CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

RFP ADDENDUM NO. 1

PROCUREMENT SERVICES
for a
Pre-fabricated Engineered Metal Building
City of Paso Robles, California

DPW PROJECT NO. 19-15

RFP ADDENDUM ISSUE DATE: NOVEMBER 22, 2019

RFP DUE DATE: DECEMBER 6, 2019, at 5:00 PM

- Please delete Exhibit "A3" and replace with the attached Exhibit "A3".
- Exhibits are provided as a basis for preparing proposals. The City will consider any pre-fabricated engineered metal building that complies with the building requirements and specifications set forth in the RFP.

# # #

EXHIBIT A3

SECTION 13 34 19
METAL BUILDING SYSTEM

PART 1 GENERAL
1.1 SECTION INCLUDES
A. Metal Framing Components
B. Metal Wall Panels and Trim
C. Metal Roof Panels and Trim
D. Metal Building Accessories
1.2 REFERENCE STANDARDS
A. American Institute of Steel Construction (AISC):
1. AISC Specification for Structural Steel Buildings.
2. AISC Serviceability Design Considerations for Low-Rise 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
D. Association for Iron & Steel Technology (AISE):
1. AISE 13 – Specifications for Design and Construction of Mill Buildings.
E. ASTM International (ASTM):
1. ASTM A 36 – Standard Specification for Carbon Structural Steel
2. ASTM A 48 – Specification for Gray Iron Castings
3. ASTM A 123 – Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 194 – Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts ASTM A 307 – Specification for Carbon Steel Bolts and Studs, 60 000 psi Tensile Strength
4. ASTM A 354 – Standard Specification for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners
ASTM A449 – Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use
5. ASTM A 475 – Specification for Zinc-Coated Steel Wire Strand
6. ASTM A 500 – Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
7. ASTM A 529 – Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality.
ASTM A536 Standard Specification for Ductile Iron Castings
8. ASTM A 563 – Specification for Carbon and Alloy Steel Nuts
ASTM A568 Standard Specification for Steel, Sheet. Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for
9. ASTM A 572 – Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
ASTM A635 – Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Alloy, Carbon, Structural, High-Strength Low-Alloy, and High-Strength Low Alloy with Improved Formability, General Requirements for
10. ASTM A 653 / A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A673 – Standard Specification for Sampling Procedure for Impact Testing of Structural Steel
ASTM A755 – Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products
11. ASTM A 792 / A 792M – Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
ASTM A924 – Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

12. ASTM A 992 – Standard Specification for Structural Steel Shapes.
13. ASTM A 1011 – 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.
    ASTM A1018 – Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
14. ASTM A 1039 – Specification for Steel, Sheet, Hot Rolled, Carbon, Commercial, Structural, and High-Strength Low-Alloy, Produced by Twin-Roll Casting Process
    ASTM A1063 – Standard Specification for Steel Sheet, Twin-Roll Cast, Zinc-Coated (Galvanized) by the Hot-Dip Process
    ASTM B633 – Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
15. ASTM E 96 / E 96M – Standard Test Methods for Water Vapor Transmission of Materials.
16. ASTM E 108—Spread-of Flame Testing: Class 1A Rating.
17. ASTM E 283 – Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
18. ASTM E 331 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
19. ASTM E 1592 – Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
20. ASTM E 1646 – Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
21. ASTM E 1680 – Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems
22. ASTM E 2140 – Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head
23. ASTM F 436 – Specification for Hardened Steel Washers
    ASTM F 844 – Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use
24. ASTM F 1145 – Standard Specification for Turnbuckles, Swaged, Welded, Forged
25. ASTM F 1554 – Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
26. ASTM F 3125 – Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength. (replaces A325 & A490)

F. IAS – International Accreditation Service
G. LGSI – Light Gauge Steel Institute
H. Metal Building Manufacturers Association (MBMA): MBMA Metal Building Systems Manual
I. Underwriters Laboratories (UL): UL 580 – Standard for Tests for Uplift Resistance of Roof Assemblies

1.3 DEFINITIONS

A. Metal Building System: A building system that will employ:
- Either continuous or simple-span 'Z' or 'C'-shaped cold-formed purlins or open-web steel joists for support of the roof cladding.
- Simple-span 'Z' or 'C'-shaped cold-formed purlins 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 hot-rolled 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) except Shadow Panel which is outside to outside of panel.
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 except Shadow Panel which is outside to outside of panels.
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.

EXHIBIT A3

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. Seismic Loads: Loads acting in any direction on a structural system due to the action of an earthquake.
M. Wind Loads: The loads on a structure induced by the forces of wind blowing from any horizontal direction.

1.4 DESIGN REQUIREMENTS

A. 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 shall govern, unless specifically countermanded by the contract documents.
2. Design structural mill sections and built-up plate sections in accordance with the AISC "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 applicable version of "Specifications for the Design of Cold-Formed Steel Structural Members", ANSI/AISI.
4. Design weldments per the following:
   a. Structural Welding: Design per AWS D1.1, “Structural Welding Code – Steel”, Latest Edition.
   b. Cold-Formed Welding: Design per AWS D1.3, “Structural Welding Code – Sheet Steel”, Latest Edition.
5. Design roof system to accommodate “Simple Saver System” insulation and finish system manufactured by Thermal Design, Inc.

B. 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: California Building Code (CBC).
   b. Year/Version: CBC 2019.
   c. Risk Category: II

C. Design Loads:
1. Dead Load – Weight of the building system as determined by manufacturer.
2. Roof Live Load – 20 PSF reducible.
3. Collateral Load – 5 PCF.
4. Wind Load:
   a. Wind Speed – 110.
   b. Wind Exposure – C.
5. Seismic Load:
   a. Spectral response acceleration for short periods (Ss) – 1,387.
   b. Spectral response acceleration for 1-sec. period (S1) – 0.513.
   c. Site Class – D.
6. Auxiliary Loads: Auxiliary loads shall include dynamic loads, such as cranes and material handling systems, and will be defined in the Contract Documents.

D. 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
   a. Roof Secondary (Purlins) - L/150
   b. Main Frame roof beams - L/180
3. Horizontal Deflection Limits:
   a. Wall Secondary (Girts) - L/90
   b. Main Frame - H/60 @ eave height
4. Vertical deflection limits apply for the loads induced by a factored snow load (50-year mean recurrence interval), or the code required live load. The horizontal drift and deflection limits apply for the loads induced by a basic wind speed corresponding to a 10-year mean recurrence interval.

EXHIBIT A3

1.5 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. Drawings:
   1. General: Provide complete erection drawings for the proper identification and assembly of all building components. These drawings will show anchor bolt settings, transverse cross sections, sidewall, endwall and roof framing, flashing, and sheeting and accessory installation details.
   2. Pre-engineered metal building (PEMB) supplier is responsible to provide the following information in their stamped documents:
      a. List all special inspections required during the fabrication and erection of their product as prescribed in sections 1704 and 1705 of the 2016 edition of the California Building Code. If no special inspections are required for said fabrication and erection, a statement as such shall be included. If any special inspection is to be waived a statement and explanation shall be included

C. Certifications: Standard drawings and design analysis shall bear the seal of a registered professional engineer upon request.

D. Bill of Materials: Bills of material shall be furnished and shall include item weights.

E. Preventive Maintenance Manual.

F. Welder's Certifications: Certification of welder qualifications shall be furnished as specified by the Project Engineer.

1.1 QUALITY ASSURANCE**.**

A. Manufacturer / Fabricator Qualifications: All primary products specified in this section will be supplied by a IAS AC 472 Accredited Manufacturer / Fabricator with a minimum of five (5) years' experience.

B. Weldments/Welder/Weld Inspection Qualifications: 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.

1.2 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.

1.3 WARRANTY

A. General: Provide manufacturers standard warranty for a period of one (1) year from date of final acceptance by Owner.

B. Exterior Material and Finish: Provide manufacturers standard twenty five (25) year roof and wall materials wall materials.

PART 2 PRODUCTS

2.1 MANUFACTURE

A. General: Products manufactured by American Buildings Company:

B. Alternate Manufacturers: Comparable products produced by other manufacturers will be considered for acceptance as equal.

2.2 MATERIALS

A. Primary Framing Steel:
1. Steel for mill-rolled structural sections shall conform to the requirements of ASTM specification A 36 or ASTM A 572 Grade 50 or 55 as applicable.
2. Steel for all built-up sections shall meet as applicable the physical and chemical properties of:
a. ASTM A 1011, Grade 55.
b. ASTM A 572, Grade 55.
c. ASTM A 529, Grade 55.
3. Steel used for endwall “C” sections shall meet the physical and chemical properties of ASTM A 1011, Grade 55.Steel for Cold-Formed Endwall "C" sections must conform to the requirements of ASTM A-1011 or A-1039 Grade 55, or ASTM A-653 Grade 55 with minimum yield strength of 55 ksi.

B. Secondary Framing Steel:
1. Steel used to form purlins, girts, eave struts and “C” sections shall meet the physical and chemical properties of ASTM A 1011, Grade 55.
2. Steel used to form zinc-coated (galvanized) purlins and girts shall meet the physical and chemical properties of ASTM A 653, Grade 50, 55 ksi minimum yield and G90 Coating designation as described in ASTM A 924.

C. Panels:
1. Panel material as specified shall be 26 gage AZ50 or AZ55 aluminum-zinc alloy-coated steel, conforming to the requirements of ASTM A 792, Grade 80. Minimum yield strength shall be 80,000 psi.

D. Panel Fasteners:
1. For Galvalume and Painted finished roof panels: Premium Cast Zinc head.
2. For wall panels: Coated carbon steel.
3. Color of exposed fastener heads to match the wall and roof panel finish.

E. Gutter, Flashing and Downspout:
1. Gutters and Flashings: All standard exterior gutters are 26 gage G90 zinc-coated (Galvanized) or AZ50 aluminum-zinc alloy-coated steel with a pre-painted finish. Standard rake flashing is 26 gage G90 zinc-coated (galvanized) or AZ50 aluminum-zinc alloy-coated steel with a pre-painted finish. All other gutter and flashings shall be a minimum 26 gage steel.
2. Downspouts: All downspouts shall be 29 gage zinc-coated (galvanized) or aluminum-zinc alloy-coated steel with color coordinated, pre-painted finish, rectangular in shape.

F. 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

A. Rigid Frame: All rigid frames shall be welded, built-up “I” sections or mill-rolled structural sections. The columns and the rafters may be either uniform depth or tapered.

B. Endwall Frames: All endwall roof beams and endwall columns shall be cold-formed “C” sections, mill-rolled structural sections, or built-up “I” sections as required by design.

C. Plates, Stiffeners, etc.: All base plates, splice plates, cap plates, and stiffeners shall be factory welded into place on the structural members.

D. Bolt Holes, etc.: All base plates and flanges shall be shop fabricated to include bolt connections holes. Webs shall be shop fabricated to include cable brace or rod brace holes and flange brace holes.

E. Shop Applied Primers – All uncoated structural steel members shall be cleaned of all foreign matter and loose mill scale as per requirements of the Structural Steel Painting Council cleaning specification SSPC-SP2 and SSPC- SP1 as required. Structural steel members will then receive a one mil coat of red oxide primer. Primer meets or exceeds the performance requirements of specification SSPC-15, for Type 1 Red Oxide Paint (grey). Primer is not intended as a finish coat and is compatible only for top coating with aliphatic solvent based alkyd enamels.

EXHIBIT A3

2.4 SECONDARY FRAMING

A. Purlins and Girts: Purlins and girts shall be cold formed “Z” or “C” sections with stiffened flanges. They shall be pre-punched at the factory to provide for field bolting to the primary framing. They shall be simple or continuous span as required by design.

B. Purlins (Excluding Open Web Joists): Horizontal structural members which support roof coverings.
   1. Depth: To be determined by design (8”, 9.5” or 12”)
   2. Maximum Length: To be determined by design.
   3. Finish: Pre-Coated Galvanized.

C. Girts: Horizontal structural members that support vertical panels.
   1. Depth: To be determined by design (8”, 9.5”, or 12”)
   2. Maximum Length: To be determined by design.
   3. Finish: Pre-Coated Galvanized.

D. Eave Struts: Eave Struts: Eave Struts shall be unequal flange, cold-formed “C” sections.
   1. Depth: To be determined by design (8”, 9.5” or 12”)
   2. Maximum Length: To be determined by design.
   3. Finish: Pre-Coated Galvanized.

E. Base Framing: Base members to which the base of the wall covering may be attached to the perimeter of the slab. Secured to the concrete slab with mechanical anchors.
   1. Formed base sill.
   2. Base channel. With flashing.
   3. Base angle. With flashing.
   4. Base girt. With flashing.
   5. Finish: Red Oxide Primer (grey color).

G. Pre-painted Cold Formed Materials – At option, cold formed secondary structural framing may use pre-painted coil stock which eliminates the need for shop applied primer. Primer will be applied in a thickness of 0.45 – 0.55 mils. Primer is not intended as a finish coat. Due to lubricants used to aid the roll forming process, the application of a tie coat must be used prior to application of a topcoat.

2.5 ROOF PANELS

A. American Buildings Company’s Long Span III Panel (L3P) shall have major ribs 1 1/4” high, spaced 12” on center for an even shadowed appearance. The panels are reinforced between the ribs for added strength. Each panel shall provide 36” net coverage in width. A minimum 1/2:12 roof slope is required. All roof panel side laps shall be at least one major rib and shall have a purlin bearing leg on the bottom section of the lap.
   1. Gauge: 26 (std).
   2. Dimensions: 36 inches wide by 1-1/4 inch high.
   3. Finish/Color: As specified in Article 2.8 PANEL FINISH.

2.6 WALL PANELS

Wall panels shall be either American Buildings Company’s Long Span III Panel (L3P), Architectural III Panel (A3P) Architectural “V” Rib (AVP) or Shadow Panel (HFP).

A. American Buildings Company’s Long Span III Panel (L3P) shall have major ribs 1-1/4” high, spaced 12” on center for an even shadowed appearance. The panels are reinforced between the ribs for added strength. Each panel shall provide 36” net coverage in width. A minimum 1/2:12 roof slope is required. All roof panel side laps shall be at least one major rib and shall have a purlin bearing leg on the bottom section of the lap.
   1. Gauge: 26 (std).
   2. Dimensions: 36 inches wide by 1 1/4 inch high.
   3. Finish/Color: As specified in paragraph 2.8 PANEL FINISHES.

2.7 ACCESSORIES

A. Canopies: Overhanging or projecting roof structures off the sidewall or endwall. For aesthetic application or to cover entrance or walkway.

B. Roof Line Trim: Low-Eave Gutter / Sculptured Rake Trim.

C. Framed Openings: Used to frame-out 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.

D. Overhead door support framing shall be designed to resist applicable horizontal wind loads and shall consist of channel jambs with a channel header at the top of the opening. 26 gage steel, color coordinated flashing shall be provided to conceal panel edges at the opening unless otherwise specified.

2.8 PANEL FINISHES

A. General: Selected colors to match American Building Co. colors as shown.

B. Roof Panel: American Cool Roof: SP-COOL™ Panel Paint System (Siliconized Polyester Resin, 25-year Finish Warranty); color – “Slate Gray”

C. Wall Panel: American Cool Roof: SP-COOL™ Panel Paint System (Siliconized Polyester Resin, 25-year Finish Warranty):
   1. Color: “Hunter Green”.
   2. Color: “Regal White”.

2.9 FABRICATION

A. General:
   1. Framing members shall be shop fabricated for field bolted assembly. The surfaces of the bolted connections shall be smooth and free from burrs or distortions.
   2. All shop connections shall be in accordance with the American Welding Society (AWS) Code for Building Construction or the Canadian Welding Bureau (CWB), as applicable. Certification of welder qualification shall be furnished when required and specified on the Contract Documents
   3. Visual inspection methods will be used for verification of weld quality as outlined by the AWS Structural Steel Welding Code, Visual Inspection Acceptance Criteria, D1.1, Table 6.1.
   4. All framing members where necessary shall carry an easily visible identifying mark.
   5. Fabricate roof system to accommodate “Simple Saver System” insulation and finish system manufactured by Thermal Design, Inc.

B. Primary Framing:
   1. Plates, Stiffeners and Related Members: Shop fabricated base plates splice plates, cap plates, and stiffeners welded into place onto the structural members.
   2. Bolt Holes and Related Machining: Shop fabricated base plates, splices and flanges to include bolt connection holes. Shop fabricated webs to include bracing holes.
   3. Secondary structural (purlins and girts) connections onto frames to be ordinary bolted connections, which may include welded clips
   4. Manufacturer is responsible for all welding inspection in accordance with the manufacturer's IAS Accreditation or CAN/CSA A660 Certification. Special inspections 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. Any special NDT requirements must be noted on the Contract Documents.

C. Zee Purlins: Fabricate purlins from cold-formed "Z" sections with stiffened flanges. Provide flange stiffeners designed to comply with requirements of latest edition of AISI. Install connection bolts through webs, flanges, or both.

D. Girts: Girts must be simple or continuous span as required by design. Connection bolts will install through the webs, the flanges, or both.

E. Bracing:
   1. Diagonal Bracing: Diagonal bracing in the roof shall be used to remove longitudinal loads (wind, crane, etc.) from the structure. This bracing shall be furnished to length and equipped with hillside washers, cut washers and nuts at each end. It may consist of rods threaded at each end or galvanized cable with suitable end anchors.
   2. Special Bracing: Rigid frame type portal. Wind 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 forces.
   3. Flange Braces: The inside compression flange of all primary framing shall be braced laterally with angles connecting to the webs of purlins or girts so that the flange compressive stress is within allowable limits for any relevant combination of loadings.
   4. Bridging: Top and bottom chords of open-web bar joists shall be bridged as required by design and as indicated on the building erection drawings.

Part 3 EXECUTION

Not Used

END OF SECTION