

SECTION 13129 (13 34 00)

PREFABRICATED ENGINEERED BUILDINGS AND STRUCTURES

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**** NOTE TO SPECIFIER **** Panel Built Incorporated; In-plant Offices, Mezzanine Platforms, Security Booths, Ballistic Rated Buildings and Cleanrooms.

This section is based on the products of Panel Built Incorporated, which is located at:

302 Beasley Street

P. O. Box 2658

Blairsville, GA 30514

Toll Free: 8 00-636-3873

Phone: 706-745-6540

Fax: 800-594-3245

Email: _____.

Web: www.PanelBuilt.com

[Click Here](#) for additional information.

Panel Built was founded in 1995 by brothers Pat and Mike Kiernan, and began with the construction of pre-manufactured buildings. Today, Panel Built offers a complete line of custom modular offices, mezzanines, security booths, pre-assembled exterior buildings, and cleanrooms. All our multiple product lines are produced on-site, in four state-of-the-art manufacturing facilities. We offer "A Better Way to Create Space" for all of your building projects.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER **** Delete items below not required for project.

- A. Modular building systems.
- B. Prefabricated metal buildings.
- C. Prefabricated press box.
- D. Towers.
- E. Free-standing mezzanines
- F. Canopies.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

- A. Section 03300 - Cast-In-Place Concrete: Concrete pad, foundations and anchor bolts.
- B. Section 02870 - Bollards: Metal, concrete and stone bollards.
- C. Section 05500 - Metal Fabrications.
- D. Section 08710 - Door Hardware.

- E. Section 07900 - Joint Sealers.
- F. Division 15 - Plumbing: Plumbing services and connections.
- G. Division 16 - Electrical: Electrical power service and wiring connections.

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. American Institute of Steel Construction (AISC):
 - 1. Manual of Steel Construction-Allowable Stress Design.
- B. American National Standards Institute (ANSI).
- C. American Plywood Association:
 - 1. APA PRP-108 - Performance Standards and Qualification Policy for Wood Structural Panels.
 - 2. PFS PRP-133 - Performance Standards and Policies for Structural-Use Panels.
- D. American Society of Civil Engineers:
 - 1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- E. ASTM International (ASTM):
 - 1. ASTM A36 - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 3. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - 4. ASTM A513 - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.
 - 5. ASTM A529 - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality.
 - 6. ASTM A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
 - 7. ASTM A653/A - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 8. ASTM A1008/A - Standard Specification for Steel Bars, Carbon and Alloy, Cold-Finished.
 - 9. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 10. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 11. ASTM B632/B632M - Standard Specification for Aluminum-Alloy Rolled Tread Plate.
 - 12. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - 13. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass - Kind Hs, Kind Ft Coated and Uncoated Glass.
 - 14. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
- F. Building Officials Code Administrators International (BOCA).

- G. International Building Code (IBC):
 1. Factory Use Group,
 2. Mercantile Use Group.
- H. International Code Council (ICC):
 1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- I. National Fire Protection Association (NFPA):
 1. NFPA 70 - National Electric Code.
- J. Occupational Safety & Health Administration (OSHA):
 1. Regulations shall be met or exceeded in the design.
- K. Steel Joist Institute (SJI):
 1. Standard Specification for Open Web Steel Joists, K-Series.
- L. Underwriters Laboratories (UL):
 1. UL 752 - Standard for Bullet Resisting Equipment.
- M. Uniform Building Code (UBC).

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data:
 1. Manufacturer's data sheets on each product to be used.
 2. Preparation instructions and recommendations.
 3. Storage and handling requirements and recommendations.
 4. Typical installation methods.

**** NOTE TO SPECIFIER ** Delete if not applicable to product type.**

- C. Verification Samples: Two representative units of each type, size, pattern and color.
- D. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
- E. Certificates: Product certificates signed by the manufacturer certifying material compliance with specified performance characteristics and criteria, and physical requirements.
- F. Warranty documents specified herein.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

**** NOTE TO SPECIFIER ** Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- B. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 PROJECT CONDITIONS

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

1.9 WARRANTY

- A. Manufacturer's standard limited warranty unless indicated otherwise.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Panel Built Incorporated, which is located at: 302 Beasley Street, P. O. Box 2658; Blairsville, GA 30514; ASD Toll Free: 800-636-3873; Phone: 706-745-6540; Fax: 800-594-3245; Email: _____; Web: www.PanelBuilt.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MODULAR BUILDING SYSTEMS

- A. Basis of Design: Custom Designed Modular Building System constructed from pre-finished materials supplied by Panel Built Inc.
- B. Wall Panels: Laminated design. Solid core with pre-finished interior and exterior surface.
 - 1. Wall Thickness: Nominal 3 inch (76 mm)
 - 2. Core: Expanded polystyrene ASTM E84 Class A fire-resistant, 1 pound PSF density.

**** NOTE TO SPECIFIER ** Panel height may be 8 to 15 ft (2438 to 4572 mm).**

- 3. Panel Size (WxH): 48 x _____ inch (1219 x _____ mm).
- 4. Panel Size (WxH): As detailed on the Drawings
- 5. Interior Wall: 1/2 inch (13 mm) vinyl-covered drywall. ASTM E84 Class A fire rating.

**** NOTE TO SPECIFIER ** Delete color options not required.**

- a. Color: Champagne.
- b. Color: Off White.
- c. Color: Gray.

**** NOTE TO SPECIFIER ** Delete exterior wall and color options not required.**

6. Exterior Wall: 26 gauge painted steel.
 - a. Color: Saddle Tan
 - b. Color: Off White
 - c. Color: Gray
 7. Exterior Wall: Fiberglass reinforced plastic (FRP).
- C. Structural Framework: Extruded aluminum alloy 6063-T5 with a painted finished surface.
1. Panel Connecting Post: 3 piece design. Load bearing. Serve as connecting device for panels. Serves as vertical chase to conceal electrical and data service.
 - a. Full Height Snap-On Cover Plate: For access during initial installation. Enables future modification without wall disassembly wall.
 2. Corner Post: 1-piece design. Structural member. Connecting device for wall panels at 90 degree angles.
 3. Wall Starts: Aluminum U-shaped channel. Fits flush against existing structure or where two panels meet on a perpendicular line. Sized to enable panel connectors or corner posts to connect while enabling panel installation on adjacent side.
 4. Ceiling Cap: Extruded aluminum alloy 6063-T5. 10 ft (3048 mm) lengths to fit snugly around top of perimeter wall sections eliminating on-site fabrication. Integral vertical fascia is included to create a neat, finished appearance.
 5. Partition Cap: Extruded U-shaped aluminum alloy 6063-T5. 10 ft (3048 mm) lengths to fit snugly around top of partition wall sections.
 6. Base Plate: Extruded U-shaped aluminum alloy 6063-T5. 10 ft (3048 mm) lengths to serve as leveling surface and guide for installation of wall panels and connecting posts.
- D. Full Flush Door Assemblies: Including integral threshold and stationary door sweep.
1. Door Leaf: 3 x 7 ft (914 x 2134 mm) single swing hollow metal 20 gauge steel door.
 2. Door Frame: Steel. With integral stop.

**** NOTE TO SPECIFIER ** Delete color options not required.**

- a. Color: Champagne.
 - b. Color: White.
 - c. Color: Dove Gray.
 - d. Color: Bronze.
3. Door Hardware: As specified in section 08710 - Door Hardware.
 - a. Hinges: Fully mortised, plain bearing 4-1/2 x 4 inch (114 x 102 mm) butt hinge.
 - 1) Finish: Brushed aluminum.
 - b. Locksets: Industrial grade, lever type as specified by architect.
 - c. Door Sweep: Aluminum extrusion with black vinyl sweep. Surface mounted to bottom of door leaf.
 4. Vision Lite; Factory Installed (WxH) 24 x 36 inch (610 x 914 mm).

**** NOTE TO SPECIFIER ** Delete glass options not required.**

- a. Glass: Tempered Safety. 1/4 inch (6 mm) thick.
 - b. Glass: Insulated, Dual Paned, Tempered Safety. 1/2 inch (13 mm) thick.
 - c. Glass: Laminated Safety. 1/4 inch (6 mm) thick.
 - d. Glass: Plexiglass: 1/4 inch (6 mm) Plexiglas thick.
- E. Window Assemblies: 3-piece system. Includes window frame and wall panel sections to fit above and below to create a full height panel assembly.
1. Frame: Extruded aluminum alloy 6063-T5. Preassembled, including specified factory glazing. Will positively lock into adjoining connecting posts.

**** NOTE TO SPECIFIER ** Delete frame type options not required.**

- a. Type: Fixed. Color match wall color.
 - 1) Removable stops to enable easy replacement of glazing.
 - b. Type: Horizontal Sliding. Color: White.
 - c. Type: Horizontal Sliding. Color: Bronze.
 - d. Header and sill panels will be installed in conjunction with frame to create a complete full-height wall panel.
2. Glazing: Factory installed in frame with full perimeter rubber bulb gasket.

**** NOTE TO SPECIFIER ** Delete glass options not required.**

- a. Glass: Tempered Safety. 1/4 inch (6 mm) thick.
- b. Glass: Insulated, Dual Paned, Tempered Safety. 1/2 inch (13 mm) thick.
- c. Glass: Laminated Safety. 1/4 inch (6 mm) thick.
- d. Glass: Plexiglass: 1/4 inch (6 mm) Plexiglas thick.

F. Roof Systems:

1. Steel Deck: Corrugated B-deck. Serves as roof cover and span support for acoustical grid ceiling system and lights. Utilize 22 gauge for clear spans up to 12 ft (3658 mm) wide.
2. Panelized Shed Roof. Pitch: 1/12
3. Panelized Shed Roof. Pitch: 1/4-12
4. Overhang: _____ inch (_____ mm)
5. Polystyrene Laminated Roof Panels: 3-ply.
 - a. Composite Sandwich Roof Panels: 3 inch (76 mm) thick
 - b. Sides: Stucco-embossed aluminum pre-painted white.
 - c. Core: 1 lb. density polystyrene foam.
 - d. Laminate Adhesive: Solvent free two-part polyurethane adhesive and pressure.
 - e. Formed Edge Connectors: Capable of being friction locked without mechanical fasteners using a full-length joint without through metal connectors. Joint allows lateral expansion and contraction.
6. For Spans of Considerable length, structural I-beams may be required to reduce clear span conditions. I-beams will be mechanically fastened to top of panel connectors on centerlines as required for different span conditions.
7. Acoustical Ceiling System: Suspended metal grid with lay-in acoustical tile.
 - a. Ceiling Grid: Double webbed, commercial grade, non-rated, galvanized steel with white baked enamel paint finish.
 - b. Acoustical Ceiling Tile: 2 x 4 ft (610 x 1219), 5/8 inch (16 mm) thick non-directional fissured and perforated wet-felted lay-in panels and tile. Armstrong "Minatex" 775 or equal.
 - c. Fiberglass insulation: Rolls of R-19 Kraft faced batts.
 - 1) Width: 23 inch (584 mm). Thick: 6 inch (152 mm).

G. Electrical Components: As Specified on Drawing.

1. Electrical Outlets: Install inside the chase of panel connecting post 18 inches (457 mm) above finished floor.
 - a. Duplex Outlets: 115 volt, 3 wire, 20 amp capacity.
 - b. Single Outlets: 230 volt, 3 wire, 20 amp capacity.
2. Data and Telecommunications Jacks: Install 18 inches (457 mm) above finished floor.
 - a. Single port for telecommunications or data service provided by others.
 - b. Dual port for telecommunications or data service provided by others.

**** NOTE TO SPECIFIER ** Delete the following options not required.**

3. Lighting in Foot-Candles: _____.
4. Lighting: As indicated on drawing
5. Fixtures: 120 volt, 2 x 4 ft (610 x 1219 mm) 128 watt. four 32 watt T8 tubes supplied by others. Grid lay-in or surface mounted.
6. Fixtures: 120 volt, 2 x 4 ft grid lay-in, LED Troffer light fixture.
7. Light Switch: Single. 46 inch (1168 mm) above the finished floor.
8. Light Switch: Double. 46 inch (1168 mm) above the finished floor.
9. Light Switch: 3-way. 46 inch (1168 mm) above the finished floor.
10. Light Switch: As specified on Drawings. 46 inch (1168 mm) above the finished floor.
11. Load Center: Main lug, single phase, _____ amp capacity, _____ circuits with 20 amp circuit breakers.
12. Load Center: Main breaker, single phase, _____ amp capacity, _____ circuits with 20 amp circuit breakers.

**** NOTE TO SPECIFIER ** Delete air conditioning option not required.**

- H. Air Conditioning: Through-wall HVAC units. Factory installed. Framed wall panel cutout as indicated on drawing.
 1. Cooling: 230 volt, 9,300 BTU. Heating: 11,000 BTU.
 2. AC with Electric Heat: 230 volt, 12,000/11,100 BTU. Electric Heat: 18,000/11,100.
 3. Factory Installed Frame Cutout: Extruded aluminum 6063-T5. Match panel color.
- I. Air Conditioning: Central heating, ventilating and air conditioning system in accordance to specifications outlined in Division 15.

2.3 PREFABRICATED METAL BUILDINGS

- A. Basis of Design: Custom Designed Prefabricated Factory Built Metal Buildings supplied by Panel Built Inc.
 1. Pre-engineered buildings, Prefabricated guard booths, and Fabricated structures.
- B. Design Requirements:

**** NOTE TO SPECIFIER ** Edit as required to suit project requirements. Standard loads are specified below, consult with manufacturer for requirements that exceed those specified as follows.**

1. Capable of withstanding effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
2. Design Loads: Determine loads based on following minimum design wind, loads, snow loads, and pressures:

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- a. Uniform Pressure: 50 lbs per sq ft (244 kg per sq m) acting inward or outward.
- b. Uniform Pressure: As indicated on Drawings.
- a. Wind Load on Buildings: 120 mph; 2000 IBC Exp. C.
- b. Wind Load on Buildings: As indicated on Drawings.
- c. Snow Loads: 50 lbs per sq ft (244 kg per sq m).
- d. Snow Loads: As indicated on Drawings.
3. Seismic Performance: Capable of withstanding effects of seismic events according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads".
4. Thermal Movements: Resulting from following maximum range of change range ambient and surface temperatures. Prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

- e. Temperature Range of Change:
 - 1) Ambient: 120 degrees F (67 degrees C)
 - 2) Material Surfaces: 180 degrees F (100 degrees C)
- 2. Electrical Devices: UL listed with wiring bearing UL classification and conforming to current NEC.

**** NOTE TO SPECIFIER **** Adherence to applicable state and local codes is the responsibility of the Owner. For modular buildings, several state codes have requirements for third party design approval and inspection for compliance and/or the provision of P.E. stamped drawings. Verify the requirements for your jurisdiction. These costs, if applicable, vary significantly between states and are available from building manufacturer at additional cost. Typically metal buildings on Federal Reservations do not require State or Local approvals. Delete the following Performance Requirement paragraph if not required.

C. Performance Requirements:

**** NOTE TO SPECIFIER **** The following states generally require third party design approval and inspection for modular buildings unless the project is a US Government or Agency job. Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Idaho, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New Mexico, Nevada, North Carolina, Ohio, Oregon, Pennsylvania (if building will be occupied by more than 4 people), Rhode Island, South Carolina, Tennessee, Texas, Virginia, Washington, Wisconsin.

- 1. Cooperate with regulatory agency or authority and provide data as requested by authority having jurisdiction.

**** NOTE TO SPECIFIER **** If a professional engineers' stamp is required on shop drawings please designate state. Delete if not required. Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Virgin Islands, Washington, West Virginia, Wisconsin, Wyoming.

- 2. Shop drawings are to be stamped and certified by a Professional Engineer.
 - a. State where building will be located: _____.

D. Materials:

- 1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish specified.
 - a. Sheet: ASTM B209.
 - b. Extruded Shapes: ASTM B221.
 - c. Rolled Tread Plate: ASTM B632/B 632M, Alloy 6061-T4 or 6061-T6.
- 2. Cold-Rolled Steel Sheet: ASTM A1008/A, Commercial Steel (CS), Type B.
- 3. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A, commercial quality, G90 (Z275) coating designation; mill phosphatized.
- 4. Aluminum Tread Plate: 1/8 inch (3 mm) aluminum plate per ASTM B209.
- 5. Steel Mechanical Tubing: ASTM A513, welded steel mechanical tubing.
- 6. Expanded Polystyrene (EPS) Core: Minimum of .95 pcf complying with ASTM C578 Type 1.
- 7. Oriented Strand Board (OSB): Standard Grade; minimum physical properties conforming to APA PRP-108.
- 8. Clear Tempered Float Glass: ASTM C1048, Kind FT, Condition A, Type I, Class 1, and Quality q3.
- 9. Ballistics-Resistant Glazing: Comply with requirements of UL 752 and/or NIJ.
- 10. Anchorages: Anchor bolts, as specified in Section 03300.

E. Prefabricated Steel Buildings:

1. Outside Height: 96 inches (2438.4 mm).
2. Interior Floor to Ceiling Height: 90 inches (2286 mm).

**** NOTE TO SPECIFIER **** Select the size required from the following paragraphs and delete those not required. The maximum shipping width for custom sizes is 16 feet.

3. Dimensions: 4 x 6 feet (1219 x 1829 mm).
4. Dimensions: 4 x 8 feet (1219 x 2438 mm).
5. Dimensions: 4 x 10 feet (1219 x 3048 mm)
6. Dimensions: 5 x 8 feet (1524 x 2438 mm)
7. Dimensions: 5 x 10 feet (1524 x 3048 mm)
8. Dimensions: 5.5 x 7.5 feet (1676 x 2286 mm); minimum ADA size.
9. Dimensions: 6 x 8 feet (1829 x 2438 mm)
10. Dimensions: 6 x 10 feet (1829 x 3048 mm)
11. Dimensions: 6 x 12 feet (1829 x 3658 mm)
12. Dimensions: 6 x 15 feet (1829 x 4572 mm)
13. Dimensions: 8 x 10 feet (2438 x 3048 mm)
14. Dimensions: 8 x 12 feet (2438 x 3658 mm)
15. Dimensions: 8 x 14 feet (2438 x 4267 mm)
16. Dimensions: 8 x 16 feet (2438 x 4877 mm)
17. Dimensions: 10 x 10 feet (3048 x 3048 mm)
18. Dimensions: 10 x 12 feet (3048 x 3658 mm)
19. Dimensions: 10 x 14 feet (3048 x 4267 mm)
20. Dimensions: 10 x 16 feet (3048 x 4877 mm)
21. Dimensions: 10 x 20 feet (3048 x 6096 mm)
22. Dimensions: 12 x 12 feet (3658 x 3658 mm)
23. Dimensions: 12 x 14 feet (3658 x 4267 mm)
24. Dimensions: 12 x 16 feet (3658 x 4877 mm)
25. Dimensions: 12 x 18 feet (3658 x 5486 mm)
26. Dimensions: 12 x 20 feet (3658 x 6096 mm)
27. Dimensions: ____ x ____ feet (____ x ____ mm).
28. Dimensions: As indicated on Drawings
29. Prefabricated Welded Framing System: 14 gauge (1.78 mm) mechanical tube.
Exterior smooth and flat with no exposed fasteners on building exterior.

**** NOTE TO SPECIFIER **** Delete any of the following options not required.

- a. Lifting Lugs: Provided.
- b. Forklift Pockets: Provided.
- c. Decorative reveal.
- d. Exterior custom veneer panel.

**** NOTE TO SPECIFIER **** Single sliding door one side is standard. Delete door types not required.

30. Door Type: Sliding door on one side.
31. Door Type: Sliding doors on both sides.
32. Door Type: Swinging doors.
33. Door Type: As indicated on Drawings.

**** NOTE TO SPECIFIER **** Fixed widows with one horizontal sliding window are standard. Delete window types not required.

34. Window Type: Fixed windows 360 and one slider with insect screen and positive locking device.
35. Window Type: Additional horizontal sliding windows.
36. Window Type: Vertical Sliding Windows.
37. Window Type: One Cashier Window.
38. Window Type: As indicated on Drawings.

**** NOTE TO SPECIFIER ** 1/8 inch clear tempered safety glass, is standard. Delete glazing types not required. Delete Low E if not required.**

39. Glazing Type: 1/8 inch (3 mm) thick, clear tempered safety glass.
40. Glazing Type: 3/16 inch (4.5 mm) thick, clear tempered safety glass.
41. Glazing Type: 1/4 inch (6 mm) thick, clear tempered safety glass.
42. Glazing Type: 3/4 inch (19 mm) thick, insulated, clear tempered safety glass.
43. Glazing Type: 1/4 inch (6 mm) thick, clear polycarbonate.
44. Glazing Type: As indicated on Drawings.
45. Glazing Type: Ballistic protection as specified.
46. Glazing Tint: Gray.
47. Glazing Tint: Bronze.
48. Glazing Tint: Green.
49. Glazing Tint: Clear.
50. Low E.

**** NOTE TO SPECIFIER ** Flat deck roof is standard. Delete roof types if required. Decorative corner arches are optional. Delete if not required.**

51. Roof Type: Flat Deck Roof with 3 inch (76 mm) high overlapping deck pans.
52. Roof Type: Polystyrene roof, 3-PLY 3 inch (76 mm) thick composite sandwich panels.
53. Roof Type: EPDM.
54. Roof Type: Standing seam hip.
55. Roof Type: Asphalt shingle hip.
56. Roof Type: As indicated on Drawing.
57. Decorative corner arches.

**** NOTE TO SPECIFIER ** 4 inch (102 mm) is standard. Delete roof overhang options not required.**

58. Roof Overhang: 4 inch (102 mm).
59. Roof Overhang: 9 inch (229 mm).
60. Roof Overhang: 12 inch (305 mm).
61. Roof Overhang: 24 inch (610 mm).
62. Roof Overhang: As indicated on drawing.
63. Finish: Manufacturer's standard epoxy primer with a urethane finish as follows:

**** NOTE TO SPECIFIER ** Custom colors are available. Exterior and Interior can also be different colors.**

- a. Color: As selected by the Architect from manufacturer's standard colors.
- b. Exterior and the interior to be the same color.
64. Base and Floor. Floor to be mounted to 2 to 4 inch (51 to 102 mm) minimum steel tube or channel steel base frame.

**** NOTE TO SPECIFIER ** Delete finished floor options not required.**

- a. Finished Floor: Nonskid powder coated steel tread plate.
- b. Finished Floor: Nonskid galvanized steel tread plate.
- c. Finished Floor: Commercial Vinyl Tile and cove base molding.
- d. Finished Floor: Rubber anti-fatigue tile and cove base molding.
- e. Finished Floor: As indicated on Drawings.
65. Wall Panel: Panels to be MIG welded into place.
 - a. Exterior Face: 16 gauge galvanized steel.
 - b. Core: E.P.S. insulation.
 - c. Interior Face: 16 gauge galvanized steel

**** NOTE TO SPECIFIER ** Delete overall thickness options not required.**

- d. Overall Thickness: 2 inches (50.8 mm) R-10.
- e. Overall Thickness: 3 inches (76.2 mm) R-12.
- f. Overall Thickness: R-value as indicated on drawing.

**** NOTE TO SPECIFIER ** Delete interior ceiling options not required.**

- 66. Interior Ceiling: Suspended ceiling. Insulation above ceiling rating to be specified.
- 67. Interior Ceiling: Prefinished steel, 24 gauge painted white. Insulation above ceiling rating to be specified.
- 68. Interior Ceiling: None: Bottom of roof panel shall be finished ceiling.
- 69. Building Accessories:

**** NOTE TO SPECIFIER ** Delete building accessories not required Coordinate selection of doors and ballistic windows with selections identified in previous building paragraphs.**

- a. Sliding Doors: Horizontal sliding unit with steel frame. Top hung.
 - 1) Half Glass Steel Sliding Door (WxH): 32 x 84 inches (813 x 2134 mm) with mortised laminated hook bolt lock capable of being keyed.
 - a) Glazing: 1/8 inch (3.18 mm) thick, clear tempered safety glass.
 - 2) As indicated on the Drawings.
- b. Swinging Doors: 1-3/4 inches (44 mm) thick, tubular-frame design.
 - 1) Commercial Grade Steel Swing Door (WxH): 36 x 84 inches (813 x 2134 mm) with 12 x 12 inch (305 x 305 mm) lite.
 - 2) Single bore steel lever handle lockset. Keyed entry with interior push button.
 - 3) Commercial Grade Steel Swing Door (WxH): 36 x 84 inches (813 x 2134 mm). No Glass.
 - 4) As indicated on the Drawings.
- c. Ballistic Fixed Windows: Glazed with extruded aluminum interior stops which are mechanically fastened to interior face of window rough openings. Glass sealed with butyl architectural glazing tape.

**** NOTE TO SPECIFIER ** Delete ballistic resistant glazing options not not required.**

- 1) Ballistic Resistant Glazing, UL 752: Level I.
- 2) Ballistic Resistant Glazing, UL 752: Level II.
- 3) Ballistic Resistant Glazing, UL 752: Level III.
- 4) Ballistic Resistant Glazing, UL 752: Level IV.
- 5) Ballistic Resistant Glazing, UL 752: Level V.
- 6) Ballistic Resistant Glazing, UL 752: Level VI.
- 7) Ballistic Resistant Glazing, UL 752: Level VII.
- 8) Ballistic Resistant Glazing, UL 752: Level VIII.
- 9) Ballistic Resistant Glazing NIJ: Level I.
- 10) Ballistic Resistant Glazing NIJ: Level II.
- 11) Ballistic Resistant Glazing NIJ: Level IIA.
- 12) Ballistic Resistant Glazing NIJ: Level III.
- 13) Ballistic Resistant Glazing NIJ: Level IIIA.
- 14) Ballistic Resistant Glazing NIJ: Level IV.

**** NOTE TO SPECIFIER ** Ballistic resistant wall panels and doors are optional. Delete if not required**

- d. Ballistic Protection: Ballistic resistant wall panels, doors and glazing in accordance to the following level:

**** NOTE TO SPECIFIER ** Delete ballistic resistant glazing options not not required.**

- 1) Ballistic Resistant Glazing, UL 752: Level I.
- 2) Ballistic Resistant Glazing, UL 752: Level II.
- 3) Ballistic Resistant Glazing, UL 752: Level III.
- 4) Ballistic Resistant Glazing, UL 752: Level IV.
- 5) Ballistic Resistant Glazing, UL 752: Level V.
- 6) Ballistic Resistant Glazing, UL 752: Level VI.
- 7) Ballistic Resistant Glazing, UL 752: Level VII.
- 8) Ballistic Resistant Glazing, UL 752: Level VIII.

- 9) Ballistic Resistant Glazing NIJ: Level I.
- 10) Ballistic Resistant Glazing NIJ: Level II.
- 11) Ballistic Resistant Glazing NIJ: Level IIA.
- 12) Ballistic Resistant Glazing NIJ: Level III.
- 13) Ballistic Resistant Glazing NIJ: Level IIIA.
- 14) Ballistic Resistant Glazing NIJ: Level IV.
- e. Electrical Power Service: In accordance with NEC Standards.
 - 1) Service: 125 amp, 120/240 VAC, single-phase, main lug only 3-wire service with 8-16 circuit breaker panel.
 - 2) Service: 100 amp, 120/240 VAC, single-phase, main breaker 3-wire service with 14 circuit breaker panel
 - 3) As shown on drawings or specified by architect.
- f. Wiring Method: Copper wiring in surface mounted 1/2-inch (13 mm) minimum EMT conduit.
- g. Wiring Method: Copper wiring No. 12 min MC cable concealed in panel and attached to surface mounted 2 x 4 boxes at receptacle and switch locations.
- h. Wiring Devices: One 120-V 20 amp duplex receptacle.
- i. Wiring Devices: One 120-V 20 amp GFCI power duplex receptacle with tester on exterior.
- j. Wiring Devices: One telephone/computer prep 3/4 inch (19 mm) conduit to junction box.
- k. Indoor Lighting:
 - 1) Ceiling-mounted LED light fixtures:
 - a) 48 inches (1219 mm) long.
 - 1) Acrylic lens: 48 inches (1219 mm).
 - 2) Troffer LED Light Fixtures: 48 inches (1219 mm) long.
 - 3) Single-pole switch mounted adjacent to door to control lighting fixtures.

**** NOTE TO SPECIFIER ** Optional. Delete if not required.**

- l. Outdoor Lighting:

**** NOTE TO SPECIFIER ** Delete lighting fixtures not required.**

- 1) Hi Abuse Fixtures (LxWxD): 49.38 x 9.25 x 3.38 inches (1254 x 235 x 86 mm). Linear LED. 120 Volts. Color: White. Cold weather.
- 2) Flood Light: LED 120 V. White.
- 3) Flood Light: LED 120 V. Bronze.

**** NOTE TO SPECIFIER ** Delete switch option not required.**

- 4) Switch: Single-pole mounted adjacent to door to control lighting fixtures.
- 5) Switch: Photoelectric controller.

- m. Heating Unit: Wall-mounted and thermostatically controlled.

**** NOTE TO SPECIFIER ** Delete heater unit option not required.**

- 1) Electric Heater: Fan-forced operation enclosed in enameled steel cabinet. 110 V, 1500 W, 5120 Btu.
- 2) Electric Heater: Fan-forced operation. Surface mounted. 230/208 V, 13,000/10,000 Btu.
- 3) Infrared Heater: 1500 watt 120 V.

**** NOTE TO SPECIFIER ** Delete the air conditioning/ventilating equipment not required.**

- n. Thru-wall Air Conditioning: 110 V. 9,900 Btu.
- o. Thru-wall Air Conditioning: 110 V. 9,900 Btu, high mount.
- p. Thru-wall Heating/Air Conditioning: 230/208V. 9,000/11,100 Heat Pump
- q. Thru-wall Heating/Air Conditioning: 12,000/11,100 Heat Pump
- r. Thru-wall Heating/Air Conditioning: 18,000/11,100 Heat Pump
- s. Thru-wall Heating/Air Conditioning: 9,300/11,000 BTU AC with Electric Heat

- t. Thru-wall Heating/Air Conditioning: 12,000/11,100 BTU AC with Electric Heat.
- u. Thru-wall Heating/Air Conditioning: 18,000/11,100 BTU AC with Electric Heat.
- v. Roof Mount Air Conditioning: 13,500 Btu, 110V.
- w. Roof Mount Heating/Air Conditioning: 13,500 Btu with 5,600 Btu electric heat, 110V.
- x. HVAC Cooling And Heating; Mini Split System: Mounted on wall/ceiling of modular building. Compressors will be mounted externally on roof or on a concrete pad external to building. Properly seal conduit and refrigerant lines at penetrations through the walls or roof. All HVAC and related items to be in accordance with local and state building codes.
- y. Wall Exhaust Fan: 180 cfm..

**** NOTE TO SPECIFIER ** Delete counter options not required.**

- z. Counters: Laminate Type.
- aa. Counters: Painted Steel.
- bb. Counters: Stainless Steel.

**** NOTE TO SPECIFIER ** Delete storage drawers not required.**

- cc. Storage Drawers: Thru-wall transaction drawer, stainless steel housing with bullet resistant plastic drawer, counter mounted.
- dd. Storage Drawers: Locking storage drawer, mounted underside of counter.
- ee. Storage Drawers: Locking Cash Drawer, mounted underside of counter.

**** NOTE TO SPECIFIER ** Restrooms are optional. Delete if not required. If required, delete plumbed fixtures option not required.**

- ff. Restrooms:
 - 1) Plumbed Fixtures: Installed on site.
 - 2) Plumbed Fixtures: Installed at the factory with service hookups in field by others.

**** NOTE TO SPECIFIER ** Delete restroom package not required.**

- 3) Restroom Package; non-ADA: With following items wired and installed.
 - a) Lighting with wall switch.
 - b) Thru wall exhaust fan.
 - c) Heater: Wall mounted electric with fan forced operation. 1500 W, 5120 BTU thermostat in an enamel coated 20 gauge steel cabinet.
 - d) Swing door with privacy lock.

**** NOTE TO SPECIFIER ** Delete fixtures options not required.**

- e) Fixtures: Standard toilet.
- f) Fixtures: Wall mounted lavatory.
- g) Fixtures: One Toilet tissue holder.
- h) Fixtures: Paper towel holder.
- i) Fixtures: Mirror.
- j) Fixtures: Water Heater. 2.5 gal.
- k) Fixtures: Instantaneous water heater.
- 4) Restroom Package; ADA: With following items wired and installed:
 - a) Lighting with wall switch.
 - b) Thru wall exhaust fan.
 - c) Heater: Wall mounted electric with fan forced operation, 1500 W, 5120 BTU, thermostat in an enamel coated 20 gauge steel cabinet.
 - d) Swing door with privacy lock.

**** NOTE TO SPECIFIER ** Delete fixture options not required.**

- e) Fixtures: ADA elongated toilet.

- f) Fixtures: ADA wall mounted lavatory.
- g) Fixtures: One 18 inch grab bar.
- h) Fixtures: One 36 inch grab bar.
- i) Fixtures: One 42 inch grab bar.
- j) Fixtures: One Toilet tissue holder.
- k) Fixtures: Paper towel holder.
- l) Fixtures: Mirror.
- m) Fixtures: Water Heater. 2.5 gal.
- n) Fixtures: Instantaneous water heater.

70. Fabrication:

- a. Fabricate structures and shelters completely in factory.
- b. Pre-glaze windows and doors at factory.
- c. Prewire structures and shelters at factory; ready for connection to service at Project site.
- d. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- e. Fabricate for forklift unloading under base of booth with forklift pockets in base of booth or welded in place or lifting lugs at roof that are suitable for placement of the structure on prepared foundations.

2.4 PREFABRICATED PRESS BOX

A. Basis of Design: Custom Designed Prefabricated Factory Press Box supplied by Panel Built Inc.

B. Design Requirements:

**** NOTE TO SPECIFIER ** Edit as required to suit project requirements. Standard loads are specified below, consult with manufacturer for requirements that exceed those specified as follows.**

- 1. Capable of withstanding effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
- 2. Design Loads: Determine loads based on the following minimum design wind loads, snow loads, and pressures:

**** NOTE TO SPECIFIER ** Delete pressure and load options not required.**

- a. Uniform Pressure: 50 lbs per sq ft (244 kg per sq m) acting inward or outward.
- b. Uniform Pressure: As indicated on Drawings.
- a. Wind Load: _____. Requirement for site where press box will be located.
- b. Wind Load: 90 mph wind.
- c. Snow Load: _____. Requirement for site where press box will be located.
- d. Snow Load: 30 psi.
- e. Live Load: _____. When camera deck is required, meet minimum live load applicable where press box will be located.

**** NOTE TO SPECIFIER ** Select one of the following two paragraphs and delete the one not required.**

- f. Energy Code: Meet requirements for state that press box will be located.
- 3. Seismic Performance: Capable of withstanding effects of seismic events according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads".
- 4. Thermal Movements: Resulting from following maximum range of change range ambient and surface temperatures. Prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - a. Temperature Range of Change:

- 1) Ambient: 120 degrees F (67 degrees C)
- 2) Material Surfaces: 180 degrees F (100 degrees C)
5. Electrical Devices: UL listed with wiring bearing UL classification and conforming to current NEC.

**** NOTE TO SPECIFIER **** Adherence to applicable state and local codes is the responsibility of the Owner. For modular buildings, several state codes have requirements for third party design approval and inspection for compliance and/or the provision of P.E. stamped drawings. Verify the requirements for your jurisdiction. These costs, if applicable, vary significantly between states and are available from building manufacturer at additional cost. Typically metal buildings on Federal Reservations do not require State or Local approvals. Delete the following Performance Requirement paragraph if not required.

C. Performance Requirements:

**** NOTE TO SPECIFIER **** The following states generally require third party design approval and inspection for modular buildings unless the project is a US Government or Agency job. Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Idaho, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New Mexico, Nevada, North Carolina, Ohio, Oregon, Pennsylvania (if building will be occupied by more than 4 people), Rhode Island, South Carolina, Tennessee, Texas, Virginia, Washington, Wisconsin.

1. Cooperate with regulatory agency or authority and provide data as requested by authority having jurisdiction.

**** NOTE TO SPECIFIER **** If a professional engineers' stamp is required on shop drawings please designate state. Delete if not required.

Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Virgin Islands, Washington, West Virginia, Wisconsin, Wyoming.

2. Shop drawings are to be stamped and certified by a Professional Engineer.
 - a. State where building will be located: _____.

D. Press Box Characteristics:

1. Prefabricated with no exposed fasteners on building exterior.

**** NOTE TO SPECIFIER **** Available in all styles. Delete options not required.

2. Press box over concession stand. Available in all styles; Two Tier Seating 10 ft (3048 mm) wide minimum.

**** NOTE TO SPECIFIER **** Delete style options not required.

3. Style: Two Tier Interior Seating Levels and available accessories. 10 ft (3048 mm) wide minimum.
4. Style: Anti-Glare Glazing, Two Tier Interior Seating Levels, Camera Deck and available accessories. 10 ft (3048 mm) wide minimum.
5. Style: Double Decker: Available in all styles; Two Tier Seating 10 ft (3048 mm) wide minimum.

**** NOTE TO SPECIFIER **** Delete camera deck option not required.

6. Camera Deck: Full length, roof top access by hatch and internal ladder.
 - a. Supplied with standard railings on camera deck platform.
 - b. Perimeter fence by others.
7. Camera Deck: 8 x 12 ft (2438 x 3658 mm) with roof hatch, internal ladder, and requisite 42 inch high perimeter railings with cyclone fence to meet 4 inch sphere criteria.
8. GFI Waterproof Receptacles at camera deck level.

9. Doors: Swinging. 1-3/4 inches (44 mm) thick, tubular-frame design. Half glass steel.
 - a. Dimensions (WxH): 36 x 84 inches (813 x 2134 mm)
 - b. Mortised, laminated bolt type. Push / pull hardware. Removable cylinder capable of being master keyed.
 - c. Commercial grade steel type, single bore lever handle lockset. Keyed entry and thumb turn interior.
 - d. Classroom Lockset with Panic Hardware.
 - e. Butt hinges.
 - f. Hydraulic Closer.
 - g. Full weather-stripping.
 - h. Aluminum threshold.

**** NOTE TO SPECIFIER ** Delete window glazing options not required.**

10. Window Glazing: 1/4 inch (6 mm) thick, clear tempered safety glass.
11. Window Glazing: 1/4 inch (6 mm) thick, Low E.
12. Window Glazing: 1/2 inch (12 mm) thick, insulated thermal pane, clear tempered safety glass.
13. Window Glazing: Polycarbonate.
14. Window Glazing: Tinted.

**** NOTE TO SPECIFIER ** Delete window option not required. Fixed windows are standard. Anti-glare glass is optional.**

15. Fixed Windows: Clear tempered safety glass sealed with concealed gasket system.
 - a. End wall viewing panels for increased field of vision.
 - b. Anti-glare glass virtually eliminates window glare.
16. Horizontal Sliding Windows: Aluminum frame with clear tempered safety glass. Insect screen and locking device.

**** NOTE TO SPECIFIER ** Security shutters are optional. Delete if not required or delete operation option not required.**

17. Security Shutters: Full width roll up weather proof to protect against vandalism. Factory installed:
 - a. Operation: Manual.
 - b. Operation: Motorized.

E. Roof Systems:

1. Rafters: 2 x 8 inch (51 x 203 mm) 16 inch (306 mm) on center. Roof to Slope: 1/8 inch (3 mm) per lineal foot (10 mm per meter) to module end walls.
2. Spans over open areas of floor plan are to be accomplished using built up plywood or beam systems.
3. Support Posts: Will not obstruct any open work areas in building.
4. Roof Insulation: R-19 fiberglass batts.
5. Roof Deck Substrate: APA Sturd-I-Floor. 3/4 inch (19 mm) tongue and groove plywood.
6. Roof Finish: Fully adhered black EPDM or TPO type membrane. Roof is to drain into a rear gutter and downspout system.
7. Camera Deck: X-Tred Walkway Pad, a highly specialized UV resistant pad made from 100 percent TPO and designed to provide protection from essential rooftop services and traffic while maintaining the integrity of the existing roof surface

F. Camera Deck IBC 2-Rail Handrail/Guardrails:

1. Handrail: 2 x 2 inch (51 x 51 mm) angle uprights, 42 inches (1067 mm) tall. Tubular Cross Members: 1-1/2 inch (38 mm). Space cross members so as to allow a sphere no larger than 21 inch (533 mm) diameter to pass through any opening. Handrail shall

include a 4 inch (102 mm) tall, 14 gauge steel, kick plate. Handrails to be powder coated black.

2. Perimeter fence by others.
- G. Bilco Aluminum Roof Hatches : 36 x 30 inches (914 x 762 mm). Heavy auge construction.
 1. Compression spring operators for smooth, easy, one-hand operation.
 2. Automatic hold-open arm locks cover in open position ensuring safe egress.
 3. Weather tight and Energy Efficient: Overlapping cover, full welded corners on cover and curb, EPDM rubber gasket, and fully insulated cover and curb
 4. Corrosion Resistant Materials: For years of trouble free, dependable service.
 5. Security: Positive latching mechanism.
- H. Bilco RL-S Bil-Guard Hatch Railing Systems: 36 x 30 inches (914 x 762 mm).
 1. Fixed Hatch Railing System: A permanent means of fall protection for roof hatch openings. Meets and exceeds OSHA fall protection regulations, 29 CFR 1910.23 for Type S Roof Hatch.

**** NOTE TO SPECIFIER ** Other colors are available.**

- I. Ship Ladders: 2-1/2 x 1/2 inch (64 x 13 mm) steel flat bar side rails with 3/4 inch (19 mm) rebar steel rungs. Ladders and safety cages are both completely welded assemblies that bolt together during construction. Finish: Powder coat painted yellow.
- J. Cage Ladders: Over 20 ft (6096 mm) height.
 1. Solid steel construction. Powder coat finish. Engineered to meet OSHA specifications. Ladders to have a flared entry for easy access. Steel base mounting bracket.
 - a. Roof Overhang: 4 inch (102 mm).
 - b. Roof Overhang: 6 inch (152 mm).
 - c. Roof Overhang: 9 inch (229 mm).
 - d. Roof Overhang: 12 inch (305 mm).
 2. Entry Platform with Railings: Requires site assembly.
 - a. Dimensions: 6 ft (1829 mm) wide by depth of press box and requisite 42 inch (1067 mm) high perimeter railings with cyclone fence to meet 4 inch (102 mm) sphere criteria.
 - b. Stairs to grade or to last foot board of new or existing bleacher system.
 - c. At completion of fabrication all steel components are to be hot dipped galvanized to ASTM A123 specifications.
 3. Press Box Support Structure: Requires site assembly.
 - a. Structural shapes to meet one of the following ASTM specifications: A36, A36/572 grade 50, A572 grade 50, A529-50, or A500 grade B.
 - b. Shop Connections are to be seal welded.
 - c. At completion of fabrication all steel components are to be hot dipped galvanized to ASTM A123 specifications.
- K. Prefabricated Press boxes:
 1. Outside Height of 100 inches (2540 mm).
 2. Interior Floor to Ceiling Height 90 inches (2286 mm) (standard).

**** NOTE TO SPECIFIER ** Delete dimension options not required. The maximum shipping width for custom sizes is 16 feet.**

3. Dimensions: 7 x 12 feet (2134 x 3658 mm).
4. Dimensions: 7 x 16 feet (2134 x 4877 mm).
5. Dimensions: 7 x 18 feet (2134 x 5486 mm).
6. Dimensions: 7 x 24 feet (2134 x 7315 mm).

7. Dimensions: 7 x 30 feet (2134 x 9144 mm).
8. Dimensions: 8 x 12 feet (2438 x 3658 mm).
9. Dimensions: 8 x 16 feet (2438 x 4877 mm).
10. Dimensions: 8 x 18 feet (2438 x 5486 mm).
11. Dimensions: 8 x 20 feet (2438 x 6096 mm).
12. Dimensions: 8 x 24 feet (2438 x 7315 mm).
13. Dimensions: 8 x 30 feet (2438 x 9144 mm).
14. Dimensions: 8 x 36 feet (2438 x 10973 mm).
15. Dimensions: 8 x 42 feet (2438 x 12802 mm).
16. Dimensions: 8 x 48 feet (2438 x 14630 mm).
17. Dimensions: 8 x 60 feet (2438 x 18288 mm).
18. Dimensions: 10 x 12 feet (3048 x 3658 mm).
19. Dimensions: 10 x 16 feet (3048 x 4877 mm).
20. Dimensions: 10 x 18 feet (3048 x 5486 mm).
21. Dimensions: 10 x 24 feet (3048 x 7315 mm).
22. Dimensions: 10 x 30 feet (3048 x 9144 mm).
23. Dimensions: 10 x 36 feet (3048 x 10973 mm).
24. Dimensions: 10 x 42 feet (3048 x 12802 mm).
25. Dimensions: 10 x 48 feet (3048 x 14630 mm).
26. Dimensions: 10 x 60 feet (3048 x 18288 mm).
27. Dimensions: ____ x ____ feet (____ x ____ mm).
28. Dimensions: As indicated on Drawings

L. Frame Construction: Structural Framework: Extruded aluminum alloy 6005 T6.

**** NOTE TO SPECIFIER ** Delete surface finish not required.**

1. Surface Finish: Bronze.
2. Surface Finish: Beige painted.

M. Base and Floor: Floor to be mounted to a 4 inch (102 mm) tube/channel steel base frame.

**** NOTE TO SPECIFIER ** Delete finished floor options not required. the first option is standard.**

1. Finished Floor: 12 x 12 inch (305 x 305 mm) commercial grade vinyl tile, sub-floor, expanded polystyrene insulation and 24 ga galvanized steel underside.
2. Finished Floor: 3/16 inch (5 mm) nonskid aluminum tread plate
3. Finished Floor: 3/16 inch (5 mm) nonskid aluminum tread plate with expanded polystyrene insulation and 24 ga galvanized steel underside.
4. Finished Floor: 1/8 inch (3 mm) nonskid aluminum tread plate with sub-floor, expanded polystyrene insulation and 24 ga galvanized steel underside.
5. Finished Floor: 18-1/8 x 18-1/8 inch (460 x 460 mm) raised disc rubber tile with 4 inch (102 mm) cove base molding, sub-floor, expanded polystyrene insulation and 24 ga galvanized steel underside.
6. Finished Floor: 24 x 24 inch (610 x 610 mm) commercial 1/2 inch (13 mm) carpet tile with 4 inch (102 mm) cove base molding, sub-floor, expanded polystyrene insulation and 24 ga galvanized steel underside.

N. Wall Panels: Laminated design. Solid core with pre-finished interior and exterior surface.

1. Wall Thickness: Nominal 3 inch (76 mm)
2. Core: Expanded polystyrene ASTM E84 Class A fire-resistant, 1 pound PSF density.

**** NOTE TO SPECIFIER ** Panel height is 8 to 15 ft.**

3. Panel Size (WxH): 48 x ____ inch (1219 x ____ mm).
4. Panel Size (WxH): As detailed on the Drawings
5. Interior Wall: 1/2 inch (13 mm) vinyl-covered drywall. ASTM E84 Class A fire rating.
 - a. Color: Champagne.

- b. Color: Off White.
 - c. Color: Gray.
 - 6. Exterior Wall: 26 gauge painted steel.
 - a. Color: Saddle Tan
 - b. Color: Off White
 - c. Color: Gray
 - 7. Exterior Wall: Fiberglass reinforced plastic (FRP).
- O. Structural Framework: Extruded aluminum alloy 6063-T5 with a painted finished surface.
- 1. Panel Connecting Post: 3-piece design load bearing, which serves as connecting device for holding panels together. Serves as a vertical chase to conceal electrical and data service.
 - a. Full Height Snap-On Cover Plate: For access during initial installation and to enable future modification without disassembly of wall.
 - 2. Corner Post: 1-piece design, structural member and connecting device for wall panels at 90 degree angles.
 - 3. Wall Starts: Aluminum U-shaped channel. Fits flush against existing structure or where two panels meet on a perpendicular line. Sized to enable panel connectors or corner posts to connect while enabling panel installation on adjacent side.
 - 4. Ceiling Cap: Extruded aluminum alloy 6063-T5 provided in 10' lengths to fit snugly around the top of all perimeter wall sections eliminating on-site fabrication. Integral vertical fascia is included to create a neat, finished appearance.
 - 5. Partition Cap: Extruded U-shaped aluminum alloy 6063-T5 provided in 10' lengths to fit snugly around the top of all partition wall sections.
 - 6. Base Plate: Extruded U-shaped aluminum alloy 6063-T5 provided in 10' lengths to serve as a leveling surface and guide for installation of wall panels and connecting posts.

**** NOTE TO SPECIFIER **** Select the ceiling type required from the following paragraphs and delete those not required. Delete if not required.

- P. Interior Ceiling Panels:
- 1. Acoustical Ceiling Tile: 24 x 48 inch with typical drop ceiling grid with rolled batt fiberglass insulation, R-19.
 - 2. Acoustical Ceiling Tile: 24 x 24 inch with typical drop ceiling grid with rolled batt fiberglass insulation.
 - 3. Prefinished steel, 24 gauge painted white with expanded polystyrene core providing a smooth flat interior

**** NOTE TO SPECIFIER **** Select the accessories required from the following paragraphs and delete the items not required.

- Q. Accessories:
- 1. Electrical Power Service: In accordance with NEC Standards.
 - a. Open construction, allowing inspection of electrical wiring, switches and other components without destructive disassembly.
 - b. 125 amp, 120/240 VAC, single-phase, 3-wire service with 8-16 circuit breaker panel
 - c. Use copper wiring in surface mounted 1/2-inch (13 mm) minimum EMT conduit (standard).
 - d. One 120-V GFCI power duplex receptacle every 8 ft (2438 mm) with tester
 - e. Wiremold (Optional) Series, one and two piece, multi-channel non-metallic surface mounted raceway along front wall, above or below scorer's table, outlets on 4 ft (1219 mm) centers, typical.

2. Indoor Lighting Fixtures:

- a. Provide quantity of fixtures required to maintain the following illumination level:

**** NOTE TO SPECIFIER ** Delete Illumination level options not required.**

- 1) Illumination Level: 20 foot-candles.
- 2) Illumination Level: 30 foot-candles.
- 3) Illumination Level: 50 foot-candles (standard).

**** NOTE TO SPECIFIER ** Delete light fixtures options not required.**

- b. Light Fixtures: Drop ceiling Troffer fixtures. 24 x 24 inch (610 x 610 mm) - LED.
- c. Light Fixtures: Drop ceiling Troffer fixtures. 24 x 48 inch (610 x 1219 mm) - LED.
- d. Light Fixtures: Ceiling Mounted Fluorescent. 48 inches (1219 mm) long with LED.
- e. Light Fixtures (LxWxD): 49.38 x 9.25 x 3.38 inches (1254 x 235 x 86 mm). Hi Abuse, Linear Fluorescent. LED 120 V. White. Cold weather.
- f. Single-pole switch mounted adjacent to door to control lighting fixtures.
- g. Exit Signs: In the event of electrical power outage during use or occupancy in the press box, the exit signs will illuminate.

**** NOTE TO SPECIFIER ** Optional. Delete if not required.**

3. Outdoor Lighting Fixtures:

- a. Provide quantity of fixtures required to maintain the following illumination level:

**** NOTE TO SPECIFIER ** Delete Illumination level options not required.**

- 1) Illumination Level: 20 foot-candles.
- 2) Illumination Level: 30 foot-candles.
- 3) Illumination Level: 50 foot-candles.

**** NOTE TO SPECIFIER ** Delete lighting fixtures options not required.**

- 4) Light Fixtures (LxWxD): 49.38 x 9.25 x 3.38 inches (1254 x 235 x 86 mm). Hi Abuse, Linear LED 120 V. White. Cold weather.
- 5) Flood Light: LED 120 V. White.
- 6) Flood Light: LED 120 V. Bronze.

**** NOTE TO SPECIFIER ** Delete switch option not required.**

- 7) Switch: Single-pole mounted adjacent to door to control lighting fixtures.
- 8) Switch: Photoelectric controller.

4. Heating Unit: Wall-mounted and thermostatically controlled.

**** NOTE TO SPECIFIER ** Delete heater unit option not required.**

- a. Electric Heater: Fan-forced operation enclosed in enameled steel cabinet. 110 V, 1500 W, 5120 Btu.
- b. Electric Heater: Fan-forced operation. Surface mounted. 230/208 V, 13,000/10,000 Btu.

**** NOTE TO SPECIFIER ** Select the air conditioning/ventilating equipment required from following paragraphs and delete those not required.**

5. Thru-wall Air Conditioning: 110 V. 9,900 Btu.
6. Thru-wall Air Conditioning: 110 V. 9,900 Btu, high mount.
7. Thru-wall Heating/Air Conditioning: 230/208V. 11,600/11,400 btu with electric heat.
8. Wall Exhaust Fan: Duct Diameter: 10-3/8 Inches.
 - a. Motor: 120 V, 1625 RPM, 1.7 amps.
 - b. Air Flow: At 0.000 inch Static Pressure: 480 CFM.
9. Scorer's Table: Full Length: 18 to 24 inches deep. 3/4 inch thick white Melamine counter top with drop wire grommets at receptacle locations.
10. Scorer's Table: Full Length: 18 to 24 inch deep by 16 ga stainless steel counter top with drop wire grommets at receptacle locations.

11. Workbench Mounted Locking Storage Drawer (HxDxW): 6-5/8 x 20 x 17-1/4 inches.
12. Partition Walls with Interior Access Door: To separate unit into two or more segmented rooms:
 - a. Home and away.
 - b. Home, away and announcer.
 - c. Home, away, announcer and press.
 - d. As indicated on Drawings.

**** NOTE TO SPECIFIER ** Restrooms are optional. Delete if not required. If required, delete plumbed fixtures option not required.**

13. Restrooms:
 - a. Plumbed Fixtures: Installed on site.
 - b. Plumbed Fixtures: Installed at the factory with service hookups in field by others.
 - c. Restroom Package; ADA: With following items wired and installed:
 - 1) Lighting with wall switch.
 - 2) Thru wall exhaust fan.
 - 3) Heater: Wall mounted electric with fan forced operation, 1500 W, 5120 BTU, thermostat in an enamel coated 20 gauge steel cabinet.
 - 4) Swing door with privacy lock.

**** NOTE TO SPECIFIER ** Delete fixture options not required.**

- 5) Fixture: ADA elongated toilet.
- 6) Fixture: ADA wall mounted lavatory.
- 7) Fixture: One 36 inch (914 mm) grab bar.
- 8) Fixture: One 42 inch (1067 mm) grab bar.
- d. Restroom Package; non-ADA: With following items wired and installed.
 - 1) Lighting with wall switch.
 - 2) Thru wall exhaust fan.
 - 3) Heater: Wall mounted electric with fan forced operation. 1500 W, 5120 BTU thermostat in an enamel coated 20 gauge steel cabinet.
 - 4) Swing door with privacy lock.

**** NOTE TO SPECIFIER ** Delete fixtures options not required.**

- 5) Fixtures: Standard toilet.
- 6) Fixtures: Wall mounted lavatory.
- 7) Fixtures: One Toilet tissue holder.
- 8) Fixtures: Paper towel holder.
14. Wet Bar / Kitchenette:
 - a. Plumbed Fixtures: Installed on site.
 - b. Plumbed Fixtures: Installed at the factory with service hookups in field by others.
 - c. Counter top, bar sink and base cabinet. Over counter wall cabinets.
 - d. Counter top, bar sink, base cabinet with under counter refrigerator.
 - 1) Over counter wall cabinets

- R. Fabrication: Factory built, prefabricated Press Box completely in factory.
 1. Preglaze windows and doors at factory.
 2. Prewire at factory, ready for connection to service at Project site.
 3. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
 4. Accommodate crane unloading under base or welded in place concealed lifting lugs at roof suitable for placement of structure on prepared foundations.

2.5 TOWERS

- A. Basis of Design: Custom Designed Prefabricated Free-Standing Factory Towers supplied by Panel Built Inc.
1. Free-standing. Will not use existing walls or building columns for vertical support.
 2. Installation: Capable of being erected, dismantled, and relocated with hand tools.
- B. Construction:
1. Structural Steel: Meet or exceed requirements of American Institute of Steel Construction (AISC), Manual of Steel Construction-Allowable Stress Design.
 2. Bar Joist Design: Meet or exceed requirements of Steel Joist Institute (SJI) "Standard Specification for Open Web Steel Joists, K-Series.
 3. OSHA (Occupational Safety & Health Administration) Regulations: Met or Exceed.
 4. Other Codes Specified by Customer: Building Official's Code of America (BOCA), Uniform Building Code (UBC), or International Building Code (IBC), will be met by manufacturer.
- C. Loads and Deflections:
1. Design shall meet the customer's requirement for live load.
 2. Structure shall be designed to withstand horizontal forces as required for the seismic zone at the site of installation.
 3. Stairs and landings shall be designed for a live load of 100 psf.
 4. Deflection of all components under full live load shall not exceed 1/240 of span.
 5. Special requirements for concentrated loads shall be met by the manufacturer as specified by the customer.
- D. Structure:
1. Railing: 1-1/2 inch (38 mm) x 11 gauge square tube, minimum.
 - a. Kick Plate: 4 inch (102 mm) high x 14 gauge steel.
 - b. Standard Handrail Designs: Include OSHA, IBC Factory Use Group, IBC Mercantile Use Group, and BOCA.
 2. Columns:
 - a. Spacing: Meet field conditions and requirements of customers.
 - b. Size: 5 x 5 x 3/16 inch (127 x 127 x 5 mm) tubular steel.
 - c. Base Plates: 12 x 12 x 5/8 inch (305 x 305 x 16 mm). Anchor Bolts: four, 1/2 inch (13 mm) diameter.
 3. Structural Steel, Support Members and Bar Joists:
 - a. All field connections must be bolted.
 4. Stairs: Bolted construction.
 - a. Standard Designs: Include OSHA, IBC Factory Use Group, IBC Mercantile Use Group, and BOCA
- E. Materials:
1. Structural Steel Beams: Hot rolled wide flange meeting ASTM A36.
 - a. Minimum yield strength of 36,000 psi (248211 kPa): FY: 36 KSI.
 2. Bar Joists: Meet requirements of Steel Joist Institute.
 3. Columns: Square tube meeting ASTM Specification A500B.
 - a. Minimum yield strength of 46,000 psi (317159 kPa): FY: 46 KSI.
 4. Decks: One of the following Designs:

**** NOTE TO SPECIFIER ** Delete design options not required. Other decking options available as requested by customer. Contact manufacturer for more information.**

- a. Plywood: 3/4 inch (19 mm) tongue and groove or Advantech attached to B-Deck with a minimum of 40 screws per 4 x 8 ft (1219 x 2438) sheet.

- b. Bar Grating: Minimum of welded steel with openings 4 x 1-3/16 inch (102 x 30 mm) and 1 x 1/8 (25 x 3 mm) inch bearing bars, attached to structure with saddle anchors set over bearing bars with tek screws and painted black.
 - c. Steel Plate: Minimum of 1/8 inch (3 mm) thick, plain or diamond plate meeting ASTM A36 and attached over B-Deck with a minimum of 20 mechanical fasteners per 32 sq ft (2.97 sq m) area.
5. Deck Underlayment: For Plywood or Steel Plate: 22 ga. corrugated steel B-Deck with 1-1/2 inch (38 mm) high corrugations, spaced 6 inches (152 mm) center to center, and attached to structure with minimum of one screw per linear foot of panel width and one screw per linear foot on overlapping panel edges for each structural member crossed.
 6. Structural Bolts: J429 Grade 5.

F. Painting:

**** NOTE TO SPECIFIER ** Special colors and powder coating bar joists can be done upon request. .**

1. Structural beams, columns, landings, handrail and gates are powder coated.
 - a. Color: As determined by the Architect from Manufacturer's standard colors.
2. Bar Joists: Primed gray and not powder coated.
3. Handrails: Painted safety yellow.

2.6 FREE-STANDING MEZZANINES

- A. Basis of Design: Custom Designed Free-Standing Mezzanine prefabricated custom design supplied by Panel Built Inc.
 1. Free-standing. Will not use existing walls or building columns for vertical support.
 2. Installation: Capable of being erected, dismantled, and relocated with hand tools.
- B. Construction:
 1. Structural Steel: Meet or exceed requirements of American Institute of Steel Construction (AISC), Manual of Steel Construction-Allowable Stress Design.
 2. Bar Joist Design: Meet or exceed requirements of Steel Joist Institute (SJI) "Standard Specification for Open Web Steel Joists, K-Series.
 3. OSHA (Occupational Safety & Health Administration) Regulations: Met or Exceed.
 4. Other Codes Specified by Customer: Building Official's Code of America (BOCA), Uniform Building Code (UBC), or International Building Code (IBC), will be met by manufacturer.
- C. Loads and Deflections:
 1. Design shall meet the customer's requirement for live load.
 2. Structure shall be designed to withstand horizontal forces as required for the seismic zone at the site of installation.
 3. Stairs and landings shall be designed for a live load of 100 psf.
 4. Deflection of all components under full live load shall not exceed 1/240 of span.
 5. Special requirements for concentrated loads shall be met by the manufacturer as specified by the customer.
- D. Structure:
 1. Railing: 1-1/2 inch (38 mm) x 11 gauge square tube, minimum.
 - a. Kick Plate: 4 inch (102 mm) high x 14 gauge steel.
 - b. Standard Handrail Designs: Include OSHA, IBC Factory Use Group, IBC Mercantile Use Group, and BOCA.
 2. Columns:
 - a. Spacing: Meet field conditions and requirements of customers.

- b. Size: 5 x 5 x 3/16 inch (127 x 127 x 5 mm) tubular steel.
- c. Base Plates: 12 x 12 x 5/8 inch (305 x 305 x 16 mm). Anchor Bolts: four, 1/2 inch (13 mm) diameter.
- 3. Structural Steel, Support Members and Bar Joists:
 - a. All field connections must be bolted.
- 4. Stairs: Bolted construction.
 - a. Standard Designs: Include OSHA, IBC Factory Use Group, IBC Mercantile Use Group, and BOCA

E. Materials:

- 1. Structural Steel Beams: Hot rolled wide flange meeting ASTM A36.
 - a. Minimum yield strength of 36,000 psi (248211 kPa): FY: 36 KSI.
- 2. Bar Joists: Meet requirements of Steel Joist Institute.
- 3. Columns: Square tube meeting ASTM Specification A500B.
 - a. Minimum yield strength of 46,000 psi (317159 kPa): FY: 46 KSI.
- 4. Decks: One of the following Designs:

**** NOTE TO SPECIFIER ** Delete design options not required. Other decking options available as requested by customer. Contact manufacturer for more information.**

- a. Plywood: 3/4 inch (19 mm) tongue and groove or Advantech attached to B-Deck with a minimum of 40 screws per 4 x 8 ft (1219 x 2438) sheet.
- b. Bar Grating: Minimum of welded steel with openings 4 x 1-3/16 inch (102 x 30 mm) and 1 x 1/8 (25 x 3 mm) inch bearing bars, attached to structure with saddle anchors set over bearing bars with tek screws and painted black.
- c. Steel Plate: Minimum of 1/8 inch (3 mm) thick, plain or diamond plate meeting ASTM A36 and attached over B-Deck with a minimum of 20 mechanical fasteners per 32 sq ft (2.97 sq m) area.
- 5. Deck Underlayment: For Plywood or Steel Plate: 22 ga. corrugated steel B-Deck with 1-1/2 inch (38 mm) high corrugations, spaced 6 inches (152 mm) center to center, and attached to structure with minimum of one screw per linear foot of panel width and one screw per linear foot on overlapping panel edges for each structural member crossed.
- 6. Structural Bolts: J429 Grade 5.

F. Painting:

**** NOTE TO SPECIFIER ** Special colors and powder coating bar joists can be done upon request.**

- 1. Structural beams, columns, landings, handrail and gates are powder coated.
 - a. Color: As determined by the Architect from Manufacturer's standard colors.
- 2. Bar Joists: Primed gray and not powder coated.
- 3. Handrails: Painted safety yellow.

G. General Considerations:

- 1. Existing floor loading requirements
- 2. Use of mezzanine.
- 3. Clear height of area.
- 4. Are there any existing obstructions

2.7 CANOPIES

- A. Basis of Design: Freestanding, pre-engineered metal canopies supplied by Panel Built Inc.
 - 1. Including concrete foundation, steel framing, metal roof, roof drains and leaders, fascia components, and metal ceiling and accessories.

B. Performance Requirements:

1. Structural Performance: Provide pre-engineered canopies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated for the specific location where Canopy will be installed:
 - a. Uniform pressure as indicated on drawings - minimum design wind load per ASCE 7, CH. 6.

**** NOTE TO SPECIFIER **** Snow load as indicated on drawings - minimum design snow load per ASCE 7, CH. 7. Seismic performance - minimum design seismic criteria per ASCE 7, CH. 11 - 13.

2. Thermal Movements: Provide pre-engineered canopies that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

**** NOTE TO SPECIFIER **** Differential values below (for aluminum in particular) are suitable for most of the U.S. Revise to suit local conditions.

- a. Temperature Change (Range): 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.
3. Welding: Qualify procedures and personnel according to the following:
 - a. Welding shall be in accordance with AWS D1.1 (with E70XX electrodes).

**** NOTE TO SPECIFIER **** Structural shop welding shall be done by certified welders.

- b. Steel shop connections shall be welded and field connections shall be bolted (unless otherwise noted on the Drawings). Shop welds may be changed to field welds with the approval of the project engineer.
- c. Slag shall be cleaned from welds and inspected. Steel shall be painted with red oxide rust-inhibitive primer.
4. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NEC, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Design Requirements:

**** NOTE TO SPECIFIER **** Delete product option provision not required. Retain second subparagraph below to allow drawing details based on Panel Built Inc. to establish requirements and still allow competition. Coordinate with Division 1 requirements.

1. Information on the Drawings and in the Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance. Do not modify intended aesthetic effects, as judged solely by the Architect, except with the Architect's approval. If modifications are proposed, submit comprehensive explanatory data to the Architect for review.
2. The Drawings indicate size, profiles, and dimensional requirements of pre-engineered metal canopies and are based on the specific system indicated. Refer to Section 01600 - Product Requirements. Do not modify intended aesthetic effects, as judged solely by the Architect, except with the Architect's approval. If modifications are proposed, submit comprehensive explanatory data to the Architect for review.
3. Coordination:

- a. The Contractor shall conduct site meetings to verify project requirements, substrate conditions, utility connections, manufacturer's drawings and installation instructions. Comply with Division 1 section on project meetings.
- b. The contractor shall prepare for and pour the concrete footers for the pre-engineered metal canopies. Manufacturer shall furnish recommended footing drawings as per IBC Section 1807.3 and prints and rebar details for concrete footings, as well as provide anchor bolts to be embedded in concrete footer. Such items shall be delivered to project site in time for installation.

D. Materials:

1. Structural Steel:

- a. Material and work shall conform to the latest AISC 360.

**** NOTE TO SPECIFIER ****

Wide flange I-beam shall conform to ASTM A 572/A 572M GR.50, Fy = 50 ksi.

Other rolled sections shall conform to ASTM A 36/A 36M, Fy = 36 ksi.

Square and rectangular tubing shall conform to ASTM A 500/A 500M, Grade B, Fy = 46 ksi.

Plate steel shall conform to ASTM A 36/A 36M, Fy = 36 ksi.

Delete finish option not required.

- b. Finish: Painted with a rust inhibitive (red oxide) primer.
- c. Finish: Hot-dip-galvanized.

2. Sheet Metal:

- a. Decking: 3 inch (76 mm) by 16 inch (406 mm) by 20 gage smooth white, ASTM A 653/A 653M GR40, Fy = 40 ksi, galvanized steel with baked enamel finish.

**** NOTE TO SPECIFIER **** Contact Panel Built and Company, Inc. for additional available decking colors, finishes, profiles, and materials.

- b. Center and Tapered Gutter: 24 gage hot-dip galvanized steel baked enamel finish.
- c. Perimeter Gutter: 20 gage hot-dip galvanized steel baked enamel finish.
- d. Internal Downspout: 3 inch (76 mm) diameter PVC.
- e. External Downspouts: 3 inch (76 mm) by 4 inch (102 mm) by 24 gage hot-dip galvanized steel with baked enamel finish.

**** NOTE TO SPECIFIER **** Manufacturer shall be capable of providing seamless gutter profiles up to 40 feet (12 m) in length.

E. Pre-Engineered Metal Canopy:

**** NOTE TO SPECIFIER **** Manufacturer's pre-engineered metal canopy and their components are available in a range of styles, shapes, configurations, and options. Revise this Article and subsequent articles, which include the most common construction, to suit Project.

1. General: Provide a complete, integrated set of manufacturer's standard design canopy components using a flexible frame with fixed base wherein the steel framing system uses stacked I Beam construction transferring the moment to the concrete footing without requiring a rigid connection between steel frame members. The beam arrangements allow for a cantilever design which can bring the columns from the perimeter of the structure to the inner protected zones between the drive lanes. These mutually dependent components form a pre-engineered canopy, ready for construction on project site. Said pre-engineered metal canopy will be designed to meet all site structural wind, snow and seismic requirements.

**** NOTE TO SPECIFIER **** Delete canopy fascia options not required.

2. Canopy Fascia: Aluminum Composite Panel (ACM): Available with a fluorocarbon paint finish, masked on one side. Warranted for 10 or 20 years depending on color and finish.

3. Canopy Fascia: 2 Inch Laminated Foam Core. Panel face shall be 24 gage hot-dip galvanized steel with a baked enamel finish. Finishes shall be warranted against cracking, checking, peeling, or adhesion failure. Warranties for 5, 10, 20 years shall be available depending on color selection. The foam core shall be 2 inch (51 mm) expanded virgin polystyrene. The backing shall be 24 gage galvanized steel.
4. Canopy Fascia: Various custom fascia to meet design requirements such as architectural shingle, EIFS, standing seam panels.
5. Canopy Finishes: Comply with NAAMM MFM for recommendations for applying and designating finishes.
 - a. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.
6. Fabrication: Fabricate pre-engineered canopies completely in factory.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly constructed and prepared.
- B. Check installed anchor bolts for accuracy. Verify that bearing surfaces are ready to receive the work.

**** NOTE TO SPECIFIER ** Select the following paragraph if required. Delete if not required.**

- C. Verify the rough-in of required mechanical and electrical services prior to placement of the structure.
- D. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION

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

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
- B. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- C. Place on prepared concrete foundations and slabs provided as specified under Section 03300.
- D. Anchor securely in place, allowing for required movement, including expansion and contraction.

**** NOTE TO SPECIFIER ** Select the following paragraphs if required. Delete if not required.**

- E. Connect mechanical services as specified under Division 15.
- F. Connect electrical services as specified in Division 16.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

**** NOTE TO SPECIFIER **** Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

- B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.5 CLEANING AND PROTECTION

- A. Clean products in accordance with the manufacturers recommendations.
- B. Protect installed products until completion of project.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION