



Project Manual for

OCQUEOC MULTI-PURPOSE BUILDING RENOVATION

Ocqueoc Outdoor Center
County of Presque Isle
Ocqueoc, Michigan

Richard Neumann Architect
28 November 2018

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ADVERTISEMENT FOR BIDS

PROJECT:

Ocqueoc Multi-Purpose Building Renovation

OWNER:

County of Presque Isle

DESCRIPTION:

The Project consists of renovation of the Multi-purpose Building, and related work, at the historic Ocqueoc Outdoor Center, Ocqueoc, Michigan. The work includes excavation, concrete, rough and finish carpentry repair and replacement, door and window restoration, roofing replacement, exterior and interior painting, plumbing, electrical, and site work.

The Project consists of renovation of the old CCC garage, including new barrier free access, deteriorated rough framing replacement, roofing replacement, carpentry repair, and painting.

The Work shall conform to the The Secretary of the Interior's Standards for the Treatment of Historic Properties, guided by the Standards for Restoration, based on the old garage's period of significance of circa 1920's.

BID DUE DATE:

Bids will be received until **9:00 am, Tuesday, January 22, 2019.**

PROPOSAL:

The Owner will receive fixed price bids in the form of sealed proposals, for work set forth in the contract documents, at the office of the County Clerk, Presque Isle County, Rogers City, Michigan 49779. Bid shall be in an envelope marked "Ocqueoc Garage Renovation". Mailed or courier delivered bids, and emailed delivered bids, may be submitted if received before bid due time. Proposals received after time of opening will be returned unopened. Bids will be opened publicly, and bidders may attend to learn the results.

CONTRACT DOCUMENTS:

Contract documents for bidding may be obtained from the office of the Architect, or any of the following:

Builders Exchange of Michigan
Construction Association of Michigan
Construction Market Data
Construction News Service of Michigan
Dodge Data and Analytics

RIGHTS RESERVED BY OWNER:

The Owner reserves the right to waive any irregularities, reject any or all bids, or accept any bid when, in the opinion of the Owner, such action will best serve his interest.

BID SECURITY:

Each proposal shall be accompanied by a Bid Guarantee in an amount, equal to five percent (5%) of the proposal amount in the form of a certified check or bid bond payable to the King House Association as a guarantee of good faith that the bidder will enter a contract for the performance of the work.

CONTRACT SECURITY:

The successful bidder will be required to furnish Certificates of Insurance in accordance with the specifications. No Performance Bond, or Labor and Material Bond, will be required.

CONTACT:

Questions regarding this project may be directed to Rick Neumann, Richard Neumann Architect, 610 Grand Avenue, Petoskey, MI 49770, 231/347-0931, <r.neumann.arch@sbcglobal.net>

END OF ADVERTISEMENT FOR BIDS

INSTRUCTIONS TO BIDDERS

PROJECT FUNDING:

The Project is partially funded with a Michigan Department of Natural Resources Recreation Grant, and relevant State and Federal Requirements apply.

NON-DISCRIMINATION CLAUSE:

The Project shall comply with all requirements of the 1976 PA 453 Elliott-Larsen Civil Rights Act, and the 1976 PA 220 Persons with Disabilities Civil Rights Act, both as amended.

COMPLIANCE WITH LAWS:

Compliance with all applicable federal, state, and local laws, rules, and regulations is required of all bidders.

AIA DOCUMENT A701 - 1997:

American Institute of Architects document A701 - 1997 "Instructions To Bidders" is hereby made a part of these instructions the same as if bound herein, and shall be supplemented by the following requirements.

BID SECURITY:

As a guarantee of good faith, the proposal shall be accompanied by a certified check, bank draft, or bid bond payable to the King House Association in an amount equal to five percent (5%) of the total amount of the proposal.

If any Bidder withdraws his bid within 30 days after the bid opening, or if a successful Bidder fails to execute a contract and/or furnish satisfactory bonds and insurance (if required) within 15 days after notice of award, such bid security shall be forfeited to the Owner as liquidated damages.

The bid security of the next two lowest Bidders shall be retained until the bonds and insurance of the successful Bidder have been approved and a contract executed. The bid security of all other Bidders shall be returned within 10 days after the bid opening.

PERFORMANCE BOND & PAYMENT BOND:

The successful Bidder will not be required to furnish a Performance Bond, or a Labor and Material Bond.

PRE-BID CONFERENCE:

All bidders shall attend the Pre-Bid Conference and walk-through scheduled to take place Wednesday, January 9, 2019 at 10:00 am at the site, Ocqueoc Outdoor Center, for inspection of the existing facility and project site.

PROJECT SCHEDULE:

The Project timeframe shall be the following schedule.

Out for Bids	Monday, January 7, 2019
Pre-Bid Conference	Wednesday, January 9
Bid Due Date	Tuesday, January 22, 9:00 am
County Board Bid Tab Review	Friday, January 25
State DNR Review	Week of January 28
Bid Award	Pending State DNR Review
Project Completion	Mid-September

END OF INSTRUCTIONS TO BIDDERS

PROPOSAL

PROJECT:

Ocqueoc Multi-Purpose Building Renovation

OWNER:

County of Presque Isle
151 E. Huron Avenue
Rogers City, MI 49779

BIDDER NAME, ADDRESS, & TELEPHONE:

PROPOSAL:

The undersigned, having familiarized himself with all conditions likely to be encountered affecting the cost of the work and having carefully examined the contract documents including Instruction to Bidders, General Conditions, Supplementary General Conditions, Scope of Work and Specifications, and all addenda issued, does hereby propose to furnish all the labor, materials, tools, equipment, and services necessary to perform and complete in a workmanlike manner the work of all trades required in connection with the project as set forth in the Contract Documents and Specifications dated 9-21-2018.

For consideration of the above requirements, the undersigned agrees to accept in payment the sum of (in case of discrepancy the amount shown in words shall govern):

BASE BID:

(use figures) _____
(use words) _____

ALTERNATES:

The undersigned quotes the following alternates (state add or subtract from the base bid):

Alternate No. 1 - Roofing

Substitute SBS Modified Bituminous Roofing in lieu of Asphalt Shingle Roofing

Alternate No. 2 - Concrete Floor

Add concrete topping / leveling compound at sloped area of concrete floor

VOLUNTARY DEDUCT ALTERNATES:

The undersigned quotes the following voluntary deduct alternates to the Proposal stated above:

IN-KIND CONTRIBUTIONS:

The undersigned offers in-kind contributions of the following items and their associated values:

TIME OF COMPLETION:

The undersigned agrees to complete all aspects of the work provided for under the Base Bid proposal within a period not to exceed _____ calendar days from the date of the contract.

ADDENDA:

Receipt of the following addenda to the contract documents received during the bidding period is hereby acknowledged.

Addendum Number _____ Dated _____
Addendum Number _____ Dated _____

CERTIFICATION:

The undersigned agrees to execute a contract for the described work in the form of American Institute of Architects document A101 - 1997 "Standard Form of Agreement Between Owner and Contractor", provided that he be notified of Proposal acceptance within 30 days of the bid due date.

I hereby certify that all statements are made on behalf of:

(Name of corporation, partnership, or sole proprietorship submitting the bid)

Signature _____ Date _____
Printed _____
Title _____
Address _____

Telephone _____
Email _____

END OF PROPOSAL

GENERAL CONDITIONS**AIA DOCUMENT A201 - 1997 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION":**

AIA Document A201 is hereby made a part of these specifications the same as if bound herein, and shall be supplemented by the following section of the specifications.

SUPPLEMENTARY GENERAL CONDITIONS

MODIFIED OR SUPPLEMENTED GENERAL CONDITIONS detailed hereafter change and/or modify certain articles of AIA Document A201. Where any article is altered in part, the unaltered provisions of that article shall remain in full force and effect.

ARTICLE 11 - INSURANCE & BONDS:**11.1 CONTRACTOR'S LIABILITY INSURANCE - Add the following subparagraphs:**

11.1.4 During the term of the contract, the Trade Contractor and each Subcontractor shall at their own expense, purchase and maintain the following insurance in companies properly licensed to do business in the state of Michigan, and satisfactory to the Owner, as provided in the General Conditions. The liability insurance required shall be written to include the Owner and the Architect as additional insured.

11.1.5 Workers' Compensation, including Occupational Disease and Employer's Liability Insurance:

- .1 Statutory - Amounts and coverage as required by the State of Michigan, including provisions for voluntary benefits as required in labor union agreements and including the "All States" endorsement.
- .2 Employer's Liability - At least \$ 500,000. each occurrence.

11.1.6 Comprehensive General Liability Insurance including coverage for Premises Operations, Independent Contractors, Products and Completed Operations, Contractual Liability and Broad Form Property Damage including Completed Operations, with limits not less than those stated below:

- .1 Bodily Injury including Personal Injury Liability.
\$ 2,000,000. Each Occurrence
\$ 2,000,000. Aggregate
- .2 Property Damage including Completed Operations Broad Form.
\$ 2,000,000. Each Occurrence
\$ 2,000,000. Aggregate
- .3 Contractual Liability (Hold Harmless)
\$ 2,000,000. Each Occurrence - Bodily Injury
\$ 2,000,000. Each Occurrence - Property Damage
\$ 2,000,000. Aggregate - Property Damage

11.1.7 Comprehensive Automobile Liability Insurance including coverage for owned, long-term leased, non-owned and hired vehicles, with limits not less than those stated below:

- .1 Bodily Injury
 - \$ 1,000,000. Each Person
 - \$ 1,000,000. Each Occurrence
- .2 Property Damage
 - \$ 1,000,000.

11.1.8 Liability Insurance may be arranged by Comprehensive General Liability and Comprehensive Automobile Liability policies for the full limits required, or by a combination of underlying Comprehensive Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.

11.1.9 Excess or Umbrella Liability Insurance over and above primary insurance, with limits not less than those stated below:

- .1 Umbrella Excess Liability
 - \$ 2,000,000.

ARTICLE 13 - MISCELLANEOUS PROVISIONS:

13.1 GOVERNING LAW - add the following subparagraphs:

13.1.2 MIOSHA - The Contractor and Subcontractors shall make themselves aware of and remain in compliance with MIOSA requirements, PA 154, 1975, "Construction Safety Standards".

13.1.3 MICHIGAN RIGHT-TO-KNOW LAW - The Contractor and Subcontractors shall conform to the provisions of the Michigan Right-to-Know Law, PA 80, 1986, for the safe handling of hazardous chemicals through training, communication, and Material Safety Data Sheets.

END OF SUPPLEMENTAL GENERAL CONDITIONS

SECTION 01010 - SUMMARY OF THE WORK

Project Description: The Project consists of Multi-Purpose Building Renovation, and related work, at the historic Ocqueoc Outdoor Center, Ocqueoc, Michigan. The work includes excavation, concrete, rough and finish carpentry repair and replacement, door and window restoration, roofing replacement, exterior and interior painting, plumbing, electrical, and site work.

The work is as described below and in these Specifications.

The Work shall conform to the The Secretary of the Interior's Standards for the Treatment of Historic Properties, guided by the Standards for Restoration, based on the Outdoor Center's period of significance of circa 1920's.

The Site: The project work shall take place at the Ocqueoc Outdoor Center campus. Project work shall be confined to the immediate area in the vicinity of the building.

Contractor Use of the Premises: During the work, the Contractor shall limit his use of the premises to the area involved in the project. The Contractor shall coordinate with the Owner to determine the best site location for storage of materials and equipment.

Work Under Separate Contracts: Separate contracts may be issued by the Owner for certain aspects of the work not included as a part of the scope of work of these contract documents, including re-roofing, fabrication of replacement windows, and acquisition and milling of exterior siding and interior paneling.

Time of Completion: Project work shall be undertaken as soon as practical and completed no later than May 24, 2019.

END OF SECTION 01010

SECTION 01020 - ALLOWANCES

Selected materials and equipment, and in some cases, installation are included in the Contract Documents by allowances. Allowances are established to defer selection until more information is available. Other requirements will be issued by a Change Order.

Types of allowances required include the following:

Lump sum allowances.

Selection and Purchase: At the earliest feasible date after Contract award, advise the Architect of the date when selection and purchase of each product or system described by an allowance must be completed to avoid delay.

Submittals: Submit proposals for purchase of products or systems included in allowances, in the form of Change Orders.

Submit invoices or delivery slips to indicate quantities of materials delivered for use in fulfillment of each allowance.

Inspection: Inspect products covered by an allowance promptly upon delivery for damage or defects, so return and exchange of damaged products does not cause delay.

Preparation: Coordinate materials and installation for each allowance with related materials and installations to ensure that each allowance item is integrated with related construction activities.

Unused Materials: Return unused materials for credit to the Owner, after installation has been completed and accepted.

If it is not feasible to return unused materials, prepare such for Owner's storage, and deliver to the storage space as directed. Otherwise, disposal is the Contractor's responsibility.

SCHEDULE OF ALLOWANCES:

No allowance items are included.

END OF SECTION 01020

SECTION 01030 - ALTERNATES

Definition: An Alternate is an amount proposed by Bidders and stated on the Proposal that will be added or deducted from the Base Bid Amount if the Owner decides to accept a corresponding change in either the scope of work or in products, materials, equipment, systems or installation methods described in the Contract Documents.

Coordination: Coordinate related work and modify or adjust adjacent work as required to ensure that work affected by each accepted alternate is complete and fully integrated into the project.

The Bidder shall refer to all appropriate sections of the specifications and drawings. All materials and workmanship, unless specifically noted otherwise, shall be of the same type and quality as specified for similar work.

The Owner shall have the right to accept or reject any or all of the alternate prices requested herein.

SCHEDULE OF ALTERNATES:**Alternate No. 1 - Roofing**

Substitute SBS Modified Bituminous Membrane Roofing in lieu of Asphalt Shingles. See Section 07520 - Self-adhering SBS Modified Bituminous Membrane Roofing.

Alternate No. 2 - Concrete Floor

Add concrete topping / leveling compound at sloped area of concrete floor to bring level with surrounding interior floor elevation. See Section 03300 - Cast-In-Place Concrete.

The Bidder may submit voluntary substitutions or alternates to the specified scope of work, and the corresponding alternate prices for such substitutions, in order to realize significant cost savings to the Owner without substantially changing the project.

END OF SECTION 01030

SECTION 01300 - SUBMITTALS**PROGRESS SCHEDULE:**

Within 15 days of the date established for "Commencement of the Work", submit a progress schedule indicating each significant category of work to be performed.

SCHEDULE OF VALUES:

Prior to first payment request, prepare a schedule of values to show the breakdown of the Contract Sum into each significant category of work. Revise each time the schedule is affected by a change order.

SHOP DRAWINGS, PRODUCT DATA, & SAMPLES:

Submit shop drawings, product data, and samples for review and approval by the Owner for each category of work where requested in the specifications. Do not proceed with fabrication or installation of items until approval has been received.

SUBSTITUTIONS:

Construction methods and/or materials may be offered as substitutions. Such proposed substitutions shall be accompanied by full descriptive and technical data, plus the difference in price, if any, and be submitted to the Owner in ample time for review and approval so as not to delay the progress of the work.

END OF SECTION 01300

SECTION 01500 - TEMPORARY FACILITIES

Summary: This Section specifies temporary facilities, including construction and support, and security and protection. Provide facilities ready for use. Maintain and modify as needed. Remove when no longer needed, or replaced by permanent facilities.

Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis for claims for a change order.

Regulations: Comply with applicable laws and regulations.

Conditions of Use: Keep facilities clean and neat. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

Materials and Equipment: Provide new materials and equipment, or undamaged previously used materials and equipment in serviceable condition, suitable for the use intended.

Temporary Construction and Support Facilities Installation:

Temporary Scaffolding and Jacks: Provide such facilities as necessary for completion of the project. Take care to protect existing site and building during set-up, use, and dismantling. Repair any damage caused by use of such facilities.

Temporary Security and Protection Facilities Installation:

Barricades and Warning Signs: Comply with standards and code requirements for erection of barricades. Provide appropriate warning signs to inform personnel and the public of the hazard being protected against.

Environmental Protection: Operate temporary facilities and conduct construction by methods that comply with environmental regulations, and minimize the possibility that air, water, plants, and soil might be contaminated or polluted.

Termination and Removal: Remove each temporary facility when the need has ended, or replaced by a permanent facility. Repair damaged work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

END OF SECTION 01500

SECTION 01700 - PROJECT CLOSEOUT

Substantial Completion: Before requesting inspection for certification of Substantial Completion, complete the following:

Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property surety, and similar record information.

Remove temporary facilities from the site, along with construction tools, mockups, and similar elements.

Complete final cleaning. Touch-up, repair, and restore marred exposed finishes.

Inspection Procedures: On receipt of a request for inspection, the Owner will advise the Contractor of unfulfilled requirements, and of construction that must be completed or corrected before the certificate will be issued.

The Owner will repeat the inspection when requested and assured that the Work has been substantially completed.

Results of the completed inspection will form the basis of requirements for final acceptance.

Final Acceptance: Before requesting inspection for certification of final acceptance and final payment, complete the following:

Submit final payment request with releases.

Submit a copy of the final inspection list stating that each item has been completed or otherwise resolved for acceptance.

Submit consent of surety to final payment.

Submit evidence of continuing insurance coverage complying with insurance requirements.

The Owner will prepare the Certificate of Substantial Completion.

Record Drawings: The Contractor shall provide record drawings and sketches of as-built conditions that are covered by subsequent and/or finished construction, giving particular attention to concealed elements that would be difficult to see, measure, and record at a later date. Sketches should include notes to document details of construction.

Final Cleaning: Employ experienced workers for final cleaning. Clean each surface to the condition expected in a commercial building cleaning and maintenance program. Complete the following before requesting inspection for certification of Substantial Completion:

Clean exposed hard surfaced finishes to a dust-free condition, free of stains, films, and foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean.

Clean the site of rubbish, litter and other foreign substances. Remove stains, spills and other foreign deposits.

Removal of Protection: Remove temporary protection facilities.

Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Remove waste materials from the site and dispose of in a lawful manner.

END OF SECTION 01700

SECTION 01800 - HISTORIC TREATMENT PROCEDURES

Summary: The work of this Section includes:

Historic fabric removal, dismantling, salvaging, replicating, replacement, and restoration. The work shall be guided by and conform to The Secretary of the Interior's Standards for the Treatment of Historic Properties, and in particular, the Restoration treatment option.

Definitions:

Existing to Remain: Existing items that are not to be removed or dismantled.

Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by the Architect.

Reconstruct: To remove existing item, replicate damaged or missing components, and reinstall in original position.

Reinstall: To protect removed or dismantled item repair and clean it as indicated for reuse, and reinstall it in original position, or where indicated.

Remove: To detach an item from existing construction to the limits indicated, using hand tools and hand-operated power equipment, and legally dispose of it off site, unless indicated to be salvaged or reinstalled.

Repair: To correct damage and defects, retaining existing materials, features, and finishes while employing as little new material as possible. Includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

Replicate: To reproduce in exact detail, materials, and finish, unless otherwise indicated.

Reproduce: To fabricate a new item, accurate in detail to the original, and in either the same or a similar material as the original, unless otherwise indicated.

Restore: To consolidate, replicate, reproduce, repair, and refinish as required to achieve the indicated results.

Retain: To keep existing items that are not to be removed or dismantled.

Reversible: New construction work, treatments, or procedures that can be removed or undone in the future without damaging historic materials, unless otherwise indicated.

Salvage: To protect removed or dismantled items and deliver them to Owner.

Stabilize: to provide structural reinforcement of unsafe or deteriorated items while maintaining the essential form as it exists at present.

Submittals:

Preconstruction Documentation: Take photographs to show preexisting conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by imminent construction operations.

Quality Assurance:

Field Supervisor Qualifications: Employ supervisor experienced in historic treatment work similar in nature, material, design and extend to that indicated for this Project.

Preconstruction Conference: Conduct a conference with key personnel, Owner, and Architect to discuss precautions, schedule, work sequencing, and tolerances for undertaking the required scope of work.

STORAGE & PROTECTION OF HISTORIC MATERIALS

Historic Materials for Reinstallation:

Identify each item with a tag or nonpermanent mark to document its original location.

Protect items during any required transport and hold in secure location until required for reinstallation.

Clean only loose debris from salvaged historic items, unless more extensive cleaning is indicated.

Reinstall items in locations indicated.

Existing Historic Materials to Remain:

Protect construction indicated to remain, against damage from construction work.

Notify Architect of discrepancies between existing conditions and contract scope of work before proceeding with historic materials treatment.

EXECUTION

HISTORIC TREATMENT

Retain as much existing materials as possible; repair and consolidate rather than replace.

Use additional material or structure to reinforce, strengthen, tie, and support existing materials.

Use reversible procedures wherever possible.

Use historically accurate repair and replacement materials and techniques unless otherwise indicated.

Where work requires existing features to be removed or dismantled and reinstalled, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.

Notify the Architect of visible changes to the integrity of material or components whether due to treatment procedures, or other causes. Do not proceed with work in question until directed by the Architect.

HISTORIC REMOVAL & DISMANTLING

Provide supports or reinforcement for existing construction that becomes temporarily weakened by the work, until new work is completed.

Perform cutting by hand or with small power tools whenever possible. Cut holes and slots neatly to size required, with minimum disturbance of adjacent material. Do not use pry bars.

Unfasten items to be removed in the opposite order from which they were originally installed.

Remove anchorages associated with removed items, unless needed for reinstallation.

END OF SECTION 01800

SECTION 02040 - SELECTIVE DEMOLITION**GENERAL**

Summary: Work of this Section includes the selective removal and disposal, off-site, of the following:

Portions of building structure indicated on drawings, and as required to accommodate new construction, such as existing roofing and deteriorated roof sheathing and framing.

Concrete stoop.

Electrical fixtures, boxes, distribution runs, and accessories.

Related work, specified elsewhere:

Any necessary patching is included in the respective sections of specifications.

Relocation of services, pipes, lines, and other mechanical and electrical work is specified in other Divisions.

Condition of Structure: Owner assumes no responsibility for actual condition of items to be demolished.

Protections: Ensure safe passage of persons around area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, and other facilities and injury to persons.

Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.

Utility Services: Maintain existing utilities, or provide temporary utility services, and protect them against damage during demolition operations.

EXECUTION

Inspection: Prior to selective demolition, inspect areas in which work will be performed. Photograph as a record, existing conditions of surfaces, equipment, or materials that could be misconstrued later as damage resulting from selective demolition work.

Preparation: Provide shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain.

Demolition: Perform selective demolition work in a systematic manner.

Demolish masonry and concrete in small sections. Cut masonry and concrete at junctures with construction to remain, using power-driven masonry saws or hand tools; do not use power-driven impact tools.

If unanticipated mechanical, electrical, or structural elements are encountered, investigate and determine extent of any conflict. Report to Architect; rearrange selective demolition schedule to continue job progress without delay.

Salvage Items: Except for items indicated to be retained as Owner's property, other removed and salvaged materials and items not indicated for reuse by Owner shall become Contractor's property, removed from the site, with further disposition at Contractor's option.

Salvaged items indicated to be retained by Owner shall be transported from the site as they are removed, and delivered to a location indicated by Owner.

Other salvaged items must be transported from the site as they are removed. Storage or sale of removed items will not be permitted on site.

Disposal of Demolished Materials: Remove debris, rubbish, and other materials resulting from demolition operations from the site, and legally dispose of off site.

If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

Cleanup: Upon completion of selective demolition work, remove tools, equipment, and demolished materials from the site. Remove protections and clean building of water, dirt and debris caused by demolition operations.

Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02040

SECTION 03300 - CAST-IN-PLACE-CONCRETE**GENERAL**

Summary: Work of this Section includes concrete foundation with stoop, slab on grade, and self-leveling floor compound.

Submittals:

Design Mix: Submit for each concrete mix.

Quality Assurance:

Codes and Standards: Except as otherwise indicated, comply with applicable provisions of ACI 301 "Specifications for Structural Concrete"; ACI 318 "Building Code Requirements for Reinforced Concrete"; ACI 347 "Recommended Practice for Concrete Formwork"; and ACI 306 "Recommended Practice for Cold Weather Concreting".

Mix Proportions and Design: Comply with mix design procedures specified in ACI 301.

Mix designs may be adjusted when material characteristics, job conditions, weather, test results, or other circumstances warrant, if acceptable to Architect.

Use air-entraining admixture in all concrete, providing not less than 4 percent nor more than 6 percent entrained air for concrete exposed to freezing and thawing, and from 2 percent to 4 percent for other concrete.

Concrete shall achieve a 28 day compressive strength as follows:

Footings: $f'c = 3,000$ psi.

Foundation Walls and Slabs on Grade: $f'c = 4,000$ psi.

MATERIALS

Portland Cement: ASTM C 150, Type I.

Aggregates: ASTM C 33, Class 4S coarse or better, graded, 1-1/2 inches nominal maximum.

Water: ASTM C 94 and drinkable.

Air-Entraining Admixture: ASTM C 260.

Water-Reducing Admixture: ASTM C 494; type as required to suit project conditions. Only use admixtures which have been tested and accepted in mix designs.

Reinforcing Materials:

Deformed Reinforcing Bars: ASTM A 615, Grade 60.

Welded Wire Fabric: ASTM A 185.

Form Materials:

Provide form materials with sufficient strength and stability to withstand pressure of placed concrete without bow or deflection.

Self-Leveling Floor Compound: Self-leveling compound able to be used as a finish floor, where indicated on drawings, including floor primer if required by manufacturer.

Concrete Mixing: Ready-mixed concrete according to ASTM C 94 / C94M.

EXECUTION

Formwork: Construct so that concrete members and structures are of correct size, shape, alignment, elevation, and position.

Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.

Clean and adjust forms prior to concrete placement. Apply form release agents or wet forms, as required. Retighten forms during concrete placement if required to eliminate leaks.

Reinforcement: 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 concrete surfaces.

Install welded wire fabric in as long lengths as practicable, lapping at least one mesh.

Joints: Provide construction, isolation, and control joints as indicated or required. Locate construction joints so as to not impair strength and appearance of structure. Place control joints in slabs-on-grade to stabilize differential settlement, shrinkage, and random cracking.

Installation of Embedded Items: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting diagrams, templates and instructions provided by others for locating and setting.

Concrete Placement: Comply with ACI, placing concrete in a continuous operation in one layer within planned joints or sections. Do not begin placement until work of other trades affecting concrete is complete. If a section cannot be placed continuously, provide construction joints.

Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into forms.

Screed slab surfaces with a straightedge and strike off to correct elevations. Slope surface uniformly to drains where required. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleed-water appears on surface. Do not further disturb slab surfaces before starting finishing operations.

Finishes:

Exposed to View Surfaces: Provide a smooth trowel finish for exposed concrete surfaces and surfaces to be covered with a coating. Remove fins and projections, patch defective areas with cement grout, and rub smooth.

Slab Surfaces: Apply trowel finish to monolithic slab surfaces that are exposed to view or are to be covered with resilient flooring, quarry or ceramic tile. Consolidate concrete surfaces by finish troweling, free of trowel marks, uniform in texture and appearance.

Match adjacent existing slab finishes.

Curing: Cure concrete according to ACI 308, by one or a combination of the following methods. Begin initial curing as soon as free water has disappeared from exposed surfaces. Keep surfaces continuously moist for not less than seven days, or by use of a moisture-retaining cover or membrane-forming curing compound.

Repair and patch defective areas. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections, stains and other discolorations. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

Protect concrete from physical damage to exposed surfaces or reduced strength due to weather extremes during mixing, placement, and curing.

In cold weather comply with ACI 306.

In hot weather comply with ACI 305.

Self-Leveling Floor Compound: Prepare existing concrete floor and execute installation of self-leveling floor compound according to compound manufacturer's written instructions.

Clean up site by removing concrete droppings resulting from placement and form removal operations.

END OF SECTION 03300

SECTION 04500 - MASONRY RESTORATION

GENERAL

Summary: The work of this Section consists of restoring historic brick masonry of the chimney, including:

Replacing deteriorated, broken, cracked, and spalled brick;
Pointing deteriorated mortar joints;

QUALITY ASSURANCE

Comply with appropriate provisions of ACI 530 / 530.1-13, and ASTM C 270.

Qualification: Work shall be performed by a firm with not less than five years successful experience in comparable masonry restoration projects.

All work shall be done by skilled and experienced tradesmen.

All work shall be executed under the continuous supervision and direction of a competent mason.

All mortar mixing shall be done by the same experienced and competent workman for the duration of the job.

Storage and Handling of Materials:

All materials shall be kept dry and protected from weather and contamination. Masonry units shall be stacked on pallets.

Manufacturers' labels and seals shall be intact upon delivery at job site.

Any material that has deteriorated or been contaminated shall not be incorporated into the work.

Job Conditions: Comply with the requirements of "Construction and Protection Recommendations for Cold Weather Masonry Construction", Technical Notes, Brick Institute of America.

All materials shall be kept above 45 degrees F.

No mortar shall be placed when the temperature is 40 degrees F and falling.

Pointing shall not be done at temperatures above 80 degrees F, unless shading and water-misted burlap over new work is provided to control evaporation from mortar.

Newly laid masonry and pointed mortar shall be protected against freezing until it is set and dry.

Newly laid masonry and pointed mortar shall be protected from excessive exposure to rain until the surface is thumb-print hardened.

Safety: Workmen raking out joints shall be protected from the effects of dust during cutting-out operations by wearing adequate protective equipment.

MATERIALS:

Masonry Materials:

Brick: Units shall be existing sound brick salvaged by the Contractor, and new brick of size, shape, color, surface texture, and physical properties to match original brick.

Mortar Materials:

Mortar Objective: The intent of the mortar mix is to replicate the composition of the historic mortar, through the appropriate choice of cement and aggregate / sand. Start project work only upon completion of the mortar samples, and receipt of written approval by the Architect, and of a proposed new mortar mix matching the historic mortar. Approved sample shall be used as the standard reference for acceptance or rejection of all masonry restoration on the job.

Portland Cement: ASTM C 150, Type 1. Use non-staining, no air-entrainment, grey and/or white portland cement as necessary to match original mortar appearance as closely as possible.

Hydrated Lime: ASTM C 207, Type S.

Aggregate: ASTM C 144. Natural sand shall be selected to produce mortar color matching original. Match size, texture, and gradation of existing original mortar. Do not use beach sand.

Water: Clean and potable, free of oils, acids, and organic matter.

Mortar Mix: Mortar mix shall be proportioned as determined by the required approved mortar analysis.

Measure cementitious and aggregate materials in a dry condition by volume or equivalent weight and mix in a clean mechanical mixer.

Mixing: Because prehydration greatly reduces mortar shrinkage and improves workability, prehydrate all mortar. Thoroughly mix all ingredients dry; then mix again,

adding only enough water to produce a damp unworkable mix which will retain its form when pressed into a ball. After keeping mortar in this dampened condition for one, and not more than two hours, add sufficient water to bring it to proper consistency. Too much water reduces strength and increases shrinkage; add water sparingly. To improve workability, increase air entrainment and plasticity. To insure thorough mixing, mortar shall be mixed a total of at least 10 minutes before using. Do not use anti-freeze compounds to lower the freezing point of mortar.

Mortar Use: Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.

INSTALLATION

Masonry Restoration:

Remove loose, damaged, spalled, or deteriorated brick at locations indicated. Clean remaining brick at edges of removal areas by removing mortar, dust, and loose debris.

Reconstruct missing or removed areas with new or salvaged brick to match bonding and coursing pattern of existing masonry.

Tool exposed mortar joints in reconstructed areas to match joints of surrounding existing brickwork.

Complete masonry reconstruction work to match original historic masonry in all respects.

Masonry Pointing: Deteriorated joints are defined as having: loose or missing mortar, exceedingly soft mortar, powdery or crumbling mortar, cracks that weaken the bond between units, or voids.

Rake out mortar from deteriorated joints to depths equal to 2-1/2 times their widths but not less than 1/2", nor less than required to expose sound, unweathered mortar. Leave clean joints with bond surfaces of masonry exposed and reveals with square backs.

Remove all nails, brackets, flashing, and other built-in fittings not to be retained.

Retain sound adjacent mortar joints in their present state.

Take care not to damage masonry units adjacent to joints being cut out.

Cutting out of deteriorated mortar shall be done by hand with hammer and chisel, with a pneumatic chisel, or as otherwise approved by the Architect in writing.

Rinse masonry surfaces with water to remove dust and mortar particles. At time of pointing, provide damp joint surfaces free of standing water. Apply and compact first layer of mortar to areas where existing mortar was removed to depths greater than surrounding areas. After depth of joints are uniform, apply pointing mortar in thin layers, compacting each in turn, after each previous layer becomes thumbprint hard.

Tool joints to match surrounding original joints, after final layer of mortar has set.

Complete masonry pointing work to match original historic masonry in all respects.

Cleaning:

Excess mortar shall be immediately removed from adjacent surfaces.

Clean masonry with bristle brush as work proceeds.

Wash completed sections of wall from top to bottom by hand washing with stiff nylon or bristle brushes and clean water, spray applied at low pressure.

END OF SECTION 04500

SECTION 06100 - ROUGH CARPENTRY**GENERAL**

Summary: Work of this Section includes roof framing and sheathing with dimension lumber to remove and replace existing deteriorated wood.

Submittals: Product data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

PRODUCTS**Wood Products:**

Lumber: DOC PS 20, and provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

Provide dressed lumber, S4S, unless otherwise indicated.

Maximum Moisture Content: 19 percent for 2-inch nominal thickness.

Wood-Preservative-Treated Lumber:

AWPA U1; Use Category UC2 for interior construction not in contact with the ground, using preservative chemicals acceptable to authorities having jurisdiction and containing no arsenic or chromium.

Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

Application: Treat all rough carpentry unless otherwise indicated.

Dimension Lumber Framing:

Load-Bearing Roof Framing: No. 2 grade.

Application: All deteriorated roof rafters and roof truss components.

Species: Mixed southern pine - SPIB; Northern species - NLGA; Eastern softwoods - NeLMA; Western woods - WCLIB or WWPA.

Fasteners:

General: Provide fasteners of type and size that comply with requirements specified for material and by manufacturer.

Where rough carpentry is pressure-preservative-treated provide fasteners of Type 304 stainless steel.

Power-Driven Fasteners: NES NER-272.

EXECUTION

Installation, General: Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.

Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

Inspection of Existing Conditions: Carefully inspect all existing wood roof rafters and site-built wood roof trusses to determine those that need replacement.

Selective Demolition: Remove all deteriorated roof framing components, taking care to support remaining portions of roof framing.

Framing Replacement: Install new roof framing components to reconstruct original roof construction to match original conditions.

Securely attach rough carpentry work to substrate by anchoring and fastening using size that will not split wood, complying with the following:

"Fastening Schedule" table in ICC's International Building Code.

END OF SECTION 06100

SECTION 06200 - FINISH CARPENTRYGENERALRELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

SUMMARY

The work of this Section includes:

- Repair of exterior fiber cement siding.
- Repair of exterior wood fascia and soffits.
- Restoration of wood windows and trim.
- Restoration of wood panel doors and trim.
- Miscellaneous interior paneling, trim, cabinet, shelving, and workbench repairs.

QUALITY ASSURANCE

AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" by AWI.

DELIVERY, STORAGE, AND HANDLING

Schedule delivery of materials to avoid extended on-site storage and to avoid delays in Work.

Store materials under cover and protected from weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary covers.

PRODUCTS

Wood Moisture Content: Comply with requirements of referenced quality standard and manufacturer's recommendations for moisture content of finish carpentry.

Softwood Lumber: Comply with PS 20 and applicable grading rules of respective grading and inspecting agency for species and product indicated.

Exterior and Interior Standing and Running Trim and Paneling:

- Species: Northern White Pine, Eastern Pine, Sugar Pine, or Idaho White Pine.
- Grade: B and Btr Select.

Installation Materials:

Furring, Blocking, Shims, and Hanging Strips: Softwood lumber kiln-dried to less than 15 percent moisture content.

Accessory Materials:

Fasteners and Anchorages: Provide nails, screws, and other anchoring devices of type, size, material, and finish suitable for intended use and required to provide secure attachment, concealed where possible. Hot-dip galvanize fasteners, unless otherwise noted, for work exposed to exterior and high humidity to comply with ASTM A 153.

EXECUTION

Examination: Examine support framing in areas to receive finish carpentry for compliance with installation tolerances and other conditions affecting performance.

FABRICATION

Wood Moisture Content: 9 to 15 percent.

Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to 1/16 inch radius. Complete fabrication as far as possible before priming, if woodwork is to be painted.

Wood Windows: Restore all existing windows as follows.

Remove existing window sashes from openings so as to repair on a workbench.
Remove all glass, salvaging unbroken existing panes.
Remove all old glazing compound and glazing points, and clean glazing rabbet.
Cut out or repair all deteriorated individual sash components or areas of punky wood, and splice in new wood with matching profiles.
Use epoxy wood filler to glue filler pieces and fill cut-out areas.
Paint all surfaces of glazing rabbet with linseed oil, wiping any unabsorbed off before glazing.
Reglaze windows using as many salvaged panes as possible. Supplement as required with new double-strength glass panes. Prime back surfaces of rabbets with thin layer of glazing compound to bed glass in. Hold in place with glazing points set to be completely covered with glazing compound. Provide smooth, blemish-free glazing beads.

Wood Doors: Restore existing passage door and hinged garage doors as follows.

Remove window sashes from doors and restore as described above.
Remove doors from openings to facilitate repair work.
Replace deteriorated individual door components to restore doors to good condition.
Replace all bottom rail pieces.
Cut out and replace deteriorated diagonal paneling, alternating lengths of adjacent pieces as necessary to offset joints from each other.
Repair, clean, and lubricate existing hinges and reinstall.
Re-hang doors in original openings.
Re-install restored windows in their respective openings.

Cabinets, Shelving, and Work Benches: Refurbish existing built-in cabinets, shelving, and work benches so as to result in useable features adequately supported, having unbinding doors and drawers, and without broken components or undue defects. The intent is make these features functional, not to restore to pristine condition.

INSTALLATION

Proceed with installation only after unsatisfactory conditions have been corrected.

Condition wood materials to average prevailing humidity conditions in installation areas before installation for a minimum of 24 hours.

Install finish carpentry work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Scribe and cut finish carpentry items to fit adjoining work. Anchor finish carpentry work securely to supports and substrates, using concealed fasteners and blind nailing where possible. Use fine finishing nails for exposed nailing except as indicated, countersunk and filled flush with finished surface.

Reinstall original restored wood windows.

Reinstall original restored wood doors.

CLEANING AND PROTECTION:

Clean woodwork on all exposed surfaces. Provide protection and maintain conditions, in a manner that insures architectural woodwork being without damage at the time of substantial completion.

END OF SECTION 06200

SECTION 07300 - ASPHALT SHINGLE ROOFING

GENERAL

Summary: The work of this Section includes:

Asphalt shingles, self-adhering sheet underlayment, underlayment, metal flashing and drip edges on entire building.

ACTION SUBMITTALS

Product Data: For each type of product.

Warranty: Manufacturer's standard warranty to repair or replace asphalt shingles that fail in materials (such as manufacturing defects), and failure of shingles to self-seal after a reasonable time within specified warranty period.

Materials Warranty Period: 25 years, prorated, with first 3 years non-prorated.

Workmanship Warranty Period: 5 years.

DELIVERY, STORAGE, AND HANDLING

Deliver materials in manufacturer's unopened, labeled bundles, rolls or containers. Store materials to avoid water damage, and store rolled goods on end. Comply with manufacturer's written recommendations for job site storage and protection.

PRODUCTS

MATERIALS

Shingles: "Certainteed" Extra Tough XT 25 three-tab asphalt composition shingles with Lifetime warranty, color as selected by the Architect.

Ridge Shingles: Manufacturer's standard factory pre-cut units to match shingles.

Underlayment Materials:

Self-Adhering Sheet Underlayment: ASTM D 1970, minimum 40 mils thick, slip-resisting polyethylene-film-reinforced, top surface laminated to SBS-modified asphalt adhesive with release paper backing; cold applied such as "Winterguard" or "Ice and Water Shield"

Roofing Underlayment: No. 30 asphalt-saturated organic felt underlayment complying with ASTM D 226, Type 1, unperforated; or, "Inter Wrap" Titanium UDL 30 synthetic roofing underlayment.

Accessories:

Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free, designed for trowel application.

Fasteners: Roofing nails hot-dip galvanized 4d and 5d ring shank (1-1/2 to 1-3/4 inches long) conventional roofing nails.

Nails for use on hips shall be longer to provide same 3/4 inch penetration into substrate.

Metal Flashing and Trim: Fabricate sheet metal flashing and trim to comply with SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, and other characteristics.

Metal Drip Edge: Minimum 0.032 inch thick prefinished aluminum sheet, with high-performance organic finish of two-coat thermocured paint system complying with AAMA 2604. Brake form to provide 3 inch roof deck flange, and 1-1/2 inch fascia flange, with 3/8 inch drip at lower edge. Furnish in 8 or 10 feet lengths. Color as selected by Architect from manufacturer's standard choices.

Metal Flashing: Minimum 0.0276 inch (22 gauge) thick zinc-coated (galvanized) steel sheet, with high-performance organic finish of two-coat thermocured paint system complying with AAMA 2604. Color as selected by Architect from mfr's standard choices.

EXECUTION

Removal: Remove all existing asphalt shingles, underlayment, and metal flashing from the roof. Recycle metal and properly dispose of shingles and underlayment materials.

Examination: Examine substrate for compliance with installation tolerance requirements and other conditions affecting performance of the work. Examine roof sheathing to verify it is sound, completely anchored and supported, smooth, clean, sloped for drainage, and dry. Verify that provision has been made for flashings and penetrations. Correct all unsatisfactory conditions before proceeding.

Installation:

Job Conditions: Proceed with roofing installation only when all penetrating work has been completed and when substrate is dry and weather conditions are favorable.

General: Comply with published recommendations of shingle manufacturer details and recommendations of Steep Roofing section of NRCA Roofing and Waterproofing Manual for installation of underlayment and shingles, using number of fasteners and coursing of shingles in accordance with manufacturer's standards.

Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle-free, at locations indicated, lapped in direction to shed water, with long edges lapped not less than 3-1/2 inches, and ends not less than 6 inches, with end laps staggered 24 inches minimum between courses. Roll laps with roller.

Eave Edge: Install SBS underlayment extending from eave edge of roof 36 inches up beyond exterior walls.

Ridge: Install SBS underlayment minimum 36 inches wide, centered on ridge.

Roofing Underlayment: Install felt underlayment on roof deck not covered by self-adhering sheet underlayment; lap felt over SBS not less than 6 inches in direction to shed water. Install felt perpendicular to roof slope in parallel courses. Lap sides not less than 2 inches; lap ends not less than 4 inches, staggered 6 feet between courses. Fasten with felt underlayment nails.

Metal Flashing Installation: Install metal flashing to comply with ARMA's "Residential Asphalt Roofing Manual" and "The NRCA Roofing and Waterproofing Manual". Anchor flashing firmly in place, with provisions for thermal and structural movement, using fasteners, solder, protective coatings, separators, and sealants as required for a complete flashing and trim system. Install true to line and level. Provide uniform, neat seams with minimum exposure of solder and sealant. Install exposed flashing and trim without oil canning, buckling and tools marks. Anchor drip edge to resist uplift and outward forces. Install sheet metal flashing and trim system to result in watertight performance.

Asphalt Shingle Installation:

General: Comply with published recommendations of shingle manufacturer, and of the Steep Roofing section of "The NRCA Roofing and Waterproofing Manual" for installation, using number of fasteners and coursing in accordance with manufacturer's standards.

Starter Strip: Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with self-sealing strip face set at roof edge.

Shingles: Install asphalt shingles up roof with recommended offset pattern, maintaining uniform exposure. Fasten shingles with roofing nails according to manufacturer's written instructions.

Ridge Cap shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

Final Adjustment: After roofing is complete, inspect entire roof and replace any damaged or irregular shingles.

Clean-up: Remove shingle installation debris from the site.

SECTION 07520 - SELF-ADHERING SBS MODIFIED BITUMINOUS MEMBRANE ROOFINGGENERAL

Summary: The work of this Section includes self-adhering SBS (Styrene-Butadiene-Styrene) modified bituminous membrane roofing in lieu of asphalt shingle roofing, as Alternate No. 1.

ACTION SUBMITTALS

Product Data: For each product indicated, including Material Safety Data Sheets and manufacturer's standard installation instructions.

Samples: For each product included in roofing system, including manufacturer's standard color samples.

Maintenance data.

Contractor Certification, signed by the roofing system manufacturer, confirming the installation contractor is qualified to install the roofing system and is eligible to receive the manufacturer's system warranty.

QUALITY ASSURANCE

Installer Qualifications: A qualified installer, approved by manufacturer to install manufacturer's products.

Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer.

Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction.

Exterior Fire-Test Exposure: Class A, B, C, ASTM E 108, for application and roof slopes indicated.

Warranty: Manufacturer's standard form, without monetary limitation and signed by manufacturer, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within 20 years from date of Substantial Completion. Failure includes roof leaks.

PRODUCTS

Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

SBS MODIFIED MEMBRANE ROOFING

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Self-Adhering SBS-Modified Bituminous Membrane Roofing:

CertainTeed Corporation.
Firestone Building Products Company.
GAF Materials Corporation.
Garland Co., Inc.
IKO Industries.
Johns Manville International, Inc.
Koppers Industries, Inc.
Mule-Hide Products Co.
Siplast, Inc.
TAMKO Roofing Products, Inc.
Tremco, Inc.

Cap Sheet Materials: Roofing membrane cap sheet shall meet ASTM D 6164, Grade G, Type I or II, polyester-reinforced; ASTM D 6163, Grade G, Type I or II, glass-fiber-reinforced; ASTM D 6162, Grade G, Type I or II, composite polyester- and glass-fiber-reinforced; SBS-modified asphalt sheet; granular surfaced, suitable for application method specified, and as follows:

Granular Color: As selected by the Architect.

Base Sheet Materials: Roofing base sheet and inter-ply sheet shall meet ASTM D 4601, Type II, SBS-modified, asphalt-impregnated and coated sheet, with glass-fiber-reinforcing mat, finished with polyolefin film (with lay lines) on the top surface, and split release film on the bottom.

Base Flashing Sheet Materials: Flashing sheet shall meet ASTM D 6164, Grade G, Type I or II, polyester-reinforced; ASTM D 6163, Grade G, Type I or II, glass-fiber-reinforced; ASTM D 6162, Grade G, Type I or II, composite polyester- and glass-fiber-reinforced, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified, and as follows:

Granular Color: As selected by the Architect.

Auxiliary Roofing Membrane Materials: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.

Asphalt Primer: ASTM D 41.

Roofing Asphalt: ASTM D 312, Type as recommended by manufacturer for application.

Cold-Applied Adhesive: Manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.

Asphalt Roofing Cement: ASTM D 4586, asbestos-free, of consistency required by roofing system manufacturer for application.

Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing membrane components to substrate, tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.

Substrate Boards: Plywood, Exterior, Structural I Sheathing, 1/2 inch thick; and factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening substrate panel to roof deck.

EXECUTION

Substrate Board Installation:

Inspect original sheathing and repair any defective conditions which might impair the performance of the new roofing system prior to installation of new substrate board.

Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together. Fasten substrate boards to existing deck according to roofing system manufacturer's written instructions.

Roofing Membrane Installation:

All surfaces to receive new roofing shall be smooth, clean, dry and free of any debris.

Install roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations of ARMA/NRCA's "Quality Control Guide lines for the Application of Polymer Modified Bitumen Roofing."

Coordinate installing roofing system so insulation and other components of the roofing membrane system not meant to be permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

Membrane Installation - General: Start at lowest point of the roof and proceed up the slope to the highest. Lap all sheets shingle-fashion so all sheets shed water. Apply only when weather is dry and material interface temperatures (air, roof deck, membranes) are 45 degrees F and rising. Membranes shall be maintained at a minimum of 60 degrees F, and the use of heat may be required to enhance the bond of the material to the substrate. However, do not torch down the membranes. Follow mfr's recommendations.

Flashing Installation:

Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions.

Extend base flashing up walls or parapets a minimum of 8 inches above roofing membrane and 6 inches onto field of roofing membrane.

Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.

Install roofing membrane cap-sheet, stripping where metal flanges and edgings are set on membrane roofing according to roofing system manufacturer's written instructions.

Final Adjustment: After roofing is complete, inspect entire roof and replace any damaged or irregular areas.

Clean-up: Remove installation debris from the site.

END OF SECTION 07520

SECTION 07900 - JOINT SEALANTS**GENERAL**

Summary: Work of this Section includes sealants for the following applications, including those specified by reference to this Section:

Exterior joints in the following vertical and non-traffic horizontal surfaces.
Joints between different materials.
Other joints as indicated.

Submittals: Product data including certified test reports for joint sealants evidencing compliance with requirements, mfr's color charts and warranties.

PRODUCTS

Compatibility: Provide joint sealants, joint fillers and other related materials that are compatible with one another and with joint substrates under service and application conditions, as demonstrated by testing and field experience.

Colors: Provide color of exposed joint sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated, complying with ASTM C 920 requirements.

One-Part Non-sag Urethane Sealant for Use NT: Type S; Grade NS; Class 25; and Uses NT, M, A, and O.

Sealant Backings, General: Nonstaining, compatible with joint substrates, sealants, primers, and other joint fillers; approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Plastic Foam Joint Fillers: Pre-formed, compressible, resilient, non-waxing, non-extruding strips of plastic foam of material indicated below, and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

Either flexible, open-cell polyurethane foam or non-gassing, closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer.

Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant mfr. for preventing bond between sealant and joint filler or other materials at back of joint.

Primer: As recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

EXECUTION

General: Comply with joint sealant manufacturers' instructions applicable to products and applications indicated.

Elastomeric Sealant Installation Standard: Comply with ASTM C 962.

JOINT SEALER SCHEDULE

JOINT SEALER	DESCRIPTION OF JOINT CONSTRUCTION AND LOCATION WHERE JOINT SEALANT IS TYPICALLY APPLIED
One-Part Urethane Sealant Non-Traffic (NT)	Exterior and interior joints in vertical surfaces of concrete and masonry; between concrete and masonry; between metal and concrete; interior and exterior overhead joints.

Install joint sealants indicated in joints fitting descriptions and locations listed, as well as in locations identified on Drawings.

END OF SECTION 07900

SECTION 08710 - FINISH HARDWARE**GENERAL**

Summary: Work of this Section includes furnishing and installing all items of finish hardware required to provide a complete installation.

Submittals:

Submit final hardware schedule to indicate specifically the product to be furnished for each item required.

Product Data: Include manufacturers' specifications and installation instructions.

Furnish templates to each fabricator of doors and frames, as required for preparation to receive hardware.

Warranties:

Closers shall carry manufacturer's 10-year warranty against manufacturing defects and workmanship.

PRODUCTS

Acceptable Manufacturers / Products: Acceptable manufacturers for various types of products are listed below. Except as otherwise indicated, products of equivalent quality, design, and function by other listed manufacturers may be used, subject to approval of the Architect.

Finish and base material designations are indicated in accordance with ANSI A156.18, or the nearest traditional U.S. commercial finish.

Where not otherwise indicated, provide at least the commercially recognized quality specified in ANSI A156 series standards applicable to each particular type of hardware.

Hinges:

Manufacturers of Butt Hinges: Hager, Lawrence, McKinney, Henry Soss, Stanley.

Provide full-mortise type hinges on each door, except as otherwise indicated, and except as otherwise needed for proper support and operation of doors. Provide stainless steel pins, except steel pins with steel hinges, non-removable for exterior exposure, non-rising for security exposure, flat button with matching plugs.

Ball-bearing Function: Swaged, inner leaf beveled, square corners.

Locks, Latches, and Bolts:

Manufacturers of lock/latch sets, including cylinders: Arrow, Corbin, Falcon, Kwikset, Russwin, Sargent, Schlage, Yale.

Provide wrought box strikes, with extended lip for latch bolts. Provide dust-proof strikes for foot bolts.

Equip lock sets with 6-pin tumbler type lock cylinders, in a master key system, to be designated by the Owner.

Provide 3 change keys for each lock plus 5 master keys for each master key system. Stamp keys "DO NOT DUPLICATE".

Door Control Devices:

Manufacturers of overhead closers: Corbin, Dorma, LCN, Norton, S. Parker, Rixson-Firemark, Russwin, Sargent, Yale.

Manufacturers of holders, stops, bumpers: Baldwin, Brookline, Builders' Brass Works, Cipco, Corbin Door Controls, Glynn-Johnson, Ives, Liberty, S. Parker, Quality, Sargent, Stanley, Triangle Brass.

Finish exposed metal to match hardware, except finish floor plates to match thresholds or similar floor finish.

Size and mount units indicated or, if not indicated, to comply with manufacturer's recommendations for the exposure condition. Reinforce the substrate as recommended.

Silencers: Provide silencers in metal door frames, unless bumper-type weatherstripping is provided; 3 per single-door frame.

Miscellaneous Door Hardware:

Manufacturers of miscellaneous hardware: A-J Manufacturing, Baldwin, Brookline, Builders' Brass Works, Cipco, Ives, Triangle Brass.

Fabricate plates and edge trim units 1/16 inch to 1/2 inch smaller than actual door dimension. Install with self-tapping screws.

Thresholds:

Manufacturers of thresholds: Combo Aluminum Products, K.N. Crowder, A.J. May, National Guard, Pemko, Reese, Zero.

Provide extruded aluminum threshold of type, design, and profile indicated, complete with replaceable insert. Provide non-corrosive fasteners.

INSTALLATION

Hardware Mounting Heights: Use Door and Hardware Institute “Recommended Locations for Builders’ Hardware for Custom Steel Doors and Frames”, except as otherwise indicated.

Install each hardware item to comply with manufacturer’s instructions and recommendations.

Hardware Adjustment: Return to project one month after Owner takes occupancy and adjust hardware to proper operation and function. Instruct Owner’s personnel in proper operation, maintenance, and adjustment.

HARDWARE SCHEDULE

Heading 01:

1 sgl Door 1 - Exterior / Multi-purpose

Each assembly to have:

3 ea Hinges	BB81 4-1/2 x 4-1/2	609	SEL
1 ea Entrance Lock	AL50PD SAT	609	SCH
1 ea Core Only	AL85	609	SCH
1 ea Surface Closer	4011	689	LCN
1 ea Threshold	425 36"	695	NGP

Heading 02:

1 sgl Door 2 - Multi-purpose / Supplies

Each assemble to have:

3 ea Hinges	BB81 4-1/2 x 4-1/2	609	SEL
1 ea Storeroom Lock	AL80PD SAT	609	SCH
1 ea Core Only	AL85	609	SCH

END OF SECTION 08710

SECTION 09900 - PAINTING**GENERAL**

Summary: Work of this Section includes surface preparation and painting of all exterior and interior unfinished wood and metal items and surfaces including:

- Exterior cement siding and wood trim.
- Doors and frames - exterior and interior.
- Windows and frames - exterior and interior.
- Interior wood ceilings and walls.
- Concrete floor.

Submittals: Product data for each paint system indicated, including manufacturer's technical information.

Quality Assurance: Applicator qualifications shall include a firm experienced in applying paints and finishes whose work has resulted in a record of successful performance.

Delivery and Storage: Deliver materials to job site in new, original, and unopened containers bearing manufacturer's name, product name, and label data. Store on elevated platforms in a dry location, and in accordance with manufacturer's instructions.

PRODUCTS

Materials for priming coats, undercoating, and finish coats shall be first line products manufactured by a producer of contractor's choice, subject to compliance with requirements.

Products for prime coats, under coats, and finish coats shall be produced by the same manufacturer.

EXECUTION

Surface Preparation: Perform preparation and cleaning procedures in strict accordance with coating manufacturer's instructions for each substrate condition.

Hardware: Remove hardware and accessories, and similar items in place that are not meant to be painted, or provide surface-applied protection. Reinstall removed items and remove protective coverings at completion of work.

Masonry Surfaces: Prepare masonry and similar materials to be painted by removing efflorescence, chalk, dust, dirt, grease, and oils. Do not paint over surfaces where alkalinity or moisture content exceeds manufacturer's recommendations.

Wood Surfaces: All sharp corners and edges on trim, jamb extensions, stops, frames, etc. shall be slightly "eased" by sanding to eliminate burrs and slivers to provide a surface area on which finish can adhere. Remove all pencil marks, grease, stains, surface dirt, dust, etc., and vacuum all surfaces.

Fastener Holes: Fill holes, cracks, etc. after the first coat of finish. Fill all holes flush with adjoining surfaces in neat and workmanlike manner.

APPLICATION

Job Conditions: Do not apply paint or finishes in snow, rain, fog, or mist, or when relative humidity exceeds 85%, or when the temperature is above or below the manufacturer's recommendations. Do not apply to damp or wet surfaces.

Protection: Protect work of other trades. Correct any painting related damages by cleaning, repairing, or replacing, and refinishing.

Materials Preparation: Mix, prepare, and store painting and finishing materials in accordance with manufacturer's directions.

Application: Apply painting and finishing materials in accordance with manufacturer's directions. Use applicators and techniques best suited for materials and surfaces to which applied.

Apply each material at not less than manufacturer's recommended spreading rate, to provide a total dry film thickness of not less than 4.0 mils for entire coating system of prime and finish coats for 3-coat work.

Apply additional coats when undercoats, stains, or other undesirable conditions show through final paint coat, until paint film is of uniform finish, color, and appearance.

Finish exterior doors on tops, bottoms, and edges same as exterior faces.

Sand lightly between succeeding enamel and varnish coats.

Completed work shall be of approved color, uniform, smooth, free of sags, runs, defective brushing, and clogging. Make edges of paint adjoining other materials or colors, sharp, clean, and without overlapping.

Clean-up: Remove all paint drips and spots from finished surfaces and leave job site in a clean, orderly, and acceptable condition.

PAINT SCHEDULE

The kinds and numbers of coats on the various surfaces shall be as follows:

Finish No. 1: Exterior Galvanized Metal - Painted

Primer & Finish coats: 2 coats "SW" A-100 Exterior Latex Satin House & Trim.

Finish No. 2: Exterior Cement Siding & Wood Trim - Painted

Primer and Finish: 2 coats "SW" Exterior Latex Solid Color Stain.

Finish No. 3: Interior Wood - Painted

Primer: 1 coat "SW" PrepRite Classic Latex Primer.

Finish: 2 coats "SW" ProMar 200 Latex Eg-Shel.

Finish No. 4: Interior Concrete - Painted

Primer and Finish: 2 coats "SW" Armorseal 8100 Epoxy, Satin, with anti-slip additive.

END OF SECTION 09900

SECTION 10430 - SIGNS**GENERAL**

Summary: Work of this Section includes identification signs for accessible parking.

Submittals:

Product Data: Include material descriptions, construction details, dimensions, finishes, and mounting methods for each type of sign.

Quality Assurance:

Source Limitations: Obtain each sign through one source from a single manufacturer.

Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.

PRODUCTS

Panel Signs:

General: Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerances of plus or minus 1/16 inch measured diagonally.

Panel Sign Types:

Accessible Parking Space Signs:

Material: Cast acrylic sheet.

Perimeter: Unframed.

Copy: Raised.

Character Style: Helvetica.

Text: According to ADA requirements "MEN", "WOMEN", and "FAMILY".

Message: Fixed.

Sizes:

Sign: 8 inches x 8 inches.

Characters: 1 inch high minimum.

Colors:

Background: Bronze.

Characters: White.

Accessories:

Mounting Materials: Use stand-off mounting fabricated from materials that are non-corrosive and non-staining to sign material or mounting surface.

Finishes: Protect finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

EXECUTION

Examination: Examine substrates, areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work. Proceed with installation only after unsatisfactory conditions have been corrected.

INSTALLATION

General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with manufacturer's written instructions. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.

Exterior Post Signs: Install signs on posts adjacent to accessible parking spaces as directed by the Architect.

Post-Mounted Panel Signs: Attach panel signs to posts using stand-off mounting.

CLEANING AND PROTECTION

After installation, remove protective coverings, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10430

SECTION 22100 - PLUMBING MATERIALS AND METHODS**GENERAL**

Summary: Work of this Section includes plumbing piping, sink and faucet fixtures, and related items, including cutting, coring, and patching required for plumbing installations.

Standards, Codes, and Permits: All plumbing work shall comply with the latest edition of applicable standards and codes of the following, including state amendments:

National Plumbing Code

Submittals:

Shop drawings showing all equipment, accessories and controls, including:

Plumbing Fixtures.
Piping Insulation.

Operation and Maintenance Manuals: Provide copies of operation and maintenance manuals for all plumbing fixtures.

Coordination:

Utilities: Contractor shall coordinate all utilities with service providers.

Other Trades: Contractor shall coordinate his work with that of other trades in order to avoid interferences. Coordinate locations and mounting heights of fixtures and equipment.

Supports and Hangers: Contractor shall provide all necessary supports and hangers as required for adequate support of all plumbing work.

PRODUCTS AND MATERIALS

All products shall be of established manufacturers regularly engaged in making type of materials to be provided.

All materials shall be new and delivered in their original containers.

Plumbing Piping:

Sanitary Sewer Piping Above Grade: Cast iron, CISPI 301, hubless with cast iron fittings and CISPI 310 joints (neoprene gasket with stainless steel clamp and shields).

Domestic Cold Water and Hot Water Above Grade: Copper tubing ASTM B 88, Type L, Hard Drawn for sizes 4 inches and smaller. PEX tubing may be used for CW and HW branches 1-1/2 inches or less.

EXECUTION

All necessary cutting, coring, and patching work shall be the responsibility of the plumbing Contractor. The Contractor shall be responsible for the restoration of all existing surfaces requiring patching, painting, or other repairs.

Plumbing Piping:

Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. Install sloped piping to drain at low point.

Install water piping to ASME B31.9. Each plumbing fixture, or group of fixtures, shall have isolation valves provided. All hot and cold water run-outs from piping mains to fixtures shall have isolation valves near the main take-off.

Sleeves: Provide and install Schedule 40 black steel pipe sleeves, cut to length, wherever pipes pass through below-grade foundation walls, and slab on grade floors. Sleeves shall terminate flush with walls in finished areas. Seal the space around pipes in sleeves through floors, walls, and roofs.

Provide dielectric connections at joining of dissimilar metals.

Plumbing Fixtures:

Install all plumbing fixtures complete with all supply, soil, waste and vent piping connections, together with all fittings, supports, fastening devices, cocks, valves and appurtenances required for complete installation.

Fixture Rough-in Schedule:

Sink: "Elkay" Celebrity stainless steel ESE202010, with 1/2 inch cold water; 1/2 inch hot water; 3 inch waste; 1-1/2 inch vent.

Faucet: ADA compliant single-lever faucet ("American Standard" Monterrey 6114.116.002), less pop-up drain, 0.5 GPM vandal-resistant spray, grid strainer drain, with thermostatic mixing valve behind lav shield.

END OF SECTION 22100

SECTION 26100 - ELECTRICAL MATERIALS AND METHODS**GENERAL**

Summary: Work of this Section includes electrical wiring, lighting, and related items, including cutting, coring, and patching required for electrical installations.

Standards, Codes, and Permits: All electrical work shall comply with the latest edition of applicable standards and codes of the following, including state amendments:

NEC	National Electric Code
NECA	Standards for Installation
NEMA	National Electric Manufacturers Association
NESC	National Electric Safety Code
IEEE	Institute of Electrical and Electronics Engineers
OSHA	Occupational Safety and Health Act
UL	Underwriters' Laboratories, Inc.

Quality Assurance:

All lighting systems and controls shall be installed to meet applicable codes.

Install fixtures in accordance with manufacturer's written instructions.

Submittals:

Shop drawings showing all equipment, accessories and controls, including:

Light Fixtures, indicating materials, gauges, weight, finish, dimensions, installation methods, NEC requirements, and ETL photometric curves.

Lighting Controls.

Operation and Maintenance Manuals: Provide copies of operation and maintenance manuals for all electrical equipment.

Coordination:

Utilities: Contractor shall coordinate all utilities with service providers.

Other Trades: Contractor shall coordinate his work with that of other trades in order to avoid interferences. Coordinate locations and mounting heights of fixtures and equipment.

Supports and Hangers: Contractor shall provide all necessary supports and hangers as required for adequate support of all electrical equipment.

PRODUCTS AND MATERIALS

All products shall be of established manufacturers regularly engaged in making type of materials to be provided.

All materials shall be new and delivered in their original containers, and shall be labeled or listed by Underwriters' Laboratories, Inc., bearing the Underwriters' Label.

Raceways: All circuits for power and lighting shall be in conduit as specified. Provide conduit for various applications as follows:

Exterior Underground Installations: Thinwall Schedule 40 PVC, or Schedule 80 PVC.

Under Concrete Slab: Galvanized rigid steel (GRS), or Thickwall Schedule 80 PVC.

Inside Concrete Slab: Galvanized Rigid Steel (GRS).

Outdoor Locations Above Grade: Galvanized rigid steel, or Thickwall Schedule 80 PVC.

Interior Exposed Locations: Electrical Metallic Tubing (EMT), or Galvanized Rigid Steel (GRS).

Interior Concealed Locations: Electrical Metallic Tubing (EMT).

Control Wiring: Electrical Metallic Tubing (EMT).

Wiring Devices: MC cable for drops where concealed in walls.

Light Fixtures: MC cable from J-box (maximum length 6 feet).

Galvanized Rigid Steel (GRS) conduit shall be hot-dipped galvanized steel, meeting FS WW-C-581. Threaded fittings shall be used on rigid metal conduit.

Low-voltage Wire and Cable (600 V and less):

Branch Circuits equal or less than 4/0 AWG: Copper, 600 V insulation, minimum size #10 AWG, except receptacle circuits may be minimum #12 AWG, and be Type "THWN" rated 75 degrees C.

Feeders larger than 4/0 AWG and secondary service conductors: Copper, 600 V insulation, Type "XHHW" rated 90 degrees C.

Wiring Devices:

Wall Switches: NEMA WD1, Specification Grade, 20 A, 120/277 V rated, single-pole, double-pole, and 3-way as required, plus one motion-activated switch to control fixtures just inside entry door. Color as selected by Architect.

Receptacles: NEMA WD1, Specification Grade, grounded type, 20 A, 120 V rated. Color as selected by Architect. GFCI receptacles shall meet UL standards.

Wall Plates: Type 302 stainless steel.

Lighting Fixtures:

Contractor shall provide all necessary hardware, boxes, and supports for proper installation.

Sockets: All sockets shall have porcelain or high-heat, non-hygroscopic, non-flammable, molded compound bodies. Sockets shall be firmly secured in place in such a manner as to prevent damage to the conductor insulation and to properly position the lamp.

Wiring: All fixtures shall be wired to meet the requirements of U.L. standards, and shall be listed and labeled.

Finish: The finish on all fixtures shall be uniform in color and of high quality, durable, and free of defects.

Lamps: Lamps for all fixtures, of the wattage indicated, shall be furnished and installed.

Controls: Motion-activated lighting controls, for circuits controlling exterior entry wall sconce and initial interior pendants.

Exit Signs:

Type: Pictorial - universal design.

EXECUTION

All conductors shall be copper and routed in conduit. Conductors shall be continuous between outlets or junction boxes, with any splice made only within such boxes.

Grounding: Furnish and install a complete grounding system. Grounding path shall be permanent and continuous, and shall have a resistance to ground of less than 5 ohms.

Coordinate locations and mounting heights of all outlets with locations and heights of counter-tops, sinks, cabinets, and equipment.

Junction and Pull Boxes: Attach boxes rigidly to building construction. Set boxes squarely and with faces flush with finished surface.

Supports and Hangers: Provide and install necessary steel brackets, rods, clamps, etc. for support of all work. Attach rigidly to building construction.

Penetrations: Seal the spaces around conduits in sleeves and around electrical openings through walls, floors, ceilings, and roofs.

Identification: Provide permanent labels on all electrical equipment and panel schedules indicating loads.

Lighting Fixtures:

Support fixtures from rigid building construction. All fixtures shall be independently supported.

Light fixture locations shown on drawings are approximate; coordinate exact locations with other trades, and with Architect.

Exit lights, emergency lights, and night lights shall be circuited to an unswitched / hot leg of the general lighting circuit of the area served by such lights.

Provide and install lighting controls (ie. occupancy sensors, relay control panels, override switches, etc.) as required to meet in-force Energy Code.

FIXTURE SCHEDULE

The light fixtures shall be as noted below, or equal:

Fixture "A" - "Barn Light Electric" BLE-C-WHS-LED Original Warehouse Pendant, 12 inch Shade, 300 - Dark Green Color, SWH Cord, LED Lamp.

Fixture "B" - "Barn Light Electric" BLE-F-CGG-LED Flush Mount Guard Sconce, Clear Glass, 300 - Dark Green Color, WGG Wire Guard, LED Lamp.

Fixture "C" - "Barn Light Electric" BLE-G-CGG-G3-LED Industrial Guard LED Sconce, 300 Dark Green Color, WGG Wire Guard, LED Lamp.

END OF SECTION 26100

SECTION 31100 - EARTHWORK

GENERAL

Summary: Work of this Section includes:

Removal of existing concrete stoop and foundation (see Selective Demolition Section 02020).
Excavating and backfilling for new foundation.
Preparing subgrade for concrete.

Quality Assurance: Conduct pre-excavation conference at Project site.

Project Conditions:

Utility Locator Service: Notify utility locator service for area before beginning earth moving operations.

Existing Utilities: Locate by hand excavation and provide protection from damage.

Repair damages to existing utilities as directed by utility company.

PRODUCTS

Soil Materials:

Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups, free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

Accessories: Warning Tape to be acid- and alkali-resistant, polyethylene film warning tape 6 inches wide and 4 mils thick.

EXECUTION

Preparation: Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations. Barricade open excavations and provide warning tape.

Environmental Protection: Install, protect, and maintain erosion and sedimentation controls during earth moving operations.

Temperature: Protect sub grades and foundation soils from freezing temperatures and frost. Remove any temporary protections before placing subsequent materials.

Excavation: Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades and provide solid base to receive concrete. Use of explosives is not permitted.

Unauthorized Excavation: Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation.

Storage of Soil Materials: Stockpile excavated satisfactory soil materials; shape stockpiles to drain surface water. Cover to prevent windblown dust.

Soil Fill: Backfill excavations as promptly as work permits. Do not backfill on surfaces that are muddy, frozen, or contain frost. Place and compact fill material in layers to required elevations maintaining optimum moisture content. Place backfill soil in layers not more than 4 inches in loose depth for material compacted by hand-operated tampers, and 8 inches in loose depth for material compacted by heavy compaction equipment. Finish sub grade to a tolerance of 1/2 inch when tested with a 10 foot straightedge.

Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill at 95 percent.

Under walkways, scarify and recompact top 6 inches below sub grade and each layer of backfill at 92 percent.

Under utility trenches, compact each layer of backfill at 85 percent.

Under turf or unpaved areas, compact top 6 inches below sub grade and each layer of backfill at 85 percent.

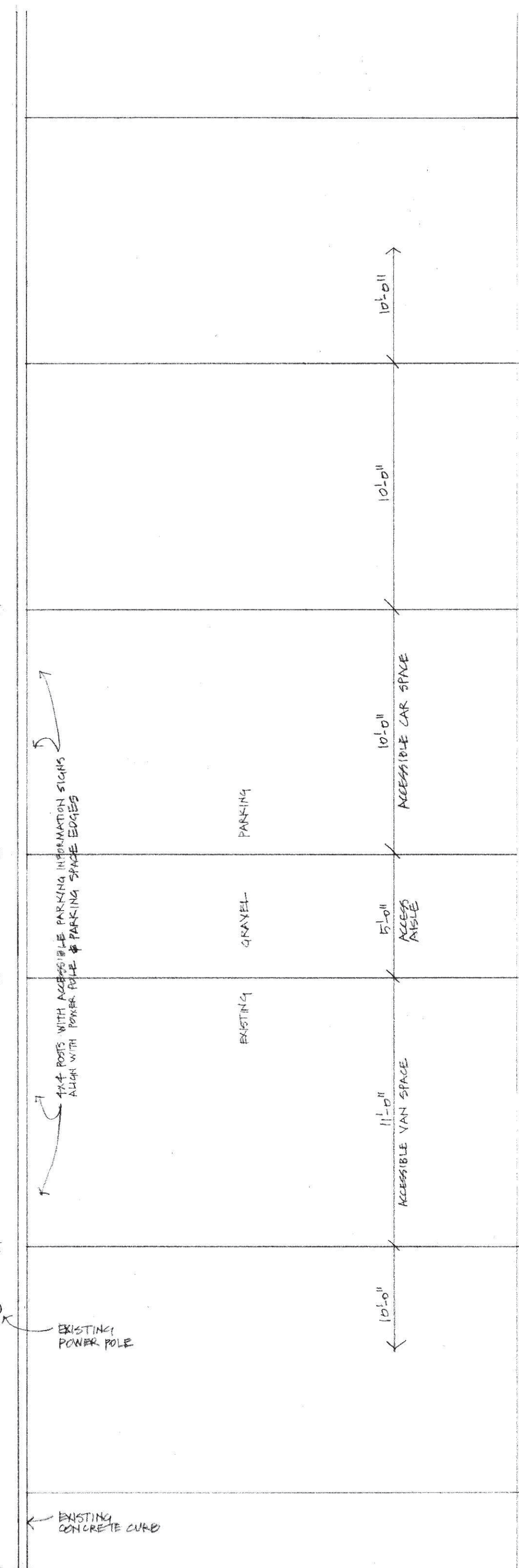
Sprinkle water on surface of subgrade or layers of soil material where soil is too dry to permit compaction to required density. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to required density.

Grading: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to lines and elevations indicated. Slope grades to direct water away from building and to prevent ponding. Finish site subgrades to required elevations within tolerance of plus or minus 1 inch.

Protection: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris. Repair grades where surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions. Restore appearance to the greatest extent possible.

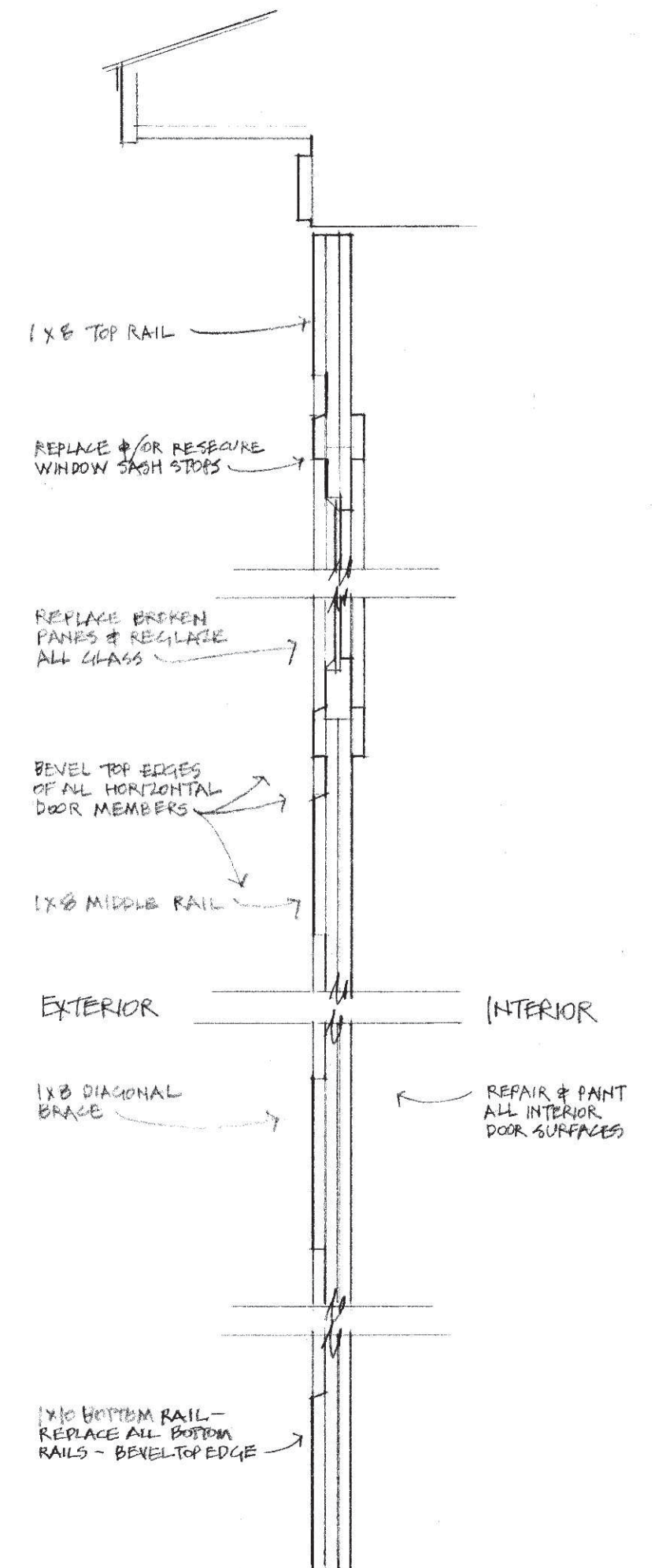
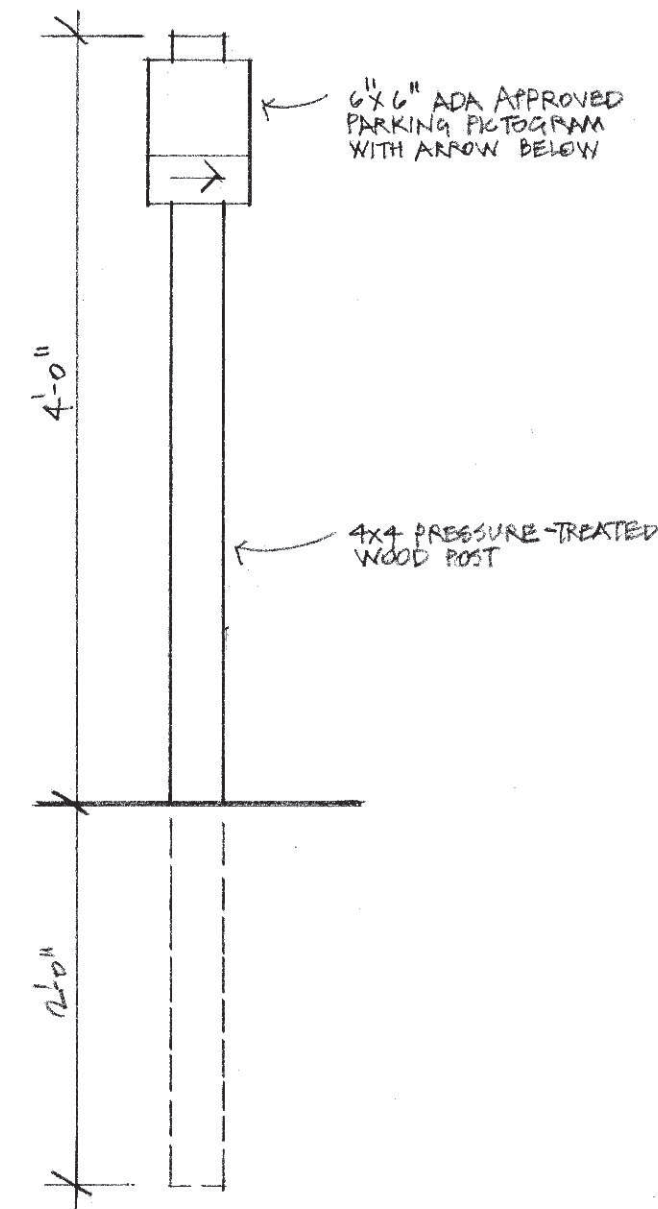
Disposal of Surplus and Waste: Remove surplus soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of off Owner's property.

END OF SECTION 31100



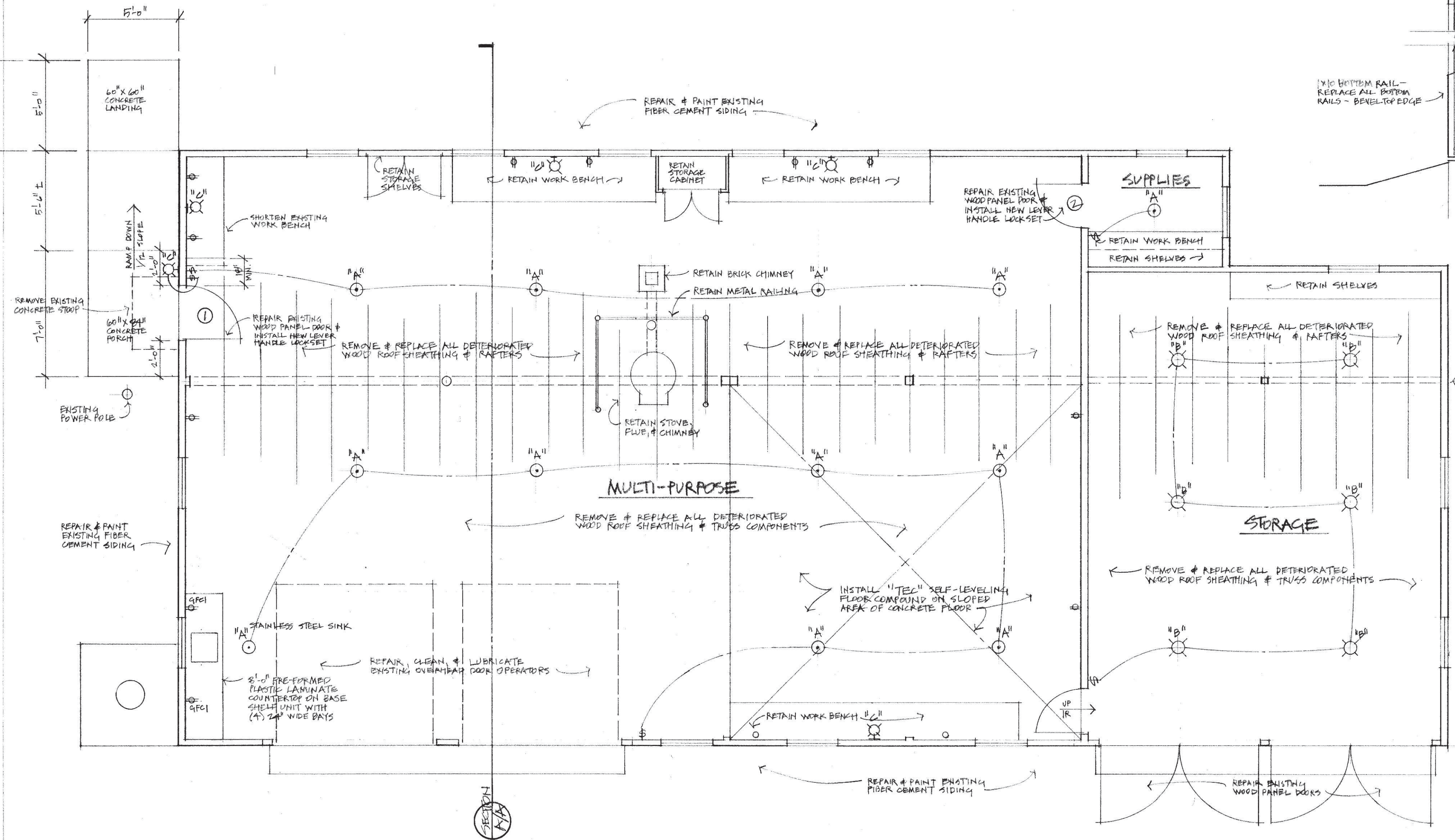
PARKING SIGNS DETAIL

1" = 1'-0"



HINGED DOOR SECTION DETAIL

1/2" = 1'-0"



FLOOR PLAN

1/4" = 1'-0"



610 Grand Avenue
Potosky, MI 49770
231/347-0931

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Presque Isle County
Ocqueoc, Michigan

FLOOR PLAN

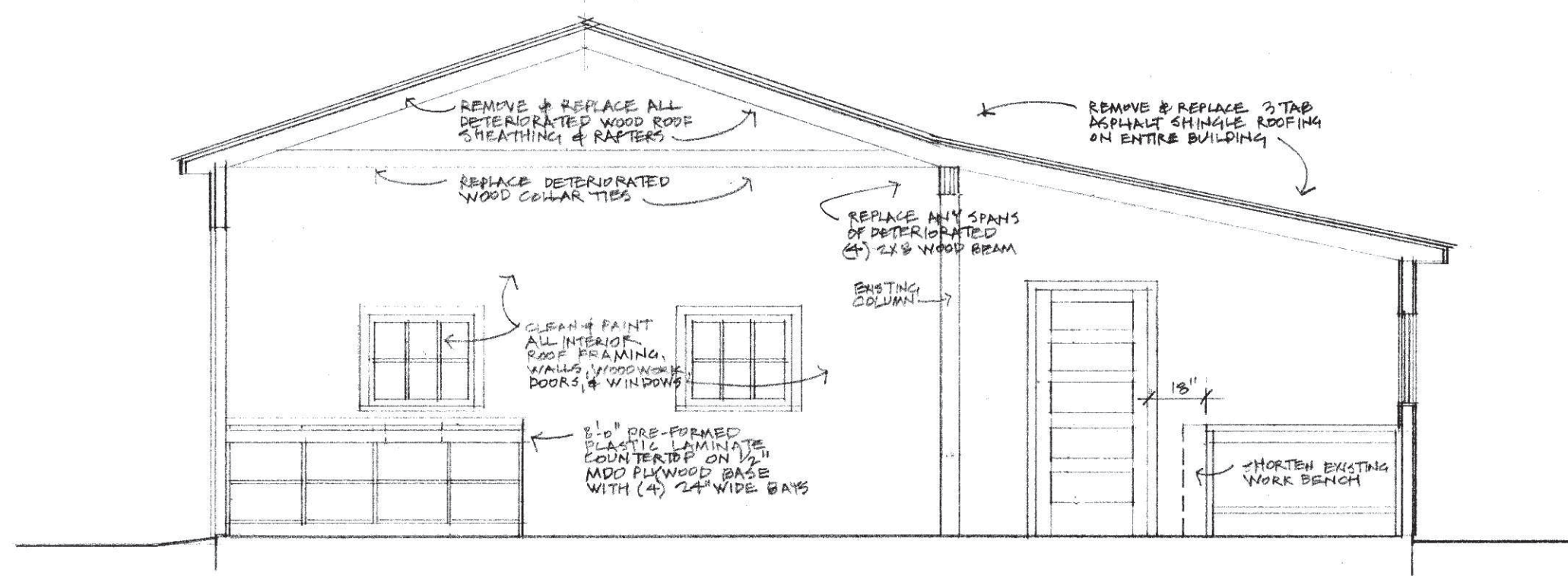
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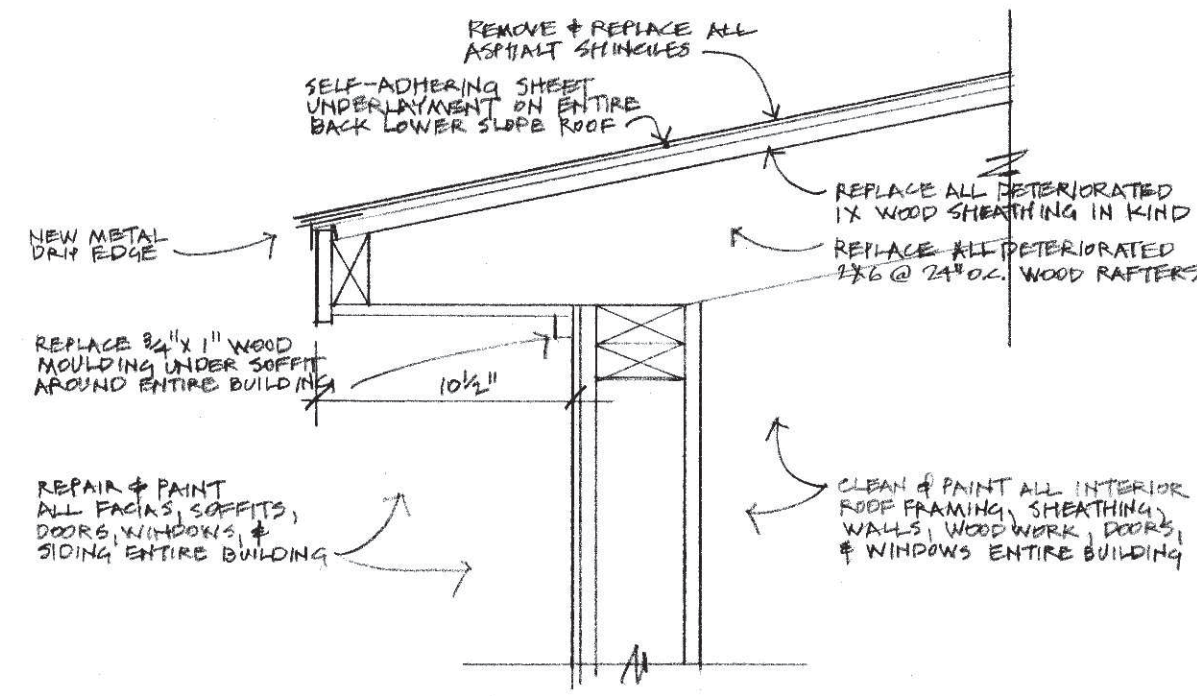
Richard Neumann
10-31-2018





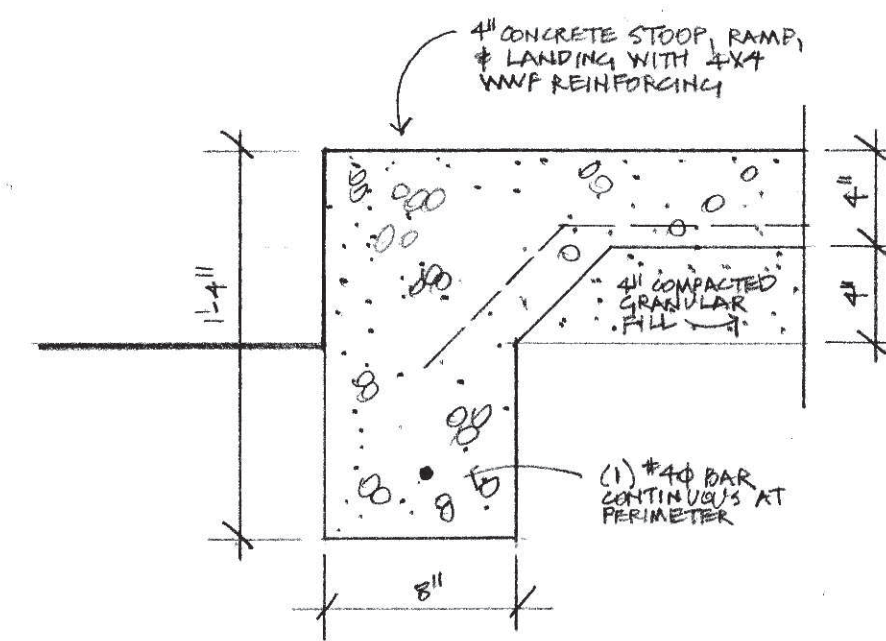
SECTION A/A

1/4" = 1'-0"



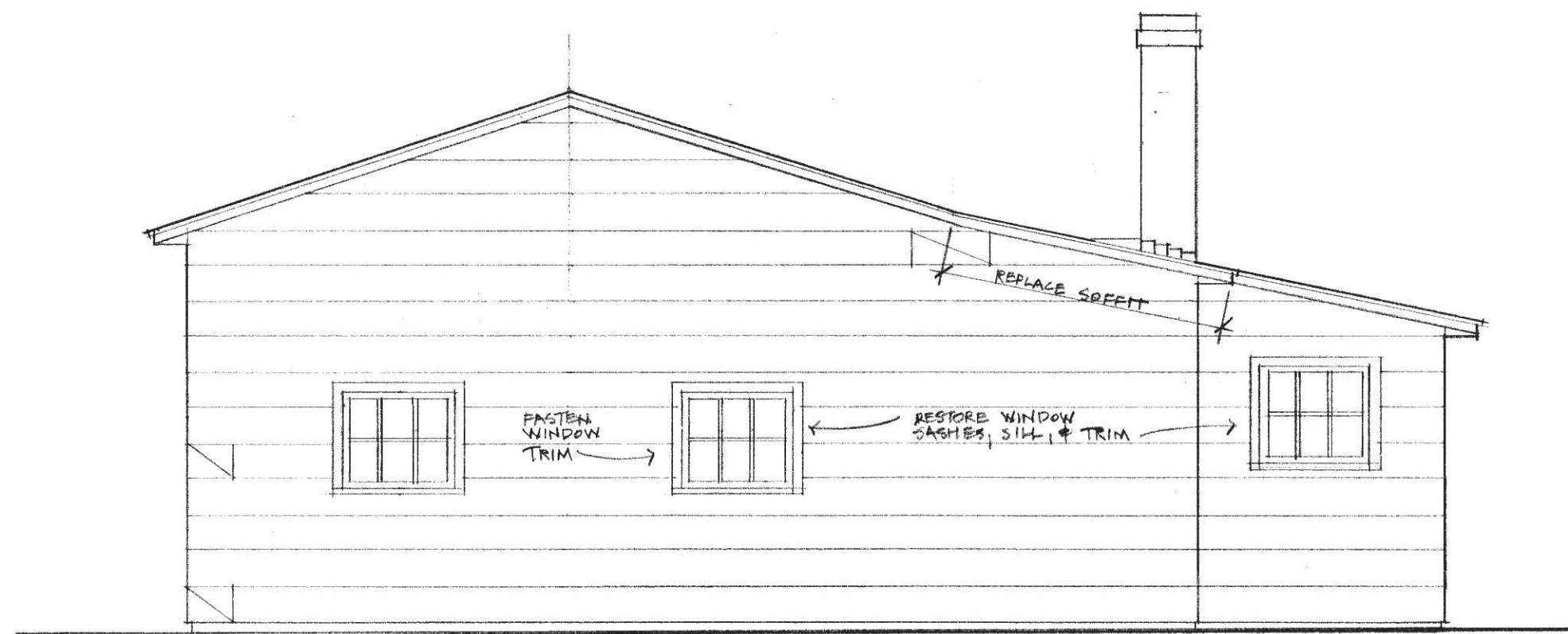
ROOF EAVE DETAIL

1 1/2" = 1'-0"



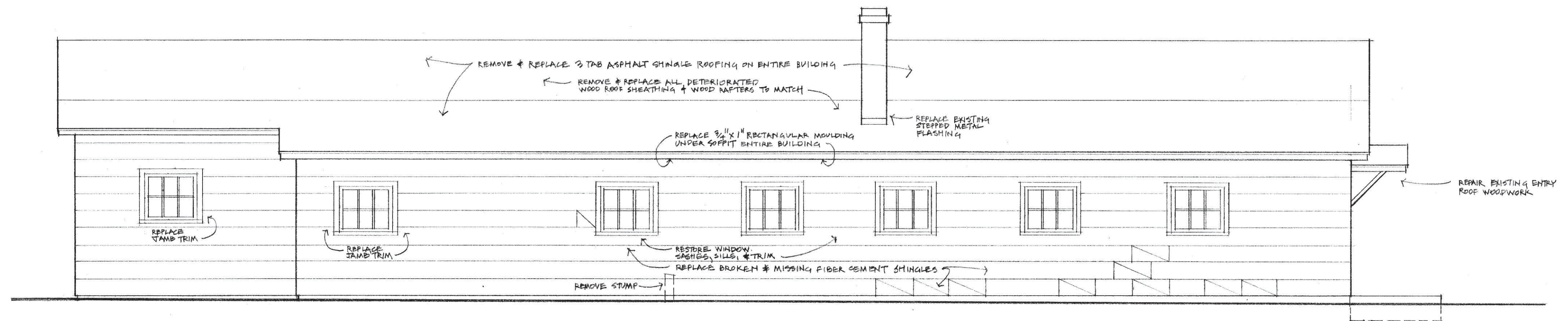
PORCH STOOP DETAIL

1 1/2" = 1'-0"



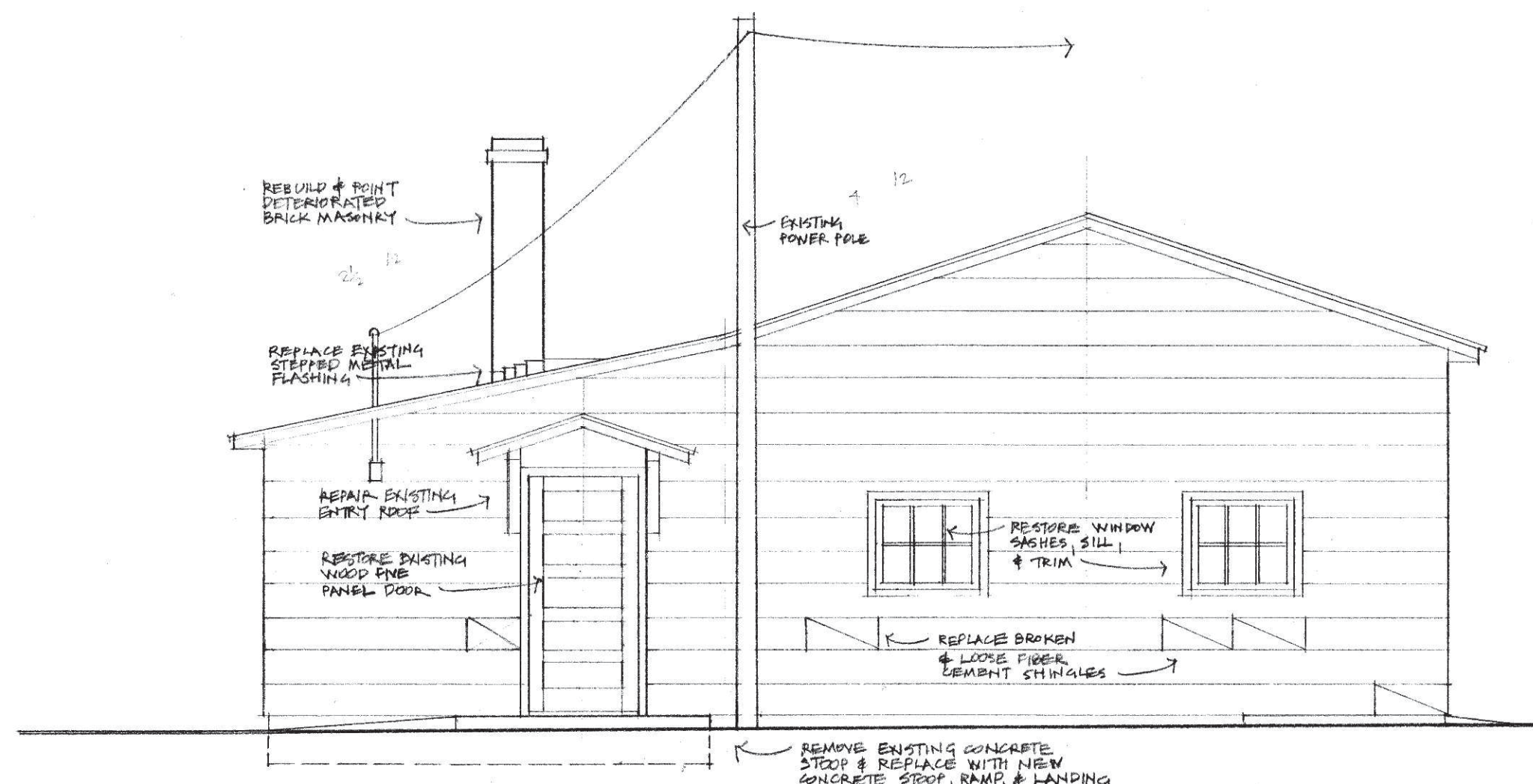
NORTH ELEVATION

1/4" = 1'-0"



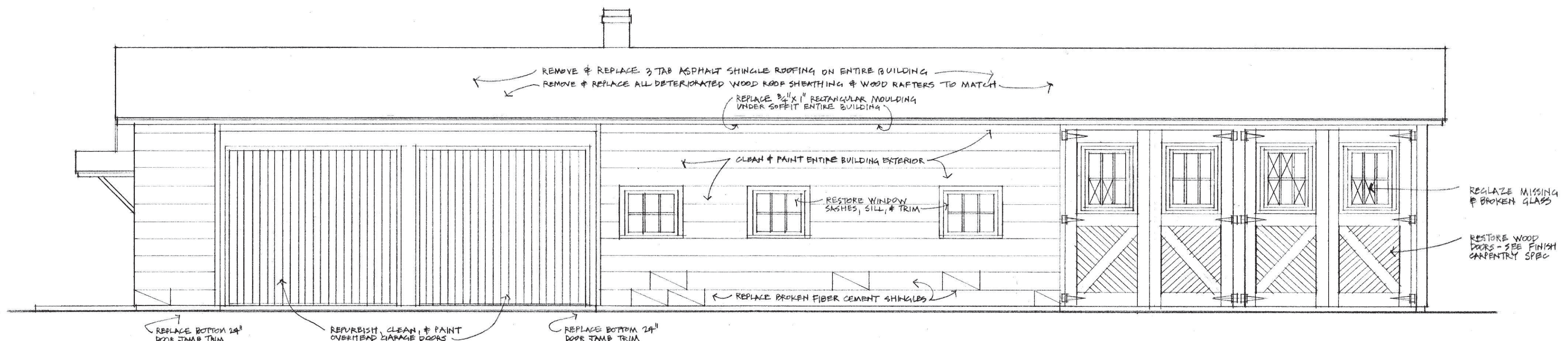
WEST ELEVATION

1/4" = 1'-0"



SOUTH ELEVATION

1/4" = 1'-0"



EAST ELEVATION

1/4" = 1'-0"



Richard Neumann Architect

610 Grand Avenue
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ELEVATIONS &
DETAILS

11/28/2018

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