HISTORIC AND DESIGN REVIEW COMMISSION

HDRC CASE NO:	2018-018
COMMON NAME:	Aztec Theater
ADDRESS:	104 N ST MARYS
LEGAL DESCRIPTION:	NCB 116 BLK LOT 2 THRU 9, & W 3.6 FT OF ALLEY
ZONING:	D, HS
CITY COUNCIL DIST.:	1
LANDMARK:	Aztec Theater
APPLICANT:	Russell Williams, RA/Overland Partners
OWNER:	Sam Panchevre/Aztec Family Group, LLC
TYPE OF WORK:	Exterior modifications, construction of a rooftop addition, construction of a cantilevered overlook
APPLICATION RECEIVED:	May 17, 2019
60-DAY REVIEW:	July 16, 2019
CASE MANAGER:	Edward Hall

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to:

- 1. Construct an overlook terrace on the north façade to extend over W Crockett Street.
- 2. Construct a rooftop addition to feature an overall height of approximately twenty-five (25) feet.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

1. Massing and Form of Residential Additions

A. GENERAL

i. Minimize visual impact—Site residential additions at the side or rear of the building whenever possible to minimize views of the addition from the public right-of-way. An addition to the front of a building would be inappropriate. *ii. Historic context*—Design new residential additions to be in keeping with the existing, historic context of the block. For example, a large, two-story addition on a block comprised of single-story homes would not be appropriate. *iii. Similar roof form*—Utilize a similar roof pitch, form, overhang, and orientation as the historic structure for additions. *iv. Transitions between old and new*—Utilize a setback or recessed area and a small change in detailing at the seam of the historic structure and new addition to provide a clear visual distinction between old and new building forms.

B. SCALE, MASSING, AND FORM

i. Subordinate to principal facade—Design residential additions, including porches and balconies, to be subordinate to the principal façade of the original structure in terms of their scale and mass.

ii. Rooftop additions—Limit rooftop additions to rear facades to preserve the historic scale and form of the building from the street level and minimize visibility from the public right-of-way. Full-floor second story additions that obscure the form of the original structure are not appropriate.

iii. Dormers—Ensure dormers are compatible in size, scale, proportion, placement, and detail with the style of the house. Locate dormers only on non-primary facades (those not facing the public right-of-way) if not historically found within the district.

iv. Footprint—The building footprint should respond to the size of the lot. An appropriate yard to building ratio should be maintained for consistency within historic districts. Residential additions should not be so large as to double the existing building footprint, regardless of lot size.

v. Height—Generally, the height of new additions should be consistent with the height of the existing structure. The maximum height of new additions should be determined by examining the line-of-sight or visibility from the street. Addition height should never be so contrasting as to overwhelm or distract from the existing structure.

2. Massing and Form of Non-Residential and Mixed-Use Additions

A. GENERAL

i. Historic context—Design new additions to be in keeping with the existing, historic context of the block. For example, additions should not fundamentally alter the scale and character of the block when viewed from the public right-of-way. *ii. Preferred location*—Place additions at the side or rear of the building whenever possible to minimize the visual impact on the original structure from the public right of way. An addition to the front of a building is inappropriate.

iii. Similar roof form—Utilize a similar roof pitch, form, and orientation as the principal structure for additions, particularly for those that are visible from the public right-of-way.

iv. Subordinate to principal facade—Design additions to historic buildings to be subordinate to the principal façade of the original structure in terms of their scale and mass.

v. Transitions between old and new—Distinguish additions as new without distracting from the original structure. For example, rooftop additions should be appropriately set back to minimize visibility from the public right-of-way. For side or rear additions utilize setbacks, a small change in detailing, or a recessed area at the seam of the historic structure and new addition to provide a clear visual distinction between old and new building forms.

B. SCALE, MASSING, AND FORM

i. Height—Limit the height of side or rear additions to the height of the original structure. Limit the height of rooftop additions to no more than 40 percent of the height of original structure.

ii. Total addition footprint—New additions should never result in the doubling of the historic building footprint. Full-floor rooftop additions that obscure the form of the original structure are not appropriate.

3. Materials and Textures

A. COMPLEMENTARY MATERIALS

i. Complementary materials—Use materials that match in type, color, and texture and include an offset or reveal to distinguish the addition from the historic structure whenever possible. Any new materials introduced to the site as a result of an addition must be compatible with the architectural style and materials of the original structure.

ii. Metal roofs—Construct new metal roofs in a similar fashion as historic metal roofs. Refer to the Guidelines for Alternations and Maintenance section for additional specifications regarding metal roofs.

iii. Other roofing materials—Match original roofs in terms of form and materials. For example, when adding on to a building with a clay tile roof, the addition should have a roof that is clay tile, synthetic clay tile, or a material that appears similar in color and dimension to the existing clay tile.

4. Architectural Details

A. GENERAL

i. Historic context—Design additions to reflect their time while respecting the historic context. Consider characterdefining features and details of the original structure in the design of additions. These architectural details include roof form, porches, porticos, cornices, lintels, arches, quoins, chimneys, projecting bays, and the shapes of window and door openings.

ii. Architectural details—Incorporate architectural details that are in keeping with the architectural style of the original structure. Details should be simple in design and compliment the character of the original structure. Architectural details that are more ornate or elaborate than those found on the original structure should not be used to avoid drawing undue attention to the addition.

iii. Contemporary interpretations—Consider integrating contemporary interpretations of traditional designs and details for additions. Use of contemporary window moldings and door surroundings, for example, can provide visual interest while helping to convey the fact that the addition is new.

FINDINGS:

- a. The historic structure at 104 N St Mary's, commonly known as the Aztec Theater was constructed in 1926 and features a brick façade with stone and decorative moldings. The structure currently features fire escapes on the north façade, a marquee canopy on N St Mary's Street and a prominent blade sign at the corner of N St Mary's and E Commerce. At this time, the applicant has proposed a redevelopment of the structure to feature retail space and an entertainment venue.
- b. CONCEPTUAL APPROVAL The applicant received conceptual approval for the construction of a rooftop addition, an exterior egress stair and an overlook terrace on January 17, 2018. Since that time, the applicant has reduced the scale of the proposed rooftop addition and has eliminated the previously proposed egress stair on the north façade.
- c. DESIGN REVIEW COMMITTEE This request was reviewed by the Design Review Committee on April 9, 2019. At that meeting, the Committee asked questions regarding the proposed materials and noted that the proposed rooftop rail should be subtle.
- d. OVERLOOK TERRACE Above W Crockett Street along the north façade of the structure, the applicant has proposed to construct an overlook terrace that will extend from the historic structure across W Crockett Street to the existing Aztec sculpture at the public right of way on the San Antonio River Walk side W Crockett. The applicant has proposed to reposition the existing Aztec sculpture by raising it to the height of the overlook terrace. The applicant has noted materials that include painted, perforated rail systems, painted steel columns and cast stone veneer to match the existing. Generally, staff finds the proposed overlook structure and its proposed materials to be appropriate.
- e. OVERLOOK TERRACE The applicant has proposed for the overlook terrace to feature a stair system to facilitate pedestrian traffic to and from the street level. Staff finds the proposed stair system to be appropriate; however, staff finds that the proposed stair should be installed in a manner that does not damage the historic masonry façade and does not interrupt pedestrian traffic on the sidewalk below. The applicant has noted that the stair will feature a structural system that is incorporated into that of the overlook terrace's system. Additionally, the applicant has noted that the staircase will feature approximately a four (4) inch separation from the historic structure's façade; however, tying to the historic structure's structural system may be required. If this is the case, staff finds that this should be done in a manner that is a least impactful to the historic structure as possible.
- f. FIRE ESCAPE REMOVAL The applicant has proposed to remove the existing fire escape staircase on the westernmost portion of the north façade. Staff finds the removal of this fire escape to be appropriate as it is a non-original element.
- g. ROOFTOP ADDITION At the top of the historic structure, the applicant has proposed to construct a rooftop addition that is to feature a total of approximately twenty-five (25) feet in height. Per the Guidelines for Additions 2.A., new additions should be designed to be in keeping with the existing, historic context of the block and should be located to minimize visual impact from the public right of way. Additionally, the Guidelines for Additions 1.B.i. notes that the height of a rooftop addition should not be more than forty (40) percent of the original height of the structure. Staff finds that the proposed addition would have minimal visible impacts to the Aztec Building when viewed from the street level. This is consistent with the Guidelines.
- h. ROOFTOP ADDITION The applicant has proposed materials that includes standing seam metal panels, painted, perforated metal railing systems, and glass curtain wall systems. Generally, the proposed materials are light in appearance in comparison to the historic structure's masonry walls and will present themselves subordinate to the historic structure; however, staff finds that the applicant should explore alternative cladding materials that complement the masonry of the historic structure.
- i. ROOFTOP ADDITION (Architectural Details) A proposed, the rooftop addition does not feature a symmetrical façade, an architectural detail that the historic structure has. Staff finds that the applicant should introduce a symmetrical façade on E Commerce, comparable to that of the historic structure, or align fenestrations and wall planes with the established symmetrical pattern of the Aztec Building.

RECOMMENDATION:

Staff recommends approval based on finding a through h with the following stipulations:

i. That the proposed overlook terrace's stairs be installed in a manner that does not damage the historic structure and does not interrupt the flow of pedestrian traffic on the sidewalks below. At least six (6) feet of uninterrupted sidewalk width should be provided on the sidewalk at all times. The applicant shall coordinate with the City of San Antonio Center City Development Office, Transportation and Capital Improvements and the Disability Access Office in regards to the street level details, width of public walkways and public access across the site.

- ii. That the applicant explore alternative cladding materials that complement the masonry of the historic structure.
- iii. That the applicant introduce a symmetrical façade on E Commerce, comparable to that of the historic structure, or align fenestrations and wall planes with the established symmetrical pattern of the Aztec Building.



AZTEC

HDRC PACKAGE — 17 MAY 2019

OVERLAND

TABLE OF CONTENTS

1. SITE CONTEXT

AERIALS + AZTEC THEATER

3D RENDERED PERSPECTIVES

AZTEC THEATER PLANS, SECTIONS, AND ELEVATIONS.

3. ROOFTOP BALLROOM 3D VIEWS

3D RENDERED PERSPECTIVES

DESIGN INTERVENTIONS AND HISTORIC INTEGRITY

4. TERRACE OVERLOOK EXHIBITS

3D RENDERED PERSPECTIVES

ARCHITECTURAL PLANS, SECTION, AND ELEVATIONS DRAWINGS

SITE CONTEXT VIEW-SHED COORDINATES + ELEVATION PHOTOGRAPHY VIEW POINTS



- NOTED MAJOR VIEW SHEDS AT STREET INTERSECTIONS IN 1 BLOCK RADIUS AS REQUESTED BY NPS



OVERLAND



Aerial view looking East



Aerial view looking South





Aerial view looking West

OVERLAND

SITE CONTEXT AERIAL



Aztec building view from St Mary's and Commerce St.



Aztec building frontage to Riverwalk



Interior view of Aztec lobby



Interior view of Aztec theater

SITE CONTEXT AZTEC THEATER



BIRDS EYE PERSPECTIVE

THE NEW ROOFTOP ADDITION IS A ONE LEVEL STRUC-TURE THAT IS RECESSED FROM THE EXISTING FACADE TO CREATE A DISTINCTION BETWEEN THE HISTORIC FACADE AND NEW ROOFTOP. AN OUTDOOR TERRACE SURROUNDS THE ROOFTOP ON THREE SIDES AND IS ACCESSED VIA ELEVATOR ALONG ST. MARY'S STREET.

THE ROOFTOP IS A SIMPLE PITCHED ROOF WITH 2 SKYLIGHTS. THE ROOF MATERIAL AND FACADE IS A STANDING SEAM METAL SIMILAR IN COLOR TO THE HISTORIC CANOPY AWNING ON THE LOWER LEVEL



BIRDS EYE PERSPECTIVE

THE NEW ROOFTOP ADDITION IS A ONE LEVEL STRUC-TURE THAT IS RECESSED FROM THE EXISTING FACADE TO CREATE A DISTINCTION BETWEEN THE HISTORIC FACADE AND NEW ROOFTOP. AN OUTDOOR TERRACE SURROUNDS THE ROOFTOP ON THREE SIDES AND IS ACCESSED VIA ELEVATOR ALONG ST. MARY'S STREET.

THE ROOFTOP IS A SIMPLE PITCHED ROOF WITH 2 SKYLIGHTS. THE ROOF MATERIAL AND FACADE IS A STANDING SEAM METAL SIMILAR IN COLOR TO THE HISTORIC CANOPY AWNING ON THE LOWER LEVEL



BIRDS EYE PERSPECTIVE

THE NEW ROOFTOP ADDITION IS A ONE LEVEL STRUC-TURE THAT IS RECESSED FROM THE EXISTING FACADE TO CREATE A DISTINCTION BETWEEN THE HISTORIC FACADE AND NEW ROOFTOP. AN OUTDOOR TERRACE SURROUNDS THE ROOFTOP ON THREE SIDES AND IS ACCESSED VIA ELEVATOR ALONG ST. MARY'S STREET.

THE ROOFTOP IS A SIMPLE PITCHED ROOF WITH 2 SKYLIGHTS. THE ROOF MATERIAL AND FACADE IS A STANDING SEAM METAL SIMILAR IN COLOR TO THE HISTORIC CANOPY AWNING ON THE LOWER LEVEL



RENDERED VIEW OF THE BUILDING WITH NEW ROOFTOP ADDITION

OVERLAND

DESIGN IMPACT ANALYSIS

STREET VIEW - N. ST. MARY'S STREET

FROM THE SOUTHERN SIDEWALK ON COMMERCE STREET (IN FRONT OF THE DRURY PLAZA)



RENDERED VIEW OF THE BUILDING WITH NEW ROOFTOP ADDITION

OVERLAND

DESIGN IMPACT ANALYSIS N FRONT OF THE DRURY PLAZA)



DESIGN INTERVENTION AND HISTORIC INTEGRITY



ELEVATION CROCKETT STREET





12

40'



ELEVATION COMMERCE STREET

40'



SECTION COMMERCE STREET

AZTEC



MATERIALS



SITE NOTES

---- PROPERTY LINE

1. REFER TO CIVIL PLANS FOR MUNICIPAL UTILITY CONNECTIONS

2. REFER TO MEP PLANS FOR CONNECTIONS TO EXISTING SERVICES



OVERLAND

PARTNERS | ARCHITECTS 203 E. Jones Ave., Suite 104 San Antonio, Texas 78215 TEL (210) 829-7003

Structural Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Mechanical, Electrical, and Plumbing Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Interior Designer Studio 11 Design 5646 Milton St #340 Dallas, TX 75206 TEL (214) 206-1131

Code Consultant Fire Protection Consulting Group 339 Sandalwood Lane San Antonio, TX 78216 TEL (210) 858-2389

HOTEL AZTEC

104 N ST MARY'S ST, SAN ANTONIO, TX, 78205

KEYPLAN

SITE PLAN

PRELIMINARY Not for regulatory approval, permit or construction.





PARTNERS ARCHITECTS 203 E. Jones Ave., Suite 104 San Antonio, Texas 78215 TEL (210) 829-7003

Structural Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Mechanical, Electrical, and Plumbing Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Interior Designer Studio 11 Design 5646 Milton St #340 Dallas, TX 75206 TEL (214) 206-1131

Code Consultant Fire Protection Consulting Group 339 Sandalwood Lane San Antonio, TX 78216 TEL (210) 858-2389

HOTEL AZTEC

104 N ST MARY'S ST, SAN ANTONIO, TX, 78205

___ $\backslash \mid$

KEYPLAN

FLOOR PLAN - LEVEL 00

PRELIMINARY Not for regulatory approval, permit or construction.





PARTNERS ARCHITECTS 203 E. Jones Ave., Suite 104 San Antonio, Texas 78215 TEL (210) 829-7003

Structural Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Mechanical, Electrical, and Plumbing Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Interior Designer Studio 11 Design 5646 Milton St #340 Dallas, TX 75206 TEL (214) 206-1131

Code Consultant Fire Protection Consulting Group 339 Sandalwood Lane San Antonio, TX 78216 TEL (210) 858-2389

HOTEL AZTEC

104 N ST MARY'S ST, SAN ANTONIO, TX, 78205



FLOOR PLAN - LEVEL 01

PRELIMINARY Not for regulatory approval, permit or construction.





PARTNERS ARCHITECTS 203 E. Jones Ave., Suite 104 San Antonio, Texas 78215 TEL (210) 829-7003

Structural Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Mechanical, Electrical, and Plumbing Engineer Arup 10370 Richmond Avenue Suite 475 Houston TX 77042 TEL (713) 783-2787

Interior Designer Studio 11 Design 5646 Milton St #340 Dallas, TX 75206 TEL (214) 206-1131

Code Consultant Fire Protection Consulting Group 339 Sandalwood Lane San Antonio, TX 78216 TEL (210) 858-2389

HOTEL AZTEC

104 N ST MARY'S ST, SAN ANTONIO, TX, 78205

____ $\backslash \mid$

KEYPLAN

FLOOR PLAN - LEVEL 02

PRELIMINARY Not for regulatory approval, permit or construction.





FLOORPLAN RIVER WALK LEVEL





E. COMMERCE ST.

FLOORPLAN GROUND LEVEL











FLOORPLAN THIRD LEVEL





FLOORPLAN TYPICAL LEVEL 4-5





FLOORPLAN TYPICAL LEVEL 6





FLOORPLAN ROOFTOP LEVEL





ST. MARY'S ST.



OVERLAND





VIEW FROM RIVER LEVEL

OVERLAND

DESIGN IMPACT ANALYSIS

RIVERWALK VIEW



DESIGN INTERVENTION AND HISTORIC INTEGRITY

25



VIEW FROM STREET LEVEL

OVERLAND

DESIGN IMPACT ANALYSIS

S. ST MARY'S STREET VIEW



DESIGN INTERVENTION AND HISTORIC INTEGRITY

26



VIEW FROM RIVER LEVEL

OVERLAND

DESIGN IMPACT ANALYSIS

RIVERWALK VIEW



DESIGN INTERVENTION AND HISTORIC INTEGRITY

27



SECTION AT OVERLOOK TERRACE

AZTEC


ELEVATION AT OVERLOOK TERRACE

29



ELEVATION AT OVERLOOK TERRACE

SECTION AT OVERLOOK TERRACE



OVERLAND



AZTEC

HDRC SUPPLEMENTAL PACKAGE — 04 JUNE 2019

OVERLAND

TABLE OF CONTENTS

1. OVERLOOK TERRACE

PLANS

VIEWSHEDS

3. 3D VIEWS + PRECEDENTS

3D RENDERED PERSPECTIVES

DESIGN INTERVENTIONS AND HISTORIC INTEGRITY

4. FACADE DIAGRAMS

SECTION AND ELEVATION DIAGRAMS





4

SITE CONTEXT VIEW-SHED COORDINATES + ELEVATION PHOTOGRAPHY VIEW POINTS



- NOTED MAJOR VIEW SHEDS AT STREET INTERSECTIONS IN 1 BLOCK RADIUS AS REQUESTED BY NPS



OVERLAND



VIEWSHEDS ESTABLISHED FROM EYE-HEIGHT AT LOCATIONS CALLED OUT ON PREVIOUS PAGE AND TRIANGULATED TO THE ROOFLINE. SHADED RED AREA INDICATES THE ROOF MASSING THAT CANNOT BE SEEN FROM STREET LEVEL GIVEN THE SIGHTLINES IN A ONE BLOCK RADIUS.

VIEWSHED ANALYSIS VIEWSHEDS COMPOSITE

VIEWSHED ANALYSIS DEVELOPMENT OF THE VIEWSHED"TENT



VIEWSHED 'TENT' IS A COMPOSITE OF THE VIEWSHEDS FROM THE PREVIOUS SHEET. THE FINISH FLOOR OF THE NEW ROOFTOP MASSING HAS BEEN LOWERED TO BE 54" BELOW THE EXISING PARAPET ROOFLINE TO CONCEAL AS MUCH OF THE ADDITION AS POSSIBLE. THE ROOF ADDITION IS SHAPED TO BE A SIMPLE PITCHED ROOF THAT HAS BEEN CAREFULLY PLACED BENEATH THE VIEW SHED TENT ALLOWING THE MASS TO BE UNSEEN FROM THE GROUND IN A 1 BLOCK RADIUS

OVERLAND



BIRDS EYE PERSPECTIVE

THE NEW ROOFTOP ADDITION IS A ONE LEVEL STRUC-TURE THAT IS RECESSED FROM THE EXISTING FACADE TO CREATE A DISTINCTION BETWEEN THE HISTORIC FACADE AND NEW ROOFTOP. AN OUTDOOR TERRACE SURROUNDS THE ROOFTOP ON THREE SIDES AND IS ACCESSED VIA ELEVATOR ALONG ST. MARY'S STREET.

THE ROOFTOP IS A SIMPLE PITCHED ROOF WITH 2 SKYLIGHTS. THE ROOF MATERIAL AND FACADE IS A STANDING SEAM METAL SIMILAR IN COLOR TO THE HISTORIC CANOPY AWNING ON THE LOWER LEVEL



BIRDS EYE PERSPECTIVE

THE NEW ROOFTOP ADDITION IS A ONE LEVEL STRUC-TURE THAT IS RECESSED FROM THE EXISTING FACADE TO CREATE A DISTINCTION BETWEEN THE HISTORIC FACADE AND NEW ROOFTOP. AN OUTDOOR TERRACE SURROUNDS THE ROOFTOP ON THREE SIDES AND IS ACCESSED VIA ELEVATOR ALONG ST. MARY'S STREET.

THE ROOFTOP IS A SIMPLE PITCHED ROOF WITH 2 SKYLIGHTS. THE ROOF MATERIAL AND FACADE IS A STANDING SEAM METAL SIMILAR IN COLOR TO THE HISTORIC CANOPY AWNING ON THE LOWER LEVEL



RENDERED VIEW OF THE BUILDING WITH NEW ROOFTOP ADDITION

DESIGN IMPACT ANALYSIS

STREET VIEW - N. ST. MARY'S STREET

FROM THE SOUTHERN SIDEWALK ON COMMERCE STREET (IN FRONT OF THE DRURY PLAZA)



RENDERED VIEW OF THE BUILDING WITH NEW ROOFTOP ADDITION

OVERLAND

DESIGN IMPACT ANALYSIS





EXISTING CONDITIONS

OVERLAND

DESIGN IMPACT ANALYSIS



ELEVATION ST. MARY'S

13

40'



ELEVATION COMMERCE STREET

40'



SECTION COMMERCE STREET

15

AZTEC







DESIGN PRECEDENT HAY ADAMS HOTEL, DC



ELEVATION CROCKETT STREET

4' RAILING ELEVATION ST. MARY'S

18

AZTEC

4' RAILING ELEVATION COMMERCE STREET

(ALTERNATE) RAILING ELEVATION ST. MARY'S

AZTEC 20

40

(ALTERNATE) RAILING ELEVATION COMMERCE STREET

22

©Copyright Overland Partners, Inc. 2017

OVERLAND PARTNERS 203 East Jones Avenue, Suite 104 San Antonio, Texas 78215 P 210.829.7003 www.overlandpartners.com

THE EMBEDDED POTENTIAL™

A Strategic Approach to Solving Problems and Capturing Opportunities

SECTION 057300

DECORATIVE METAL RAILINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exterior handrails guardrails with infill panels.
 - 2. Custom handrails and railings to match existing.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements:
 - 1. Design, fabricate, and install railing assemblies to resist following without damage or permanent set:
 - a. 50 pounds per linear foot applied in any direction at top, transferred via attachments and supports to building structure.
 - b. Concentrated 200 pound load applied in any direction at any point along top, transferred via attachments and supports to building structure.
 - c. Maximum deflection under loading: L/120.
 - 2. Concentrated and uniform loads do not need to be applied simultaneously.
 - 3. Perform design under direct supervision of Professional Structural Engineer licensed in State in which project is located, with minimum 2 years experience in work of this Section.
- B. Fabricate railings in accordance with ASTM E985.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
- B. Quality Control Submittals: Certificate of Compliance from Professional Structural Engineer performing system design.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Perform Work in accordance with ASTM E985.

1.5 WARRANTIES

A. Furnish manufacturer's 15 year warranty for finish of railing.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Steel:
 - 1. Sections: ASTM A36/A36M.
 - 2. Plate: ASTM A283.
 - 3. Pipe: ASTM A501.
 - 4. Tube: ASTM A500.
 - 5. Sheet: ASTM A1008/A1008M.
- B. Perforated Metal Panels (MTL-1): Pre-finished Perforated Metal Panel with 3 coat painted finish Steel, refer to Drawings.
- 2.2 ACCESSORIES
 - A. Anchors: Type best suited to application.

2.3 FABRICATION

- A. Fabricate in accordance with approved Shop Drawings.
- B. Fabricate railings with minimal joints, located symmetrically. Joint locations subject to Architect's approval.
- C. Fit and shop assemble railings in largest practical sizes for delivery to site.
- D. Fabricate railings with joints tightly fitted and secured. Furnish fittings to accommodate site assembly and installation.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where otherwise indicated.
- F. Supply components required for anchorage of railings. Fabricate anchors and related components of same material and finish as railing.
- G. Conceal fastenings where possible.
- H. Welding:
 - 1. Use welds for permanent connections where possible. Grind exposed welds smooth.
 - 2. Tack welds prohibited on exposed surfaces.
- I. Accommodate for expansion and contraction of members and building movement without damage to connections or members.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install railing system in accordance with approved Shop Drawings.
- B. Install components plumb and level, accurately fitted, free from distortion and defects.
- C. Provide anchors for connecting railings to supporting construction.
- D. Fit joints tight, flush, and hairline.

E. Welding:

- 1. Use welds for permanent connections where possible. Grind exposed welds smooth.
- 2. Tack welds prohibited on exposed surfaces.

F. Installation Tolerances:

- 1. Maximum variation from level or from indicated slopes: 1/4 inch in 10 feet, noncumulative.
- 2. Maximum offset from true alignment of abutting members: 1/16 inch.

3.2 ADJUSTING

A. Touch up minor scratches and abrasions to match shop-applied finish.

END OF SECTION

METAL WALL PANELS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Preformed metal wall panel system.
 - 2. Flashings, trim, anchorage, and accessories.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.
 - 2. Section 079200 Joint Sealants.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements: Design system to withstand:
 - 1. Live loads in accordance with Building Code.
 - 2. Minimum wind pressures in accordance with ASCE 7, with maximum allowable deflection of L/180, tested in accordance with ASTM E330.
 - 3. Movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Show configuration of panels, trim members, and closures.
 - 2. Product Data: Show system components including panels, trim, and accessories.
 - 3. Samples:
 - a. 3 x 3 inch finish samples showing available colors, on representative backing.
 - b. After color selection, submit 12 inch long panel samples in selected color.
 - 4. Warranty: Sample warranty form.
- 1.4 QUALITY ASSURANCE
 - A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.

1.5 DELIVERY, STORAGE AND HANDLING

A. Protect panels from contact with materials that could cause staining or discoloration of finish.

1.6 PROJECT CONDITIONS

A. Do not install panels on wet or frozen substrate.

1.7 WARRANTIES

A. Furnish manufacturer's 20 year warranty providing coverage against chipping, cracking, fading, or delamination of panel finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Contract documents are based on products by New Metals, Inc. (<u>www.newmetals.com</u>)

- B. Other Acceptable Manufacturers:
 - 1. Accurate Perforating. (<u>www.accurateperforating.com</u>)
 - 2. AEP-Span. (www.aepspan.com)
 - 3. MBCI. (www.mbci.com)
 - 4. Petersen Aluminum Corp. (<u>www.pac-clad.com</u>)
 - 5. Berridge Manufacturing Co. (<u>www.berridge.com</u>)
- C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Steel Sheet: ASTM A1008/A1008M.

2.3 ACCESSORIES

- A. Fasteners: 300 Series stainless steel, type best suited to application; head color to match panels where exposed, with neoprene gasketed washers.
- B. Panel Clips: Hot-dip galvanized steel, thermally responsive, designed to fit between two adjacent panels and secure both panels.
- C. Panel End Closures: Sponge neoprene, cut to fit panel configuration, minimum 1 inch depth.
- D. Joint Sealants: Specified in Section 079200.

2.4 FABRICATION

- A. Fabricate panels from minimum 0.125 inch thick steel sheet.
- B. Steel Panels:
 - 1. Source: New Metals Inc, or approved substitute.
 - 2. Patterns:
 - a. Solid
 - b. Perforated: 64 percent Open Area, Stagger Round Holes.
 - 3. Finish: AAMA 621, fluoropolymer coating containing minimum 70 percent PVDF resins, three coat custom color to be selected by Architect.
- C. Trim: Profiles as indicated or as required, fabricated from same material as panels.
- D. Roll form panels and trim to required profiles in longest practical lengths.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Install aligned, level, and plumb.
- C. Fasten panels to supports. Exposed fasteners permitted on trim members only.
- D. Locate panel joints over supports.
- E. Lap end joints 4 inches minimum.
- F. Install trim to maintain visual continuity of system.
- G. Install joint sealants and gaskets to prevent water penetration.

- H. Installation Tolerances:
 - 1. Variation from location: Plus or minus 1/4 inch.
 - 2. Variation from plane: 1/4 inch in 10 feet.

3.2 ADJUSTING

A. Touch up field cuts and abrasions on finished surfaces to match factory finish.

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal flashings and trim.
 - 2. Copings.
 - 3. Counterflashings over membrane roof base flashings.
 - 4. Counterflashings at roof mounted equipment and utility penetrations.

B. Related Sections:

- 1. Division 01: Administrative, procedural, and temporary work requirements.
- 2. Section 079200 Joint Sealants.

1.2 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Show locations, types and thicknesses of metal, profiles, dimensions, fastening methods, provisions for expansion and contraction, and joint details.
 - 2. Samples:
 - a. Each flashing and trim profile, minimum 12 inches long. Include corners where applicable.
 - b. 3 x 3 inch prefinished metal samples in specified color.

1.3 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Design, fabricate, and install metal copings in accordance with ANSI/SPRI ES-1.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Precoated Galvanized Steel Sheet:
 - 1. ASTM A755/A755M, Structural Quality, G90 galvanized coating class, 24 gage core steel unless noted otherwise.
 - 2. Finish: AAMA 621, fluoropolymer coating, containing minimum 70 percent PVDF resins, three coat custom color to be selected by Architect.
- B. Stainless Steel Sheet: ASTM A666, Type 304 or 316, 2D conventional annealed finish, 0.018 inch thick.

2.2 ACCESSORIES

- A. Solder: ASTM B32.
- B. Fasteners: Same material and finish as sheet metal, with neoprene gasketed washers where exposed.
- C. Joint Sealants: Specified in Section 079200.

2.3 FABRICATION

A. Fabricate components in accordance with SMACNA Manual.
- B. Fabricate copings and metal trim at Metal Wall and Roof Panels in Precoated Galvanized Steel Sheet.
- C. Fabricate counterflashings at roof membrane base flashings and equipment and utility penetrations in Stainless Steel Sheet.
- D. Solder shop formed joints except pop rivet and seal joints at prefinished metal. After soldering, remove flux and wash clean.
- E. Fabricate corners in single units with minimum 18 inch long legs.
- F. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- G. Form sections accurate to size and shape, square and free from distortion and defects.
- H. Provide for thermal expansion and contraction in sheet metal:
 - 1. Provide expansion joints in sheet metal exceeding 15 feet in running length.
 - 2. Place expansion joints at 10 feet on center maximum and maximum 2 feet from corners and intersections.
 - 3. Joint width: Consistent with types and sizes of materials, minimum width 1/4 inch.
- I. Fabricate expansion joints in metal copings with backing and cover plates formed to flashing profile, minimum 8 inches long.
- J. Unless otherwise indicated, provide minimum 3/4 inch wide flat lock seams; lap in direction of water flow.
- K. Fabricate cleats and starter strips of same material as sheet metal.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install flashing and sheet metal as indicated and in accordance with SMACNA Manual.
- B. Install cleats and starter strips before starting installation of sheet metal. Fasten at 6 inches on center maximum.
- C. Expansion Joints in Metal Copings and Fascias:
 - 1. Center backing plate between flashing pieces at end joints.
 - 2. Apply two continuous beads of joint sealant between backing plate and flashing sections at each end.
 - 3. Install flashing pieces with 1/2 inch expansion space at abutting ends; apply sealant to expansion space.
 - 4. Apply two continuous beads of joint sealant between cover plate and flashing sections at each end.
- D. Secure flashings with concealed fasteners where possible.
- E. Apply plastic cement between metal and bituminous flashings.
- F. Fit flashings tight, with square corners and surfaces true and straight.
- G. Seam and seal field joints.
- H. Separate dissimilar metals with bituminous coating or non-absorptive gaskets.

I. Reglets:

- 1. Install reglets true to line and level. Seal top of surface mounted reglet with joint sealant.
- 2. Install flashings into reglets to form tight fit. Secure with lead or plastic wedges at 9 inches on center maximum. Seal remaining space with joint sealant.
- J. Apply joint sealants as specified in Section 079200.

3.2 CLEANING

A. Clean sheet metal; remove slag, flux, stains, spots, and minor abrasions without etching surfaces.

SECTION 077600

ROOF PAVERS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof pavers.
 - 2. Support pedestals.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 SUBMITTALS

- A. Submittals for Review:
 - 1. Product Data: Manufacturer's data for pavers and pedestals showing physical properties and installation procedures.
 - 2. Samples: 6 x 6 inch paver samples in specified color.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 2 years documented experience in work of this Section.

PART 2 PRODUCTS

- 2.1 MANUFACTURERS
 - A. Contract Documents are based on products by Concrete Collaborative. (<u>www.concrete-</u> <u>collaborative.com</u>)
 - B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

- A. Roof Pavers:
 - 1. Description: Concrete paver with textured machine-ground surface.
 - 2. Thickness: 2 inches.
 - 3. Size: 24 inches x 48 inches.
 - 4. Compressive strength: Minimum 10,500 PSI, tested to ASTM C140.
 - 5. Freeze/thaw: No change in 25 cycles.

2.3 ACCESSORIES

- A. Paver Pedestals:
 - 1. Source: Bison Screwjack by Bison Innovative Products (<u>www.bisonscrewjack.com</u>) or approved substitute.
 - 2. Description:
 - a. Construction: Mineral filled high density copolymer polypropylene.
 - b. Height range: 0 to 16 inches.
 - c. Load bearing capacity: 1000 pounds per pedestal.
 - d. Integral 3/16 inch spacer tabs.
 - e. Rotating base: 7-7/8 inch diameter x 3/16 inch top wall thickness, 48 square inch bearing surface area.
 - f. Top: 5/32 inch thick, 29 square inch bearing surface area.
 - 3. Accessories: Provide base leveler plates, shims, and base pads as required.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install pavers and pedestals in accordance with manufacturer's instructions.
- B. Place paver pedestals at required locations and elevations.
- C. Support each corner of each paver.
- D. Adjust pavers to achieve a level and smooth top surface.
- E. Install pavers with uniform, straight joints.
- F. Accurately cut pavers to fit at perimeter and around penetrations without voids.
- G. After final pedestal adjustments are made, fill pedestals with cementitious mix.
- H. Allowable Tolerances:
 - 1. Maximum variation from level: Plus or minus 1/4 inch in 10 feet.

SECTION 084113

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 GENERAL

- 1.1 SUMMARY
 - A. Section Includes:
 - 1. Aluminum entrance doors and frames.
 - 2. Aluminum framed glazed storefronts.
 - 3. Glass infill panels.
 - 4. Door hardware.
 - B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.
 - 2. Section 079200 Joint Sealants.
 - 3. Section 087100 Door Hardware.
 - 4. Section 088000 Glazing.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements: Design exterior systems to withstand:
 - 1. Design wind pressure in accordance with ASCE 7, with maximum allowable deflection of L/175, tested in accordance with ASTM E330.
 - 2. Movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.
 - 3. Movement between storefront and adjacent construction.
 - 4. Dynamic loading and release of loads.
 - 5. Deflection of supports.
 - 6. Overhead structure deflection of 1/2 inch.
- B. Performance Requirements:
 - 1. Air infiltration, tested to ASTM E283.
 - a. Entrances:
 - 1) Single door: Maximum 0.5 CFM per minute per linear foot of perimeter crack, at static pressure differential of 6.24 PSF.
 - 2) Pairs of doors: Maximum 1.0 CFM per minute per linear foot of perimeter crack, at static pressure differential of 6.24 PSF.
 - b. Storefront: 0.06 CFM per square foot of fixed area at static pressure differential of 6.24 PSF.
 - 2. Water infiltration: No uncontrolled water leakage, tested to ASTM E331 at minimum test pressure of 6.24 PSF for inswing doors and 8.0 PSF for outswing doors and storefront.
 - 3. Uniform structural loading: No glass breakage or permanent damage to fasteners or system components, tested to ASTM E330 at 1.5 times design pressure.
 - 4. Thermal transmittance due to conduction (Uc): Maximum 0.60, tested to AAMA 1503 on two 6'-0" x 6'-0" units with 1 inch clear insulating glass.
 - 5. Condensation resistance factor (CRF): Minimum 50, tested to AAMA 1503.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, trim, sealers, hardware, and accessories.
 - 2. Samples: 3 x 3 inch coating samples showing available colors.

- B. Quality Control Submittals:
 - 1. Test Reports: Certified results of previous tests by a recognized independent laboratory substantiating compliance with specified design and performance criteria, current within past 5 years.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Conform to applicable accessibility code for locating hardware and for door opening force requirements.
- 1.5 DELIVERY, STORAGE AND HANDLING
 - A. Handle products in accordance with AAMA CW-10.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contract documents are based on products by Kawneer Co., Inc. (<u>www.kawneer.com</u>)
- B. Other Acceptable Manufacturers:
 - 1. EFCO Corporation. (www.efcocorp.com)
 - 2. Oldcastle BuildingEnvelope. (www.oldcastlebe.com)
 - 3. Tubelite, Inc. (www.tubeliteinc.com)
 - 4. YKK AP America, Inc. (<u>www.ykkap.com</u>)
- C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

- A. Aluminum:
 - 1. Extrusions: ASTM B221, 6063-T5 alloy and temper.
 - 2. Sheet: ASTM B209, alloy and temper best suited to application.

2.3 COMPONENTS

- A. Entrances Doors: Medium stile configuration with nominal 3-1/2 inch vertical stiles and top rail and 10 inch bottom rail, thermally broken.
- B. Storefront:
 - 1. Source: Trifab Versaglaze 451T by Kawneer or approved substitute.
 - 2. Description: Flush glazing system designed to receive 1 inch glass by means of elastomeric gaskets; 2 inch face width x 4-1/2 inch depth, front glass application, thermally broken.
- C. Door Hardware: Specified in Section 087100.

2.4 ACCESSORIES

- A. Fasteners:
 - 1. Series 300 stainless steel for wet locations and exposed fasteners.
 - 2. Stainless or fluoropolymer coated steel for other locations.
- B. Joint Sealers: Specified in Section 079200.
- C. Glass and Glazing Accessories: Specified in Section 088000.
- D. Weatherstripping: Replaceable, nonporous synthetic wool pile type.

2.5 FABRICATION

- A. Fabricate with minimal clearances and shim spaces around perimeter.
- B. Accurately fit and secure joints and intersections. Make joints flush, hairline, and weathertight.
- C. Fabricate in largest practical units.
- D. Conceal fasteners and attachments from view.
- E. Fabricate fascias, covers, closures, flashings, and trim members from same material as storefront.
- F. Fabricate aluminum components with integral low conductance thermal barrier located between exterior and interior exposed components that eliminates metal-to-metal contact.

G. Doors:

- 1. Mechanically fastened and welded corner construction.
- 2. Fabricate stiles and rails of minimum 0.188 inch thick extrusions and glass stops from minimum 0.050 inch thick extrusions.
- 3. Provide weatherstripping at door head, jambs, meeting stiles, and sills.
- 4. Prepare with internal reinforcements for door hardware.

2.6 FINISHES

- A. Aluminum: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins, three coat system, custom color to be selected by Architect.
- B. Apply bituminous coating to aluminum surfaces in contact with cementitious materials.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Install components plumb and level, in proper plane, free from warp and twist.
- C. Anchor to supporting construction.
- D. Set thresholds and sill members exposed to weather in mastic and secure.
- E. Install hardware using templates provided by manufacturer.
- F. Install glass and accessories in accordance with Section 088000.
- G. Installation Tolerances:
 - 1. Maximum variation from plumb or level: 1/8 inch in 3 feet or 1/4 inch in any 10 feet, whichever is less.
 - 2. Maximum misalignment of members abutting end to end: 1/32 inch.
 - 3. Sealant space between framing members and adjacent construction: 1/2 inch plus or minus 1/8 inch.

3.2 FIELD QUALITY CONTROL

1.

- A. Testing and Inspection Services:
 - At beginning of installation, Architect will select one location for field testing:
 - a. Test specimen size: Minimum 100 square feet.
 - b. Include two glass panels, perimeter sealers, splices, and frame intersections.

- c. Perform water infiltration testing in accordance with AAMA 501.2:
 - 1) Test pressure: 30 to 35 PSF.
 - 2) Allowable water infiltration: None.
- d. Perform air infiltration testing in accordance with AAMA 503:
 - 1) Minimum test pressure: 2/3 of laboratory test pressure with minimum pressure of 4.18 PSF.
 - 2) Maximum allowable rate of air leakage: 1.5 times laboratory test rate.
- e. If test area fails to meet specified air or water infiltration testing:
 - 1) Submit description of proposed remedial work to Architect.
 - 2) Complete remedial work on test specimen and repeat testing.
 - 3) When test results meet specified requirements, incorporate remedial work into other work on Project.
- 2. When installation is 50 percent complete, Architect will select one additional locations for field testing.
- 3. For each area with failing test results, Architect will select one additional locations for field testing.

3.3 ADJUSTING

- A. Adjust hardware for smooth operation.
- B. Adjust doors to operate with maximum opening forces in accordance with applicable accessibility code.
- C. Touch up minor scratches and abrasions to match original finish.
- D. Adjust weatherstripping to contact appropriate surfaces and form weather seal.

SECTION 084413

GLAZED ALUMINUM CURTAIN WALLS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal framed glazed curtain wall system.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.
 - 2. Section 079200 Joint Sealants.
 - 3. Section 088000 Glazing.

1.2 SYSTEM DESCRIPTION

- A. Curtain Wall System: Tubular aluminum sections with self supporting framing, factory prefinished, vision glass, glass spandrel infill, and related flashings, anchorage, and attachment devices.
- B. Glazing Method: Structural Silicone Glazed.
- C. Design Requirements:
 - 1. Design curtain wall system to withstand:
 - a. Live and dead loads in accordance with Building Code.
 - b. Design wind pressure in accordance with ASCE 7 and Building Code.
 - c. Concentrated 250 pound live load applied at any point on aluminum framing members.
 - d. Movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.
 - e. Movement between curtain wall system and adjacent construction.
 - f. Dynamic loading and release of loads.
 - g. Deflection of supports.
 - 2. Not permitted: Vibration harmonics, wind whistles, noises caused by thermal movement, and damage, loosening, weakening, or opening of components of system.
 - 3. Design system under direction of Professional Structural Engineer licensed in State in which Project is located, with minimum 2 years experience in work of this Section.
- D. Deflection and Stress Limits:
 - 1. Normal to plane of glass, deflection of framing members shall not exceed L/175 L/240 L/360 or 3/4 inch, whichever is less. Where joint sealant joint occurs between framing members and building elements, deflection of framing members shall not exceed one half of joint width, or less if required by joint sealant manufacturer.
 - 2. In plane of glass, deflection of framing members shall not reduce glass bite below 75 percent of design dimension, and shall not reduce glass edge clearance below 25 percent of design dimension or 1/8 inch, whichever is greater. Restrict deflection further if required for assembly and fit of components.
 - 3. At connection points of framing members to anchors, anchor deflection in any direction shall not exceed 1/16 inch.
 - 4. Tensile or shear stress in structural silicone sealant joints: Maximum 20 PSI or less if required by sealant manufacturer. Do not use structural silicone to support glass dead load in shear. Where structural silicone supports wind pressure in tension and shear, disregard shear contribution.
- E. Performance Requirements:
 - 1. Air infiltration: Maximum 0.06 CFM per square foot, tested to ASTM E283 at pressure differential across assembly of 6.24 PSF.
 - 2. Water penetration: No water penetration as defined in AAMA 501, tested to ASTM E331 at minimum 12.0 PSF.

- 3. Uniform structural loading: No glass breakage or permanent damage to fasteners or system components, tested to ASTM E330 at 1.5 times design pressure.
- 4. Thermal transmittance due to conduction (Uc): Maximum 0.60, tested to AAMA 1503.
- 5. Condensation resistance factor (CRF): Minimum 50, tested to AAMA 1503.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings Show:
 - a. Joining techniques, provision for expansion and contraction, anchorage details, and framing member profiles, elevations, and details.
 - b. Materials and finishes.
 - c. Relative layout of adjacent and supporting construction.
 - d. Glass, setting blocks, jamb blocking, and glazing seals.
 - e. Weep drainage network.
 - f. Joint sealants, backer rods, bond breakers, and primers.
 - g. Loads applied to structure: Location, direction, and magnitude.
 - 2. Samples:
 - a. 3 x 3 inch coating samples showing available colors.
 - b. 12 inch long aluminum framing system samples for each profile, showing cross section and finish.
 - 3. Warranty: Sample warranty form.
- B. Quality Control Submittals:
 - 1. Test Reports: Certified results of previous tests by a recognized independent laboratory substantiating compliance with specified design and performance criteria, current within past 5 years.
 - 2. Welder Qualifications: As required by AWS D1.1/D1.1M and D1.2/D1.2M.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 3 years documented experience in work of this Section.
- B. Welder Qualifications: AWS D1.1/D1.1M and D1.2/D1.2M.

C. Mockup:

- 1. Size: 4 feet wide x 8 feet high.
- 2. Include attachments, framing, glazing, trim, and sealants.
- 3. Locate where directed.
- 4. Approved mockup may remain as part of the Work.

1.5 WARRANTIES

A. Furnish manufacturer's 10 year warranty providing coverage against water leakage through curtain wall system and reduction of performance.

PART 2 PRODUCTS

- 2.1 MANUFACTURERS
 - A. Contract documents are based on products by Kawneer Co., Inc. (<u>www.kawneer.com</u>)
 - B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

- A. Curtain Wall System:
 - 1. Source: 1600UT Wall System 1 Curtain Wall by Kawneer or approved substitute.
 - 2. Size: 2-1/2 inch sightline x depth as indicated in the Drawings.

- B. Aluminum Components: Alloy and temper best suited to application.
 - 1. Extrusions: ASTM B221.
 - 2. Sheet: ASTM B209.
 - 3. Castings: ASTM B85.
- C. Steel Shapes: ASTM A36/A36M.
- D. Glass and Glazing Accessories: Specified in Section 08 8000.

2.3 ACCESSORIES

- A. Fasteners:
 - 1. Series 300 stainless steel for wet locations and exposed fasteners.
 - 2. Stainless or corrosion resistant coated steel for other locations.
- B. Joint Sealants:
 - 1. Perimeter: Specified in Section 07 9200.
 - 2. Internal: ASTM C920, Type S, Grade NS, Class 25, Uses NT, M, A, and O; single component silicone, non sag, plus or minus 25 percent movement capability.
- C. Anchors: Cast iron, malleable iron, or steel.
- D. Primer Paint: Zinc rich type.

2.4 FABRICATION

- A. Fabricate with minimum clearances and shim spaces around perimeter, yet enabling installation and dynamic movement.
- B. Accurately fit and secure joints and intersections. Make joints flush, hairline, and weathertight.
- C. Fabricate in largest practical units.
- D. Conceal fasteners and attachments from view.
- E. Reinforce framing members with internal steel when required to support imposed loads.
- F. Fabricate so that components will not be excessively strained under normal conditions of use.
- G. Provide slotted holes for erection adjustment.
- H. Fabricate fascias, covers, closures, flashings, and trim members from same material as curtain wall.
- I. Make provision in design to drain to exterior leakage of water occurring at joints and condensation taking place within construction. Provide gutters at horizontals at bottom of glass; weep to exterior through baffled weep holes.
- J. Fabricate aluminum components with integral low conductance thermal barrier located between exterior and interior exposed components that eliminates metal-to-metal contact.
- K. Locate primary framing member interface seal at inboard glass line.
- L. Vent glazing cavity to exterior so that pressure differentials during driving rain conditions will not drive rain past outer glazing cap.
- M. Welding to conform to AWS D1.1/D1.1M and D1.2/D1.2M.

2.5 FINISHES

- A. Aluminum: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins, three coat system, custom color to be selected by Architect.
- B. Ferrous Metals: Hot dip galvanized.
- C. Apply bituminous coating to aluminum surfaces in contact with cementitious materials.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Install components plumb and level, in proper plane, free from warp and twist.
- C. Anchor to supporting construction.
- D. Weld adjustable anchorage connections after curtain wall is properly positioned. Perform welding in accordance with AWS D1.1/D1.1M and D1.2/D1.2M.
- E. Compensate for predictable conditions that could cause system to exceed allowable tolerances.
- F. Employ reinforcing steel members if required. If temporary braces or erection clips are used, prevent damage to exposed surfaces.
- G. Install glass and accessories in accordance with Section 088000.
- H. Installation Tolerances:
 - 1. Variation from plane or locations shown on Shop Drawings: Maximum 1/8 inch in 10 feet of length or 1/2 inch in any total length.
 - 2. Offset from true alignment between two identical members abutting end to end in line: Maximum 1/32 inch.
 - 3. Joint sealant space between curtain wall and adjacent construction: 1/4 inch plus or minus 1/8 inch.

3.2 FIELD QUALITY CONTROL

A. Testing and Inspection Services:

- 1. At beginning of installation, Architect will select one location for field testing:
 - a. Test specimen size: Approximately 100 square feet.
 - b. Include two glass panels, perimeter sealants, splices, and frame intersections.
 - c. Perform air infiltration testing in accordance with ASTM E783 with allowable rate of air leakage of 1.5 times specified laboratory test rate to maximum of 0.09 cubic feet per minute per square foot of fixed wall area.
 - d. Perform water infiltration testing in accordance with ASTM E1105 at minimum uniform and cyclic static air pressure difference of 0.67 times specified laboratory test rate with minimum of 12 PSF.
 - e. If test area fails to meet specified air or water infiltration testing:
 - 1) Submit description of proposed remedial work to Architect.
 - 2) Complete remedial work on test specimen and repeat testing.
 - 3) When test results meet specified requirements, incorporate remedial work into other work on Project.
- 2. When installation is 50 percent complete, Architect will select one additional location for field testing.
- 3. For each area with failing test results, Architect will select one additional location for field testing.

3.3 ADJUSTING

A. Touch up minor scratches and abrasions on finished surfaces to match factory finish.

OVERLAND

©Copyright Overland Partners, Inc. 2017

OVERLAND PARTNERS 203 East Jones Avenue, Suite 104 San Antonio, Texas 78215 P 210.829.7003 www.overlandpartners.com

THE EMBEDDED POTENTIAL™

A Strategic Approach to Solving Problems and Capturing Opportunities

