVE:
THIS PROJECT CONTAINS (2) WORK AREAS: LEVEL 2 ALTERATION TO THE EXISTING WASH BAY WITH CHANGE OF OCCUPANCY (S-2 TO B) & A TYPE IIB BUILDING ADDITION FOR ADDITIONAL VEHICLE STORAGE (NO VEHICLE REPAIR). THE EXISTING BUILDING IS SEPARATED BY (4) EXISTING (3) HOUR FIRE WALLS - THE RENOVATION AREA IS CONTAINED WITH IN ONE OF THESE AREAS. THE NEW ADDITION IS SEPARATED FROM THE EXISTING CONDITIONS BY A NEW (3) HOUR FIRE WALL.

APPLICABLE CODES:

THE DRAWINGS HAVE BEEN PREPARED IN ACCORDANCE WITH THE FOLLOWING CODES - NOTIFY THE ARCHITECT OF ANY CONFLICTS

CODES:
2018 WISCONSIN ADMINISTRATIVE CODE, SPS 361-366
2015 INTERNATIONAL BUILDING CODE (IBC)
2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
2015 INTERNATIONAL MECHANICAL CODE (IMC)
2017 NATIONAL ELECTRIC CODE (NEC)
2015 INTERNATIONAL FUEL GAS CODE (IFGC)
2009 ICC/ANSI 117.1-2009 ACCESSIBLE AND USABLE BUILDING AND FACILITIES

RENOVATION:
OCCUPANCIES: B & S-1 CONSTRUCTION TYPE: IIB

	ACTUAL HEIGHT (IN FEET)	ALLOWABLE (TABLE 504.3)	ACTUAL HEIGHT (IN STORIES)	ALLOWABLE (TABLE 504.4)
BUILDING HEIGHT	18'-6" @ MID POINT OF ROOF	55' (N/S) FEET	(1) STORY	B= 3 (N/S) STORIES S-1 = 2 (N/S) STORIES

ADDITION:
OCCUPANCIES: S-2 CONSTRUCTION TYPE: IIB

	ACTUAL HEIGHT (IN FEET)	ALLOWABLE (TABLE 504.3)	ACTUAL HEIGHT (IN STORIES)	ALLOWABLE (TABLE 504.4)
BUILDING HEIGHT	18'-6" @ MID POINT OF ROOF	55' (N/S) FEET	(1) STORY	S-2 = 3 (N/S) STORIES

- [X] (NS) NON-SPRINKLERED
- [ ] (S1) SPRINKLERED ONE-STORY
- [ ] (SM) SPRINKLERED MULTIPLE STORIES
- [ ] UNLIMITED AREA
- [ ] PARTIALLY SPRINKLERED, DESCRIPTION:
- [ ] NFPA 13
- [ ] NFPA 13R
- [ ] NFPA 13D
- [X] NFPA 72 - FIRE ALARM

FIRE ALARM: COVERAGE: [X] COMPLETE [ ] PARTIAL [ ] NONE
TYPE: [ ] AUTOMATIC DETECTION [X] MANUAL ALARM
MONITORING TYPE: [ ] CENTRAL STATION [ ] PROPRIETARY SUPERVISION
[X] REMOTE SUPERVISION [ ] PROTECTED PREMISES

FRONTAGE INCREASED FROM SECTION 506.3

FRONTAGE INCREASE NOT USED

MAXIMUM BUILDING AREA FROM SECTION 506.2

Aa = ALLOWABLE AREA (SQUARE FEET)
At = TABULAR ALLOWABLE AREA FACTOR
NS = TABULAR ALLOWABLE AREA FACTOR FOR NON-SPRINKLERED BUILDING (REGARDLESS OF SPRINKLERING)
If = AREA FACTOR INCREASE DUE TO FRONTAGE (FROM ABOVE CALCULATION)
Sa = ACTUAL NUMBER OF BUILDING STORIES ABOVE GRADE PLANE (MAX. 3 FOR NS, 4 FOR SPRINKLERED)
SECTION 506.2.1 MAXIMUM BUILDING AREA FOR A SINGLE-OCCUPANCY, ONE-STORY BUILDING
Aa = At + (NS x If)
SECTION 506.2.2 MIXED-OCCUPANCY, ONE STORY BUILDINGS
(OCCUPANCY 1 Aa / ALLOWABLE AREA) + (OCCUPANCY 2 Aa / ALLOWABLE AREA) + ... < 1.0 IS OK
SECTION 506.2.3 SINGLE-OCCUPANCY, MULTISTORY BUILDINGS
Aa = [At + (NS x If)] x Sa
SECTION 506.2.4 MIXED OCCUPANCY, MULTISTORY BUILDINGS
EACH STORY (3 STORY MAX.) TO INDIVIDUALLY COMPLY USING MOST RESTRICTIVE OCCUPANCY IF UNSEPERATED
IF SEPARATED: (OCCUPANCY 1 ACTUAL AREA / TABULAR ALLOWABLE AREA) + (OCC.2...) + ... <1.0 IS OK

STORY NUMBER	DESCRIPTION AND USE	BUILDING AREA PER STORY (ACTUAL)	TABLE 506.2 AREA	FRONTAGE INCREASE	ALLOWABLE AREA PER STORY OR UNLIMITED
RENOVATION (1) STORY	OFFICES & STORAGE	B OCC =1,784 SF S-1 OCC = 795 SF	B OCC =23,000 SF S-1 OCC = 17,500 SF	NOT USED	B OCC =23,000 SF S-1 OCC = 17,500 SF
ADDITION (1) STORY	VEHICLE STORAGE	S-2 OCC = 8,984 SF	S-2 OCC = 26,000 SF	NOT USED	S-2 OCC = 26,000 SF

RENOVATION:
508.2 MAIN OCCUPANCY "B" ACCESSORY OCCUPANCY "S-1"
508.3.3 UNSEPERATED OCCUPANCIES "B" AND "S-1"
508.4.2 ALLOWABLE RATIOS
B = 1,784 SF / 23,000 = .077
S = 795 SF / 17,500 = .045
.122 < 1

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES "B" AND "S-1" = 0 HOURS
TABLE 509 LIST INCIDENTAL USES: N/A

ADDITION:
508.2 MAIN OCCUPANCY "S-2" ACCESSORY OCCUPANCY = N/A
508.3.3 UNSEPERATED OCCUPANCIES = N/A
TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES = N/A
TABLE 509 LIST INCIDENTAL USES: N/A

TABLE 601 FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	RATING REQUIRED	RATING PROVIDED
PRIMARY STRUCTURAL FRAME	0	0
BEARING WALLS (EXTERIOR)	0	0
BEARING WALLS (INTERIOR)	0	0
NON-BEARING WALLS (INTERIOR)	0	0
FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS	0	0
ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS	0	0

FIRE SEPARATION REQUIREMENTS PER TABLE 602: EXTERIOR NON-BEARING WALLS AND PARTITIONS

FIRE SEPARATION DISTANCE	CONSTRUCTION TYPE	OCCUPANCY	USE	FIRE RATING (HOURS)
x < 5'	IIB	B S-1 S-2	BUSINESS STORAGE VEHICLE STORAGE	1 HR 1 HR 1 HR
5' < x < 10'	IIB	B S-1 S-2	BUSINESS STORAGE VEHICLE STORAGE	1 HR 1 HR 1 HR
10' < x < 30	IIB	B S-1 S-2	BUSINESS STORAGE VEHICLE STORAGE	0 HR 0 HR 0 HR
30' < x	IIB	B S-1 S-2	BUSINESS STORAGE VEHICLE STORAGE	0 HR 0 HR 0 HR

PERCENTAGE OF WALL OPENING PER TABLE 705.8

N/A

FIRE WALL NOTES:

BUILDING ADDITION:
706.5 HORIZONTAL CONTINUITY - 18" EXTENTION PAST THE EXTERIOR SURFACE OF EXTERIOR WALLS

706.5.2 HORIZONTAL PROJECTIONS (SOUTH OVERHANG) - EXTEND TO THE OUTER EDGE OF PROJECTING ELEMENT

706.6 VERTICAL CONTINUITY - EXTEND 30" ABOVE ROOF

FIRE AREA RATING REQUIREMENTS FOR FIRE BARRIER OR HORIZONTAL ASSEMBLIES TABLE 707.3.10

N/A

OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS TABLE 716.5

TYPE OF ASSEMBLY	REQ'D WALL ASSEMBLY RATING (HR)	MIN. FIRE DOOR ASS'Y RATING (HR)	DOOR VISION PANEL SIZE	FIRE-RATED DOOR GLAZING VISION PANEL	MIN. SIDELIGHT/ TRANSOM ASS'Y RATING (HR)	FIRE-RATED GLAZING SIDELIGHT / TRANSOM PANEL
FIRE WALLS / BARRIERS	3 HR	3 HR	ASTM E119 MAX. SIZE	D-H-W-240	3 HR	SIDELIGHT NOT PERMITTED

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY TABLE 803.11

OCCUPANCY GROUP	INTERIOR EXIT STAIRWAYS / RAMPS / PASSAGEWAYS	CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS/RAMPS	ROOMS AND ENCLOSED SPACES
B	CLASS A	CLASS B	CLASS C
S	CLASS B	CLASS B	CLASS C

OCCUPANT LOAD CALCULATIONS - RENOVATION

OCCUPANCY TYPE	AREA PER FLOOR						1004.1.2 AREA	NUMBER OF OCCUPANTS	SPRINKLER REQ'D, 903.2
	BASEMENT	FIRST	SECOND	THIRD	ROOF	TOTAL	/ OCCUPANT		
B- BUSINESS	0	1,784	0	0	0	1,784	/100	18	NO
S-1 STORAGE	0	795	0	0	0	795	/300	3	NO

OCCUPANT LOAD CALCULATIONS - ADDITION

OCCUPANCY TYPE	AREA PER FLOOR						1004.1.2 AREA	NUMBER OF OCCUPANTS	SPRINKLER REQ'D, 903.2
	BASEMENT	FIRST	SECOND	THIRD	ROOF	TOTAL	/ OCCUPANT		
S-2 STORAGE	0	8,984	0	0	0	8,984	/200	45	NO

NUMBER AND ARRANGEMENT OF EXITS (1006: SINGLE OR MULTIPLE EXITS REQUIRED, BASED ON DISTANCE / # OF OCCUPANTS; 1017.2 TOTAL EXIT ACCESS TRAVEL DISTANCE ALLOWED)

REQUIRED EGRESS WIDTH:

RENOVATION:
0.2 FOR EGRESS COMPONENTS AND
0.3 FOR STAIRS
21 OCC x .2 = 4.2 INCHES REQUIRED
32" PROVIDED

ADDITION:
0.2 FOR EGRESS COMPONENTS AND
0.3 FOR STAIRS
45 OCC x .2 = 9 INCHES REQUIRED
128" PROVIDED

EXIT TRAVEL DISTANCE:

B = 200'-0"
S-1 = 200'-0"
S-2 = 300'-0"

COMMON PATH OF EGRESS TRAVEL: 75'-0"

MEANS OF EGRESS ILLUMINATION: (1) FOOT CANDLE MIN. AT WALKING SURFACE

ACCESSIBILITY

EXISTING BUILDING IS SINGLE STORY. NEW RESTROOMS AND SHOWERS ARE ADA COMPLIANT. SEE ARCHITECTURAL SITE PLAN FOR LOCATIONS OF HANDICAPPED PARKING LOCATIONS

PLUMBING FIXTURE REQUIREMENTS PER 2902.1

RENOVATION

TYPE	NO. PEOPLE	WATER CLOSETS			LAVATORIES		DRINKING FOUNTAIN		SERVICE SINK
		FACTORS	# MALE	# FEMALE	FACTORS	# FIXTURES	FACTORS	# FIXTURES	
B - BUSINESS	18	1/25 (FIRST 50) 1/50 (AFTER)	.36	.36	1/40 (FIRST 80) 1/80 (AFTER)	.46	1/100	.18	1
S - STORAGE	3	1/100	.01	.01	1/100	.02	1/1000	.001	1
REQUIRED	21		.37	.37		.48		.181	2
PROVIDED			(1) WC (1) URINAL	(2) WC		4		2	1

ADDITION

TYPE	NO. PEOPLE	WATER CLOSETS			LAVATORIES		DRINKING FOUNTAIN		SERVICE SINK
		FACTORS	# MALE	# FEMALE	FACTORS	# FIXTURES	FACTORS	# FIXTURES	
S - STORAGE	43	1/100	.215	.215	1/100	.215	1/1000	.043	1
REQUIRED	43	1/100	.215	.215	1/100	.215	1/1000	.043	2
PROVIDED			(1) WC (1) URINAL	(2) WC		4		2	1

PLUMBING FIXTURES FOR BUILDING ADDITION ARE PROVIDED WITHIN THE RENOVATION AREA FIXTURE COUNTS

TOTAL REQUIRED	64		.59	.59		.70		.224	3
PROVIDED			(1) WC (1) URINAL	(2) WC		4		2	1

ELEVATORS AND CONVEYING SYSTEMS - CHAPTER 30

N/A - SINGLE STORY

ENVELOPE COMPLIANCE

- [ ] UNHEATED BUILDING / SEASONAL OCCUPANCY
- [ ] ALTERATION, NO MODIFICATION TO BUILDING ENVELOPE
- [X] COMcheck/REScheck ATTACHED: IECC 2015 [ ] ASHRAE 90.1-2013 [X]
- [ ] PRESCRIPTIVE (COMPLETE CHART BELOW): IECC 2015 [ ] ASHRAE 90.1-2013 [ ]
- [ ] OTHER, PLEASE DESCRIBE:

PROJECT LOCATION: COUNTY CALUMET ; ZONE: 6A [X] 7 [ ]

OCCUPANCY GROUP: R [ ] OTHER [ ]

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NO. DATE REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
LIFE SAFETY NOTES

DESIGNED	DRAWN
MAM	MAM

PROJECT NO. H0006 06-24-00138
DATE OCTOBER 29, 2024
SHEET NO. A011

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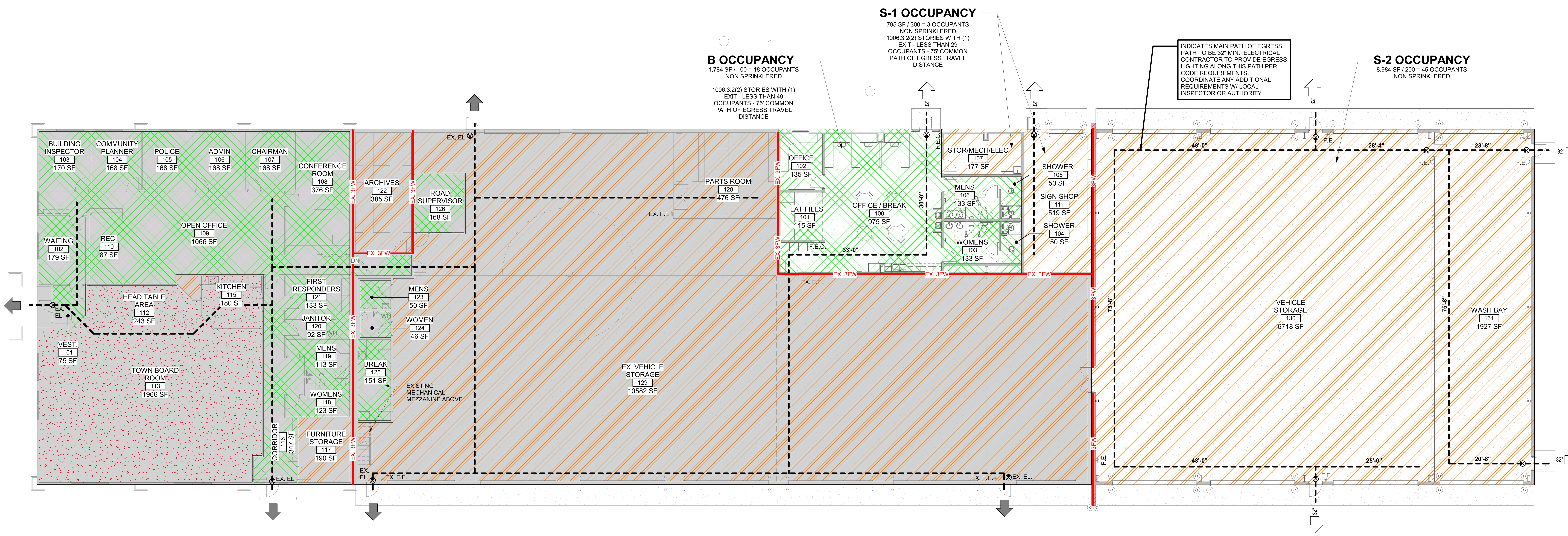
CODE KEY

- EMERGENCY EXIT PATH OF TRAVEL
- 3FW — 3 HOUR FIRE WALL
- EX 3 FW — EXISTING 3 HOUR FIRE WALL
- F.E.C — FIRE EXTINGUISHER CABINET (SURFACE MOUNTED)
- F.E.C — FIRE EXTINGUISHER CABINET (SEMI-RECESSED)
- F.E. — WALL MOUNTED FIRE EXTINGUISHER
- 000" — EXISTING EXIT
- 000" — NEW EXIT DISCHARGE PROVIDED (CLEAR WIDTH IN INCHES)
- EXIT SIGN

OCCUPANCY CLASSIFICATION

- EXISTING ASSEMBLY (A)
- BUSINESS (B)
- STORAGE (S-1, S-2)



LIFE SAFETY PLAN

3/32" = 1'-0"

NORTH

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NO. | DATE | REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

LIFE SAFETY PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A012

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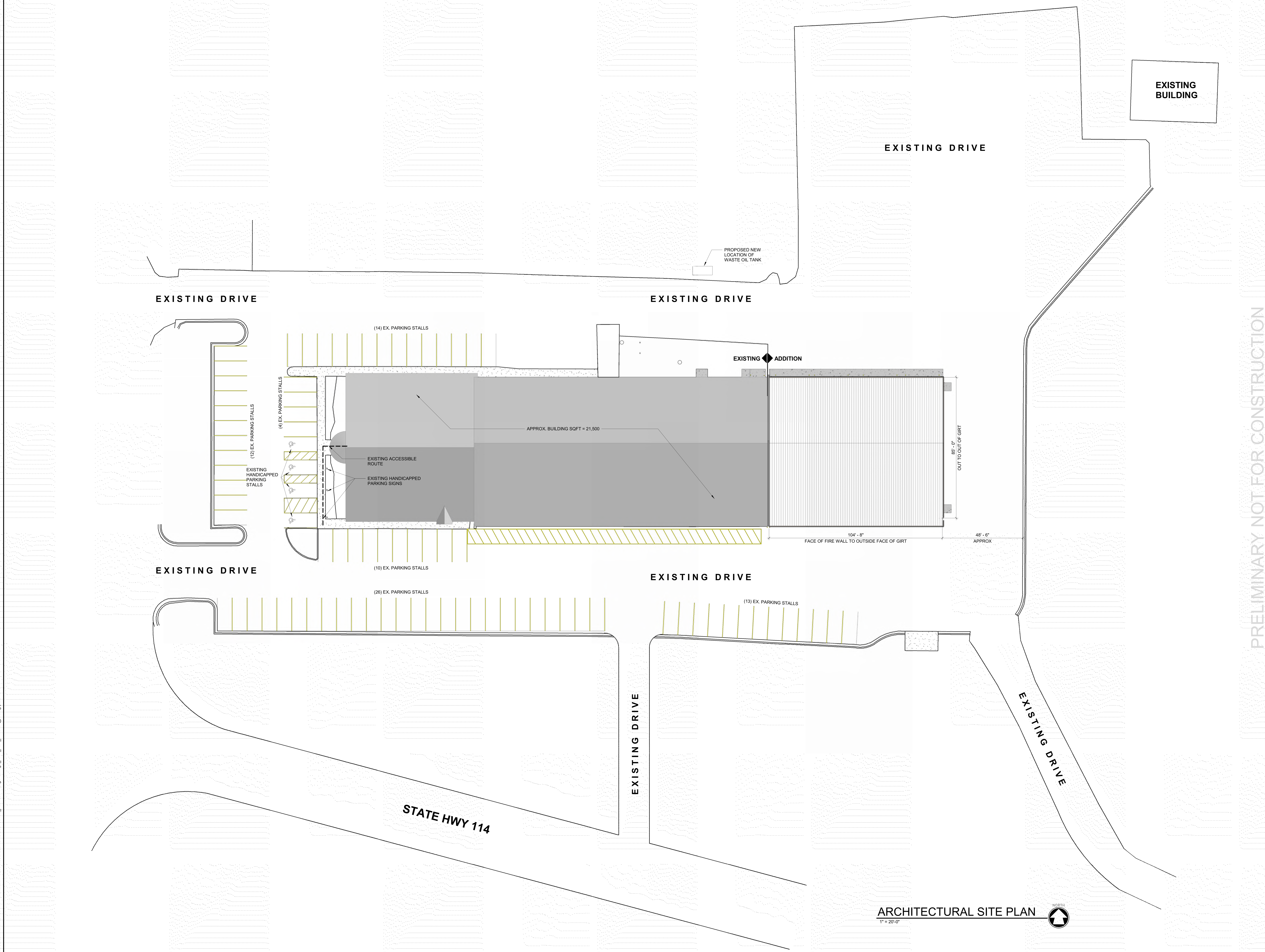

ARCHITECTURAL SITE PLAN
1" = 20'-0"

NORTH

McMAHON
ENGINEERS ARCHITECTS
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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
ARCHITECTURAL SITE PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A020

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Harrison DPW – Electrical Systems – Scope Narrative

1. Applicable Codes and Standards:
a. 2018 WISCONSIN ADMINISTRATIVE CODE, SPS 361-366
b. International Building Code (IBC) 2015 w/ Wisconsin Amendments
c. National Electric Code (NEC) 2017 w/ Wisconsin Amendments
d. International Energy Conservation Code (IECC) 2015 w/ Wisconsin Amendments
e. Life Safety Code NFPA 101
f. National Fire Protection Association (NFPA72)
g. Illuminating Engineering Society (IES)

2. IBC Classifications
a. Renovation: B occupancy with S-1. Unsprinkled.
b. Addition: S-2 vehicle storage (no repair). Unsprinkled.

3. General
a. Raceway Systems:

Table 1: Raceway Systems

Exterior, below grade	PVC Schedule 40
Exterior, above grade	Rigid galvanized conduit
Exterior, connected to vibrating equipment	Liquid tight flexible metallic conduit
Interior, concealed in gypsum walls	EMT
Interior, exposed, not subject to damage	EMT
Interior, exposed, subject to severe damage (Vehicle Storage & Sign Shop)	Rigid galvanized conduit from floor to 12' AFF, then transition to EMT.
Interior, connected to vibrating equipment	Flexible metallic conduit
Interior, exposed, subject to severe damage, wet location (Wash Bay 131)	Rigid galvanized conduit

b. Wire and Cable:
i. Stranded copper with THHN / THHW insulation for branch circuits and feeders. Aluminum conductors are not allowed.
c. Enclosures:

Table 2: Enclosure Types

Interior, dry locations	NEMA 1
Interior, damp or wet locations	NEMA 4X stainless steel
Exterior	NEMA 3R

d. Wiring Devices – Heavy duty specification grade.
i. Ivory finish with matching nylon cover plate.
ii. Provide panel name & circuit number label on each receptacle.

4. Electrical Demolition
a. See sheet A111 for areas of selective demolition.
b. Renovation Area
i. Disconnect and remove all light fixtures, lighting controls, exit signs, and emergency lights. Remove associated conduit and conductors.
ii. Disconnect and remove all receptacles, motor connections, disconnect switches, and motor starters. Remove associated conduit and conductors.
iii. Salvage security video surveillance camera to Owner.
c. East Exterior Façade (adjacent to new addition)
i. Disconnect and remove (1) exterior wall pack.
ii. Disconnect and remove (1) exterior egress light.
iii. Salvage security access control card reader.
iv. Disconnect wall exhaust fan. Equipment to be removed by HVAC contractor.
d. Heavy Timber Salt Storage Building
i. Building to be demolished complete. Disconnect and remove all electrical devices in this building.
e. Post Frame Building
i. Building to be demolished complete. Disconnect and remove all electrical devices in this building.

5. Power
a. General:
i. See Architectural sheets for proposed renovation and addition floor plans.
ii. A power study (short circuit and arc flash) will be conducted as part of a separate project. This project shall include an update to the power studies utilizing the same vendor (TBD) that is used in the separate project.
b. Electrical Distribution:
i. Provide new panelboard (120/208V 3PH 4W, 225 MLO, 84 circuit, 22KAIC) to serve renovation area branch circuits. New panel to be surface mount in Storage 107. Feed from main distribution panel MDP using a spare 225A-3P circuit breaker (panel MDP is being replaced as part of a separate project). Feeder shall be rated for 225A. All new power to the west of the new 3-hour fire wall shall be connected to this panel.
ii. Provide new panelboard (120/208V 3PH 4W, 225 MLO, 84 circuit, 22KAIC) to serve addition branch circuits. New panel to be surface mount in Vehicle Storage 130. Feed from main distribution panel MDP using a spare 225A-3P circuit breaker (panel MDP is being replaced as part of a separate project). Feeder shall be rated for 225A. All new power to the east of the new 3-hour fire wall shall be connected to this panel.
iii. Provide external surge protection device at each new panelboard (Square D XDSE series, 200KA per phase, 120/208V 3ph 4w). Feed SPD with 30A-3P circuit breaker and #10AWG at each panelboard. Locate SPD directly adjacent to the panelboard to limit SPD conductors to 36".
iv. Provide UFER grounding electrode connection to addition footing rebar. Connect to existing electrical service grounding electrode system.
c. HVAC Coordination:
i. Demolition
1. Existing wash bay – Disconnect gas fired radiant tube heater. Remove associated disconnect switch and conduit / wiring. Equipment to be removed by HVAC contractor.
ii. Renovation
1. Existing garage
a. Oil Pump P-1
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch.
2. Renovation Area – See HVAC narrative for locations.
a. Furnace F-1
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
b. Condenser CU-1
i. Provide 208V 3-phase 30A hardwired connection with 30A fusible switch fused at 30A. Dedicated 30A branch circuit.
c. Exhaust Fan EF-1 (FHP)
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
ii. Exhaust fan shall be interlocked with occupancy sensors in each bathroom, each shower room, and the sign shop. If any of these spaces are occupied, the exhaust fan shall turn on and remain on for a time delay of 15 minutes after occupation is no longer detected.
d. Electric Heater EUH-1 (3.3 KW)
i. Provide 208V 3-phase 20A hardwired connection with 20A non-fusible NEMA 1 disconnect switch. Dedicated 20A branch circuit.
3. Addition – See HVAC narrative for locations.
a. Makeup Air Unit MUA-1
i. Provide 208V 3-phase 35A hardwired connection with 60A non-fusible NEMA 1 disconnect switch. Dedicated 35A branch circuit.
b. Gas Detection System
i. Provide conduit and boxes for (3) sensors.
ii. Provide 120V 20A hardwired connection for controller. Dedicated branch circuit.
c. Exhaust Fan EF-2 (3/4HP)
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
d. Exhaust Fan EF-3 (3/4 HP)
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
e. Exhaust Fan EF-4 (1/2HP)
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
f. Radiant Tube Heater RH-1
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
g. Radiant Tube Heater RH-2
i. Provide 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Dedicated branch circuit.
h. Radiant Tube Heater RH-3
i. Provide 120V 20A hardwired connection with Square D series 2510 NEMA 4X stainless steel manual starter / disconnect switch. Dedicated branch circuit.
d. Plumbing Coordination:
i. Renovation
1. Stor / Mech / Elec 107
a. Water Heater – 120V 20A GFI duplex receptacle at 48" AFF. Provide dedicated branch circuit.
b. Recirculation Pump – 120V 20A hardwired connection with Square D series 2510 manual starter / disconnect switch. Provide dedicated branch circuit.
e. Specific rooms:
i. Renovation
1. Office / Break 100
a. Provide (6) 120V 20A convenience duplex receptacles. Connect convenience receptacles to (2) branch circuits.
b. Provide (1) 120V 20A duplex receptacle behind the TV monitor. Locate receptacle inside 2.88" deep in-set media wall box (FSR PWB-253). Include on one of the branch circuits that serves convenience receptacles in this room.
c. Provide (1) 120V 20A GFI duplex receptacle behind the refrigerator. Dedicated branch circuit.
d. Provide (5) 120V 20A GFI duplex receptacles above counter for the kitchenette. Each receptacle shall have a dedicated branch circuit.
e. Provide (1) 120V 20A duplex receptacles behind each electric water cooler (Quantity 2 water coolers). Combine both electric water cooler receptacles on a dedicated branch circuit. The circuit breaker that feeds the electric water coolers shall be GFI type.
f. At each office workstation, provide (2) 120V 20A quad receptacles (Quantity 3 workstations). Each office workstation shall have its own branch circuit that serves the pair of quad receptacles.
2. Flat Files 101
a. Provide (2) 120V 20A convenience duplex receptacles. Connect to single branch circuit.
3. Office 102
a. Provide (4) 120V 20A convenience duplex receptacles. Connect to single branch circuit.
b. Provide (1) 120V 20A quad receptacle at desk. Connect to its own branch circuit with the TV monitor.
c. Provide (1) 120V 20A duplex receptacle behind the TV monitor. Locate receptacle inside 2.88" deep in-set media wall box (FSR PWB-253). Include on the branch circuit that serves quad receptacle in this room
4. Women's 103
a. Provide (1) 120V 20A GFI duplex receptacle above counter near the sink / countertop. Branch circuit to feed receptacles in bathrooms and shower rooms.
5. Shower 104
a. Provide (1) 120V 20A GFI duplex receptacle on the south wall. Branch circuit to feed receptacles in bathrooms and shower rooms.
6. Men's 106
a. Provide (1) 120V 20A GFI duplex receptacle above counter near the sink / countertop. Branch circuit to feed receptacles in bathrooms and shower rooms.
7. Shower 105
a. Provide (1) 120V 20A GFI duplex receptacle on the north wall. Branch circuit to feed receptacles in bathrooms and shower rooms.
8. Stor / Mech / Elec 107
a. Provide (3) 120V 20A duplex receptacles at 48" AFF. Connect to single branch circuit. Any receptacle within 6 feet of the mop sink shall be GFI type.
b. Provide 120V 20A hardwired connection for fire alarm NAC panel. Dedicated branch circuit.
c. Provide (1) 120V 20A quad receptacle at new data rack. Dedicated branch circuit.
d. Provide (1) 208V single phase 30A NEMA L6-30R receptacle at new data rack. Dedicated branch circuit.
9. Sign Shop 111
a. Provide (1) 120V 20A duplex receptacle on ceiling for overhead door operator. Dedicated branch circuit with GFI type circuit breaker. Provide conduit and box for wall-mount overhead door controller; provide conductors for up / down / stop operation.
b. Provide (6) 120V 20A GFI convenience duplex receptacles at 48" AFF. Connect to (2) separate branch circuits.
10. Ex. Vehicle Storage 129
a. Provide (1) 120V 20A duplex receptacle on ceiling for overhead door operator. Dedicated branch circuit with GFI type circuit breaker. Provide conduit and box for wall-mount overhead door controller; provide conductors for up / down / stop operation.
11. Exterior
a. Provide (1) 120V 20A weather-resistant GFI duplex receptacle with a die-cast aluminum weatherproof in-use cover at Sign Shop 111 exterior door. Connect to one of the branch circuits that serves Sign Shop 111 convenience receptacles.
ii. Addition
1. Vehicle Storage 130
a. Provide (1) 120V 20A duplex receptacle on ceiling for each overhead door operator. Dedicated branch circuit with GFI type circuit breaker. Provide conduit and box for wall-mount overhead door controller; provide conductors for up / down / stop operation. (Quantity 6 overhead doors)
b. Provide (16) 120V 20A GFI convenience duplex receptacles at 48" AFF. Connect convenience receptacles to (4) branch circuits.
2. Wash Bay 131
a. Provide (1) 120V 20A duplex receptacle on ceiling for each overhead door operator. Dedicated branch circuit with GFI type circuit breaker. Provide conduit and box for wall-mount overhead door controller; provide conductors for up / down / stop operation. (Quantity 2 overhead doors)
b. Provide (8) 120V 20A convenience weather-resistant GFI duplex receptacle with a die-cast aluminum weatherproof in-use cover. Connect to two separate branch circuits.
3. Exterior
a. Provide (1) 120V 20A weather-resistant GFI duplex receptacle with a die-cast aluminum weatherproof in-use cover at each exterior door (Quantity 4 exterior doors). Connect exterior receptacles to one branch circuit.

6. Lighting
a. General
i. All interior lighting shall be LED with 4000K 80CRI.
ii. All exterior lighting shall be LED with 4000K 70CRI, full cut-off type.
iii. Areas with ceilings: Lighting controls shall be analog type by Sensor Switch, Wattstopper or Greengate.
iv. Areas with exposed ceilings and exterior wall packs: Lighting controls shall be wireless digital type with sensors that are embedded in fixtures. Basis of design is Nlight Air, or Equivalent systems by Hubbell and Cooper.
v. Use IES illuminance recommendations for each space to determine quantity of fixtures and lumen package, unless noted otherwise. Refer to architectural plans for ceiling types, ceiling heights, and exposed structure heights. Assume 80-50-20 reflectances and light loss factor of at least 0.9.
vi. Egress path lighting shall meet IBC-2015 requirements. See sheet A012 for egress paths in remodel area and addition.
vii. Wall dimmers and switches shall be ivory with matching nylon cover plates to match wiring devices.
viii. Connect unit battery lights to branch circuit that serves nearby normal-powered lights ahead of local switches, relays, and contactors. The generator does not have separate life safety distribution and cannot be used for emergency lighting.
b. Specific rooms:
i. Renovation
1. Office / Break 100
a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper.
b. Along egress path: Provide integral unit batteries in select general lighting fixtures.
c. Provide (1) exit sign, Lithonia LQM series or equivalent by Hubbell or Cooper.
d. Provide dual tech ceiling occupancy sensors with (2) 3-way 0-10V dimmer switches (one at each entry door). All lights shall be controlled as single zone.
e. Provide undercabinet lighting at kitchenette, Juno UPLD WH series or equivalent by Hubbell or Cooper.
i. (1) 14" fixture and (3) 22" fixtures.
ii. Tie into general lighting occupancy sensors for automatic lighting shutoff.
iii. Provide ELV wall dimmer switch near kitchenette for manual control.
2. Flat Files 101
a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper.
b. Provide dual tech ceiling occupancy sensor with a 0-10V dimmer switch near the entry.
3. Office 102
a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper.
b. Provide dual tech ceiling occupancy sensor with a 0-10V dimmer switch near the entry.
4. Women's 103
a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper. One 2x4 fixture shall be designated emergency with integral unit battery.
b. Provide dual tech ceiling occupancy sensor with a keyed switch near the entry.
5. Shower 104
a. Provide (1) shower downlight centered above the shower and (1) shower downlight centered above the changing area, Gotham EVO4SH or equivalent by Hubbell or Cooper.
b. Provide dual tech ceiling occupancy sensor (low temperature high humidity) above the changing area. Provide a 0-10V dimmer switch near the entry along the south wall.
6. Men's 106
a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper. One 2x4 fixture shall be designated emergency with integral unit battery.
b. Provide dual tech ceiling occupancy sensor with a keyed switch near the entry.
7. Shower 105
a. Provide (1) shower downlight centered above the shower and (1) shower downlight centered above the changing area, Gotham EVO4SH or equivalent by Hubbell or Cooper.

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NO. DATE REVISION

PRELIMINARY NOT FOR CONSTRUCTION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
ELECTRICAL NARRATIVE

DESIGNED	DRAWN
JAF	JAF

PROJECT NO.
H0006 06-24-00138
DATE
OCTOBER 29, 2024
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b. Provide dual tech ceiling occupancy sensor (low temperature high humidity) above the changing area. Provide a 0-10V dimmer switch near the entry along the north wall.

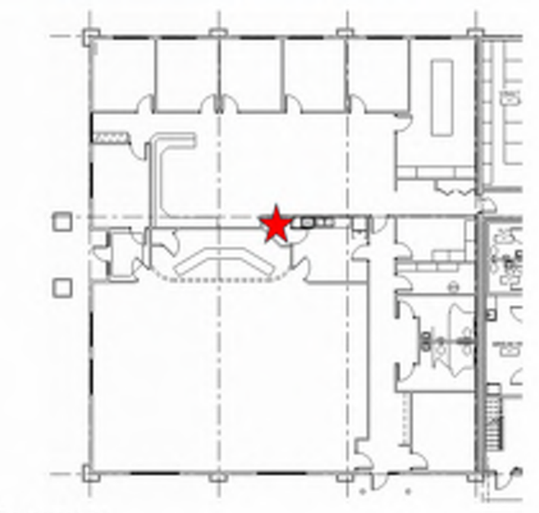
8. Stor / Mech / Elec 107
   a. Provide 2x4 LED flat panels, Lithonia CPX series or equivalent by Hubbell or Cooper. One 2x4 fixture shall be designated emergency with integral unit battery.
   b. Provide PIR ceiling occupancy sensor with a 0-10V dimmer switch near the entry.
9. Sign Shop 111
   a. Provide linear enclosed / gasketed fiberglass fixtures, Lithonia FEM LED series or equivalent by Hubbell or Cooper. Provide fixtures with integral wireless controls (NLTAIR2 RSBOR10 option for basis-of-design fixture). All fixtures in this space shall be programmed to the same wireless control zone.
   b. Along egress path: Provide integral unit batteries in select general lighting fixtures.
   c. Provide (1) exit sign, Lithonia LQM series or equivalent by Hubbell or Cooper.
   d. Provide Nlight Air RPODL DX line voltage powered switch near entry.
10. Ex. Vehicle Storage 129 – No Scope.
11. Exterior
   a. Provide (1) outdoor emergency light fixture above each exterior door at 9' AFG (Quantity 2 exterior doors), Lithonia AFF OEL series with cold weather battery "CW" option. Or equivalent by Hubbell or Cooper.
   b. Provide (2) outdoor full-cutoff wall packs at 15' AFG, Lithonia WDGE series with Nlight Air embedded sensor. Or equivalent by Hubbell or Cooper. Wireless link all new wall packs to one control zone, including addition.

ii. Addition
1. Vehicle Storage 130
   a. Provide linear enclosed / gasketed fiberglass fixtures, Lithonia FEM LED series or equivalent by Hubbell or Cooper. Provide fixtures with integral wireless controls (NLTAIR2 RSBOR10 option for basis-of-design fixture). All fixtures in this space shall be programmed to the same wireless control zone.
   b. Along egress path: Provide integral unit batteries in select general lighting fixtures.
   c. Provide (4) exit signs, Lithonia LQM series or equivalent by Hubbell or Cooper.
   d. Provide (3) Nlight Air RPODL DX line voltage powered switch near entries.
2. Wash Bay 131
   a. Provide linear enclosed / gasketed fiberglass fixtures, Lithonia FEM LED series or equivalent by Hubbell or Cooper. Provide fixtures with integral wireless controls (NLTAIR2 RSBOR10 option for basis-of-design fixture). All fixtures in this space shall be programmed to the same wireless control zone.
   b. Along egress path: Provide integral unit batteries in select general lighting fixtures.
   c. Provide (2) wet location exit signs, Lithonia WLTE series or equivalent by Hubbell or Cooper.
   d. Provide (3) Nlight Air RPODL DX line voltage powered switch near entries. Provide clear thermoplastic vertical weatherproof in-use cover over each lighting control station.
3. Exterior
   a. Provide (1) outdoor emergency light fixture above each exterior door at 9' AFG (Quantity 4 exterior doors), Lithonia AFF OEL series with cold weather battery "CW" option. Or equivalent by Hubbell or Cooper.
   b. Provide (6) outdoor full-cutoff wall packs at 15' AFG, Lithonia WDGE series with Nlight Air embedded sensor. Or equivalent by Hubbell or Cooper. Wireless link all new wall packs to one control zone, including alteration area.

7. Fire alarm
   a. General
      i. Modify / extend existing DMP XR550 fire alarm system. Notification devices are horn type, not speaker type. Notification devices shall be by Potter and have red housing with FIRE lettering.
      ii. Use plenum-rated cabling. Cabling may be routed exposed above accessible ceilings. Cabling shall be routed in conduit in Sign Shop 111, Vehicle Storage areas, and Wash Bay 131.
      iii. Notification strobe coverage shall meet NFPA 72 requirements. Wall-mount strobes shall be mounted at 80" AFF, unless noted otherwise.
      iv. Provide updated floor plans and battery calculations for AHJ submittal.
   b. Specific rooms:
      i. Renovation
         1. Office / Break 100
            a. Provide (1) fire alarm manual pull station near exterior door.
            b. Provide (1) 75CD ceiling horn / strobe notification device in center of main space.
            c. Provide (1) 15CD ceiling strobe notification device in center of entry area.
         2. Flat Files 101
            a. Provide (1) 15CD ceiling strobe notification device in center of room.
         3. Office 102 – No scope.
         4. Women's 103
            a. Provide (1) 15CD ceiling horn / strobe notification device.
         5. Shower 104
            a. Provide (1) 15CD weatherproof wall-mount strobe notification device in changing area along south wall.
         6. Men's 106
            a. Provide (1) 15CD ceiling horn / strobe notification device.
         7. Shower 105
            a. Provide (1) 15CD weatherproof wall-mount strobe notification device in changing area along north wall.
         8. Stor / Mech / Elec 107
            a. Provide (1) 15CD wall-mount strobe notification device near entry.
            b. Provide NAC panel for remodel and addition notification appliances.
            c. Provide smoke detector at NAC panel.
         9. Sign Shop 111
            a. Provide (1) 75CD wall-mount strobe notification device near entry.
            b. Provide (1) fire alarm manual pull station near exterior door.
         10. Ex. Vehicle Storage 129 – No scope.
      ii. Addition
         1. Vehicle Storage 130
            a. Provide (1) fire alarm manual pull station near each exterior door (Quantity 2 exterior doors).
            b. Provide (1) 177 CD wall-mount horn / strobe notification device near each exterior door (Quantity 2 exterior doors). Mount at 96" AFF.
         2. Wash Bay 131
            a. Provide (1) fire alarm manual pull station near each exterior door (Quantity 2 exterior doors). Provide flush-mount weatherproof protective shield with horn for each pull station, STI # STI-1150.
            b. Provide (2) 75 CD wall-mount weatherproof horn / strobe notification device along east wall. Mount at 96" AFF.

8. Voice Data
   a. General
      i. Each data drop to have dedicated cable run back to new data rack in Stor / Mech / Elec 107.
      ii. Use plenum-rated Category 6 cabling for all data cabling, except use plenum-rated Category 6A cabling for wireless access points. Cabling may be routed exposed above accessible ceilings. Cabling shall be routed in conduit in Sign Shop 111, Vehicle Storage areas, and Wash Bay 131.
      iii. Each wall data outlet box shall be 4" x 4" x 2-1/8" deep with 1" conduit stubbed to accessible ceiling.
      iv. Provide end-to-end testing of cables.
      v. Provide identification at data outlets, patch panels, and cabling per Owner standards.
      vi. Wall data outlet jacks shall be ivory with matching plastic cover plates to match wiring devices.
      vii. Wireless access point outlets shall be surface style.
      viii. Wireless access points, rack-mount UPS, and network switches will be provided by the Owner.
      ix. Existing data rack is located per Figure 1 below (denoted with red star). There will be a new rack in the renovation area that will serve the renovation area and addition.

Figure 1: Location of existing data rack



   b. Specific rooms:
      i. Renovation
         1. Office / Break 100
            a. Provide (1) data outlet with (2) data drops behind the TV monitor. Locate data outlet inside in-set media wall box.
            b. At each office workstation, provide (1) data outlet with (4) data drops (Quantity 3 workstations).
            c. Provide (1) wireless access point data outlet with (2) drops. Coil 20' of extra cable above the ceiling.
         2. Flat Files 101 – No scope.
         3. Office 102
            a. Provide (1) data outlet with (2) data drops at desk.
            b. Provide (1) data outlet with (2) data drops behind the TV monitor. Locate data outlet inside in-set media wall box.
            c. Provide (1) wireless access point data outlet with (2) drops. Coil 20' of extra cable above the ceiling.
         4. Women's 103 – No scope.
         5. Shower 104 – No scope.
         6. Shower 105 – No scope.
         7. Stor / Mech / Elec 107
            a. Add new data rack:
               i. Provide 2-post rack, 52RU. Provide rack with vertical cable management.
               ii. Provide fiber patch panel in existing 2-post data rack. Fiber patch panel shall be OM4 with LC connectors. Add fiber patch panel in new data rack (OM4 with LC connectors). Route OM4 fiber between the existing rack and new rack; fiber shall be routed in conduit.
               iii. Provide (2) 48-port Category 6 and (1) 24-port Category 6A patch panels in the new rack.
               iv. Provide (3) 2RU horizontal cable organizers in the new rack.
               v. Provide (1) rack-mount power strip with integral surge protection and (8) 120V 20A output receptacles.
               vi. Provide voice / data grounding system:
                  1. At existing rack: Provide 2" x 12" x ¼" telecommunications ground bus bar near rack. Bond #6AWG from ground bus bar to rack. Bond #6AWG from ground bus bar to structural steel. Bond #3 AWG from ground bus bar to existing panel MDP ground bus. Bond #3AWG between existing rack ground bus bar and new rack ground bus bar.
                  2. At new rack: Provide 2" x 12" x ¼" telecommunications ground bus bar near rack. Bond #6AWG from ground bus bar to rack. Bond #6AWG from ground bus bar to structural steel.
         8. Sign Shop 111
            a. Provide (1) wall-phone data outlet with (1) data drop at 48" AFF.
            b. Provide (1) wireless access point data outlet with (2) drops. Coil 20' of extra cable near outlet.
         9. Ex. Vehicle Storage 129 – No scope.
      ii. Addition
         1. Vehicle Storage 130
            a. Provide (1) wall-phone data outlet with (1) data drop at 48" AFF.
            b. Provide (2) wireless access point data outlets with (2) drops each. Coil 20' of extra cable near each outlet.
         2. Wash Bay 131
            a. Provide (1) wireless access point data outlet with (2) drops. Provide NEMA 4X enclosure large enough for wireless access point and surface-style outlet.

9. Audio Visual – No scope.
10. Security – Video Surveillance
   a. All cameras shall be provided by Owner's security vendor (separate contract direct between Owner and security vendor). E.C. to only provide conduit, boxes and network cabling.
   b. Provide network cabling and conduit / box infrastructure for (2) exterior cameras for the addition.
11. Security – Access Control
   a. All access control equipment (card readers, low voltage cabling, and head end equipment) shall be provided by Owner's security vendor (separate contract direct between Owner and security vendor). E.C. to only provide conduit and boxes for access control.
   b. Each new exterior door shall have a wall mount access control on the exterior of the building (Quantity 6 exterior doors). At each access-controlled door, provide the following:
      i. 4"x4" box above the door on the interior side. Locate box above accessible ceiling or at 15' AFF in exposed ceiling areas.
      ii. From the 4"x4" box, route 3/4" conduit to single-gang box at 48" for a card reader.
      iii. From the 4"x4" box, route 1/2" conduit to door frame for electric strike and door position switch.
      iv. From the 4"x4" box, route 3/4" conduit to point above accessible ceiling.

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

ELECTRICAL NARRATIVE

DESIGNED	DRAWN
JAF	JAF

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
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TOWN OF HARRISON
ADDITIONAL BUILDING

HVAC BASIS OF DESIGN

PREPARED BY: GRANT GILBAUGH

cph

CPH Consulting, LLC - WI
444 Reid Street Suite 103, De Pere, WI 54115

October 18, 2024

1. PROJECT OVERVIEW

1.1 BACKGROUND

The Town of Harrison is building a new Public Works Addition and Remodel located in Harrison, Wisconsin. CPH's design will be performed to develop a design narrative which will be used to solicit design/build construction bids.

The new addition will be used for parks and streets maintenance vehicle storage and wash bay. The new renovation will be used for additional offices, expanded break room, and new bathroom.

1.2 SCOPE

The project scope of work covered by this design narrative will consist of using all new HVAC/Plumbing equipment. This design basis is based on the relevant Standards and Codes of Practice listed in the specified sections. CPH will ensure that the following objectives are incorporated into the design:

- An economic fit for purpose of design
- Consistency and standardization of design
- Health, safety, and environmental arrangements

McMahon will be providing the environmental, civil, structural, and architectural design narratives while CPH will be providing the HVAC, plumbing and electrical design narratives.

1.3 DELIVERABLE

1.3.1 Project Deliverable

1.3.1.1 Design Narrative – The MEP Contractors shall use this design narrative as a basis of design for gathering a projected project cost. The Contractors are responsible for providing cost estimates to complete the project. The information in the design narrative is preliminary and should not be used as a final design document. Further work shall be done to ensure a complete design if the project moves forward.

1.3.1.2 Cost Estimate – The MEP Contractors shall create detailed cost estimates for the installation of the systems described within this document. This design narrative only includes estimated equipment costs. It does not include any installation labor cost.

2. BUILDING DESCRIPTION

The new Department of Public Works building addition will be used by the Parks Maintenance Department and is a pre-engineered metal building. The addition will be approximately 60' x 150' and consist of three drive thru bays and one drive thru wash bay.
The project also includes an office renovation inside the existing wash bay. The 40' x 60' office space will have one office, file room, break area, cubicles, bathrooms with showers, mechanical storage room, and a sign shop.

3. DESIGN CRITERIA

3.1 HVAC

3.1.1 HVAC Location / Altitude
3.1.1.1 Location: Harrison, WI 54952
3.1.1.2 Elevation: 950 feet above sea level

3.1.2 Building R-Values
3.1.2.1 Roof R-Value: 43
3.1.2.2 Wall R-Value: 30

3.1.3 Occupancy Schedules
3.1.3.1 B Business: Office Space (Renovation)
3.1.3.1.1 8:00 AM – 5:00 PM M-F
3.1.3.1.2 18 Occupants
3.1.3.2 S-1 Storage: Sign Shop (Renovation)
3.1.3.2.1 8:00 AM – 5:00 PM M-F
3.1.3.2.2 3 Occupants
3.1.3.3 S-2 Storage: Garage and Wash Bay (Addition)
3.1.3.3.1 10:00 AM – 3:00 PM M-F
3.1.3.3.2 45 Occupants

3.1.4 HVAC Design Outdoor Conditions per 2021 ASHRAE (Appleton, WI)
3.1.4.1 Summer design dry bulb temperature: 88.3°F
3.1.4.2 Mean coincident wet bulb temperature: 75.1°F
3.1.4.3 Winter design dry bulb temperature: -6.0°F
3.1.4.4 Wind speed/Direction: 24.7 mph / SW

Table 1: Indoor Design Conditions

	Space Name	Summer Temp (°F DBT)	Summer Relative Humidity (%)	Winter Temp (°F DBT)	Winter Relative Humidity (%)	HVAC Design Considerations
1	Office Space	75 ± 2	-	72 ± 2	50%	1,2,3,9
2	Bathrooms	75 ± 2	-	72 ± 2	50%	1,2,3,9
3	Sign Shop	75 ± 2	-	72 ± 2	-	1,2,9
4	Drive Thru Garage Bays	-	-	65 ± 2	-	1,9,11
5	Drive Thru Wash Bay	-	-	65 ± 2	-	1,9

HVAC Design Considerations for Table 1
1. Heating will be provided.
2. Cooling will be provided.
3. Humidification will be provided.
4. *Dehumidification will be provided.
5. *Corrosion resistance will be provided.
6. *Explosion-proof equipment will be provided.
7. *Space is rated (Class X, Div X)
8. *Chemical XXX, XX% will be used or stored in the space.
9. No chemicals or gases will be used or stored in the space.
10. *Ventilation will be provided at X ACH.
11. Ventilation will be provided per enclosed parking requirements.

** Not all Design Considerations apply, but all have been considered.*

3.1.5 Sizing Criteria for HVAC Equipment
3.1.5.1 Sized for cooling load +0%
3.1.5.2 Sized for heating load +10%
3.1.5.3 Electrical sized at voltage and phase to keep less than 16 FLA

3.1.6 Sizing Criteria for HVAC Ductwork
3.1.6.1 Supply ductwork designed to 0.08" W.C. per 100'
3.1.6.2 Return/Exhaust/Relief ductwork designed to 0.05" W.C. per 100'

3.1.7 Capacities of HVAC equipment
3.1.7.1 Final equipment sizing, selection & location of the HVAC equipment is based on conceptual design and will need validated during final detail design.

3.1.8 Refrigerants

3.1.8.1 No CFC or HCFC refrigerants R11, R12, R404A etc. will be used in air conditioning or cooling equipment. In addition, R410A shall not be used per recent changes in regulation. Provide refrigerants per manufacturer selection. New common refrigerants include 454B and R32.

3.1.9 Control System
3.1.9.1 The HVAC control scope will include a Sequence of Operation description for normal operation for the purpose of this design narrative. During final design, coordinating controls with the manufacturer to satisfy the Sequence of Operations and any other conditions will be necessary.
3.1.9.2 The Control Contractor will provide Direct Digital Controller (DDC), remote microprocessor control panels, sensors, control devices, software, handheld field programming devices, screened cabling, trucking, and conduit for a fully operational system. The Heating Contractor will coordinate what is needed with the Control Contractor and include their cost estimate.

4. DESIGN NARRATIVE

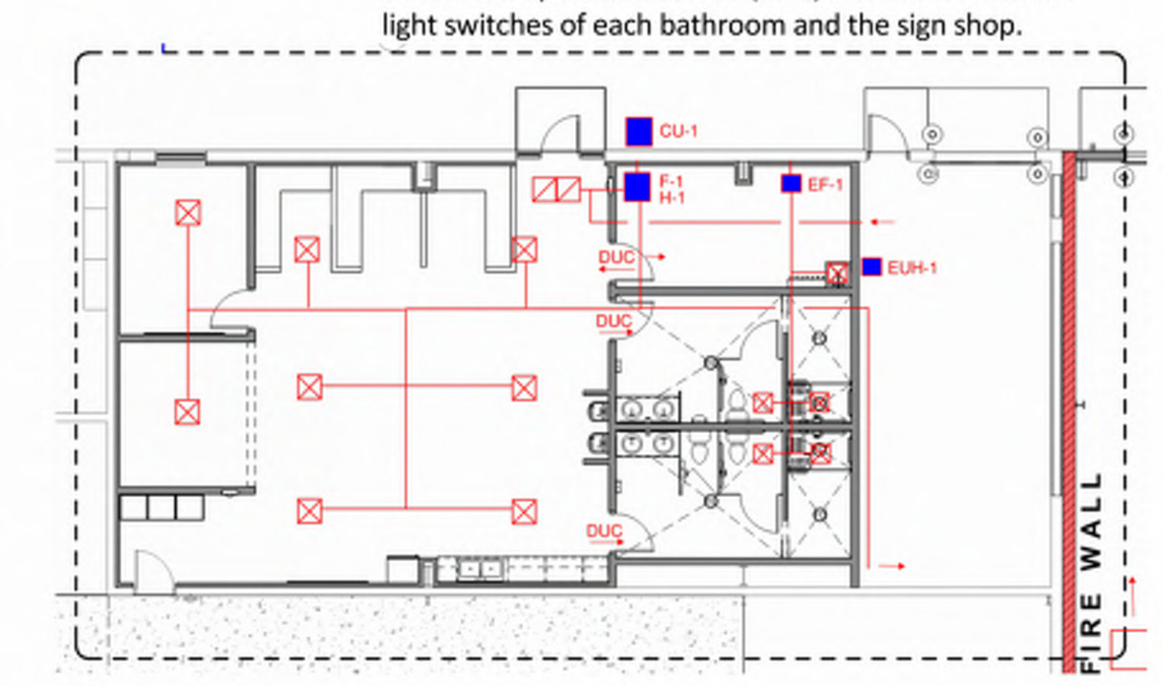
4.1 HVAC

4.1.1 Existing Garage Space (Adjacent to Area of Work)
4.1.1.1 Demolition
4.1.1.1.1 The existing MUA-X in the existing garage can be demolished due to age and to upgrade the system to meet current code requirements on parking garage ventilation. All associated wiring and accessories can also be demolished with the unit. The existing hood on the roof will remain in place and be reused.
4.1.1.1.2 The existing exhaust fan on the East exterior wall will be demolished. All associated wiring, ductwork, and accessories can be demolished with it.
4.1.1.1.3 The penetrations through the existing fire walls can be reused to pass ductwork through to the North exterior wall where the new exhaust fan will be located.
4.1.1.2 New Construction
4.1.1.2.1 The owner would like to include a welding fume hood (WFH-1) collection system. At this time, it is believed that the welding will be infrequent and for short durations. Therefore, a mobile fume collector on wheels with an adjustable arm shall be provided in this application. During final design, if the frequency and duration of welding is learned to be more significant, a larger system may be needed.

4.1.1.2.2 A new make-up air unit (MAU-1) will be installed at the location of the demolished unit. Reuse the existing intake hood on the roof if appropriate. Interlock a new exhaust fan (EF-5) with (MAU-1). The system shall be controlled via a gas detection system. See 4.1.4.1.1 for an explanation of the system control per code.
4.1.1.2.3 Install EF-5 on the North exterior wall to the far East of the existing garage space. The ductwork will need to route above the ceiling of the new office renovation, through the existing fire wall, and down to 16 inches above finished floor.

4.1.2 Business: Office Space (Renovation)
4.1.2.1 Demolition
4.1.2.1.1 The existing wash bay space has a waste oil tank (WOT-1) that is being relocated to outside the building as part of this project.
4.1.2.1.2 There are openings in the existing 3-HR fire wall that separates the existing wash bay from the drive thru bays. All the penetrations need to be resealed to the appropriate fire rating if they are not reused in new construction. There is a large transfer opening covered by grilles on both sides. This penetration needs to be filled or reused to maintain the 3-HR fire rating. No air will be transferred between the spaces. The vent pipe from the waste oil heater needs to be resealed with fire rating. The duct at the east end of the wash bay will be demolished. This penetration needs to be filled to maintain the 3-HR fire rating. The exhaust fan (EF-X) it is connected to is being demolished. Due to the space's new occupancy, it is no longer needed. Field verify the fan's airflow and relocate it as the fan for the new wash bay if it meets the demand.
4.1.2.1.3 The existing wash bay has a gas fired radiant tube heater (RH-X). The heater and all associated wiring, piping, etc. shall be demolished.
4.1.2.2 New Construction
4.1.2.2.1 A new oil pump (P-1) and piping will be required to provide the oil to the existing waste oil heater (WOH-X) in the existing garage from the new tank location.

4.1.2.2.2 The office space will be served by a new single natural gas furnace system (F-1) with a cooling only condenser (CU-1) and duct mounted humidifier (H-1). The supply air will be ducted to diffusers to evenly supply the conditioned air to each room based on their calculated cooling load. One return will be in the break room. Each room, excluding the bathrooms, will transfer air into the break room through lined ductwork above the ceiling. Door grilles on the bathrooms will transfer the required make-up air for exhaust. The bathrooms and mechanical room will be exhausted by an exhaust fan (EF-1) interlocked with all light switches of each bathroom and the sign shop.



4.1.3 S-1 Storage: Sign Shop (Renovation)
4.1.3.1 New Construction
4.1.3.1.1 The ventilation system in the sign shop will be provided by F-1. This space meets all the exceptions for natural ventilation of a parking garage per SPS 364. Note, any occupants in the space need a way to manually open the door from the inside.
4.1.3.1.2 The heat in the sign shop will be provided by F-1 and supplemented by a small electric heater (EUH-1) in case the garage door is opened during colder months unexpectedly.

4.1.4 S-2 Storage: Garage and Wash Bay (Addition)
4.1.4.1 New Construction

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NO.	DATE	REVISION

PRELIMINARY NOT FOR CONSTRUCTION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

MECHANICAL NARRATIVE

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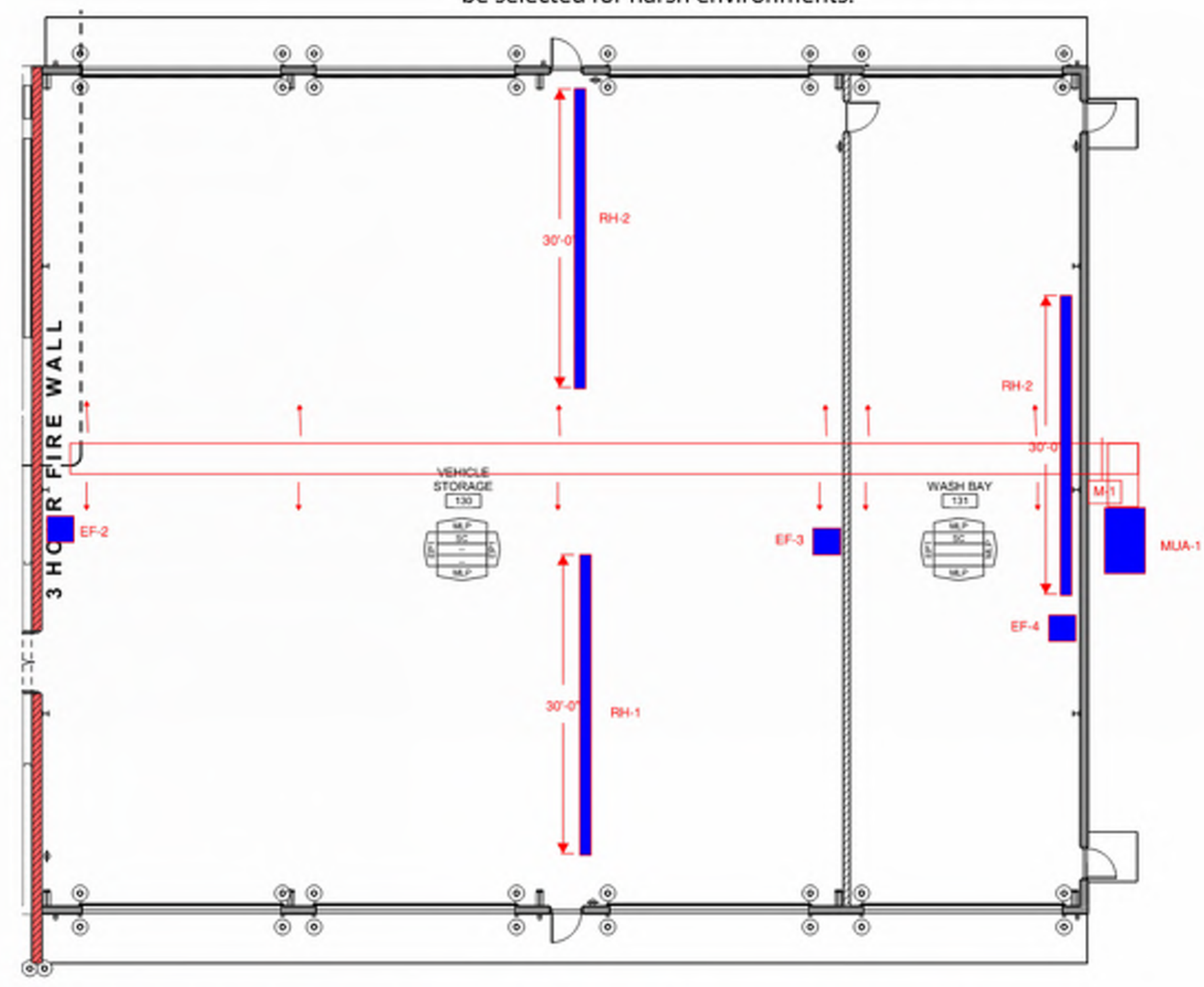
4.1.4.1.1 The ventilation system in the Garage will consist of 100% outside air ventilation via a direct fired make up air unit (MUA-2), interlocked damper (M-1) and exhaust fans (EF-2), (EF-3), and (EF-4). EF-4 will be an inline fan mounted indoors and ducted to a louver (L-1) with a backdraft damper. EF-2 and EF-3 will be mounted on the roof with backdraft dampers in the curb. Mount MUA-2 on grade on a 6" concrete pad. Per SPS 364.0404, The system shall be arranged to operate intermittently for a total of at least 5 hours in each 24–hour period at a minimum rate of 0.75 cfm/sf and shall also include the installation of carbon monoxide and nitrogen dioxide sensors as appropriate for the room or space. The system shall also be designed to address the requirements listed in s. SPS 364.0404 (2) and (3). The system shall be arranged to operate automatically upon detection of carbon monoxide at a level of 35 parts per million by automatic detection devices. If diesel–fueled vehicles are stored, the system shall be arranged to operate automatically upon detection of nitrogen dioxide at a level of one part of per million by automatic detection devices. The system shall maintain the garage at negative or neutral pressure relative to other spaces.

4.1.4.1.2 The heating system in the garage will consist of gas fired radiant tube heaters (RH-1) and (RH-2). They shall be size for envelope loss and located between the bays. In addition, supplemental heat will be provided by natural gas unit heaters. They shall be sized for quick recovery when the garage doors are opened. Each unit heater shall be wall or column mounted. Design for low efficiency, 80% AFUE unit heaters. Higher efficiency heaters require condensate drainage and acid neutralization from the flue. Provide sealed combustion units with concentric venting through the exterior walls. All the venting systems shall be terminated in accordance with IFGC 503.8.

4.1.4.1.3 The ventilation system in the wash bay will operate as part of the MUA-2 system. The fan shall be a wall-mounted upblast exhaust fan mounted high.

4.1.4.1.4 The heating system in the wash bay will consist of a gas fired radiant tube heater (RH-3) sized for the calculated envelope loss. The unit will be ceiling mounted. Due to high humidity from car washing, the radiant heater shall be selected for harsh environments.



5. TECHNICAL SPECIFICATIONS (PER PRELIMINARY SELECTION)

5.1 HVAC EQUIPMENT

Final equipment sizing, selection & location of the HVAC equipment is based on conceptual design and will be validated by CPH during detail design.

5.1.1 (WFH-1) Welding Fume Hood (Renovation)
- 5.1.1.1 Equipment Cost: $10,000
- 5.1.1.2 Manufacturer: Donaldson
- 5.1.1.3 Model: Porta-Trunk™ Collector

5.1.2 (MUA-1) Make-Up Air (Renovation)
- 5.1.2.1 Equipment Cost: $15,000
- 5.1.2.2 Location: Indoors, floor mounted Garage on mezzanine. Nothing on the pre-engineered roof if possible.
- 5.1.2.3 Type: Direct Fired Natural Gas
- 5.1.2.4 Airflow: 8,000 CFM
- 5.1.2.5 Heating Output: 850 MBH
- 5.1.2.6 Gas Input: 850 MBH
- 5.1.2.7 Power Requirement: 208 V, 3-phase

5.1.3 (MUA-2) Make-Up Air (Addition)
- 5.1.3.1 Equipment Cost: $14,000
- 5.1.3.2 Location: Indoors, wall hung in Garage. Nothing on the pre-engineered roof if possible.
- 5.1.3.3 Type: Direct Fired Natural Gas
- 5.1.3.4 Airflow: 6,500 CFM
- 5.1.3.5 Heating Output: 680 MBH
- 5.1.3.6 Gas Input: 680 MBH
- 5.1.3.7 Power Requirement: 208 V, 3-phase

5.1.4 Intec Gas Detection (Renovation)
- 5.1.4.1 Equipment Cost: $3,500
- 5.1.4.2 Sensor Location Qty: 3
- 5.1.4.3 Sensor Types: CO and NO2
- 5.1.4.4 Control Type: Hand, Off, Auto

5.1.5 Intec Gas Detection (Addition)
- 5.1.5.1 Equipment Cost: $3,500
- 5.1.5.2 Sensor Location Qty: 3
- 5.1.5.3 Sensor Types: CO and NO2
- 5.1.5.4 Control Type: Hand, Off, Auto

5.1.6 (F-1) Furnace and DX Coil (Renovation)
- 5.1.6.1 Equipment Cost: $3,000
- 5.1.6.2 Location: Indoors, floor mounted in Mechanical Room
- 5.1.6.3 Type: Direct Fired Natural Gas
- 5.1.6.4 Airflow: 1,600 CFM
- 5.1.6.5 Heating Output: 80 MBH
- 5.1.6.6 Gas Input: 84 MBH
- 5.1.6.7 Stages: 2
- 5.1.6.8 Cooling: 4 Tons
- 5.1.6.9 Cooling: 48 MBH
- 5.1.6.10 Power Requirement: 120 V, 1-phase
- 5.1.6.11 Accessory: Duct-mounted humidifier, mixing box

5.1.7 (CU-1) Condenser (Renovation)
- 5.1.7.1 Equipment Cost: $4,000
- 5.1.7.2 Location: Outside, wall-mounted on stainless steel brackets
- 5.1.7.3 Type: Cooling Only
- 5.1.7.4 Cooling: 4 Tons
- 5.1.7.5 Cooling: 48 MBH
- 5.1.7.6 Compressor Type: Scroll, 2-Stage
- 5.1.7.7 Power Requirement: 203 V, 3-phase

5.1.8 (EUH-1) Electric Unit Heater (Renovation)
- 5.1.8.1 Equipment Cost: $1,500
- 5.1.8.2 Location: Indoors, wall-mounted
- 5.1.8.3 Heating Output: 3.3 kW
- 5.1.8.4 Power Requirement: 208 V, 3-phase

5.1.9 (EF-1) Exhaust Fan (Renovation)
- 5.1.9.1 Equipment Cost: $1,100
- 5.1.9.2 Location: Indoors, ceiling-mounted
- 5.1.9.3 Type: Inline, ECM
- 5.1.9.4 Airflow: 375 CFM
- 5.1.9.5 Pressure Drop: .5"w.c. E.S.P.
- 5.1.9.6 Power Requirement: 120 V, 1-phase

5.1.10 (EF-2) and (EF-3) Exhaust Fans (Addition)
- 5.1.10.1 Equipment Cost: $4,700
- 5.1.10.2 Location: Outdoors, roof-mounted
- 5.1.10.3 Type: Upblast, ECM
- 5.1.10.4 Airflow: 2,550 CFM
- 5.1.10.5 Pressure Drop: .5" w.c. E.S.P.
- 5.1.10.6 Power Requirement: 120 V, 1-phase

5.1.11 (EF-4) Exhaust Fan (Addition)
- 5.1.11.1 Equipment Cost: $1,900
- 5.1.11.2 Location: Outdoors, wall-mounted
- 5.1.11.3 Type: Upblast, ECM
- 5.1.11.4 Airflow: 1,500 CFM
- 5.1.11.5 Pressure Drop: .5" w.c. E.S.P.
- 5.1.11.6 Power Requirement: 120 V, 1-phase

5.1.12 (EF-5) Exhaust Fan (Renovation)
- 5.1.12.1 Equipment Cost: $3,000
- 5.1.12.2 Location: Outdoors, wall-mounted
- 5.1.12.3 Type: upblast, ECM

- 5.1.12.4 Airflow: 8,000 CFM
- 5.1.12.5 Pressure Drop: .75"w.c. E.S.P.
- 5.1.12.6 Power Requirement: 120 V, 1-phase

5.1.13 (RH-1) and (RH-2) Radiant Tube Heaters (Addition)
- 5.1.13.1 Equipment Cost: $2,000 (each)
- 5.1.13.2 Location: Indoors, ceiling-mounted
- 5.1.13.3 Heating Output: 70 MBH
- 5.1.13.4 Stages: 2
- 5.1.13.5 Fuel: Natural Gas
- 5.1.13.6 Minimum Length: 20 Feet
- 5.1.13.7 Type: Push through, low intensity
- 5.1.13.8 Power Requirement: 120 V, 1-phase

5.1.14 (RH-3) Radiant Tube Heater (Addition)
- 5.1.14.1 Equipment Cost: $2,000
- 5.1.14.2 Location: Indoors, ceiling-mounted
- 5.1.14.3 Heating Output: 60 MBH
- 5.1.14.4 Stages: 2
- 5.1.14.5 Fuel: Natural Gas
- 5.1.14.6 Minimum Length: 30 Feet
- 5.1.14.7 Type: Push through, harsh environment
- 5.1.14.8 Power Requirement: 120 V, 1-phase

6. BUILDING CODES AND STANDARDS

- 2015 International Mechanical Code (IMC)
- National Fire Protection Association (NFPA)
- American Society for Testing Materials (ASTM)
- American National Standards Institute Inc. (ANSI)
- American Society of Heating Ventilation Air Conditioning Engineers (ASHRAE)
- Air Conditioning and Refrigeration Institute (ARI)
- Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)
- OSHA – Occupational Noise Exposure
- ANSI S1.4 – Specification for Sound Levels Meters
- Wisconsin Plumbing Code SPS 381 -387
- Wisconsin Building Code

7. ACTION REGISTER

Action Register Template.xlsx

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TOWN OF HARRISON
ADDITIONAL BUILDING

PLUMBING BASIS OF DESIGN

PREPARED BY: Douglas De Greef

CPH Consulting, LLC - WI
444 Reid Street Suite 103, De Pere, WI 54115

October 18, 2024

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1.3.1.2 Cost Estimate – The MEP Contractors shall create detailed cost estimates for the installation of the systems described within this document. This design narrative only includes estimated equipment costs. It does not include any installation labor cost.

1.3.1.3 Currently Unknown – any items in blue text do not significantly impact the budget cost, but will be required for the design stage.

2. BUILDING DESCRIPTION

The new Department of Public Works building addition will be used by the Parks Maintenance Department and is a pre-engineered metal building. The addition will be approximately 60' x 150' and consist of three drive thru bays and one drive thru wash bay.
The project also includes an office renovation inside the existing wash bay. The 40' x 60' office space will have one office, file room, break area, cubicles, bathrooms with showers, mechanical storage room, and a sign shop.

3. DESIGN CRITERIA

3.1 PLUMBING

3.1.1 Design Conditions

3.1.1.1 Address: Harrison, WI 54952
3.1.1.2 Frost depth: 4 ft
3.1.1.3 Building use: Washdown Areas, Vehicle Storage, Office/Break Room, Restroom
3.1.1.4 Systems in scope: Domestic water distribution, Sanitary drainage, Protected water, Compressed air
3.1.1.5 Hazardous chemicals present: Owner to provide MSDS
3.1.1.6 Existing asbestos: Owner to test for presence.
3.1.1.7 Domestic water to connect into existing valved 1" domestic water line in new Sign Shop.
3.1.1.8 Storm to be site drained.
3.1.1.9 The following information shall be gathered for final design. This design narrative uses assumptions for the following data.
3.1.1.10 Sanitary from new addition of Vehicle Storage and Wash Bay will have enough invert to reach existing grey water holding tank.
3.1.1.11 Sanitary from New Office/Breakroom/Restroom/Mechanical area to have enough invert to reach existing sanitary sewer holding tank.

3.1.2 Plumbing Utilities

3.1.2.1 Supply water hardness:
- Verify water hardness and if softener is needed for new office/breakroom/restroom area.

3.1.2.2 Sanitary sewer material, diameter: 4" Sch 40
- New office/breakroom/restroom/mech to connect into existing black water holding tank.
- New vehicle storage and wash bay area to connect into existing grey water holding tank.

3.1.2.3 Domestic water pressure
3.1.2.3.1 XXX psi at existing 1" valved tie-in point located in New Sign shop.

3.1.2.4 Existing sewer invert elevation or existing sewer pipe size and elevation at connection:
- XX ft (source), Existing 4" pipe size and elevation at Tie-in Point.
- XX ft (source), Existing grey water, 4" pipe size and elevation at Tie-in

Point.
- Storm water Site drained

4. DESIGN NARRATIVE

4.1 PLUMBING

4.1.1 Cold water supply system

4.1.1.1 New connection at existing valved 1" line in S-1 Storage: Sign Shop (Renovation) The water source is under 80 psi, over 30 psi.
4.1.1.2 Water softner with 1" bypass for non-softened exterior wall hydrants, hose bibbs, and wash bay area.
4.1.1.3 1" cold water line to be valved at each branch.
4.1.1.3.1 ½" to feed 2 compartment sink and valve box for fridge hookup.
4.1.1.3.2 ¾" to supply Women's Restroom
4.1.1.3.3 ¾" to supply Men's Restroom

4.1.2 Hot water supply system

4.1.2.1 Gas fired water heater in Store/Mech/Elec room
4.1.2.2 Hot Water recirculation system

4.1.3 High pressure hot water

4.1.3.1 Existing Landa Pressure washer is atmospheric combustion type. Due to negative space pressure, this needs to be removed and replaced with separated combustion in existing location or replacement to be portable unit provided by owner.

4.1.4 Sand/Grit and Waste

4.1.4.1 Demolition of existing trench drain and catch basin in existing wash bay.
4.1.4.2 New addition Vehicle Storage area to have trench drain that will drain into catch basin in New Wash Bay area.
4.1.4.3 New Wash Bay area to have trench drains to flow into catch basin, to Oil Interceptor, to existing grey water holding tank

4.1.5 Sanitary drainage system

4.1.5.1 New sanitary piping
4.1.5.1.1 New office/breakroom/restroom area, to tie-in existing 4" sanitary line for existing sewer holding tank. If limited by invert of existing holding tank inlet, route to new holding tank provided by civil.
4.1.5.1.2 Sanitary waste from Oil Interceptor in New Wash Bay area to leave building to existing grey water holding tank. If limited by invert of existing holding tank inlet, rout to new holding tank provided by civil.

4.1.6 Storm sewer system

4.1.6.1 Storm water for the building will be conveyed by the down spouts provided by the architect

5. TECHNICAL SPECIFICATIONS (PER PRELIMINARY SELECTION)

5.1 PLUMBING EQUIPMENT

Final equipment sizing, selection & location of plumbing equipment is based on conceptual design and shall be validated by the detail design contractor during detail engineering.

5.1.1 Natural Gas Water Heater

5.1.1.1 Equipment Cost: $4,000
5.1.1.2 Water Heater Type : Natural Gas
5.1.1.3 Tank Volume: 50 Gallons
5.1.1.4 Heating element power: 120 MBH
5.1.1.5 Power Requirement: 120 V, 1-phase

5.1.2 Recirculation Pump

5.1.2.1 Equipment Cost: $700
5.1.2.2 Pump Type: Wet Rotor
5.1.2.3 Flow Rate: 7.5 GPM
5.1.2.4 Power Requirement: 120 V, 1-phase
5.1.2.5 Pump Head: 22 ft. H2O
5.1.2.6 Power Input: 1/6 HP

5.1.3 Thermal Expansion Tank

5.1.3.1 Equipment Cost: $250
5.1.3.2 Tank Type: Diaphram
5.1.3.3 Minimum Capacity: 2 Gallons
5.1.3.4 Maximum Acceptance: 0.9 Gallons

5.1.4 Water Softener

5.1.4.1 Equipment Cost: $XXXX
5.1.4.2 Pressure Drop At Design Flowrate: XXX psi
5.1.4.3 Design Water Flow Rate: XXX GPM

5.1.5 Oil Separator

5.1.5.1 Equipment Cost: $7,300
5.1.5.2 Polyethylene, 2,000 sqft coverage area, below grade, adjustable riser, max load capacity of 16,000 LBS

5.1.6 Sanitary Lift Station

5.1.6.1 Equipment Cost: $15,000
5.1.6.2 36"x18" Fiberglass Basin, 200-230 V, 2HP Duplex grinder with control panel

5.1.7 Grey water lift Station

5.1.7.1 Equipment Cost: $15,000
5.1.7.2 36"x18" Fiberglass Basin, 200-230 V, 2HP Duplex grinder with control panel

5.2 PLUMBING FIXTURES

5.2.1 Water Closets

5.2.1.1 Kohler floor mounted tank type, vitreous china, elongated bowl with soft closing open front seat

5.2.2 Urinal

5.2.2.1 Kohler wall mounted, top spud, hard wired sensor operated 0.5gpf flush valve

5.2.3 Lavatories

5.2.3.1 Drop-in vitreous china with grid strainer and hard-wired sensor operated faucet, point of use mixing valve set to 105°F

5.2.4 Sink

5.2.4.1 Drop-in double basin, 18 gauge stainless steel with manual single lever pull down faucet with garbage disposal

5.2.5 Drinking Fountain

5.2.5.1 Wall mounted, electric cooled, filtered, bi-level with hands free bottle filler and protective shroud

5.2.6 Mop Basin

5.2.6.1 24"x24"x12" basin with stainless steel cap, 8" centers chrome two handle faucet with vacuum breaker and pail hook, Watts LF8A hose connection vacuum breaker, 30" hose & bracket, stainless steel splash catcher panels (two sides)

5.2.7 Wall Hydrants

5.2.7.1 Freezeless ¾" anti-siphon type, chrome finish, with metal handle & Nidel 34HF vacuum breaker

5.2.8 Hose Bibb

5.2.8.1 ¾" anti-siphon type, chrome finish, with metal handle & Nidel 34HF vacuum breaker

5.2.9 Emergency Eyewash

5.2.9.1 Eye-face wash, stainless steel bowl, hand/foot operated pedestal Mount

5.2.10 Floor Drains

5.2.10.1 Cast iron body, light duty for restrooms and mechanical rooms
5.2.10.2 Cast iron body, Heavy Duty for vehicle storage area and wash bay

5.2.11 Floor Clean Out

5.2.11.1 Cast iron body, light duty for office/breakroom/restroom/sign shop area

5.3 WATER DISTRIBUTION PIPING AND PIPING SUPPORTS

5.3.1 Water distribution piping (including valves):

5.3.1.1 Materials: copper type L
5.3.1.2 Conforming to all applicable ASTM standards.

5.3.2 Pipe supports:

5.3.2.1 Materials: Galvanized steel
5.3.2.2 Must be BPE-2002 standard-compliant.

5.3.3 Piping passing through building: fire/smoke walls, floors, etc.,

5.3.3.1 Shall have the required rated fire/smoke stop installed, the rating shall be as stated on the building architectural drawings.

5.3.4 All plumbing piping shall not cross less than 6' 6" feet above electrical or instrumentation cubicles per NEC 110.26.

5.4 WATER DISTRIBUTION PIPE SIZES

5.4.1 Cold Water Pipe Sizing

5.4.1.1 All cold-water distribution piping has been sized using the uniform pressure loss per lineal foot of pipe method from Wisconsin DSPS plumbing code. The preliminary design conditions yield an available uniform pressure loss of A = XX psi per 100 feet of pipe. Cold water pipe velocity is limited to 8 ft/sec per Wisconsin DSPS code OR pipe material manufacturer recommendation.
5.4.1.2 Mop Basin in Storage/Mechanical/Electrical Room was used as the controlling fixture.

5.4.2 Hot Water Pipe Sizing

5.4.2.1 All hot water distribution piping has been sized to the same standard as mentioned in section 9.1, with the added stipulation that the water velocity be limited to 8 ft/sec per pipe material manufacturer recommendation.

5.5 PIPING INSULATION

Insulation shall be applied for the following purposes,

5.5.1 Conservation of Energy
5.5.2 Personnel Protection
5.5.3 Acoustic Protection
5.5.4 Pipe corrosion Protection
5.5.5 Pipe freeze Protection

Fiberglass pipe insulation with PVC jacketing will be provided on all indoor hot water, hot water return piping.
In conditioned building spaces, hot water, hot water return pipe insulation will be closed cell polyethylene.
Fiberglass, Polyisocyanurate pipe insulation with aluminum jacketing will be provided on all non-conditioned or outdoor hot water, hot water return piping.

5.6 PLUMBING CONTROL SYSTEM

Hot water return circuits will be controlled with Caleffi Quicksetter+ flow control valves

6. BUILDING CODES AND STANDARDS

- 2015 International Mechanical Code (IMC)
- National Fire Protection Association (NFPA)
- American Society for Testing Materials (ASTM)
- American National Standards Institute Inc. (ANSI)
- American Society of Heating Ventilation Air Conditioning Engineers (ASHRAE)
- Air Conditioning and Refrigeration Institute (ARI)
- Sheet Metal and Air Conditioning Contractor's National Association (SMACNA)
- OSHA – Occupational Noise Exposure
- ANSI S1.4 – Specification for Sound Levels Meters
- Wisconsin Plumbing Code SPS 381 -387
- Wisconsin Building Code

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NO. | DATE | REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

PLUMBING NARRATIVE

DESIGNED	DRAWN
DJD	DJD

PROJECT NO. H0006 06-24-00138
DATE OCTOBER 29, 2024
SHEET NO. P001

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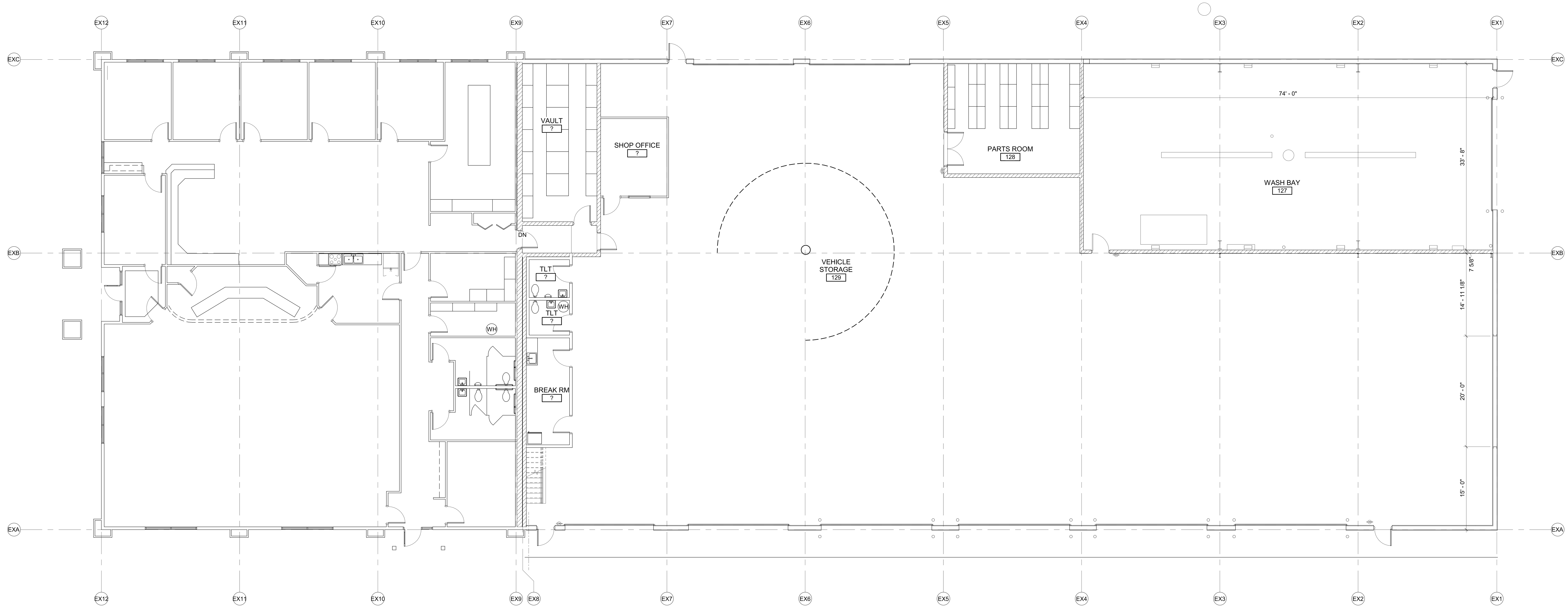
GENERAL PLAN NOTES

- DO NOT SCALE FROM DRAWINGS. BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
- COORDINATE LOCATIONS AND QUANTITY OF WORK WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS.
- ALL DIMENSIONS ARE CLEAR FROM THE FACE OF FINISHED WALL/PARTITION TO FACE OF FINISHED WALL/PARTITION OR FACE OF EXISTING WALLS ACTUAL FACE.
- ALL PIPING, CONDUIT AND RELATED MECHANICAL AND ELECTRICAL ITEMS SHALL BE CONCEALED WITHIN GYPSUM BOARD FURRING AS REQUIRED IN FINISHED AREAS WHETHER SHOWN ON DRAWINGS OR NOT, UNLESS NOTED OTHERWISE.
- PROVIDE METAL PLATE BACKING AND/OR TREATED WOOD BLOCKING IN WALLS WHERE WALL-MOUNTED EQUIPMENT IS SHOWN ON PLANS OR ELEVATIONS. VERIFY HEIGHT AND LENGTH WITH ACTUAL EQUIPMENT.
- SEE LIFE SAFETY PLAN FOR WALL RATINGS.
- SHADED AREA INDICATES EXISTING BUILDING.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS BEFORE CONSTRUCTION.

(X) KEYED PLAN NOTES



FIRST FLOOR EXISTING PLAN
1/8" = 1'-0"
NORTH

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

EXISTING PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
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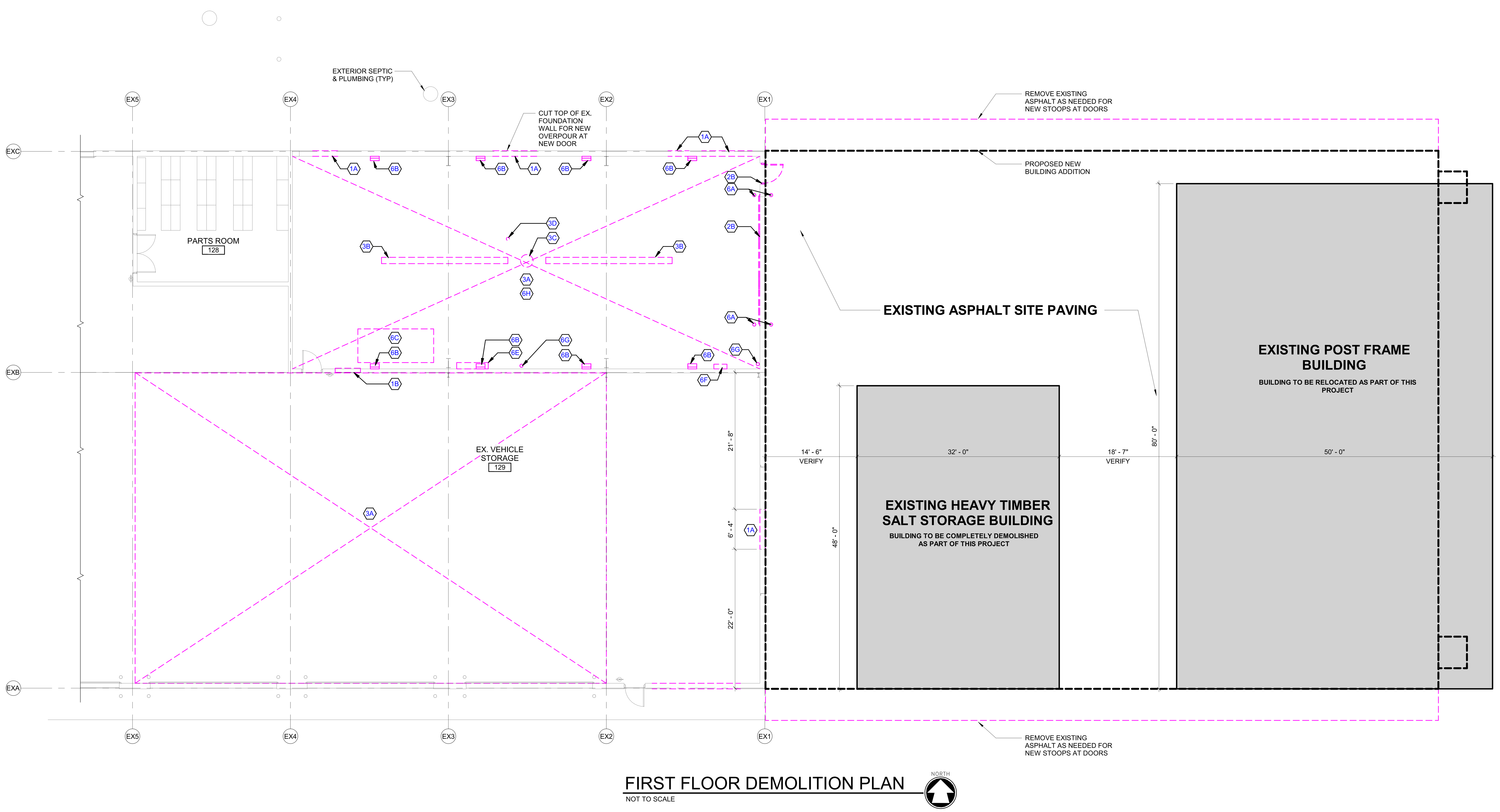
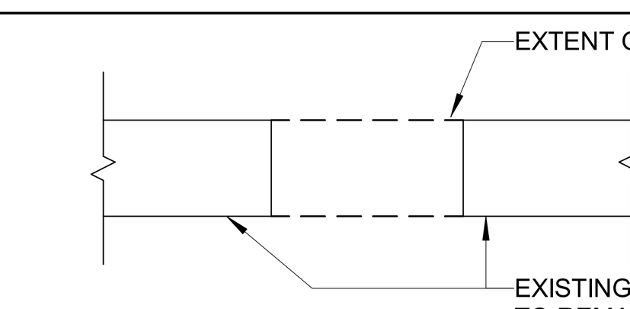


FIRST FLOOR DEMOLITION PLAN
NOT TO SCALE

GENERAL DEMOLITION NOTES

- EXISTING BUILDING HAS BEEN SHOWN ACCORDING TO ORIGINAL BUILDING PLANS, FIELD NOTES AND MEASUREMENTS. EXISTING CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTORS AND DISCREPANCIES REPORTED TO THE ARCHITECT.
- DASHED LINES INDICATE EXISTING WALLS, DOORS, WINDOWS, CABINETS & FIXTURES TO BE REMOVED.
- EXISTING WALLS, PARTITIONS, FLOOR LINES, DOORS AND FRAMES THAT REMAIN ARE SHOWN IN CONTINUOUS LINE WEIGHT. THESE AND EXISTING FLOOR AND WALL FINISHES THAT ARE SCHEDULED TO REMAIN SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.
- WHERE WALLS OR PARTITIONS ARE INDICATED TO BE REMOVED, REMOVE ENTIRE WALL OR PARTITIONS AS WELL AS DUCTS, PIPING, CONDUITS AND OTHER ELEMENTS IN OR ON THEM WHICH MAY OR MAY NOT BE SPECIFICALLY IDENTIFIED, UNLESS OTHERWISE NOTED. PATCH EXISTING ADJACENT CONSTRUCTION THAT IS TO REMAIN WHERE APPLICABLE.
- THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL DOORS, HARDWARE, FIXTURES AND EQUIPMENT BEING REMOVED DURING DEMOLITION. COORDINATE WITH OWNER ALL EQUIPMENT TO BE SALVAGED AND/OR REUSED ON THE PROJECT.
- EXISTING FINISHES TO BE REMOVED SHALL HAVE THE ORIGINAL SUBSTRATE PREPARED TO RECEIVE NEW FINISHES.
- MAINTAIN AND PROTECT EXISTING UTILITY SERVICES TO REMAIN AND/OR TO BE OPERATIONAL DURING DEMOLITION AND CONSTRUCTION.
- ALL FIELD VERIFICATION FOR PLUMBING, MECHANICAL & ELECTRICAL DEMOLITION IS THE CONTRACTOR'S RESPONSIBILITY.
- SCOPE OF DEMOLITION AND REMOVAL WORK SHALL NOT BE LIMITED BY THESE DRAWINGS BUT SHALL INCLUDE ANY AND ALL WORK NECESSARY TO FACILITATE NEW CONSTRUCTION.
- CONTRACTOR TO PROTECT AREAS ADJACENT TO DEMOLITION DURING CONSTRUCTION.
- PROVIDE DUST CONTROL BETWEEN CONSTRUCTION AREAS AND OCCUPIED AREAS AT ALL TIMES. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- DEMOLITION WORK PERFORMED THAT IS NOT REQUIRED FOR NEW CONSTRUCTION IS TO BE REPLACED AT NO CHARGE TO THE OWNER.
- ALL SHUTDOWNS OF MECHANICAL, SPRINKLER, FIRE ALARM AND/OR ELECTRICAL SYSTEMS SHALL BE COORDINATED WITH OWNER.
- CONTRACTOR TO COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION AS SHOWN ON DRAWINGS. REPORT ANY CONFLICTS TO THE ARCHITECT BEFORE DEMOLITION WORK BEGINS.
- SEQUENCE OF DEMOLITION WORK TO BE COORDINATED WITH NEW CONSTRUCTION.
- SEE OTHER DISCIPLINES' DRAWINGS FOR EXTENT OF ITEMS TO BE REMOVED AND SALVAGED FOR RE-USE.
- REFER TO SPECIFICATIONS SECTION 01 70 00 "CUTTING AND PATCHING" SECTION FOR WORK REQUIRED BY ALL TRADES WHETHER INDICATED ON THE DRAWINGS OR NOT.

GENERAL DEMOLITION LEGEND



(X) KEYED DEMOLITION NOTES

DEMO WALLS

1A SITE CLEAR EXISTING PORTION OF WALL AS REQUIRED FOR NEW WORK.
1B SITE CLEAR EXISTING 4'x4' LOUVER & INFILL. (8'-0" A.F.F.)

DEMO OPENINGS

2B SITE CLEAR EXISTING DOOR AND FRAME. PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.

DEMO FLOORS

3A SITE CLEAR EXISTING CONC. FLOOR OR RESURFACE (3,000 S.F. +/-)
3B SITE CLEAR EXISTING TRENCH DRAIN. PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
3C SITE CLEAR EXISTING CATCH BASIN. PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
3D SITE CLEAR EXISTING CLEANOUT. PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.

DEMO MISC

6A SITE CLEAR EXISTING PIPE BOLLARDS, PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
6B SITE CLEAR EXISTING WALL PACK LIGHT, PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
6C REMOVE EXISTING FUEL TANK AND STORE FOR REINSTALLATION
6E REMOVE EXISTING WASH STATION EQUIPMENT AND TURN OVER TO OWNER.
6F SITE CLEAR EXISTING DUCT, PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
6G SITE CLEAR EXISTING PIPE PENETRATING THROUGH CONC. FLOOR. PATCH AND PREP SURFACES AS REQUIRED FOR NEW WORK.
6H REMOVE REMAINING FURNITURE, FIXTURES, AND EQUIPMENT - TURN OVER TO OWNER.

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NO. | DATE | REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

FIRST FLOOR DEMOLITION PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A111

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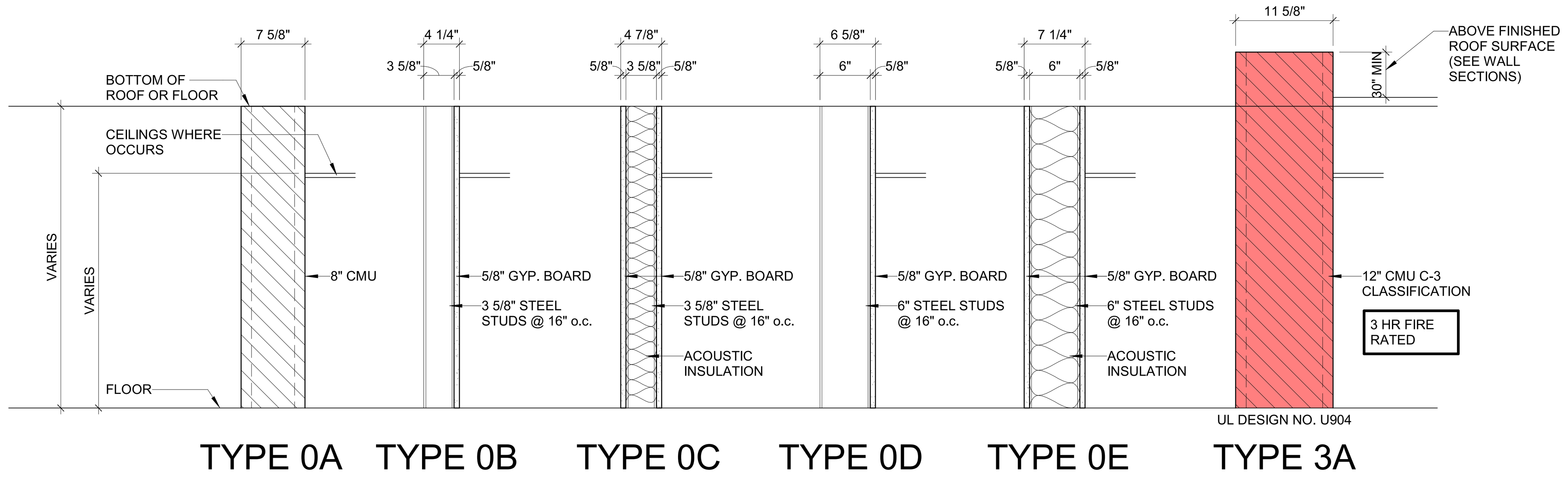

WALL TYPE LEGEND

NOT TO SCALE

(X) KEYED PLAN NOTES

1 6" DIA. PREFINISHED METAL BOLLARD w/ CONCRETE INFILL. (PAINT) (TYP.)
5 INFILL EXISTING LOUVER OPENING IN WALL. PROVIDE CMU TO MATCH EXISTING RATING.

GENERAL PLAN NOTES

- DO NOT SCALE FROM DRAWINGS. BRING ANY DISCREPANCIES TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
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- SEE LIFE SAFETY PLAN FOR WALL RATINGS.
- SHADED AREA INDICATES EXISTING BUILDING.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS BEFORE CONSTRUCTION.

GENERAL WALL NOTES

- SEAL ALL INTERIOR WALL PARTITION INTERSECTIONS AT FLOORS, CEILINGS/STRUCTURE, AND OTHER WALLS WITH ACOUSTIC SEALANT.
- PENETRATIONS IN HORIZONTAL FIRE-RESISTANCE-RATED ASSEMBLIES AND FIRE-RESISTANCE-RATED WALL ASSEMBLIES SHALL COMPLY WITH IBC SECTION **714**.
- JOINTS **AND PENETRATIONS** INSTALLED IN OR BETWEEN FIRE-RESISTANCE-RATED WALLS, FLOOR OR FLOOR/CEILING ASSEMBLIES AND ROOFS OR ROOF/CEILING ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED FIRE-RESISTANT JOINT SYSTEM DESIGNED TO RESIST THE PASSAGE OF FIRE FOR A TIME PERIOD NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE WALL, FLOOR OR ROOF IN OR BETWEEN WHICH IT IS INSTALLED. FIRE RESISTANT JOINT SYSTEMS SHALL COMPLY WITH IBC SECTION **715.**
- PROVIDE TILE BACKER BOARD AT AREAS SCHEDULED TO RECEIVE CERAMIC TILE AND AT AREAS REQUIRED NOTED TO RECEIVE IT.
- PROVIDE 5/8" TYPE "X" GYP BD
- INSTALL BLOCKING OR BACKER MATERIAL FOR ATTACHMENT/MOUNTING OF WALL HUNG ITEMS OR EQUIPMENT.
- BULLNOSE ALL INTERIOR CMU WALLS AT OUTSIDE CORNERS, WALL ENDS, WINDOW JAMBS, AND WINDOW SILLS WHERE NO OTHER SILL IS SCHEDULED.

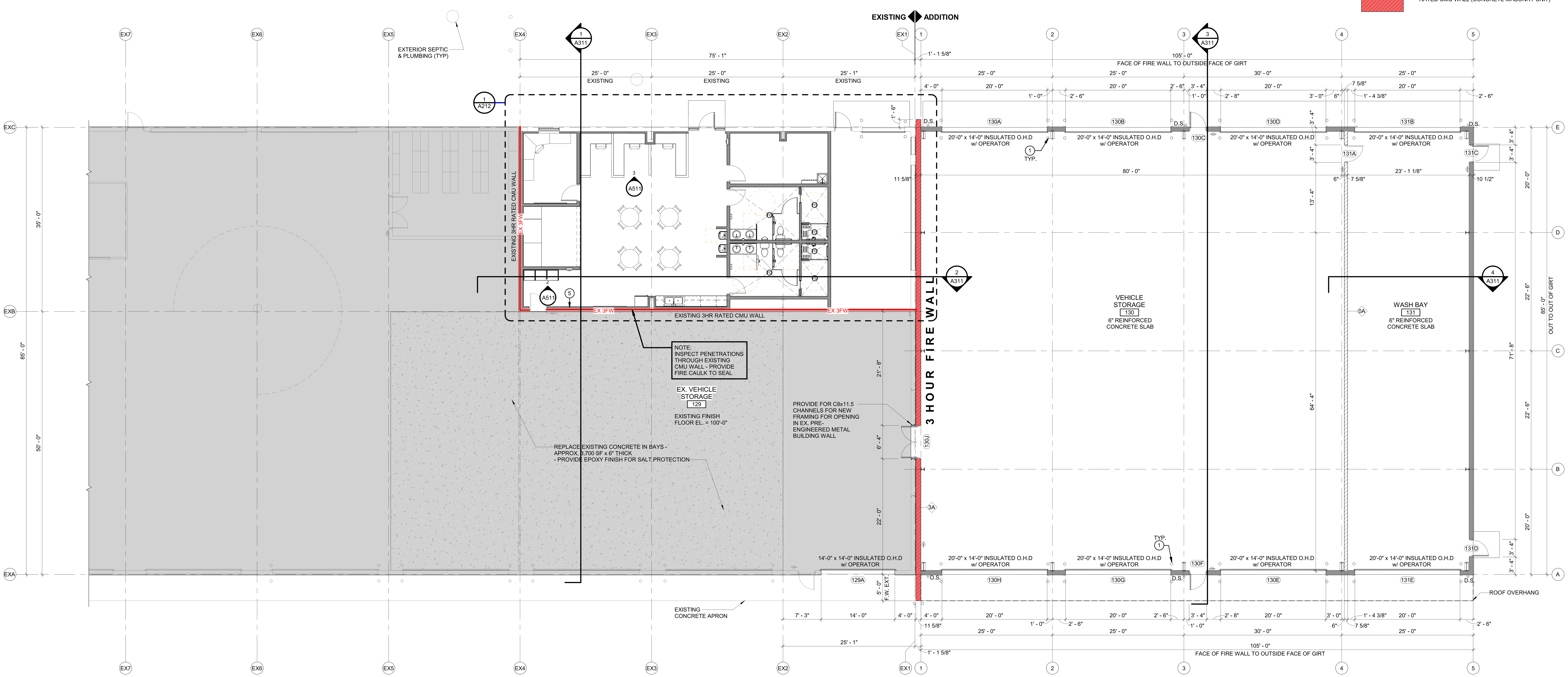
ALL WALL TYPES SHOWN IN THIS LEGEND MAY NOT BE USED, SEE PLANS FOR WALL TYPES.

INTERIOR WALL PLAN KEY

METAL STUD PARTITION

CMU WALL (CONCRETE MASONRY UNIT)

RATED CMU WALL (CONCRETE MASONRY UNIT)



FIRST FLOOR PLAN

1/8" = 1'-0"

NORTH

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR: VILLAGE OF HARRISON MENASHA, WI

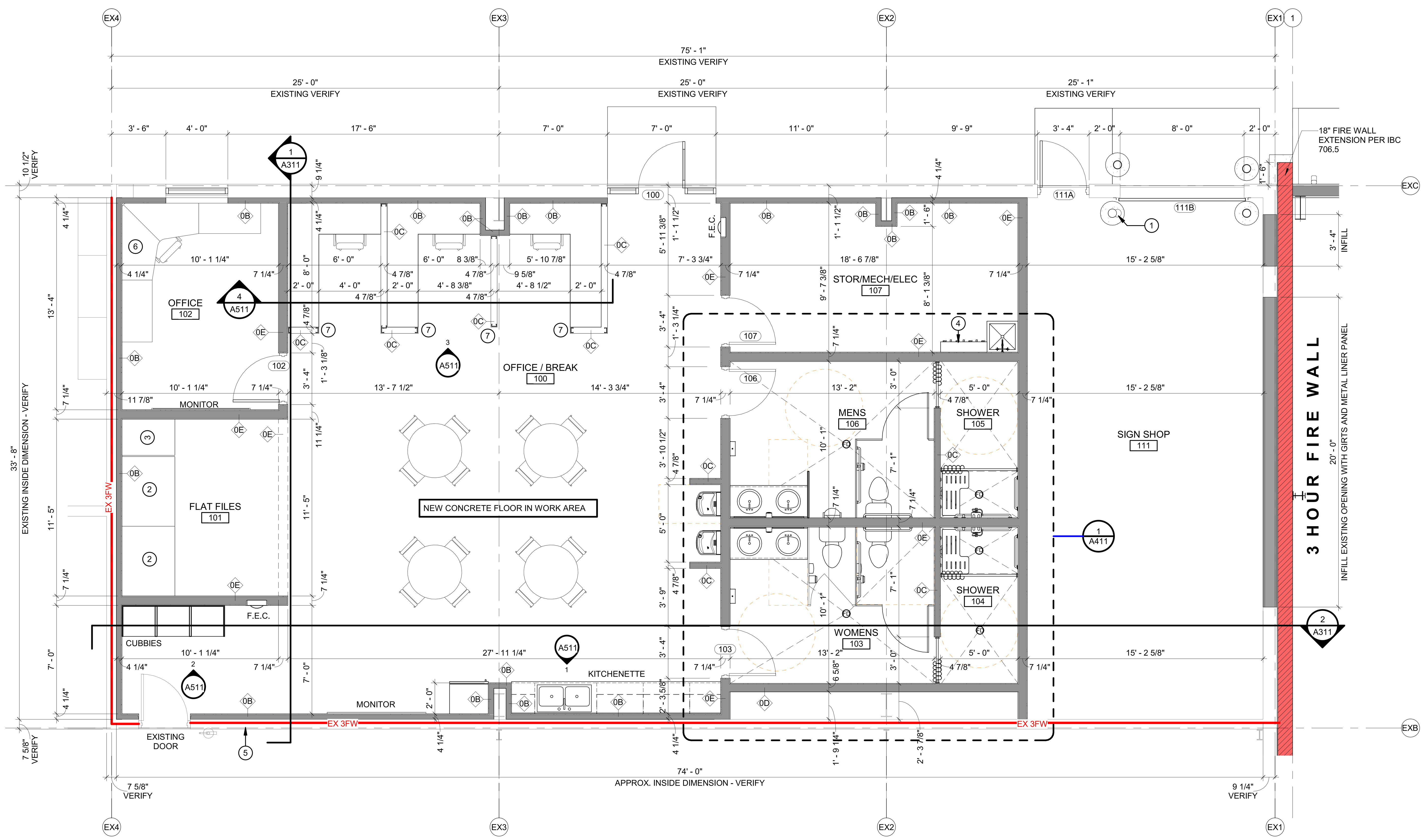
FIRST FLOOR PLAN

DESIGNED	DRAWN
MAM	DJR

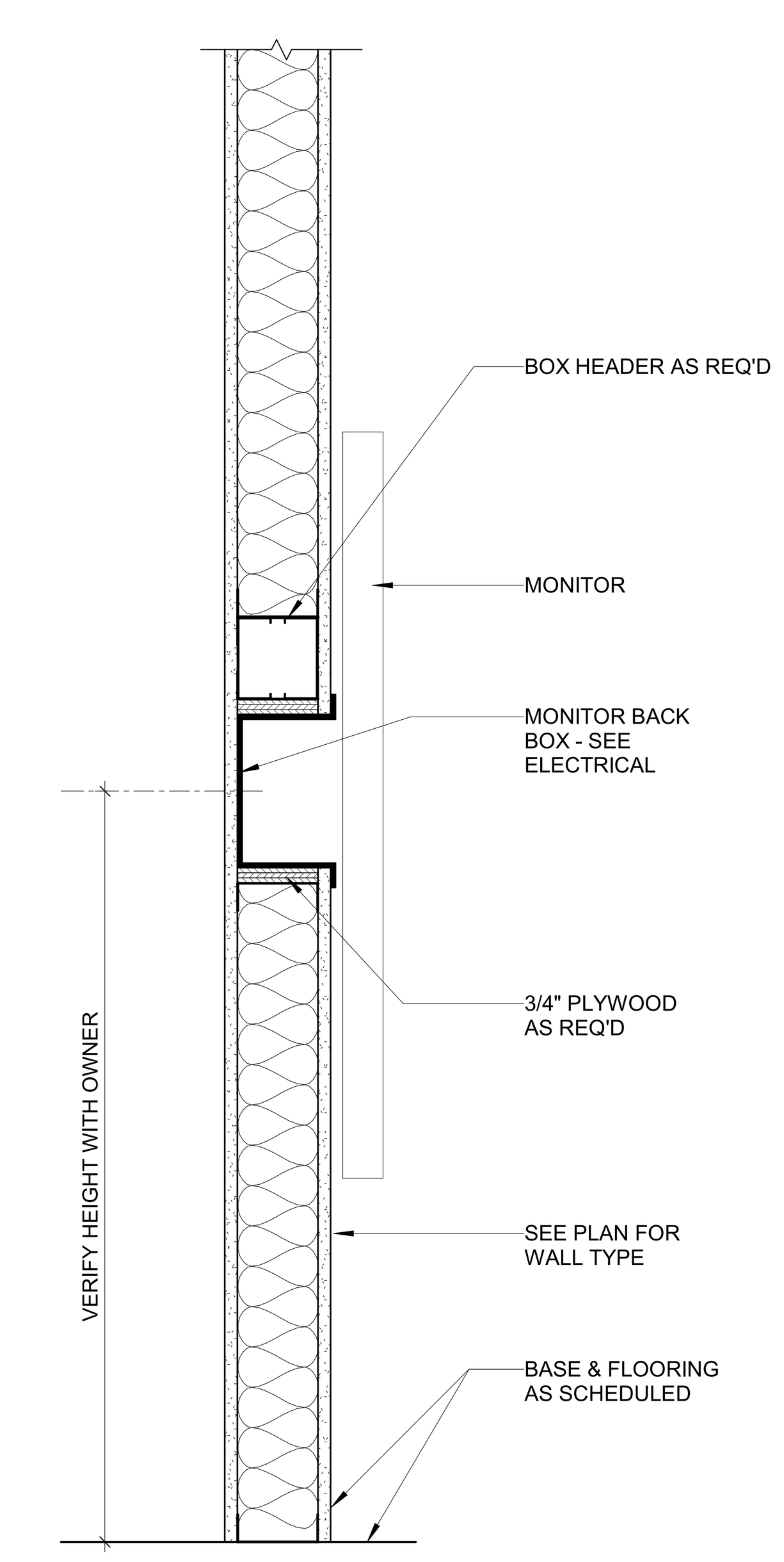
PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

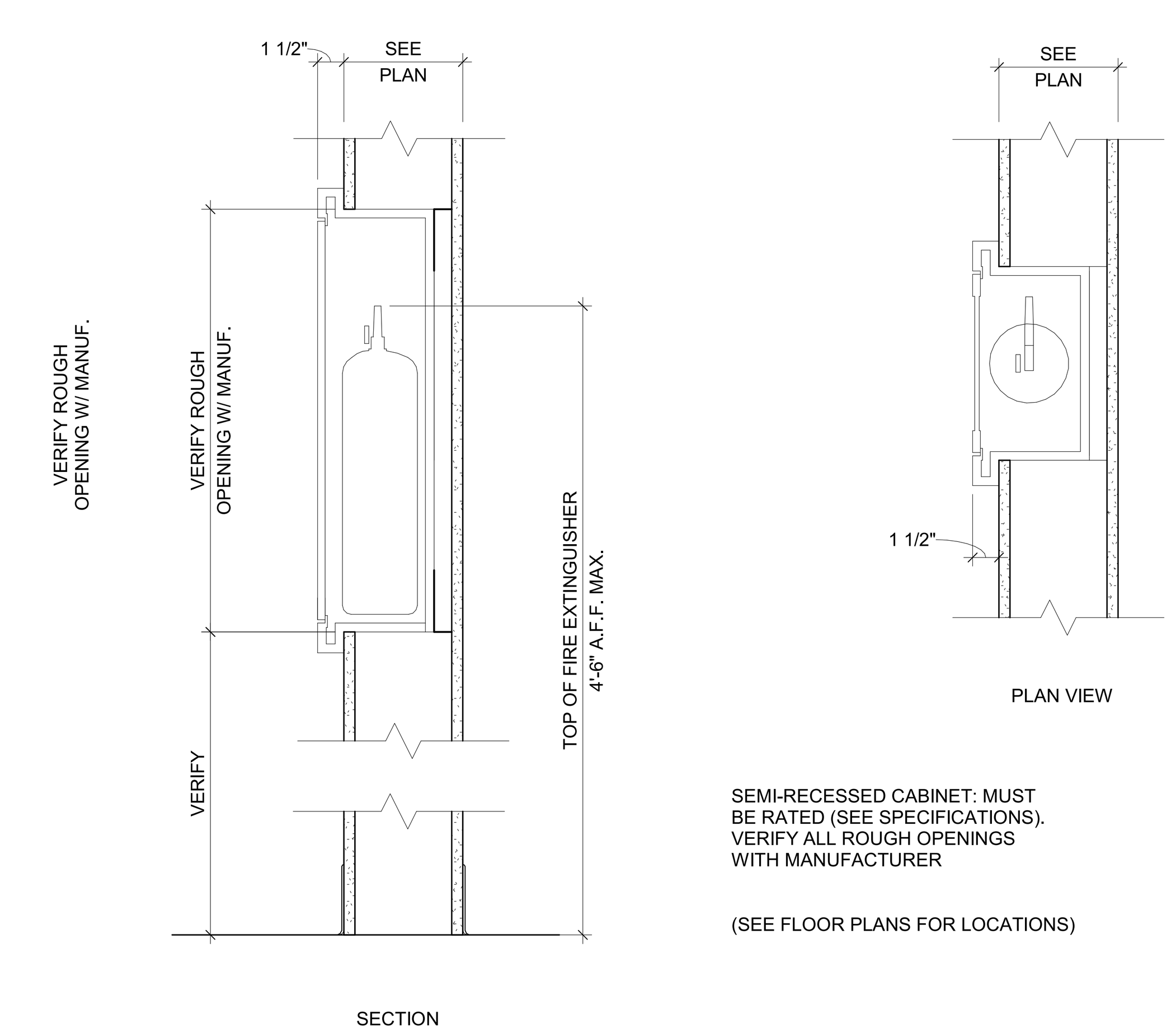
SHEET NO.
A211



1 ENLARGED DPW OFFICE FLOOR PLAN
A212 1/4" = 1'-0"



2 TV WALL MOUNT
A212 1 1/2" = 1'-0"



3 FIRE EXTINGUISHER CABINET
A212 1 1/2" = 1'-0"

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- SEE LIFE SAFETY PLAN FOR WALL RATINGS.
- SHADED AREA INDICATES EXISTING BUILDING.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS BEFORE CONSTRUCTION.

GENERAL WALL NOTES

- SEAL ALL INTERIOR WALL PARTITION INTERSECTIONS AT FLOORS, CEILINGS/STRUCTURE, AND OTHER WALLS WITH ACOUSTIC SEALANT.
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INTERIOR WALL PLAN KEY

METAL STUD PARTITION

CMU WALL (CONCRETE MASONRY UNIT)

RATED CMU WALL (CONCRETE MASONRY UNIT)

(X) KEYED PLAN NOTES

1	6" DIA. PREFINISHED METAL BOLLARD w/ CONCRETE INFILL. (PAINT) (TYP.)
2	(3) 54"x41"x16" FLAT FILES STACKED - BY OWNER
3	(2) 28"x41"x16" FLAT FILES STACKED - BY OWNER
4	UTILITY SHELF w/ MOP HOLDER HOOKS - BY OTHERS
5	INFILL EXISTING LOUVER OPENING IN WALL. PROVIDE CMU TO MATCH EXISTING RATING.
6	DESK AND OFFICE FURNITURE BY OWNER
7	PROVIDE CLARK-DIETRICH "PONY WALL LITE" WALL FRAMING CONNECTION TO FLOOR.

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REVISION | DATE | NO.

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
ENLARGED DPW OFFICE FLOOR PLAN

DESIGNED	DRAWN
MAM	MAM

PROJECT NO.
H0006 06-24-00138
DATE
OCTOBER 29, 2024
SHEET NO.
A212

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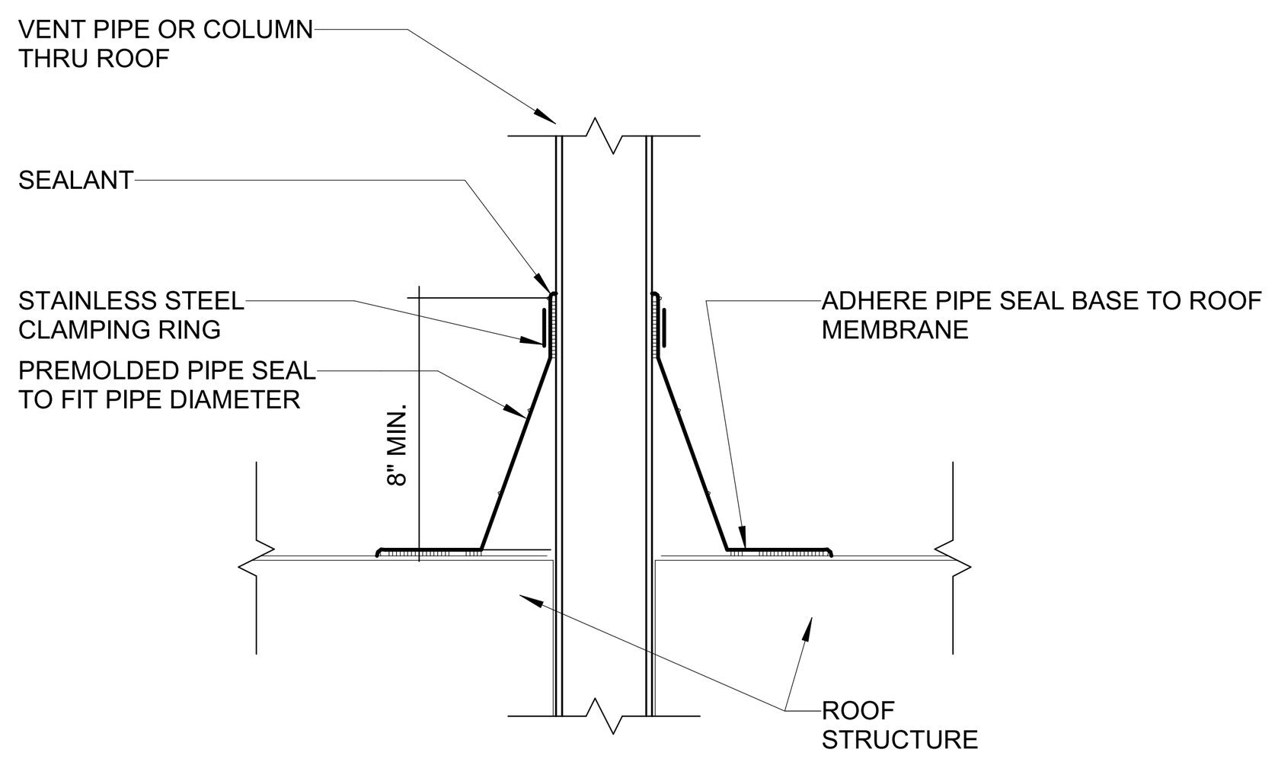


1 A231 ROOF PENETRATION
1 1/2" = 1'-0"

GENERAL ROOF PLAN NOTES

- NOT ALL ROOF PENETRATIONS INDICATED. ROOFING CONTRACTOR TO VERIFY PENETRATIONS WITH ALL BUILDING TRADES. PROVIDE APPROPRIATE FLASHING AS REQUIRED TO MAKE WATERTIGHT.
- SEE HVAC DRAWINGS FOR SIZES, QUANTITIES LOCATIONS AND TYPES OF HVAC PENETRATIONS AND ROOF TOP MOUNTED EQUIPMENT.
- PROVIDE ROOF INSULATION SADDLES AT ANY ROOF INTERFERENCES. SLOPE ON SADDLE 1/2" PER FOOT.

ROOF EDGE BLOCKING ATTACHMENT

WOOD NAILERS TO CMU:
1/2" ANCHOR BOLT, 8" LONG @ 4'-0" oc; STAGGER IF OVER 6" WIDE; AT OUTSIDE CORNER 2'-0" oc FOR 8'-0."

METAL COPING & COUNTER-FLASHING TO MASONRY:
CLEAT OUTSIDE LEG & MASONRY ANCHORS AT 36" oc MIN 1" INTO MASONRY.

HOOK STRIPS:
CONTINUOUS, ONE GAUGE HEAVIER THAN FASCIA. FASTENERS ANNULAR TREADED; NAILS WITH 3/16" HEAD, 1-1/4" PENETRATIONS,CORROSION RESISTANT, 16" oc

ROOF PLAN LEGEND

○ ⊠ ROOF PENETRATIONS - SEE MECHANICAL & PLUMBING DRAWINGS

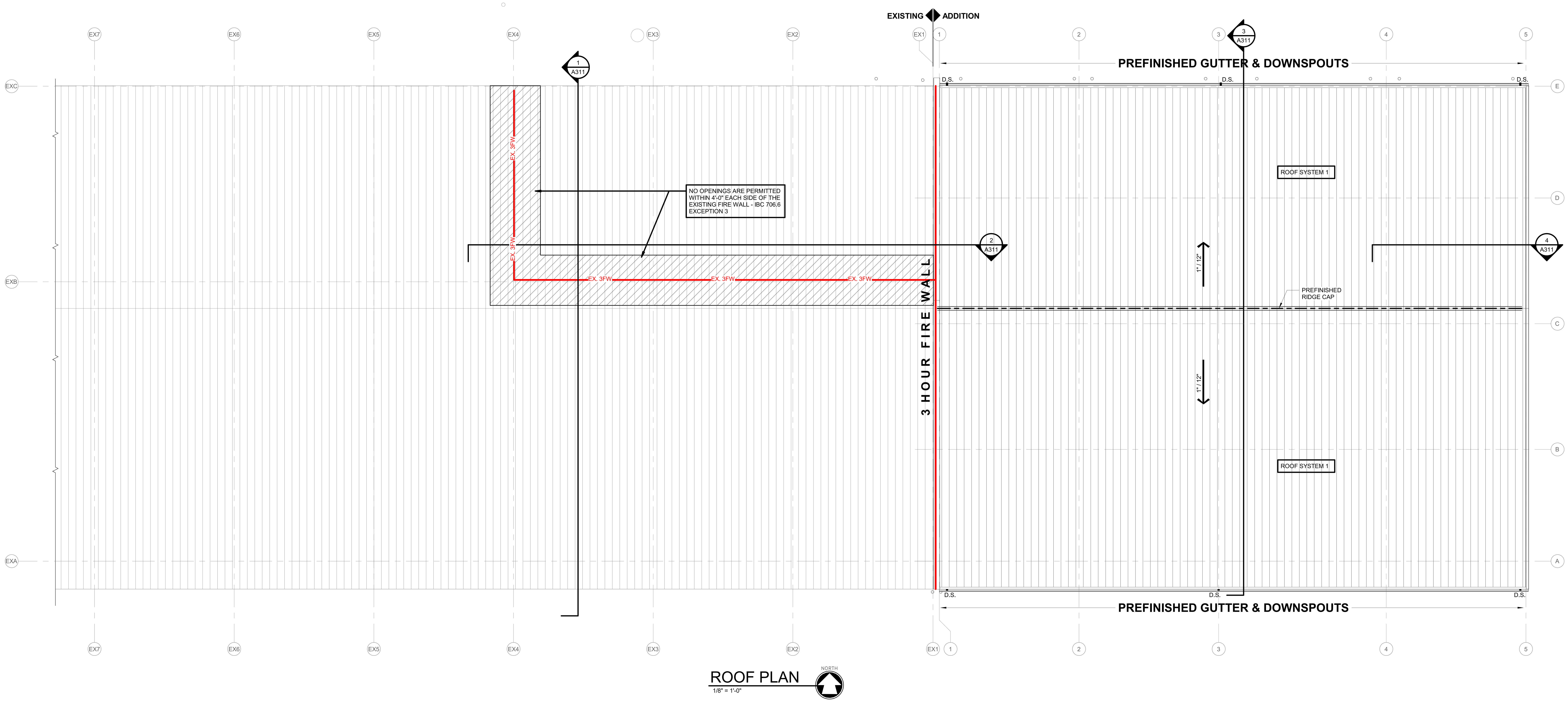
ROOF TYPES

ROOF SYSTEM 1:

24 GA. PREFINISHED STANDING SEAM METAL ROOF PANEL (CLASS B RATED) OVER 4" + 8" DOUBLE LAYER LINER ROOF INSULATION w/ THERMAL BLOCKS (R=38 MIN)

GUTTERS & DOWNSPOUTS:

PROVIDE PREFINISHED METAL GUTTER 6" DEEP x 7" WIDE MINIMUM. PROVIDE PREFINISHED METAL DOWNSPOUTS 4" x 5" MINIMUM. PROVIDE SPLASH BLOCKS AT BOTTOM OF DOWNSPOUTS.



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

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

ROOF PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A231

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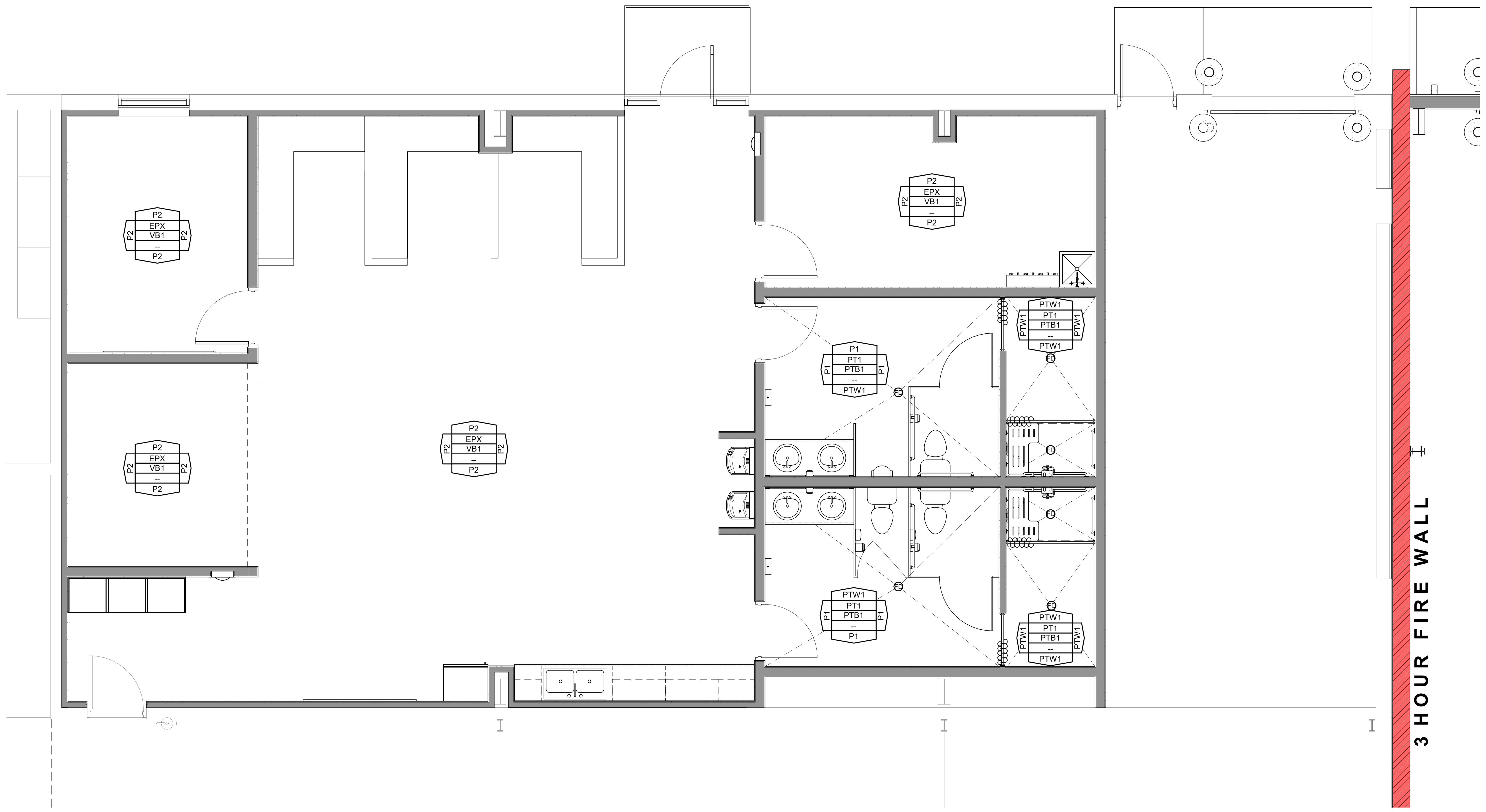
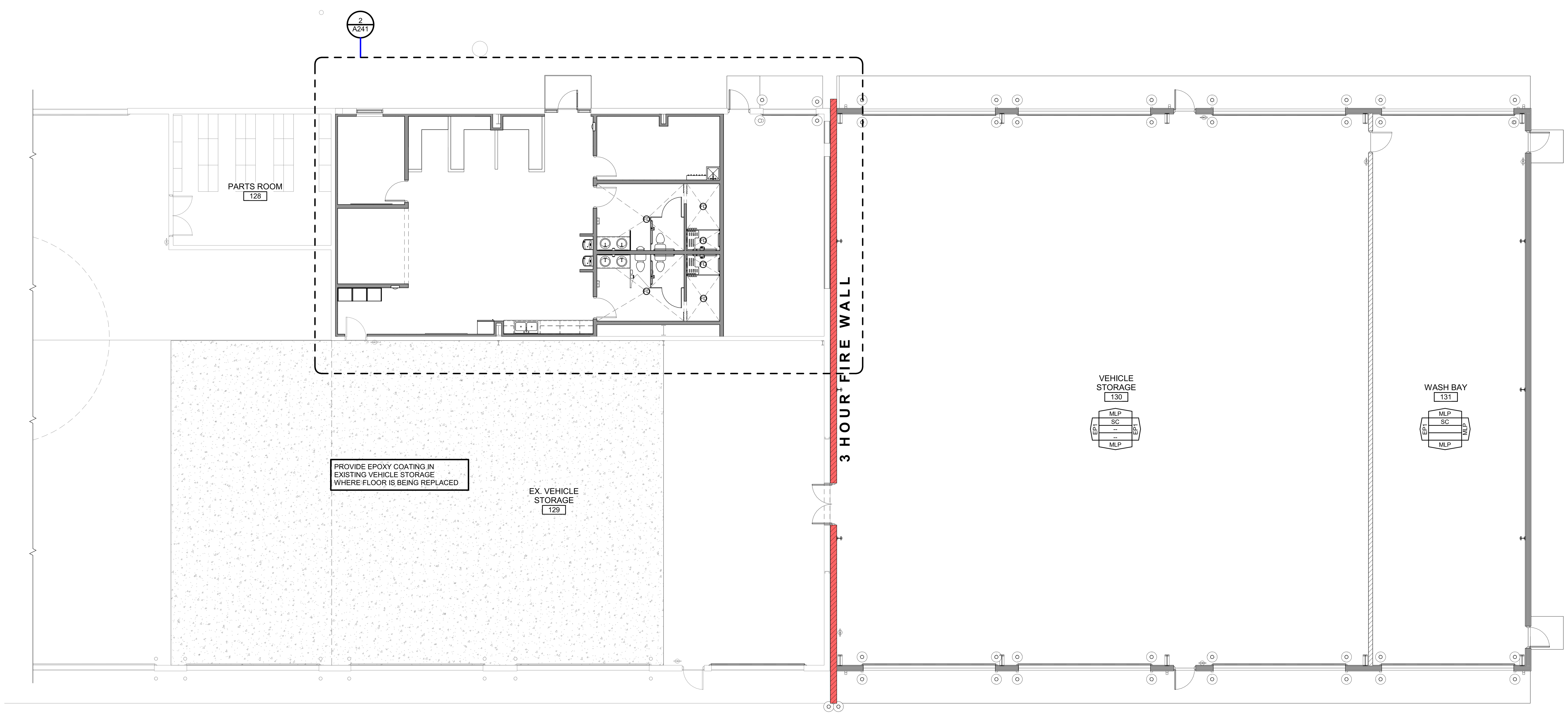


2
A241
ENLARGED FINISH PLAN
1/4" = 1'-0"



FIRST FLOOR FINISH PLAN
1/8" = 1'-0"

GENERAL FINISH NOTES

- SEE SPECIFICATIONS FOR SPECIFIC FINISH INFORMATION.
- PAINT ALL EXPOSED STEEL.
- SEE REFLECTED CEILING PLAN FOR CEILING FINISHES.
- COORDINATE FLOORING WITH PLUMBING FLOOR DRAINS. SEE PLUMBING PLANS FOR LOCATIONS.
- BASE 6" IN TOILET ROOMS.
- EXPOSED CEILING PAINTED (INCLUDES DUCTWORK, CONDUIT, STRUCTURE, ETC.) WHERE INDICATED

FINISH PLAN LEGEND

XX# | XX# — TRANSITION BETWEEN FLOORING MATERIALS

FLOORING INSTALLATION DIRECTION

WALL / FLOOR / BASE / NOTES / WALL — MATERIAL ABBREVIATIONS - SEE ABBREVIATIONS LIST AND SPECIFICATIONS FOR ADDITIONAL INFORMATION

CG-# — CORNER GUARD LOCATION - ALL CORNER GUARDS CG-1 UNLESS OTHERWISE NOTED

ROOM FINISH ABBREVIATIONS

FLOORS

PT1	PORCELAIN TILE:
SC	SEALED CONCRETE
EPX	EPOXY FLOORING

BASE

VB1	VINYL BASE:
PTB1	PORCELAIN TILE BASE:

WALLS

P1	PAINT: LATEX WALL PAINT
EP1	EPOXY PAINT:
MLP	PREFINISHED METAL LINER PANEL
PWT1	PORCELAIN WALL TILE:

CABINETRY

PL1	PLASTIC LAMINATE:
PL2	PLASTIC LAMINATE:
SS1	SOLID SURFACE:

ROOM FINISH REMARKS

1. GYP BD CEILINGS PAINTED w/ P#

ⓧ KEYED PLAN NOTES

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

FINISH PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

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GENERAL CEILING PLAN NOTES

- SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR DEVICE/FIXTURE TYPES SIZES, INSTALLATION AND SPECIFICATIONS.
- VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CEILING INSTALLATION.
- CEILING PLAN SHOWS DESIGN INTENT ONLY, REFER TO SPECIFICATIONS AS WELL AS MECHANICAL AND ELECTRICAL DRAWINGS FOR DEVICES, TYPES AND INSTALLATION. DEVICES SHOWN ON ARCHITECTURAL PLAN AND NOT ON THE ENGINEERING DRAWINGS OR SPECIFICATIONS SHOULD BE BROUGHT TO ARCHITECTS ATTENTION FOR CLARIFICATION.
- ACOUSTICAL CEILING GRID SHALL BE CENTERED IN ROOMS UNLESS NOTED OTHERWISE.
- CEILING HEIGHTS ARE DIMENSIONED FROM FINISH FLOOR LINE TO DESIGN ELEVATION OF FINISHED CEILING UNLESS NOTED OTHERWISE.
- CENTER IN BOTH DIRECTIONS RECESSED LIGHTS, ELECTRICAL AND MECHANICAL DEVICES AND SPRINKLER HEADS WHEN SHOWN IN CEILING TILE.
- MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS SHALL COORDINATE DEVICES REQUIRING ACCESS IN NON ACCESSIBLE CEILING. PROVIDE ACCESS PANELS AS NEEDED (EXAMPLE: MECHANICAL VAV BOXES, PLUMBING CLEANOUTS, ETC.).

CEILING HEIGHTS SHOWN ARE ESTIMATES OF WHAT CAN BE ACCOMPLISHED. MECHANICAL EQUIPMENT MAY NECESSITATE A CHANGE TO THESE HEIGHTS. VERIFY FEASIBLE CEILING HEIGHTS AND DISCUSS NECESSARY CHANGES WITH THE ARCHITECT PRIOR TO INSTALLATION OF SYSTEMS ABOVE CEILING.

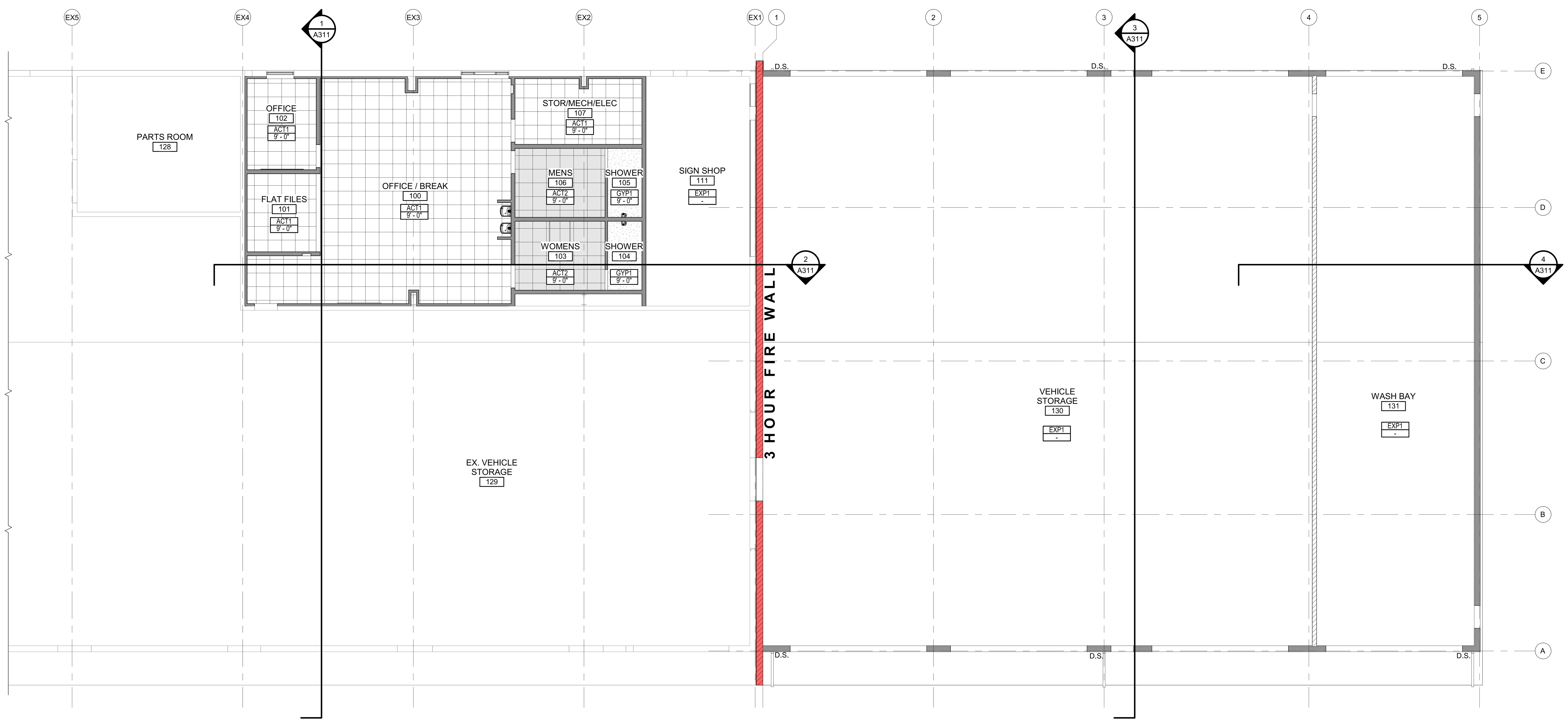
CEILING PLAN LEGEND

- CEILING FINISH
- CEILING HEIGHT (AFF)
- EXPOSED CEILING
- GYPSUM BOARD CEILING / SOFFIT (GYP)
- ACOUSTICAL CEILING (ACT)
- HVAC GRILLS - SEE HVAC PLANS
- LAY-IN LIGHT FIXTURE - SEE ELECTRICAL PLANS
- RECESSED DOWNLIGHT FIXTURE - SEE ELECTRICAL PLANS
- LINEAR LIGHT FIXTURE - SEE ELECTRICAL PLANS
- HANGING PENDANT FIXTURE - SEE ELECTRICAL PLANS

CEILING DESCRIPTIONS

ACT1	ACOUSTICAL CEILING PANELS & GRID - STANDARD
ACT2	ACOUSTICAL CEILING PANELS & GRID - VINYL COVERED GYP
GYP1	GYPSUM BOARD (PAINT P-#)
EXP1	EXPOSED STRUCTURE (PAINT P-#)
EXP2	UNFINISHED EXPOSED STRUCTURE

(X) KEYED PLAN NOTES



FIRST FLOOR CEILING PLAN

1/8" = 1'-0"

NORTH

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

REFLECTED CEILING PLAN

DESIGNED	DRAWN
MAM	DJR

PROJECT NO. H0006 06-24-00138

DATE OCTOBER 29, 2024

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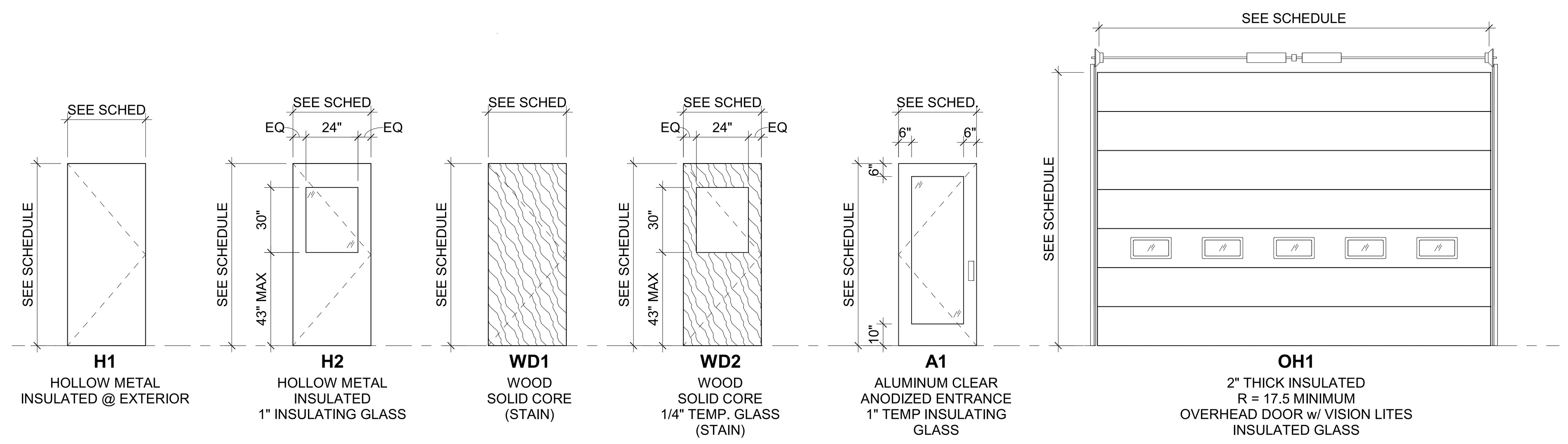
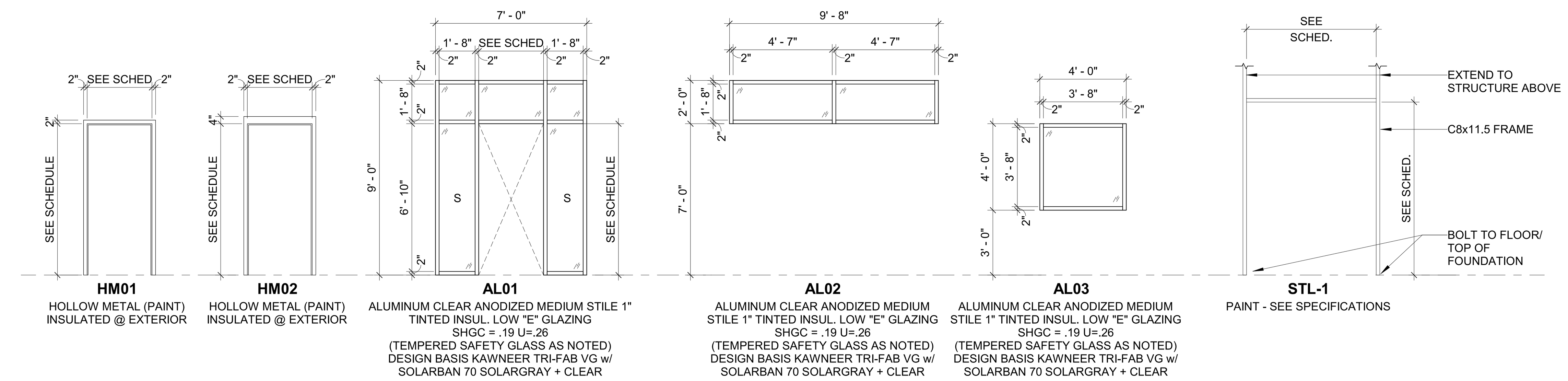
DOOR ELEVATIONS

ALL DOOR LITE GLAZING TO BE 1/4" TEMPERED SAFETY GLAZING TO MEET IBC SECTION 2406, UNLESS NOTED OTHERWISE.



FRAME ELEVATIONS

"S" INDICATES LOCATION OF SAFETY GLAZING MEETING THE REQUIREMENTS OF IBC SECTION 2406.

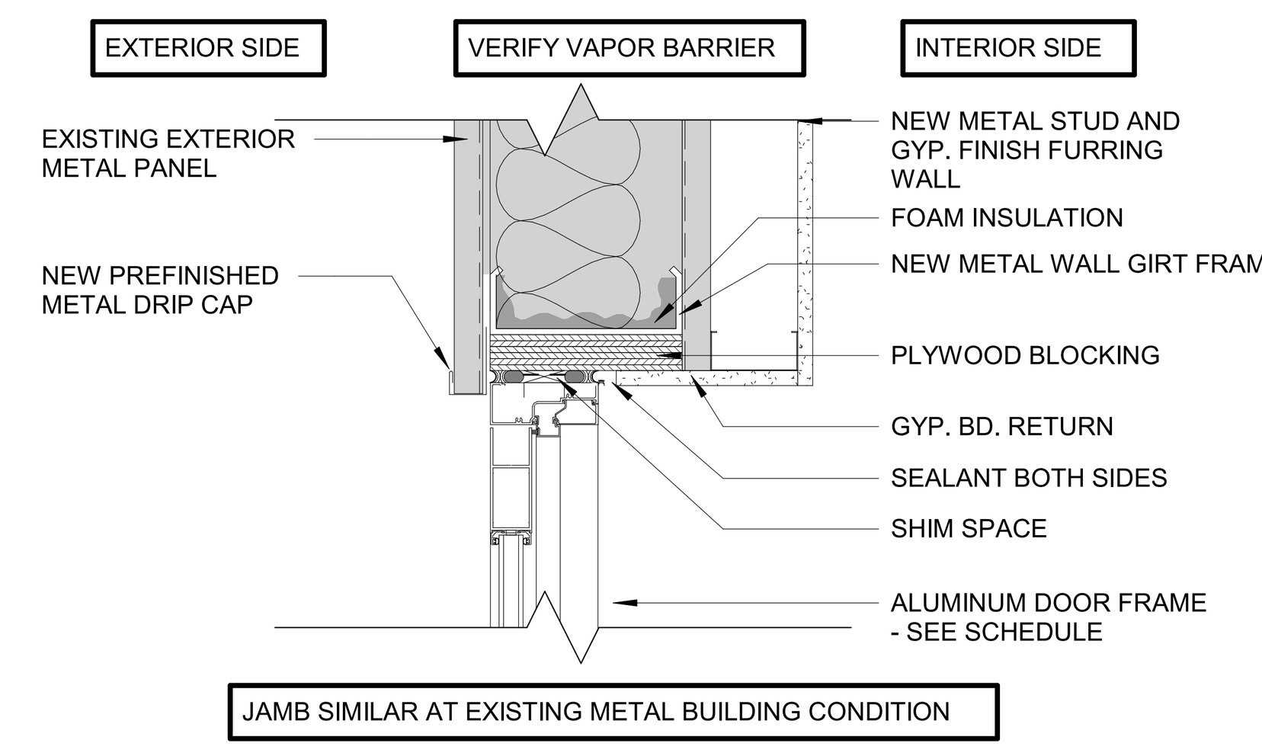


DOOR SCHEDULE

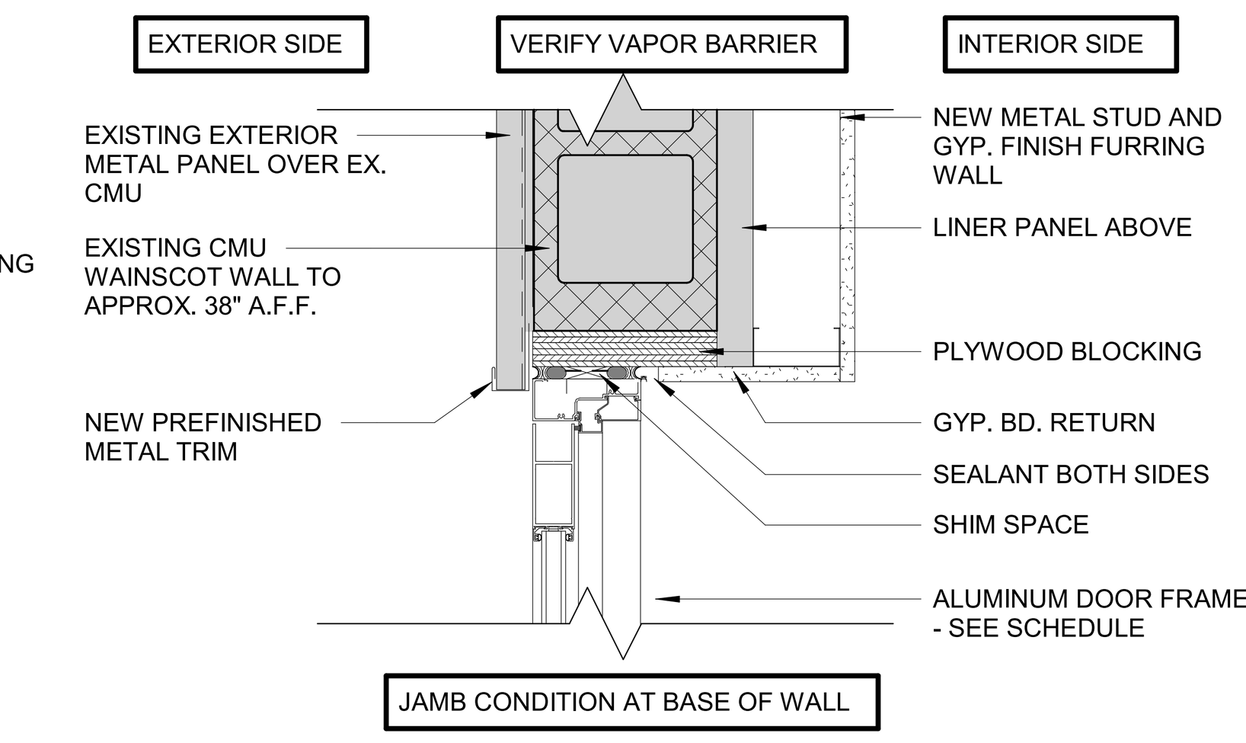
DOOR NUMBER	LEAF QTY	OPENING SIZE WIDTH	DOOR HEIGHT	THICKNESS	DOOR TYPE	FRAME TYPE	FIRE RATING	DETAILS (A291)	COMMENTS
100		3' - 0"	7' - 0"	1 3/4"	A1	AL01	-	1,2	
102	1	3' - 0"	7' - 0"	1 3/4"	W2	HM01	-	3	
103	1	3' - 0"	7' - 0"	1 3/4"	W1	HM01	-	3	
106	1	3' - 0"	7' - 0"	1 3/4"	W1	HM01	-	3	
107	1	3' - 0"	7' - 0"	1 3/4"	W1	HM01	-	3	
111A	1	3' - 0"	7' - 0"	1 3/4"	H2	HM01	-	4,5	
111B	--	8' - 0"	10' - 0"	2"	OH1	STL-1	-	7,8,9	
129A		14' - 0"	14' - 0"	2"	OH1	STL-1	-	7,8	
130A		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130B		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130C	1	3' - 0"	7' - 0"	1 3/4"	H2	HM01	-	11,12	
130D		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130E		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130F	1	3' - 0"	7' - 0"	1 3/4"	H2	HM01	-	11,12	
130G		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130H		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
130J	2	6' - 0"	7' - 0"	1 3/4"	OH1	HM02	3 HR	13,14	
131A	1	3' - 0"	7' - 0"	1 3/4"	H1	HM02	-	13,14	
131B		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	
131C	1	3' - 0"	7' - 0"	1 3/4"	H2	HM01	-	11,12	
131D	1	3' - 0"	7' - 0"	1 3/4"	H2	HM01	-	11,12	
131E		20' - 0"	14' - 0"	2"	OH1	STL-1	-	9,10	

GENERAL DOOR & HARDWARE NOTES

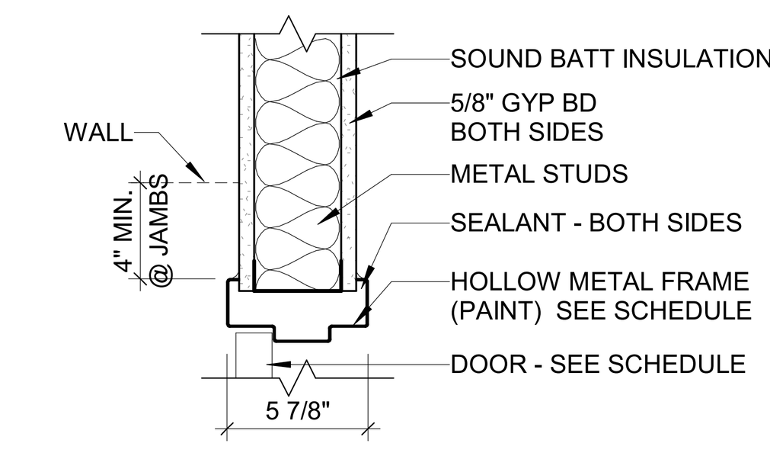
- ALL DOOR HARDWARE SHALL BE CAPABLE OF OPERATION W/ THE USE OF ONE (1) HAND & SHALL NOT REQUIRE TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. THUMBTURN DEADBOLTS ARE PROHIBITED. LEVER OR PADDLE DEADBOLT RELEASES ARE ACCEPTABLE. DOOR THRESHOLD SHALL NOT EXCEED ONE-HALF INCH IN HEIGHT & SHALL HAVE 1:2 BEVEL. DOOR CLOSERS SHALL MEET THE FORCE & SWEEP PERIOD REQUIREMENTS.
- PROVIDE LEVER TYPE HANDLES ON LOCKETS
- SEE HARDWARE SETS FOR DOORS WITH ELECTRONIC, KEYPADS, ALARMS, ETC.
- HARDWARE FINISH: BHMA 65L SATIN CHROME FINISH



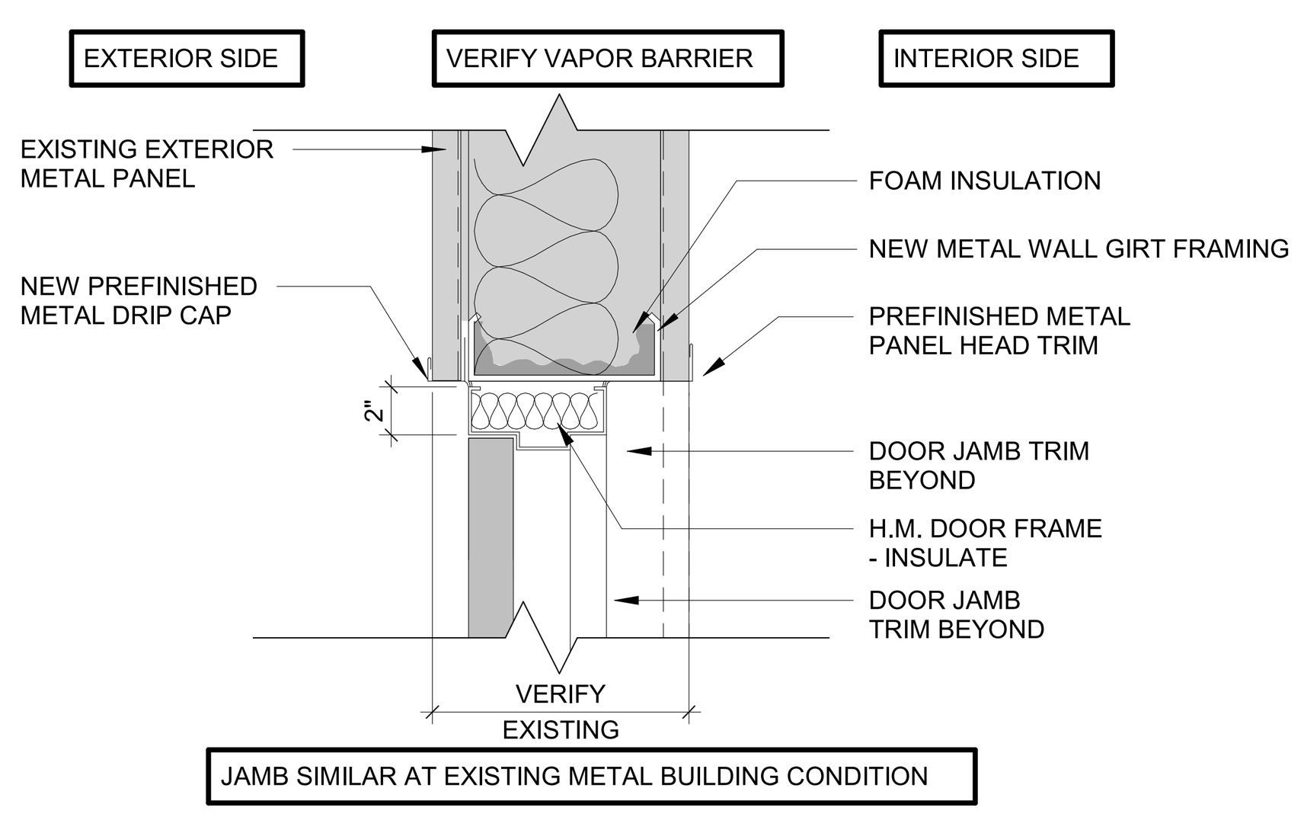
1 ALUM DOOR HEAD - EX. WALL
A291 1 1/2" = 1'-0"



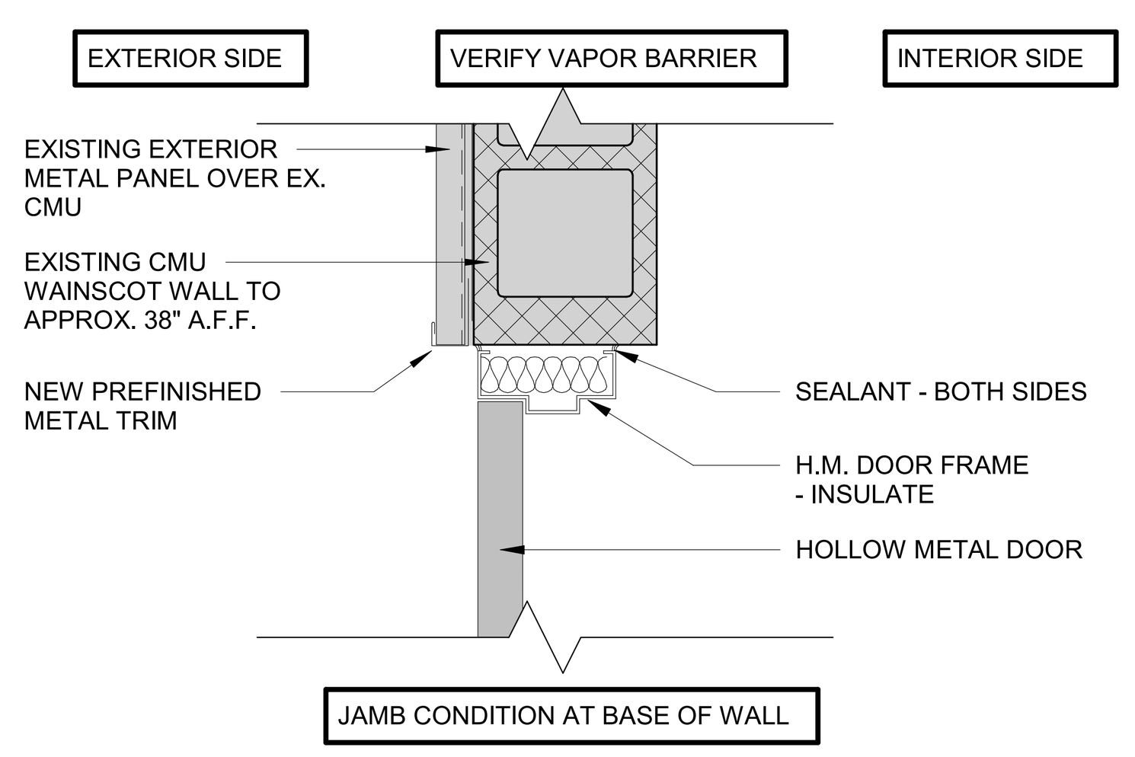
2 ALUM DOOR HEAD - EX. WALL
A291 1 1/2" = 1'-0"



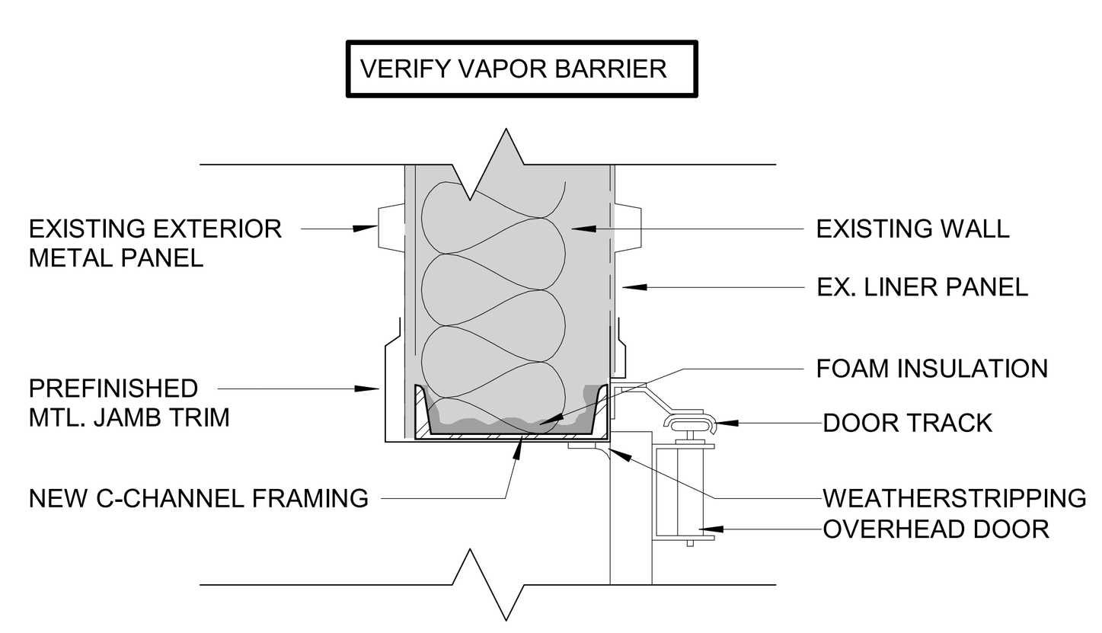
3 DOOR HEAD / JAMB
A291 1 1/2" = 1'-0"



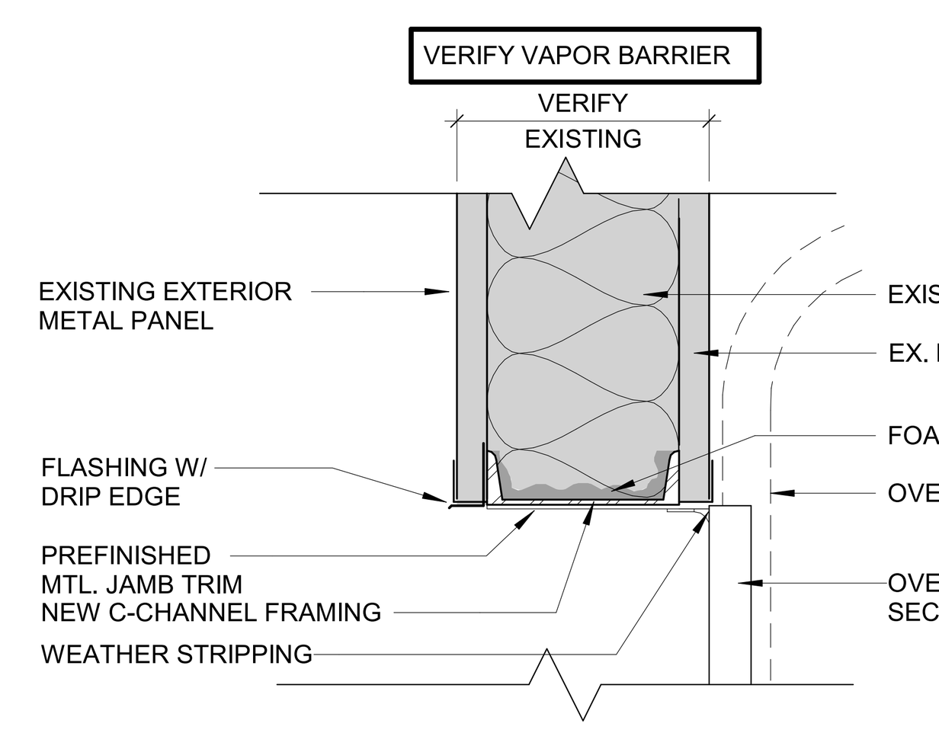
4 ALUM DOOR HEAD - EX. WALL
A291 1 1/2" = 1'-0"



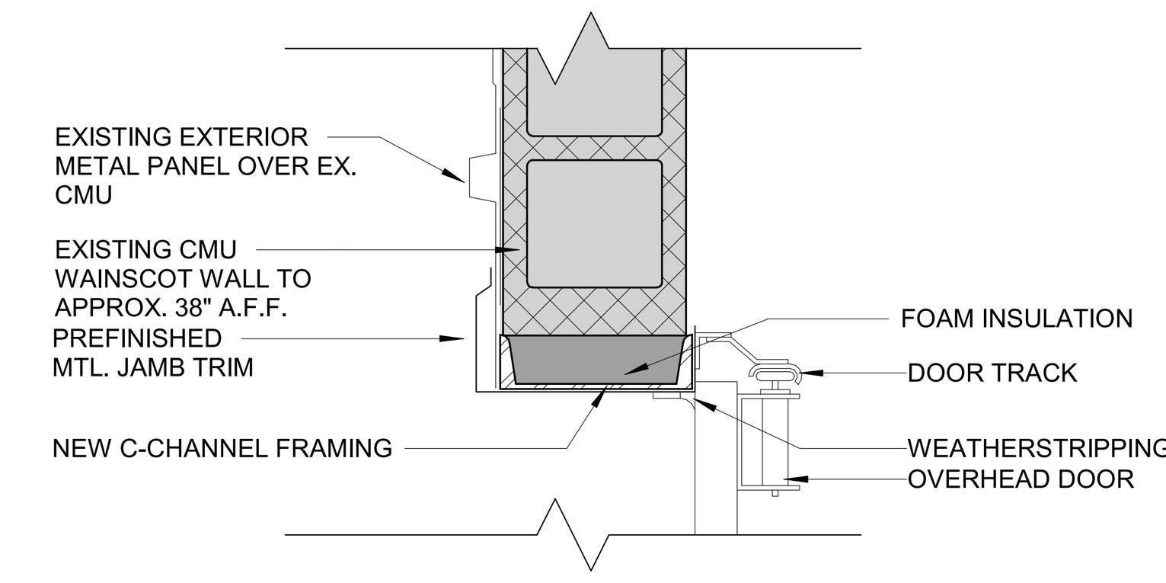
5 ALUM DOOR HEAD - EX. WALL
A291 1 1/2" = 1'-0"



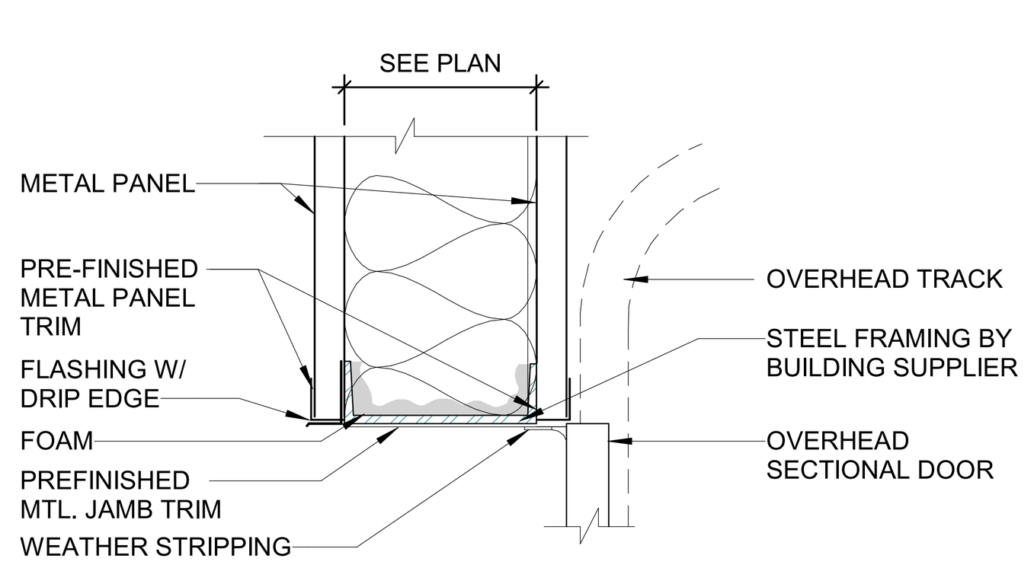
6 OHD JAMB - EX. WALL
A291 1 1/2" = 1'-0"



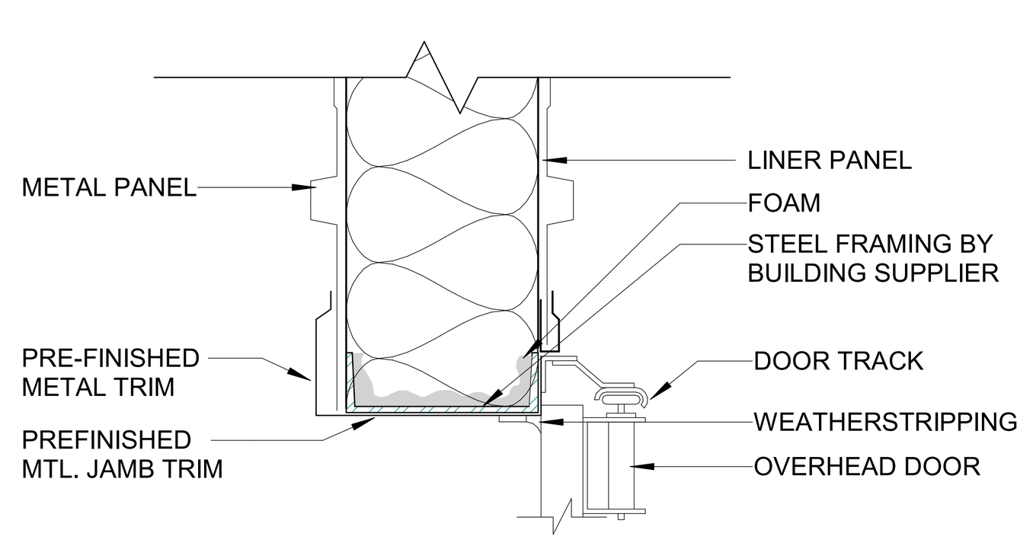
7 OHD HEAD - EX. WALL
A291 1 1/2" = 1'-0"



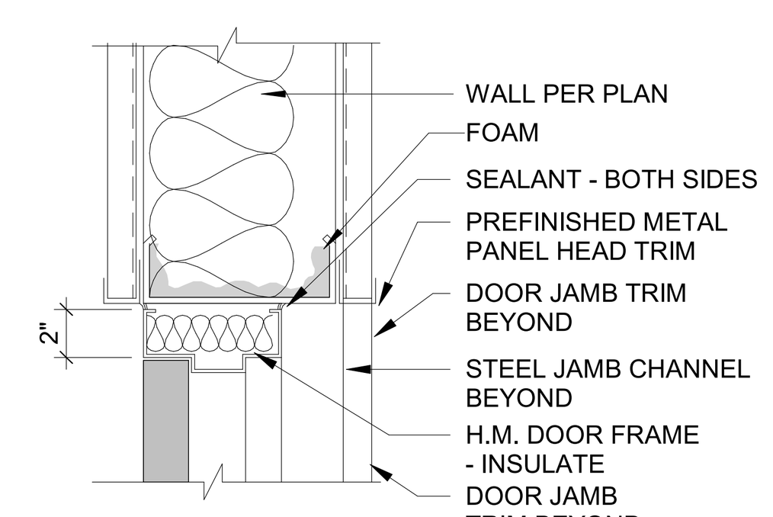
8 OHD JAM- EX. CMU WALL
A291 1 1/2" = 1'-0"



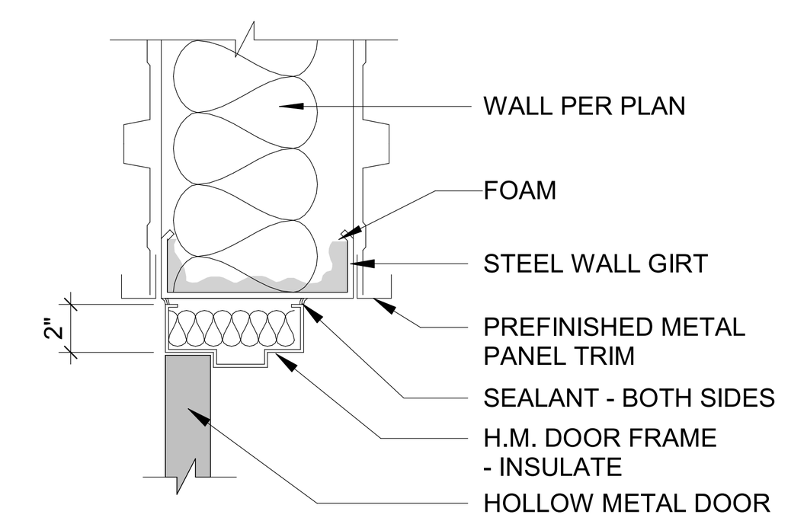
9 DOOR HEAD @ LINER PANEL - OHD
A291 1 1/2" = 1'-0"



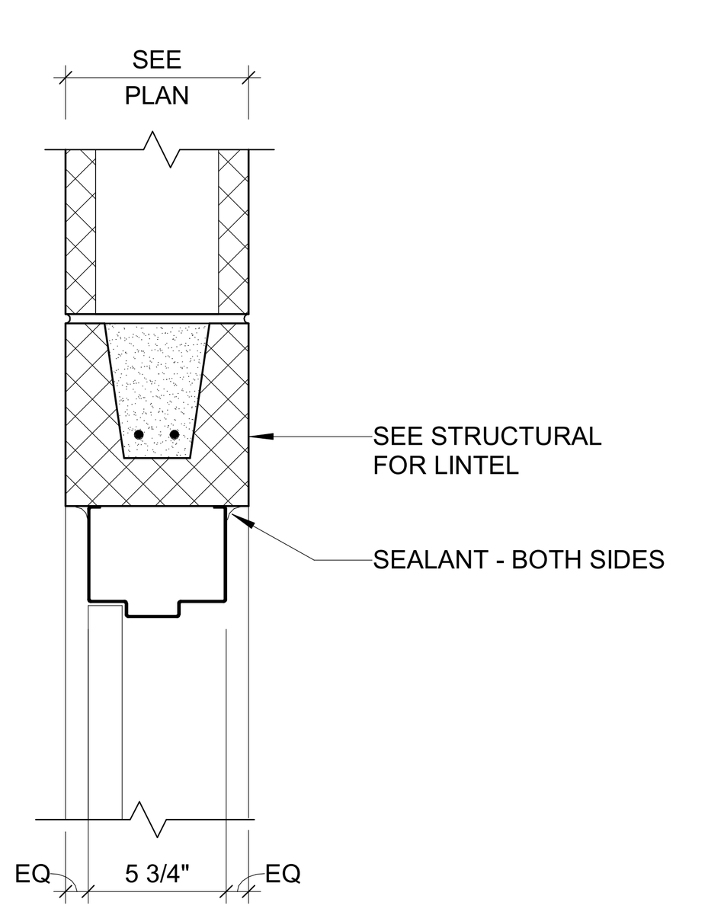
10 DOOR JAMB @ LINER PANEL - OHD
A291 1 1/2" = 1'-0"



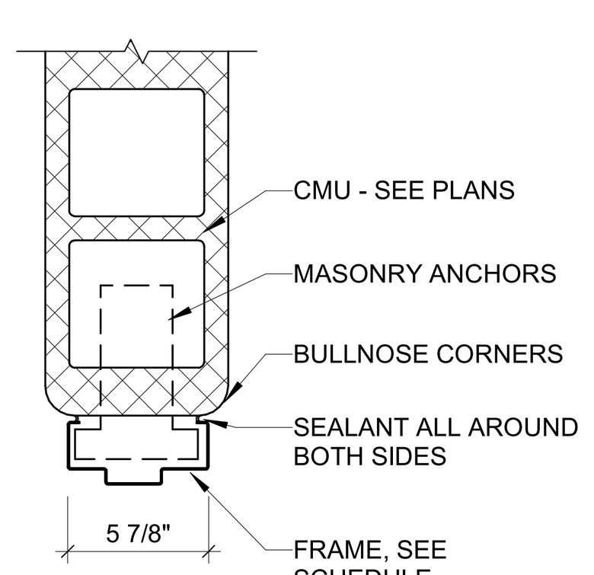
11 HM DOOR HEAD - METAL LINER
A291 1 1/2" = 1'-0"



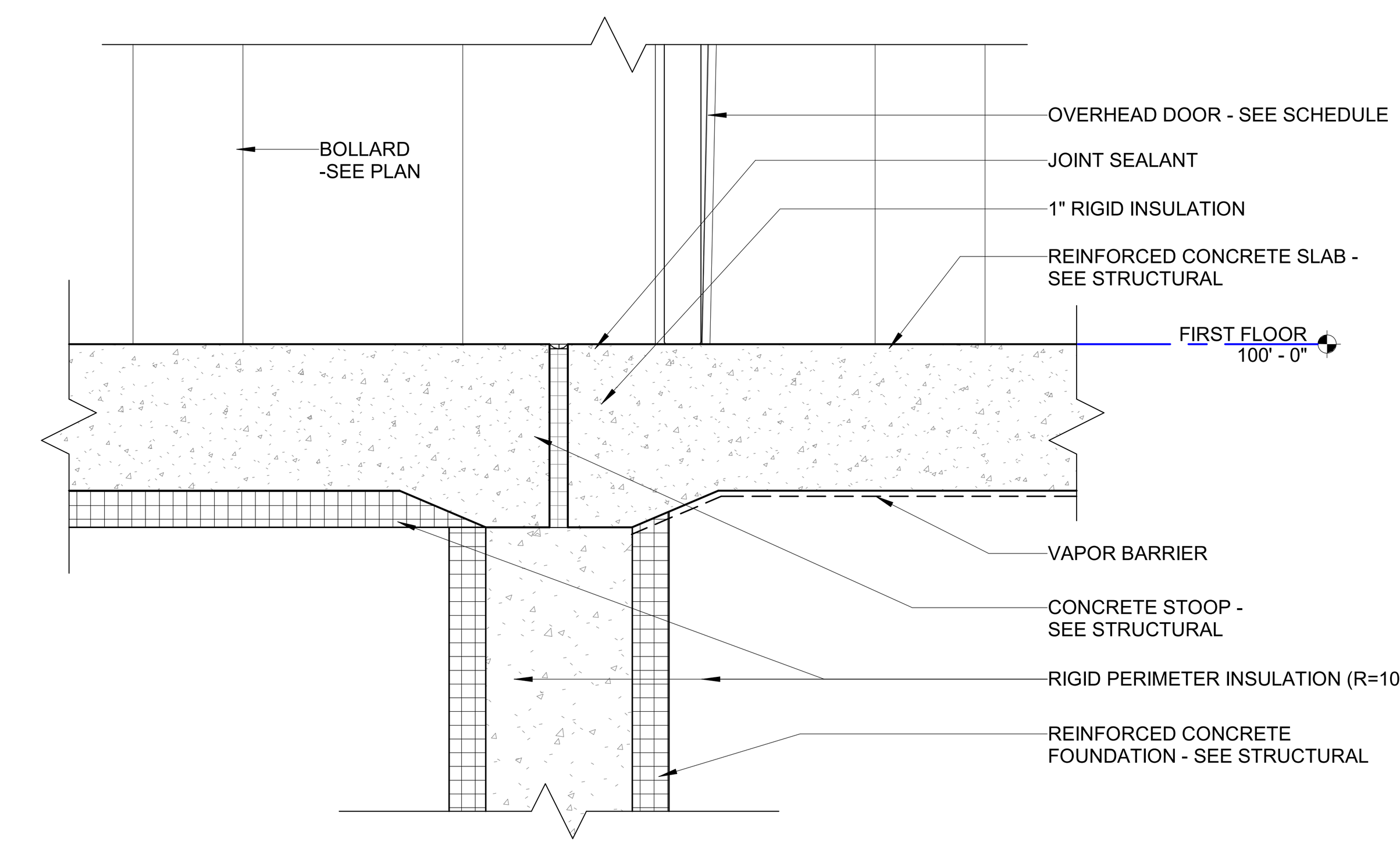
12 HM DOOR JAMB - MTL. LINER
A291 1 1/2" = 1'-0"



13 HM DOOR HEAD @ CMU
A291 1 1/2" = 1'-0"



14 HM DOOR JAMB @ CMU
A291 1 1/2" = 1'-0"



15 OHD SILL DETAIL
A291 1 1/2" = 1'-0"

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NO. DATE REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
DOOR SCHEDULE, DOOR & WINDOW ELEVATIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO. H0006 06-24-00138

DATE OCTOBER 29, 2024

SHEET NO. A291

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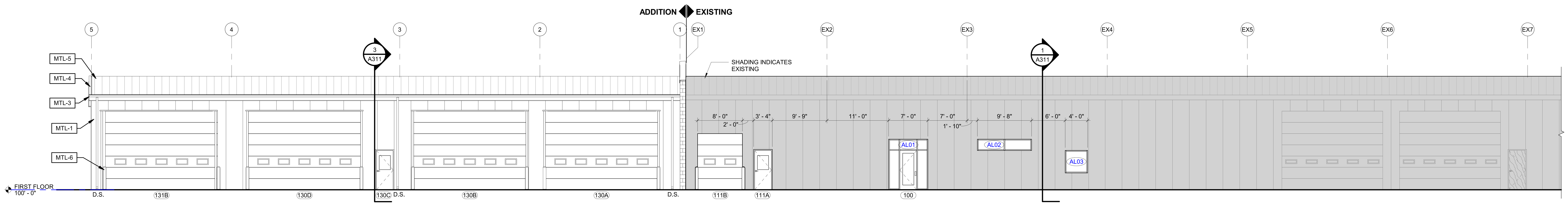
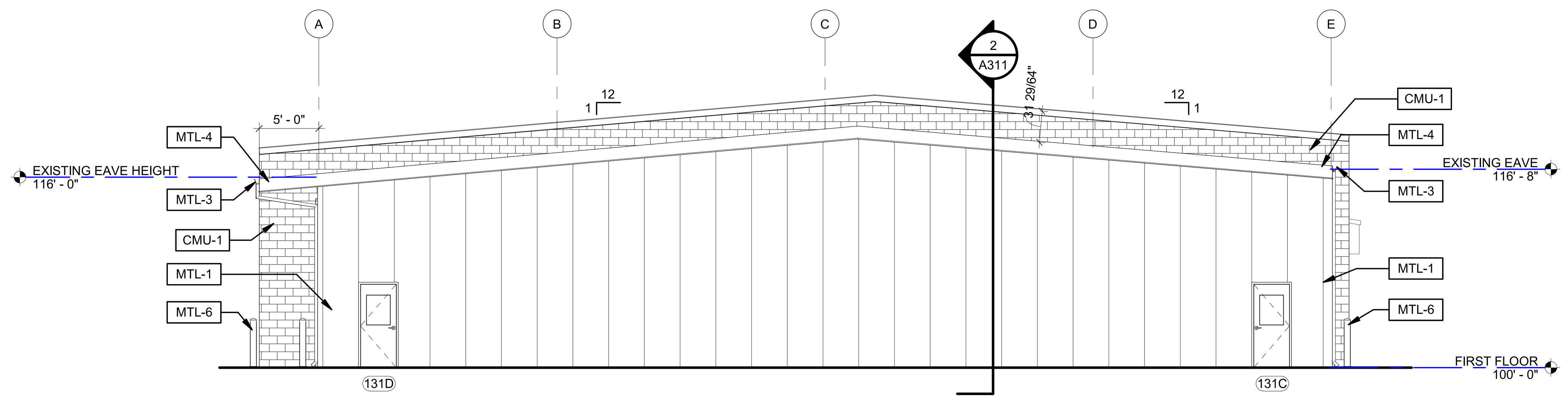
EXTERIOR MATERIALS LEGEND

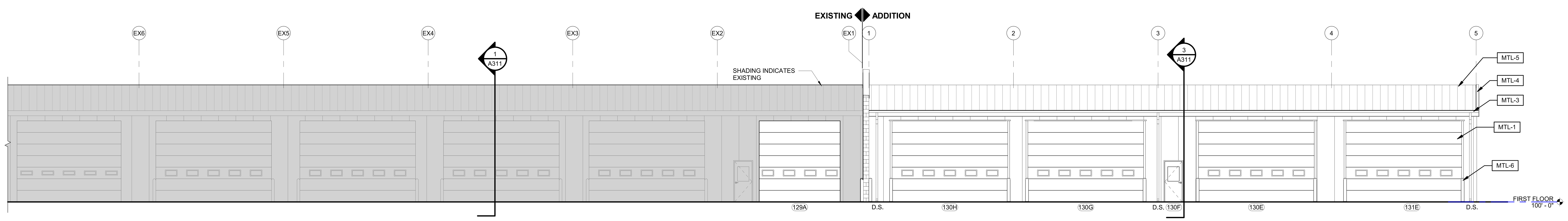
CMU-1	CMU
MTL-1	VERTICAL 26 GA. METAL WALL PANELS - COLOR: MATCH EXISTING
MTL-3	PREFINISHED METAL GUTTER & DOWNSPOUT
MTL-4	PREFINISHED METAL RAKE TRIM
MTL-5	PREFINISHED STANDING SEAM METAL ROOF
MTL-6	PREFINISHED METAL BOLLARD w/ CONCRETE INFILL



2 A301 NORTH EXTERIOR ELEVATION
1/8" = 1'-0"



1 A301 EAST EXTERIOR ELEVATION
1/8" = 1'-0"



3 A301 SOUTH EXTERIOR ELEVATION
1/8" = 1'-0"

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
EXTERIOR ELEVATIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A301

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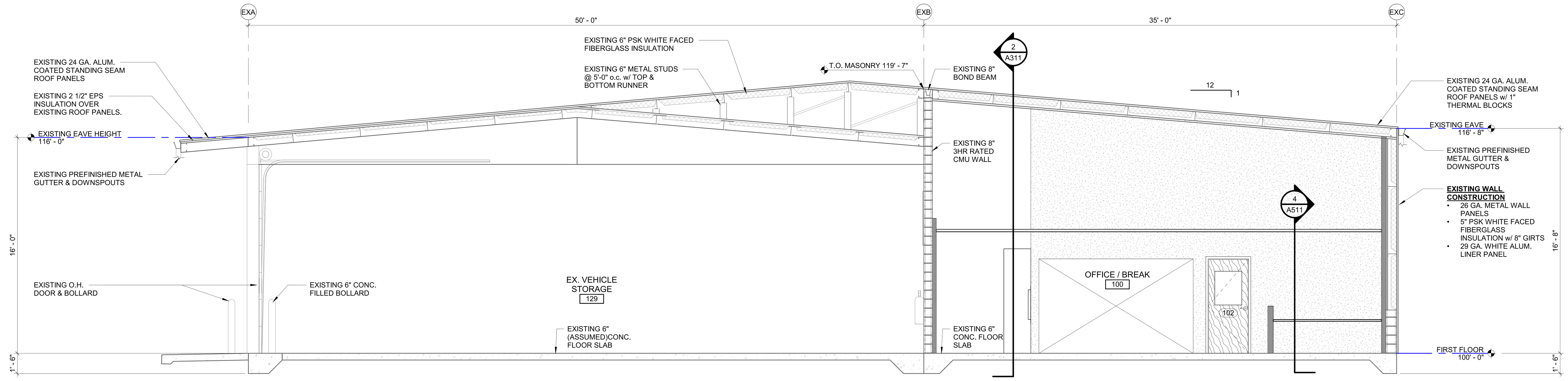
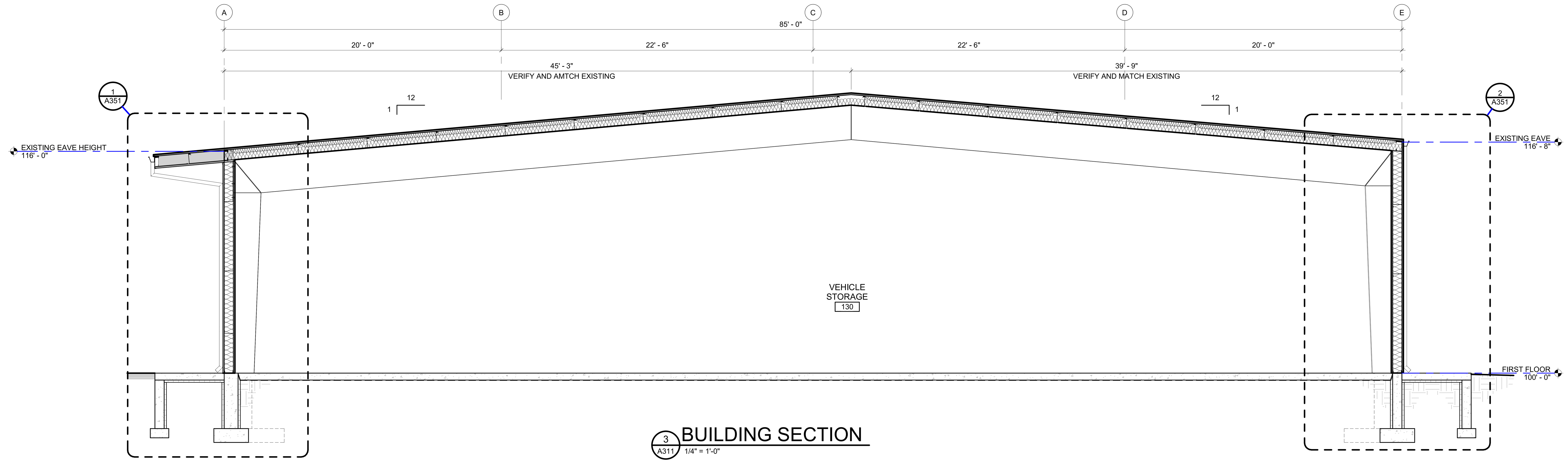
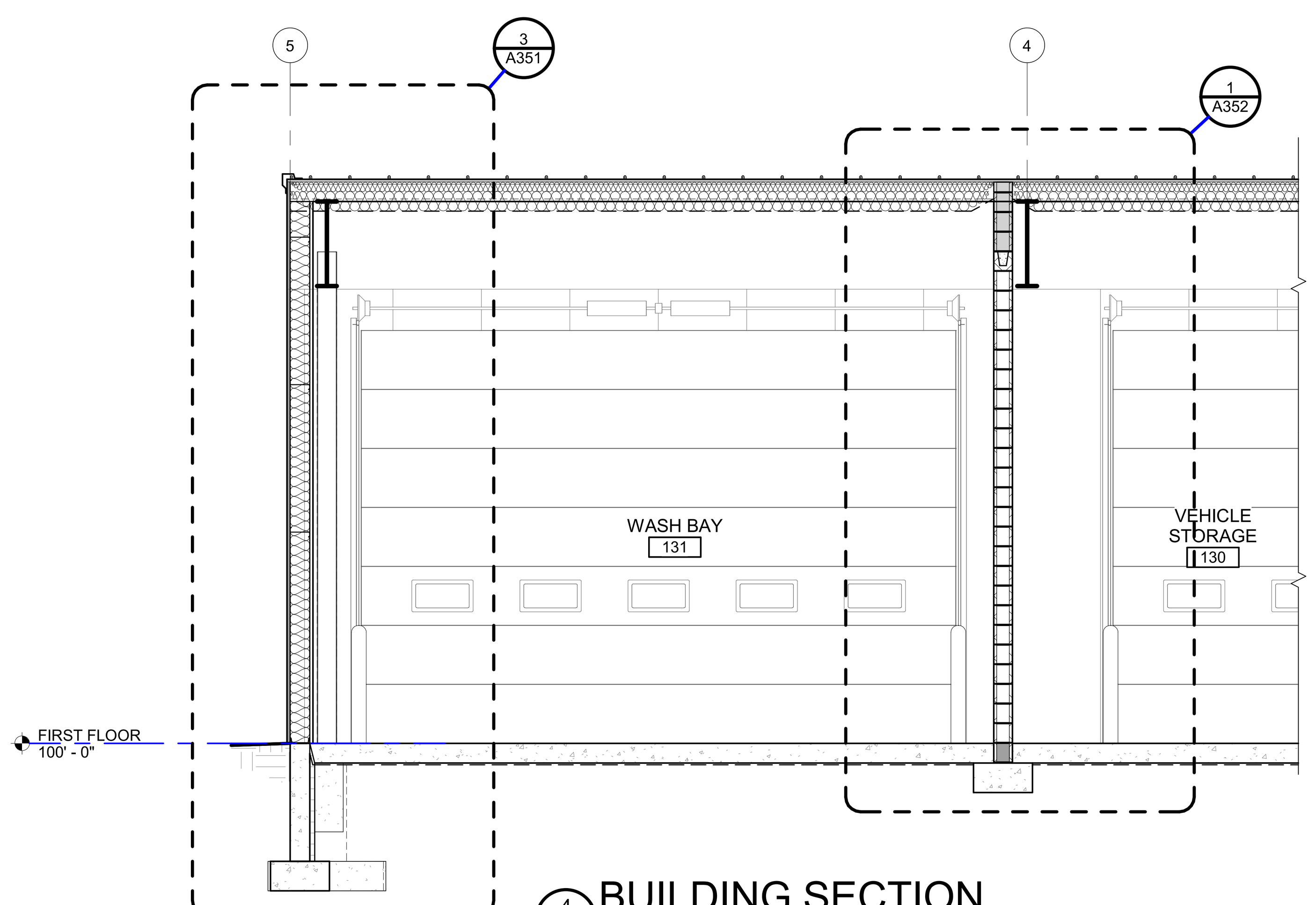


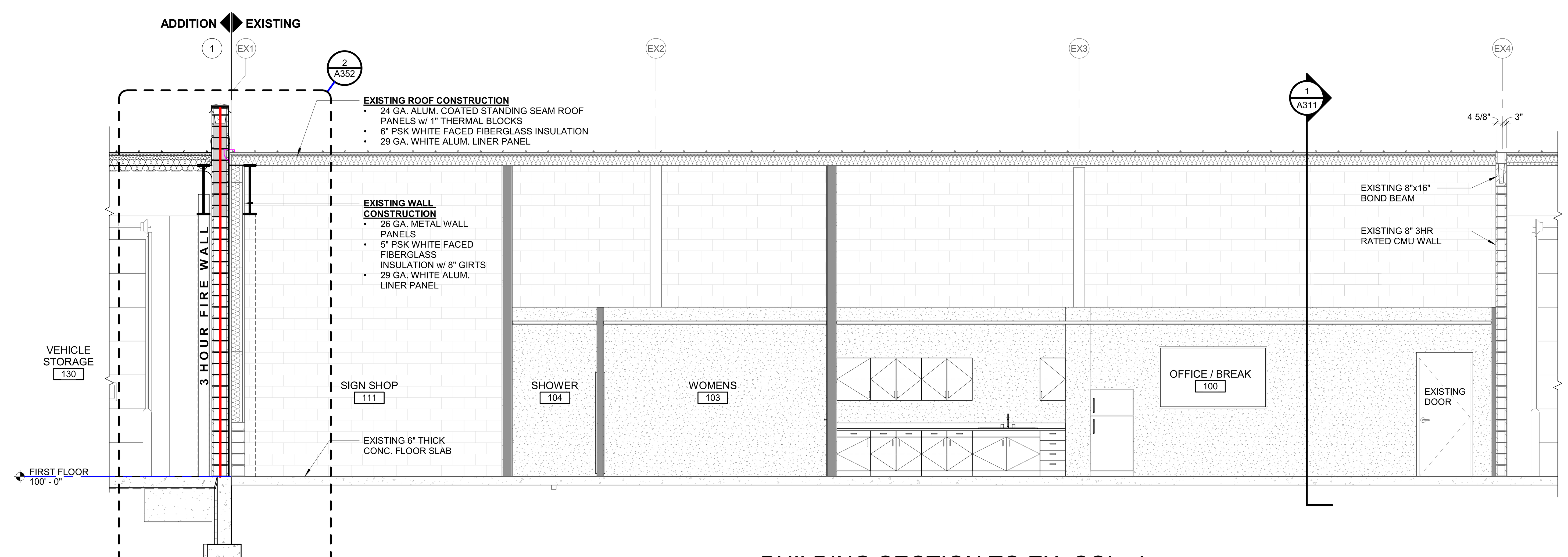
1 A311 EXISTING B.S. @ WASH BAY
1/4" = 1'-0"



3 A311 BUILDING SECTION
1/4" = 1'-0"



4 A311 BUILDING SECTION
1/4" = 1'-0"



2 A311 BUILDING SECTION TO EX. COL. 4
1/4" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

McMAHON ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.
1445 McMAHON DRIVE NEENAH, WI 54956
Mailing: P.O.BOX 1025 NEENAH, WI 54957-1025
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmgrp.com

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

BUILDING SECTIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

SHEET NO.
A311

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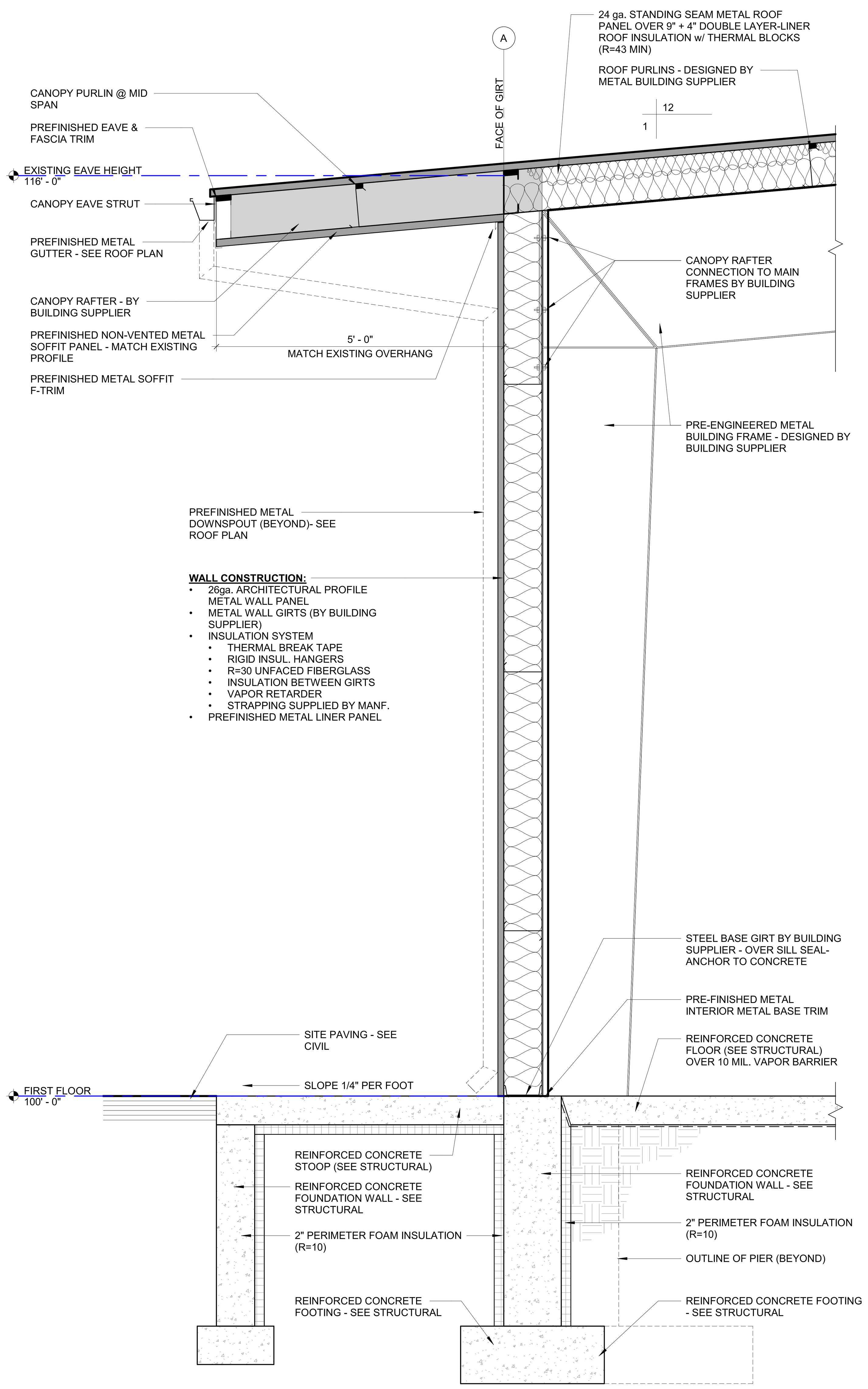
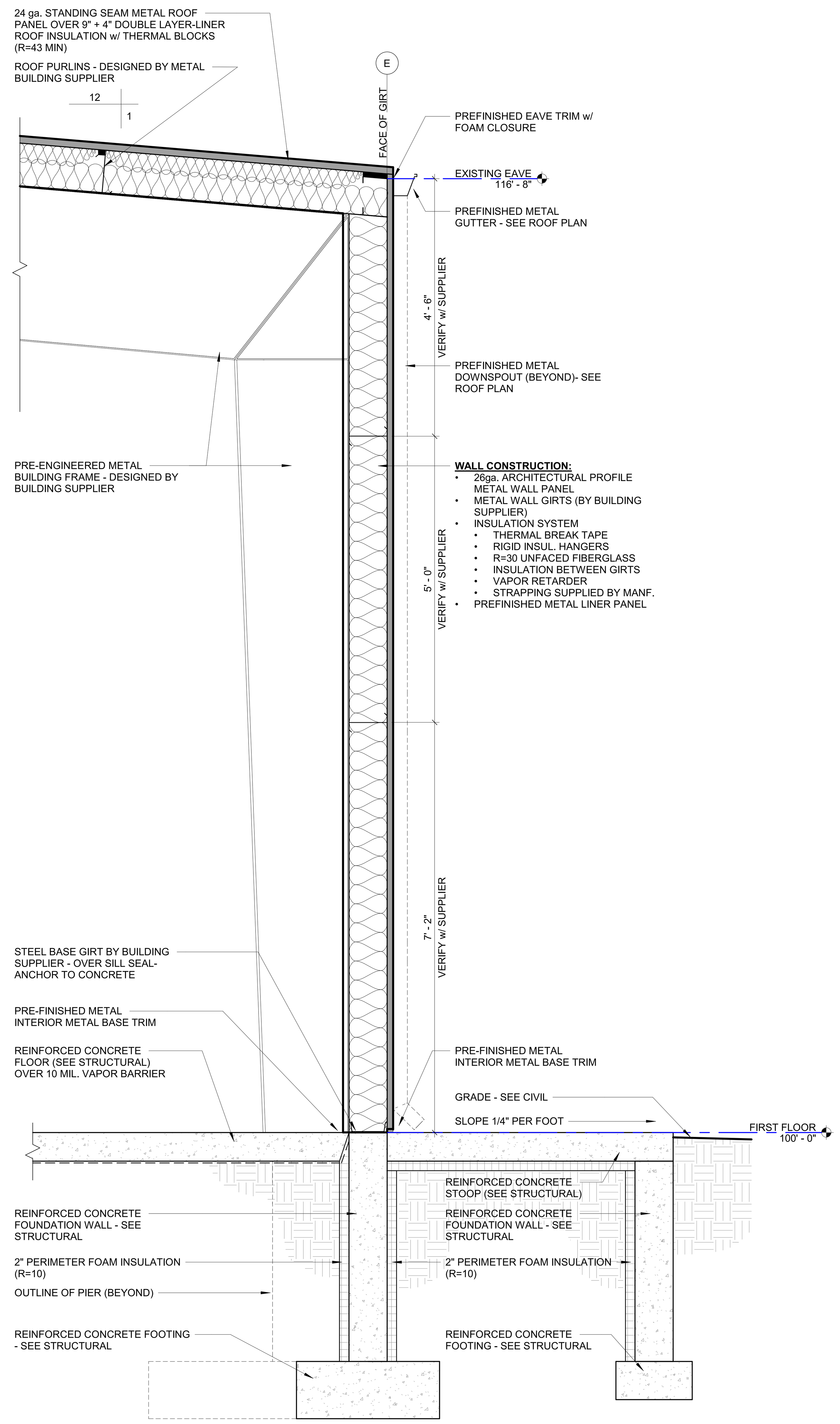
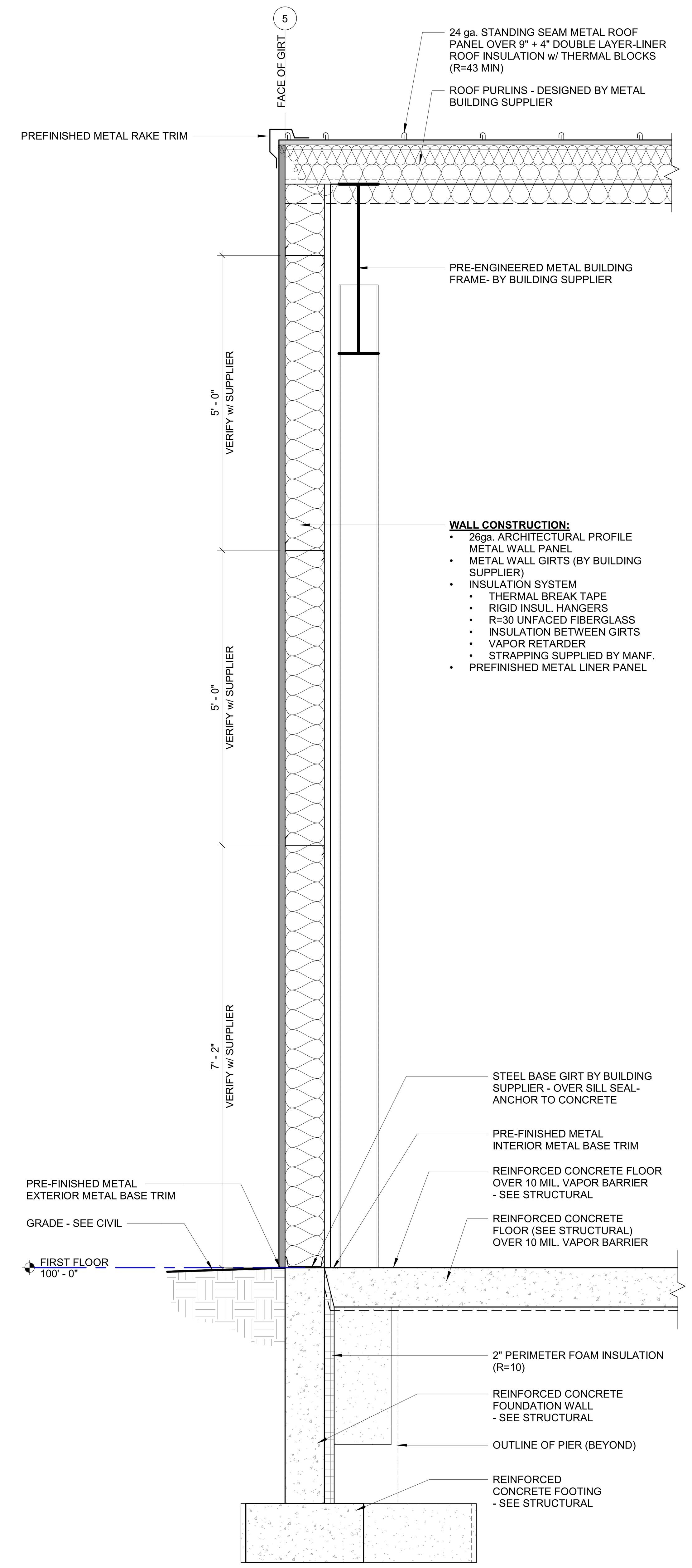


1 A351 WALL SECTION
3/4" = 1'-0"



2 A351 WALL SECTION
3/4" = 1'-0"



3 A351 WALL SECTION
3/4" = 1'-0"

SEE TYPICAL SECTION 1/A351 FOR ALL TYPICAL NOTES

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McMAHON
ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.
1445 McMAHON DRIVE NEENAH, WI 54956
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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR: VILLAGE OF HARRISON MENASHA, WI

WALL SECTIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
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DATE
OCTOBER 29, 2024

SHEET NO.
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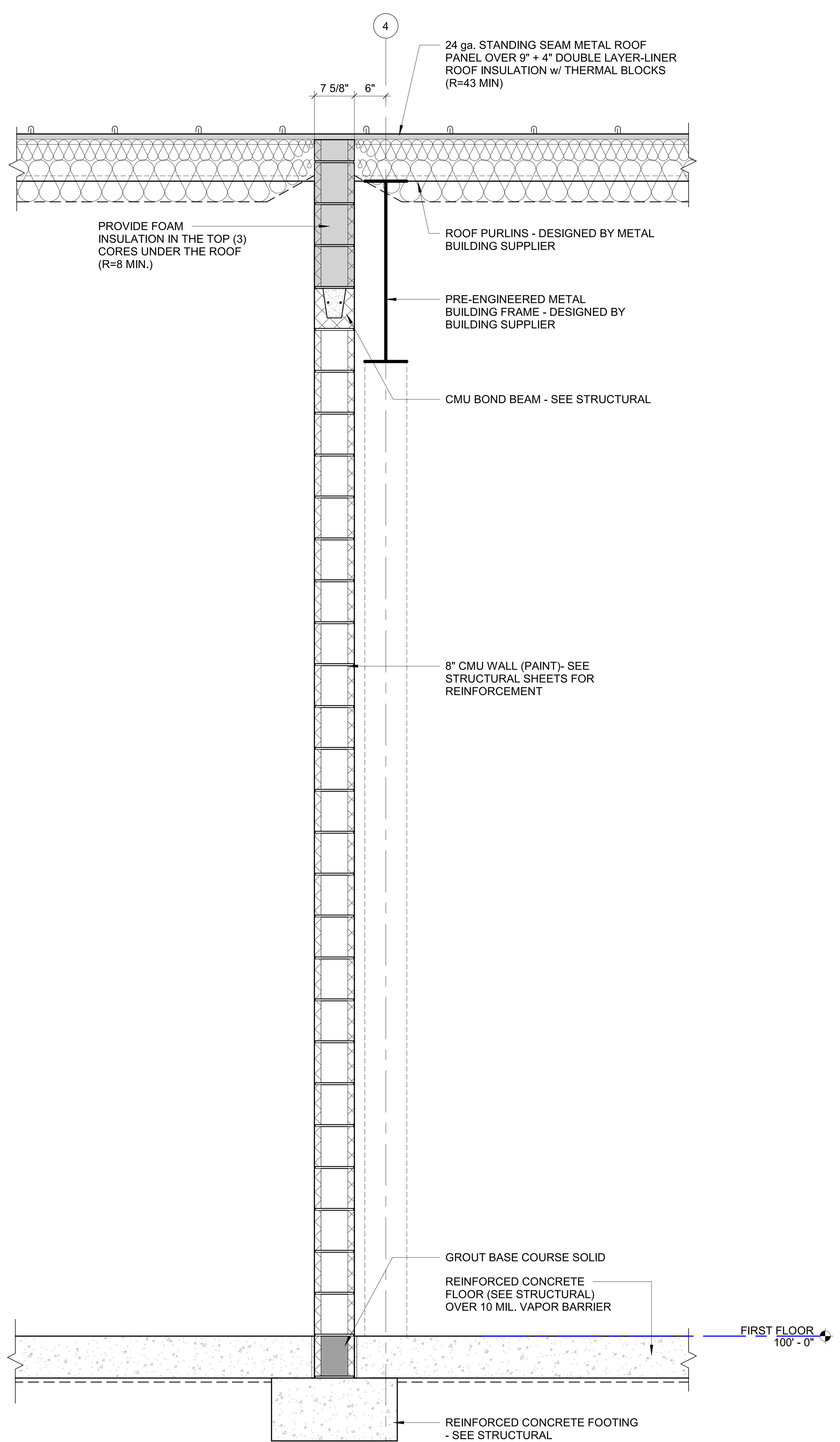
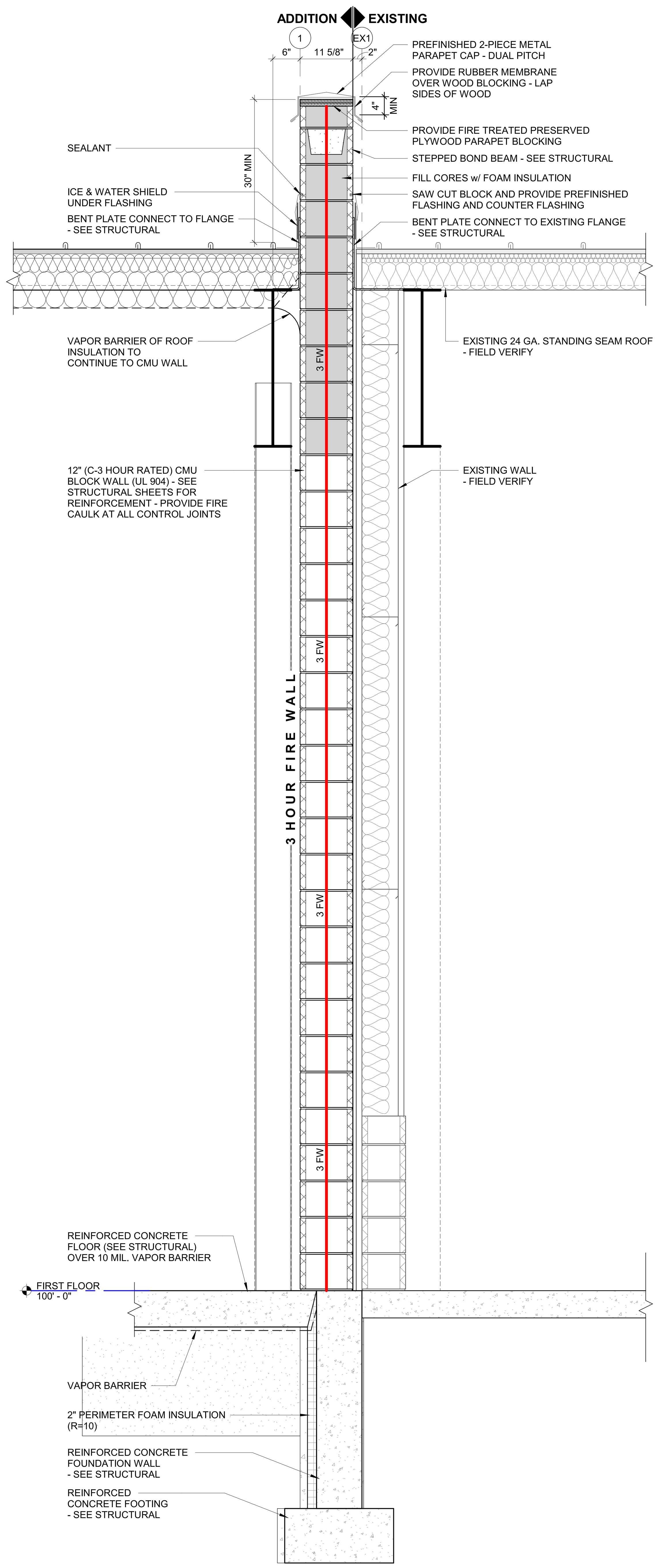


1 A352 WALL SECTION
3/4" = 1'-0"



2 A352 WALL SECTION
3/4" = 1'-0"

PRELIMINARY NOT FOR CONSTRUCTION

SEE TYPICAL SECTION 1/A352 FOR ALL TYPICAL NOTES

McMAHON
ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.
1445 McMAHON DRIVE NEENAH, WI 54956
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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

WALL SECTIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138

DATE
OCTOBER 29, 2024

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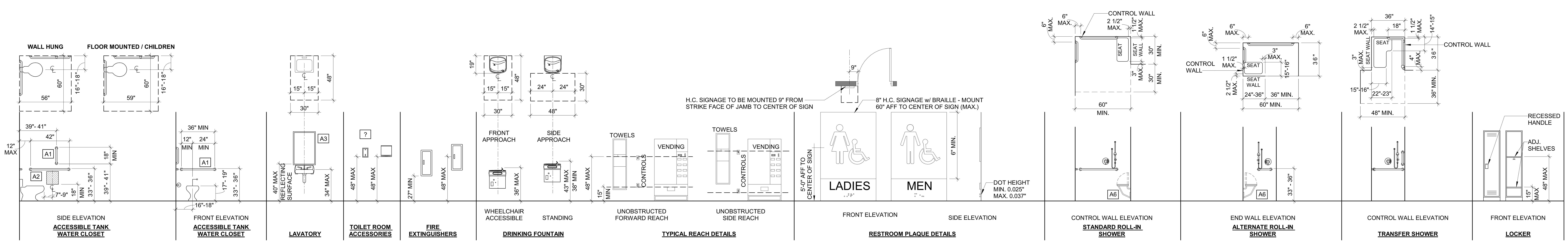
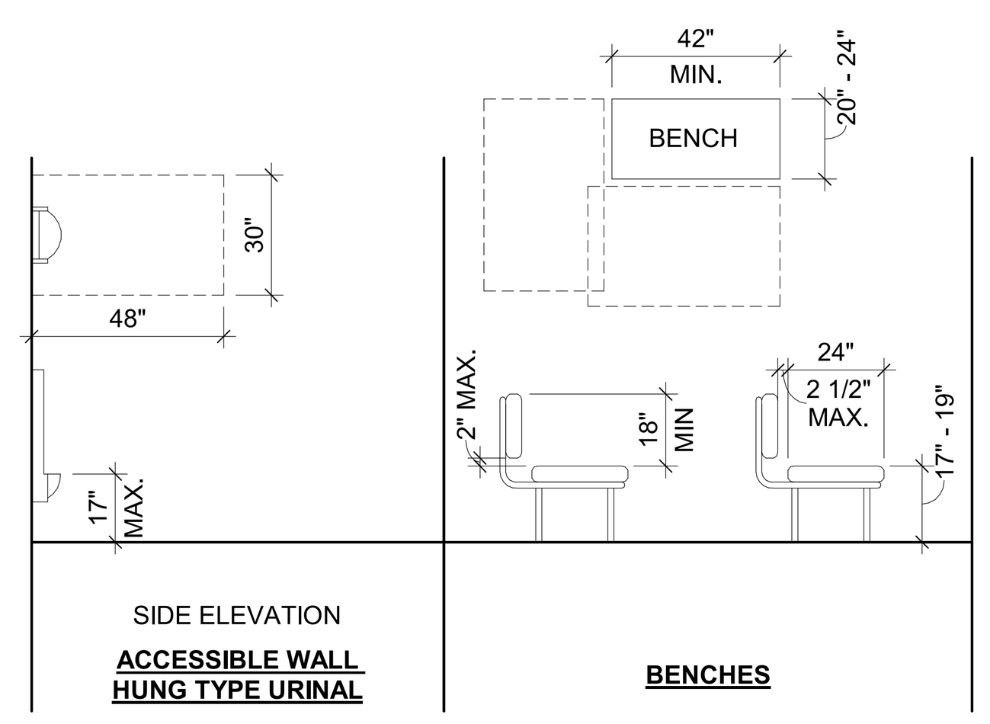




(FIXTURES SHOWN ABOVE ARE FOR DESIGN INTENT ONLY)

ACCESSORY / FIXTURE MOUNTING HEIGHTS & CLEARANCES
SCALE: 1/4" = 1'-0"

TOILET ROOM ACCESSORY SCHEDULE

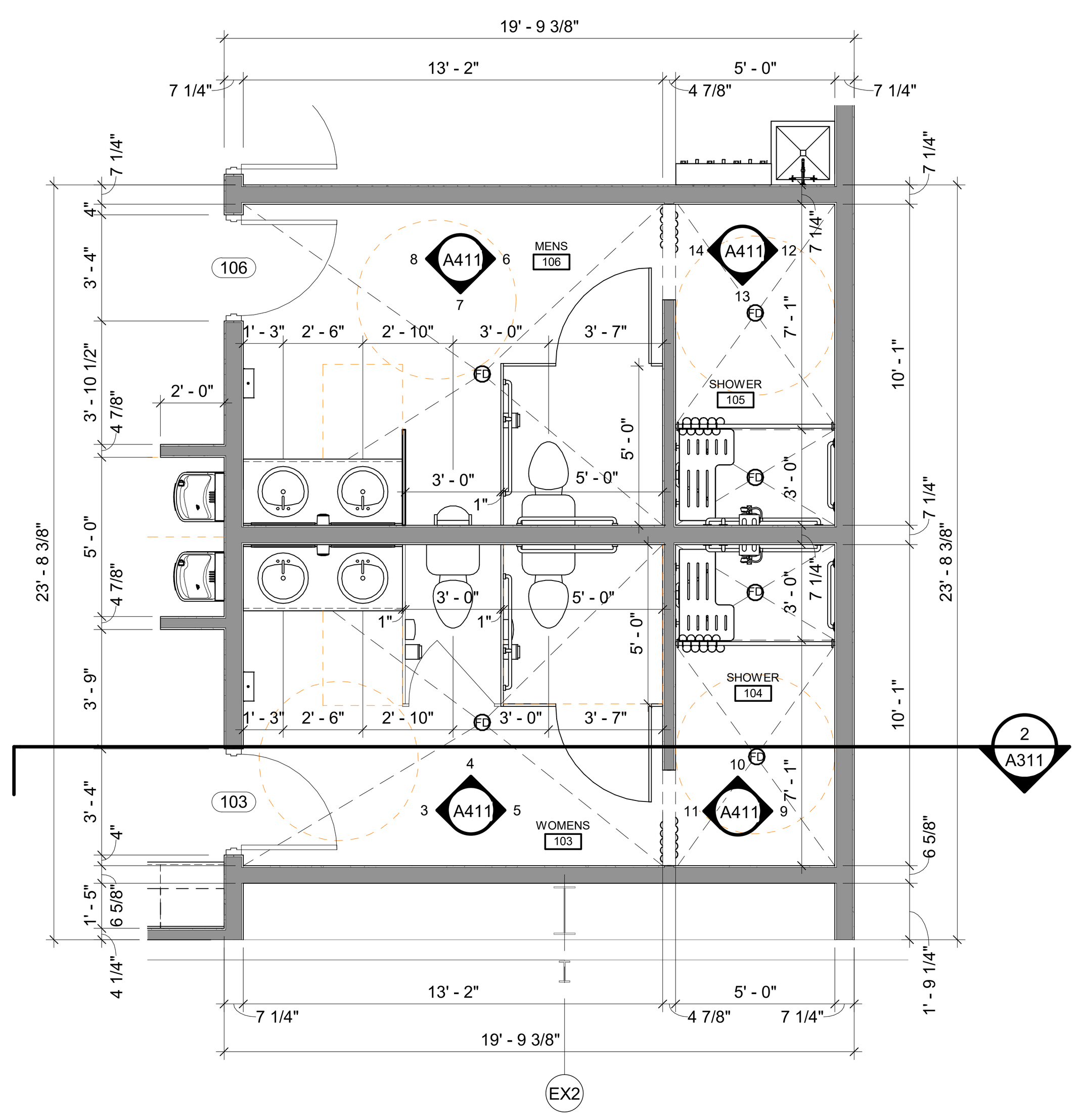
MARK	DESCRIPTION	FURNISHED BY	INSTALLED BY	DESIGN BASIS (BRADLEY)
A1	18", 36", & 42" STAINLESS GRAB BARS			812
A2	TOILET TISSUE DISPENSER	OWNER	GENERAL CONTRACTOR	5402
A3	PAPER TOWEL DISPENSER			2483
A4	24" X 36" STAINLESS FRAMED MIRROR			780
A5	SOAP DISPENSER			6562
A6	GRAB BAR (18")	GENERAL CONTRACTOR	GENERAL CONTRACTOR	812
A7	GRAB BAR (42")	GENERAL CONTRACTOR	GENERAL CONTRACTOR	812
A8	GRAB BAR (24")	GENERAL CONTRACTOR	GENERAL CONTRACTOR	812
A9	FOLD UP PHENOLIC SHOWER SEAT	GENERAL CONTRACTOR	GENERAL CONTRACTOR	9569-R
A10	SHOWER CURTAIN AND ROD	OWNER	GENERAL CONTRACTOR	9539/9536
A11	NAPKIN DISPOSAL (PARTITION)			4721-15
A12	UTILITY SHELF w/ 3 HOOKS 4 HOLDERS & (1) DRYING ROD - 36" W	GENERAL CONTRACTOR	GENERAL CONTRACTOR	9984 BradEX
A13	DOUBLE HOOK	GENERAL CONTRACTOR	GENERAL CONTRACTOR	914

GENERAL INTERIOR & CASEWORK NOTES

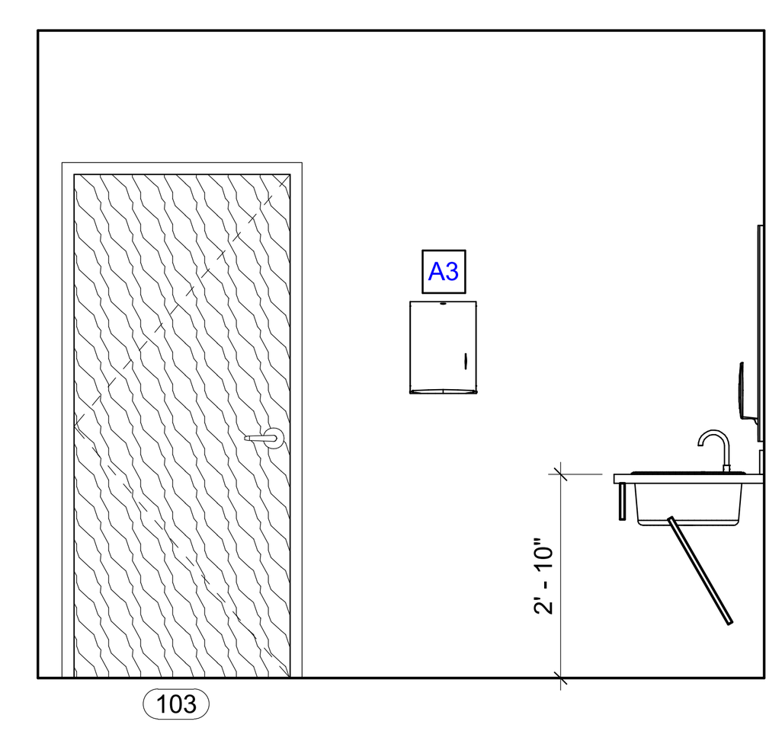
- PROVIDE TOILET ACCESSORIES PER SPECIFICATIONS OR APPROVED EQUAL. INSTALL ACCORDING TO MANUF. SPECIFICATIONS.
- GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY BACKING IN WALLS.
- PROVIDE OFFSET TRAP AND HW, CW, DRAIN INSULATION KIT AT ALL OPEN SINKS.
- FIELD VERIFY ALL DIMENSIONS PRIOR TO CASEWORK CONSTRUCTION.
- VERIFY ALL EQUIPMENT WITH OWNER PRIOR TO CONSTRUCTION.
- COORDINATE GROMMET LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- RADIUS ALL OUTSIDE CORNERS OF COUNTERTOPS.
- SUPPLY AND INSTALL SUPPORT BRACKETS AS NEEDED UNDER COUNTERTOPS.
- MINIMUM 1" FILLER WHERE CABINET IS 90 DEGREES TO WALL OR OTHER CABINETS
- FOR SHELVES GREATER THAN 2'-6" IN WIDTH PROVIDE DOUBLE PLY FOR EACH ADJUSTABLE SHELF

CASEWORK LEGEND

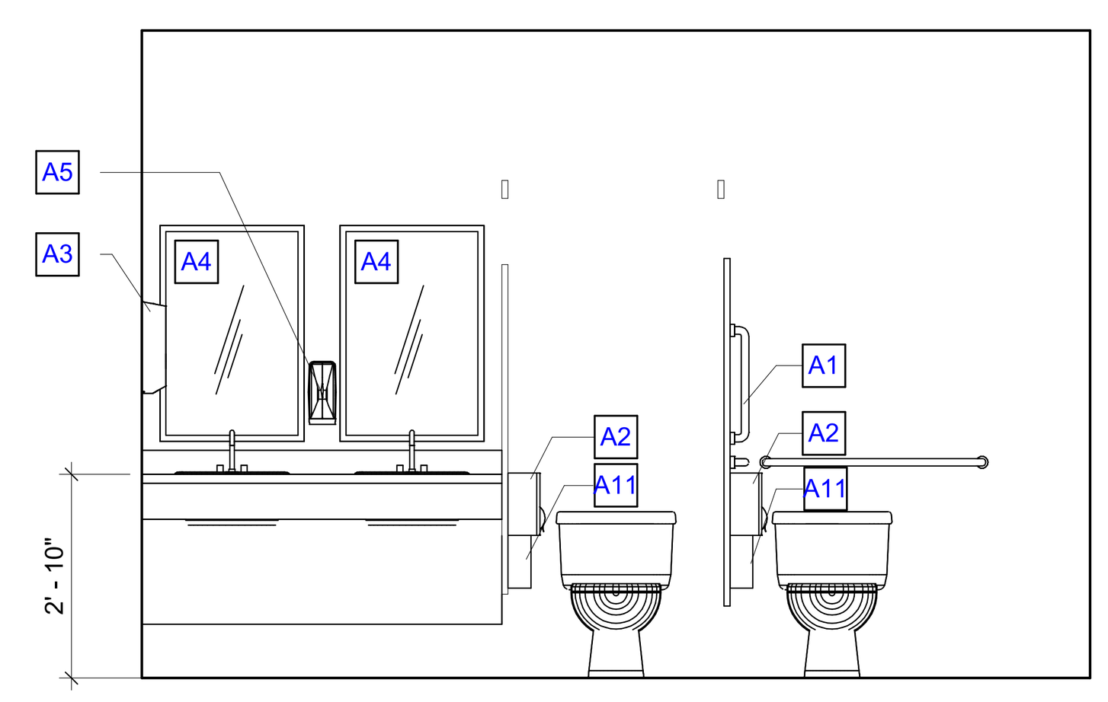
☐	INDICATES CASEWORK AND COUNTER MATERIAL. SEE FINISH SCHEDULE.
F	CABINET FILLER - MINIMUM 1" FILLER WHERE CABINET IS 90 DEGREES TO WALL OR OTHER CABINETS
CS	COUNTER SUPPORT BRACKET
EP	FINISHED END PANEL
G	GROMMET TO BE LOCATED APPROXIMATELY 2" FROM BACK OF COUNTERTOPS. COORDINATE WITH OWNER PRIOR TO INSTALLATION.
KS	KNEE SPACE
L	LOCK ON CASEWORK DOOR
FL	FILE DRAWER HARDWARE WITH LOCK
WM	WIRE MANAGEMENT
MC	MOBILE CABINET
UC	UNDERCOUNTER / UNDER CABINET LIGHT FIXTURE BY ELECTRICAL TRADE
AP	ACCESS PANEL
PD	PENCIL DRAWER
SF	SINK & FAUCET - SEE PLUMBING DRAWINGS
TB	TACKBOARD
CO	6" DIA COUNTER TOP OPENING, SEE PLANS FOR QUANTITY, VERIFY SIZE WITH OWNER



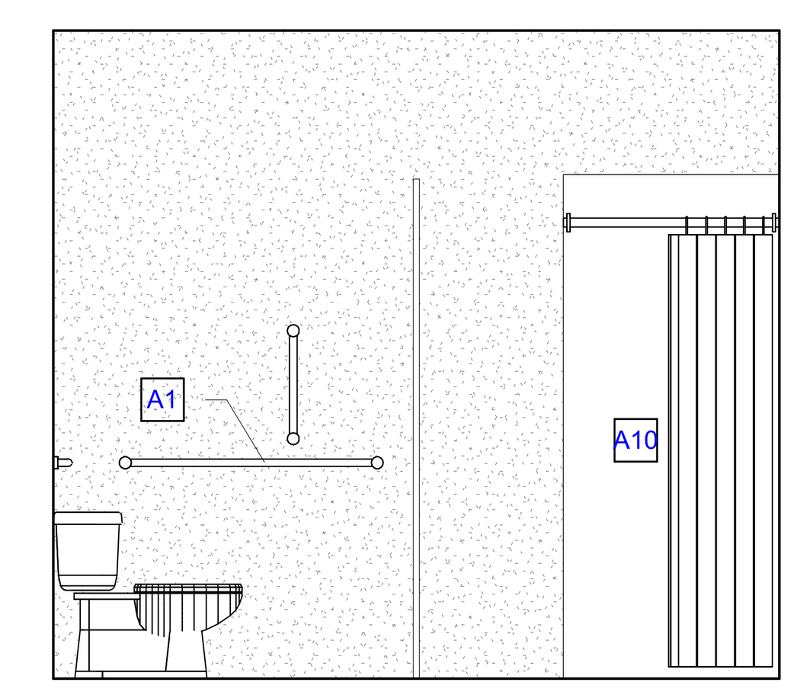
1 A411 ENLARGED RESTROOM PLAN
1/4" = 1'-0"



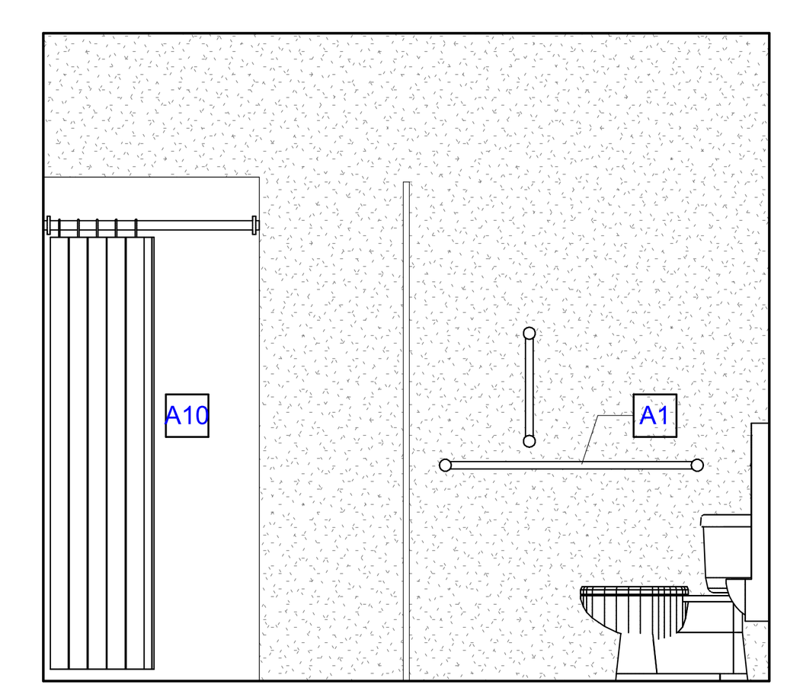
3 A411 WOMEN'S RESTROOM ELEVATION
3/8" = 1'-0"



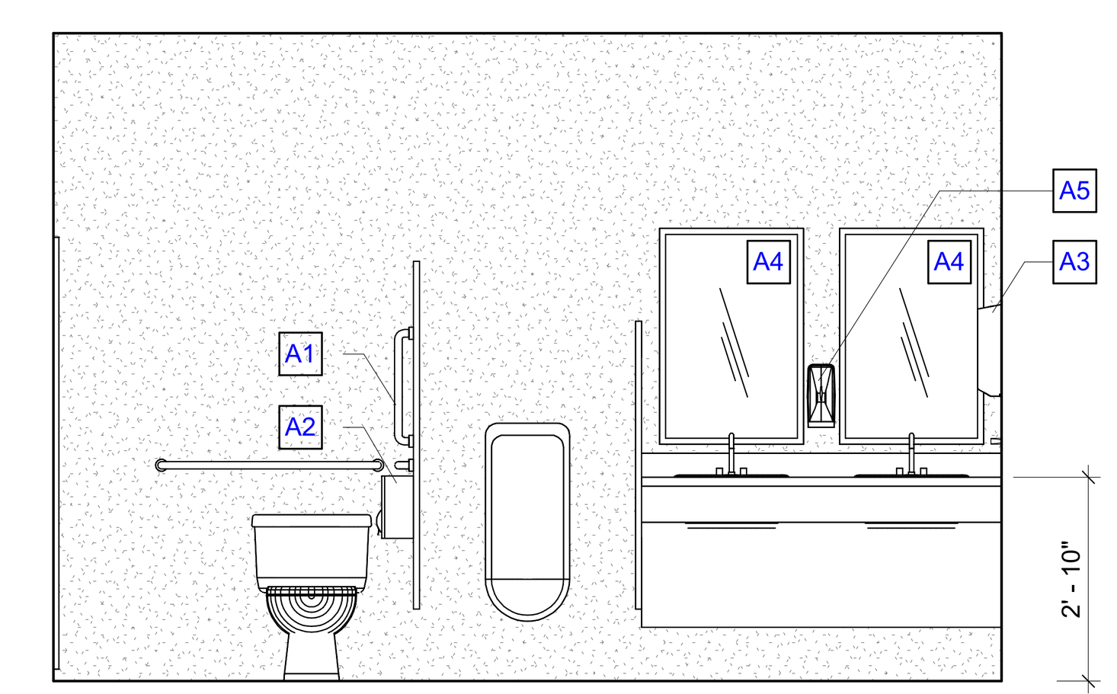
4 A411 WOMEN'S RESTROOM ELEVATION
3/8" = 1'-0"



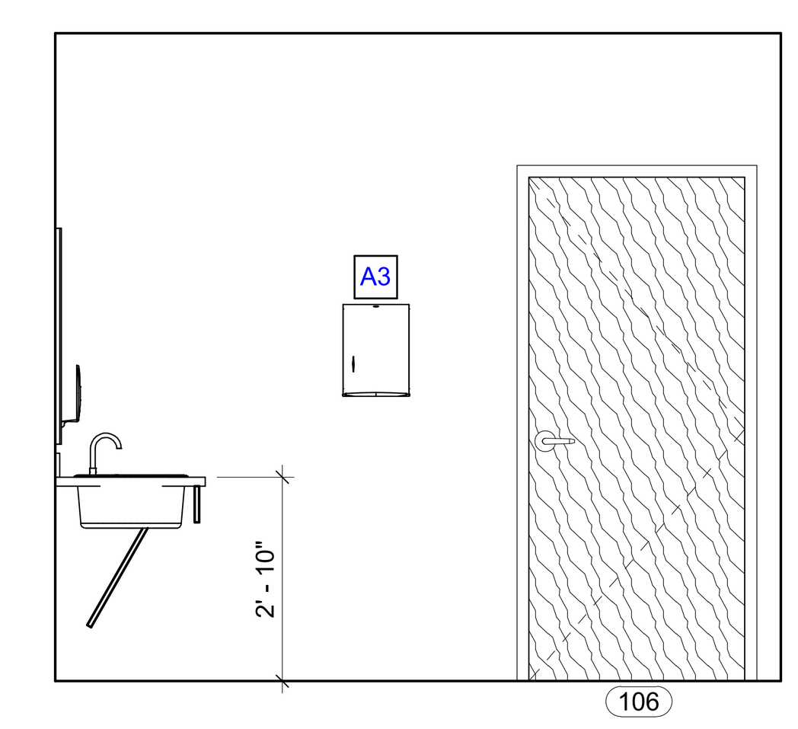
5 A411 WOMEN'S RESTROOM ELEVATION
3/8" = 1'-0"



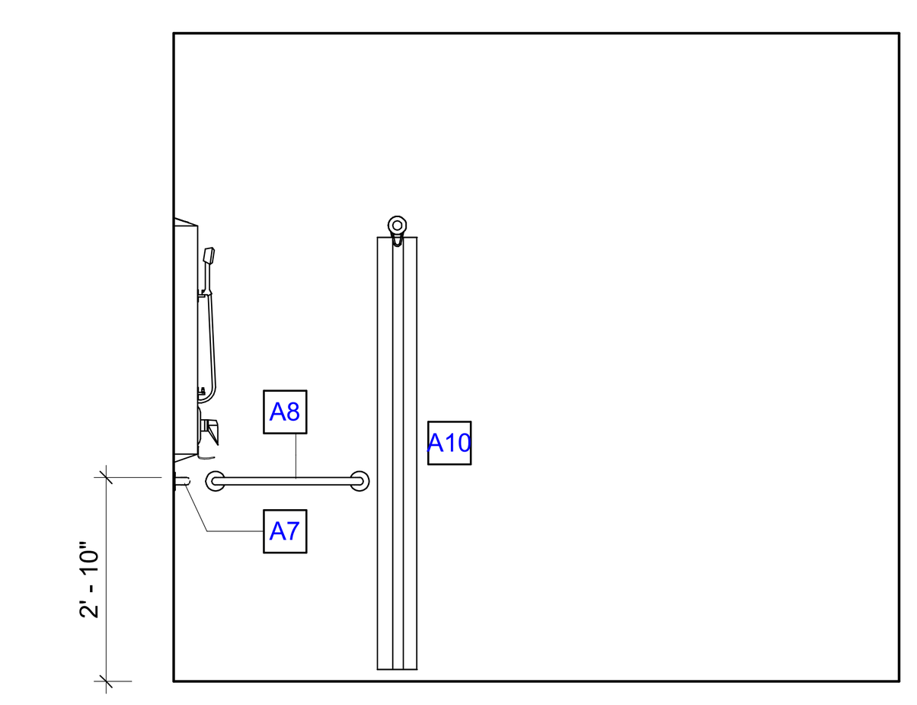
6 A411 MEN'S RESTROOM ELEVATION
3/8" = 1'-0"



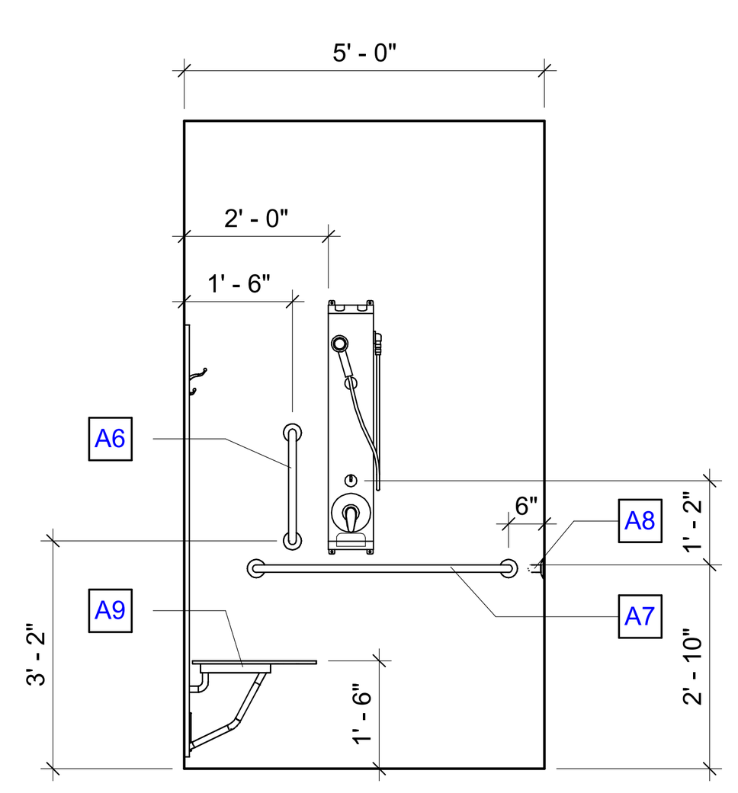
7 A411 MEN'S RESTROOM ELEVATION
3/8" = 1'-0"



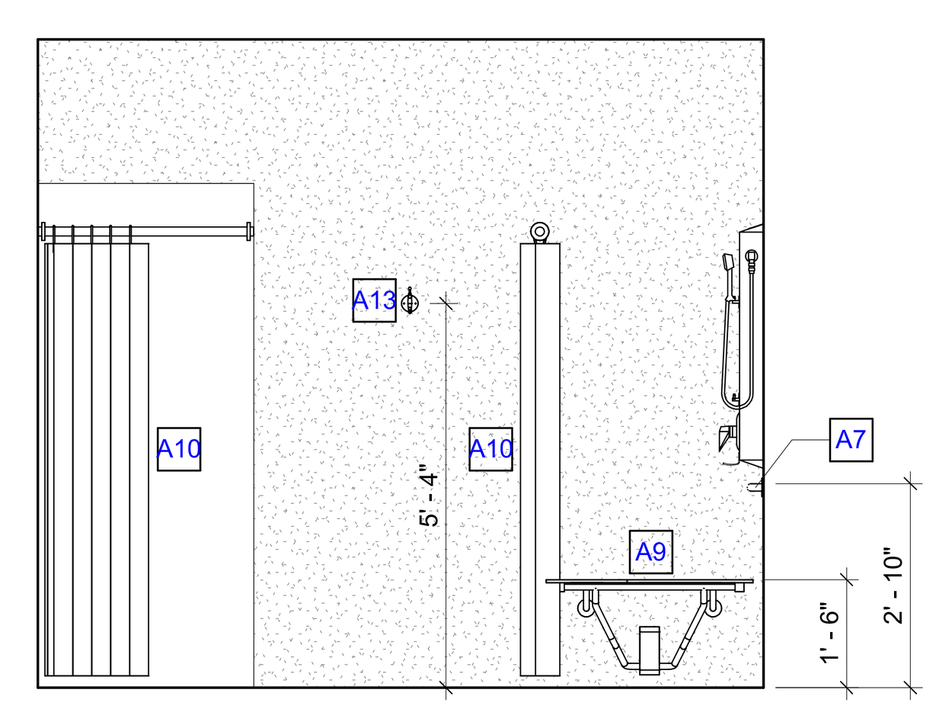
8 A411 MEN'S RESTROOM ELEVATION
3/8" = 1'-0"



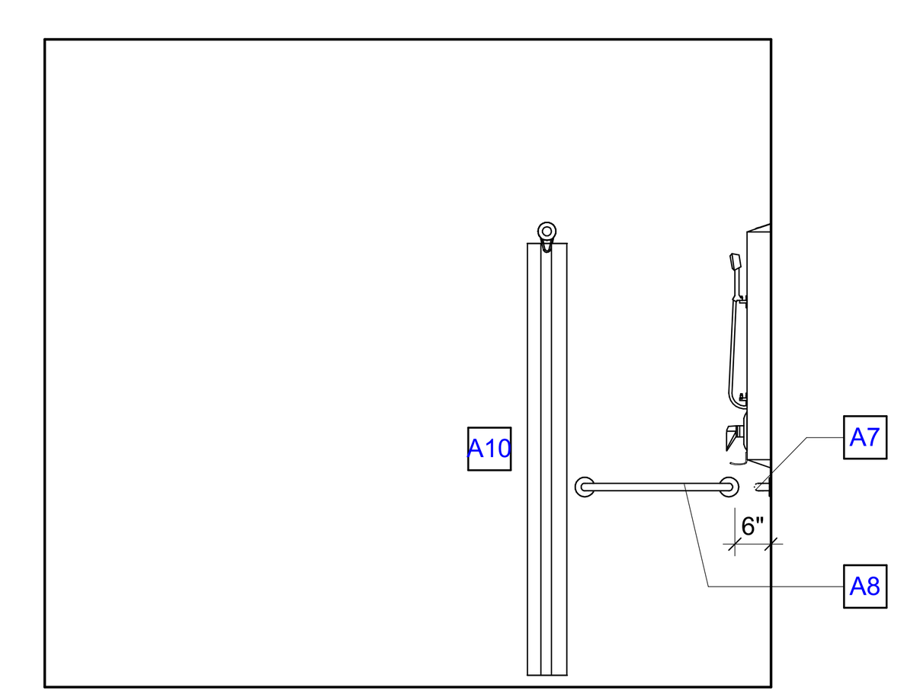
9 A411 WOMEN'S SHOWER ELEVATION
3/8" = 1'-0"



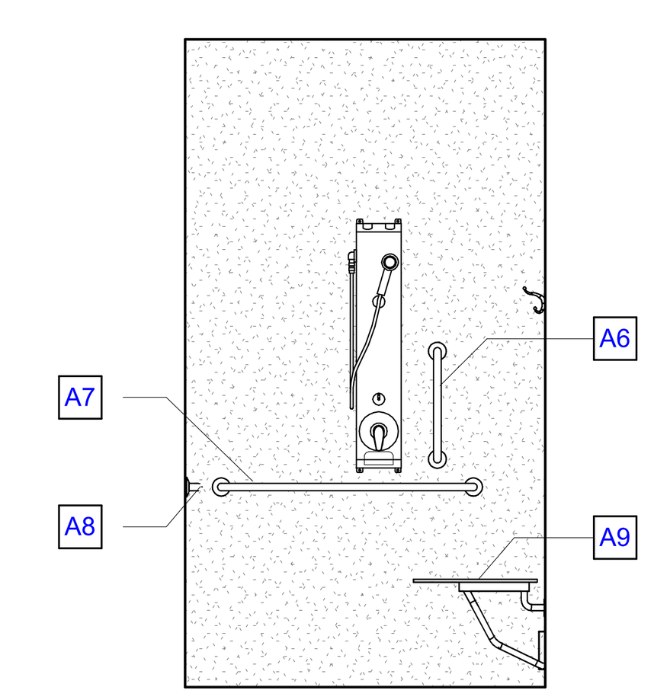
10 A411 WOMEN'S SHOWER ELEVATION
3/8" = 1'-0"



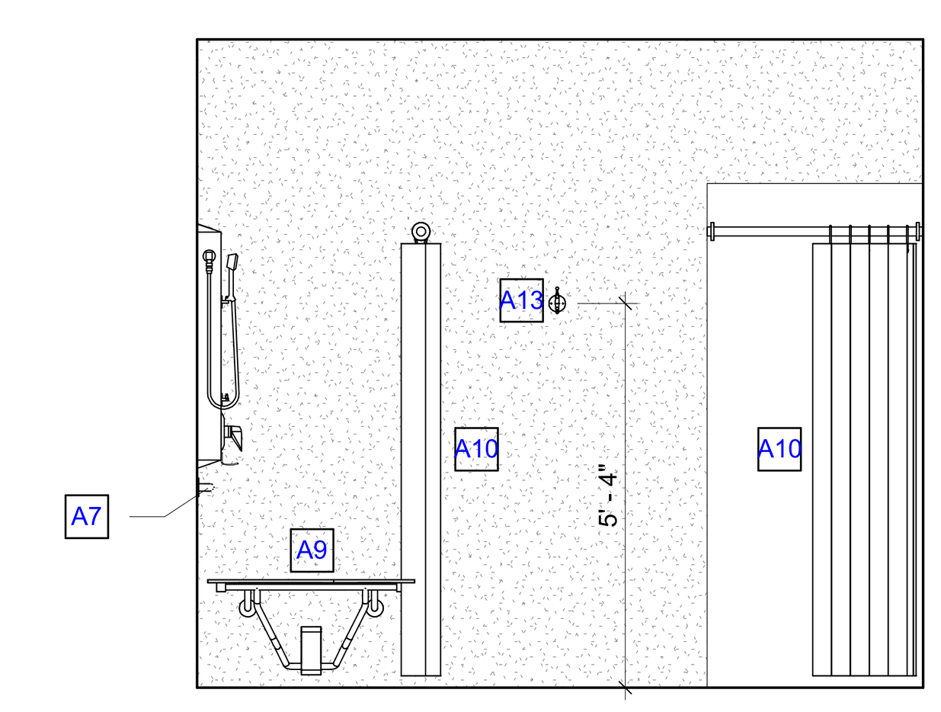
11 A411 WOMEN'S SHOWER ELEVATION
3/8" = 1'-0"



12 A411 MEN'S SHOWER ELEVATION
3/8" = 1'-0"



13 A411 MEN'S SHOWER ELEVATION
3/8" = 1'-0"



14 A411 MEN'S SHOWER ELEVATION
3/8" = 1'-0"

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McMAHON ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.
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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
ENLARGED RESTROOM PLANS & ELEVATIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO. H0006 06-24-00138
DATE OCTOBER 29, 2024
SHEET NO. A411

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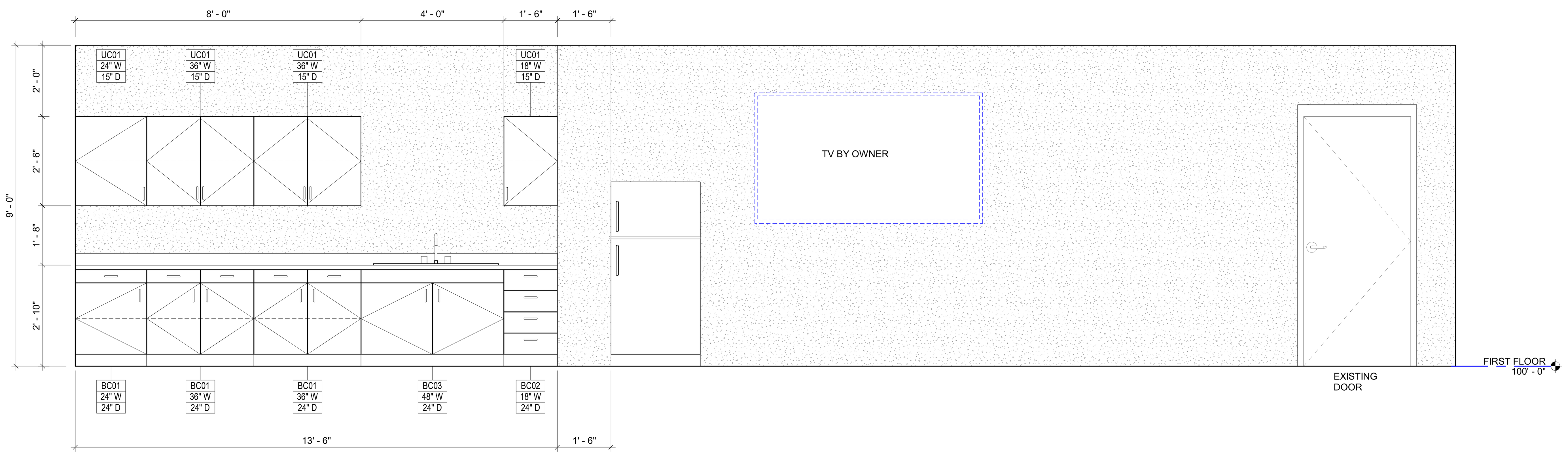
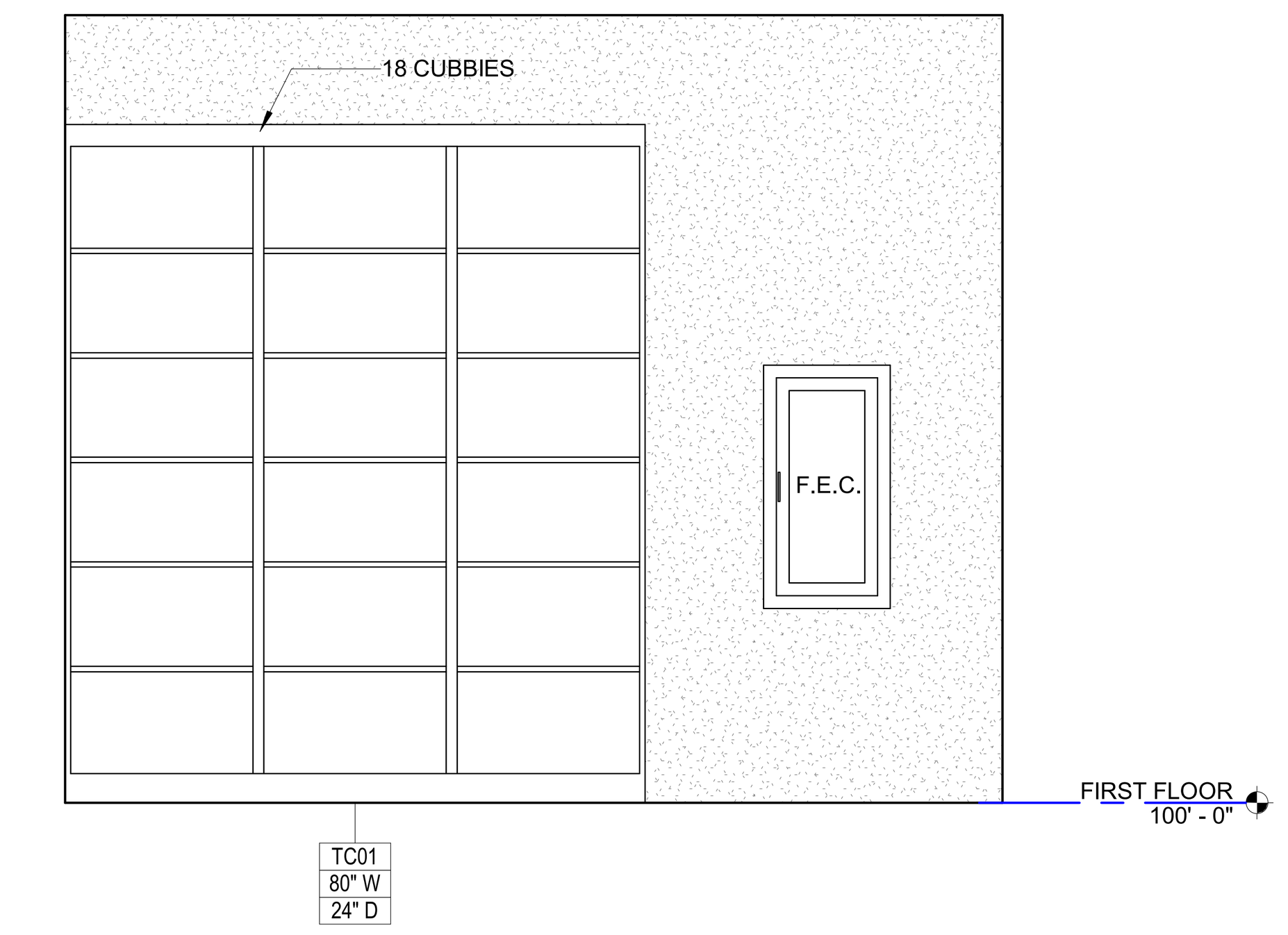
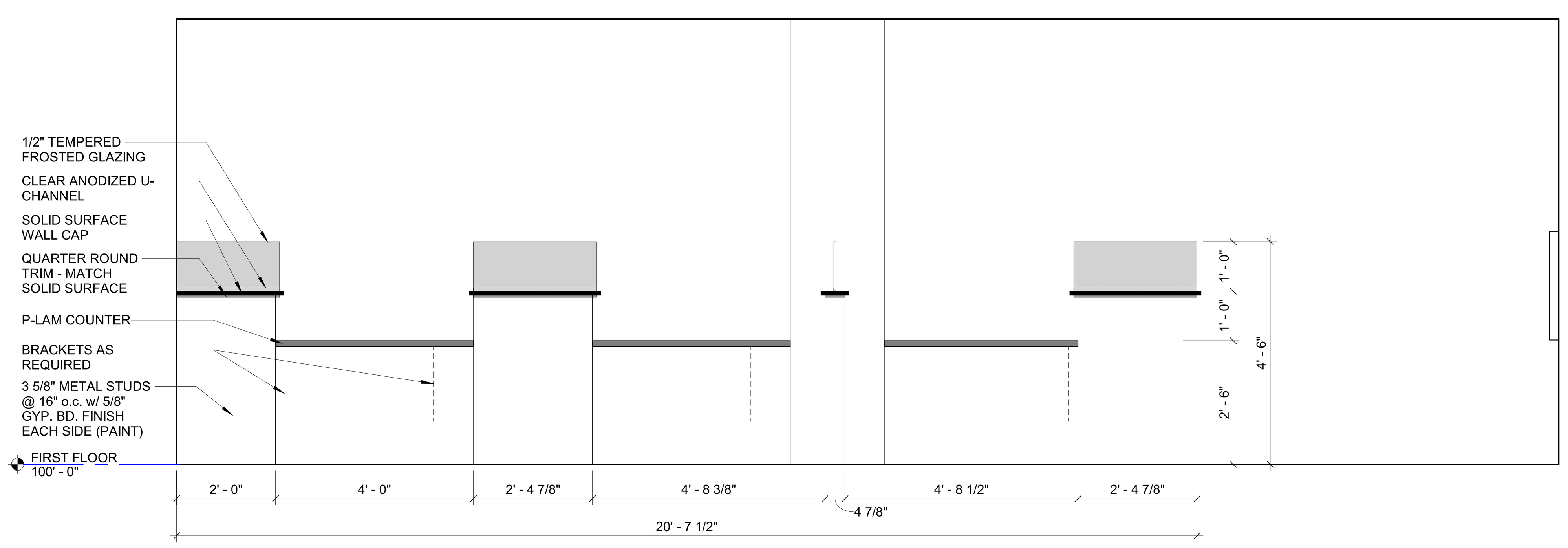


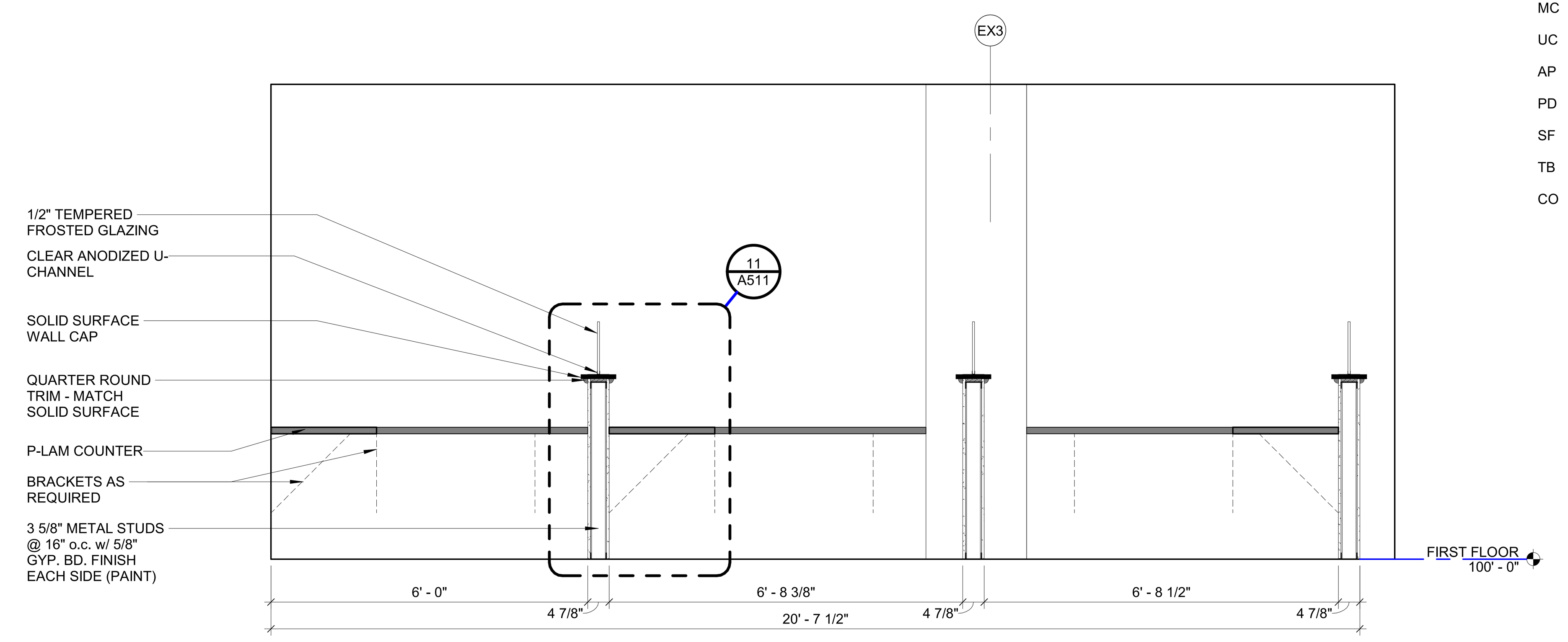
1 A511 KITCHENETTE ELEVATION
1/2" = 1'-0"



2 A511 CUBBY ELEVATION
1/2" = 1'-0"



3 A511 WORK STATION ELEVATION
1/2" = 1'-0"



4 A511 OFFICE CUBICLE SECITON
1/2" = 1'-0"

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CASEWORK LEGEND

▭	INDICATES CASEWORK AND COUNTER MATERIAL. SEE FINISH SCHEDULE.
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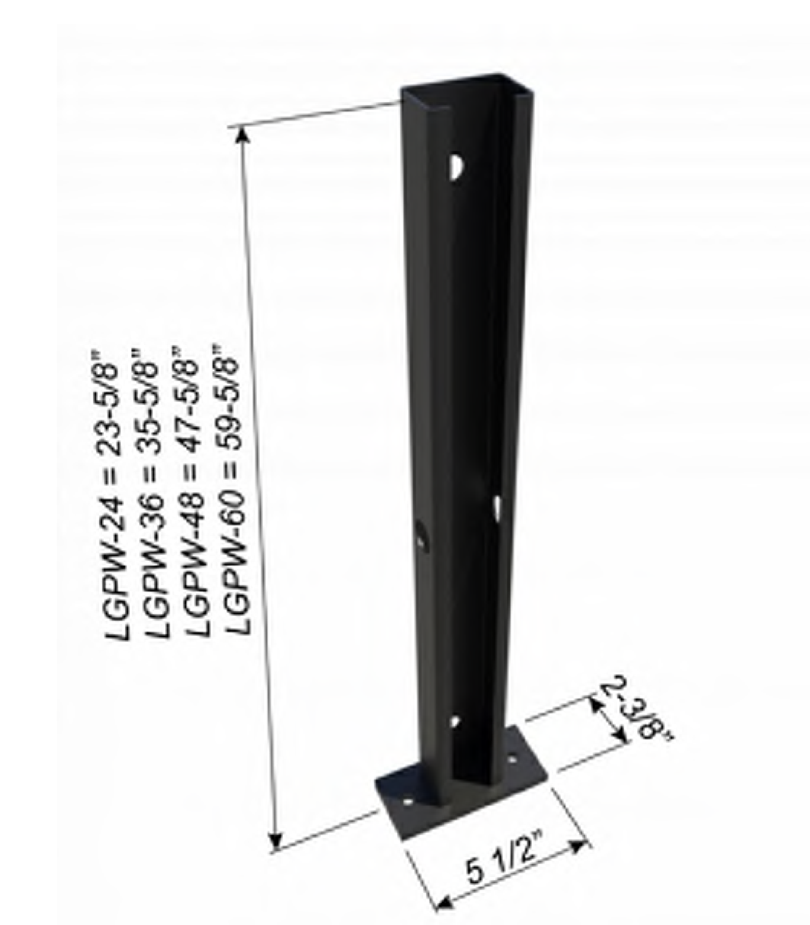
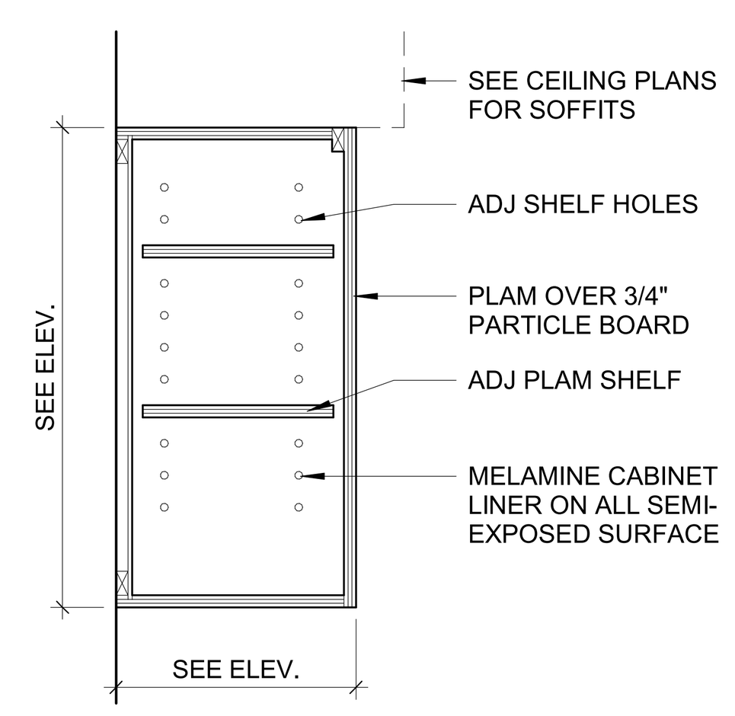
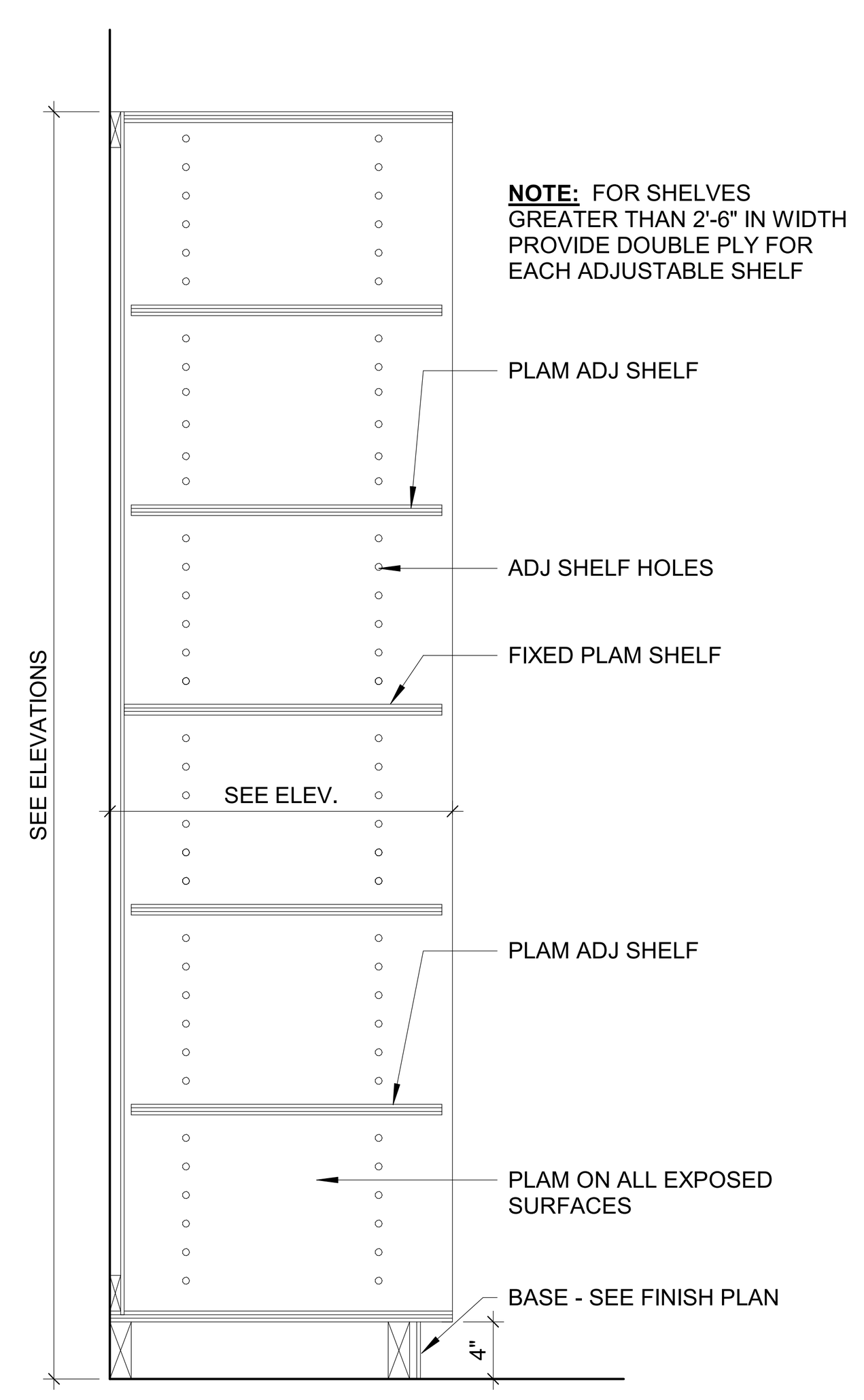
FL	FILE DRAWER HARDWARE WITH LOCK
WM	WIRE MANAGEMENT
MC	MOBILE CABINET
UC	UNDERCOUNTER / UNDER CABINET LIGHT FIXTURE BY ELECTRICAL TRADE
AP	ACCESS PANEL
PD	PENCIL DRAWER
SF	SINK & FAUCET - SEE PLUMBING DRAWINGS
TB	TACKBOARD
CO	6" DIA COUNTER TOP OPENING, SEE PLANS FOR QUANTITY, VERIFY SIZE WITH OWNER



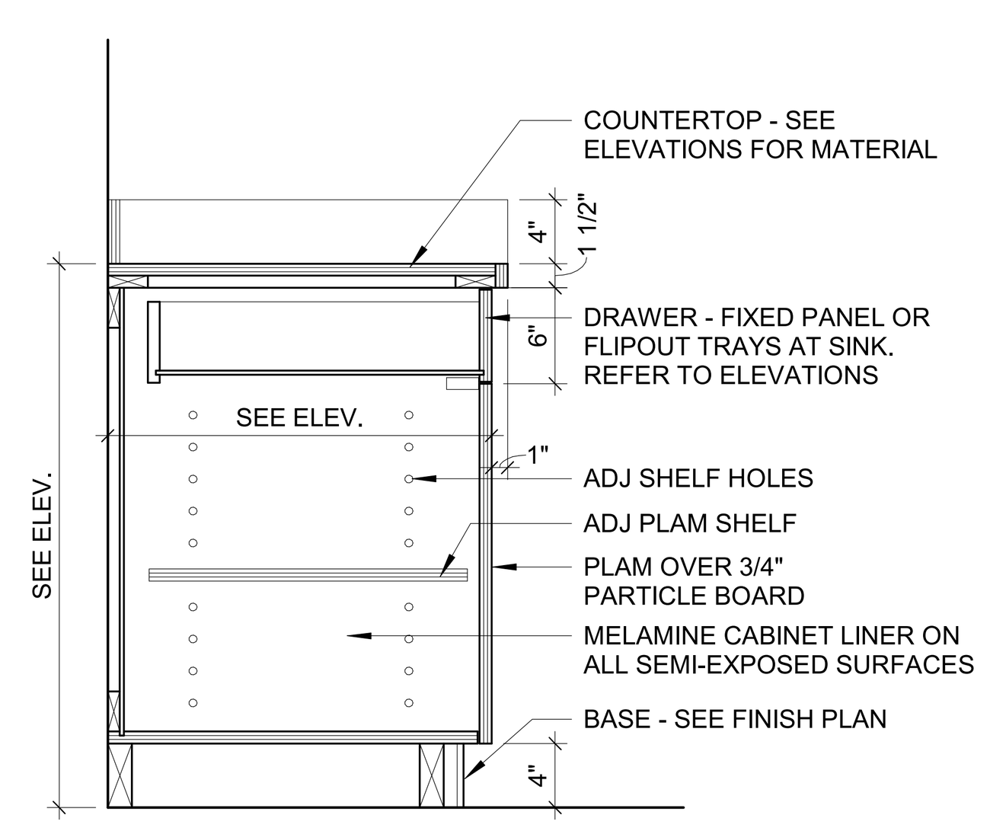
WALL POST



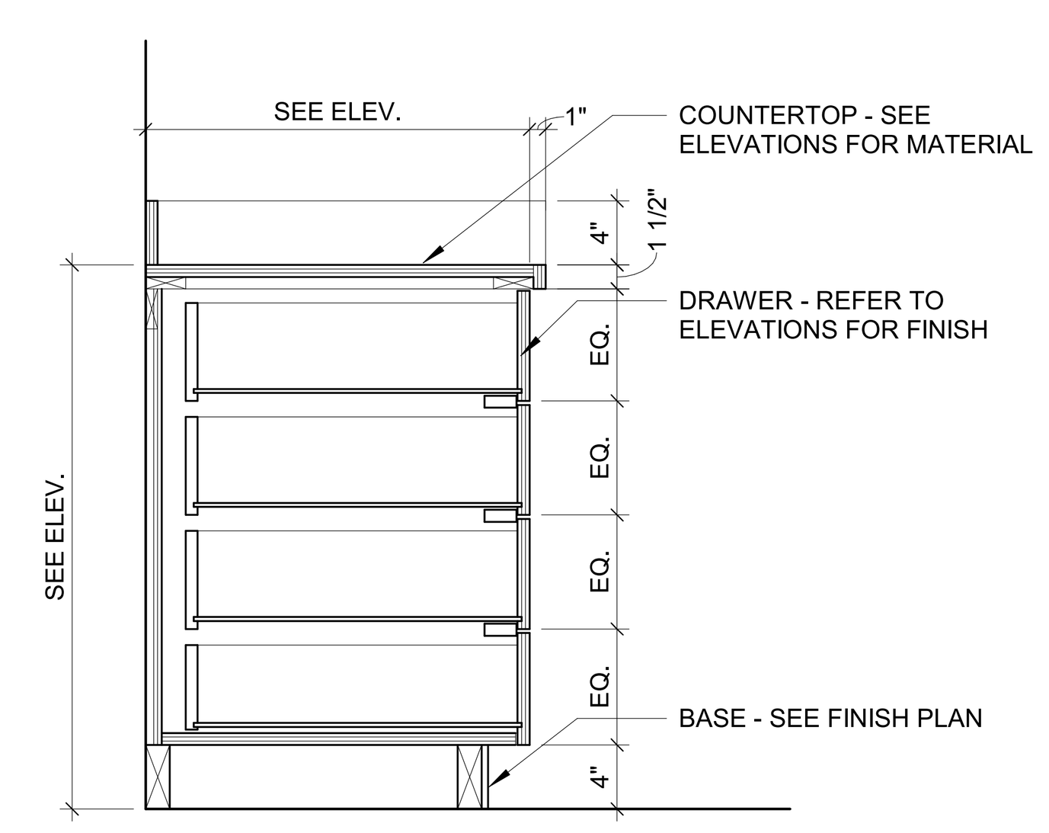
6 A511 UC01 DETAIL
1" = 1'-0"



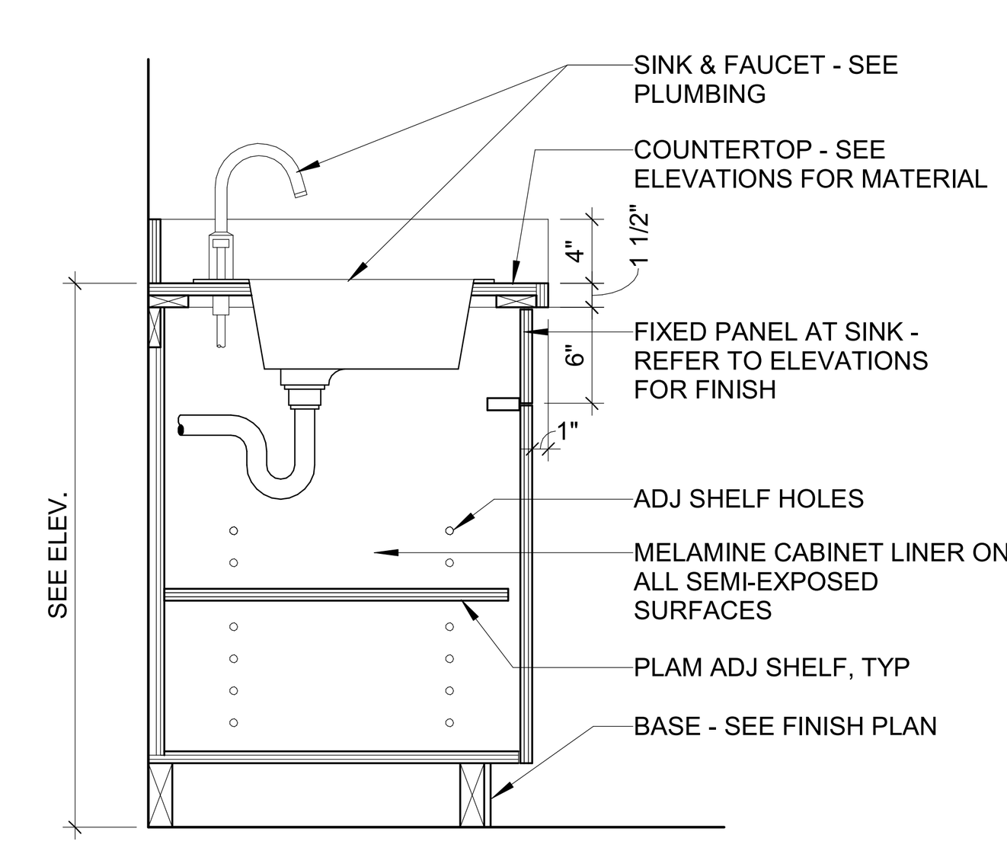
5 A511 TC01 DETAIL
1" = 1'-0"



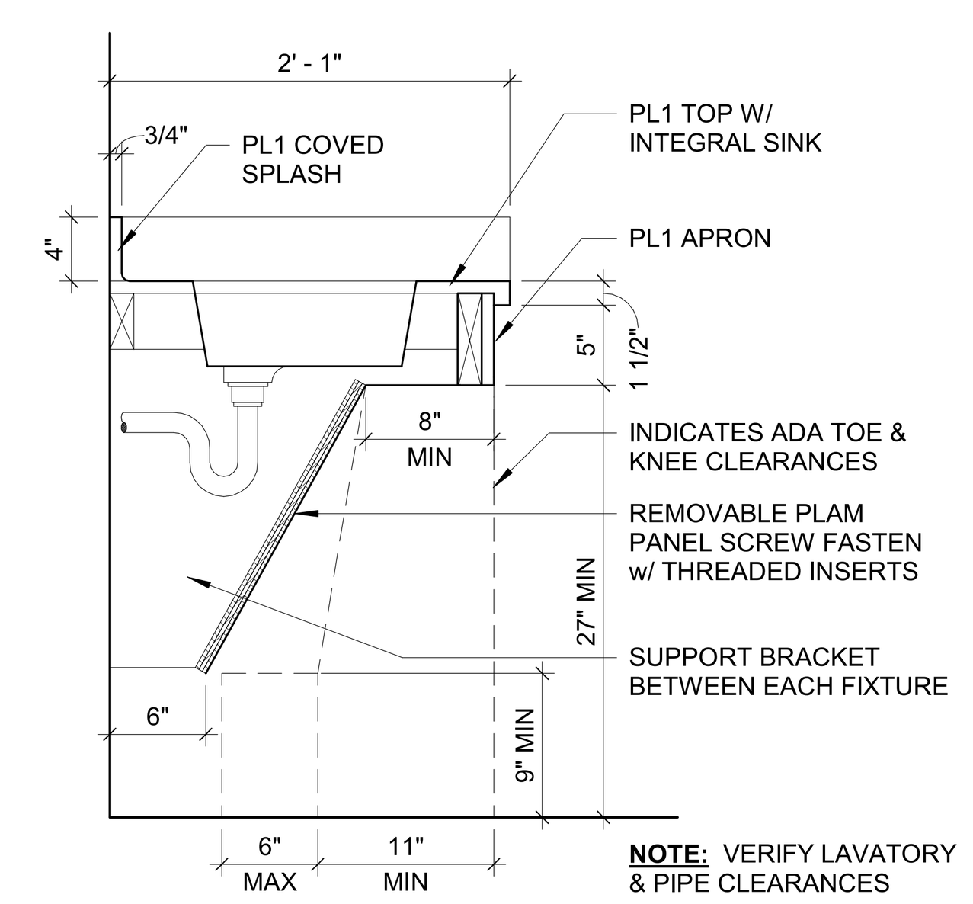
7 A511 BC01 w/ DRAWER
1" = 1'-0"



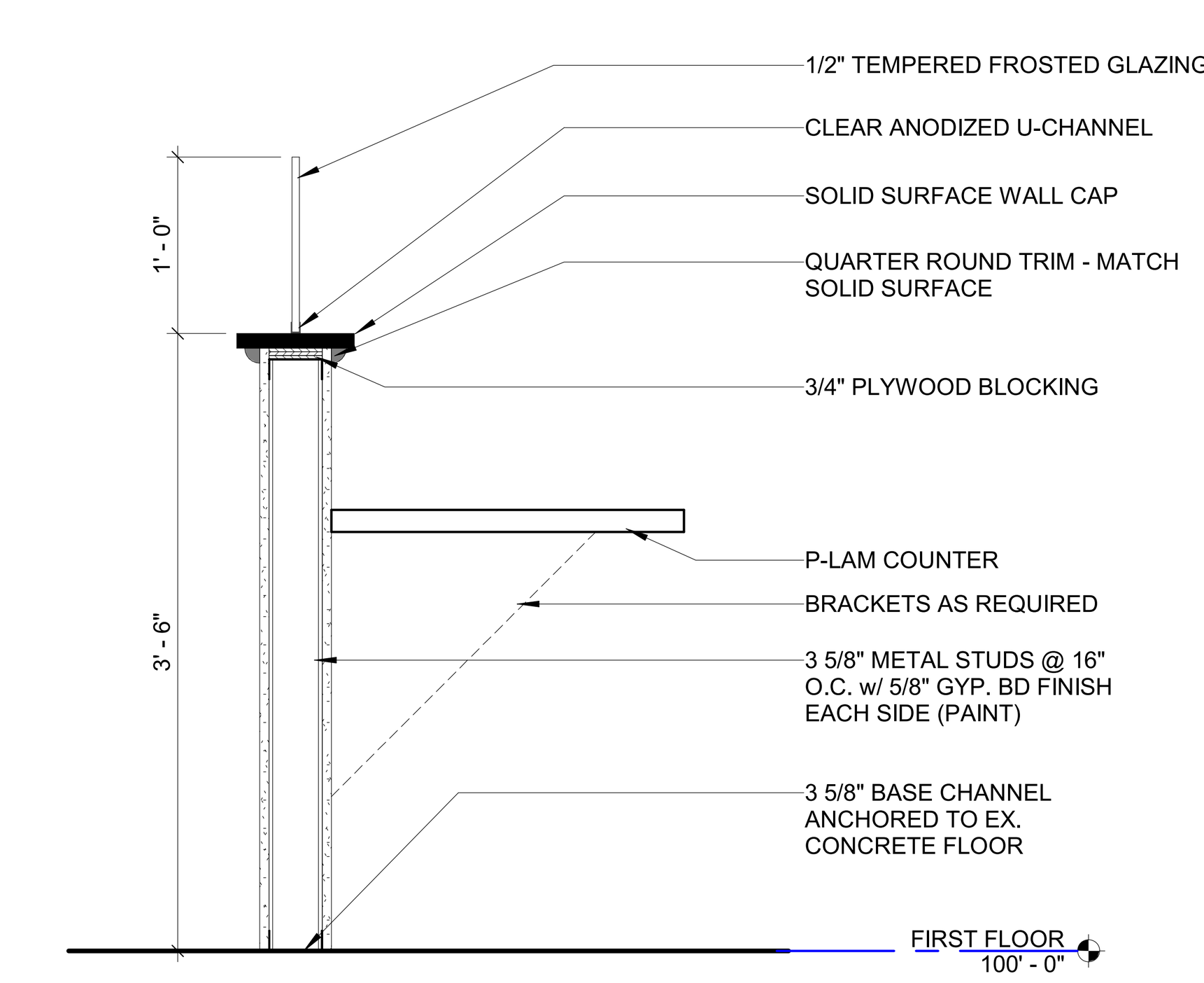
8 A511 BC02 DRAWERS
1" = 1'-0"



9 A511 BC03 @ SINK DETAIL
1" = 1'-0"



10 A511 SINK DETAIL
1" = 1'-0"



11 A511 WORK STATION WALL SECTION
1" = 1'-0"

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
INTERIOR ELEVATIONS

DESIGNED	DRAWN
MAM	DJR

PROJECT NO.
H0006 06-24-00138
DATE
OCTOBER 29, 2024
SHEET NO.
A511

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STRUCTURAL SPECIFICATIONS

DESIGN CODE:

1. COMPLY WITH THE FOLLOWING CODES:
   - ASCE 7-10
   - IBC 2015
   - WISCONSIN BUILDING CODE, LATEST EDITION

DESIGN LOADS:

1. DEAD LOAD:
   - ROOF - PER PEMB SUPPLIER
2. LIVE LOAD:
   - ROOF - 20 PSF
3. SNOW LOAD:
   - GROUND SNOW LOAD (Pg) - 40 PSF
   - UNIFORM SNOW LOAD (Ps) - 34 PSF
     - ROOF SLOPE FACTOR (Cs) - 1.00
     - SNOW EXPOSURE FACTOR (Ce) - 1.00
     - ROOF THERMAL FACTOR (Ct) - 1.00
     - IMPORTANCE FACTOR (I) - 1.20
4. WIND:
   - DESIGN WIND SPEED - 120 MPH
   - WIND EXPOSURE - C
   - INTERNAL PRESSURE COEFFICIENT (GCpi) - 0.18 (ENCLOSED STRUCTURE)
5. SEISMIC:
   - MAPPED SPECTRAL RESPONSE:
     - Ss - 0.056
     - S_1 - 0.035
   - IMPORTANCE FACTOR (I) - 1.50
   - SITE CLASS - D

GENERAL:

1. VERIFY ALL DIMENSIONS, ELEVATIONS, SECTIONS AND DETAILS BETWEEN THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO STARTING WORK. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
2. SEE MECHANICAL PLANS FOR CONCENTRATED EQUIPMENT POINT LOADS ON FLOOR AND ROOF FRAMING.
3. VERIFY SIZE, LOCATION, AND NUMBER OF WALL, FLOOR, AND ROOF OPENINGS WITH THE STRUCTURAL, ARCHITECTURAL, MECHANICAL, AND ELECTRICAL PLANS. PROVIDE ALL OPENINGS AND SUPPORT FRAMING.
4. CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL ARCHITECTURAL AND MECHANICAL ATTACHMENTS TO STRUCTURAL FRAMING.
5. AN ELECTRICAL GROUNDING PLAN AND SYSTEM SHALL BE DESIGNED AND DEVELOPED BY A LICENSED PROFESSIONAL ENGINEER FOR THE STEEL STRUCTURE.
6. PROVIDE ALL NECESSARY TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
7. SUBMIT SHOP DRAWINGS FOR ALL PRE-FABRICATED ITEMS SUCH AS REINFORCING STEEL AND ACCESSORIES, STRUCTURAL STEEL, PRE-ENGINEERED METAL BUILDINGS, AND CONCRETE MIX DESIGNS. CONTRACTOR SHALL REVIEW SHOP DRAWINGS BEFORE SUBMITTING TO ENGINEER. FABRICATE ITEMS AFTER REVIEW BY ENGINEER.
8. JOBSITE SAFETY IS THE CONTRACTOR'S RESPONSIBILITY.
9. CONTRACTOR SHALL CONFORM WITH ALL OSHA REGULATIONS.
10. THE ENGINEER/ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION OR THE SAFETY OF THE JOB SITE. THESE RESPONSIBILITIES ARE INTENDED TO REMAIN SOLELY THOSE OF THE CONTRACTOR.
11. ALL MATERIAL INSTALLATIONS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
12. THE STRUCTURAL PLANS AND DETAILS HAVE NOT BEEN INVESTIGATED FOR POTENTIAL ERECTION AND CONSTRUCTION LOADS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INVESTIGATION OF THE STRUCTURAL FRAMING FOR ERECTION OR CONSTRUCTION LOADS.
13. WHEN REFERENCED IN THE PLANS AND DETAILS, THE FOLLOWING POST-INSTALLED ANCHORS SHALL BE PERMISSIBLE. CONTRACTOR SHALL SUBMIT SUBSTITUTION REQUEST FOR ANY ALTERNATE POST-INSTALLED ANCHORS.
    - A. ADHESIVE/EPOXY ANCHORS
      1. HILTI: HY 200, HY 150 MAX
      2. POWERS: AC100+ GOLD
    - B. EXPANSION ANCHORS
      1. HILTI: KWIK BOLT TZ
      2. POWERS: POWER-STUD+ SD2
14. SEE SPECIFICATIONS MANUAL FOR ADDITIONAL AND SUPPLEMENTAL INFORMATION NOT ADDRESSED WITHIN THESE OUTLINE SPECIFICATIONS.

EXISTING CONSTRUCTION/CONDITIONS:

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS CORRESPONDING TO THE LOCATION OF EXISTING ELEMENTS (COLUMNS, BEAMS, WALLS, ETC.).
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS WITH CONSTRUCTION DOCUMENTS.
3. REMOVE AND REPLACE AND/OR MODIFY ALL EXISTING CONSTRUCTION (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL) AS REQUIRED IN ORDER TO PLACE NEW STRUCTURAL WORK SHOWN ON THE CONSTRUCTION DOCUMENTS.
4. CONTRACTOR SHALL DESIGN AND PROVIDE ALL SHORING REQUIRED TO SUPPORT EXISTING CONSTRUCTION AND NEW CONSTRUCTION AS REQUIRED.

FOUNDATION:

1. ASSUMED SOIL BEARING - 2,000 P.S.F. CONTRACTOR SHALL EMPLOY A CERTIFIED GEOTECHNICAL CONSULTANT DURING CONSTRUCTION TO TEST AND VERIFY ASSUMED SOIL CONDITIONS AND REPORT FINDINGS TO ARCHITECT/ENGINEER.
2. CONTRACTOR SHALL OBTAIN A GEOTECHNICAL ENGINEER TO INSPECT SUB-GRADE AFTER EXCAVATION TO VERIFY SOIL BEARING PRESSURES. AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, REMOVE UNSATISFACTORY SOILS TO AN ELEVATION WHERE SATISFACTORY SOIL IS ENCOUNTERED. REPLACE UNSATISFACTORY SOIL w/ EITHER COMPACTED STRUCTURAL FILL OR CONCRETE SLURRY.
3. PLACE FOUNDATION CONCRETE ON CLEAN FIRM BEARING SOILS MATERIAL.
4. WALL FOOTINGS ARE CENTERED ON WALLS (U.N.O.) COLUMN FOOTINGS ARE CENTERED ON COLUMNS (U.N.O.)
5. MINIMUM DEPTH TO ALL EXTERIOR FOOTINGS SHALL BE 4'-0" BELOW GRADE.
6. INSTALL 2" THICK RIGID INSULATION VERTICALLY AT ALL EXTERIOR FOUNDATION LOCATIONS. USE EXTRUDED POLYSTYRENE INSULATION WITH R=10. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF INSULATION.
7. CONTRACTOR TO CONSULT WITH LOCAL AUTHORITIES PRIOR TO EXCAVATION TO LOCATE UNDERGROUND GAS, SEWER, WATER, AND ELECTRICAL OBSTACLES.
8. STRUCTURAL FILL
   - LOCATION: ALL BACKFILL WITHIN 5'-0" OF THE BUILDING LINES, BELOW STRUCTURAL FOUNDATIONS, AND BEHIND RETAINING WALLS WITHIN A WEDGE EXTENDING UPWARDS 45 DEGREES FROM THE BACK FACE OF RETAINING WALL FOOTINGS.
   - TYPE: PREDOMINANTLY WELL GRADED GRANULAR MATERIAL. UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER, PROVIDE MATERIAL WITH 100% PASSING THE 3" SIEVE, 70-100% PASSING THE #4 SIEVE AND LESS THAN 15% PASSING THE #200 SIEVE.
   - COMPACTION: UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER, COMPACT TO 95% MODIFIED PROCTOR (ASTM: D1557) PLACED IN LIFTS NOT TO EXCEED 8".
9. IN AREAS OF COMPACTED FILL WITHIN THE BUILDING LINES, BACKFILLING AGAINST BOTH SIDES OF WALLS SHALL BE DONE AT THE SAME RATE TO PREVENT STRESS AND OVERTURNING OF FOUNDATION WALLS.
10. ALL EARTHWORK WITH ON-SITE MATERIALS SHOULD BE PERFORMED WHEN TEMPERATURES ARE ABOVE FREEZING. FROZEN SOIL SHOULD NOT BE USED BENEATH STRUCTURES. ALL FOUNDATION EXCAVATION MUST BE INSULATED AGAINST FREEZING UNTIL CONSTRUCTION OF FOUNDATION IS COMPLETE.
11. SOILS THAT BECOME RUTTED OR DISTURBED BY CONSTRUCTION VEHICLES WILL BE UNSUITABLE FOR SUPPORTING FOUNDATION AND CONCRETE SLABS. THE SOILS SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL.
12. NO SOIL DISTURBANCES, HOLES, OR TRENCHES ARE PERMITTED BELOW FOOTINGS, WITHIN A WEDGE EXTENDING DOWNWARDS 45 DEGREES FROM THE BOTTOM EDGE OF THE FOOTING. FOOTINGS SHALL BE STEPPED DOWN AS REQUIRED TO AVOID SUCH DISTURBANCES.

SLAB ON GRADE:

1. CONTRACTOR SHALL OBTAIN A GEOTECHNICAL ENGINEER TO INSPECT SLAB SUB-GRADE AFTER EXCAVATION TO VERIFY EXISTING SOIL CONDITIONS. AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, REMOVE UNSATISFACTORY SOILS TO AN ELEVATION WHERE SATISFACTORY SOIL IS ENCOUNTERED. REPLACE UNSATISFACTORY SOIL w/ COMPACTED STRUCTURAL FILL.
2. PROVIDE 8" MINIMUM OF SLAB BASE MATERIAL BELOW ALL CAST-IN-PLACE CONCRETE ON GRADE.
3. SLAB BASE MATERIAL
   - LOCATION: BELOW SLAB ON GRADE.
   - TYPE: GRANULAR FILL. UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER, PROVIDE MATERIAL SUCH AS MANUFACTURED SAND OR 3/4" CRUSHED LIMESTONE BASE COURSE WITH 100% PASSING THE 1" SIEVE, 40-100% PASSING THE #4 SIEVE, 15-30% PASSING THE #40 SIEVE, AND LESS THAN 10% PASSING THE #200 SIEVE.
   - COMPACTION: UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER, COMPACT TO 95% MODIFIED PROCTOR (ASTM: D1557) PLACED IN LIFTS NOT TO EXCEED 8".
4. PROVIDE 10 MIL. THICK CLEAR POLYETHYLENE FILM VAPOR BARRIER BELOW ALL CAST-IN-PLACE CONCRETE ON GRADE INSIDE BUILDING. SEE ARCHITECTURAL PLANS FOR APPLICABLE LOCATIONS, WHERE FINISHED FLOORS OCCUR.
5. PROVIDE CONSTRUCTION JOINTS (C.J.) AND SAWCUT JOINTS (S.J.) AS NECESSARY TO ADEQUATELY CONTROL SHRINKAGE CRACKING. SAWED JOINTS IN SLAB SHALL BE MADE WITHIN 18 HOURS OF FINAL SLAB FINISHING, OR EARLIER IF CONCRETE STRENGTH PERMITS.
6. SLAB JOINTS SHALL GENERALLY BE LOCATED AT COLUMN CENTERLINES, WHEN POSSIBLE. UNLESS OTHERWISE NOTED ON PLANS, THE MAXIMUM JOINT SPACING SHALL COMPLY WITH THE FOLLOWING:
   - A. 4" SLAB - 10'-0"o.c.
   - B. 5" SLAB - 12'-0"o.c.
   - C. 6" SLAB - 15'-0"o.c.
   - D. 8" SLAB - 20'-0"o.c.
7. SEE PLUMBING PLANS FOR ALL PIPING LOCATIONS AND PENETRATIONS THROUGH FLOOR SLAB.
8. SLABS SHALL BE PITCHED TO FLOW TO FLOOR DRAINS WHERE THEY OCCUR 1/8" PER FOOT MINIMUM PITCH.
9. INTERIOR FLOOR SLABS SHALL BE PROTECTED FROM COLD WEATHER IN ACCORDANCE WITH ACI 318.
10. PROVIDE 30# FELT BOND BREAK BETWEEN CONCRETE SLAB EDGE & VERTICAL CONCRETE AND/OR MASONRY SURFACES AT INSIDE OF BUILDING.
11. AT A MINIMUM, PROVIDE 1/2" THICK EXPANSION JOINT MATERIAL WHERE CONCRETE SLAB ABUTS VERTICAL SURFACES AT BUILDING EXTERIOR. SEE ARCHITECTURAL PLANS FOR ADDITIONAL INSULATION REQUIREMENTS AT EDGE OF CONCRETE SLAB.
12. AT CONTRACTORS OPTION, CONCRETE CAN BE NON-AIR ENTRAINED FOR INTERIOR SLABS, PROVIDED CONCRETE IS PROTECTED FROM COLD WEATHER.

CAST-IN-PLACE CONCRETE:

1. CONCRETE AND ITS PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 318, ACI 301, AND THE PROJECT SPECIFICATIONS, EXCEPT AS MODIFIED BELOW. PROTECT ALL CONCRETE IN ACCORDANCE WITH ACI STANDARDS FOR HOT & COLD WEATHER CONCRETING.
2. STANDARD WEIGHT CONCRETE SHALL COMPLY WITH THE FOLLOWING:
   - A. MINIMUM COMPRESSIVE STRENGTH (AT 28 DAYS) - 4,000 PSI
   - B. MAXIMUM WATER/CEMENT RATIO - .45 (AIR ENTRAINED) - .52 (NON-AIR ENTRAINED)
   - C. MAXIMUM AGGREGATE SIZE - 3/4"(TYPICAL) - 1 1/2" (FOOTINGS GREATER THAN 12" THICK)
   - D. TOTAL AIR CONTENT - 6%±1 1/2% (3/4" AGGREGATE) - 5%±1 1/2% (1 1/2" AGGREGATE)
   - E. MAX SLUMP - 3" (TYPICAL) - 4" (FLOOR SLAB)
   - F. REINFORCING BARS: PROVIDE DEFORMED BARS COMPLYING WITH ASTM A615 GRADE 60.
   - G. WELDED WIRE FABRIC: ASTM A185, COLD DRAWN STEEL PLAIN.
   - H. NO ADMIXTURES WITHOUT REVIEW FROM ENGINEER. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED.
3. ALL CONCRETE SHALL BE AIR ENTRAINED (U.N.O.). FOOTINGS BELOW THE FROST DEPTH LINE AND INTERIOR CONCRETE PROTECTED FROM FREEZING & ENVIRONMENTAL EFFECTS MAY BE NON-AIR ENTRAINED, AT CONTRACTOR'S OPTION.
4. CONCRETE COVERAGE FOR REINFORCING (U.N.O.):
   - A. UNFORMED CONCRETE IN CONTACT WITH EARTH = 3"
   - B. FORMED CONCRETE IN CONTACT WITH EARTH = 2"
   - C. OTHER CONCRETE = 1 1/2"
5. LAP SPLICES SHALL BE THE FOLLOWING BAR DIAMETERS UNLESS NOTED OTHERWISE ON DRAWINGS. LOCATE SPLICES AT POINT OF MINIMUM STRESS. WELDED SPLICES ARE NOT PERMITTED.
   - A. ALL REINF. EXCEPT FOR THAT NOTED IN 4B.

REINFORCEMENT	LAP LENGTH IN BAR DIAMETERS
#3 THROUGH #6	38
#7 THROUGH #11	48

   - B. HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCH OF CONCRETE IS CAST BELOW THE REINFORCEMENT (I.E. HORIZONTAL WALL REINFORCEMENT AND TOP BEAM REINFORCEMENT)

REINFORCEMENT	LAP LENGTH IN BAR DIAMETERS
#3 THROUGH #6	50
#7 THROUGH #11	62

   - C. WELDED WIRE FABRIC - MESH SPACE +2".
6. COMPLY WITH ACI 301. POSITION, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT, LOCATE AND SUPPORT WITH METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS, AS REQUIRED. SET WIRE TIES SO ENDS ARE DIRECTED INTO CONCRETE, NOT TOWARD EXPOSED CONCRETE SURFACES.
7. RE-ENTRANT CORNERS: AT ALL RE-ENTRANT CORNERS IN SLABS, WALLS AND TOPPING, THE CONTRACTOR SHALL INSTALL TWO (2) #3x3'-0" LONG, EACH MAT, AT 3-INCH O.C.
8. PROVIDE BENT CORNER BARS TO MATCH AND LAP HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF WALLS AND FOOTING.
9. PROVIDE DOWELS OF SAME SIZE AND SPACING AS VERTICAL WALL OR COLUMN REINFORCING, WITH STANDARD HOOKS, AT THE FOUNDATION (U.N.O.).
10. MAXIMUM FREE DROP OF ALL CONCRETE = 2'-0".
11. CONCRETE CAN ONLY BE PLACED ON A FROST-FREE SUBGRADE
12. MECHANICALLY VIBRATE ALL CONCRETE.
13. PROVIDE A 3/4"x3/4" CHAMFER ON ALL EXPOSED CORNERS OF CONCRETE, UNLESS CONCRETE IS ADJACENT TO GRATING.
14. ALL CAST-IN-PLACE CONCRETE SHALL BE PROTECTED AGAINST RAPID DRYING AND MUST BE KEPT MOIST FOR A MINIMUM OF (7) DAYS FOR NOMINAL CONCRETE.
15. AT LEAST 24 HOURS SHALL PASS BETWEEN POURING ADJACENT CONCRETE SECTIONS BETWEEN CONSTRUCTION JOINTS.
16. CONSTRUCTION JOINTS SHALL BE PROVIDED AT A MAXIMUM OF 40'-0"o.c. (U.N.O.).
17. PIPES OR CONDUIT ENCASED WITHIN OR PASSING THROUGH CONCRETE SHALL COMPLY WITH STRUCTURAL DETAILS, AND THE FOLLOWING CRITERIA:
    - A. HAVE A MINIMUM OF 2" OF CONCRETE CLEAR COVER.
    - B. DOES NOT INTERFERE WITH OR DISPLACE REINFORCING BARS, UNLESS SPECIFICALLY DETAILED OTHERWISE.
    - C. SPACED AT LEAST THREE PIPE DIAMETERS AWAY FROM ADJACENT PIPES, UNLESS SPECIFICALLY DETAILED OTHERWISE.
    - D. ALUMINUM CONDUIT SHALL NOT BE ENCASED IN CONCRETE.
    - E. AT CONCRETE BEAMS, AN ADDITIONAL STIRRUP SHALL BE PROVIDED AT EACH SIDE OF THE PIPE.
18. CONCRETE FIELD TESTS FOR SLUMP, AIR CONTENT, YIELD AND STRENGTH SHALL BE CONDUCTED BY A CERTIFIED CONCRETE TECHNICIAN IN ACCORDANCE WITH ACI 301. TESTS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.

CONCRETE MASONRY UNITS:

1. COMPLY WITH RECOMMENDATIONS OF BRICK INSTITUTE OF AMERICA (BIA), NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA), AND ACI 530. PROTECT ALL MASONRY IN ACCORDANCE WITH ACI STANDARDS FOR HOT & COLD WEATHER CONSTRUCTION.
2. MASONRY SHALL COMPLY WITH THE FOLLOWING MINIMUM REQUIREMENTS:
   - A. BLOCK COMPRESSIVE STRENGTH - 3,000 PSI
   - B. GROUT - 2,000 PSI
   - C. MORTAR - TYPE S = 2,000 PSI ABOVE GRADE
   - D. MORTAR - TYPE M = 2,000 PSI BELOW GRADE
   - E. REINFORCING BARS - ASTM A615 GRADE 60
   - F. ASSEMBLY COMPRESSIVE STRENGTH - 2,000 PSI (f'm)
3. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED.
4. SPECIAL SHAPES: PROVIDE SPECIAL BLOCK TYPES WHERE REQUIRED FOR CORNERS, CONTROL JOINTS, HEADERS, LINTELS AND OTHER SPECIAL CONDITIONS.
5. ALL MASONRY SHALL BE LAID PLUMB, TRUE TO LINE, AND WITH LEVEL COURSES. LAY IN RUNNING BOND, OVERLAY CORNER BLOCK UNITS.
6. CONTRACTOR SHALL DESIGN TEMPORARY BRACING AS REQUIRED TO STABILIZE MASONRY WALLS UNTIL PERMANENT SUPPORTS ARE INSTALLED.
7. SEE PLANS FOR VERTICAL MASONRY CONTROL JOINT LOCATIONS.
   GUIDELINES:
   LOCATE FIRST JOINT 10'-0" FROM EACH CORNER AND 24'-0" MAX. SPACING ON CENTER BETWEEN JOINTS. DO NOT LOCATE JOINTS WITHIN 1'-4" OF WINDOWS OR DOORS.
8. MAXIMUM GROUT LIFT WITHOUT CLEAN-OUTS = 4'-0".
   MAXIMUM GROUT LIFT WITH CLEAN-OUTS = 8'-0".
9. FULL MORTAR BED JOINTS ARE REQUIRED, TYPICAL.
10. ALL VERTICAL REINFORCING SHALL BE CONTINUOUSLY GROUTED IN CELLS.
11. PLACE HOOKED DOWELS AT ALL VERTICAL MASONRY REINFORCING LOCATIONS INTO FOUNDATION SYSTEM.
12. DOOR AND WINDOW JAMBS SHALL BE SOLID GROUTED 8" MINIMUM WIDTH (U.N.O.).
13. BOND BEAMS AND PILASTERS SHALL HAVE REINFORCEMENT AS INDICATED ON DRAWINGS, AND SHALL BE SOLID GROUTED.
14. BELOW STEEL BEAM BEARING LOCATIONS, MASONRY SHALL BE SOLID GROUTED TO A MINIMUM OF 16" DEEP BY 32" WIDE (U.N.O.).
15. LAP SPLICES IN MASONRY 48 BAR DIAMETERS.
16. JOINT REINFORCEMENT - NEW MASONRY WALLS TO BE REINFORCED WITH 9 GAUGE DUR-O-WAL EVERY OTHER BLOCK COURSE.
17. ON EXTERIOR WALLS, PROVIDE WEEP HOLES TO THE EXTERIOR ABOVE LINTELS AND AT BOTTOM OF WALL.
18. SEE ARCHITECTURAL PLANS FOR REQUIRED FIRE RATINGS.
19. SEE ELECTRICAL PLANS TO LOCATE ANY ELECTRICAL CONDUIT TO BE INSTALLED IN MASONRY CORE.

STRUCTURAL STEEL:

1. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO ANSI/AISC 360 AND AISC 303.
2. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTHS AND SPECIFICATIONS.
   - STEEL SHAPES: ASTM A992
   - ANGLES & RODS: ASTM A36
   - BARS & PLATES: ASTM A36
   - STRUCTURAL TUBES: ASTM A500 GRADE B
   - ANCHOR BOLTS: F1554 GRADE 36
   - STRUCTURAL BOLTS: ASTM A325 TYPE N
   - WELDS: E70 XX
   - GROUT: ASTM C1107, GRADE B, PREMIXED NON-SHRINK, NON-METALLIC CEMENTITIOUS GROUT. MINIMUM COMPRESSIVE STRENGTH 7000 PSI.
3. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER IN ACCORDANCE WITH A.W.S. CODE FOR WELDING IN BUILDING CONSTRUCTION. SURFACES FOR FIELD WELDED MATERIAL SHALL BE PROPERLY PREPARED PRIOR TO BEING WELDED TO ASSURE A GOOD QUALITY WELD. REMOVE PAINT, GREASE, DIRT, ETC.
4. THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ADEQUACY OF ALL CONNECTIONS THAT ARE NOT DESIGNED AND FULLY DETAILED ON THE CONTRACT DOCUMENTS. CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH ANSI/AISC 360. BEAM CONNECTIONS SHALL BE "SIMPLE FRAMING" TYPE N (UNLESS NOTED OTHERWISE).
5. ERECTION: COMPLY WITH AISC CODE AND SPECIFICATIONS. THE ERECTOR SHALL FURNISH AND INSTALL TEMPORARY SUPPORTS TO SECURE ANY ELEMENT OR ELEMENTS OF THE STEEL FRAMING UNTIL THEY ARE MADE STABLE WITHOUT EXTERNAL SUPPORT.
6. PROVIDE ALL LOOSE LINTELS AND MISCELLANEOUS STRUCTURAL STEEL AS SHOWN ON DRAWINGS.
7. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF ADDITIONAL MISCELLANEOUS STEEL MEMBERS.
8. DO NOT PRIME SURFACES THAT WILL BE FIELD WELDED.
9. SEE SPECIFICATIONS MANUAL FOR REQUIRED STEEL SURFACE PREPARATION AND PAINT REQUIREMENTS.

STEEL COATINGS:

1. AS A MINIMUM, THE FABRICATOR SHALL PREPARE STEEL SURFACES TO MEET THE REQUIREMENTS OF SSPC-SP2 (HAND TOOL CLEANING). SHOP PRIME STRUCTURAL STEEL MEMBERS WITH STANDARD SHOP PRIMER.
2. TOUCH-UP PRIME PAINT AFTER ERECTION. USE SAME SURFACE PREPARATION AND PRIMER AS USED IN SHOP.
3. ALL EXTERIOR EXPOSED STEEL, INCLUDING MASONRY SHELF ANGLES, SHALL BE GALVANIZED. MINIMUM THICKNESS OF GALVANIZING SHALL BE G90 PER ASTM A653.

PRELIMINARY NOT FOR CONSTRUCTION

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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI
STRUCTURAL SPECIFICATIONS

DESIGNED	DRAWN
DJB	GYV

PROJECT NO. H0006 06-24-00138

DATE SEPTEMBER, 2024

SHEET NO. S001

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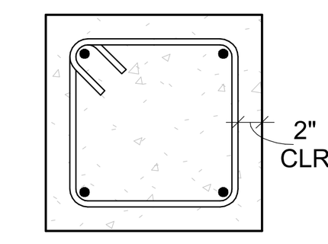
FOOTING SCHEDULE

MARK	FOOTING SIZE			TOP REINFORCEMENT	BOTTOM REINFORCEMENT
	LENGTH	WIDTH	THICKNESS		
F3.0	3' - 0"	3' - 0"	12"	-	(4) #4 EACH WAY
F4.0	4' - 0"	4' - 0"	12"	-	(4) #5 EACH WAY
F4.0x6.0	6' - 0"	4' - 0"	24"	#5 @ 12"o.c. EACH WAY	#5 @ 12"o.c. EACH WAY
F12.0	12' - 0"	12' - 0"	24"	(13) #5 EACH WAY	(13) #5 EACH WAY

PIER SCHEDULE

MARK	WIDTH	LENGTH	REINFORCEMENT			T.O. PIER ELEV. (U.N.O.)
			VERT.	TIES	TYPE	
P12X14	12"	14"	(4) #5	#4 @ 12"o.c.	I	SEE PLAN
P24X36	24"	36"	(8) #7	#4 @ 12"o.c.	II	SEE PLAN



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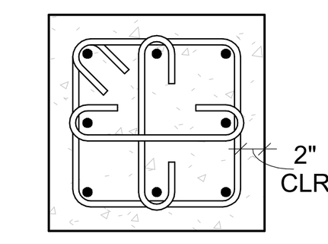

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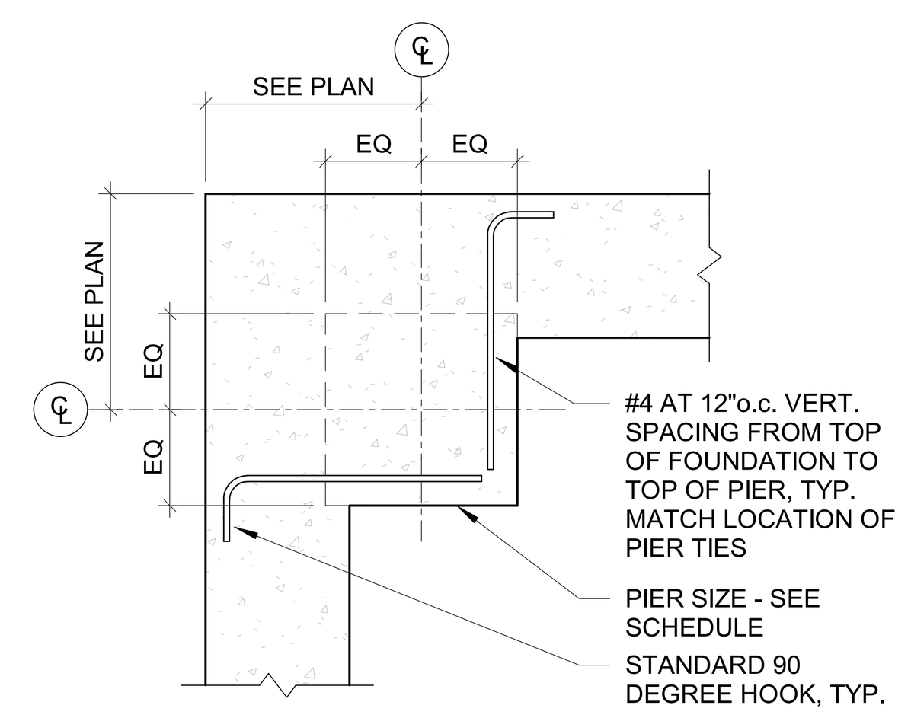
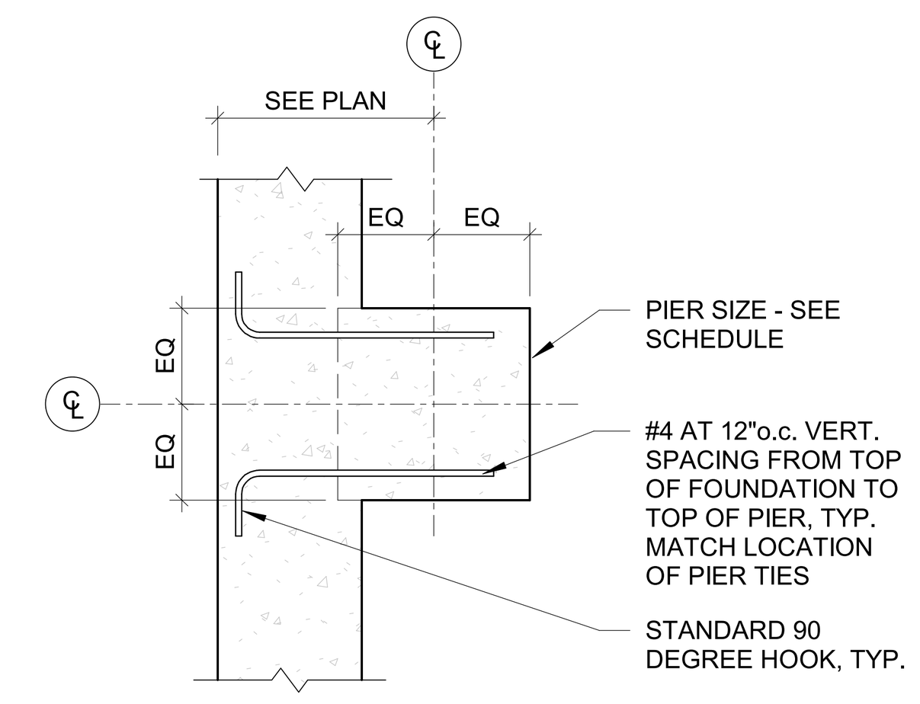
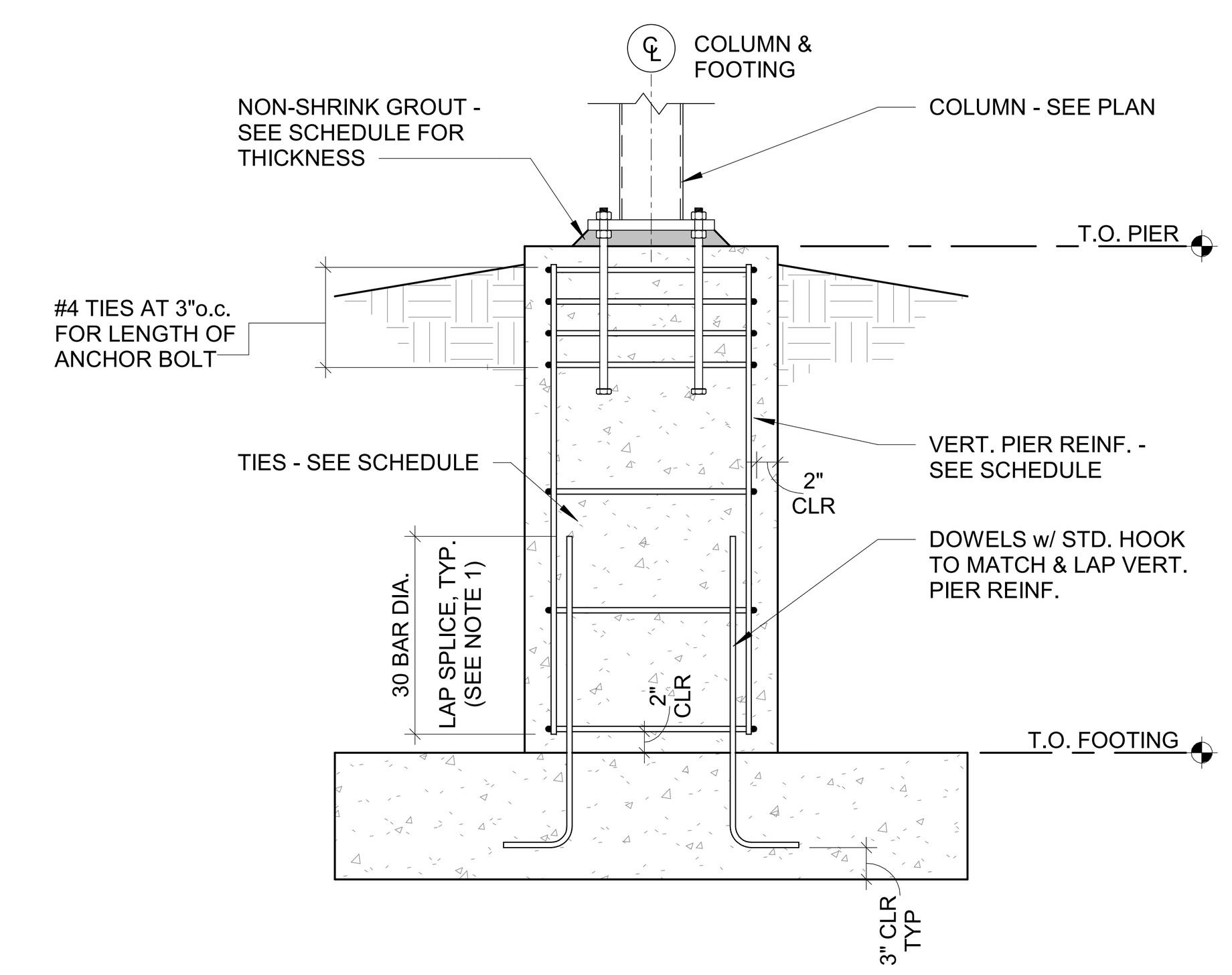


TYPICAL CORNER PIER



TYPICAL WALL PIER



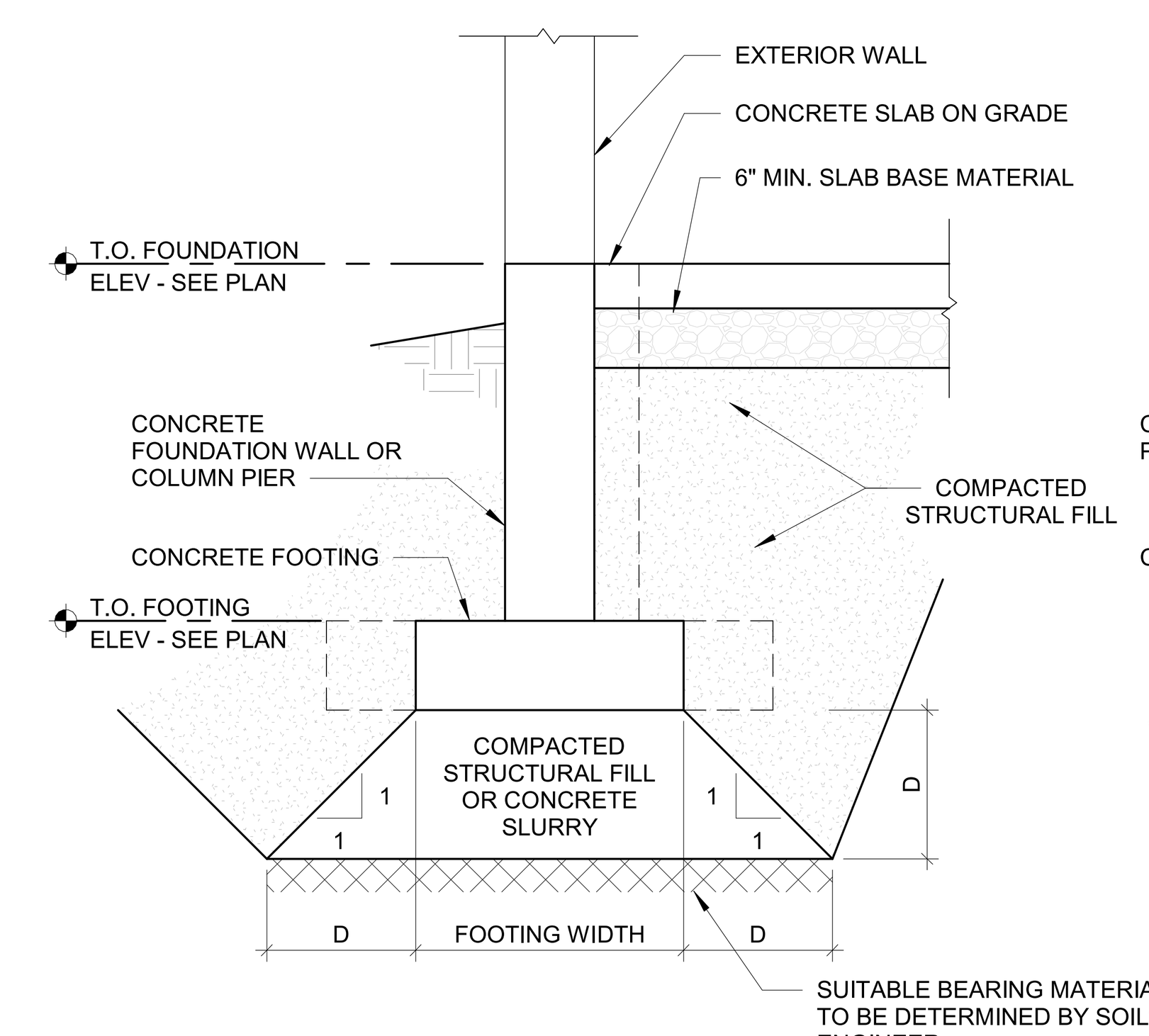
NOTES:

1. AT CONTRACTORS OPTION, ELIMINATE SPLICE AND PROVIDE CONTINUOUS VERTICALS WITH STD. HOOK AT BOTTOM TO FOOTING.

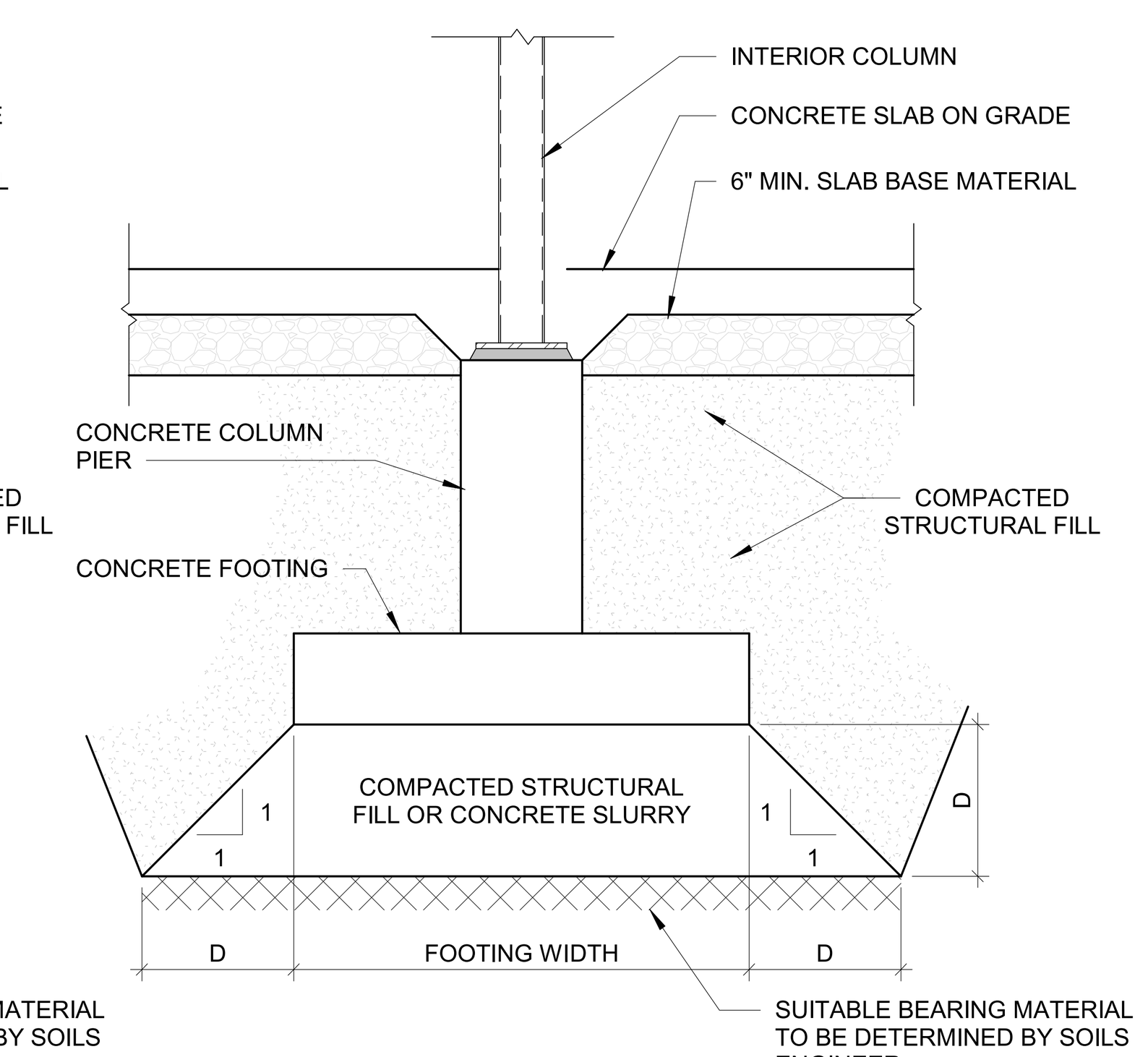
TYPICAL PIER DIAGRAM

STRUCTURAL ABBREVIATIONS

ALT	ALTERNATE
ARCH	ARCHITECTURAL
BRG	BEARING
BOT	BOTTOM
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
DBE	DECK BEARING ELEVATION
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
EA	EACH
ELEV	ELEVATION
EOS	EDGE OF STRUCTURE
EX	EXISTING
EXP	EXPANSION
FND	FOUNDATION
FT	FEET
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
HORIZ	HORIZONTAL
IMP	INSULATED METAL PANEL
JBE	JOIST BEARING ELEVATION
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MANUF	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
PBE	PRECAST BEARING ELEVATION
REINF	REINFORCEMENT
REQD	REQUIRED
SCH	SCHEDULE
SF	STEP FOOTING
SFR	SYNTHETIC FIBER REINF
SJ	SAWCUT JOINT
STD	STANDARD
STRUC	STRUCTURAL
TBE	TOP OF BEAM ELEVATION
TCE	TOP OF CONCRETE ELEVATION
TFE	TOP OF FOOTING ELEVATION
TLE	TOP OF LEDGE ELEVATION
TPE	TOP OF PIER ELEVATION
TSE	TOP OF STEEL ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WP	WORKING POINT
WWF	WELDED WIRE FABRIC



EXTERIOR FOUNDATION



INTERIOR FOUNDATION

NOTES:

1. SEE GEOTECHNICAL REPORT FOR DESCRIPTION OF SUBGRADE CONDITIONS, EXTENTS OF EXCAVATIONS, SITE PREPARATION, ETC.
2. VAPOR BARRIER SHALL BE PLACED WHERE INDICATED ON ARCHITECTURAL PLANS. VAPOR BARRIER SHALL BE LOCATED ON TOP OF SLAB BASE MATERIAL.
3. CONTRACTOR SHALL OBTAIN A GEOTECHNICAL ENGINEER TO INSPECT SUB-GRADE AFTER EXCAVATION TO VERIFY SOIL BEARING PRESSURES. AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER, REMOVE UNSATISFACTORY SOILS TO AN ELEVATION WHERE SATISFACTORY SOIL IS ENCOUNTERED. REPLACE UNSATISFACTORY SOIL W/ EITHER COMPACTED STRUCTURAL FILL OR CONCRETE SLURRY - SEE GEOTECHNICAL REPORT.

SUBGRADE PREPARATION

PRELIMINARY NOT FOR CONSTRUCTION

McMAHON
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NO.	DATE	REVISION

A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

STRUCTURAL SCHEDULES

DESIGNED	DRAWN
DJB	GYV

PROJECT NO.
H0006 06-24-00138

DATE
SEPTEMBER, 2024

SHEET NO.
S002

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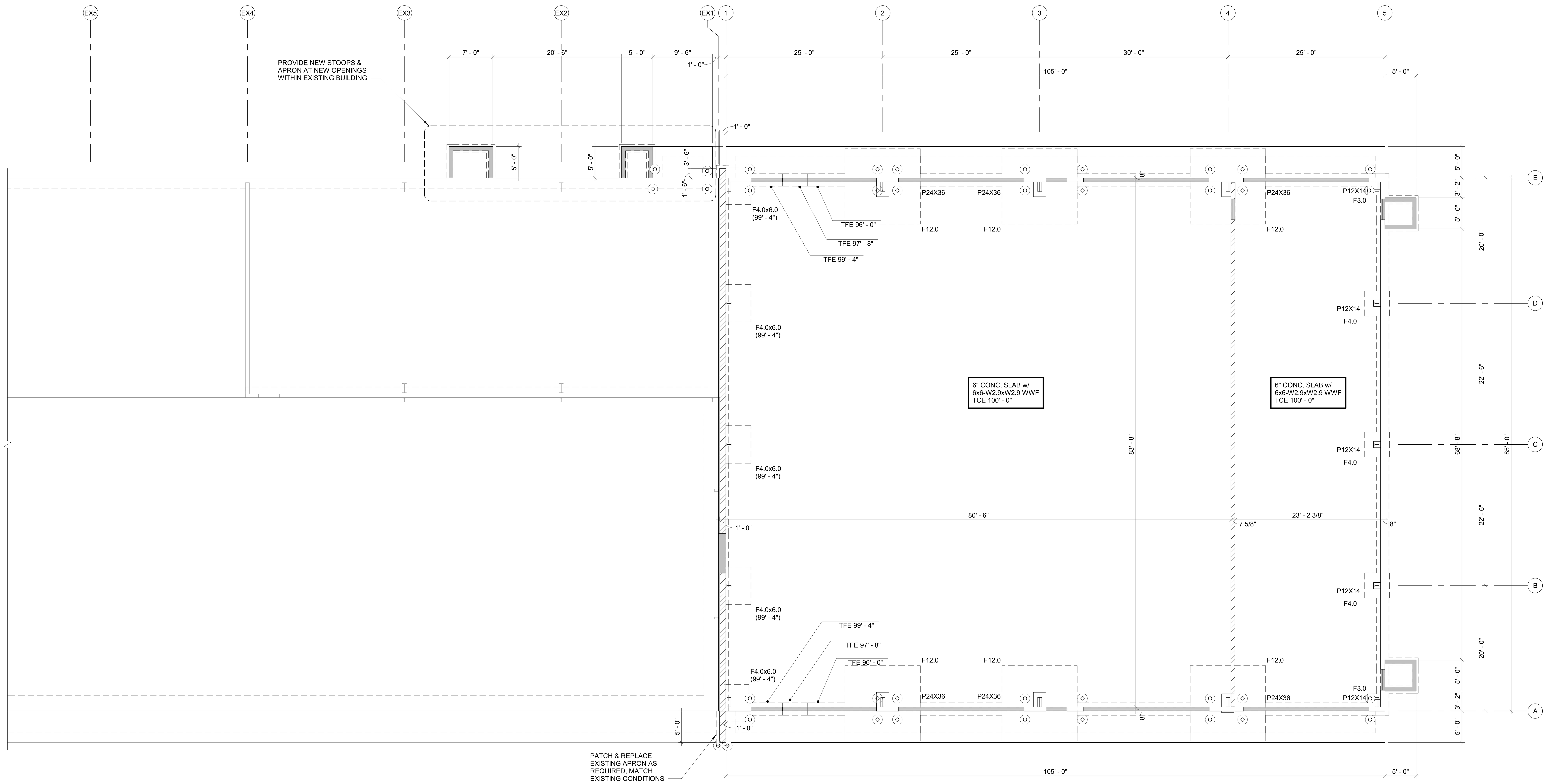

FOUNDATION PLAN

1/8" = 1'-0"

NORTH

FOUNDATION NOTES

1. WFX.X TFE XX'-X" — INDICATES WALL FOOTING MARK AND TOP OF WALL FOOTING ELEV TFE 96'-0" (UNO)
2. TWE XX'-X" — INDICATES TOP OF FOUNDATION WALL ELEV TWE 100'-0" (UNO)
3. PXX (XX'-X") — INDICATES PIER MARK AND TOP OF PIER ELEV TPE 99'-4" (UNO)
4. FX.X (XX'-X") — INDICATES COLUMN FOOTING MARK AND TOP OF COLUMN FOOTING ELEV TFE 96'-0" (UNO)
5. TLE XX'-X" — INDICATES TOP OF BRICK LEDGE ELEV TLE 99'-4" (UNO)
6. SEE SHEET S002 FOR SCHEDULED INFORMATION
7. SLAB CONSTRUCTION JOINT MAX. SPACING
   - 4" SLAB - 10'-0"
   - 5" SLAB - 12'-0"
   - 6" SLAB - 15'-0"
   - 8" SLAB - 20'-0"
8. STANDARD FOUNDATION DETAILS - SHEET S401.
9. SEE ARCH PLANS FOR LOCATION OF NON-BEARING WALLS
10. COORDINATE ALL FLOOR DRAINGS AND PITCHED SLABS WITH ARCHITECTURAL AND PLUMBING DRAWINGS
11. AN ELECTRICAL GROUNDING PLAN AND SYSTEM SHALL BE DESIGNED AND DEVELOPED BY A LICENSED PROFESSIONAL ENGINEER FOR THE STEEL STRUCTURE

PEMB FOUNDATION NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH METAL BUILDING ANCHOR BOLT PLAN. NOTIFY ENGINEER OF ANY DIMENSIONAL DISCREPANCIES.
2. CONTRACTOR TO VERIFY ALL TOP OF PIER DETAILS WITH METAL BUILDING ANCHOR BOLT DETAILS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. ALL CONSTRUCTION COSTS ASSOCIATED WITH REWORK OR CORRECTIVE MEASURES AS A RESULT OF IMPROPER SIZE, LOCATION, OR ELEVATIONS OF COLUMNS, FOOTINGS, PIERS, AND ANCHOR BOLTS SHALL EXPLICITLY REMAIN THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT BE THE RESPOSIBILITY OF THE ENGINEER OR ARCHITECT.

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

FOUNDATION PLAN

DESIGNED	DRAWN
DJB	GYV

PROJECT NO.
H0006 06-24-00138

DATE
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S201

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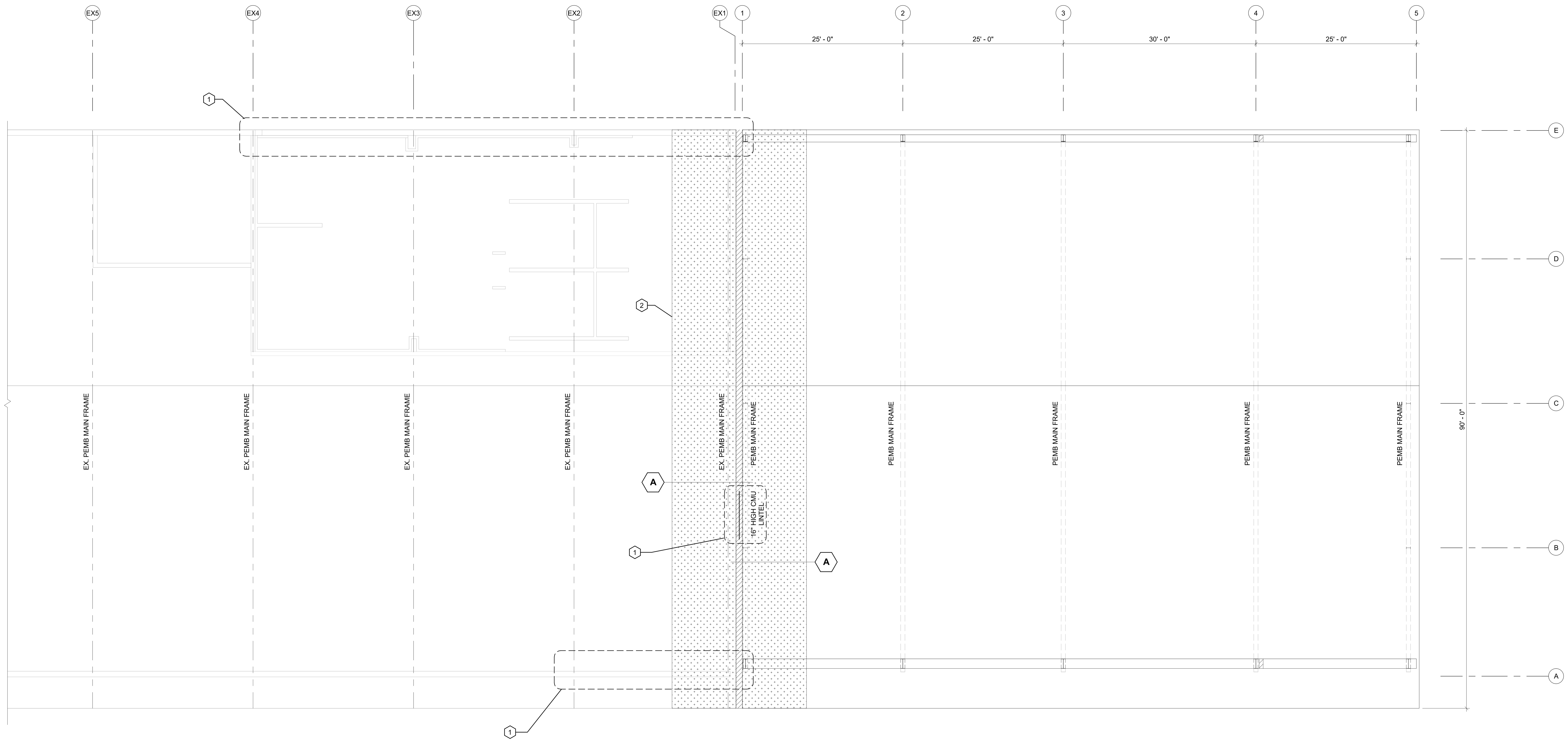


FRAMING PLAN

1/8" = 1'-0"

NORTH

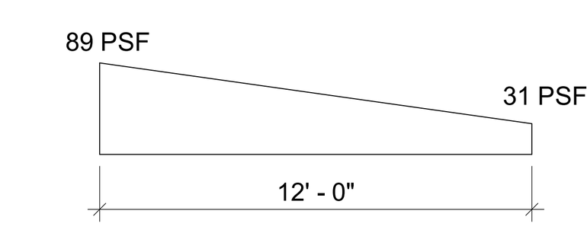
PEMB FRAMING NOTES:

1. PEMB ROOF FRAMING SHALL INCLUDE 3 PSF COLLATERAL.
2. SEE MECHANICAL PLANS FOR WEIGHTS & LOCATIONS OF EQUIPMENT, DUCTWORK, FANS, ETC. SUSPENDED FROM ROOF STRUCTURE.
3. SEE MECHANICAL & ARCHITECTURAL PLANS FOR WEIGHTS & LOCATIONS OF ROOF PENETRATIONS.
4. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF INTERIOR NON-STRUCTURAL WALLS.
5. PEMB MAINFRAME COLUMNS MAY UTILIZE TYPICAL TAPERED COLUMNS AS DICTATED BY PEMB ENGINEERING DESIGN.
6. CMU WALL VERTICAL REINFORCEMENT - #5 @ 48"o.c.
7. MAXIMUM PARAPET HEIGHT ABOVE ROOF SHALL BE 3'-0"

KEYNOTES

KEY NUMBER	KEYNOTE DISCRIPTION
1	AT NEW WALL OPENINGS WITHIN EXISTING BUILDING WALL, PROVIDE GIRT & JAMB FRAMING TO MATCH EXISTING CONDITIONS.
2	PROVIDE ROOF PURLINS AT HALF SPACING OF EXISTING PURLINS, MATCHING EXISTING PURLIN SIZE. CONNECT TO MAIN ROOF FRAMING SIMILAR TO EXISTING CONDITIONS.

SNOW DRIFT PROFILES



SNOW DRIFT PROFILE A

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A NEW ADDITION & RENOVATION FOR:
VILLAGE OF HARRISON MENASHA, WI

ROOF FRAMING PLAN

DESIGNED	DRAWN
DJB	GYV

PROJECT NO.
H0006 06-24-00138

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S202

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