MAQUOKETA COMMUNITY
SCHOOL DISTRICT

612 South Vermont Street
Maquoketa, Iowa 52060-3460
Phone: (563) 652-4984

REQUEST FOR PROPOSAL (RFP) AND ALTERNATES FOR EXTERIOR RENOVATIONS AT JACK MARLOW ATHLETIC COMPLEX

ALL PROPOSALS MUST BE RECEIVED BY 2:00 PM ON MARCH 1, 2022 AT THE CENTRAL OFFICE, 612 S VERMONT ST., MAQUOKETA IA

ALL QUESTIONS MUST BE ASKED VIA EMAIL TO KHAXMEIER@MAQUOKETASCHOOLS.ORG. ANSWERS TO SUCH QUESTIONS WILL BE UPLOADED ON THE WEBSITE SO ALL INTERESTED PARTIES MAY VIEW.

INTERESTED PARTIES MAY ACCESS THE SITE DURING DAYLIGHT HOURS. BUILDINGS WILL BE LOCKED.

Chris Hoover
Superintendent of Schools

Kristy Haxmeier
Business Manager

Tara Notz
Director of Professional Growth & Student Learning

Dustin Cogan
Technology Director

Dan Selzer
Director of Transportation & Support Operations

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I. EXPERIENCE & REFERENCES

Please provide an outline of related experience along with at least 2 professional references whom we may contact and the address(es) of locations for viewing.

II. RFP SUBMISSION PROCEDURES

Vendors who wish to respond to this RFP will be responsible to review and evaluate the written required specifications to the RFP and submit one original RFP response before 2:00 p.m local time March 1, 2022, according to the clock in the District business office to the following address:

Maquoketa Community Schools
612 S Vermont Street
Maquoketa, IA 52060
RFP - EXTERIOR RENOVATIONS AT JACK MARLOW ATHLETIC COMPLEX

All submissions become the property of the MCSD and will not be returned to the Vendor. All costs associated with the submission will be borne by the submitting vendor.

III. RFP OPENING:

This schedule is subject to change at the discretion of MCSD.
RFP Issue Date: 2/7/2022
Final Date for emailed questions: 2/23/2022
Deadline to submit RFP: Before 2:00 pm on 3/01/2022
RFP Opening: 3/01/2022
Location: Central Office, 612 S Vermont St, Maquoketa

Chris Hoover Superintendent of Schools
Kristy Haxmeier Business Manager
Tara Notz Director of Professional Growth & Student Learning
Dustin Cogan Technology Director
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OUR MISSION: To ensure all students and staff are learning at high levels.
OUR VISION: To develop a culture of collaboration and communication that supports continuous improvement for all.

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IV. RFP AWARD DETERMINATION

This RFP is intended to be awarded to a single vendor.

MCSD may award the contract to the vendor deemed to be in the best interests of MCSD as determined by MCSD its sole discretion, considering the price, quality of services, and other factors. MSCD reserves the right, in its sole discretion, to reject any or all proposals or parts thereof and to waive any informalities or irregularities.

V. EVIDENCE OF INSURANCE

The successful Vendor, at its expense, shall carry and maintain in full force at all times during the term of the contract resulting from this RFP the following insurance:

COVERAGE	LIMITS
Workman's Compensation	Statutory
General Liability/Property Damage	$500,000 for each occurrence $1,000,000 aggregate

VI. INVOICING

- Invoices, at a minimum, shall consist of the following information:
  - School System Name
  - Item description and cost
  - Company Address
  - Company Phone and Fax numbers
  - Detail of % of work completed
- Please understand that all invoices received must be reviewed, processed, and presented at a monthly Board meeting for approval

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before a check can be issued. This is the notification that the district will not be able to meet payment terms less than 30 days.
- A current W9 must be on file with the District before any payment will be issued.

VII. STANDARDS & TERMS

- Remedy for non-performance/termination of contract
  - In the event that either the Vendor or MCSD defaults in the performance of any obligation specified in the contract, the non-defaulting party shall notify the other party in writing and may suspend the contract, in whole or in part, pending remedy of the default. If such default is not remedied within fifteen (15) days from the date of receipt of such notice or if the other party is diligently attempting to cure such default but is unable to cure such default within thirty (30) days from the date of receipt of such notice, then the non-defaulting party shall have the right to terminate the contract immediately by providing written notice of termination to the other party.

- Indemnification and Hold Harmless
  - The Vendor shall defend, indemnify, and hold harmless the District from and against any and all claims, liability, damages, loss, and/or expenses (including reasonable attorney's fees and costs) that may arise by reason of any breach of contract, negligence, and/or violation of the law (including, but not limited to, infringement of any proprietary right of a third party) by firm and/or its employees or agents. In the event that it shall become necessary for any party to institute legal proceedings against the other party for recovery of any amounts due and owing under the RFP or any resulting contract, it is expressly agreed that the prevailing party in any such action shall be entitled to recover from the non-prevailing party all costs

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related to such collection, including reasonable attorney fees and all expert witness fees incurred during pre-suit collection attempts, suit, and post-judgment, appeal, or settlement collection.

- Staffing
  - The vendor shall comply with all laws applicable to its performance of services for MCSD. The vendor is responsible to ensure that any staff providing services to MCSD has cleared all background checks, including criminal history, sex offender, child abuse, and dependent adult abuse checks. The relationship between the vendor and MCSD is that of an independent contractor and the vendor is the employer of all persons providing the services to MCSD.
  - Furthermore, the vendor certifies that they are responsible and liable to ensure any and all subcontractors they may hire adhere to the same standards as outlined in this proposal.

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FORM OF PROPOSAL AND ALTERNATES FOR
EXTERIOR RENOVATIONS

Maquoketa Community School District
Athletic Complex Facilities Improvements
600 Washington Street
Maquoketa, IA 52060

DATE: _____

PROPOSAL FOR GENERAL CONSTRUCTION

Exterior improvements to various buildings for the Maquoketa Community School District Athletic Facilities Complex. Project includes select demolition of exterior materials, exterior siding and soffit replacement, asphalt shingle and fascia replacement, sectional overhead, walk door, and exterior window replacements.

Name of Bidder:_____a corporation/a partnership/an

individual (strike out Inapplicable terms) doing business as _____.

To: Maquoketa Community School District
612 South Vermont Street
Maquoketa, Iowa 52060

CERTIFICATIONS Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Martin Gardner Architecture and the Maquoketa Community School Disctrict, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

The undersigned, having examined the contract documents and having familiarized himself with the nature of the work to be done and the conditions under which the work will be performed, in accordance with the drawings and specifications proposes to provide the required labor, services, materials and equipment, and to perform the work required for completion of the project at the price set forth hereafter.

ACKNOWLEDGEMENT OF ADDENDA: The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
Addendum No. 1, dated _____.

Base Bid: Baseball Press Box exterior siding and soffit replacement, window replacement, and other work as specified on the drawings and specifications. Work also includes asphalt shingle roof replacement of the Club house including drip edge.

_____($_____)

Alternate Bid A-1: Clubhouse: Exterior siding and soffit and fascia replacement, Exterior sectional overhead door replacement, exterior walk door replacement, and any other work as described on the drawings and specifications.

[ADD] [DEDUCT] Mark out one for the sum of:

_____($_____)

Alternate Bid A-2: Softball Press box: Exterior siding replacement, infill work, and any other work as described on the drawings and specifications.

[ADD] [DEDUCT] Mark out one for the sum of:

_____($_____)

Alternate Bid A-3: Tennis Court Storage Building: Replacement of exterior siding, soffits and fascia, column covers, exterior sectional overhead door replacement, and any other works as described on the drawings and specifications.

[ADD] [DEDUCT] Mark out one for the sum of:

_____($_____)

Commencement Date: Commencement of construction will be contingent upon the Owner giving Notice to Proceed.

Completion Dates: Contractor shall achieve Substantial Completion for this project no later than **June 1, 2022.**

The undersigned bidder states that this proposal is made in conformity with contract documents and agrees that, in the event of any discrepancies or differences between any condition of his proposal and the contract documents prepared by Martin Gardner Architecture, P.C., Kyle D. Martin, A.I.A., the provisions of the latter shall prevail.

The contractor in submitting this proposal agrees that the above schedule is acceptable and that he has made all provisions in his proposal to deliver the project by the above date provided the Owner accepts the above proposal or combination of proposals and submits to the contractor a Notice to Proceed or a contract for construction within forty-five (45) working days of the receipt of bids. If Notice to Proceed or the contract is received after forty-five (45) days than that number of days shall be added to the above completion date.

All of the above to commence after receipt of either a written Notice to Proceed or the executed Agreement furnished by the Owner, subject to factors which may delay, extend, suspend or terminate the work as set forth in the contract documents.

BIDDER:_____ Corporate Seal (if any)

BY: _____
(Authorized Signature)

TITLE: _____

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. See Structural Drawings for further information regarding specific project requirements.

1.2 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Wood blocking and nailers.

B. Related Requirements:

1. Section 061600 "Sheathing" for sheathing, subflooring, and underlayment.

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.

B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) size or greater but less than 5 inches nominal (114 mm actual) size in least dimension.

C. Exposed Framing: Framing not concealed by other construction.

D. OSB: Oriented strand board.

E. Timber: Lumber of 5 inches nominal (114 mm actual) size or greater in least dimension.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
3. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. 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.

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

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
2. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
3. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
4. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
5. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
6. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: No. 2 grade.
   1. Application: All interior partitions.
   2. Species:
      a. Spruce-pine-fir; NLGA.

Exposed Framing Indicated to Receive a Stained or Natural Finish: Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Rooftop equipment bases and support curbs.
   4. Cants.
   5. Furring.
   6. Grounds.
   7. Utility shelving.
B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.
C. Concealed Boards: 15 percent maximum moisture content and any of the following species and grades:
D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.5 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
B. Nails, Brads, and Staples: ASTM F 1667.
C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.6 METAL FRAMING ANCHORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   1. KC Metals Products, Inc.

2. Simpson Strong-Tie Co., Inc.
3. USP Structural Connectors.

B. Allowable design loads, as published by manufacturer, shall meet or exceed those of basis-of-design products. 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. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

C. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.
1. Use for interior locations unless otherwise indicated.

D. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
1. Use for wood-preservative-treated lumber and where indicated.

2.7 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to suit width of sill members indicated.

B. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

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

B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.

D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

E. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.

F. Do not splice structural members between supports unless otherwise indicated.

G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches (406 mm) o.c.

H. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

I. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
1. Use inorganic boron for items that are continuously protected from liquid water.
2. Use copper naphthenate for items not continuously protected from liquid water.

J. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

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

L. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

M. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
   1. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 WALL AND PARTITION FRAMING INSTALLATION

A. General: Provide single bottom plate and double top plates using members of 2-inch nominal (38-mm actual) thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions and for load-bearing partitions where framing members bearing on partition are located directly over studs. Fasten plates to supporting construction unless otherwise indicated.

B. Construct corners and intersections with three or more studs, except that two studs may be used for interior non-load-bearing partitions.

C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
   1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal (89-mm actual) depth for openings 48 inches (1200 mm) and less in width, 6-inch nominal (140-mm actual) depth for openings 48 to 72 inches (1200 to 1800 mm) in width, 8-inch nominal (184-mm actual) depth for openings 72 to 120 inches (1800 to 3000 mm) in width, and not less than 10-inch nominal (235-mm actual) depth for openings 10 to 12 feet (3 to 3.6 m) in width.
   2. For load-bearing walls, provide double-jamb studs for openings 60 inches (1500 mm) and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated.

3.4 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

SECTION 061600 – SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. See Structural Drawings for project specific requirements.

1.2 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.

B. Related Requirements:

1. Section 061000 "Rough Carpentry"
2. Section 072500 "Weather Barriers" for water-resistive barrier applied over wall sheathing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5516.
4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 DELIVERY, STORAGE, AND HANDLING

Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of sheathing system that fail due to manufacturing defects within specified warranty period.

1. Construction Period Warranty: Manufacturer shall warrant the panels and tape for weather exposure for a period of 180 days from installation.

2. System Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

B. Factory mark panels to indicate compliance with applicable standard.

2.3 PRESERVATIVE-TREATED PLYWOOD

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.4 WALL SHEATHING

A. Plywood Sheathing: Exposure 1, Structural I sheathing.

1. Span Rating: Not less than 32/16.
2. Nominal Thickness: Not less than as indicated on the drawings.

B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1, Structural I sheathing.

1. Span Rating: Not less than 32/16.
2. Nominal Thickness: Not less than as indicated on the drawings.

2.5 ROOF SHEATHING

A. Plywood Sheathing: Exterior, Structural I sheathing.

1. Span Rating: Not less than 48/24.
2. Nominal Thickness: Not less than as indicated on the drawings.

B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1, Structural I sheathing.

1. Span Rating: Not less than 48/24.
2. Nominal Thickness: Not less than as indicated on the drawings.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Screws for Fastening Sheathing to Wood Framing: ASTM C 1002.

E. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.

2.7 MISCELLANEOUS MATERIALS

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

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code and as indicated under special fastening provisions of the structural drawings.

D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

1. Wall and Roof Sheathing:

a. Nail to wood framing.

b. Screw to cold-formed metal framing.

c. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION

SECTION 06 65 00 – Simulated Wood Trim

Plastic Simulated Wood Trim

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cellular PVC trim boards for:
   1. Column Wraps
   2. Skirtboards

1.2 REFERENCES

A. ASTM D792 - Density and Specific Gravity of Plastics by Displacement.

B. ASTM D570 - Water Absorption of Plastics.

C. ASTM D638 - Tensile Properties of Plastics.

D. ASTM D790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

E. ASTM D1761 - Mechanical Fasteners in Wood.

F. ASTM D5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by a Falling Weight.

G. ASTM D256 - Determining the Pendulum Impact Resistance of Plastics.

H. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer.

I. ASTM D635 - Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

J. ASTM E84 - Surface Burning Characteristics of Building Materials.

K. ASTM D648 - Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

L. ASTM D3679 - Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.3 **QUALITY ASSURANCE**

A. Manufacturer Qualifications: Manufacturer with a minimum of 15 years producing PVC trim products.

B. Installer Qualifications: Installer with a minimum of 3 years experience with the installation of PVC trim products.

C. Regulatory Requirements: Check with Local Building Code for installation requirements.

D. Allowable Tolerances:

   1. Variation in component length: -0.00 / +1.00”
   2. Variation in component width: ± 1/16”

3. Variation in component thickness: ± 1/16”
4. Variation in component edge cut: ± 2°
5. Variation in Density -0% + 10%

1.4 DELIVERY, STORAGE AND HANDLING

A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners.

B. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.5 WARRANTY

A. Provide manufacturer’s Limited Lifetime warranty against defects in manufacturing that cause the products to rot, corrode, delaminate, or excessively swell from moisture.

PART II PRODUCTS

2.1 MANUFACTURES

A. Acceptable products: AZEK® Trimboards manufactured by The AZEK® Company, which is located at: 888 N Keyser Ave Scranton, PA 18508

B. Requests for substitutions will be considered

2.2 MATERIALS

A. PVC: Free foam cellular PVC material with a small cell microstructure and density of .55 grams/cm³.

- Material shall have a minimum physical and performance properties specified in the following Section C.

C. Performance and physical characteristic requirements:

Property	Units	Value	ASTM Method
PHYSICAL			
Density	g/cm3	0.55	D 792
Water Absorption	%	0.15	D 570
MECHANICAL			
Tensile Strength	psi	2256	D 638
Tensile Modulus	psi	144,000	D 638
Flexural Strength	psi	3329	D 790
Flexural Modulus	psi	144,219	D 790
Nail Hold	Lbf/in of penetration	35	D 1761

Property	Units	Value	ASTM Method
Screw Hold	Lbf/in of penetration	680	D 1761
Staple Hold	Lbf/in of penetration	180	D 1761
Gardner Impact	in-lbs	103	D5420
Charpy Impact (@23°C)	ft-lbs	4.5	D256
THERMAL			
Coefficient of Linear Expansion	in/in/°F	3.2 x 10-5	D 696
Burning Rate	in/min	No burn when flame removed	D 635
Flame Spread Index	--	25	E 84
Heat Deflection Temp 264 psi	°F	150	D 648
Oil Canning (@140°F)	°F	Passed	D 648

2.3 SIMULATED WOOD TRIM

A. PVC Trimboard: AZEK® Trimboard with Sealed Edge, designed with a natural appearance to compliment fiber cement and natural cedar.
   1. Size:
      a. Nominal Width:
         1) 2 inches
         2) 4 inches
         3) 5 inches
         4) 6 inches
         5) 8 inches
         6) 10 inches
         7) 12 inches
         8) 16 inches
      b. Nominal Thickness:
         1) 5/8 inch (5/8 inch actual size)
         2) 1 inch (3/4 inch actual size)
         3) 5/4 inch (1 inch actual size)
         4) 6/4 inch (1-1/4 inch actual size)
         5) 8/4 inch (1-1/2 inch actual size)
      c. Length:
         1) 12 feet
         2) 18 feet
   2. Finish:
      a. Traditional/Smooth finish
      b. Reversible with Traditional (Smooth)/Frontier (Woodgrain) finish

C. PVC Skirtboard: AZEK® Universal Skirt Board, A two-piece reversible trimboard with integrated z- flashing and starter.
   1. Size:
      a. Nominal Width:
         1) 5/4 inch by 8 inches
      b. Length:
         1) 18 feet.
   2. Finish:
      a. Traditional/Smooth finish.
      b. Frontier/Woodgrain finish.

H. PVC Columnwrap: AZEK® one-piece column wraps.
   1. Size:
      a. Nominal Width:
         1) 4 inches by 4 inches (inside dimensions 3-3/4 inches)
         2) 6 inches by 6 inches (inside dimensions 5-3/4 inches)
      b. Length:
         1) 8 feet 6 inches
      c. Thickness:
         1) 1/2 inch
   2. Finish:
      a. Traditional/Smooth finish.

2.4 ACCESSORY PROTDUCTS

A. Fasteners:

1. AZEK® Cortex for Trim
2. Use fasteners design for wood trim and wood siding (thinner shank, blunt point, full round head) with AZEK®.
3. Use a highly durable fastener such as stainless steel or hot-dipped galvanized.
4. Staples, small brads and wire nails must not be used as fastening members.
5. The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 ½".
6. Standard nail guns work well with AZEK® trim products.
7. Use 2 fasteners per every framing member for trimboard applications. Trimboards 12" or wider, as well as sheets, will require additional fasteners.
8. Fasteners must be installed no more than 2" from the end of each board.
9. AZEK® should be fastened into a flat, solid substrate. Fastening AZEK® into hollow or uneven areas must be avoided.
10. Pre-drilling is typically not required unless a large fastener is used or product is installed in low temperatures.
11. 3/8" and ½" sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.

B. Adhesives:

1. Glue all AZEK® to AZEK® joints such as window surrounds, long fascia runs, etc. with AZEK® Adhesive, a cellular pvc cement, to prevent joint separation.
2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
3. AZEK® Adhesive has a working time of 10 minutes and will be fully cured in 24 hours.
4. If standard pvc cements are used, keep in mind these products typically cure quickly which will result in limited working time and may reduce adhesive strength.
5. Surfaces to be glued should be smooth, clean and in complete contact with each other.
6. To bond AZEK® to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:

1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.5 FINISHES

A. AZEK products do not require paint for protection but may be painted to achieve a custom color.

B. Preparation:
    1. No special surface preparations are required prior to painting - sanding is not necessary for paint adhesion.
    2. Surface must be clean and dry.
    3. Use a 100% acrylic latex paint with a Light Reflective Value (LRV) of 55 or higher.
    4. Follow the paint manufacturer's recommendations to apply.

PART III EXECUTION

3.01 INSTALLATION

A. Manufacturer instructions:
    1. Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.

B. Cutting:
    1. AZEK® products can be cut using the same tools used to cut lumber.
    2. Carbide tipped blades designed to cut wood work well. Avoid fine tooth metal cutting blades.
    3. Rough edges from cutting may be caused by excessive friction, poor board support, or worn or improper tooling.

C. Cutting:
    1. AZEK® products can be drilled using the same tools used to drill lumber.
    2. Drilling AZEK® products is similar to drilling a hardwood. Care should be taken to avoid frictional heat build-up.
    3. Use standard woodworking drills. Do not use drills made for normal rigid pvc.
    4. Periodic removal of AZEK® shavings from the drill hole may be necessary.

D. Milling:
    1. AZEK® products can be milled using standard milling machines used to mill lumber.
    2. Relief Angle 20° to 30°
    3. Cutting speed to be optimized with the number of knives and feed rate.

E. Routing:
    1. AZEK® products can be routed using standard router bits and the same tools used to rout lumber.
    2. Carbide tipped router bits are recommended.

F. Edge Finishing:
    1. Edges can be finished by sanding, grinding or filing with traditional woodworking tools.

G. Nail Location:
    1. Use 2 fasteners per every framing member for trimboard applications.
    2. Trimboards over 12" or wider, as well as sheets, will require additional fasteners.
    3. Fasteners must be installed no more than 2" from the end of each board.

H. Thermal Expansion and Contraction:
    1. AZEK® products expand and contract with changes in temperature.
    2. Properly fastening AZEK® material along its entire length will minimize expansion and contraction.
    3. When properly fastened, allow 1/8" per 18 foot of AZEK® product for expansion and contraction.
    4. Joints between pieces of AZEK® should be glued to eliminate joint separation. When gaps are glued on a long run of AZEK®, allow expansion and contraction at ends of the run.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 072500 - WEATHER BARRIERS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. Weather barrier membrane
B. Seam Tape
C. Flashing
D. Fasteners

1.3 REFERENCES

A. ASTM International
   1. ASTM C920; Standard Specification for Elastomeric Joint Sealants
   2. ASTM C1193; Standard Guide for Use of Joint Sealants
   3. ASTM D882; Test Method for Tensile Properties of Thin Plastic Sheeting
   4. ASTM D1117; Standard Guide for Evaluating Non-woven Fabrics
   5. ASTM E84; Test Method for Surface Burning Characteristics of Building Materials
   6. ASTM E96; Test Method for Water Vapor Transmission of Materials
   7. ASTM E1677; Specification for Air Retarder Material or System for Framed Building Walls
   8. ASTM E2178; Test Method for Air Permeance of Building Materials
B. AATCC – American Association of Textile Chemists and Colorists
   1. Test Method 127 Water Resistance: Hydrostatic Pressure Test
C. TAPPI
   1. Test Method T-410; Grams of Paper and Paperboard (Weight per Unit Area)
   2. Test Method T-460; Air Resistance (Gurley Hill Method)

1.5 QUALITY ASSURANCE

A. Qualifications
   1. Installer shall have experience with installation of commercial weather barrier assemblies under similar conditions.
   2. Installation shall be in accordance with weather barrier manufacturer's installation guidelines and recommendations.
   3. Source Limitations: Provide commercial weather barrier and accessory materials produced by single manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 01 60 00 Product Requirements.
B. Deliver weather barrier materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
C. Store weather barrier materials as recommended by weather barrier manufacturer.

1.7 SCHEDULING

A. Review requirements for sequencing of installation of weather barrier assembly with installation of windows, doors, louvers and flashings to provide a weather-tight barrier assembly.
B. Schedule installation of weather barrier materials and exterior cladding within nine months of weather barrier assembly installation.

1.8 WARRANTY

A. Special Warranty
   1. Special weather-barrier manufacturer's warranty for weather barrier assembly for a period of ten (10) years from date of final weather barrier installation.
   2. Approval by weather barrier manufacturer for warranty is required prior to assembly installation.

PART 2 – PRODUCTS

2.1 MANUFACTURER
A. DuPont Building Innovations; 4417 Lancaster Pike, Chestnut Run Plaza 721, Wilmington, DE 19805; 1.800.44TYVEK (8-9835); http://construction.tyvek.com

2.2 MATERIALS
A. Basis of Design: High-performance, spunbonded polyolefin, non-woven, non-perforated, weather barrier is based upon DuPont™ Tyvek® CommercialWrap® and related assembly components.
B. Performance Characteristics:
   1. Air Penetration: 0.001 cfm/ft^2 at 75 Pa, when tested in accordance with ASTM E2178. Type I per ASTM E1677.
   2. Water Vapor Transmission: 28 perms, when tested in accordance with ASTM E96, Method B.
   3. Water Penetration Resistance: 280 cm when tested in accordance with AATCC Test Method 127.
   4. Basis Weight: 2.7 oz/yd^2, when tested in accordance with TAPPI Test Method T-410.
   5. Air Resistance: Air infiltration at >1500 seconds, when tested in accordance with TAPPI Test Method T-460.
   6. Tensile Strength: 38/35 lbs/in., when tested in accordance with ASTM D882, Method A.
   7. Tear Resistance: 12/10 lbs., when tested in accordance with ASTM D1117.
   8. Surface Burning Characteristics: Class A, when tested in accordance with ASTM E 84. Flame Spread: 10, Smoke Developed: 10.

2.3 ACCESSORIES
A. Seam Tape: 3 inch wide, DuPont™ Tyvek® Tape for commercial applications.
B. Fasteners:
   1. Tyvek® Wrap Caps, as manufactured by DuPont Building Innovations: #4 nails with large 1-inch plastic cap fasteners.
C. Sealants
   1. Provide sealants that comply with ASTM C920, elastomeric polymer sealant to maintain watertight conditions.
   3. Products:
      a. Tremco 830
      b. Tremco Butyl
      c. Sealants recommended by the weather barrier manufacturer.
D. Adhesives:
   1. Provide adhesive recommended by weather barrier manufacturer.
   2. Products:
      a. Liquid Nails® LN-109
      b. Polyglaze® SM 5700
      c. Denso Butyl Liquid
      d. 3M High Strength 90
      e. SIA 655
      f. Adhesives recommend by the weather barrier manufacturer.
E. Primers:
   1. Provide flashing manufacturer recommended primer to assist in adhesion between substrate and flashing.
   2. Products:
      a. 3M High Strength 90
      b. Denso Butyl Spray
      c. SIA 655

d. Permagrip 105
e. ITW TACC Sta' Put SPH
f. Primers recommended by the flashing manufacturer

F. Flashing
1. DuPont™ FlexWrap™, as manufactured by DuPont Building Innovations: flexible membrane flashing materials for window openings and penetrations.
2. DuPont™ StraightFlash™, as manufactured by DuPont Building Innovations: straight flashing membrane materials for flashing windows and doors and sealing penetrations such as masonry ties, etc.
3. DuPont™ StraightFlash™ VF, as manufactured by DuPont Building Innovations: dual-sided straight flashing membrane materials for brick mold and non-flanged windows and doors.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify substrate and surface conditions are in accordance with weather barrier manufacturer recommended tolerances prior to installation of weather barrier and accessories.

3.2 INSTALLATION – WEATHER BARRIER

A. Install weather barrier over exterior face of exterior wall substrate in accordance with manufacturer recommendations.
B. Install weather barrier prior to installation of windows and doors.
C. Start weather barrier installation at a building corner, leaving 6-12 inches of weather barrier extended beyond corner to overlap.
D. Install weather barrier in a horizontal manner starting at the lower portion of the wall surface with subsequent layers installed in a shingling manner to overlap lower layers. Maintain weather barrier plumb and level.
E. Sill Plate Interface: Extend lower edge of weather barrier over sill plate interface 3-6 inches. Secure to foundation with elastomeric sealant as recommended by weather barrier manufacturer.
F. Window and Door Openings: Extend weather barrier completely over openings.
G. Overlap weather barrier
1. Exterior corners: minimum 12 inches.
2. Seams: minimum 6 inches.
H. Weather Barrier Attachment:
1. Attach weather barrier to studs through exterior sheathing. Secure using weather barrier manufacturer recommended fasteners, space 12 -18 inches vertically on center along stud line, and 24 inch on center, maximum horizontally.
I. Apply 4 inch by 7 inch piece of DuPont™ StraightFlash™ to weather barrier membrane prior to the installation cladding anchors.

3.3 SEAMING

A. Seal seams of weather barrier with seam tape at all vertical and horizontal overlapping seams.
B. Seal any tears or cuts as recommended by weather barrier manufacturer.

3.4 OPENING PREPARATION (for use with non-flanged windows – all cladding types)

A. Flush cut weather barrier at edge of sheathing around full perimeter of opening.
B. Cut a head flap at 45-degree angle in the weather barrier at window head to expose 8 inches of sheathing. Temporarily secure weather barrier flap away from sheathing with tape.

3.5 FLASHING (for use with non-flanged windows – all cladding types)

A. Cut 9-inch wide DuPont™ FlexWrap™ a minimum of 12 inches longer than width of sill rough opening. Apply primer as required by manufacturer.
B. Cover horizontal sill by aligning DuPont™ FlexWrap™ edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches. Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
C. Fan DuPont™ FlexWrap™ at bottom corners onto face of wall. Firmly press in place. Mechanically fasten

fanned edges.

D. Apply 9-inch wide strips of DuPont™ StraightFlash™ at jambs. Align flashing with interior edge of jamb framing. Start DuPont™ StraightFlash™ at head of opening and lap sill flashing down to the sill.
E. Spray-apply primer to top 6 inches of jambs and exposed sheathing.
F. Install DuPont™ FlexWrap™ at opening head using same installation procedures used at sill. Overlap jamb flashing a minimum of 2 inches.
G. Coordinate flashing with window installation.
H. On exterior, install backer-rod in joint between window frame and flashed rough framing. Apply sealant at jambs and head, leaving sill unsealed. Apply sealants in accordance with sealant manufacturer's instructions and ASTM C 1193.
I. Position weather barrier head flap across head flashing. Adhere using 4-inch wide DuPont™ StraightFlash™ over the 45-degree seams.
J. Tape top of window in accordance with manufacturer recommendations.
K. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C 1193.

3.6 OPENING PREPARATION (for use with flanged windows)

A. Cut weather barrier in a modified "I-cut" pattern.
   1. Cut weather barrier horizontally along the bottom of the header.
   2. Cut weather barrier vertically 2/3 of the way down from top center of window opening.
   3. Cut weather barrier diagonally from bottom of center vertical cut to the left and right corners of the opening.
   4. Fold side and bottom weather barrier flaps into window opening and fasten.
B. Cut a head flap at 45-degree angle in the weather barrier at window head to expose 8 inches of sheathing. Temporarily secure weather barrier flap away from sheathing with tape.

3.7 FLASHING (for use with flanged windows)

A. Cut 9-inch wide DuPont™ FlexWrap™ a minimum of 12 inches longer than width of sill rough opening.
B. Cover horizontal sill by aligning DuPont™ FlexWrap™ edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches. Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
C. Fan DuPont™ FlexWrap™ at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges.
D. On exterior, apply continuous bead of sealant to wall or backside of window mounting flange across jambs and head. Do not apply sealant across sill.
E. Install window according to manufacturer's instructions.
F. Apply 4-inch wide strips of DuPont™ StraightFlash™ at jambs overlapping entire mounting flange. Extend jamb flashing 1-inch above top of rough opening and below bottom edge of sill flashing.
G. Apply 4-inch wide strip of DuPont™ StraightFlash™ as head flashing overlapping the mounting flange. Head flashing should extend beyond outside edges of both jamb flashings.
H. Position weather barrier head flap across head flashing. Adhere using 4-inch wide DuPont™ StraightFlash™ over the 45-degree seams.
I. Tape head flap in accordance with manufacturer recommendations.
J. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C 1193.

3.8 FIELD QUALITY CONTROL

A. Notify manufacturer's designated representative to obtain [required] periodic observations of weather barrier assembly installation.

3.9 PROTECTION

A. Protect installed weather barrier from damage.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 073113 – ASPHALT SHINGLES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Granule surfaced asphalt shingle roofing.
- B. Moisture shedding underlayment, eaves, valley and ridge protection
- C. Associated metal flashing

1.2 RELATED SECTIONS
- A. Section 06 10 00 – Rough Carpentry: Plywood Roof Sheathing
- B. Section 07 60 00 – Flashing and Sheet Metal.

1.3 REFERENCES
- A. ASTM A 653/A 653M – Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron-Alloy-Coated (Galvannealed) by the Hot-Dip Process
- B. ASTM B 209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- C. ASTM B 370 – Standard Specification for Copper Sheet and Strip for Building Construction.
- D. ASTM D 225 – Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules.
- E. ASTM D 226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- F. ASTM D 1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials used as Steep Roofing Underlayment for Ice Dam Protection.
- G. ASTM D 3018 – Standard Specification for Class A Shingles Surfaced with Mineral Granules.
- H. ASTM D 3161 – Standard Test Method for Wind Resistance of Asphalt Shingles (Fan-Induced Method).
- I. ASTM D 3462 – Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
- J. ASTM D 4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- K. ASTM D-4869 – Standard Specification for Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing.
- L. ASTM D 6757 – Standard Specification for Inorganic Underlayment for Use with Steep Slope Roofing Products.
- M. ASTM E 108 – Standard Test Methods for Fire Test of Roof Coverings
- N. ASTM G 21 – Determining Resistance of Synthetic Polymers to Fungi

1.4 SUBMITTALS
- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Provide manufacturer's printed product information indicating material characteristics, performance criteria and product limitations.
- C. Manufacturer's Installation Instructions: Provide published instructions that indicate preparation required and installation procedures.

1.5 QUALITY ASSURANCE
- A. Installer Minimum Qualifications: Installer shall be licensed or otherwise authorized by all federal, state and local authorities to install all products specified in this section. Installer Installer shall perform work in accordance with NRCA Roofing and Waterproofing Manual. Work shall be acceptable to the synthetic slate roof tile manufacturer.
- B. Maintain one copy of manufacturers application instructions on the project site.
- C. Verify that manufacturer's label contains references to specified ASTM standards.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store Products in manufacturer's unopened packaging until ready for installation.
B. Store and dispose of solvent-based materials and materials used with solvent based materials, in accordance with requirements of local authorities having jurisdiction.
C. Deliver shingles to site in manufacturer's unopened labeled bundles. Promptly verify quantities and conditions. Immediately remove damaged products from site.

1.7 PROJECT CONDITIONS
A. Anticipate and observe environmental conditions (temperature, humidity and moisture) within limits recommended by manufacturer for optimum results. Do not install products under environment conditions outside manufacturer's absolute limits.
B. Extra Material – Furnish under provision of section 01 70 00
C. Provide 10% of total roof area of extra shingles of each color specified.
D. Take special care when applying Winterguard Waterproofing Shingle Underlayment and shingles when ambient or wind chill temperature is below 45 degrees F (7 degrees C). Tack WinterGuard in place if it does not adhere immediately to the deck.

1.8 WARRANTY
A. Manufacturer's Warranty: Furnish shingle manufacturer's warranty for the product listed below:
1. CertainTeed Landmark TL AR: Lifetime Limited Warranty
B. Warranty Supplement: Provide manufacturer's supplemental warranty (CertainTeed's Surestart or Surestart Plus) to cover labor and materials in the event of a material defect for the following period after completion of application of shingles:
1. First Ten Years (All Lifetime Warranty products with exception of Independence)
C. Warranty Transferability Clause: Make available to Owner shingle manufacturer's standard option for transferring warranty to a new owner.
D. Refer to manufacturer's warranty for adjustments for commercial applications.
E. Provide Upgraded Wind Warranty from 110 to 130 mph for first 15 years by complying with all manufacturers' conditions and instructions

PART 2 PRODUCTS

2.1 MANUFACTURERS: Acceptable Manufacturer: Provide products manufactured by the CertainTeed Corporation. Contact Sales Support Group P.O. Box 860 Valley Forge, PA 19482 Toll Free 800-233-8990
A. Other Approved Manufacturers: GAF

2.2 ASPHALT FIBERGLASS SHINGLES
A. CertainTeed Landmark TL: Conforming to ASTM D 3018 Type I – Self-Sealing; UL Certification of ASTM D 3462, ASTM D 3161 Class "F" (110-mph)/UL997 Wind Resistance, glass fiber mat base; ceramically colored/UV resistant mineral surface granules across entire face of shingle; algae-resistant; "Tri-laminate": three-layer laminated four tab shingle.
B Weight: 305 pounds per square (100 square feet)
C. Color: As selected by Architect from manufacturer's standards.

2.3 SHEET MATERIALS
A. Eaves Protection: CertainTeed "WinterGuard";ASTM D1970 sheet barrier of self-adhering rubberized asphalt membrane shingle underlayment having internal reinforcement and "split" back plastic release film; provide material warranty equal in duration to that of shingles being applied.
1. CertainTeed WinterGuard Sand
B. Underlayment: ASTM D 226, Asphalt saturated felt (non-perforated).

2.4 FLASHING MATERIALS
A. Sheet Flashing: ASTM A 361/A361M; 26 Gauge (0.45 mm) steel with minimum G115/Z350 galvanized coating.

B. Sheet Flashing: ASTM B 209; 0.025 (0.63mm) thick aluminum, mill finish.
C. Sheet Flashing: ASTM B 370; cold rolled copper; 16 ounces per square foot (0.55mm), natural finish.
D. Bitumious Paint: Acid and alkali resistant type; black color.
E. Tinner's Paint: Color as selected by Architect to coordinate with shingle color.

2.5 ACCESSORIES
A. Nails: Standard round wire type roofing nails, corrosion resistant; hot dipped zinc coated steel, aluminum or chormated steel; minimum 3.8 inch (9.5mm) head diameter; minimum 11 or 12 gage (2.5mm) shank diameter; shank to be sufficient length to penetrate through the roof sheathing or ¾ inch (19mm) into solid wood, plywood or non-veneer wood decking.
B. Asphalt Roofing Cement: ASTM D 4586, Type I or II

2.6 FLASHING FABRICATION
A. Form flashing to profiles indicated on Drawings and to protect roofing materials from physical damage and shed water.
B. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.

PART 3 EXECUTION

3.1 EXAMINATION
A. Verify existing site conditions under provisions of Section 01 70 00.
B. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surfaces.
C. Verify deck surfaces are dry and free of ridges, warps or voids.

3.2 ROOF DECK PREPARATION
A. Follow shingle manufacturer's recommendations for acceptable roof deck material
B. Broom clean deck surfaces under eave protection and underlayment prior to their application

3.3 INSTALLATION – EAVE ICE DAM PROTECTION
A. Place eave edge and gable metal edge flashing tight with fascia boards. Weather-lap joints 2 inches (50mm). Secure flange with nails spaced 8 inches (200 mm) on center.
B. Apply CertainTeed "WinterGuard" Waterproofing Shingle Underlayment as eave protection in accordance with manufacturer's instructions.
C. Extend eave protection membrane minimum 24 inches (640 mm) up slope beyond interior face of exterior wall.

3.4 INSTALLATION – PROTECTIVE UNDERLAYMENT
A. Roof Slopes 4:12 or Greater: Install one layer of asphalt felt shingle underlayment perpendicular to slope of roof and lap minimum 4 inches (100 mm) over eave protection.
B. Weather-lap and seal watertight with asphalt roofing cement items projecting through or mounted on roof. Avoid contact or solvent-based cements with WinterGuard and Diamond Deck

3.5 INSTALLATION – VALLEY PROTECTION
A. For "closed-cut," valleys, first place one ply of WinterGuard, minimum 36 inches (910 mm) wide, centered over valleys. Lap joints minimum of 6 inches (152 mm) Follow instructions of shingle an waterproofing membrane manufacturer.

3.6 INSTALLATON – METAL FLASHING
A. Weather-lap joints minimum 2 inches (50 mm).
B. Seal work projecting through or mounted on roof with asphalt roofing cement and make weather tight.

3.7 INSTALLATION- ASPHALT SHINGLES
A. Install shingles in accordance with manufacturer's instructions for product type and application specified.

3.8 FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 01 45 16.

B. Visual inspection of the work will be provided by Owner. If conditions are unacceptable, Owner will notify the Architect.

3.9 PROTECTION OF FINISHED WORK

A. Protect finished work under provisions of Section 01 76 00.

B. Do not permit traffic over finished roof surface.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 074213.53 – STEEL PREFINISHED UNVENTILATED SOFFIT PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes metal soffit panels.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
B. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
   1. Include similar Samples of trim and accessories involving color selection.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal panels to include in maintenance.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
D. Retain strippable protective covering on metal panels during installation.

1.6 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.7 COORDINATION

A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures including rupturing, cracking, or puncturing.
      b. Deterioration of metals and other materials beyond normal weathering.
   2. Warranty Period: Two years from date of Substantial Completion.
B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.

c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:

1. Wind Loads: As indicated on Drawings.

B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E 283 at the following test-pressure difference:

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

2.2 METAL SOFFIT PANELS

A. General: Provide metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners in side laps. Include accessories required for weathertight installation.

B. Flush-Profile Metal Soffit Panels: Solid and Perforated panels formed with vertical panel edges and intermediate stiffening ribs symmetrically spaced between panel edges; with flush joint between panels. Solid panels are to be utilized in areas without attic ventilation, rake edges, and bottom of floor overhangs. Perforated panels are to be utilized at all locations at eaves where attic ventilation is required.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
   a. Firestone Building Products.
   b. MBCI; a division of NCI Group, Inc.
   c. McElroy Metal, Inc.
   d. Metal Sales Manufacturing Corporation.
   e. Petersen Aluminum Corporation.
2. Material: Aluminum 3105 alloy
3. Aluminum Sheet: Coil-coated sheet, ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.
   a. Thickness: (Soffits) 0.019 inch.
   b. Thickness: (Fascia) 0.024 inch.
   c. Surface: Smooth, flat finish.
   d. Exterior Finish: Two-coat fluoropolymer.
   e. Color: As selected by Architect from manufacturer's full range.
4. Panel Coverage: 16 inches (406 mm).
5. Panel Height:[0.875 inch (22 mm).

2.3 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A 792/A 792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Finish flashing and trim with same finish system as adjacent metal panels.

D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

E. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.4 FABRICATION

A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
    a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal soffit panel manufacturer for application but not less than thickness of metal being secured.

2.5 FINISHES

A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Steel Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

D. Aluminum Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
   1. Examine framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal panel manufacturer.
   2. Examine sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal panel manufacturer.
      a. Verify that air- or water-resistive barriers been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.3 METAL PANEL INSTALLATION

A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
   1. Shim or otherwise plumb substrates receiving metal panels.
   2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
   3. Install screw fasteners in predrilled holes.
   4. Locate and space fastenings in uniform vertical and horizontal alignment.
   5. Install flashing and trim as metal panel work proceeds.
   6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
   7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Fasteners:
   1. Aluminum Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.

C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

D. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
   1. Apply panels and associated items true to line for neat and weathertight enclosure.
   2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.
   3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
   4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
   1. Install components required for a complete metal panel system including trim, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.

F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
   1. Install exposed flashing and trim that is without buckling, and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to achieve waterproof performance.
   2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.4 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed unless otherwise indicated in manufacturers written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 074623 - ENGINEERED WOOD SIDING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Engineered Wood Siding/Cladding.

B. Accessories:
   1. Fasteners.
   2. Sealant.
   3. Water-resistive barrier.
   4. Flashing.

1.2 RELATED SECTIONS

A. Section 06 05 73.13 - Fire-Retardant Wood Treatment.

B. Section 06 10 00 - Rough Carpentry.

C. Section 06 20 00 - Finish Carpentry.

D. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.3 REFERENCES

A. ASTM International (ASTM):
   1. ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   2. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.

B. American National Standards Institute (ANSI):
   1. ANSI A135.6 - Engineered Wood Siding.

C. APA - The Engineered Wood Association (APA):
   1. PS 2-10 - Performance Standard for Wood-Based Structural-Use Panels.
   2. PRP 108 - Performance Standards and Qualification Policy for Structural-Use Panels.
   3. PR-N124 - APA Product Report, LP SmartSide Strand Substrate Lap and Panel Siding.
   4. PR-N117 - APA Product Report, LP SmartSide Strand Substrate Soffit.

D. Department of Housing and Urban Development (HUD):
   1. HUD-MR-1318 - Material Release.
   2. HUD-UM-40 - HUD Building Product Standards and Certification Program Plywood and Other Performance Rated Wood-Based Structural-Use Panels.

E. ICC Evaluation Service (ICC-ES):
   1. ESR-1301 - LP SmartSide Strand Substrate Lap and Panel Siding.
   2. ESR-3090 - LP SmartSide Fiber Substrate Lap and Panel Siding.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data:
   1. Application Instructions.
   2. Maintenance and Care Instructions.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store and handle in strict compliance with manufacturer's written application instructions and recommendations.

B. Protect from damage due to weather, excessive temperature, and construction operations.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's Limited Warranty.
   1. Limited Warranty Period: Fifty years, first 5 years equal to the cost of repairing or replacing, then prorated from the 6th year through the 49th year from the date of installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: LP Building Products, which is located at: 414 Union St. Suite 2000; Nashville, TN 37219; Toll Free Tel: 888-820-0325; Fax: 877-523-7192; Email: request info (customer.support@lpcorp.com); Web: https://lpcorp.com

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 ENGINEERED WOOD SIDING/CLADDING

A. Basis of Design: Strand Lap Siding; as manufactured by LP Building Products.
   1. Description: Exterior-grade, phenolic resin-saturated, paper overlay laminated to EPA-registered zinc-borate preservative-treated engineered wood siding. Edges beveled ad sealed for moisture resistance.
   2. Finish: Acrylic latex primer.
   3. Thickness, 38 Series: 0.315 inch (8 mm) minimum.
   4. Thickness, 76 Series: 0.375 inch (10 mm) minimum.
   5. Style: Embossed Cedar Texture.
   6. Width: 5 inches (127 mm), nominal.
   7. Width: 6 inches (152 mm), nominal.
   8. Width: 7 inches (178 mm), nominal.
   9. Width: 8 inches (203 mm), nominal.
   10. Width: 9-1/2 inches (241 mm), nominal.
   11. Width: 12 inches (305 mm), nominal.
   12. Length: 16 feet (4877 mm).
   13. SmartLock Cedar Texture, Size: 8 inches (203 mm) nominal width, 0.375 inch (10 mm) minimum thickness.

2.3 ACCESSORIES

A. Fasteners: ASTM A 153:
   1. Hot-dip galvanized or stainless steel nails with 0.113 inch (2.9 mm) diameter shank.
   2. Penetrate structural framing or wood structural panels and structural framing a minimum of 1-1/2 inches (38 mm).

B. Sealant: ASTM C 920, minimum Class 25 sealant.

C. Water-Resistive Barrier: ASTM D226 or other approved water-resistive barrier.

D. Air Barrier:
   1. Material: ASTM E 1677 .
   2. UV Exposure: Minimum three months.
   3. Seam Tape: Air barrier manufacturer's standard product.

E. Non-Compressible Drainable Housewrap :
   1. Non-Compressible: will not allow the minimum 1 mm drainage gap to be reduced by the force of fastening during the installation of siding.
   2. Drainable Housewrap: will remove more bulk water by creating a minimum 1 mm drainage gap (air gap) at any individual measurement point between the housewrap and the back of the siding.

F. Flashing:
   1. Provide flashing at window and door heads and where indicated on Drawings. Refer to Division 07 for sheet metal flashing.
   2. Material: Aluminum.
      a. Finish: Siliconized polyester coating.

3. PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly constructed and prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

C. Verify location of concealed framing support and anchorage.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's application instructions approved submittals and in proper relationship with adjacent construction.
   1. Install in accordance with conditions stated in ICC-ES ESR-1301 for strand substrate products and ICC-ES ESR-3090 for fiber substrate products.
   2. Properly space joints to allow for equilibration.

B. Do not install over damaged or crooked materials.

C. Do not cut siding/cladding to fabricate trim; use trim components.

D. After installation, seal and flash joints, except the overlapping horizontal lap joints.

E. Seal around penetrations.

F. All wood substrate that is exposed to the weather must be sealed in a manner that prevents moisture intrusion and water build up.
   1. Seal ALL exposed cuts of siding and trim. Field spray applied coatings on cuts are not recommended.
   2. Sealing can be accomplished by applying a coating or sealant according to the manufacturer's requirements.
   3. Butt joints that are covered with joint moldings, sealant, or factory prefinished ends are considered sealed from the weather.

3.4 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturers Care and Maintenance Instructions.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 077230 – RIDGE AND VENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES
- A. Ridge vents.

1.2 RELATED SECTIONS
- A. Section 06100 - Rough Carpentry.
- B. Section 07310 – Asphalt Shingles

1.3 SUBMITTALS
- A. Product Data: Manufacturer's catalog data, standard details, and installation instructions.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. Store products indoors and protect from construction traffic and damage.

PART 2 - PRODUCTS

2.1 MANUFACTURER
- A. Manufacturer: Provide vents fabricated by Cor-A-Vent, Inc.; P.O. Box 428 ; Mishawaka, IN 46546-0428. ASD. Tel: (800) 837-8368. Fax: (800) 645-6162.
- B. Substitutions upon written request.

2.2 MATERIALS
- A. Ridge Vents - General: Manufactured of corrosion-free, corrugated, laminated, high-density polypropylene.
- B. Ridge Vents: Cor-A-Vent V-300 Ridge Vent. “E” version with enhanced snow screen Provide appropriate style for asphalt shingle roofing applications.
  1. Net free area: 13.5 sq in per lin ft.
  2. Color: Black.
  3. Dimensions: 48 inches (1220 mm) long by 5/8 inch (25 mm) high.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. Verify that framing, sheathing, and roofing is secured and ready to receive vents.
- B. Verify that there is a 1 inch (25 mm) wide clear air space between sheathing and each side of ridge board or, if trusses are used, a 1-1/2 inch (40 mm) wide continuous clear air space centered on ridge.

3.2 INSTALLATION
- A. General:
  1. Install ridge vents along entire length of roof ridges.
  2. Verify that framing, sheathing, and shingles are secured and ready to receive vents.
- B. Ridge Vents and Roof to Wall Vents:
  1. Verify that there is a 1 inch (25 mm) wide clear air space between sheathing and each side of ridge board or, if trusses are used, a 1-1/2 inches (40 mm) wide continuous clear air space centered on ridge.
  2. Fit end cap onto one end of the first and last piece of ridge vent.
  3. Lay a bead of caulking on the underside of the end cap, press the piece and cap into position, and nail through the end cap, the ridge vent, and into the roof sheathing.
  4. Use roofing nails that are long enough to penetrate ridge vent and through roof sheathing.

5. Drive the nails down flush so that the vent and end cap are held down firmly.
6. Do not indent by over driving.
7. Butt each successive piece up snugly, checking for straight alignment.
8. Use 2 nails in each end and 1 at each side at center, pulling up slightly when nailing second side to ensure that the vent is nailed at the same pitch as the roof.

C. Cap Shingles:
1. Place the first cap shingle with approximately 1/2-inch (40 mm) overhang over the end cap and at each side of the ridge vent.
2. Nail down through the shingle, the ridge vent, and through the roof sheathing.
3. Nails must be long enough to penetrate the roof sheathing. In high wind areas, washer-head nails may be used to provide additional holding for the shingle caps.
4. Do not fasten ridge vents with staples.
5. Preform shingle caps in cold weather to avoid cracking or humping up over the ridge.
6. Apply cap shingles with 1 nail each side, up approximately 2-1/2 inches (60 mm) from the overhanging edge.
7. Drive nails flush; do not indent.

D. Metal Roofing: Install ridge and soffit vents as specified by manufacturer and in accordance with drawings.

E. Flashings: Install specified flashings where indicated on the drawings.

3.3 ADJUST AND CLEAN

A. Remove any scrap from the site, and leave in a neat and clean condition.

END OF SECTION

DIVISION 08 – OPENINGS

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes hollow-metal work.

B. Related Requirements:

1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Ceco Door; ASSA ABLOY.
2. Curries Company; ASSA ABLOY.
3. Republic Doors and Frames.
4. Steelcraft; an Allegion brand.

B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Commercial Doors and Frames: NAAMM-HMMA 861. At locations indicated in the Door and Frame Schedule.

1. Physical Performance: Level A according to SDI A250.4.
2. Doors:
    a. Type: As indicated in the Door and Frame Schedule.
    b. Thickness: 1-3/4 inches (44.5 mm.)
    c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.30 mm), 16-gage, with minimum G60 ((Z180) or) A60 (ZF180) coating.
    d. Edge Construction: Continuously welded with no visible seam.
    e. Core: Polystyrene, Polyurethane, or Polyisocyanurate.
        1) Thermal-Rated Doors: Provide doors fabricated with thermal-resistance value (U-value) of not more than U.39 when tested according to ASTM C 1363.
3. Frames:
    a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), 14-gage, with minimum G60 ((Z180) or) A60 (ZF180) coating.
    b. Construction: Full profile welded.
4. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:
    1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
    2. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
    3. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm), and as follows:
    1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
    2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at finish floor surface.

2.4 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
    1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
I. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.5 FABRICATION

A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch (0.66 mm), steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches (152 mm) apart. Spot weld to face sheets no more than 5 inches (127 mm) o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
2. Fire Door Cores: As required to provide fire-protection ratings indicated.
3. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
4. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets.
5. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
6. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
7. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelite and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
    a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
        1) Two anchors per jamb up to 60 inches (1524 mm) high.
        2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
        3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
        4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.
    b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
        1) Three anchors per jamb up to 60 inches (1524 mm) high.
        2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
        3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
        4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
    c. Compression Type: Not less than two anchors in each frame.
    d. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
6. Head Anchors: Two anchors per head for frames more than 42 inches (1067 mm) wide and mounted in metal-stud partitions as recommended by manufacturer.
7. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.6 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.

B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
   a. At fire-rated openings, install frames according to NFPA 80.
   b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   c. Install frames with removable stops located on secure side of opening.
   d. Install door silencers in frames before grouting.
   e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
   g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
    a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. In-Place Metal or Wood-Stud Partitions: Secure slip-on drywall frames in place according to manufacturer's written instructions.
4. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Steel Doors:
    a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
    b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).
    c. At Bottom of Door: [3/4 inch (19.1 mm)] [5/8 inch (15.8 mm)] plus or minus 1/32 inch (0.8 mm).
    d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION

DIVISION 08 - OPENINGS

SECTION 083613 - SECTIONAL OVERHEAD DOORS

PART 1 GENERAL

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

1.2 SECTION INCLUDES
- A. Insulated Sectional Overhead Doors.
- B. Operating Hardware, tracks, and support.

1.3 RELATED SECTIONS
- A. Section 06114 - Wood Blocking and Curbing: Rough wood framing and blocking for door opening.
- B. Section 07900 - Joint Sealers: Perimeter sealant and backup materials.

1.4 REFERENCES
- A. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.

1.5 DESIGN / PERFORMANCE REQUIREMENTS
- A. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.
  1. Design pressure of 20 lb/sq ft.
- B. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.6 SUBMITTALS
- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
- B. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- C. Operation and Maintenance Data.

1.7 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened labeled packaging until ready for installation.
- B. Protect materials from exposure to moisture until ready for installation.
- C. Store materials in a dry, ventilated weathertight location.

1.9 WARRANTY
- A. Warranty: Manufacturer’s limited door and operators System warranty for 10 year against delamination of polyurethane foam from steel face and all other components for 3 years or 20,000 cycles, whichever comes first.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Manufacturer: Midland Garage Door MFG Co., 6775 Shady Oak Road, Eden Prairie, MN 55344. Tel. Toll Free: (800) 521-0047. Web Site: www.midlandgaragedoor.com. E-mail: charliek@midlandgaragedoor.com.

B. Other approved manufacturers:
   1. Clopay Garage doors
   2. Overhead Garage Door

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 INSULATED SECTIONAL OVERHEAD DOORS

A. Insulated Steel Sectional Overhead Doors: "Ranch Panel" by Midland Garage Door. Units shall have the following characteristics:
   1. Door Assembly: Metal/foam/metal sandwich panel construction, with weather-tight ship-lap design meeting joints.
      a. Panel Thickness: 2 inches (51 mm).
      b. Exterior Surface: Raised panel, textured.
      c. Exterior Steel: 27 gauge.
      d. Interior Steel: 27 gauge.
      e. End Stiles: 16 gauge with thermal break.
      f. Spring Counterbalance: Sized to weight of the door, with a helically wound, oil tempered torsion spring mounted on a steel shaft; cable drum of diecast aluminum with high strength galvanized aircraft cable.
         1) High cycle spring: 25,000 cycles.
      g. Insulation: polyurethane, fully encapsulated.
      h. Thermal Values: R-value of 18; U-value of 0.057.
      i. Air Infiltration: 0.05 cfm at 15 mph; 0.13 cfm at 25 mph.
      j. Windows: Top row; Plain design.
         1) Glazing type: Obscure.
   2. Finish and Color:
      a. Two coat baked-on polyester:
         1) Interior color, white.
   3. Windload Design: Provide to meet the Design/Performance requirements specified.
   4. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
   5. Weatherstripping:
      a. EPDM bulb-type strip at bottom section.
      b. Flexible Jamb seals.
      c. Flexible Header seal.
   6. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
      a. Size:
         1) 2 inch (51 mm).
      b. Type:
         1) Low headroom

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until openings have been properly prepared.

B. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

C. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.
B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.
B. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.
C. Anchor assembly to wall construction and building framing without distortion or stress.
D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
E. Fit and align door assembly including hardware.

3.4 CLEANING AND ADJUSTING

A. Adjust door assembly to smooth operation and in full contact with weatherstripping.
B. Clean doors, frames and glass.
C. Remove temporary labels and visible markings.

3.5 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.
B. Protect installed products until completion of project.
C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

END OF SECTION

ATHLETIC COMPLEX FACILITIES IMPROVEMENTS

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MAQUOKETA, IOWA 52060

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MIKE TUCKER
miket@martingardnerarch.com
319-200-8487

DRAWING SHEET INDEX

3 - ARCHITECTURAL	
-	COVER SHEET
A100	TYPICAL NOTES
A101	BASEBALL PRESS BOX
A102	BASEBALL PRESS BOX
A103	CLUB HOUSE
A104	CLUB HOUSE
A105	SOFTBALL PRESS BOX
A106	SOFTBALL PRESS BOX
A107	TENNIS STORAGE BUILDING
A108	TENNIS STORAGE BUILDING

Project Status: Issue Date

REVISION	
NUMBER:	DATE:

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DEMOLITION NOTES:

1. BASEBALL PRESS BOX:
   - A. REMOVE EXISTING VINYL SIDING ON ALL FOUR (4) SIDES OF THE PRESS BOX.
   - B. REMOVE EXISTING METAL SOFFIT PANELS AND TRIM ON FRONT, LEFT, AND RIGHT SIDES OF THE BUILDING AT THE PRESS BOX FLOOR LINE ONLY.
   - C. REMOVE EXISTING RED STEEL SIDING ON ALL FOUR (4) SIDES OF THE BUILDING BASE DOWN TO OSB SHEATHING.
   - D. REMOVE EXISTING COILING DOOR JAMB TRIM FROM THE BUILDING. COILING DOOR TO REMAIN. PROTECT COILING DOOR.
   - E. REMOVE EXISTING WALK DOOR AND FRAME FROM THE REAR OF THE BUILDING.
2. CLUB HOUSE:
   - A. REMOVE EXISTING ASHPALT SHINGLES, RIDGE VENT, ROOFING PAPER, AND DRIP EDGE.
   - B. REMOVE EXISTING VERTICAL WOOD SIDING AND TRIMS ON ALL FOUR SIDES OF THE BUILDING DOWN TO OSB SHEATHING.
   - C. REMOVE EXISTING OVERHEAD DOOR AND TRIM.
   - D. REMOVE EXISTING WALK DOORS AND FRAMES FROM FRONT AND REAR OF THE BUILDING.
3. SOFTBALL PRESS BOX:
   - A. REMOVE EXISTING VINYL SIDING ON ALL FOUR (4) SIDES OF THE PRESS BOX.
   - B. REMOVE EXISTING METAL SOFFIT PANELS AND TRIM ON FRONT, LEFT, AND RIGHT SIDES OF THE BUILDING AT THE PRESS BOX FLOOR LINE.
   - C. REMOVE EXISTING RED STEEL SIDING ON ALL FOUR (4) SIDES OF THE BUILDING BASE DOWN TO OSB SHEATHING.
   - D. REMOVE EXISTING COILING DOOR JAMB TRIM FROM RIGHT SIDE OF THE BUILDING. EXISTING COILING DOOR TO REMAIN. PROTECT.
   - E. REMOVE EXISTING WALK DOOR AND FRAME FROM THE REAR OF THE BUILDING.
4. TENNIS COURT STORAGE:
   - A. REMOVE VINYL SIDING FROM ALL FOUR (4) SIDES OF THE BUIDLING DOWN TO THE OSB SHEATHING.
   - B. REMOVE EXISTING OVERHEAD DOOR AND TRIM.

GENERAL BID NOTES:

- BASE BID
  - A. ALL WORK ASSOCIATED WITH THE BASEBALL PRESS BOX AS DESCRIBED IN DRAWINGS AND SPECIFICATIONS. BASE BID SHALL ALSO INCLUDE THE REROOFING OF THE CLUBHOUSE INCLUDING DRIP EDGE.
- ALTERNATE BID A-1
  - A. REMAINING WORK ON THE CLUB HOUSE INCLUDING SIDING, SOFFIT, AND FASCIA REPLACEMENT, SECTIONAL OVERHEAD DOOR AND WALK DOORS REPLACEMENT.
- ALTERNATE BID A-2
  - A. ALL WORK ASSOCIATED WITH THE SOFTBALL PRESS BOX AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
- ALTERNATE BID A-3
  - A. ALL WORK ASSOCIATED WITH THE TENNIS COURT STORAGE BUILDING AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

ALL WORK IS TO BE STARTED AS SOON AS POSSIBLE WITH A TARGET COMPLETION DATE OF MAY 1ST FOR BASEBALL/SOFTBALL UPDATES BUT ASBOLUTELY NO LATER JUNE 30, 2022. TENNIS COURT BUILIDING COMPLETION OF NO LATER THAN AUGUST 15, 2022.

TYPICAL NOTES

PRELIMINARY - NOT FOR CONSTRUCTION

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NEW SOFFIT PANELS

OVERHANG



CLEAN EXISTING FASCIA

REMOVE AND REPLACE EXISTING WINDOW AIR CONDITIONER

NEW 5/4 X 4 CORNER TRIM

NEW 2X4 FRAMING INFILL WITH 15/32 OSB SHEATHING AT DOOR OPENING

NEW LAP SIDING OVER TYVEK

NEW 5/4 X 4 CORNER TRIM

NEW LAP SIDING OVER TYVEK

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

REAR ELEVATION



CLEAN EXISTING FASCIA

EXISTING SOFFIT PANELS TO REMAIN

REMOVE AND REINSTALL EXISTING LOUD SPEAKER

NEW VINYL HORIZONTAL SLIDING WINDOWS (3) MATCH EXISTING SIZE OF APPROX. 72"X36".

NEW 5/4 X 4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

REMOVE AND REINSTALL EXISTING LOUD SPEAKER

REMOVE AND REINSTALL SIGNAGE

NEW LAP SIDING OVER TYVEK

NEW METAL SOFFIT PANELS

NEW LAP SIDING OVER TYVEK

FRONT ELEVATION

BASEBALL PRESS BOX

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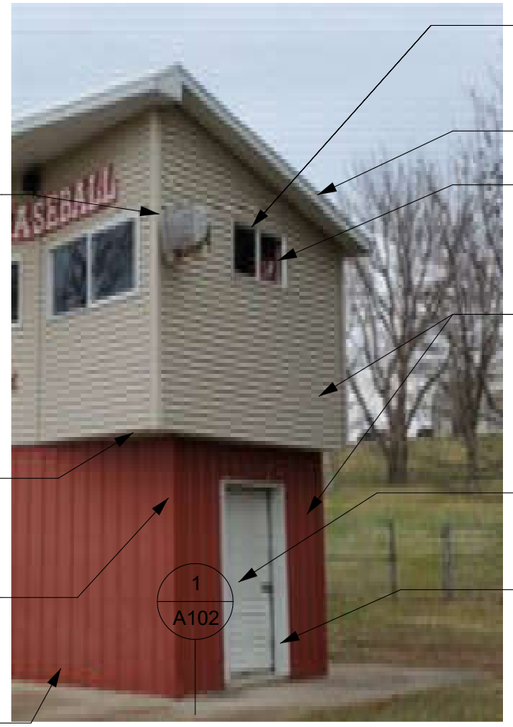
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REMOVE AND REINSTALL EXISTING LOUD SPEAKER

NEW PRE FINISHED METAL FLASHING AT WINDOW HEAD. TYPICAL

CLEAN FASCIA

NEW VINYL HORIZONTAL SLIDING WINDOW. MATCH EXISTING SIZE OF APPROX. 52" X 26"

NEW LAP SIDING OVER TYVEK

NEW METAL SOFFIT PANELS

EXISTING DOOR TO REMAIN. PROTECT

NEW 5/4 X 4 CORNER TRIM

NEW COMPOSITE JAMB AND 5/4 X 4 TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

RIGHT SIDE ELEVATION



NEW VINYL HORIZONTAL SLIDING WINDOW. MATCH EXISTING SIZE OF APPROX. 52" X 26"

REMOVE AND REINSTALL EXISTING LOUD SPEAKER

NEW LAP SIDING OVER TYVEK

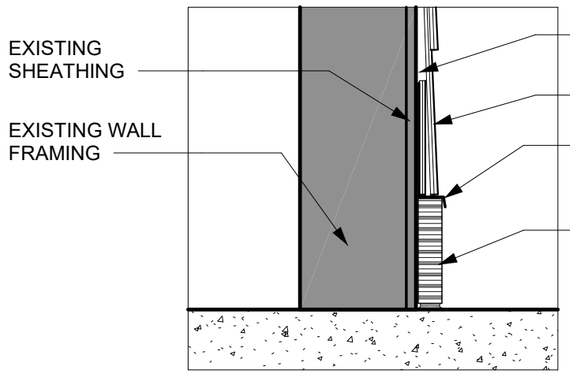
NEW METAL SOFFIT PANELS

NEW 5/4 X 4 CORNER TRIM

NEW LAP SIDING OVER TYVEK

NEW 5/4 X COMPOSITE SKIRT BOARD

LEFT SIDE ELEVATION



EXISTING SHEATHING

EXISTING WALL FRAMING

TYVEK

LAP SIDING

PRE FINSIHED METAL FLASHING

5/4 X 6 COMPOSITE SKIRT BOARD

1 / A102 TYPICAL BASE DETAIL

1 1/2" = 1'-0"

BASEBALL PRESS BOX

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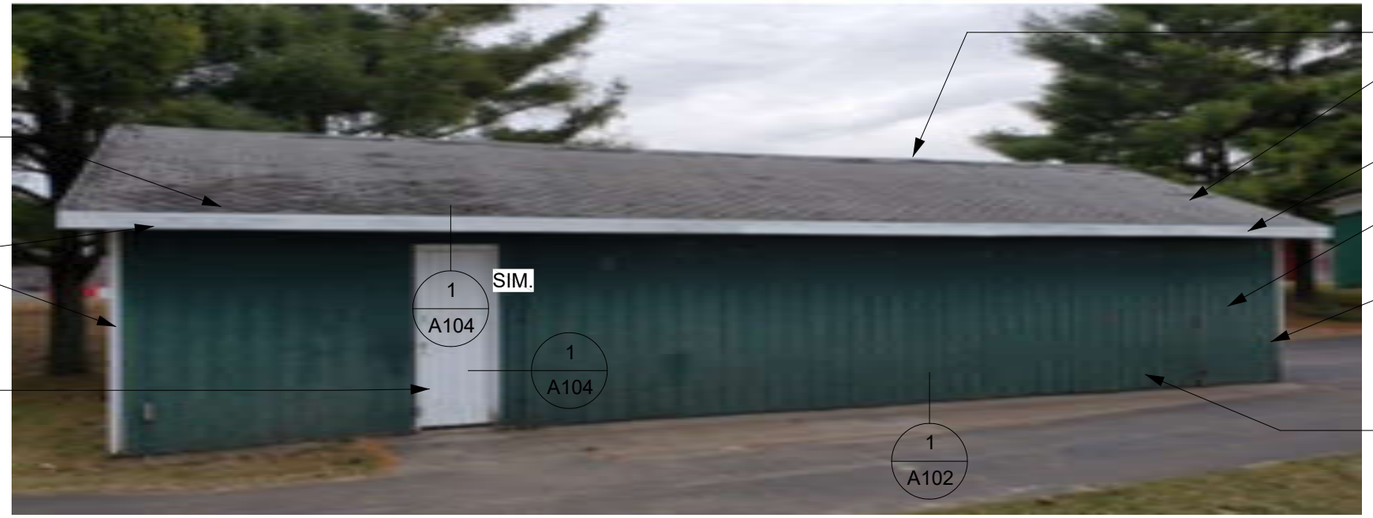
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ICE AND WATER SHIELD TO 3'-0" INSIDE OF EXTERIOR WALLS. TYPICAL AT EAVES.

NEW METAL SOFFIT PANELS

NEW 5/4X4 CORNER TRIM

NEW 3'-0" X 6'-8" HOLLOW METAL DOOR AND FRAME. DOOR LATCH BY OWNER



NEW RIDGE VENT

NEW ASPHALT SHINGLES OVER ROOFING PAPER (BASE BID)

NEW METAL DRIP EDGE AND FASCIA (BASE BID)

NEW LAP SIDING OVER TYVEK

NEW 5/4X4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

FRONT ELEVATION

NEW ASPHALT SHINGLES OVER ROOFING PAPER (BASE BID)

NEW METAL DRIP EDGE AND FASCIA (BASE BID)

NEW METAL SOFFIT PANELS

NEW 9' X 7' OVERHEAD DOOR

REMOVE AND RESET AS REQUIRED

NEW COMPOSITE JAMB W/ 5/4 X 4 TRIM

NEW 5/4 X 4 CORNER TRIM



NEW RIDGE VENT

ICE AND WATER SHIELD UP 3'-0" INSIDE OF EXTERIOR WALLS AT EAVES

NEW 3'-0 x 6'-8" HOLLOW METAL DOOR AND FRAME. DOOR LATCH BY OWNER.

REMOVE AND RESET AIR CONDITIONER

REMOVE AND RESET ELECTRICAL SERVICE

NEW LAP SIDING OVER TYVEK

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

REAR ELEVATION

CLUB HOUSE

PRELIMINARY - NOT FOR CONSTRUCTION

Project Status: Issue Date

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ATHLETIC COMPLEX FACILITIES IMPROVEMENTS

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A103

I1651.04

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5/11/2021 3:59:02 PM
REVIT VERSION:2021



NEW ASPHALT SHINGLES OVER ROOFING PAPER (BASE BID)

NEW 9' X 7' OVERHEAD DOOR

NEW 1X COMPOSITE JAMB WITH 5/4 X 4 TRIM

NEW 5/4 X 4 CORNER TRIM

REMOVE AND RESET AS REQUIRED

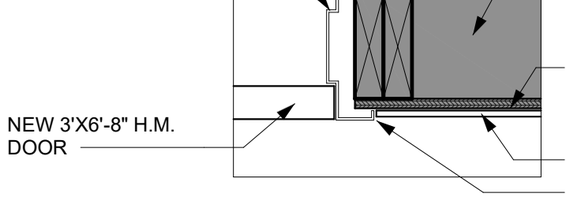
NEW METAL DRIP EDGE AND FASCIA (BASE BID

NEW METAL SOFFIT PANELS

NEW 5/4 X 4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

RIGHT SIDE ELEVATION



NEW HOLLOW METAL DOOR FRAME, SEAL FULL PERIMETER, BOTH SIDES

NEW 3'X6'-8" H.M. DOOR

SEALANT JOINT

EXISTING WALL 2X FRAMED WALL

NEW TYVEK OVER EXISTING WALL SHEATHING

NEW LAP SIDING

SEALANT JOINT

1 / A104 TYPICAL JAMB

1 1/2" = 1'-0"



REMOVE AND RESET AIR CONDITIONER

5/4 X 4 CORNER TRIM

NEW ASPHALT SHINGLES OVER ROOFING PAPER (BASE BID)

NEW METAL DRIP EDGE AND FASCIA (BASE BID

NEW METAL SOFFIT PANELS

NEW 5/4 X 4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

LEFT SIDE ELEVATION

PRELIMINARY - NOT FOR CONSTRUCTION

CLUB HOUSE

Project Status: Issue Date

REVISION	
NUMBER:	DATE:

MAQUOKETA COMMUNITY SCHOOL DISTRICT

ATHLETIC COMPLEX FACILITIES IMPROVEMENTS

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REAR ELEVATION



FRONT ELEVATION

SOFTBALL PRESS BOX

PRELIMINARY - NOT FOR CONSTRUCTION

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LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION

SOFTBALL PRESS BOX

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FRONT ELEVATION



FRONT ELEVATION

TENNIS STORAGE BUILDING

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REMOVE AND REINSTALL AS REQUIRED

NEW LAP SIDING OVER TYVEK

NEW METAL SOFFIT PANELS

NEW COMPOSITE COLUMN COVERS

5/4 X 4 CORNER TRIM

NEW 5/4 X 4 TRIM AROUND EXISTING DOOR



NEW PREFINISHED FLASHING OVER DOOR HEAD

EXISTING ASPHALT SHINGLES TO REMAIN

NEW METAL FACIA PANELS

NEW METAL SOFFIT PANELS

NEW 5/4 X 4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD

FRONT ELEVATION

NEW LAP SIDING OVER TYVEK

NEW METAL SOFFIT PANELS

NEW 5/4 X 4 CORNER TRIM

NEW 5/4 X 6 COMPOSITE SKIRT BOARD



EXISTING ASPHALT SHINGLES TO REMAIN

NEW METAL FASCIA

NEW METAL SOFFIT PANELS

NEW COMPOSITE COLUMN COVERS

FRONT ELEVATION

TENNIS STORAGE BUILDING

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ATHLETIC COMPLEX FACILITIES IMPROVEMENTS

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