### SALINE AREA SCHOOLS

7265 Saline Ann Arbor Road, Saline MI 48167 Rex J. Clary-Director of Operations claryr@saline schools.org 734.401.4690

### **Request for Proposal (RFP)**

### Saline area schools will accept sealed bids for: Saline Area Schools Operations Center-Pre-engineered metal building portion

Saline Area Schools is issuing a request for proposal for qualified contractors to provide construction services for the pre-engineered building portion of the proposed Saline Area Schools Operations Center. Bids must be divided into the following three categories:

- 1. Supply Pre-Engineered Metal Building
- 2. Erect Pre-Engineered Metal Building
- 3. Supply Pre-Engineered Metal Building roof insulation

Bidders are welcome to bid on one or more of these categories, but bids must be broken into these categories.

### All bids must be received by 11:00 AM Friday, June 16<sup>th</sup>, 2023

Sealed proposals should be submitted to the following address: Liberty School 7265 North Ann Arbor Street Saline, MI 48176 Attention: Rex Clary-Director of Operations RFP-SAS Operations Center Pre-Engineered Metal Building

### Submit digitally at the following website:

https://www.salineschools.org/departments/central-office/finance-department/bids-and-proposals/

All attached forms must be completed and notarized if indicated to do so.

### Contents:

- Cover Letter
- Familial Relationship Form
- Iran Economic Sanction Form Act 517 of 2021
- Specification-Pre Engineered Metal Building
- Scope of Work-Erection
- Scope of Work-Insulation
- Sheets A-000, A-100, A-200 and A-300 from Hobbs+Black dated 5/19/2023

All Requests For Information should be forwarded to Mark Melchi at markmelchi@arbrouwer.com

### FAMILIAL RELATIONSHIP

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Each Bidder shall complete, execute and submit with its Bid Proposal the following Familial Relationship Sworn Statement.

### SWORN STATEMENT

Date:	
School District: Saline Area Schools	
Project:	

I/we disclose below any familial relationship that exists between the Owner or any employee of Bidder and any member of the Board of Education, Board of Directors or the Superintendent of Saline Area Schools.

Familial Relationships:None	Listed Below			
Bidder Employee/Position	Relationship	School District Associate/Position		
(Company Name)	Subsc	ribed and sworn to before me		
By: (Authorized Signer)	this	day of, year		
(Print/Type Name and Title of Signer)	(Signa	(Signature of Notary Public)		
	My Co	ommission Expires		
	Count	y of		

### **IRAN ECONOMIC SANCTION ACT 517 OF 2012**

On December 28, 2012, Governor Snyder signed Public Act 517 of 2012, commonly known as the "Iran Economic Sanctions Act" (the "Act"). The Act provides that beginning April 1, 2013 an "Iran Linked Business" is not eligible to submit a bid on a request for proposal with a "public entity". Under the Act, a "public entity" includes school districts and intermediate school districts. The Act also requires that a person that submits a bid in response to a public entity's request for proposal must certify to the public entity that it is not an Iran Linked Business. This requirement applies to <u>all</u> requests for proposals issued by a public entity, and not just to construction projects.

The Act defines an Iran Linked Business as: 1) a person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran; or 2) a financial institution that extends credit to another person if that person will use the credit to engage in investment activities in the energy sector of Iran.

If the public entity determines, using credible information available to the public, that a person or entity has submitted a false certification, the public entity must provide written notice of the person or entity of its determination and of its intent not to enter into or renew the contract. The notice must include information on how to contest the determination. The notice must also specify that the individual or entity may become eligible for future contracts with the public entity if the activities that caused it to be an Iran Linked Business are ceased.

The Attorney General may bring a civil action against any individual or entity reported to have submitted a false certification. If the civil action results in a finding that certification was false, the person or entity will be responsible for a civil penalty of not more than \$250,000.00 or two times the amount of the contract for which the false certification was made, whichever is greater. In addition to the fine the individual or entity will be responsible for the cost and reasonable attorney fees incurred by the public entity. An individual or entity who has submitted a false certification will be ineligible to bid on a request for proposal for 3 years from the date the certification was determined to be false.

### IRAN ECOMONIC SANCTION ACT 517 OF 2012 BIDDER CERTIFICATION FORM

Beginning April 1, 2013, an Iran linked business is not eligible to submit a bid on a request for proposal with a public entity.

Beginning April 1, 2013, a public entity shall require a person that submits a bid on a request for proposal with the public entity to certify that it is not an Iran linked business.

Pursuant to Michigan law, (the Iran Economic Sanctions Act, 2012 PA 517, MCL 129.311 et seq.), before accepting any bid or proposal, or entering into any contract for goods or services with a prospective Contractor, the contractor must first certify that it is not an "IRAN LINKED BUSINESS", as defined by law.

Each contractor submitting a bid on this project shall include a letter with their bid certifying that they have full knowledge of the requirements and possible penalties under the law MCL 129.311 et seq. that the Contractor is NOT an "IRAN LINKED BUSINESS", as required by MCL 129.311 et seq., and as such that Contractor is legally eligible to submit a bid and be considered for a possible contract to supply goods and/or services to Saline Area Schools.

I certify that I am a duly authorized representative of		and
	(Name of Company)	
Confirm that neither I nor the company is an "Iran Linked Busines	S".	
Company Representative Signature		
Company Representative Printed/Typed Name		
Date		

### SECTION 13 3419 METAL BUILDING SYSTEMS

### PART1 - GENERAL

### 1.1 SECTION INCLUDES

- A. Pre-engineered and shop fabricated structural steel building frame
- B. Insulated metal wall and sloped roof system including soffit, gutter, and downspouts.
- C. Metal Framing Components
- D. Metal Wall Panels and Trim
- E. Metal Roof Panels and Trim
- F. Metal Building Accessories

### 1.2 REFERENCE STANDARDS

- A. American Institute of Steel Construction (AISC):
  - 1. 360, Specification for Structural Steel Buildings.
    - 2. RCSC, Specification for Structural Joints Using High Strength Bolts.
    - 3. Design Guide 3, Serviceability Design Considerations for Steel Buildings
- B. American Iron and Steel Institute (AISI):
  - 1. AISI North American Specification for the Design of Cold-Formed Steel Structural Members
- C. American Welding Society (AWS):
  - 1. AWS D1.1 / D1.1M Structural Welding Code Steel.
  - 2. AWS D1.3 / D1.3M Structural Welding Code Sheet Steel
  - Association for Iron & Steel Technology (AISE):
    - 1. AISE 13 Specifications for Design and Construction of Mill Buildings.
- E. ASTM International (ASTM):
  - 1. A36 Standard Specification for Carbon Structural Steel
  - 2. A123 Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
  - 3. A354 Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners
  - 4. A475 Specification for Zinc-Coated Steel Wire Strand
  - 5. A500 Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
  - 6. A529 Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality.
  - 7. A536 Standard Specification for Ductile Iron Castings.
  - 8. A563 Specification for Carbon and Alloy Steel Nuts
  - 9. A572 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
  - 10. A653 / A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

D.

- 11. A792 / A792M Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
- 12. A992 Standard Specification for Structural Steel Shapes.
- 13. A1011 Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- 14. A1039 Specification for Steel, Sheet, Hot Rolled, Carbon, Commercial, Structural, and High-Strength Low-Alloy, Produced by Twin-Roll Casting Process
- 15. E96 / E96M Standard Test Methods for Water Vapor Transmission of Materials.
- 16. E108—Spread-of Flame Testing: Class 1A Rating.
- 17. E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- 19. E1592 Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
- 20. E1646 Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
- 21. E1680 Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems
- 22. E2140 Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head
- 23. F436 Specification for Hardened Steel Washers
- 24. F1145 Specification for Turnbuckles, Swaged, Welded, Forged
- 25. F1554 Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- 26. F3125 Standard Specification for High Strength Structural Bolts
- F. IAS International Accreditation Service
- G. SJI Steel Joist Institute
- H. FM Global base bid is without FM Global requirements, provide alternate including compliance with FM Global requirements:
  - 1. FMRC Standard 4471 Approval Standard for Class 1 Roofs for Hail Damage Resistance, Combustibility, and Wind Uplift Resistance.
- I. Metal Building Manufacturers Association (MBMA):
  - 1. MBMA Metal Building Systems Manual
- J. Underwriters Laboratories (UL):
  - 1. UL 580 Standard for Tests for Uplift Resistance of Roof Assemblies

### 1.3 SYSTEM DESCRIPTION

A. 100' wide x 160' long gabled rigid frame with intermediate support columns at a 35'-65' split. Eight 20' bays

Metal Building Systems 13 3419 - 2 H+B

- B. Primary Framing: Rigid frame of rafter beams and *uniform depth columns (not tapered)*, braced end frames wind bracing and portal frames as necessary. *All vertical bracing to be located at the exterior flange of bents.*
- C. Secondary Framing: Purlins, girts, eave struts, flange bracing, sill supports, clips, and other items detailed.
- D. Bottom of all bent and column base plates to be 7" below floor line.
- E. Roof System: Preformed metal panels of vertical profile, with sub-girt framing/anchorage assembly, insulation, liner sheets, and accessory components.
- F. Mezzanine framing will be independent from the metal building structure.
- G. Roof Slope: 2:12

### 1.4 **DEFINITIONS**

- A. Metal Building System: A building system that will employ:
  - Either a continuous or simple-span 'Z' or 'C'-shaped cold-formed purlins or open-web steel joists for support of the roof cladding.

- Either a continuous or simple-span 'Z' or 'C'-shaped cold-formed girts or open-web steel joists for support of the steel wall cladding.

- Three-plate, built-up rigid space frames and/or cold-formed 'C' or hotrolled I-shaped post-and-beam framing to support the roof and wall secondary members.

- All systems (cladding, roof and wall secondary, lateral primary framing, and longitudinal bracing) work together to provide resistance to vertical and lateral loading demands.

- B. Gable Symmetrical: A continuous frame building with the ridge in the center of the building, consisting of tapered or straight columns and tapered or straight rafters. The sidewall girts may be continuous (by-passing the columns) or simple span (inset in the column line). The rafters may or may not have interior columns.
- C. Roof Slope: Pitch expressed as inches of rise for each 12" of horizontal run.
- D. Building Width: Measured from outside to outside of sidewall secondary structural member (girt).
- E. Building Eave Height: A nominal dimension measured from the finished floor to top flange of eave strut.
- F. Building Length: Measured from outside to outside of endwall secondary structural member.
- G. Auxiliary Loads: Dynamic loads induced by cranes, conveyors, or other material handling systems.
- H. Collateral Loads: The weight of any non-moving equipment or material, such as ceilings, electrical or mechanical equipment, sprinkler systems, plumbing, or ceilings.
- I. Dead Load: The actual weight of the building system (as provided by the metal building supplier) supported by a given member.
- J. Floor Live Loads: Loads induced on a floor system by occupants of a building and their furniture, equipment, etc.

- K. Roof Live Loads: Loads produced by maintenance activities, rain, erection activities, and other movable or moving loads but not including wind, snow, seismic, crane, or dead loads.
- L. Roof Snow Loads: Gravity load induced by the weight of snow or ice on the roof, assumed to act on the horizontal projection of the roof.
- M. Seismic Loads: Loads acting in any direction on a structural system due to the action of an earthquake.
- N. Wind Loads: The loads on a structure induced by the forces of wind blowing from any horizontal direction.

### 1.5 DESIGN REQUIREMENTS

- A. Members to withstand dead load, applicable snow load, and design loads due to pressure and suction of wind calculated in accordance with applicable code and design load schedule.
- B. Roof system to withstand imposed loads with maximum allowable deflection of span: L/240.
- C. Provide drainage to exterior of water entering or condensation occurring within wall or roof system.
- D. Assembly to permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to temperature range of 170 degrees F.
- E. Size and fabricate wall and roof systems free of distortion or defects detrimental to appearance or performance.
- F. General
  - 1. The building manufacturer will use standards, specifications, recommendations, findings and/or interpretations of professionally recognized groups such as AISC, AISI, AWS, ASTM, CSA, CWB, MBMA, Federal Specifications, and unpublished research by MBMA as the basis for establishing design, drafting, fabrication, and quality criteria, practices, and tolerances. The Manufacturer's design, drafting, fabrication and quality criteria, practices, and tolerances, and tolerances shall govern, unless specifically countermanded by the contract documents.
  - 2. Design structural mill sections and built-up plate sections in accordance with:
    - a. (US) code-appropriate edition of AISC's "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings", ANSI/AISC 360 ASD method.
  - 3. Cold-Formed steel structural members and panels will generally be designed in accordance with "Specifications for the Design of Cold-Formed Steel Structural Members", ANSI/AISI S-100.
  - 4. Design weldments per the following:
    - a. Structural Welding
      - 1) (US) Design per AWS D1.1, "Structural Welding Code – Steel", Latest Edition.
    - b. Cold-Formed Welding
      - 1) (US) Design per AWS D1.3, "Structural Welding Code – Sheet Steel", Latest Edition.
- G. Design Code:

- 1. Structural design for the building structural system shall be provided by the metal building system manufacturer for the following design criteria:
  - a. Governing Building Code: Michigan Building Code
  - b. Year/Version: 2015
  - c. Occupancy Category: F-1 Moderate Hazard Factory Industrial.
- H. Design Loads:
  - 1. Risk Category of Building II
  - 2. Dead Load Weight of the building system as determined by manufacturer.
  - 3. Roof Live Load 20 psf
  - 4. Collateral Load 5 psf
  - 5. Snow Load:
    - a. Ground Snow Load 25 psf
    - b. Exposure Factor– B
    - c. Thermal Factor 1.0
    - d. Roof Snow Load 17.5 psf
  - 6. Wind Load:
    - a. Basic Wind Speed Vult=115 mph Vasd=89 mph
    - b. Exposure Category– B
  - 7. Seismic Load:
    - a. Spectral response acceleration parameter at a period of 0.2 s (Ss) 0.109
    - b. Spectral response acceleration parameter at a period of 1sec. (S1) – 0.049
    - c. Site Class D (assumed)
- I. General Serviceability Limits:
  - 1. Deflection Limits shall be in accordance with the applicable provisions of the Metal Building Systems Manual (MBMA), latest edition.
  - 2. Vertical deflection limits apply for snow load (50-year meanrecurrence interval) plus collateral load, or the code required live load. The horizontal drift and deflections limits apply for the loads induced by a basic wind speed corresponding to a 10-year meanrecurrence interval.
  - 3. Vertical deflection limit: L/240
  - 4. Lateral drift limit: L/240

### 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. Shop Drawings (for record only): Provide complete erection drawings for the proper identification and assembly of all building components. Drawings will show anchor bolt settings, transverse cross-sections,

sidewall, endwall and roof framing, flashing and sheeting, and accessory installation details.

- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples, representing actual product, color, and patterns.
- E. Certifications: Shop drawings and design analysis shall bear the seal of a registered professional engineer upon request. Design analysis shall be on file and furnished by manufacturer upon request.
- F. Bill of Materials: Bills of material shall be furnished and shall include item weights.
- G. Preventive Maintenance Manual.
- H. Welder's Certifications: Certification of welder qualifications shall be furnished as specified by the Project Engineer.
- I. **For FM requirement alternate**: Submit certification verifying that the metal roof system has been tested and approved by Factory Mutual as Class 1-90.
- J. Submit certification verifying that the metal roof system has been tested and approved by Underwriter's Laboratory as Class 90.

### 1.7 QUALITY ASSURANCE

- A. Manufacturer / Fabricator Qualifications:
  - 1. (US) All primary products specified in this section will be supplied by a single IAS AC 472 Accredited Manufacturer /Fabricator with a minimum of five (5) years' experience.
- B. Weldments/Welder/Weld Inspection Qualifications:
  - (US) Welding inspection and welding inspector qualification for structural steel shall be in accordance with AWS D1.1, "Structural Welding Code – Steel", latest edition. Welding inspection and welding inspector qualification for cold-formed steel shall be in accordance with AWS D1.3, "Structural Welding Code – Sheet Steel", latest edition.
- C. Design: Standard drawings and design analysis must bear the seal of a registered professional engineer. Design analysis must be on file and furnished by manufacturer upon request.

### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Do not store materials directly on ground.

- 4. Store materials on flat, level surface, raised above ground, with adequate support to prevent sagging.
- 5. Protect materials and finish during storage, handling, and installation to prevent damage.
- C. 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 absolute limits.
- D. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

### 1.9 WARRANTY

- A. Building System Warranty
  - 1. Furnish manufacturer's standard warranty for the metal building system, excluding paint.
  - 2. The manufacturer shall warrant the metal building system against failure due to defective material or workmanship for a period of one (1) year from date of shipment.
  - 3. The liability under this warranty shall be limited to furnishing, but not dismantling or installing, necessary replacement material F.O.B. manufacturer's plant. In no event shall the manufacturer be liable for loss of profits, or other incidental, consequential, or special damages.
- B. Standing Seam Roof Weathertightness Warranty
  - 1. Furnish manufacturer's weathertightness warranty for a maximum of 20 years against leaks in standing seam roof panels, arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions.
- C. Roof and Wall Paint Finish Warranty
  - 1. Paint Systems
    - a. Furnish manufacturer's standard warranty for the metal panel paint system against chipping, peeling, blistering, fading in excess of 5 NBS Hunter units as set forth in ASTM-D-2244, and chalking in excess of 8 units as set forth in ASTM-D-4214.
    - b. The warranty shall be for a period of 30 years from the date of shipment for PVDF paint systems.
    - c. The warranty shall be for a period of 25 years from the date of shipment for silicone-polyester paint systems.
  - 2. Galvalume® systems
    - a. Furnish manufacturer's standard warranty for the Galvalume® panels against rupture, structural failure, or perforation due to normal atmospheric conditions.

b. The warranty shall be for a period of 20 years from the date of shipment for Galvalume® systems.

### PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- Acceptable Manufacturers:
  - 1. Nucor Building Systems
  - 2. Varco Pruden
  - 3. Chief Buildings
  - 4. American

### 2.2 MATERIALS

D.

- E. Primary Framing Steel:
  - 1. Steel for hot rolled shapes must conform to the requirements of ASTM A36, A572 or A992, with minimum yield of 36 or 50 ksi, respectively.
  - 2. Steel for built-up sections must conform to the requirements of ASTM A1011, A1018, A529, A572 or A36 as applicable, with minimum yield of 36, 50, or 55 ksi as indicated by the design requirements.
  - 3. Round Tube must conform to the requirements of ASTM A-500 Grade B with minimum yield strength of 42 ksi.
  - 4. Square and Rectangular Tube must conform to the requirements of ASTM A500 Grade B with a minimum yield strength of 46 ksi.
  - 5. Steel for Cold-Formed sections must conform to the requirements of ASTM A1011 or A1039 Grade 55, or ASTM A653 Grade 55 with minimum yield strength of 55 ksi.
  - 6. X-bracing will conform to ASTM A529 for rod bracing, ASTM A992 for angle bracing or ASTM A475 for cable bracing.
- F. Secondary Framing Steel:
  - 1. Steel used to form purlins, girts and eave struts must meet the requirements of ASTM A1011 or ASTM A1039 Grade 55 for primed material or ASTM A653 Grade 55 for galvanized material with a minimum yield of 55 ksi.
  - 2. Design Thicknesses Gauge to be determined by design to meet specified loading conditions.
- G. Panels:
  - 1. Roll-formed Galvalume®, pre-painted Galvalume® or Galvanized G90 Exterior-Side and G60 Interior-Side.
  - 2. Standing Seam Panels must have:
    - a. 50 percent minimum aluminum-zinc alloy- coating and conform to ASTM A792 or ASTM A653 with a minimum yield of 50 ksi.
  - 3. Through-fastened panels must have:
    - a. 50 percent minimum aluminum-zinc alloy coating and conform to ASTM A792 or ASTM A653 with a minimum yield of 50 ksi.
  - 4. Panel Finish:

- a. PVDF Finish: 70% PVDF paint system with a 30-year finish warranty.
- H. Panel Fasteners:
  - 1. For Galvalume® and painted finished roof panels: Long Life Cast Zinc head.
  - 2. For wall panels: Coated carbon steel.
  - 3. Color of exposed fastener heads to match the wall and roof panel finish.
  - 4. Concealed Fasteners: Self-drilling type, of size required.
- I. Flashing and Trim: Match material, finish, and color of adjacent components. Provide trim at rakes, including peak and corner assemblies, high and low eaves, corners, bases, framed openings and as required or specified to provide weathertightness and a finished appearance.
- J. Roof Clips:
  - 1. All clips must have factory-applied mastic and designed so that movement between the panel and the clip does not occur.
  - 2. Tall Sliding clips: shall be either 3 ½ inches (89mm) or 4 ½ inches (114mm) in height and provide either 1-7/8 inches from neutral position or 3 3/4 total inches of travel for panel thermal expansion and contraction, depending on clip choice.
- K. Sealant And Closures:
  - 1. Sidelaps: Factory applied non-skinning Butyl mastic.
  - 2. Endlaps, Eave, Ridge Assembly, and Gable Flashings: Field applied 100% solids butyl-based elastomeric tape sealant, furnished in pre-cut lengths.
  - 3. Outside Closures: Closed-cell, plastic or metal
  - 4. Inside Closures: Closed-cell, plastic or metal

### 2.3 PRIMARY FRAMING

- L. Rigid Frames: Fabricated as welded built-up "I" sections or hot-rolled sections.
  - 1. Frame Design: Gable Symmetrical.
  - 2. Frame Type: Multi-Span.
- M. Rigid Frame Columns:
  - 1. Straight/Uniform depth
- N. Rigid Frame Rafters:
  - 1. Tapered
- O. Endwall Frames / Roof Beams: Fabricated as mill-rolled sections or builtup "I" sections depending on design requirements. Fabricate endwall columns of cold-formed sections, mill-rolled sections, or built-up "I" sections depending on design requirements.
- P. Interior Columns: Columns supporting rafters of mainframes shall be of the following cross-section type(s):
  - 1. "I"-Shaped (Built-Up or Mill-Rolled depending on design requirements).
- Q. Finish: Red-Oxide.

R. Field Bolted Connections: All field bolted connections shall be designed and detailed utilizing ASTM F3125 Grades A325 or A490 as required by design.

### 2.4 SECONDARY FRAMING

- S. Purlins and Girts: Purlins and girts shall be cold-formed "Z" sections with stiffened flanges. Flange stiffeners shall be sized to comply with the requirements of the latest edition of AISI S100. They shall be pre-punched at the factory to provide for field bolting to the rigid frames. They shall be simple or continuous span as required by design. Connection bolts will install through the purlin/girt webs, not purlin/girt flanges.
- T. Purlins (Excluding Open Web Joists): Horizontal structural members which support roof coverings.
  - 1. Depth: To be determined by design (8", 9.5", 10" or 12")
  - 2. Maximum Length: To be determined by design.
  - 3. Finish: Red Oxide Primer.
- U. Girts: Horizontal structural members that support vertical panels.
  - 1. Depth: To be determined by design (8", 9.5", 10", or 12")
  - 2. Maximum Length: To be determined by design.
  - 3. Finish: Red Oxide Primer.
- V. Eave Struts: Equal flange, cold-formed "C" sections or "Z" purlins.
  - 1. Depth: To be determined by design (8", 9.5", 10" or 12")
  - 2. Maximum Length: To be determined by design.
  - 3. Finish: Red Oxide Primer.
- W. Base Framing: Base members to which the base of the wall covering may be attached to the top of masonry wall. Secured to the concrete slab with mechanical anchors.
  - 1. Base girt.
    - a. With flashing.
  - 2. Finish: Red Oxide Primer.

### 2.5 ROOF PANELS

- X. CFR Roof Panel: A mechanically seamed trapezoidal standing seam roof panel with concealed clips. Installed directly over purlins. Tested in accordance with ASTM E 1646 and E 1680 for water penetration and air infiltration, and per ASTM E1592 for wind uplift capacity.
  - 1. Gauge: 24 (Std.)
  - 2. Dimensions: 24 inches (610mm) wide by 3 inches (76mm) high
  - 3. Clips: Tall Sliding
  - 4. Finish/Color: As selected from manufacturers full range of standard and premium colors.

### 2.6 WALL PANELS

- Y. Metl-Span CF Mesa Insulated Panel: A through fastened wall sandwich panel with concealed fasteners,
  - 1. Exterior panel gauge: 26 (Std.)
  - 2. Interior panel gauge: 26 (Std.)
  - 3. Size / Thermal Value: 42 inches (1061mm) by 3 inches (76mm) thick (R-26.2)

- 4. Finish/Color: As selected from manufacturers full range of standard and premium colors.
- 5. Standard Finish
  - a. Exterior: Embossed with Mesa Profile
  - b. Interior: Embossed with Mesa Profile

### 2.7 ACCESSORIES

- A. Roof Line Trim:
  - 1. Basic Sculptured Trim Type: Low-Eave Gutter (on slope or horizontal) / Sculptured Rake Trim
- B. Purlin Extensions: Overhanging or projecting roof structure at the end of a building.
- C. Framed Openings: Used to frame doors, windows, louvers, and any other openings. Refers to the framing members and flashing which surround an opening and includes jambs, header and or sill, trim, and fasteners.

### 2.8 FABRICATION

- A. General:
  - 1. Shop-fabricate all framing members for field bolted assembly. The surfaces of the bolted connections must be smooth and free from burrs or distortions.
  - 2. Shop connections must conform to the manufacturer's standard design practices as defined in this section. Certification of welder qualifications will be furnished when required and specified in advance.
  - 3. All framing members must carry an identifying mark.
- B. Primary Framing:
  - 1. Plates, Stiffeners and Related Members: Factory weld base plates splice plates, cap plates, and stiffeners into place on the structural members.
  - 2. Bolt Holes and Related Machining: Shop fabricate base plates, splices and flanges to include bolt connection holes. Shop fabricated webs to include bracing holes.
  - 3. Secondary structural connections (purlins and girts) to be ordinary bolted connections, which may include welded clips.
  - 4. Manufacturer is responsible for all shop welding inspection in accordance with the manufacturer's IAS Accreditation or CAN/CSA A660 Certification. Special inspection by the buyer or owner may be done in the manufacturer's facility and must be noted on the Contract Documents.
  - 5. Non-Destructive Testing (NDT) NDT shall be performed and documented as required by the governing building code for this project.
- C. Zee Purlins:
  - 1. Fabricate purlins from cold-formed "Z" sections with stiffened flanges. Size flange stiffeners to comply with the requirements of the latest edition of AISI. Connection bolts will install through the webs, not the flanges.

- D. Girts
  - 1. Girts must be simple or continuous span as required by design. Connection bolts will install through the webs, not the flanges.
- E. Bracing:
  - 1. Diagonal Bracing:
    - a. Longitudinal bracing in the roof and/or walls need not be furnished where it can be shown that the diaphragm strength of the roof and/or wall covering is adequate to resist the applied wind or seismic forces. Diagonal bracing in the roof and sidewalls may be used to resist longitudinal loads (wind, crane, etc.) in the structure if diaphragm action cannot be used.
    - b. Diagonal bracing will be furnished to length and equipped with hillside washers and nuts at each end. It may consist of rods threaded each end or galvanized cable with suitable threaded end anchors. If load requirements so dictate, bracing may be of structural angle and/or pipe, bolted in place.
  - 2. Special Bracing: When diagonal bracing is not permitted in the sidewall, a rigid frame type portal or fixed base column may be used. Shear walls can also be used where adequate to resist the applied wind or seismic forces.
  - 3. Flange Braces: The inside compression flange of all primary framing must be braced laterally with angles connecting to the bottom chords of joists or to the webs of purlins/girts so that the flange compressive stress is within allowable limits for any combination of loading.
  - 4. Bridging: Laterally bridge the top and bottom chords of the openweb bar joists as required by design thereof and specified on the building erection drawings.
- F. Trapezoidal Standing Seam Panels General:
  - 1. One side of the panel is configured as female, having factory applied mastic inside the female seam. The female side will hook over the male side and when seamed creates a continuous lock, forming a weathertight seam.
  - 2. Panels are factory notched at both ends so that field installation can commence or terminate from either end of the building. Panels cannot start at both ends of the building and work towards each other.
  - 3. Maximum panel length is 50 feet (16,764mm) unless otherwise noted in the Contract Documents.
  - 4. Endlaps:
    - a. Endlaps must have a 16-gauge backup plate and have the (8) endlap joint fasteners installed in dimpled locations in the flat with (1) endlap joint fastener installed in each trapezoid shoulder for a total of (10) fasteners at each endlap.

- Apply mastic between the panels and secured with #1/4-14
  x 1 1/4 inch (32mm) self-drilling fasteners through the panels and backup plate to form a compression joint.
- c. "Through-the-Roof" fasteners may only be used at endlaps and eaves.

### PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Before erection proceeds, survey elevations and locations of concrete and masonry bearing surfaces and locations of anchor rods, bearing plates and other embedment's to receive structural framing, with Erector present, for compliance with requirements and metal building system manufacturer's tolerances.
- C. Proceed with erection only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Provide temporary shores, guys, braces, and other supports during erection to keep structural framing secure, plumb, and in alignment against temporary construction loads equal in intensity to design loads. Remove temporary supports when permanent structural framing connections and bracing are in place, unless otherwise indicated.

### 3.3 INSTALLATION

- A. The erection of the building system shall be performed by a qualified erector, in accordance with the appropriate erection drawings, erection guides and /or other documents furnished by manufacturer, using proper tools, equipment and safety practices.
- B. Erect framing in accordance with *MBMA Metal Building Systems Manual, Chapter IV Common Industry Practices*
- C. There shall be no field modifications to primary structural members except as authorized and specified by the manufacturer.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

### END OF SECTION 13 3419

Saline Area Schools Operations Center

### PRE-ENGINEERED METAL BUILDING ERECTION

### **SCOPE OF WORK**

### 5/19/23

Furnish and/or install all materials, labor, equipment and supervision necessary to complete the following scope of work for the above-referenced project. All work must be completed in strict accordance with the preliminary contract documents prepared by Hobbs + Black Associates dated 5/19/23.

Drawings:	A-000, A-100, A-200, A-300
Specifications:	PEMB Specifications

This order includes, but is not limited to, the following:

- 1. Pay all necessary taxes and furnish proof of adequate insurance.
- 2. Comply with all federal, state, and local codes and ordinances, including OSHA and MIOSHA. Comply with Covid-19 guidelines including daily screening on job site.
- 3. All work shall comply with the A. R. Brouwer Co, LLC Safety Policy. Copies of this policy are available for your review in our office.
- 4. Attend a pre-installation site meeting with A.R. Brouwer and other necessary trades.
- 5. Furnish a copy of your company's Site-Specific Safety Plan.
- 6. Furnish copies of your company's weekly safety meeting minutes.
- 7. Furnish material data sheets for all material used on project.
- 8. Furnish shop drawings, catalogs, and submittals as required within five (5) days of award of contract.
- 9. Provide same site foreman for entire duration of project.
- 10. Deliver and store all materials as recommended by the manufacturer and in a location as directed by the Project Superintendent.
- 11. Provide all layout and field measurements required.
- 12. Provide all required closeout documentation upon completion of scope of work.
- 13. Daily clean up at the direction of the Project Superintendent to maintain a safe and efficient work site. This includes entire jobsite inside and out. All debris should be placed in dumpster provided at the end of each day. Tools and equipment left on the jobsite should be organized and stored safely. Cover and protect all finishes. Do not stand or place tools on unprotected surfaces. Do not leave food or drink containers behind. Do not store food on the jobsite. Do not smoke inside or in close proximity to jobsite and dispose of cigarette butts properly. Failure to comply with these rules will result in a minimum cleaning fee of \$200 per hour.
- 14. Provide man lifts and hoisting equipment for your work.
- 15. Provide the necessary field measurements and check the anchor bolts prior to erection. Perform anchor bolt survey with the Project Superintendent prior to the start of erection and

report all discrepancies, in writing, to the A. R. Brouwer Co. Project Manager prior to the start of work.

- 16. Unload and store materials the same day they are delivered to the site by the building manufacturer.
- 17. Store the materials as recommended by the manufacturer in a neat and orderly fashion to avoid damage.
- 18. All staging areas shall be coordinated with Project Superintendent.
- 19. Provide all layout required to erect the pre-engineered metal building.
- 20. Furnish lifting equipment as necessary.
- 21. Erect the building in accordance with manufacturer's recommendations. Refer to manufacturer's erection drawings for this specific project. The building is approximately 16,000 SF and has the following dimensions: 100' wide x 160' long x 24' high (to eave)
- 22. Furnish and install temporary bracing as required.
- 23. Install the roofing insulation, the standing seam roof and the flashing around the framed openings.
- 24. Install the insulated metal wall panels.
- 25. Install gutters
- 26. Install eave trim where shown
- 27. Install gable trim.
- 28. Insulation shall be installed straight and true. Wrinkles and tears will be repaired to the satisfaction of A. R. Brouwer Co. LLC.
- 29. The following roof/wall openings are included:
  - A. No roof openings
  - B. Door and window openings as shown on plan, section and elevations
  - C. Mechanical Openings as indicated on drawings
- 30. Deliver the materials to the jobsite as directed by the project superintendent
- 31. This work shall commence with advance notice when scheduled by the Project Manager and shall be completed in a timely and first class manner.

All work must comply with MIOSHA requirements and be in accordance with the Municipal, state and Federal code requirements. All work must be performed in accordance with established job schedules.

Saline Area Schools Operations Center

### SUPPLY PRE-ENGINEERED METAL BUILDING ROOF INSULATION

### **SCOPE OF WORK**

### 5/19/23

Furnish and/or install all materials, labor, equipment and supervision necessary to complete the following scope of work for the above-referenced project. All work must be completed in strict accordance with the preliminary contract documents prepared by Hobbs + Black Associates dated 5/19/23.

Drawings:	A-000, A-100, A-200, A-300
Specifications:	PEMB Specifications

This order includes, but is not limited to, the following:

- 1. Pay all necessary taxes and furnish proof of adequate insurance.
- 2. Furnish material data sheets for all material used on project.
- 3. Furnish shop drawings, catalogs, and submittals as required within five (5) days of award of contract.
- 4. Provide same site foreman for entire duration of project.
- 5. Deliver the materials to the job site as directed by the Project Superintendent.
- 6. Furnish roof insulation material:
  - a. R-38 White Energy Saver Liner System (multiple layers)
- 7. Provide White Energy Saver patch tape as necessary to complete project.
- 8. Deliver the materials to the jobsite as directed by the project superintendent
- 9. This work shall commence with advance notice when scheduled by the Project Manager and shall be completed in a timely and first class manner.

All work must comply with MIOSHA requirements and be in accordance with the Municipal, state and Federal code requirements. All work must be performed in accordance with established job schedules.

# SALINE AREA SCHOOLS OPERATIONS CENTER

# PRE-ENGINEERED METAL BUILDING

### CONSTRUCTION MANAGER

A.R. BROUWER COMPANY 2830 Baker Rd., Suite 100 Dexter, Michigan 48130

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OWNER

SALINE AREA SCHOOLS 7265 N. Ann Arbor St. Saline, Michigan 48176

HOBBS+BLACK ASSOCIATES, INC. 100 North State Street Ann Arbor, Michigan 48104

### CIVIL/STRUCTURAL/MECH./ELEC. ENGINEER

IMEG CORP. 33533 Twelve Mile Rd., Suite 200 Farmington Hills, Michigan 48331

## 05/19/2023

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