



R G Architects, LLC

200 West Main Street
Middletown, DE 19709
302.376.8100
302.376.9851 fax
www.rgarchitects.net

RGA No. 16047
9 October 2017

ADDENDUM NO. 1

STATE OF DELAWARE OMB/DFM
DSCYF Storage Building 14
1825 Faulkland Rd.
Wilmington, DE 19901

R G Architects
200 West Main Street
Middletown, DE 19709
Phone: 302-376-8100 (phone)
Fax: 302-376-9851 (fax)
Email: chris@rgarchitects.net

BIDS DUE:

Thursday, October 19, 2017 at 2:00 p.m.

LOCATION:

**THOMAS COLLINS BUILDING
Division of Facilities Management Office
540 S. DuPont Highway, Suite 1 (Third Floor)
Dover, Delaware 19901
Attn: Robert Robinson**

NOTICE TO ALL BIDDERS

1.0 GENERAL NOTES:

- 1.1 Bidders are hereby notified that this Addendum shall be and hereby becomes part of their Contract Documents, and shall be attached to the Project Manual for this project.
- 1.2 The following items are intended to revise and clarify the Drawings and Project Manual, and shall be included by the Bidder in their proposal.
- 1.3 Bidders shall verify that their Sub-bidders are in full receipt of the information contained herein.
- 1.4 A copy of the current bid set register is available upon request indicating individuals that have purchased project documents from R G architects.
- 1.5 The pre-bid sign-in sheet, along with Addendum #1, is being sent as a courtesy to all pre-bid meeting attendees; however, all future addenda will only be issued to registered plan holders.
- 1.6 All addenda will be sent out to the registered plan holders via email (or fax). Contractors are encouraged to keep an eye on their email accounts during the bidding period for such updates.

2.0 PREBID MEETING:

- 2.1 A Prebid Meeting was held on Wednesday, October 4, 2017 at 1:00 p.m. at the Ferris Maintenance Shop at the DSCYF Campus. The following items were reviewed:
- A. Project Description: A brief overview of the Project was discussed. An overall floor plan with limits of construction highlight was presented and attached as part of these minutes for information purpose only. No changes to the scope of work at this time.
 - B. Project Schedule: On site construction commencement is anticipated to begin upon future notice to proceed.
 - C. Bid schedule is as follows:
 - 1. The bids are due by **2:00 p.m. on Thursday, October 19, 2017.**
 - 2. Substitution requests will be received until **4:00 p.m. on Monday, October 9, 2017.**
Instructions for requesting substitutions are very specific and are contained in the project manual. If the contractor does not follow the processes it is automatic grounds for rejection.
 - 3. **Questions regarding the bid documents will be received until 2:00 p.m. on Friday, October 13, 2017.**
All questions **must** be submitted **in writing** (via fax or mail, addressed to Jerry Rozanski, Jerry@rgarchitects.net) to R G Architects. Neither R G Architects or the Owner will answer questions verbally.
 - 4. The last day for addenda to be issued, if required, shall be, **Sunday, October 15, 2017.**
 - D. The project will **NOT** require the contractors to utilize the State of Delaware Prevailing wage rates.
 - E. Liquidated damages: Liquidated damages are not in this contract. However, a written contract is and all conditions of that contract will be enforced as spelled out in the contract documents.
 - F. Substitutions: If a specification lists one product manufacturer as well as listing “or equal”, the contractor is not obligated to submit for substitution prior to bid for that item. However, the contractor will still be responsible to meet the requirements of that product during the review process as per the specifications. If the product substituted as an equal does not meet ALL of the requirements of the specifications, as determined by the Architect, the Contractor is obligated to provide the specified product at no additional cost to the project.
 - G. Subcontractors List:
 - 1. The subcontractors list noted on the bid form in the project manual was reviewed and agreed upon.
 - 2. The General Contractor may NOT list more than one subcontractor for a discipline on the subcontractor’s list.

3. On the Subcontractors List, the General Contractor must list the subcontractor that is providing the labor for 100% of the work in that category and as is required by the laws of Title 29.
- H. Drug Testing Policy: RGA reviewed the new Drug Testing Policy in place by State of Delaware. Contractors are to reference the Project Manual for additional policy procedures and Drug Testing Report Forms.
- I. DOC Security Clearance forms will NOT be required for this project.
- J. DMSS Staff reminded everyone that smoking is NOT permitted ANYWHERE on the DSCYF (Ferris) campus. Contractors must leave the property to smoke during construction.
- K. Contractors are reminded to follow the posted speed limits on the property. Bathrooms will not be available during construction and Porta-potties will be required to be supplied by the contractor.
- L. Project Site walk-through

Bidders who wish to tour the construction site after the prebid meeting may do so unescorted.

3.0 Revisions to the SPECIFICATIONS

- 3.1 13 34 00 – PRE-ENGINEERED BUILDING SYSTEMS; Revised roof truss size to match drawings and roof panel specification.

4.0 Revisions to the DRAWINGS

- 4.1 Drawings A1-2, 2-1, 2-2, 3-1. Change reference to metal roof to “26ga through-fastened metal panel roof (Lester Uni-Rib or equal).” See attached specification.

5.0 Questions

- 5.1 Question - Page A3-1 detail 2 would indicate that they are looking for a 24 Gage standing seam roof, as it does in detail 4 on the same page. It conflicts though, because it calls for a 29 Gage roof panel which is typically a screw down roof. I'm looking to clarify whether they want a screw down roof, or a standing seam roof. We would recommend a 26gage screw down roof, which is typically what is used for a pole building.

5.1.1 Answer – The roof shall be a 26GA Screw Down Metal Panel.

6.0 ATTACHMENT LIST:

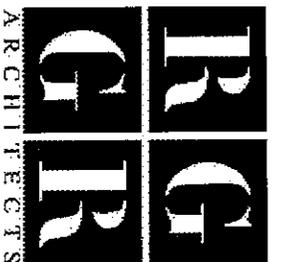
- A. Pre Bid Sign-In Sheet
- B. Bid Register
- C. 3.1 13 34 00 – PRE-ENGINEERED BUILDING SYSTEMS

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PREBID MEETING SIGN-IN
DSCYF Storage Bldg 14

State of Delaware
 MJ3705000041

Facilities Management Office, Thomas Collins Building
 640 S. Dupont Highway, Suite 1 (Third Floor)
 Dover, DE 19901



Name	Company	Telephone	Email
1 BILL BROWN	CONESTOGA BUILDINGS	717.688.5044	BBROWN@CONESTOGA.COM
2 DAVID CASS	SCA CONSTR	302.275.1993	dcass@
3 Barry Morrison	SCA Construction	443.566.0828	Barry@SCAConstruct.com
4 DAVE MCCARTHY	Commonwealth	302-654-4611	Dmccarthy@itscommonwealth.com
5 RSP SASSARDI	CONSTR. CO.	302-658-6469	RSASSARDI@verizon.net
6 JOE SAYRDS	DET	302-660-7534	JSAYRDS@det.com
7 Rick Strasser	Skid (DTL)	302-241-1198	Rstrasser@dtl.com
8 ERIC MORRIS	TRIPLE M/M	484-368-1324	EMORRIS@verizon.net
9 Tony Ventresca	Ventresca Bros. Inc.	302-658-6436	tony@ventrescabros.com
10 JERRY KORANSKI	RG ARCHITECTS	302-376-8100	JKORANSKI@RGARCHITECTS.NET
11 Spacyl Buah	Amador, Inc	302 834 8664	Amador@aol.com
12 Brian Smith	BSS CONTRACTORS	610.345.1316	Bsmith@bsscontractors.com
13 Frank Massef	State of DE DMSS	685-7102	Frank.Massef@state.de.us
14 Larry Bathon	LC Bathons Bld's	410 398-0800	lbathton@aol.com
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PLEASE PRINT CLEARLY

State of Delaware
 DSCYF Storage Bldg 14
 MJ3705000041

Bids Due: Thursday, October 19, 2017 at 2:00 pm
 Facilities Management Office, Thomas Collins Building
 540 S. DuPont Highway, Suite 1 (Third Floor)
 Dover, DE 19901



RGA # 16047

BID DOCUMENTS REGISTER

PLEASE PRINT CLEARLY

\$ 100.00 per HARD Copy set, \$50 Per Electronic PDF set

#01	Name of Company: <u>BSS CONTRACTORS</u> Physical Address: <u>281 E. EVERGREEN ST</u> City, State: <u>WEST GROVE PA 19390</u> Contact: <u>BRIAN S. SMITH</u> GC: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EMAIL: <u>BSMITH@BSSCONTRACTOR.COM</u> Fax: <u>610-345-1318</u> Phone: <u>610-345-1316</u> Date: <u>10-4-17</u>
#02	Name of Company: <u>KENT</u> Physical Address: <u>2 Rye Oak Rd</u> City, State: <u>SALYERSVILLE VA 24177</u> Contact: _____ GC: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EMAIL: <u>ESTIMATOR@KENTCONSTRUCTIONCO.COM</u> Fax: _____ Phone: <u>702-658-6669</u> Date: <u>10/25/17</u>
#03	Name of Company: <u>SC+A Construction</u> Physical Address: <u>3411 Silverside Rd Shipley Bldg Suite 200</u> City, State: <u>Wilmington, DE</u> Contact: <u>Barry Morrison</u> GC: YES <input type="checkbox"/> NO <input type="checkbox"/> EMAIL: <u>Barry@scaconstructs.com</u> Fax: _____ Phone: <u>443.566.0328</u> Date: <u>10/4/17</u>
#04	Name of Company: <u>CONESTOGA BUILDINGS</u> Physical Address: <u>202 ORLAN RD</u> City, State: <u>NEW HOLLAND PA 17522</u> Contact: <u>BILL BROWN</u> GC: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> EMAIL: <u>BBROWN@CBSTRUCTURES,INC.COM</u> Fax: <u>717 355 9170</u> Phone: <u>717-682-5044</u> Date: <u>10-4-17</u>

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State of Delaware
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Bids Due: Thursday, October 19, 2017 at 2:00 pm
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Dover, DE 19901



BID DOCUMENTS REGISTER

PLEASE PRINT CLEARLY

#05	Name of Company: _____ Physical Address: <u>Amakor, Inc</u> City, State: <u>72 Clinton St De City DE</u> Contact: <u>Steve Serbu</u> 19706 GC: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO EMAIL: <u>Amakor@aol.com</u> Fax: <u>8681</u> Phone: <u>302 834 8664</u> Date: <u>10/4/17</u>
#06	Name of Company: _____ Physical Address: _____ City, State: _____ Contact: _____ GC: <input type="checkbox"/> YES <input type="checkbox"/> NO EMAIL: _____ Fax: _____ Phone: _____ Date: _____
#07	Name of Company: _____ Physical Address: _____ City, State: _____ Contact: _____ GC: <input type="checkbox"/> YES <input type="checkbox"/> NO EMAIL: _____ Fax: _____ Phone: _____ Date: _____
#08	Name of Company: _____ Physical Address: _____ City, State: _____ Contact: _____ GC: <input type="checkbox"/> YES <input type="checkbox"/> NO EMAIL: _____ Fax: _____ Phone: _____ Date: _____

SECTION 13 34 00

PRE-ENGINEERED BUILDING SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide pre-engineered building systems, including but not limited to primary and secondary structural framing systems, roofing, siding, roof and wall insulation, personnel doors, windows and accessories. Basis of design is the following system by Lester Building Systems:
 - 1. Uni-Frame I, clear span truss and embedded columns.

1.2 RELATED SECTIONS

- A. Section 31 20 00 - Earth Moving.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 08 70 00 - Hardware.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - 2. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 3. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.
 - 4. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - 5. ASTM C991 - Standard Specification for Flexible Glass Fiber Insulation for Metal Buildings.
 - 6. ASTM D523 - Standard Test Method for Specular Gloss.
 - 7. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.
 - 8. ASTM D3841 - Standard Specification for Glass-Fiber-Reinforced Polyester Plastic Panels.
 - 9. ASTM D4145 - Standard Test Method for Coating Flexibility of Prepainted Sheet.
 - 10. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 11. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.

1.4 SYSTEM DESCRIPTION

- A. Structural Frame Design:
 - 1. Design shall be based on the building framing and enclosure Uni-Frame I as manufactured by Lester Building Systems.
 - a. Type: Clear span roof truss.
 - b. Maximum Width: 36 feet 0 inches.
 - c. Maximum Clear Height: 10 feet 8 inches.

- d. Columns: Embedded in ground.
 - e. Purlins: 2x4 purlins above truss.
- B. Structural Requirements:
- 1. Building Code: International Building Code (IBC) and ASCE-7, current edition.
 - 2. Design Loads:
 - a. Ground Snow Load: 30 psf
 - b. Ground Exposure Factor: 0.7.
 - c. Roof Load, Live load: 25 psf
 - d. Roof Dead Load: 18 psf
 - e. Ceiling Dead Load: 5 psf
 - f. Wind Load: Wind speed (3 sec gust): 80 mph
 - g. Wind Exposure: Maximum Considered Earthquake 0.2 Second Spectral Response Acceleration.
 - h. Maximum Considered Earthquake 1.0 Second Spectral Response Acceleration.
 - i. Collateral Loads: Additional loads imposed by contract documents other than weight of building systems specified in this section.
 - j. Combination Loads: Comply with Building Code.
 - 3. Structural Design:
 - a. Perform calculations using diaphragm and/or frame analysis. Incorporate bracing as required.
 - b. Comply with AF&PA "National Design Specification for Wood Construction (NDS)."
 - c. Trusses:
 - 1) Limit deflection for live or snow loads to L/240 for trusses supporting ceilings and to L/180 for overhangs and trusses not supporting ceilings.
 - 2) Comply with appropriate NDS and Truss Plate Institute (TPI) standards.
 - d. Metal Wall and Roof Panels:
 - 1) Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices.
 - e. Plywood or Oriented Strand Board Sheathing: Comply with APA "Plywood Design Specification."
 - f. Expansion/Contraction Provisions: Design roof attachment system to allow for expansion and contraction of metal roofing, due to seasonal temperature variations, without detrimental effect to the roof panels.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Manufacturer's specifications and installation instructions for building components and accessories.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
- C. Shop Drawings: Showing roof framing, cross sections, roof and wall covering and trim details and accessory and component details clearly indicating proper assembly.
- D. Structural Engineer Certification: Letter signed by a Professional/Structural Engineer, registered to practice in the jurisdiction of the project, verifying compliance with Snow Design Requirements. Letter shall reference specific dead loads, live loads, wind

loads, tributary area load reductions (if applicable) collateral loads, seismic loads, end use categories, and governing building code including edition and load applications.

- E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- F. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum ten years experience in producing pre-engineered wood buildings of the type specified.
- B. Installer Qualifications: Minimum three years experience in erection of pre-engineered wood buildings of the type specified.
- C. Structural Engineer's Qualifications: Minimum of three years designing post frame structures; registered in the jurisdiction of the project.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Follow manufacturer's recommended storage procedures. Do not allow steel siding and roofing to contact the ground.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of authorities having jurisdiction.

1.8 PROJECT CONDITIONS

- A. Anticipate 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.

1.9 WARRANTY

- A. Structural Design - Lifetime: Manufacturer warrants that the building designed by the supplier will not experience an occurrence of structural failure or an occurrence of structural damage due to improper structural design (excepting ventilation systems) on account of weather conditions, such as wind, ice, and snow, as indicated on the Sales Agreement, "Building Description Section". The foregoing warranty is limited to 50 years with respect to any Owner which is not an individual.
- B. Preservative Treated Materials: 50 years. Preservative treated lumber, including structural columns, are warranted by the original materials manufacturer against failures due to fungal decay and termite infestation.
- C. Roofing and Siding Finish, Lester UNI-RIB: Warranted by the original materials manufacturer for 40 years from the date of shipment. Refer to Warranty document for complete details.
- D. Individual Building Products: Manufacturer's standard warranty but not less than Two Years.
- E. Installation Warranty: Two year general installation warranty, five years against roof leaks.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Lester Building Systems, which is located at: 1111 2nd Ave. S. ; Lester Prairie, MN 55354; Toll Free Tel: 800-826-4439; Tel: 320-395-2531; Fax: 320-395-5393; Email: [request info \(info@lesterbuildings.com\)](mailto:info@lesterbuildings.com); Web: www.lesterbuildings.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 STRUCTURAL FRAMING

- A. Footings:
1. Embedded Column Footings:
 - a. Cast in place concrete footing of 3000 psi ready-mix concrete of size and thickness specified on construction drawings.
- B. Primary Framing:
1. Columns:
 - a. Treated Lumber Section:
 - 1) Lumber: No. 1 or Better Southern Yellow Pine, pressure treated with Chromated Copper Arsenate, Type III, to a retention of 0.6 pcf (9.6 kg/m³) and kiln dried after treating to 19 percent maximum moisture content.
 - 2) Fabrication: Laminate individual pieces using ring shank feed nails per manufacturer's engineered nailing pattern. Fasteners shall have ASTM A153 galvanizing.
 - b. Untreated Lumber Section:
 - 1) Lumber: Lumber: No. 1 or Better Southern Yellow Pine or Douglas Fir-Larch or other equivalent NDS approved species/grade kiln dried to 19 percent maximum moisture content.
 - 2) Fabrication: Laminate individual pieces using ring shank feed nails per manufacturer's engineered nailing pattern.
 - 3) Grade and size shall be selected to support imposed loads within deflection limits.
 - c. End Joint Connection of Treated and Untreated Sections: Factory fabricated finger joint.
 - d. Configuration:
 - 1) Sidewall and Endwall Columns: 3 ply or 4 ply combining 2x4, 2x6, 2x8, or 2x10 (50x150, 50x200, 50x250 mm) dimension lumber as required by "Structural Design" requirements specified herein.
 - 2) Corner Columns: 2 ply or 3 ply 2x4, 2x6 or 2x8 (50x150, 50x200 mm) dimension lumber as required by "Structural Design" requirements specified herein.
 - e. Embedded Column Anchorage:
 - 1) Anchor blocks factory adhered to column base.
 - 2) Concrete collar pinned to column base with steel reinforcing rods.
 - 3) Provide cast-in-place anchors per shop drawings.
 2. Trusses: Comply with "Structural Design" and "Quality Assurance" requirements as specified herein.
 - a. Comply with TPI "Design Specification for Metal Plate Connected Wood Trusses" and "Quality Standard for Metal Plate Connected Wood Trusses."

- b. Manufacturer shall have a third party inspection program to verify compliance with requirements of TPI.
 - c. Stamp trusses with inspection agency identification.
- C. Secondary Framing:
- 1. Purlins and Girts:
 - a. Lumber: No. 2 or Better dimension lumber kiln dried to 19 percent maximum moisture content.
 - b. Configuration: 2x4 or 2x6 (50x100, 50x150 mm) as required by "Structural Design" requirements specified herein.
 - 1) Girts: Size, grade and spacing to meet wind and deflection criterion.
 - a) Face mounted to exterior side of column.
 - 2) Purlins: Precision cut to fit between trusses flush with top of top chord. Provide 20 gauge galvanized purlin saddle hangers.
 - 2. Splashplank:
 - a. Lumber: No. 2 or Better Southern Yellow Pine, preservative treated, to a retention of 14 pcf (2.2 kg/m³) of micronized copper azole.
 - b. Configuration: 2x6 or 2x8 (50x 150 or 50x200 mm) dimension lumber. Milled S4S for single row and milled T&G for multiple rows.

2.3 METAL ROOFING

- A. Metal Roofing: UNI-RIB panel as manufactured by Lester Building Systems.
- 1. Material and Finish: 26 Gauge, ASTM A 653 (A 653 M), Structural Quality, Grade 80 (550) (formerly Grade E), galvanized steel with G60 (Z180) zinc coating both sides, Triple Spot Test.
 - a. Exterior Surface Finish:
 - 1) Bonderize and provide baked on primer and Valspar Weather-X (silicone polyester) finish coat, 0.9 mil (0.023 mm) minimum dry film thickness.
 - 2) Gloss (60 Degrees): ASTM D523, 20 to 80.
 - 3) Pencil Hardness: ASTM D3363, F to 2H.
 - 4) T-Bend: ASTM D4145: 2T to 4T.
 - 5) Color to be selected by Architect from manufacturers full range of colors.
 - 6)
 - 2. Configuration:
 - a. Roll-formed; 36 inch (915 mm) coverage width. Provide panels covering up to 35 foot (10.5 m) lengths in single pieces.
 - b. Four major corrugations, 7/8 inch (22 mm) high, spaced 12 inches (305 mm) on center with 3 minor corrugations, 1/8 inch (3mm) high, spaced 3 inches (76 mm) on center between each major corrugation.
 - c. Form one outboard corrugation as overlapping corrugation.
 - d. Form opposite outboard corrugation as underneath corrugation with full return leg to support side lap and a continuous anti-siphon drain channel.
 - e. Factory cut to required length.
 - 3. Material and Finish: As shown on Erection Drawings, except as specified herein.
- B. Fasteners: Color coated No. 10 piercing screws with 1/4 inch (6 mm) hex head pre-assembled to 1/2 inch (13 mm) O.D. dome seal or bond seal galvanized steel and EPDM washers.

2.4 ROOFING ACCESSORIES

- A. Steel Ridge Cap:

1. The cap materials and construction shall match the roof steel materials and construction.
- B. Vents: Ridge vent, and/or low profile ridge ventilator as shown on drawings.
- C. Insulation: R-6.8 (R-1.2) Foil-faced foil bubble insulation as shown on drawings
- D. Eave Overhang Fascia Flashing:
 1. Size: 12 inches nominal.
 2. Fascia Flashing Color: Selected by Architect from Manufacturers full range of colors
 3. Vented Soffit Color: Selected by Architect from Manufacturers full range of colors.
- E. End Overhang Fascia Flashing:
 1. Size: 12 inches nominal.
 2. Fascia Flashing Color: Selected by Architect from Manufacturers full range of colors.
 3. Vented Soffit Color: Selected by Architect from Manufacturers full range of colors..
- F. Gutters and Downspouts: Provide manufacturer's standard gutters and downspouts as shown on Drawings.
- G. Closure Strips: Closed cell, 2 pcf density polyethylene foam, premolded to match configuration of panels.

2.5 SIDING

- A. Siding: UNI-RIB panel as manufactured by Lester Building Systems.
 1. Material and Finish: 29 Gauge, ASTM A 653 (A 653 M), Structural Quality, Grade 80 (550) (formerly Grade E), galvanized steel with G60 (Z180) zinc coating both sides, Triple Spot Test.
 - a. Exterior Surface Finish:
 - 1) Bonderize and provide baked on primer and Valspar Weather-X (silicone polyester) finish coat, 0.9 mil (0.023 mm) minimum dry film thickness.
 - 2) Gloss (60 Degrees): ASTM D523, 20 to 80.
 - 3) Pencil Hardness: ASTM D3363, F to 2H.
 - 4) T-Bend: ASTM D4145: 2T to 4T.
 - 5) Color: Selected by Architect from Manufacturers full range of colors.
 2. Configuration:
 - a. Roll-formed; 36 inch (915 mm) coverage width. Provide panels covering up to 35 foot (10.5 m) lengths in single pieces.
 - b. Four major corrugations, 7/8 inch (22 mm) high, spaced 12 inches (305 mm) on center with 3 minor corrugations, 1/8 inch (3 mm) high, spaced 3 inches (76 mm) on center between each major corrugation.
 - c. Form one outboard corrugation as overlapping corrugation.
 - d. Form opposite outboard corrugation as underneath corrugation with full return leg to support side lap and a continuous anti-siphon drain channel.
 - e. Factory cut to required length.
 - f. Factory miter cut gable ends.
 - g. Material and Finish: As shown on Erection Drawings, except as specified herein.
 - h. Fasteners: Color coated No. 10 piercing screws with 1/4 inch (6 mm) hex

head pre-assembled to 1/2 inch (13 mm) O.D. dome seal or bond seal galvanized steel and EPDM washers.

- B. Siding Accessories:
 - 1. Wall Trim and Flashings: Manufacturer's standard wall trim and flashings.
 - 2. Louvers: See contract documents for manufacturer, size and color.
 - 3. Closure Strips: Closed cell, 2 pcf (32 kg/m³) density polyethylene foam, premolded to match configuration of panels.
 - 4. Material and Finish: As shown on Erection Drawings, except as specified herein.

2.6 INSULATION

- A. Blanket Insulation: ASTM C 665, Type I, Class A, Unfaced Fiberglass Blanket.
 - 1. Thermal Resistance: R-19 (R-3.34).
 - 2. Thermal Resistance: R-49 (R-8.63).
 - 3. Physical Properties:
 - a. Flame Spread, ASTM E 84: Less than 25.
 - b. Smoke Developed, ASTM E 84: Less than 50.
- B. Building Insulation: R-4.7 (R-0.83) Foil-faced foil bubble insulation as shown on drawings

2.7 INTERIOR FINISH - WALLS AND CEILINGS

- A. Interior Finish Type: As selected by Architect. See contract documents for additional information.

2.8 JOINT SEALANT MATERIALS

- A. Sealant: Manus 75-A for applications that will not be painted, contains no solvents or isocyanates, non-yellowing.
 - 1. Color: Selected by Architect from manufacturers full range of colors.
- B. Sealant: Manus 75-AM for applications that will be painted, contains no solvents or isocyanates, non-yellowing. Use white or bronze color for nearest match to adjacent substrate.
 - 1. Color: Selected by Architect from manufacturers full range of colors.
- C. Tape Sealant: Manus-Bond 64-A Polysul Grip tape.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that site conditions are acceptable for erection/installation of pre-engineered wood building system.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory conditions.
- C. Commencement of work by erector/installer is acceptance of site conditions.

3.2 ERECTION- STRUCTURAL FRAMING

- A. Erect in accordance with manufacturer's instructions and approved shop drawings.

- B. Provide temporary erection and wind load bracing to maintain structure plumb and in alignment until installation of permanent bracing and/or roofing and wall coverings are completed.
- C. Do not field cut or alter structural members without approval of Architect and manufacturer.

3.3 INSTALLATION

- A. Erect building per manufacturer's instructions and sequencing.
- B. Metal Roofing:
 - 1. General: Install in accordance with manufacturer's instructions. Secure to structural framing aligned, level and plumb. Space fasteners as shown on Erection Drawings.
 - 2. Sidelap: Minimum one full corrugation.
 - 3. Endlap: 8 inches (200 mm) for slopes 4 in 12 to 5 in 12. Secure together over and to structural members.
 - 4. Accessories: Install as shown on Erection Drawings.

END OF SECTION