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Outline Specifications for:

# Louis M. Groen Nature Preserve Restroom Project

**Gaylord, Michigan**

Project Number: 12-012

Date: April 30, 2012

**Project**
Louis M. Groen Nature Preserve – Restroom Building Project
Gaylord, Michigan

We hereby certify that this specification manual was prepared under our direct supervision per the items listed in the table of contents.

**Architect**
Todd L. Seidell Architect, LLC
114 N. Court Ave., Suite 201
P.O. Box 2189
Gaylord, MI 49734
(989) 731-0372

I hereby certify that this specification was prepared by me or under direct supervision and that I am a duly Registered Architect under the laws of the State of Michigan.

_____ _____

Todd L. Seidell, Architect Date
Registration Number 43749

# Louis M. Groen Nature Preserve

# Restroom Project

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# BID FORM - STIPULATED PRICE

To: Otsego County
Mr. John Burt – County Administrator
225 W. Main Street
Gaylord, Michigan 49735

Project: Louis M. Groen Nature Preserve – Restroom Project
Todd L. Seidell Architect Project No. 12-012

Date: _____

Submitted By:
(full name)

_____

(full address)
_____

_____

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Todd L. Seidell Architect, LLC dated April 30, 2012 for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the

Stipulated Sum of : $_____(numerical)

$_____dollars in lawful (written) money of the United States of America.

- We have included, the required security deposit as required by the instruction to Bidders.
- All applicable federal taxes are included and the State of Michigan taxes are included in the Bid Sum.
- We have included the costs of all required construction permits and inspections in the bid sum.

2. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for thirty (30) days from the bid closing date.

If this bid is accepted by the Owner within the time period stated above, we will:

- Execute the Agreement with seven (7) days of receipt of Notice of Award.
- Commence work with in seven (7) days after written Letter of Contract Award of this bid.

3. CONTRACT TIME

If this Bid is accepted, we will complete the work in _____(____) calendar weeks from the date of commencement.

4. CHANGES TO THE WORK

When the Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:

…percent overhead and profit on the net cost of our own Work added or deleted from the contract;

…percent on the cost of work done by any Subcontractor added or deleted from the Contract.

5. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum#_____Dated_____

Addendum#_____Dated_____

6. ALTERNATE BID ITEMS

None included at this time.

7. BID FORM SIGNATURE(S)
The Corporate Seal of

_____

(Bidder - print the full name of your firm)

Was hereunto affixed in the presence of:

_____

(Authorized signing officer Title)

(Seal)

_____

(Authorized signing officer Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

## END OF BID FORM - STIPULATED PRICE

# DIVISION 1 - GENERAL REQUIREMENTS

## SECTION 01001
## INSTRUCTIONS TO BIDDERS

1. Complete bids for this project are due to the County Administrator Mr. John Burt at Otsego County located at 225 W. Main Street, Room 203 – Gaylord, Michigan no later than 1:30 p.m. on May 14, 2012. Fax bids are not acceptable.

2. Bids will be opened publicly and read aloud.

3. The owner reserves the right to accept or reject any and all proposals with or without cause or reason.

4. Contractors may inspect existing building and must coordinate access with Architect.

5. Bid documents will be available through the County of Otsego. No charge is required if digital files are requested.

6. Questions during the bidding process can be directed to Todd Seidell, Architect. Telephone (989) 731-0372, cellular (989) 370-7842.

7. All bidders have the responsibility to read and review the contract documents carefully, and to familiarize themselves thoroughly with all requirements. All bidders are encouraged to visit the site prior to submitting their bids. All bids must take into consideration existing conditions and be responsible for them.

8. The Contractor will engage the services of an independent testing firm to take random soil compaction tests prior to placement of floor slabs and footings. They will also do compressive testing on concrete cylinders. Proper execution of the work is the Contractor's responsibility. (This item shall be excluded at this time)

9. Certain material specifications are directly on the drawings. All bidding documents must be examined thoroughly before submitting your bids.

10. Payment shall be provided with 50% down and 50% paid upon final completion.

11. At each pay application, the contractor must supply the Architect with a Waiver of Lien covering all material, sub-contractors, and labor for prior month's payment. Before final payment is made, all work must by accepted by the owner, and Architect, and the contractor must supply fully unconditional Waivers of Lien for all materials, sub-contractors and labor.

12. **Contractor's Liability Insurance.** Refer to Otsego County Standards for Insurance.

13. The Contractor will arrange for temporary utilities required for construction, unless noted otherwise (temporary power and water).

14. The contractor shall provide temporary toilet facilities for contractor use.

15. The general contractor will provide dumpsters for construction debris. It is the Contractors responsibility to put debris in dumpsters on a daily basis, "A clean jobsite is a safe jobsite."

16. Safety is the responsibility of each individual contractor. Each contractor, their Sub-contractors and suppliers shall comply with all local safety ordinances and OSHA regulations and requirements while performing their work. On site job safety meeting will be held on a regular basis.

17. Contractors shall consider protection of finish work of prime importance. Care shall be taken by contactors not to damage completed work of other contractors and to provide adequate protection for their own completed work (including weather protection).

18. The Contractor shall arrange for flagman, barricades, etc. to maintain proper traffic flow if required by the contractor's operations.

19. Contractor to furnish a written guarantee that all labor and materials furnished and work performed, including portion of trade assigned or sublet, are in accordance with contract documents. Should any defect develop during construction or guarantee period due to improper materials, workmanship or arrangements that defect will be repaired or replaced by contractor without expense to owner or Design/Builder.

20. The guarantee to be good for a period of one (1) year from date completed work is turned over to and accepted by owner.

21. Submit six (6) sets of shop drawings and required samples to the Design/Builder for review within two (2) weeks of award of contract.

22. No proposals may be withdrawn for a period of thirty (30) days after the receipt of proposals.

23. The Contractor will arrange for and provide a Building Permit. The mechanical and electrical contractors shall take out and pay for their respective permits, inspection fees, etc., as required by law.

24. Labor and materials - under this contract, all labor, materials, equipment and miscellaneous items are to be included for a complete project. Contractor is to include sales tax on materials in the bid. Certain materials and systems are specified in this project manual. Others are specified directly on the drawings. Under either condition, it shall be deemed to include all necessary labor and material.

25. All material shall be delivered to the site in their original containers bearing manufacturers label and marking as to the contents of the containers. Materials shall be stored in a protected place, properly covered and raised off the floor or grade. Security of materials and the replacement of materials in the event of a loss are the contractor's responsibility.

26. Furnish "as built" drawings when project is completed. "As built" shall identify all deviations from the original plans. "As build" drawings must be received before any final payments can be made.

27. Work Days: Construction schedules are based on Contractors working five (5) day weeks, eight (8) hours per day unless overtime or additional time is designated. Any variation to this policy will be disruptive to the Project Construction Schedule and to other Contractor's work. Contractors may not use a four (4) day, forty (40) hour week or any other foreshortened work week other than a five (5) day, eight (8) hour per day week or that may be specifically required by the Construction Schedule. Any deviation from this must be requested in writing to the Architect.

28. General conditions of this contract shall be the standard 1997 edition of the AIA Document A201. Anyone wishing to obtain a copy can request one from the Design/Builder.

29. Construction change directive mark-up:

-Contractor mark – up: 15%

-Contractor mark-up on Subcontractor 5%

30. Pre-Construction Meetings: Prior to the initiation of on-site activity, a mandatory meeting will be held with all Bid Division Contractors for the purpose of planning, scheduling and coordinating an orderly initiation of on-site construction activity. All contractors must have a representative at this meeting. The person(s) attending must be directly involved with the work of this project for this contractor.

Pre-Construction Conferences: Each sub contractor is required to meet on the site with the Architect/Engineers as required by the Contractor prior to beginning their work. The purpose of this meeting is to review the intent of the contract documents as they pertain to the Contractor's work, and to integrate the initiation of that work with work already in progress on the site. The person(s) attending must be directly involved with the work of this project for this contractor.

Progress and Project Meetings: Contractors active onsite shall be required to attend Progress and Project Meetings when called by the Architect. These meetings are for the purpose of planning and assessing construction progress and for discussing problems of mutual concern.

It shall be mandatory that each Contractor and/or their superintendent, foreman or lead person be in attendance at these meetings.

All decisions, instructions and interpretation given by the Owner or their designated representatives at these meetings shall be conclusive, and shall be binding on the Contractors.

The minutes of such meetings will be recorded and distributed to the Sub Contractors by the General Contractor.

31. Starting the Work: The contractor shall commerce the work in such a manner and at such a time as to expeditiously interface with the work of other contractors, and shall pursue the work diligently to completion. The Contractor shall work in a cooperative manner with other contractors.

Upon receipt of a Notice to Proceed, the Contractor shall pursue and complete the work without voluntary interruption for any reason, as long as the work can be

performed. The Contractor agrees that they shall continue the work at all times the work can be performed, at a pace consistent with good industry practice, regardless of pending or current claims or disputes in connection with the contract documents.

32. Safety:

A. Safety is the responsibility of each individual Contractor. Each Contractor shall comply with all local safety ordinances and OSHA regulations and requirements while performing the work.

B. Each Contractor is required to submit bound Material Safety Data Sheets (MSDS) to the Construction Manager, to be used for reference only, prior to transporting the material/ chemical to site. In addition, it is the responsibility of each Contractor to maintain an accessible MSDS file for their employees, subcontractors, sub-subcontractors, and supplies that are on site.

C. Each Contractor shall submit evidence of an Employer Safety Program that complies with current OSHA regulations and requirements prior to beginning any contract work. This information shall be submitted directly to the County Administrator John Burt.

D. The Contractor and their Subcontractor(s), Sub-subcontractor(s), and suppliers shall take all necessary precautions to ensure the safety of the public and of workers on the job, and to prevent accidents and injury to persons, or about or adjacent to the premises where the work is being performed. The Contractor and their Subcontractor(s), sub-subcontractor(s), and suppliers shall comply with Federal and State OSHA regulations and all other laws, codes, ordinances, and regulations relative to safety and the prevention of accidents.

E. The Contractor shall designate a responsible representative at the job site as a Safety Representative who shall be responsible for the promotion of safety and prevention of accidents, and shall enforce all applicable laws, ordinances, codes, rules, regulations and standards pertaining to safety and prevention of accidents.

33. Contract Close-Out:

Description:

A. Each Contractor shall comply with requirements stated in the contractor documents for procedures in closing out the work.

B. Each Contractor shall be allowed thirty (30) calendar days from the date of receipt of the Architect's inspection report to complete the items on both their list of items to be completed or corrected and the Architect' inspections report. Contractor's failing to perform in accordance with these time parameters will be subject to the provisions of the General Conditions, and the Owner will have the right to carry out the work in need of correction and/or completion, the cost of which will be deducted from the Contractor's contract amount.

C. By the act of signing the Certificate of Substantial Completion prepared by the Construction Manager and/or Architect, the Contractor represents that they have:

1. Reviewed the contract documents.

2. Inspected their work for compliance with the contract documents.

3. Completed their work in accordance with the contract documents, and all pertinent submittals.

D. They further represent that:

1. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
2. Their work is completed and ready for final inspection.

Contractor's Close Out - Submittals

A. Upon Substantial Completion, the Contractor shall submit the following to the Owner through the Construction Manager:

1. Evidence of compliance with requirements of governing authorities, including Certificates of Inspection.

2. Warranties.

3. Evidence of Payment of Release of Liens.

4. Certification of Substantial Completion.

.

5. Record Drawings.

6. All test reports, material certifications, etc., as required by the Health Department, city Officials, etc., as specified in the contract documents.

Owner Instructions and Training:

A. Each contractor shall instruct the Owner or Owner's designated staff in the proper operation, use and maintenance of all materials, finishes, equipment and systems installed or furnished by the Contractor.

B. Operating and Maintenance Manuals: Prior to Substantial Completion of Work, submit operating and maintenance manuals for the equipment to the Architect through the Construction Manager. Submit in two copies, unless otherwise specified.

The manuals shall be neatly edited with similar equipment grouped, pages tabbed and indexed, All materials shall be printed or typewritten, and individual pages shall be set into plastic covers. The manuals shall contain the following information:

1. Complete operating instructions and recommendations for the type of fuel and other materials to be used in or with the item.

2. Manufacturer's complete data sheets.

3. Complete cleaning instructions including recommended cleaning materials.

4. Complete lubrication data and schedules.

5. Maintenance data, repair and adjustment data including manufacturer's instructions.

6. Parts list with numbers, recommended parts to stock and nearest parts depot and service organization.

7. Assembly drawings, wiring diagrams, mechanical diagrams and installation diagrams and instructions.

Special tools: Provide special tools normally furnished with equipment which is required for maintenance purposes such as wrenches for door closers.

C. Owner instruction and training will be scheduled by the Design/Builder. Contractors will have all subcontractor representatives and factory and equipment

supplier representatives present at these meetings as required to provide complete operating and maintenance instructions.

D. Refer to individual sections of the work for additional operating and maintenance instruction requirements.

Rebates:

A. All utility rebates are to be turned over to the Owner. Each Contractor shall supply the Owner with the necessary information and assist the Owner in obtaining rebates.

Final Application for Payment:

A. Each Contractor shall submit the final application for payment in accordance with the procedures and requirements stated in the General Conditions. Close-out documents must be complete and submitted to the Design/Builder before receiving final payment.

Certificate of Insurance:

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

**END OF SECTION**

**SECTION 01010**
**SUMMARY OF WORK**

## 1.1 GENERAL

A. The Project: Louis M. Groen Nature Preserve - Restroom Building Project located in Johannesburg, Michigan. Project includes new restroom building, water well and septic system.

B. The Scope of Work: These drawings and specifications are intended to cover all work shown.

1. This work will include any all necessary demolition and replacement of existing membrane roofing system as outlined in construction documents.

2. The construction debris must be removed on a daily basis. CONTRACTOR to keep site and existing building accessible and safe for employees, and their vehicles.

3. The CONTRACTOR and/ or Suppliers shall comply with all applicable code rules and regulations governing this work. All normal and accepted safety standards must be maintained throughout the project.

C. Measurements: Each CONTRACTOR or Supplier shall be responsible for the correct installation of his work to comply with plans and specifications. Each CONTRACTOR shall verify all measurements at building and assume responsibility for same. Do NOT scale drawings.
* Note that dimensions on plans are "nominal" or "modular" and actual sizes may very slightly.

D. Field Measurements: Take field measurements prior to preparation of shop drawings to ensure proper fitting of work. Measurements shall not be taken from the drawings, but shall be made at the structure, giving due consideration to construction variation.

E. The Site Work Contractor: CONTRACTOR shall establish general reference points and protect them from displacement. The Site Work CONTRACTOR shall establish finish floor levels by distinctive marking and maintain them for the use of the trades. The Site Work CONTRACTOR shall verify all benchmarks in the performance of his contract and he shall govern all work by verified marks only.

F. Clean Up: Each CONTRACTOR and / or Supplier shall be responsible for the clean up and removal of all debris created by his work. This clean up and removal shall be done on a minimum daily basis or more often if conditions warrant. Failure to do this clean up will result in a back charge of the appropriate amount of money and will be deducted from the monthly pay request.

**END OF SECTION**

# SECTION 01100
# GENERAL NOTES

## 1.1 GENERAL

A. AIA General Conditions A201, 1987 shall be part of these documents and shall govern all work under this contract.

B. All work shall conform to all applicable Federal, State and Local codes and regulations.

C. Contractors shall be held to have examined project site prior to submitting bid, to have familiarized himself with conditions under which the work is to be performed, and to have verified the availability of required material and tradesman.

D. Field verify all dimensions. Do not scale these drawings. Use figured dimensions only.

E. All visible components, color patterns, textures and other aesthetic qualities shall be as specified, use of substitution without written approval will permit correction of work in place at contractors expense.

F. Building Permit. The General Contractor shall secure and pay for the building permit for the project. Fees shall include the building permit fees, State surcharge, and any other fees customarily for the building permit.

G. Other Permits and Fees. Each Subcontractor shall secure and pay for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of their work.

H. Conduct operations to ensure safety of all persons and to prevent damage to existing structure and utilities. Conduct operations and move materials in manner to ensure minimum interference with the operations of others.

I. All work performed shall comply with the Michigan 2009 Building Code.

**END OF SECTION**

# SECTION 01300
# SUBMITTALS

## 1.1 GENERAL

A. Shop Drawings: Contractor shall provide shop drawings or project literature for review and approval by Architect and Owner for the following:

- Water well pump and tank equipment
- Concrete and masonry materials
- Log siding, soffit and trim materials
- Pre-engineered wood trusses
- Metal roof caps and trim
- Building insulation
- Doors, frames and hardware
- Floor and wall coatings
- Restroom accessories
- Mechanical and plumbing fixtures
- Electrical and lighting fixtures

B. Prescriptive Requirements: Selection of products, which has been certified by manufacturer to comply with requirements, including prescriptive requirements, in the contractor's option.

C. Installation General: Comply with manufacturer's instructions and recommendations. Anchor securely in place, accurately located and aligned with other work. Clean and protect to ensure that products, materials and equipment will be free from damage and deterioration at time of acceptance.

D. Delivery, Storage and Handling; General: Receive, store and handle products, materials and equipment in a manner which will prevent loss, deterioration and damage. Schedule all possible results to minimize long-term storage at the project site.

E. Timing: Install work during time and under conditions which will ensure best possible results, coordinated with required inspection and testing.

F. Anchor work securely in place, properly located by measured line and level, organized for best possible uniformity, visual effect, operational efficiency, durability and similar benefit to Owner's use. Isolate non-compatible materials from contract sufficiently to prevent deterioration.

G. Mount individual units of work at industry - recognized mounting heights or codes, if not otherwise indicated; refer uncertainties to Architect before proceeding.

**END OF SECTION**

# SECTION 02200
# EARTHWORK

## 1.1 GENERAL

Excavating, Filling, Grading and Site Work: As follows:

A. Existing Utilities: Locate by hand excavation and provide protection from damage. Cooperate with the owner and utility companies for maintaining services. Do not break utility connections without providing temporary services. Should uncharted or incorrectly charged piping or other utilities be encountered during excavation consult the utility company immediately for directions as to procedure.

B. Repair Damage: Repair damages to existing utilities as directed by utility company.

C. Excavation: Remove and dispose of material encountered to obtain required sub grade elevations, including pavement, obstructions visible on grade surface underground structures and utilities indicated to be removed.

D. Unauthorized Excavations: Removal of material beyond indicated sub grade elevations may be filed or compacted with acceptable material, filled with lean concrete, or corrected by extending the indicated bottom elevation of the footing to the lower elevation as required.

E. Stability of Excavations: Slope of excavations to comply with local and ordinances having jurisdiction. Shore and brace where sloping is not possible either because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.

F. Dewatering: Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to remove water and convey water away from all excavations.

G. Excavate for Structure: Excavate to elevations and dimensions shown, extending excavation at sufficient distance to permit placing and removal of other work for inspection. Trim bottom to required lines and grades to provide solid base to receive concrete.

Stockpile excavated materials at locations to not interfere with the construction or safety of persons working or visiting the existing building, until required for backfill and fill.

H. Landscaping: Site shall be provided with final grading. All disturbed areas shall be planted with grass seed.

I. Water Well: 5" PVC well casing (assumed depth 170'-0"), well screen, 5x1 wells pitless cap, Goulds 10LS07 Pump, submersible pump wire #12/2, 1" schedule 80 PVC drop pipe, Wellmate WM6 pressure tank, all associated fittings & controls and 1" poly 160# waterline to building

J. Septic System: (3) 50'-0" long septic drain line runs and 1,000 gallon septic tank as required by Otsego County Health Department

K. Install silt fence as required by local Soil Erosion Department.

**END OF SECTION**

# DIVISION 3 - CONCRETE

## SECTION 03300
## CAST IN PLACE CONCRETE

### 1.1 GENERAL

A. Submittals: Submit the following:

1. Product data for reinforced, forming accessories, admixtures, patching compounds, joint systems, curing compounds, dry-shake finish materials, and others as requested by Architect.
2. Laboratory test reports or evaluation reports for concrete materials and concrete mix designs.
3. Written report to Architect for each proposed concrete mix at least 15 days prior to start of concreting. Do not begin concrete production until mixes have been reviewed by Architect.

B. Quality Assurance: Comply with provisions of ACI 301, "Specifications for Structural Concrete for Building," ACI 318, "Building Code Requirements for Reinforced Concrete," and CRSI, Manual of Stand Practice," except where more stringent requirements are indicated.

### 1.2 PRODUCTS

A. Form Materials: Furnish form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

B. Reinforced Materials: As follows:

1. Deformed Reinforced Bars: ASTM A 615, Grade 60, unless otherwise indicated.
2. Welded Wire Fabric: ASTM A 185, positioned at mid-height of slabs.

C. Concrete Materials: As follows:

1. Portland Cement: ASTM C150, Type as required.
2. Aggregates: ASTM C 33, except local aggregates of proven durability may be used.
3. Water: Potable.
4. Air-Entraining Admixture: ASTM C 260.

5. Water-Reducing, Retarding, and Accelerating Chemical Admixtures: ASTM C 494 Type as required to suit project conditions. Use only admixtures that have been tested and accepted in design mixes.
6. Membrane-Forming Curling Compound: ASTM C309, Type I. Moisture loss not more than 0.55 kg/sq. meter when applied at 200 square foot per gallon.
7. Evaporation Control: Monomolecular film-forming compound applied to exposed concrete slab surface for temporary protection from rapid moisture loss.

D. Mix Proportions and Design: Proportion mixes complying with mix design procedures specified in ACI 301. (or as specified on structural plans)

1. Design mixes to provide normal weight concrete with the following properties:

   a. 3500-psi, 28-day comprehensive strength, water-cement ratio, 0.51 maximum (non-air-entrained), 0.40 maximum (air-entrained).

2. Limit maximum water-cement ratio of concrete exposed to freezing and thawing to 0.45. Limit maximum water-cement ratio of concrete exposed to deicing salts, brackish water, or seawater to 0.40.

E. Ready-Mix Concrete: ASTM C 94.

## 1.3 EXECUTION

A. Framework: Construct formwork so that concrete members and structures are of correct size, shape, alignment. Elevation, and position. Select from materials to obtain required finishes.

1. Maintain formwork tolerances and surfaces irregularities with ACI 347 limits, Class A tolerances for concrete exposed to view and Class C tolerances for other concrete surfaces.

B. Reinforcement: Accurately position and support reinforcement, and secure against displacement. Locate and support reinforcement to maintain minimum cover with metal chairs, runners, bolsters, spacers, and hangers as required. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

1. Install welded wire fabric in lengths as long as practicable; lap at least one full mesh and lace splices with wire.

C. Concrete Placement: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting and Placing Concrete," for placing concrete in a continues operation within planned joints or sections. Do not begin concrete placement until other affected work is completed.

1. Protect concrete from physical damage or reduce strength due to weather extremes during mixing, placing, and curing.

   a. In cold weather comply with ACI 306.
   b. In hot weather comply with ACI 305.

D. Curing: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather, apply an evaporation-control compound according to manufacture's instructions after screeding and bull floating, but before power floating and troweling.

1. Begin initial curing as soon as free water has disappeared from exposed surfaces.

E. Assumed Foundation Allowable Bearing Pressure is 2,000 psf. CONTRACTOR shall verify allowable bearing pressure prior to construction. This shall be done by CONTRACTOR furnished testing agent to test compaction in footing trenches.

F. All Footings Shall Bear on Compacted Sand. Sand shall be compacted to a minimum of 95% maximum density.

G. Contact MISSDIG 3 days prior to excavation for location of all utilities.

H. Interior Concrete Coating: Note: Floor will be coated with fast setting high impact aliphatic urethane glaze. Contractor will verify required floor preparation prior to coating.

**END OF SECTION**

# DIVISION 4 - MASONRY

## SECTION 04200
## UNIT MASONRY

### 1.1 GENERAL

A. Cold-Weather Requirements: Do not build on frozen sub grade or setting beds. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with the following requirements:

1. Cold-Weather Construction: Heat mixing water and sand to produce mortar and grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing. Heat masonry units to 40 deg F (4 deg C) if grouting.

2. Cold-Weather Protection: Cover masonry with insulating blankets or provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) for 48 hours after construction. Install wind breaks when wind velocity exceeds 15 mi./h (25 km/h).

B. Hot-Weather Requirements: Protect unit masonry work from excessive evaporation of water from mortar and grout. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.

### 1.2 PRODUCTS

A. Colors, Textures, and Patterns: Provide masonry units and mortar for exposed work.

B. Concrete Masonry Units: ASTM C 90 and as follows:
Note: Refer to structural plans for more data. Contractor shall provide products for most restrictive requirement.

1. Compressive Strength: 2000 psi (13.1 Mpa) minimum average net-area compressive strength.

2. Compressive Strength: As requires to produce concrete unit masonry construction of compressive strength indicated.

3. Weight Classification: Normal Weight

4. Provide Type II, nonmoisture-controlled units.

5. Size: Manufactured to the actual dimensions of 3/8 inch (10 mm) less than nominal sizes indicated on the Drawings.

6. Exposed Faces: Manufacturer's standard color and texture, unless otherwise indicated.

7. Provide special shapes: for lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.

8. Provide square-edged units: for outside corners, except where indicated as bullnose.

9. Water: Potable.

10. Dumpster enclosure concrete block shall be split faced with matching colored mortar - color to be selected by owner.

C. Steel Reinforcing Bars: Billet steel complying with ASTM A 615, Grade 60 (ASTM A 615M, Grade 400).

D. Deformed Reinforcing Wire: ASTM A 496, with ASTM A 153, Class B-2 zinc coating.

E. Joint Reinforcement: Provide joint reinforcement formed from galvanized carbon-steel wire, ASTM A 641 (ASTM A 641M), Class 1, for interior walls; and ASTM A 153, Class B-2, for exterior walls.

F. Truss design with 1 side rod for each face shell of hollow masonry units more than 4 inches (100 mm) in width, plus 1 side rode for each wythe of masonry 4 inches (100 mm) or less on width. Minimum horizontal reinforcing every 2 courses.

G. Adjustable Anchors for Connecting to Structural Frame Provide 2-piece assemblies as described below, wire diameter as indicated:

1. For Anchorage to Concrete: Dovetail sheet metal anchor section and triangular-shaped wire tie section sized to extend within 1 inch (25 mm) of masonry face.

2. For Anchorage to Steel Framing: Crimped ¼-inch- (6.4-mm-) diameter wire

anchor section for welding to steel and triangular-shaped wire tie section sized to extend within 1 inch (25 mm) of masonry face.

H. Masonry Cleaners: As follows:

1. Job-Mixed Detergent Solution: Solution of ½-cup (0.14-L) dry measure tetra sodium polyphosphate and ½-cup (0.14-L) dry measure laundry detergent dissolved in 1 gallon (4 L) of water.

2. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other stains from masonry surfaces; expressly approved for intended use by manufacturer of masonry units being cleaned.

I. Mortar and Grout Mixes: Do not us admixtures unless otherwise indicated. Do not use calcium chloride in mortar or grout.

1. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Mortar for bearing and exterior walls shall be type M. Interior nonbearing walls shall be type N.

2. Grout for Unit Masonry: Comply with ASTM C 476. Use grout of consistency to completely fill spaces intended to receive grout. Grout shall be F'c=3000ps.

3. Colored Mortar: To match split faced masonry units where indicated on the plans, submit color options to design builder.

## 1.3 EXECUTION

A. Cut masonry units with motor-driven saws. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

B. Fill cores in hollow concrete masonry units with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items, unless otherwise directed.

C. Tool exposed joints slightly concave when thumbprint hard, using a joiner larger than joint thickness. Joint shall be 3/8 inch wide.

D. Provide continuous horizontal-joint reinforcement as indicated. Install with a

minimum cover of 5/8-inch (16 mm) on exterior, or ½ inch (13 mm) elsewhere. Lap a minimum of 6 inches (150 mm).

1. Provide continuity at corners and wall intersections by using prefabricated "L" and "T" sections.

E. Lay concrete block in a running (common) bond.

F. Foundation Walls: 8" standard concrete block.

G. Grouting: Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.

H. Final Cleaning: After mortar is thoroughly set and cured, remove mortar particles with nonmetallic scrapers, and clean exposed masonry as follows:

1. Wet wall surface with water prior to application of cleaners, remove cleaners promptly by rinsing thoroughly with clean water.

2. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2 applicable to type of stain.

**END OF SECTION**

# SECTION 06100
# ROUGH CARPENTRY

## 1.1 GENERAL

A. **Submittals:** Submit the following:

1. Product Data for engineered wood products, underlayment, insulating sheathing, metal framing anchors, and construction adhesives.
2. Material certificates for dimension lumber specified to comply with minimum allowable unit stresses.
3. Wood treatment data, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials.
4. Research or evaluation reports of the model code organization acceptable to authorities having jurisdiction that evidence code compliance of engineered wood products, foam-plastic sheathing, air-infiltration barriers, metal framing anchors, power-driven fasteners, and fire-retardant-treated wood.

## 1.2 PRODUCTS

A. **Lumber, General:** Comply with DOC PS 20 and with applicable grading rules of inspection agencies certified by the American Lumber Standards Committee's (ALSC) Board of Review. Provide dressed lumber, S4S, with each piece factory marked with grade stamp of inspection agency.

1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.
2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

B. **Wood-Preservative-Treated Materials:** Comply with applicable requirements of AWPA C2 (lumber) and AWPA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.

1. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. (4.0 kg/cu. m). After treatment, kiln-dry lumber and plywood to a maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:

2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

C. **Dimension Lumber:** Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

1. Non-Load-Bearing Interior Partitions: Provide Standard, Stud, or No. 3 grade and any of the following species:

   a. Species: Northern species; NLGA.

2. Framing Other than Non-Load-Bearing Partitions: Provide Construction or No. 2 grade and any of the following species:

   a. Species: Southern pine; SPIB.

D. **Miscellaneous Lumber:** Provide No. 3 or Standard grade lumber of any species for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, and similar members.

E. **Engineered Wood Products:** Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that evidence compliance with building code in effect for Project. Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis, and demonstrated by comprehensive testing performed by a qualified independent testing agency.

1. Laminated-Veneer Lumber: Lumber manufactured by laminating wood veneers in a continuous press using an exterior-type adhesive complying with ASTM D 2559 to produce members with grain of veneers parallel to their lengths and complying with the following requirements:

   a. Extreme Fiber Stress in Bending: 2500 psi (17 MPa) for 12-inch nominal-(286-mm actual-) depth members.
   b. Modulus of Elasticity: 2,000,000 psi (13 800 MPa).

F. **Framing**: Stress grade 1200 PSI minimum, factory marked. Light framing (4x4) maximum. “Standard Grade” any species; structural frame (2x10, 2x2) “No. 1 Grade” any species.

G. **Plywood:** Each construction and industrial panel shall be identified with the appropriate trademark of the American Plywood Association and shall meet the requirements of the latest edition of U.S. Product Standard PS 1/ANSI A 1999.1 or one of APA's Performance standards.

H. **Roof Sheathing**: ½" OSB Sheathing equal to Weyerhaeuser "Structural Wood." Install Metal H-Clips at mid-span of each joint.

I. **Treated Wood**: Preservation pressure treated wood; AWPI LP-2 pressure treated with water-borne preservatives. Treat all cants, nailers, blocking rails, etc., in conjunction with any wood in contact with ground, masonry or other dissimilar materials.

J. **Wood Rood Trusses**: Provide trusses/rafters where shown. Comply with the applicable requirements of the NLMA's National Design Specifications for stress-graded lumber and its fastenings; and the Truss Plate Institute "Light Metal Connected Wood Trusses."

K. **Provide** pre-engineered and shop-assembled trusses by a recognized manufacturer of wood trusses. Design for the span, loading, truss shape and spacing shown. Fabricate in the plant of the manufacturer or his licensed fabricator.

Store, handle and erect trusses in accordance with manufacturer's printed instructions. Provide temporary supports and bracing as required.

Trussed rafters to include all the shapes, sizes and specialty items shown on the drawings. All heals to match existing where required.

DESIGN LOADS: 60 lbs. per sq. ft. Live Load (Ground snow load)

L. **Laminated Wood Beams**: Shall conform to the manufacturing requirements of the American Institute of Timber Construction Standards, AITC 100 and AITC 117-73 and AITC 200 bearing AITC quality marks on members. Adhesives shall be waterproof. Appearance grades shall be Architectural. Exposed faces of member to receive one coat exterior stain, factory applied. Members shall be individually wrapped for protection.

M. **Exposed Board Lumber**: Match existing trims both interior and exterior (size, material and color).

N. **Adhesives for Field Gluing Panels to Framing:** Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

## 1.3 EXECUTION

A. **Set rough carpentry** to required levels and lines, with members plumb, true to line, cut, and fitted.

B. **Fit rough carpentry** to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

C. **Securely attach rough carpentry work** to substrate by anchoring and fastening as indicated, complying with the following:

   a. "Recommended Nailing Schedule" of referenced framing standard and with AFPA's "National Design Specifications for Wood Construction."
   b. "Table 23-I-Q--Nailing Schedule" of the Uniform Building Code.

D. **Use hot-dip galvanized or stainless-steel nails** where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity.

E. **Framing Standard:** Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

F. **Pre-Finished Metal Roof Panels**

   1. Furnish all labor, material, fasteners and equipment necessary to complete installation of roof system as shown on drawings and specified herein.

   2. The roofing Contractor shall furnish and install 15# felt behind all masonry areas.

   3. The roofing contractor, after examining all surfaces to be roofed, shall notify the Architect in writing, prior to starting work, of any defects which he considered detrimental to the proper installation of his materials.

   4. Fasteners: Galvanized annual ringed nails of sufficient length and holding power to secure the material.

   5. Metal Roof Panels: 26 ga. pre-finished metal roof panels as provided by Metals Sales, Image II. Color to be selected from manufacturer’s full range of standard colors. Note: Contractor may provide an Architect approved equal. System shall be installed per manufacturer’s instructions

6. Metal Drip Edge: Brake-formed sheet metal with at least a 2 inch (50mm) roof deck flange and a 1-1/2 inch (38 mm) fascia flange with a 3/8 inch (9.6 mm) drip at lower edge. Furnish materials in lengths of 8 or 10 feet (2.5 to 3 m).

7. Ridge Vent: Pre-finished vented metal ridge vent with -woven modified polyester. (Or architect approved equal)

   a. Install ridge vents according to manufacturer's instructions.

8. Felt Underlayment: Apply one layer of 30# felt underlayment horizontally over entire surface to receive fiberglass shingles, lapping succeeding courses a minimum of 2-inches (50 mm), end laps a minimum of 4-inches (100 mm), and hips and valleys a minimum of 6 inches (150 mm). Fasten felt with sufficient number of roofing nails or non-corrosive staples to hold underlayment in place until fiberglass shingle installation.

   a. Apply an additional layer of felt underlayment on roof decks with a slope of 2 to 4 inches per foot (1:6 to 1:3).
   b. Omit felt underlayment at areas of waterproof underlayment. Lap felt underlayment over waterproof underlayment as recommended by manufacturer but not less than 2 inches (50 mm).

9. Waterproof Underlayment: Minimum 40-mil- (1 mm) thick, self-adhering, polymer-modified, bituminous sheet membrane, complying with ASTM D 1970. Provide primer when recommended by underlayment manufacturer.

   a. Apply waterproof underlayment at eaves. Cover deck from eaves to at least 24 inches (600 mm) inside exterior wall line.
   b. In addition to eaves, apply waterproof underlayment in place of felt underlayment at valleys.

10. Closed-Cut Valleys: Comply with ARMA and NRCA recommendations.

11. Flashing: 90# Granulated base sheet. Install metal flashing and trim as indicated and according to details and recommendations of the "Fiberglass Roofing" section of the "The NRCA Steep Roofing Manual" and ARMA's "Residential Fiberglass Roofing Manual."

12. Replace any damaged materials installed under this Section with new materials that meet specified requirements.

G. **SIDING, SOFFIT, TRIM AND ACCESSORIES**

1. Manufacturer: Subject to compliance with requirements, provide siding and trim accessories for the following (or architect approved equal):

   a. Siding: 8” nominal white pine half log siding with false corners and Swedish cope profile, hewn finish

   b. Soffit & Ceiling: Tongue & Groove nominal 1x6 ponderosa pine WP4 pattern. Note: Provide prefinished metal continuous vent strip at exterior soffit

3. Siding Accessories: Solid soffit panels, ventilating soffit panels, corner posts, door casings, window casings, starter strips, trim, and other items as recommended by manufacturer for building configuration, matching type of siding and trim selected.

4. Fasteners: Non-corrosive aluminum siding nails, in sufficient length to penetrate minimum of 1 inch (25 mm) into substrate. Provide pre-finished fasteners in color to match siding where face nailing is unavoidable.

5. Comply with siding manufacturer's installation instructions and recommendations. Center nails in elongated nailing slots without binding siding to allow for thermal movement. Install trim and accessories in accordance with manufacturer's recommendations. Overlap butt joints to shed water away from direction of prevailing wind. Isolate dissimilar metals.

6. Replace damaged siding materials with new materials complying with specified requirements.

7. Clean finished surfaces as recommended by siding manufacturer, and maintain in a clean condition during construction.



**END OF SECTION 06100**

# DIVISION 7 - THERMAL AND MOISTURE PROTECTION

## SECTION 07160
## DAMPPROOFING SYSTEM

### 1.1 GENERAL

A. Scope. Include all labor, material, equipment and related services necessary to finish and install damp proofing.

1. Submittals: Submit product data for each type of product specified.

### 1.2 PRODUCTS

A. Damp roofing shall be fibered, trowel grade, asphalt based mastic; Sonneborn Hydroxide Mastic or equal.

### 1.3 EXECUTION

A. Apply bituminous damp proofing strictly in accordance with manufacturer's instructions.

1. Install drainage panel system consistent with Dow Guidelines. Form 179-4251-489.

2. Fill voids, seal joints, and apply bond breakers as recommended by manufacturer.

3. Protection of other work: Prevent spillage and migration into other surfaces of adjoining work.

4. Protection exterior below-grade damp proofing membrane from drainage until backfill is completed. Remove overspray and spilled materials from surfaces not intended to receive damp proofing.

**END OF SECTION**

# SECTION 07210
# BUILDING INSULATION

## 1.1 GENERAL

A. Insulation: As follows:

1. 1 ½" Rigid insulation shall be provided on all exterior walls and fit between furring framing

2. Closed cell injected foam insulation shall be provided in all masonry exterior walls

3. Roof insulation shall be minimum R-49 fiberglass insulation (Kraft faced product is acceptable)

4. 2" Rigid insulation shall be provided at perimeter of exterior foundation walls and shall be a minimum of 24" long

B. Batt Insulation shall be similar to fiberglass insulation (K of 0.27) complying with FS-HH-1521; Type 1, density of not less than 1.5 pounds per cubic foot, thickness shown on drawings. CONTRACTOR to take care to insulate behind electrical boxes, wiring, piping, etc., so all areas are filled. Batt insulation shall be similar to fiberglass building insulation: Owens Corning Fiberglass Corporation or approved equal.

**END OF SECTION**

# SECTION 07620
# SHEET METAL FLASHING

## 1.1 GENERAL

A. Provide roof and wall metal flashing as required to maintain watertight condition.

B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), 3003-H14, mill finish, minimum thickness of 0.040 inch (1.0 mm), unless otherwise indicated.

C. Galvanized Steel Sheet: ASTM A 526, G 90 (ASTM A 526M, Z 275), commercial quality, or ASTM A 527, G 90) (ASTM A 527M, Z 275), lock-forming quality, hot-dip galvanized, mill phosphatized where indicated for painting, not less than 0.0396 inch (1.0 mm) thick, unless otherwise indicated.

D. Concealed Through-Wall Flashing: 0.0156-inch (0.4 mm) thick stainless steel.

E. Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.

1. Copings: 0.050 inch (1.2 mm) thick aluminum.
2. Base Flashing: 0.0187 inch (0.5 mm) thick stainless steel.
3. Counter flashing: 0.0187 inch (0.5 mm) thick stainless steel.
4. Flashing Receivers: 0.0156 inch (0.4 mm) thick stainless steel.
5. Equipment Support Flashing: 0.0276 inch (0.7 mm) thick galvanized steel.
6. Roof Penetration Flashing: 0.0276 inch (0.7 mm) thick galvanized steel.
7. Roof Expansion Joint Cover: 0.0276 inch (0.7 mm) thick galvanized steel.
8. Roof to Wall Expansion Joint Cover: 0.0336 inch (0.85mm) thick galvanized steel.

F. Coil Coated Aluminum Finish: 2-coat flurorpolymer Hylar 5000 or Kynar 500.

1. Color and Gloss: As selected by the ARCHITECT.

G. Coil Coated Galvanized Steel Sheet Finish: 2-coat fluoropolymer Hylar 5000 or Kynar 500.

1. Color and Gloss: As selected by the ARCHITECT or OWNER.

## 1.3 EXECUTION

A. Installation: Comply with manufacturer's instructions and SMACNA's "Architectural Sheet Meal Manual" allow for thermal expansion, set true to line and level as indicated. Install Work with laps, joints, and seams permanently watertight and weatherproof, conceal fasteners where possible.

1. Roof Edge Flashing: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.

B. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.

C. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

D. Separations: Separate noncompatible metals or corrosive substrates with a coating of asphalt mastic or other permanent separation as recommended by manufacturer.

E. Counter flashings: Coordinate installation with installation of assemblies to be protected by counter flashing. Install counter flashings in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seam, or blind rivets and sealant. Lap counter flashing joints a minimum of 2 inches (50 mm) and bed with sealant.

F. Equipment Support Flashing: Coordinate installation with roofing and equipment installation. Weld or seal flashing to equipment support member.

G. Roof-Penetration Flashing: Coordinate installation with roofing and installation of items penetrating roof.

**END OF SECTION**

# SECTION 07901
# JOINT SEALANTS

## 1.1 GENERAL

A. Provide joint sealants at all openings including doors, windows, etc., to maintain watertight.

B. Preconstruction Joint Sealant-Substrate Tests: Submit substrate materials representative of actual joint surfaces to joint sealant manufacturer for laboratory testing of joint sealants for adhesion to primed and unprimed substrates and for compatibility with joint substrates and other joint-related materials.

## 1.2 PRODUCTS

A. 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.

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

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

1. Polyurethane Sealant: One-part polyurethane sealant shall be a one-component polyurethane sealant: Mameco VULKEM 116 or equal.
2. Two-Part Polyurethane Sealant: Shall be Tremco DYMERIC or equal.
3. Polyurethane Sealant: May be either one-part of two-part.
4. Primer or Sealants: Shall be as recommended by the sealant manufacturer.
5. Polyethylene Foam: Dow Chemical ETHA-FOAM.
6. Precompressed Foam Sealant: Illbruck Will-Seal.
7. Solvents and Cleaning Agents: Shall be as recommended by the sealant manufacturer.

D. Mixing - Prepare and mix caulking materials and sealants strictly according to the manufacturer's instructions. Do not thin or adulterate materials.

1. Use two-component sealants within the maximum period of time after mixing recommended by the sealant manufacturer for the specific material and job conditions, and discard sealants not used within this time.

## 1.3 EXECUTION

A. General: Comply with joint sealant manufacturer's instructions applicable to products and applications indicated.

B. Sealant Installation Standard: Comply with ASTM C 1193.

C. Acoustical Sealant Application Standard: Comply with ASTM C 919 for use of joint sealants in acoustical applications.

D. Install Polyethylene Foam in all joints to receive sealant. Use proper size and shape pieces so that installed foam is compressed approximately 30%.

**END OF SECTION**

# DIVISION 8 - DOORS AND WINDOWS

## SECTION 08110
## STEEL DOOR FRAMES

### 1.1 GENERAL

A. Submit Product Data and shop drawing for each type of frame specified.

B. Frames: 16 Ga. continuously welded for interior and 14 Ga. continuously welded for exterior. Note: Exterior door frame shall be provided by "Therma Tru"

C. Doors: Interior Grade 2, heavy duty, Model 2, seamless design, minimum 0.0476 inch thick cold rolled steel sheet faces. Exterior Grade 3, extra heavy duty, Model 2, seamless design, minimum 0.0635 inch thick galvanized steel sheet faces.

D. General: Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.

E. Door Silencers: 3 on strike jamb of single-door frames and 2 on heads of double door frames.

F. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware according to SDI 107.

G. Install at least 3 anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb.

H. Finishes, General: Comply with NAAMM's "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

1. Apply primers and organic finishes to doors and frames after fabrication.
2. Factoring Priming for Field-Painted Finish: Apply shop primer that complies with ANSI A224.1 acceptance criteria, is compatible with finish paint systems indicated, and has capability to provide a sound foundation for field-applied topcoats. Apply primer immediately after surface preparation and pretreatment.

I. Door Installation: Fit hollow-metal doors accurately in frames, within clearances Specified in ANSI/SDI 100.

J. Prime Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch up of compatible air-drying primer.

# SECTION 08211
# FIBERGLASS DOORS

## 1.1 GENERAL

A. Submittals: In addition to product data, submit the following:

1. Shop drawings indicate location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, requirements for veneer matching and factory finishing and other pertinent data. For factory-machined doors, indicate dimensions and locations of cutouts for locksets and other cutouts adjacent to light and louver openings.

## 1.2 PRODUCTS

A. Exterior Fiberglass Door Unit: (Or Architect approved equal)

Manufacturer: Therma Tru
Classic Craft Rustic Model #CCR-100 Full Plank
Size: 3’-0” x 6’-8”
Finish: Stain grade

## 1.3 EXECUTION

A. Install Wood Doors to comply with manufacturer’s instructions and referenced quality standard and as indicated.

**END OF SECTION**

# SECTION 08710
# DOOR HARDWARE

## 1.1 GENERAL

A. Hardware supplier shall submit final hardware schedule organized by "hardware sets," to indicate specifically the product to be furnished for each item required on each door.

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

B. All door hardware shall be A.D.A approves type. This shall include locksets, closures, thresholds, etc.

C. ARCHITECT shall review and approve final hardware schedule prior to installation.

D. Exterior door hardware provided by General Contractor. Interior door hardware shall be provided by Owner.

## 1.2 PRODUCTS

A. Finish and base material designations are indicated in accordance with ANSI BHMA A 156.18 or the nearest traditional US commercial finish.

## 1.3 EXECUTION

A. Hardware Mounting Locations: As recommended by the Door and Hardware Institute, unless indicated otherwise.

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

C. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant. Remove excess sealant and clean adjacent surfaces.

D. Hardware Adjustments: Return to Project one month after Owner's occupancy, and adjust hardware to proper operation and function. Instruct Owner's personnel in proper maintenance and adjustments.

E. Hardware Schedule:

Hardware Set #1 (Door 100)

| | |
|---|---|
| Hinges | Ball Bearing 10B (By door manufacturer-must use Therma Tru frame) |
| Classroom Deadbolt | B663P 613 (Schlage) |
| Privacy Set | AL 40 (Schlage) |
| Door Stop | 409 613 (Rockwood) |
| Threshold | Public Access ADA (By door manufacturer) |
| Door Seal | By door manufacturer |
| Decorative Strap Hinge | By door manufacturer |
| Closer | 8501 690 (Norton) |

Hardware Set #2 (Door 101)

| | |
|---|---|
| Hinges | Ball bearing 10B (By door manufacturer) |
| Lockset | AL 51 (Schlage) |
| Door Stop | 409 613 (Rockwood) |

**END OF SECTION**

# SECTION 09900
# PAINTING

## 1.1 GENERAL

A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.

1. Surface preparation, priming and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Paint exposed surfaces, except where the paint schedule indicates that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate color. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.

C. Do not paint pre-finished item, concealed surfaces, finished metal surfaces, operating parts and labels.

1. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

D. Submittals: For each paint system specified, provide the following:

1. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated. After color selection, the Architect will furnish color chips for surfaces to be coated.

E. Project Conditions: Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%, or at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

## 1.2 PRODUCTS

A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Paint materials shall be the best grade and quality products manufactures by Devoe, Glidden, Benjamin Moore, Pratt & Lambert and Sherwin-Williams or Architect's approved equal.

C. Colors: To be determined

## 1.3 EXECUTION

A. Examine substrates, areas, and condition under which painting will be performed for compliance with paint application requirements. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.

B. Preparation: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface applied protection before surface preparation and painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

C. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

D. Application: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

E. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

F. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others.

G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

H. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

1. After completing painting, clean glass and paint-spattered surfaces.
2. At completion of construction activities of other trades, touch up and restore damaged or defected painted surfaces.

I. Paint Schedules: Provide the following paint system for the various substrates indicated (verify final requirements with Owner prior to application):

1. Exterior Log Siding, Soffit, Fascia and Trim (including interior ceiling)
   Three (3) coat "Sikens" protective wood sealer (or architect approved equal)

2. Interior and Exterior Ferrous Metal (doors, frames, etc.)
   One (1) coat latex primer
   Two (2) coats acrylic latex gloss enamel

2. Exterior Fiberglass Door
   One (1) coat stain
   Two (2) coats sealer

4. Concrete Block Walls and Floor

One coat "Granitex" fast setting high impact aliphatic urethane glaze (or architect approved equal). Product shall be placed on concrete floor slab as well as interior masonry walls. All required preparation shall be included.
Note: Product available through J&Q Coatings – Gaylord, Michigan (989) 390-2999

**END OF SECTION**

# DIVISION 10 - SPECIALTIES

## SECTION 10800
## TOILET AND BATH ACCESSORIES

### 1.1 GENERAL

A. Submittals: Manufacturer's product data for each toilet accessory item specified, including details of construction relative to materials, dimensions, gages, profiles, mounting methods, specified options and finishes.

B. CONTRACTOR shall provide grab bars, mirrors and toilet paper dispensers (waste receptacles and soap dispensers by OWNER).

### 1.2 PRODUCTS

A. Manufacturer's: Subject compliance with requirements, provide toilet accessories by one of the following (Bobrick items specified for product description):

1. Accessory Specialties
2. American Dispenser
3. Bobrick Washroom Equipment, Inc.
4. Bradley Corporation
5. McKinney/Parker

B. Stainless Steel Channel Framed Mirrors: Bobrick B-165 2436 (or ARCHITECT approved equal)
Surface Mounted Toilet Tissue Dispenser for Single Roll: Bobrick B-2620 (or ARCHITECT approved equal)
Concealed Mounted Grab Bars: Bobrick 5507 Series, 18", 36" and 42" long with 1-1/4" diameter. (or ARCHITECT approved equal)

### 1.3 EXECUTION

**A.** Installation: Install toilet accessory units according to manufacturers' printed installation instructions, using fasteners appropriate to substrate as recommended by unit manufacturer. Install units plumb and level, firmly anchored in locations and at heights indicated

1. Grab Bars: Locate per Michigan code modification of ADA. Anchor grab bars securely. Grab bars should be capable of supporting a minimum dead load of 300 pounds.

2. Secure mirrors to walls in concealed, tamperproof manner with special hangers, toggle bolts or screws. Set units plumb, level, and square at locations indicated, in accordance with manufacturer's instructions for type of substrate involved.

3. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.

4. Clean and polish all exposed surfaces strictly according to manufacturer's recommendations after removing temporary labels and protective coatings.

5. Provide wood backing for all accessories as required by manufacturer.

**END OF SECTION**