

Question No.	Reference (Sect/Para/Page)	QUESTION	GOVERNMENT RESPONSE
1	Pg 4 1.4 of steel specs	Can the requirement for the AISC certification be waived?	No.
5	Arch dwg A-351	Please provide specifications for the exterior insulated metal panel system shown at the drive-thru bump out.	Specification is attached.
9	Plan Sheet P-101	Plan Sheet P-101, key note 2, indicates a gas flow meter to be connected to the NEX utility management and control system. Please provide a specification for the gas flow meter including how it ties into the control system.	Intent is for Contractor to contact NEX/Base utilities and select a gas meter that is compatible with their system.
12	Arch dwg A-351	Please provide specifications for the exterior insulated metal panel system shown at the drive-thru bump out.	Specification is attached.
16	Interiors dwg IN102	Please confirm tables and chairs shown on Dwg IN102 are Gov't Furnished and Gov't Installed.	NEXCOM will purchase and Install
17	Phasing dwg G-101	Please confirm: a) the Vendor furnished Build-out Contractor(s) are already under contract; b) Vendor plans to finishing tenant spaces are already complete and approved; c) Vendor contractor(s) have committed to timeframes outlined on drawing G-101. The proposer's ability to efficiently execute the phased renovations and progress from Phase 1 to Phase 2 relies in part on the Vendors ability to complete and occupy new spaces and vacate current space for our work Phase 2.	a) We have contracts with all 4 vendors, they in turn will be contracting their own GC's for their individual spaces. As of this moment we have no available time frame for their fit out work, normally their fit-outs range from 60-90 days. They have been provided with our phasing schematic schedule per contract drawing G101. Their contract requires them to work within those sequences. b) Vendor will finish out their spaces. c) Vendors have been provided phasing schematic and notes on drawing G 101. If they cannot complete their fit-outs within the outlined time frames should have no relevance to the our GC's work. As to the existing vendors vacating occupied space to allow for the new work to begin they have been notified and have worked out agreements with the Navy Exchange to move out.
20	262000-2.11.1	The panel board enclosure specification 26 20 00 - 2.11.1 calls for full seam-welded box ends and hot-dipped galvanized after fabrication. This is not a typical specification for the Navy and will limit the suppliers to custom panel fabricators driving up the cost. Can the specifications be amended to cover a standard national manufactures panel enclosure?	All cabinets shall be fabricated from sheet steel of not less than No. 12 gauge. Hot-dipped galvanizing after fabrication is not required but full seam welded box ends are required.
23	FA101	Please provide location of existing FAMN panel to tie new devices into.	Specification is attached.
24	211313-1.5.1	Per Amendment 0001 which deleted design responsibilities for this bid/build project, please confirm the Fire Protection Specialist per 211313-1.5.1 for design oversight will be furnished by the Navy and not the proposer.	A performance specification for the wet pipe sprinkler system has been provided intentionally. Even though most of this project is not design/build, design by the sprinkler contractor is the intention for this system, which is common even for design/bid/build projects.
25	P-101	Please confirm only domestic cold water feeds are to be brought to the four tenant spaces per P-101, and that domestic hot water pipe after EWH-2 in Housekeeping Rm 187 will be by Navy/Vendors.	Domestic cold water feeds are to be brought to vendor spaces and vendor will provide their own hot water heater and distribution inside of the vendor space. Hot water/heater in housekeeping is for housekeeping room only.

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26	Spec Modifications issued with Bid Docs	In the bid document amending specification section, it states, "Intrusion alarm system, conduit and boxes are already included in the package. Add to install wiring to all doors, monitors, sensors and equipment to go back to existing panel for PA system." Questions: 1) please confirm Navy will furnish, install, and program devices for alarm system; 2) please confirm alarm system should be tied to PA system.	1) Provide intrusion wiring and devices in affected contracted areas and tie back to alarm panel. 2) Provide PA wiring and devices in affected contracted areas and tie back to PA system equipment.
28	Drawing A-501	Is insulation required in the bulkhead shown in detail A5, on sheet A-501?	No insulation is required in the gyp. bd. over metal stud bulkhead. Insulation is only necessary where graphically indicated.
29	Drawing A-401	In the Toilet Accessory Legend shown on drawing A-401, it notes item J-Purse Ledge. We can not find this item on the drawings. Are Purse Ledges required? Is so, how many and where are they required?	No purse ledges are required.
30	Drawing A-101	Plan Sheet A-101, general plan note 9, references plan sheet F-100. We do not have plan sheet F-100. Please forward plan sheet F-100.	Please refer to drawing LS102 and disregard reference to F-100.
32	Drawing A-201 and A-351	Please provide a specification for the 3" exterior insulated metal wall panel.	Specification is attached.
33	Specification Section 08 41 13	Where are aluminum framed entrances and storefronts required on this project?	Please disregard this specification; storefront scope has been removed from the project and this section should not have been issued.
34	Specification Section 05 12 00	Can the AISC certification for steel fabrication be waived?	Reference Question 1.
35	Plan Sheet A-101	Please provide a specification for the drive-up window.	Specification is attached.
36	Plan Sheet IN102	Who is responsible for furnishing the furniture shown on drawings IN102?	NEXCOM (NEX)
37	Plan Sheet IN102	Who is responsible for installing the furniture shown on drawings IN102?	NEXCOM furniture contractor
38	AD101	Demolition Key Note 7, states to remove portions of the existing canopy. Please provide a detail of how the portion of canopy that remains should be finished on the end.	Food prep and loose equipment is the existing vendors' responsibility. Built in or fixed equipment, mechanically structurally or hardwired systems, refrigeration or plumbed is your, the Contractor's, responsibility
39	AD101	Who is responsible for removal of the existing food service equipment for Taco Bell and Subway?	Reference Question 38.
40	G-101	During construction of phase one, who will be responsible to relocate any necessary food service equipment to allow Taco Bell and Subway to stay operational?	You, the Contractor, if hardwired, plumbed or structurally attached to the facility. Taco Bell / vendor if loose equipment.
41	AD101	Who is responsible to remove existing furniture from the eating area?	You, the Contractor, are responsible.
47	015000 par 3.5.1	Is the requirement for two jobsite trailers (one for NAVFAC and one for the GC actually be required?	Specification is attached.

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50		Where are the temp barriers to be located and what are they made of?	Temporary barriers are considered construction means and methods.
51		Who is the existing fire alarm and security company.	NAVFAC personal controls the fire alarm system, Teck Inc. is the company that installed and maintains the security system. The system is routed straight to base security.
54	Arch dwg A-351	Please provide specifications for the exterior insulated metal panel system shown at the drive-thru bump out.	Specification is attached.
58	Interiors dwg IN102	Please confirm tables and chairs shown on Dwg IN102 are Gov't Furnished and Gov't Installed.	NEXCOM (NEX)
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62	262000-2.11.1	The panel board enclosure specification 26 20 00 - 2.11.1 calls for full seam-welded box ends and hot-dipped galvanized after fabrication. This is not a typical specification for the Navy and will limit the suppliers to custom panel fabricators driving up the cost. Can the specifications be amended to cover a standard national manufactures panel enclosure?	All cabinets shall be fabricated from sheet steel of not less than No. 12 gauge. Hot-dipped galvanizing after fabrication is not required but full seam welded box ends are required.
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**PRE PROPOSAL INQUIRY FORM****SOLICITATION NO. N40085-15-R-3800**

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69		Please confirm all work should be scheduled for straight time, and that no premium time or off hours are required working around existing restaurants or NEX.	Straight time
70		Structural steel specifications require AISC certified fabricators. Please confirm this requirement will be enforced for such a simple steel structure.	Reference Question 1.
71		Please clarify the scope of work for abatement.	Please reference the HAZMAT survey. You, the Contractor, are responsible for the safe and lawful abatement and disposal of any hazardous materials (e.g., asbestos-containing materials, lead) affected by the work.

SECTION 07 42 13

METAL WALL PANELS

05/11

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ALUMINUM ASSOCIATION (AA)

AA ADM (2010) Aluminum Design Manual

AA ASD1 (2013) Aluminum Standards and Data

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 501.1 (2005) Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure

AAMA 800 (2010) Voluntary Specifications and Test Methods for Sealants

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI S100 (2007; Supp 1: 2009; Supp 2: 2010) North American Specification for the Design of Cold-Formed Steel Structural Members

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7 (2010; Errata 2011; Supp 1 2013) Minimum Design Loads for Buildings and Other Structures

AMERICAN WELDING SOCIETY (AWS)

AWS A5.1/A5.1M (2012) Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding

AWS D1.1/D1.1M (2010; Errata 2011) Structural Welding Code - Steel

AWS D1.2/D1.2M (2008) Structural Welding Code - Aluminum

ASTM INTERNATIONAL (ASTM)

ASTM A1008/A1008M (2013) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened

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ASTM A123/A123M	(2013) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A36/A36M	(2012) Standard Specification for Carbon Structural Steel
ASTM A653/A653M	(2013) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM B117	(2011) Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM B209	(2010) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM C920	(2011) Standard Specification for Elastomeric Joint Sealants
ASTM D1056	(2014) Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber
ASTM D1308	(2013) Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM D1654	(2008) Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
ASTM D1667	(2005; R 2011) Flexible Cellular Materials - Poly (Vinyl Chloride) Foam (Closed-Cell)
ASTM D2244	(2011) Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
ASTM D2247	(2011) Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D2794	(1993; R 2010) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D3359	(2009; E 2010; R 2010) Measuring Adhesion by Tape Test
ASTM D3363	(2005; E 2011; R 2011; E 2012) Film Hardness by Pencil Test
ASTM D4214	(2007) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D4587	(2011) Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings

ASTM D522/D522M	(2014) Mandrel Bend Test of Attached Organic Coatings
ASTM D523	(2014) Standard Test Method for Specular Gloss
ASTM D5894	(2010) Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)
ASTM D610	(2008; R 2012) Evaluating Degree of Rusting on Painted Steel Surfaces
ASTM D714	(2002; R 2009) Evaluating Degree of Blistering of Paints
ASTM D822	(2001; R 2006) Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
ASTM D968	(2005; R 2010) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM E1592	(2005; R 2012) Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
ASTM E283	(2004; R 2012) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E331	(2000; R 2009) Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E72	(2013a) Conducting Strength Tests of Panels for Building Construction
ASTM E84	(2014) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G152	(2013) Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	(2013) Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)

MBMA MBSM	(2002) Metal Building Systems Manual
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NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)

NAAMM AMP 500 (2006) Metal Finishes Manual

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION  
(SMACNA)

SMACNA 1793 (2012) Architectural Sheet Metal Manual,  
7th Edition

1.2 DEFINITIONS

Metal Wall Panel: Metal wall panels, attachment system components and accessories necessary for a complete weather-tight wall system.

1.3 DESCRIPTION OF WALL PANEL SYSTEM

Factory color finished, metal wall panel system with concealed fastening attachment. Panel profile must be as shown on drawings.

1.3.1 Metal Wall Panel General Performance

Comply with performance requirements, conforming to AISI S100, without failure due to defective manufacture, fabrication, installation, or other defects in construction. Wall panels and accessory components must conform to the following standards:

ASTM A1008/A1008M  
ASTM A123/A123M  
ASTM A36/A36M

1.3.2 Structural Performance

Maximum calculated fiber stress must not exceed the allowable value in the AISI or AA manuals; a one third overstress for wind is allowed. Midspan deflection under maximum design loads is limited to L/180. Contract drawings show the design wind loads and the extent and general assembly details of the metal siding. Contractor must provide design for members and connections not shown on the drawings. Siding panels and accessories must be the products of the same manufacturer.

Provide metal wall panel assemblies complying with the load and stress requirements in accordance with ASTM E1592. Wind Load force due to wind action governs the design for panels.

Wall systems and attachments are to resist the wind loads as determined by ASTM E72 and ASCE 7 in the geographic area where the construction will take place, in pounds per square foot. Submit five copies of wind load tests and seismic tests to the Contracting Officer.

1.3.3 Air Infiltration

Air leakage must conform to the limits through the wall assembly area when tested according to ASTM E283.

1.3.4 Water Penetration Under Static Pressure

No water penetration when tested according to ASTM E331.

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#### 1.3.5 Water Penetration Under Dynamic Pressure

No evidence of water leakage when tested according to AAMA 501.1.

#### 1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00  
SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Submit Documentation for the following items:

Qualification of Manufacturer; G  
Qualification of Installation Contractor; G  
Sample Warranty; G

##### SD-02 Shop Drawings

Installation Drawings ; G

##### SD-03 Product Data

Submit Manufacturer's catalog data for the following items:

Wall Panels ; G  
  
Factory Color Finish  
Closure Materials  
Pressure Sensitive Tape  
Sealants and Caulking  
Galvanizing Repair Paint  
Enamel Repair Paint  
Aluminized Steel Repair Paint  
Accessories

##### SD-04 Samples

Submit as required each of the following samples:

Wall Panels, 12 inches long by actual panel width; G

Color chart and chips; G

Submit manufacturer's color charts and chips, approximately 4 by 4 inches, showing full range of colors, textures and patterns available for wall panels with factory applied finishes.

##### SD-05 Design Data

Wind load design analysis; G

As applicable, submit the following wind load design analysis data, to include, but not limited to:

wind speed  
exposure category,co-efficient,importance factor

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type of facility  
negative pressures for each zone  
methods and requirements of attachment

#### SD-06 Test Reports

Submit test reports for the following in accordance with the referenced articles in this section.

Leakage Tests; G  
Wind Load Tests; G  
Coating Tests; G  
Chalking Tests; G

#### SD-07 Certificates

Submit certificates for the following items showing conformance with referenced standards contained in this section:

Coil Stock; G  
Fasteners; G  
Galvanizing Repair Paint; G  
Enamel Repair Paint; G

#### SD-08 Manufacturer's Instructions

Include detailed application instructions and standard manufacturer drawings altered as required by these specifications.

Installation of Wall panels; G

#### SD-09 Manufacturer's Field Reports

Submit 5 bound copies of the Manufacturer's Field Reports; G

#### SD-11 Closeout Submittals

Warranty; G  
Maintenance Instructions; G

20 year "No Dollar Limit" warranty for labor and material

### 1.5 QUALITY ASSURANCE

#### 1.5.1 Pre-Installation Conference

Upon notification of submittal receipt and approval by the Contracting Officer; and prior to the commencement of the work, the Contractor must attend a pre-installation conference to review the following:

- a. Drawings and Specifications.
- b. Qualification of Installer, Qualification of Welders.
- c. Sustainable acquisition
- d. Approved Warranty
- e. Sample wall panels, 12 inches long by actual panel width

- f. Sample metal closure strips, 10 inches long of each type
- g. Color charts and chips
- h. Coatings and base metal tests, chalking tests
- i. Construction schedule, availability of materials, Installer's personnel, equipment and facilities required to progress with the work without delay.
- j. Methods and procedures related to installation of wall panels, including manufacturer's written instructions. Explicitly identify in writing, differences between manufacturer's instructions and the specified requirements.
- k. Support conditions for compliance with requirements, including alignment between and attachment to structural members.
- l. Flashing, special siding details, wall penetrations, openings, and condition of other construction that will affect metal wall panels.
- m. Governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
- n. Temporary protection requirements for metal wall panel assembly during and after installation.
- o. Wall panel observation and repair procedures after metal wall panel installation. Provide detailed written instructions including copies of Material Safety Data Sheets for maintenance and repair materials, and manufacturer's maintenance instructions.

#### 1.5.1.1 Installation Drawings

Installation shop drawings for wall panels, flashing, accessories, and anchorage systems must indicate completely dimensioned structural frame and erection layouts, openings in the wall, special framing details, and construction details at corners, building intersections and flashing, location and type of mastic and metal filler strips.

#### 1.5.1.2 Wind Load Design Analysis

Wind design analysis must include wall plan delineating dimensions and attachment patterns for each zone. Wind design analysis must be prepared and sealed by Licensed Project Engineer in the geographic area where the construction will take place.

#### 1.5.2 Manufacturer's Technical Representative

The representative must have authorization from manufacturer to approve field changes and be thoroughly familiar with the products and installations in the geographical area where construction will take place.

#### 1.5.3 Qualification of Manufacturer

Certify that metal wall panel system manufacturer has a minimum of five (5) years experience in manufacturing metal wall system and accessory products.

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Manufacturer must also provide engineering services by an authorized engineer; currently licensed in the geographical area where construction will take place, having a minimum of four (4) years experience as an engineer knowledgeable in wind load design analysis, protocols and procedures per MBMA MBSM, "Metal Building Systems Manual"; ASCE 7, and ASTM E1592.

Provide certified engineering calculations, using the products submitted, for Wind load requirements in accordance with ASCE 7.

#### 1.5.3.1 Manufacturer's Certificates

Also provide the following certifications from the manufacturer:

Coil Stock  
Fasteners  
Galvanizing Repair Paint  
Enamel Repair Paint

Submit certification from coil stock manufacturer or supplier that the machinery used will form the provided coil stock without warping, waviness, or rippling that is not a part of the panel profile, and without damage, abrasion or marring of the finish coating.

Provide evidence that products used within this specification are manufactured in the United States.

#### 1.5.4 Certified Qualification of Installation Contractor

The installation contractor must be approved and certified by the metal wall panel manufacturer prior to beginning the installation of the metal wall panel system. Subcontracting by Certified Contractor for the metal wall panel work is not permitted.

##### 1.5.4.1 Qualifications for Welding Work

Qualification of welders and welding must conform to AWS A5.1/A5.1M, AWS D1.1/D1.1M for steel or AWS D1.2/D1.2M for aluminum.

##### 1.5.5 Single Source

Obtain each type of metal wall panels, clips, closure materials and other accessories from the standard products of the single source from a single manufacturer to operate as a complete system for the intended use.

##### 1.5.6

##### Manufacturer's Maintenance Instructions

Provide manufacturer's detailed written instructions including copies of Material Safety Data Sheets for maintenance and repair materials.

#### 1.6 DELIVERY, HANDLING, AND STORAGE

Deliver and protect package components, sheets, metal wall panels, and other manufactured items to prevent damage or deformation during transportation and handling.

Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.

Stack and store metal wall panels horizontally on platforms or pallets, covered with suitable weather-tight and ventilated covering to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.

Retain strippable protective covering on metal wall panel until actual installation.

#### 1.7 PROJECT CONDITIONS

##### 1.7.1 Field Measurements

Verify locations of wall framing and opening dimensions by field measurements before metal wall panel fabrication and indicate measurements on Shop Drawings.

##### 1.7.2 Weather Limitations

Proceed with installation preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into wall system or building.

#### 1.8 WARRANTY

Warranty must conform to the Sample Warranty as reviewed and approved by the Contracting Officer.

##### 1.8.1 20 Year "No Dollar Limit" Warranty for Labor and Material

Furnish manufacturer's no-dollar-limit warranty for the metal wall panel system. The warranty period is to be no less than twenty (20) years from the date of Government acceptance of the work. The warranty is to be issued directly to the Government. The warranty is to provide that if within the warranty period the metal wall panel system shows evidence of corrosion, perforation, rupture or excess weathering due to deterioration of the wall panel system resulting from defective materials and correction of the defective workmanship is to be the responsibility of the metal wall panel system manufacturer. Repairs that become necessary because of defective materials and workmanship while metal wall panel system is under warranty are to be performed within 24 hours after notification, unless additional time is approved by the Contracting Officer. Failure to perform repairs within 24 hours of notification will constitute grounds for having emergency repairs performed by others and not void the warranty.

## PART 2 PRODUCTS

### 2.1 FABRICATION

Unless approved otherwise, fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated and specified performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel. Fabricate metal wall panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that

will seal weather-tight and minimize noise from movements within panel assembly.

#### 2.1.1 Sheet Metal Accessories

Fabricate flashing and trim to comply with recommendations in SMACNA 1793 that apply to the design, dimensions, metal, and other characteristics of item indicated:

- a. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- b. End Seams: fabricate nonmoving end seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- c. Sealed Joints: form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA 1793.
- d. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
- e. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA 1793 or by metal wall panel manufacturer for application, but not less than thickness of metal being secured.

#### 2.2 PANEL MATERIALS

##### 2.2.1 Aluminum Sheet

Roll-form aluminum wall panels to the specified profile, with  $f_y = 40$  ksi, .032 inches thickness and depth as indicated. Material must be plumb and true, and within the tolerances listed:

- a. Aluminum Sheet conforming to ASTM B209, AA ASD1 and AA ADM.
- b. Individual panels must have continuous length to cover the entire length of any wall area with no joints or seams and formed without warping, waviness, or ripples that are not part of the panel profile and free of damage to the finish coating system.
- c. Provide panels with thermal expansion and contraction consistent with the type of system specified.

##### 2.2.2 Factory Color Finish

Comply with NAAMM AMP 500 for recommendations for applying and designating finishes. Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

All panels are to receive a factory-applied Kynar 500/Hylar 5000 finish consisting of a baked-on top-coat with a manufacturer's recommended prime coat conforming to the following:

#### 2.2.2.1 Metal Preparation

Carefully prepare all metal surface for painting on a continuous process coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with acid rinse, and thorough drying.

#### 2.2.2.2 Prime Coating

Apply a base coat of epoxy paint, specifically formulated to interact with the top-coat, to the prepared surfaces by roll coating to a dry film thickness of 0.20 plus 0.05 mils. Prime coat must be oven cured prior to application of finish coat.

#### 2.2.2.3 Exterior Finish Coating

Roll coat the finish coating over the primer by roll coating to dry film thickness of 0.80 plus 5 mils (3.80 plus 0.50 mils for Vinyl Plastisol) for a total dry film thickness of 1.00 plus 0.10 mils (4.00 plus 0.10 mils for Vinyl Plastisol). Oven-cure finish coat.

#### 2.2.2.4 Interior Finish Coating

Apply a wash-coat on the reverse side over the primer by roll coating to a dry film thickness of 0.30 plus 0.05 mils for a total dry film thickness of 0.50 plus 0.10 mils. Oven-cured the wash coat.

#### 2.2.2.5 Color

Provide exterior finish color as selected by the Contracting Officer from the manufacturer's standard color chart.

#### 2.2.2.6 Physical Properties

Coating must conform to the industry and manufacturer's standard performance criteria as listed by the following certified test reports:

General:	ASTM D5894 and ASTM D4587
Abrasion:	ASTM D968
Adhesion:	ASTM D3359
Chalking:	ASTM D4214
Chemical Pollution:	ASTM D1308
Color Change and Conformity:	ASTM D2244
Creepage:	ASTM D1654
Cyclic Corrosion Test:	ASTM D5894
Flame Spread:	ASTM E84
Flexibility:	ASTM D522/D522M
Formability:	ASTM D522/D522M

Gloss at 60 and 85 degrees:	ASTM D523
Humidity:	ASTM D2247 and ASTM D714
Oxidation:	ASTM D610
Pencil Hardness:	ASTM D3363
Reverse Impact:	ASTM D2794
Salt Spray:	ASTM B117
Weatherometer:	ASTM G152, ASTM G153 and ASTM D822

### 2.3 MISCELLANEOUS METAL FRAMING

Cold-formed metallic-coated steel sheet conforming to ASTM A653/A653M and specified in Section 05 40 00 COLD-FORMED METAL FRAMING unless otherwise indicated.

#### 2.3.1 Fasteners for Miscellaneous Metal Framing

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to supporting members and substrates in accordance with the wall panel manufacturer's and ASCE 7 requirements.

### 2.4 FASTENERS

#### 2.4.1 General

##### 2.4.1.1 Exposed Fasteners

Provide corrosion resistant fasteners for wall panels, made of coated steel, aluminum, or nylon capped steel compatible with the sheet panel or flashing and of a type and size recommended by the manufacturer to meet the performance requirements and design loads.

Fasteners for accessories must be the manufacturer's standard. Provide an integral metal washer matching the color of attached material with compressible sealing EPDM gasket approximately 3/32 inch thick.

##### 2.4.1.2 Hidden Fasteners

Provide corrosion resistant fasteners recommended by the manufacturer to meet the performance requirements and design loads.

##### 2.4.1.3 Screws

Screws to be corrosion resistant coated steel, aluminum and/or stainless steel being the type and size recommended by the manufacturer to meet the performance requirements.

#### 2.4.1.4 Rivets

Rivets to be closed-end type, corrosion resistant coated steel, aluminum or stainless steel where watertight connections are required.

#### 2.4.1.5 Attachment Clips

Fabricate clips from steel hot-dipped galvanized in accordance with ASTM A653/A653M, Z275 G 90 or Series 300 stainless steel. Size, shape, thickness and capacity as required meeting the insulation thickness and design load criteria specified.

### 2.5 ACCESSORIES

#### 2.5.1 General

All accessories must be compatible with the metal wall panels. Sheet metal flashing, trim, metal closure strips, caps and similar metal accessories must not be less than the minimum thickness specified for the wall panels. Exposed metal accessories/finishes to match the panels furnished, except as otherwise indicated. Molded foam rib, ridge and other closure strips must be non-absorbent closed-cell or solid-cell synthetic rubber or pre-molded neoprene to match configuration of the panels.

#### 2.5.2 Rubber Closure Strips

Provide closed-cell, expanded cellular rubber conforming to ASTM D1056 and ASTM D1667; extruded or molded to the configuration of the specified wall panel and in lengths supplied by the wall panel manufacturer.

#### 2.5.3 Metal Closure Strips

Provide factory fabricated aluminum closure strips to be the same gauge and thickness, color, finish and profile of the specified wall panel.

#### 2.5.4 Joint Sealants

##### 2.5.4.1 Sealants and Caulking

Provide approved gun type sealants for use in hand- or air-pressure caulking guns at temperatures above 4 degrees C (or frost-free application at temperatures above 10 degrees F with minimum solid content of 85 percent of the total volume. Sealants must dry with a tough, durable surface skin which permit remaining soft and pliable underneath, providing a weather-tight joint. No migratory staining is permitted on painted or unpainted metal, stone, glass, vinyl, or wood.

Prime all joints receiving sealants with a compatible one-component or two-component primer as recommended by the wall panel manufacturer.

##### 2.5.4.2 Shop-Applied

Sealant for shop-applied caulking must be non-curing butyl compliant with AAMA 800 to ensure the sealant's plasticity at the time of field erection.

##### 2.5.4.3 Field-Applied

Sealant for field-applied caulking must be an approved gun grade, non-sag

one component polysulfide or two-component polyurethane with an initial maximum Shore A durometer hardness of 25, and conforming to ASTM C920, Type II. Color to match panel colors.

#### 2.5.4.4 Pressure Sensitive Tape

Provide pressure sensitive tape sealant, 100 percent solid with a release paper backing; permanently elastic, non-sagging, non-toxic and non-staining as approved by the wall panel manufacturer.

### 2.6 SHEET METAL FLASHING AND TRIM

#### 2.6.1 Fabrication

Shop fabricate sheet metal flashing and trim where practicable to comply with recommendations in SMACNA 1793 that apply to design, dimensions, metal, and other characteristics of item indicated. Obtain field measurements for accurate fit before shop fabrication.

Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

### 2.7 REPAIR OF FINISH PROTECTION

Repair paint for color finish enameled wall panel must be compatible paint of the same formula and color as the specified finish furnished by the wall panel manufacturer. Provide 5 quarts of repair paint matching the specified wall panels.

## PART 3 EXECUTION

### 3.1 EXAMINATION

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

Examine primary and secondary wall framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal wall panel manufacturer, UL, ASTM, ASCE 7 and as required for the geographical area where construction will take place.

Examine solid wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.

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

Submit to the Contracting Officer a written report, endorsed by Installer, listing conditions detrimental to performance of the Work. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

Clean substrates of substances harmful to insulation, including removing

projections capable of interfering with insulation attachment. Miscellaneous framing installation, including sub-purlins, girts, angles, furring, and other miscellaneous wall panel support members and anchorage must be according to metal wall panel manufacturer's written instructions.

### 3.3 WALL PANEL INSTALLATION

Provide full length metal wall panels, from sill to eave as indicated, unless otherwise indicated or restricted by shipping limitations. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement in accordance with MBMA MBSM.

Erect wall panel system in accordance with the approved erection drawings, the printed instructions and safety precautions of the manufacturer.

Sheets are not to be subjected to overloading, abuse, or undue impact. Bent, chipped, or defective sheets shall not be applied.

Sheets must be erected true and plumb and in exact alignment with the horizontal and vertical edges of the building, securely anchored, and with the indicated eave, and sill.

Work is to allow for thermal movement of the wall panel, movement of the building structure, and to provide permanent freedom from noise due to wind pressure.

Field cutting metal wall panels by torch is not permitted.

#### 3.3.1 Aluminum Wall Panels

Use aluminum or stainless-steel fasteners for exterior surfaces and aluminum or galvanized steel fasteners for interior surfaces.

#### 3.3.2 Anchor Clips

Anchor metal wall panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

#### 3.3.3 Metal Protection

Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal wall panel manufacturer.

#### 3.3.4 Joint Sealers

Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal wall panel manufacturer.

### 3.4 FASTENER INSTALLATION

Anchor metal wall panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

### 3.5 FLASHING, TRIM AND CLOSURE INSTALLATION

#### 3.5.1 General Requirements

Comply with performance requirements, manufacturer's written installation instructions, and SMACNA 1793. Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams to form permanently watertight and weather resistant.

Install sheet metal work is to form weather-tight construction without waves, warps, buckles, fastening stresses or distortion, and allow for expansion and contraction. Cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades is to be performed by sheet metal mechanics.

#### 3.5.2 Metal Flashing

Install exposed metal flashing at building corners, sills and eaves, junctions between metal siding and walling. Exposed metal flashing must be the same material, color, and finish as the specified metal wall panel.

Fasten flashing at a minimum of 8 inches on center, except where flashing is held in place by the same screws that secure covering sheets.

Flashing is to be furnished in at least 8 foot lengths. Exposed flashing is to have 1 inch locked and blind-soldered end joints, and expansion joints at intervals of not more than 16 feet.

Exposed flashing and flashing subject to rain penetration to be bedded in the specified joint sealant.

Isolate flashing which is in contact with dissimilar metals by means of the specified asphalt mastic material to prevent electrolytic deterioration.

Form drips to the profile indicated, with the edge folded back 1/2 inch to form a reinforced drip edge.

#### 3.5.3 Closures

Install metal closure strips at open ends of corrugated or ribbed pattern walls, and at intersection of wall and wall unless open ends are concealed with formed eave flashing; and in other required areas.

Install mastic closure strips at intersection of the wall with metal walling; top and bottom of metal siding; heads of wall openings; and in other required locations.

### 3.6 WORKMANSHIP

Make lines, arises, and angles sharp and true. Free exposed surfaces from visible wave, warp, buckle, and tool marks. Fold back exposed edges neatly to form a 1/2 inch hem on the concealed side. Make sheet metal exposed to the weather watertight with provisions for expansion and contraction.

Make surfaces to receive sheet metal plumb and true, clean, even, smooth, dry, and free of defects and projections which might affect the application. For installation of items not shown in detail or not covered by specifications conform to the applicable requirements of SMACNA 1793.

Provide sheet metal flashing in the angles formed where roof decks abut walls, curbs, ventilators, pipes, or other vertical surfaces and wherever indicated and necessary to make the work watertight.

### 3.7 ACCEPTANCE PROVISIONS

#### 3.7.1 Erection Tolerances

Erect metal wall panels straight and true with plumb vertical lines correctly lapped and secured in accordance with the manufacturer's written instructions.

#### 3.7.2 Leakage Tests

Finished application of metal wall panels are to be subject to inspection and test for leakage by request of the Contracting Officer, Architect/Engineer. Conduct inspection and tests at no cost to the Government.

Inspection and testing is to be made promptly after erection to permit correction of defects and the removal and replacement of defective materials.

#### 3.7.3 Repairs to Finish

Scratches, abrasions, and minor surface defects of finish may be repaired with the specified repair materials. Finished repaired surfaces must be uniform and free from variations of color and surface texture.

Repaired metal surfaces that are not acceptable to the project requirements and/or Contracting Officer are to be immediately removed and replaced with new material.

#### 3.7.4 Paint-Finish Metal Siding

Paint-finish metal siding will be tested for color stability by the Contracting Officer during the manufacturer's specified guarantee period.

Panels that indicate color changes, fading, or surface degradation, determined by visual examination, must be removed and replaced with new panels at no expense to the Government.

New panels will be subject to the specified tests for an additional year from the date of their installation.

### 3.8 FIELD QUALITY CONTROL

#### 3.8.1 Construction Monitoring

Make visual inspections as necessary to ensure compliance with specified requirements. Additionally, verify the following:

- a. Materials comply with the specified requirements.
- b. All materials are properly stored, handled and protected from damage. Damaged materials are removed from the site.
- c. Framing and substrates are in acceptable condition, in compliance with specification, prior to application of wall panels.

- d. Panels are installed without buckles, ripples, or waves and in uniform alignment and modulus.
- e. Side laps are formed, sealed, fastened or seam locked as required.
- f. The proper number, type, and spacing of attachment clips and fasteners are installed.
- g. Installer adheres to specified and detailed application parameters.
- h. Associated flashing and sheet metal are installed in a timely manner in accord with the specified requirements.

Provide five bound copies of Manufacturer's Field Reports to the Contracting Officer two weeks prior to project close-out.

### 3.9 CLEAN-UP AND DISPOSAL

Clean all exposed sheet metal work at completion of installation. Remove metal shavings, filings, nails, bolts, and wires from work area. Remove grease and oil films, excess sealants, handling marks, contamination from steel wool, fittings and drilling debris and scrub the work clean. Exposed metal surfaces must be free of dents, creases, waves, scratch marks, solder or weld marks, and damage to the finish coating.

Collect and place scrap/waste materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site; transport demolished materials from government property and legally dispose of them.

-- End of Section --

SECTION 08 56 19

PASS-THRU WINDOWS

1.1 SUMMARY

A. Section Includes:

1. Semi-Automatic pass, service and teller window units.
2. Glazing.

1.2 REFERENCES

A. American Architectural Manufacturers Association:

1. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
2. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.

B. ASTM International:

1. ASTM A27/A27M - Standard Specification for Steel Castings, Carbon, for General Application.
2. ASTM A 36/A 36M. - Standard Specification for Carbon Structural Steel.
3. ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings.
4. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
5. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
6. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
7. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
9. ASTM B221/B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
10. ASTM C1036 - Standard Specification for Flat Glass.
11. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
12. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
13. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics.
14. ASTM E488 - Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.
15. ASTM E699 - Standard Practice for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating of Building Components.
16. ASTM E2188 - Standard Test Method for Insulating Glass Unit Performance.
17. ASTM E2189 - Standard Test Method for Testing Resistance to Fogging in Insulating Glass Units.

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18. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
  19. ASTM F588 - Standard Test Methods for Resistance of Window Assemblies to Forced Entry Excluding Glazing.
  20. ASTM F2329 - Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
- C. California Model Building Security Ordinance:
1. CMBSO - Section 15.52.100, Tests CAWM 301-90, Forced Entry Resistance Tests for Windows.
- D. Consumer Products Safety Commission:
1. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing.
- E. CSA International - Canadian Standards Association:
1. CAN/CSA C22.2 No. 68-92 - Motor-Operated Appliances (Household and Commercial).
  2. CAN/CSA C22.2 No. 247 - Operators and Systems of Doors, Gates, Draperies and Louvers.
- F. DuPont Powder Coating Test Method:
1. DPC TM 10.219 - PCI Powder Smoothness.
- G. Florida Building Code:
1. See Miami-Dade County below.
- H. H.P. White Laboratory, Inc.:
1. HPW-TP0500.01:
    - a. Level V.
    - b. Level C Ballistics (.44 magnum).
  2. HPW-TP-0500.02 - Level B Ballistics (9mm).
- I. Miami-Dade County:
1. Air Infiltration Test, per FBC, TAS 202-94
  2. Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
  3. Water Resistance Test, per FBC, TAS 202-94
  4. Large Missile Impact Test per FBC, TAS 210-94
  5. Cyclic Wind Pressure Loading per FBC, TAS 203-94
  6. Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94
- J. National Association of Architectural Metal Manufacturers.
1. NAAMM No. 3 Finish: Ground unidirectional uniform finish obtained with 80 - 100 grit abrasive.
- K. SAE International:
1. AMS5511 - Steel, Corrosion-Resistant, Sheet, Strip, and Plate, 19Cr - 9.5Ni (304L), Solution Heat Treated.
  2. AMS5513 - Steel, Corrosion-Resistant, Sheet, Strip, and Plate 19cr 9.2Ni (SAE 30304) Solution Heat Treated.

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- L. Steel Structures Painting Council:
  - 1. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic and Type II - Organic).
- M. Underwriters Laboratory:
  - 1. UL 73 - Motor-Operated Appliances.
  - 2. UL 325 - Door, Drapery, Gate, Louver, and Window Operators and Systems.
  - 3. UL 752 - Ballistic Standards:
    - a. Level I MPSA 9mm.
    - b. Level III SPSA .44 Magnum.
  - 4. UL 1995 - Heating and Cooling Equipment.

### 1.3 PERFORMANCE REQUIREMENTS

- A. System Design: Design and size components to withstand dead loads and live loads caused by pressure and negative wind loads acting normal to plane of window as calculated in accordance with applicable code.
- B. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, and migrating moisture occurring within system, to exterior by weep drainage network.
- C. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with [inside] pane of glass and heel bead of glazing compound. [Position thermal insulation on exterior surface of air barrier and vapor retarder.]
- D. Provide glass and glazing materials for continuity of building enclosure vapor retarder and air barrier:
  - 1. To utilize the inner pane of multiple pane sealed units for the continuity of the air barrier and vapor retarder seal.
- E. Structural Design: Design glass and glazing in accordance with applicable codes for most critical combination of wind, snow, seismic, and dead loads.

### 1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures.
- B. Shop Drawings:
  - 1. Indicate configuration, sizes, rough-in, mounting, construction and glazing details as well as installation clearances and finishes.
- C. Product Data:
  - 1. Submit manufacturer's product data for specified Products indicating materials, operation characteristics, and finishes.
- D. Samples:
  - 1. Submit two samples, 4 x 4 inches (100 x 100 mm) in size illustrating metal finishes for each finish specified.

- E. Test Reports:
  - 1. [Indicate compliance with specified bullet resistance performance.]
- F. Manufacturer's Installation Instructions:
  - 1. Submit installation instructions with requirements to accommodate specific site conditions.

#### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum 10 years documented experience.
  - 1. Participates in a Quality Assurance validation Program.
    - a. Facility Audit.
- B. Installer: Company specializing in installation of window systems specified with minimum three years documented experience.

#### 1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01 60 00 - Product Requirements {01600 - Product Requirements}: Requirements for transporting, handling, storing, and protecting products.
- B. Ordering: To avoid construction delays comply with ordering instructions and lead time requirements as set by window system manufacturer.
- C. Pack window units and accessories in manufacturer's standard shipping containers and protective packaging. Deliver units in manufacturer's original packaging and unopened containers with identification labels intact.
- D. Store window units and accessories on raised blocks to prevent moisture damage protected from exposure to weather and vandalism.

#### 1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication and record on shop drawings.

#### 1.8 COORDINATION

- A. Coordinate work with adjacent materials specified in other Sections and as indicated on Drawings and approved shop drawings.

#### 1.9 WARRANTY

- A. Furnish manufacturer's standard warranty document, executed by an authorized Quikserv Corp. officer in which manufacturer agrees to repair or replace windows, drawers and air curtains that fail in materials or workmanship within specified warranty period. This warranty is in addition to, and not a limitation of other rights Owner has under the contract.
  - 1. Warranty Period:

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- a. One year parts and labor from date of installation.
2. Failures include, but are not limited to, the following:
  - a. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
  - b. Structural failures including deflections exceeding 1/4 inch.
  - c. Failure of welds.
  - d. Excessive air leakage.
  - e. Faulty operation of sliding window hardware.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Aluminum Extrusions: ASTM B221/B221M. Provide alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish, but not less than 22,000-psi (150-MPa) ultimate tensile strength and not less than 0.125 inch (3.2 mm) thick at any location for main frame and sash members.
- B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- C. Metallic-Coated Steel Sheet:
  1. ASTM A653/A653M, CS (Commercial Steel), Type B; with G90 (Z275)zinc (galvanized) coating designation.
  2. AMS5511, steel, corrosion-resistant, sheet, strip, and plate, 19Cr - 9.5Ni (304L), solution heat treated.
  3. AMS5513, steel, corrosion-resistant, sheet, strip, and plate 19cr 9.2Ni (SAE 30304) solution heat treated.
- D. Stainless Steel Sheet, Strip, Plate, and Flat Bars:
  1. ASTM A666, austenitic stainless steel, Type 304, stretcher-leveled standard of flatness.
  2. ASME SA-240/SA-240M, chromium and chromium-nickel stainless steel plate, sheet, and strip for general applications.
- E. Concealed Bolts: ASTM A307, Grade A unless otherwise indicated.
  1. Threaded or wedge type; galvanized ferrous castings, either ASTM A27/A27M cast steel or ASTM A47/A47M malleable iron. Provide bolts, washers, and shims as required; hot-dip galvanized per ASTM A153/A153M or ASTM F2329.
- F. Embedded Plate Anchors: Fabricated from steel shapes and plates, minimum 3/16 inch (4.8 mm) thick; with minimum 1/2-inch- (12.7-mm-) diameter, headed studs welded to back of plate..
- G. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- H. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil (0.76-mm) thickness per coat.

- I. Sealants: For sealants required within fabricated security windows, provide type recommended by manufacturer for joint size and movement. Sealant shall remain permanently elastic, nonshrinking, and nonmigrating.
- J. Gaskets: For gaskets required within fabricated security windows, provide type recommended by manufacturer for joint size and movement. Gaskets shall remain permanently elastic, nonshrinking, and nonmigrating.

## 2.2 WINDOW COMPONENTS

- A. Glass:
  - 1. Insulated Glass: 5/8 inch thick overall thickness.
- B. Track/Slides: Stainless steel ball bearing slides all windows and drawers.
- C. Miscellaneous Glazing Materials: Provide material, size, and shape complying with requirements of glass manufacturers, and with a proven record of compatibility with surfaces contacted in installation:
  - 1. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
  - 2. Setting Blocks: Elastomeric material with a Type A Shore durometer hardness of 85, plus or minus 5.
  - 3. Spacers: Elastomeric blocks or continuous extrusions with a Type A Shore durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
  - 4. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- D. Flashing.
- E. Welding Materials.
- F. Anchors, Clips, and Window Accessories: Stainless steel; hot-dip, zinc-coated steel or iron, of sufficient strength to withstand design pressure indicated.

## 2.3 SEMI-AUTOMATIC PASS, SERVICE AND TELLER WINDOW UNITS

- A. Manufacturers:
  - 1. Quikserv Corp.  
Projected, Semi-Automatic Bi-folding window unit offering a three-sided panoramic view.
    - a. Model PW-5 (Bi-Folding Window Unit)
      - 1) Service Opening: 14 inches (w) x 32 inches (h)
      - 2) Rough Opening: 28 1/8 inches (w) x 40 3/8 inches (h)
      - 3) Counter Space: 27 3/4 inches (w) x 21 inches (d)
      - 4) Operating Device: Push-Bar Pads.
      - 5) Glazing: 1/4 inch tempered glass.
      - 6) Finish: Clear.

## 2.4 GLAZING

- A. Insulating Glass:
  - 1. Insulating Glass: ASTM E2190 certified by Insulating Glass Certification Council and Insulating Glass Manufacturers Alliance; [with Low E coating on surface 2 and glass elastomer edge seal; purge interpane space with dry air; tested in accordance with ASTM E2188 for unit performance and ASTM E2189 for resistance to fogging.
    - a. Insulating Glass Unit Edge Seal Construction: Aluminum, bent and spot welded corners.
    - b. Double Pane Insulating Vision Glass (IG-DP):
      - 1) Total Unit Thickness: 5/8 inch.

## 2.5 SECURITY DEVICE ACCESSORIES

- A. Auto-Lock Handle: Stainless steel constructed auto-locking handle on all self-closing sliders to prevent intrusion.
- B. Hook-Lock: Maximum security Adams Rite style hook lock on all sliders.

## 2.6 FABRICATION

- A. Fabricate window to dimensions indicated on Drawings.
- B. Fabricate windows, drawers and accessories to provide a complete system for assembly of components and anchorage of window, drawers and accessories.
  - 1. Provide units that are reglazable from the secure side without dismantling the nonsecure side of framing.
  - 2. Prepare security windows for glazing unless preglazing at the factory is indicated.
- C. Provide weep holes and internal water passages for exterior security windows to conduct infiltrating water to the exterior.
- D. Rigidly fit and secure joints and corners with internal reinforcement. Make joints and connections flush, hairline, and weatherproof. Fully weld corners.
  - 1. Fabricate framing with manufacturer's standard, internal opaque armoring in thicknesses required for security windows to comply with ballistics-resistance performance indicated.
- E. Prepare components with reinforcement required for hardware.
- F. Welding: To greatest extent possible, weld before finishing and in concealed locations to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- G. Metal Protection: Separate dissimilar metals to protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

- H. Factory-cut openings in glazing for speaking apertures.
- I. Preglazed Fabrication: Preglaze window units at factory, where required for applications indicated.
- J. Weather Stripping: Factory applied.
- K. Bottom Sills: Stainless steel construction, no bottom tracks and no pop rivets.
- L. Handles: Stainless steel, manufacturer's standard profile and finish.

## 2.7 SHOP FINISHING

- A. Aluminum Finishes:
  - 1. Clear Anodized Aluminum Surfaces: AA-M10C22A31 non-specular as fabricated mechanical finish, medium matte chemical finish, and Architectural Class II 0.7 mils (0.018 mm) clear anodized coating.
    - a. Conform to AAMA 611
- B. Concealed Steel Items: [Galvanized in accordance with ASTM A123 to thickness Grade 85, 2.0 oz/sq ft (610 gm/sq m).
- C. Stainless Steel: 304 Stainless Steel with NAAMM No. 3 finish.
- D. Apply bituminous paint to concealed metal surfaces in contact with cementitious or dissimilar materials.
- E. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.
- F. Extent of Finish:
  - 1. Apply factory coating to all surfaces exposed at completed assemblies.
  - 2. Apply finish to surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
  - 3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.

## PART 3 EXECUTION

### EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify construction is ready to receive Products specified in this section.
- C. Verify rough openings are correct size and in correct location.
- D. Examine roughing-in for embedded and built-in anchors to verify actual locations of security window connections before security window installation.

- E. Inspect built-in and cast-in anchor installations, before installing security windows, to verify that anchor installations comply with requirements. Prepare inspection reports.
  - 1. Remove and replace anchors where inspections indicate that they do not comply with specified requirements. Reinspect after repairs or replacements are made.
  - 2. Perform additional inspections to determine compliance of replaced or additional work. Prepare anchor inspection reports.
- F. For glazing materials whose orientation is critical for performance, verify installation orientation.
- G. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Furnish frames and anchors to other sections as required for installation in surrounding partition and casework construction.

### 3.3 INSTALLATION

- A. Install Products in accordance with manufacturer's instructions.
- B. Align Products plumb, level and square.
- C. Rigidly secure Products to adjacent supporting construction.
- D. Glaze windows in accordance with manufacturer's instructions.
- E. Connect electrical components to power source.
- F. Protection: Where dissimilar metals will contact each other, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended in writing by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

### 3.4 ADJUSTING

- A. Adjust horizontal-sliding, transaction security windows to provide a tight fit at contact points for smooth operation and a secure enclosure.
- B. Remove and replace defective work, including security windows that are warped, bowed, or otherwise unacceptable.

### 3.5 CLEANING AND PROTECTION

- A. Remove protective material from factory finished surfaces.
- B. Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.

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- C. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant and window manufacturer.
- D. Clean metal and glass surfaces to polished condition.
  - 1. Lubricate sliding security window hardware.
  - 2. Lubricate transaction drawer hardware.
- E. Provide temporary protection to ensure that security windows are without damage at time of Substantial Completion.

END OF SECTION