JENSEN BEACH HIGH SCHOOL PARTIAL ROOF REPLACEMENT: BUILDING 6

MARTIN COUNTY SCHOOL DISTRICT 100% CONSTRUCTION DOCUMENTS

ARCHITECTURAL DESIGN CONSULTANT:

HARVARD JOLLY ARCHITECTURE

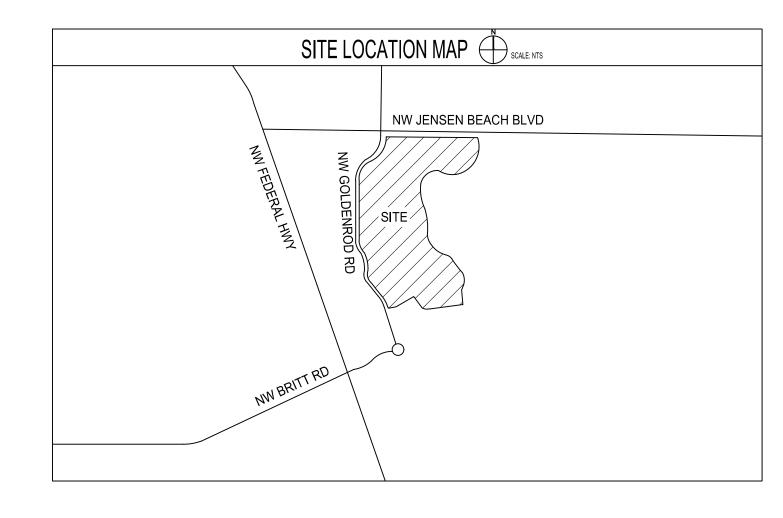
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PROJECT NARRATIVE	
THIS PROJECT INCLUDES THE PARTIAL ROOF REPLACEMENTS AT JENSEN BEACH HIGH SCHOOL, BUILDING 6, LOCATED IN MARTIN COUNTY SCHOOL DISTRICT. THE PARTIAL REPLACEMENT OF THE ROOF SHALL BE IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS SET FORTH IN THESE DOCUMENTS AND FROM DIRECTION GIVEN FROM THE MARTIN COUNTY SCHOOL DISTRICT. THE WORK INVOLVED WILL INCLUDE BUT IS NOT LIMITED TO THE REMOVAL OF THE EXISTING ROOF PARTIALLY OVER BUILDING 6 AS REQUIRED. NEW CONSTRUCTION IS SET FORTH IN THE DOCUMENTS AS REQUIRED TO INSTALL THE NEW ROOF OVER A PORTION OF BUILDING 6. ALL AREAS, REGARDLESS OF LOCATION, WILL BE REQUIRED TO BE REPAIRED IF DISTURBED BY THE CONSTRUCTION. CONTRACTOR TO REVIEW ALL AS-BUILT DOCUMENTS AND EXISTING FIELD CONDITIONS BEFORE COMMENCING CONSTRUCTION AND VISIT THE SITE TO RECOGNIZE	_
THE AREAS WITHIN THE SCOPE OF WORK.	
ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE MARTIN COUNTY SCHOOL DISTRICT STANDARDS, APPLICABLE CODES AND AUTHORITY HAVING JURISDICTION.	

TO THE BEST OF OUR KNOWLEDGE, THESE DRAWINGS AND PROJECT MANUAL ARE COMPLETE AND COMPLY WITH THE MINIMUM REQUIREMENTS

ARCHITECT'S STATEMENT OF COMPLIANCE:

OF THE 2017 FLORIDA BUILDING CODE SIXTH EDITION

CHAIR VICE CHAIR MEMBER MEMBER MEMBER

SUPERINTENDENT

SHEET NO.	TITLE	ORIGINAL DATE	REVISION NO.	LATEST REVISION DATE
	ARCHITECTURAL			
G-001	COVER SHEET & INDEX	02/22/19		
G-002	SPECIFICATIONS	02/22/19		
G-003	SPECIFICATIONS	02/22/19		
A-100	OVERALL SITE PLAN	02/22/19		
A-101	PARTIAL ROOF DEMOLITION PLAN	02/22/19		
A-102	PARTIAL ROOF PLAN & DETAILS	02/22/19		
	STRUCTURAL			
S01	GENERAL NOTES & SPECIFICATIONS	02/22/19		
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Comm. No:	16025.08					
Date:	02/22/2019					
Drawn:	MFH					
Re	Revisions					
No. Date	Note					

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDIN CODES.



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G-001

The contractor and subcontractors shall visit the site and verify all field conditions with the drawings and specifications. Inconsistent information shall be reported to the Architect prior to submitting the bid.

3. The project shall be constructed in accordance with the Florida Building Code (FBC) edition current at the time of issuance of permits. The contractor shall comply with all federal, state and municipal laws and ordinances. The contractor shall take all necessary precautions for the safety of the employees on the work and shall comply with all applicable OSHA provisions.

4. The contractor, by accepting this contract, guarantees that he will replace and make good any

and all work furnished by him which may become defective within one (1) year of the date of substantial completion, not due to ordinary wear and/or carelessness by the Owner. This shall include the repair of any other items that were damaged by the defective work or its repair. This

work shall be done at the convenience of the Owner and at no additional cost. The contractor shall obtain and maintain all required insurance which shall include, but is not limited to, the following: automobile liability, workmen's compensation, general liability, broad form property damage, personal injury, etc

6. The contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures and the project's compliance with the drawings and specifications.

All materials shall be new unless noted otherwise and both workmanship and materials shall be of good quality. Like materials shall be obtained from the same manufacturer, supplier and dye lot to ensure aesthetic and functional continuity of materials. The contractor shall furnish satisfactory evidence as to the kind and quality of materials used. Materials shall be as noted, unless approved as an acceptable alternate. Information for substitutions shall be submitted in duplicate with a written request that states the proposed change and that the proposed materials are as egual to or better than the specified material or product. Requests for substitutions shall be submitted prior to the beginning of the work with sufficient time allowed for their review.

8. The contractor shall coordinate all trades so that mechanical equipment and spaces are used in the most efficient way possible for installation, as well as service access. All trades shall receive a — complete set of drawings and information that affects their area of work. Any conflicts are to be reported to the Architect prior to the beginning of work.

9. After the award of the contract, the contractor shall submit a detailed schedule of the work to be done. This schedule is subject to approval and shall not exceed the stipulated contract time for

10. The contractor shall submit for approval detailed shop drawings and product information for the following items: windows, doors, non load bearing studs, gypsum drywall, exterior and interior finishes, toilet accessories, mechanical equipment, plumbing fixtures, and electrical fixtures. All items shall be submitted in duplicate in both a reproducible and an electronic format. Items shall be submitted with enough time for an adequate review.

11. It is the intent of the Architect that this work be in conformance with the building authorities having jurisdiction over this work and occupancy. All contractors shall execute their work in compliance with all codes adopted by the local authority and/or listed on these drawings. All work shall be executed under proper building permits as required by the authorities having jurisdiction

12. It is the intent of the Architect that this project be executed in compliance with the latest editions of the State of Florida Building Code - Building and Energy Efficiency Code for Building Construction Sixth Edition (2017).

13. Prior to commencing work, the contractor shall verify location of all equipment and utility

14. Cleaning: remove rubbish, debris and worker's food items from the job-site on a minimum

15. Completed project shall be handed over to Owner clean with the removal of any and all stains, dust, dirt and paint.

16. The contractor shall field measure all distances and clearances prior to commencement of new work or ordering of materials. Any deviations from the construction documents shall be reported to the Architect prior to proceeding with that portion of work. The contractor shall not scale any drawings within the construction documents. Any discrepancies shall be resolved by the

17. Unless specifically noted otherwise within the construction documents, install all material/products for this project in strict accordance with the manufacturer's latest published specifications / recommendations.

18. The contractor is to provide all the supplementary materials required to properly install, support, brace and shore all building components within the scope of the project

19. Contractor shall protect all finishes from damage or unnecessary soiling throughout the — duration of construction. All material damaged by the contractor shall be replaced by the contractor at no cost to the Owner.

Where reference is made to "building systems", this shall include all electrical, plumbing, HVAC, telephone, data, security and fire alarm/life safety components.

21. All work shall be done in a neat and workman like manner, in accordance with all governing agencies, rules and regulations having jurisdiction.

22. The contractor shall coordinate and schedule the work of all trades to ensure the work is completed in a timely manner, complying with the Owner/Contractor agreement. 23. The contractor shall be responsible for the protection of his work from damage, including, but

not limited to, vandalism, theft, etc. Additionally, the contractor shall be responsible for damage to the Owner and his tenant's property by the contractor's forces, including, but not limited to any damage, vandalism, theft, etc.

24. It is the responsibility of the contractor to provide samples of pattern and color on all finishes for selection by Owner.

25. Prior to submission of the bid, the general contractor shall coordinate electrical and mechanical sub-contractors as it relates to scope of electrical work associated with the complete and functioning mechanical system, fire alarm system wiring, and controls wiring required by the mechanical drawings and not indicated on the electrical drawings if applicable. Contractor shall

allow in bid for cost of electrical work necessary to complete indicated wiring & terminations. 26. All blocking and backing in non-protected concealed spaces shall be metal.

27. As a condition of final acceptance of the project the Contractor shall provide the Architect detailed and clearly marked-up drawings and specifications showing all as-built information and

28. All areas of the project shall be professionally cleaned and all construction materials and debris are to be removed from the project.

29. The contractor shall provide all operation, maintenance, and warranty manuals as well as information for installed equipment and products. Excess painting supplies shall be provided to the Owner in properly stored containers.

30. The contractor shall provide all legal documentation for the project's occupancy including, but not limited to, certificate of occupancy. 31. Prior to final payment contractor shall assemble original copies of all new

equipment/materials warranties and operational literature. Upon issuance of certificate of occupancy, the contractor shall provide to the Owner, two complete sets of legible red-lined as-built drawings (refer to drawing index for list of all sheets) showing construction, fixed equipment and the mechanical, electrical and plumbing systems as installed. These documents shall be delivered to the Owner in a neatly indexed and labeled 3-ring binder.

32. All areas of the site that are damaged or disturbed by construction shall be restored to new condition. Install and establish new St. Augustine Floratam sod at all locations around the perimeter of the building that have been regraded, filled or back-filled.

END OF SECTION

SECTION 02 41 13 - SELECTIVE DEMOLITION

PART 1 GENERAL

1.1RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings and the Sections included under Division 1, General Requirements and References, are included as a part of this Section as though bound herein. 1.2SECTION INCLUDES

A. Provide labor, materials, services, and equipment necessary to furnish and install work as

indicated and as specified herein, which includes, but is not limited to: Required demolition of designated existing elements

Salvage of designated items

A. Comply with NFPA 1 - Chapter 29 and NFPA 241 Standard for Safeguarding Construction

Alteration and Demolition Operation B. Florida Building Code - FBC

1.4 NOT USED

1.5 PROTECTION

A. Prior to starting any work on site, provide a safety plan as outlined in Section 453 FBC to the Building Department for approval.

B. Coordinate the implementation of the safety plan with the Building Department, Campus Police, School Representative, and Program Management.

C. Prior to starting demolition operations, provide necessary protection of existing spaces and

D. Owner may be continuously occupying areas of the building immediately adjacent to areas of selective demolition. If Owner continues to occupy the facility comply with the following: Conduct demolition work in a manner that will minimize need for disruption of the Owners

Provide protective measures as required to provide free and safe passage of Owner's

personnel and public to and from occupied portions of the facilities. Provide minimum of 72 hours advance notice to Owner of demolition activities that will

impact Owners normal operations.

Obtain specific approval from Owner for impact. E. Owner assumes no responsibility for actual condition of items to be demolished.

 Owner will maintain conditions at time of commencement of contract insofar as practical. F. Protect any exposed existing finish work that is to remain during demolition operations. G. Erect and maintain dust proof partitions, closures, and ventilator system as required

preventing the spread of dust or fumes to occupied portions of the building. • Take whatever precautions necessary to minimize impact on occupied areas.

1.6 REGULATORY REQUIREMENTS

A. Conform to applicable codes for demolition of structures, safety of adjacent structures, dust control, runoff, and erosion control, and disposal of demolished materials.

B. Obtain required permits from authorities having jurisdiction. C. Conform to applicable regulatory procedures when discovering hazardous or contaminated

Contact the Architect and Owner immediately.

F. No demolition will occur during school hours without the written permission of the Owner. G. Obtain Martin County School District Environmental & Conservation Services (E&CS) certification/approval prior to demolition/invasive testing.

A. The use of explosives is strictly prohibited.

PART 2 PRODUCTS - (Not applicable)

PART 3 EXECUTION

3.1 PREPARATION

A. Verify that required barricades and other protective measures are in place.

can provide documentation is indicating pre-existing damage.

B. Photograph existing conditions of structure, surfaces, equipment and surrounding spaces that could be misconstrued as damage resulting from selective demolition work; submit photographs and written report of existing damage to Architect prior to starting work. Contractor shall repair damage caused to existing facilities at no cost to Owner unless they

3.2 DEMOLITION OPERATIONS

A. Comply with alteration precautions and procedures specified in Section 02 41 13.

B. Cut and remove elements and equipment as designated on Drawings. Remove elements in their entirety unless otherwise indicated C. Execute demolition in a careful and orderly manner with least possible disturbance or damage

to adjoining surfaces and structure. D. Exercise extreme caution in cutting and demolition of portions of existing structure. Obtain

approval of Architect prior to cutting or removing structural members for any reason. E. Avoid excessive vibrations in demolition procedures that may transmit through existing structure and finish materials.

F. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning assessment, removal, handling, and protection against exposure or environmental pollution and immediately contact the District's E&CS.

A. Materials, equipment, and debris resulting from demolition operations shall become property of Contractor. Remove demolition debris from construction area to dumpster at least once each day in accordance with applicable City, State, and Federal Laws.

B. Cover debris in trucks with approved netting to prevent spillage during transportation. C. Do not store except in approved containers or burn materials on site

D. Remove combustible waste materials in a manner approved by local Fire Department. E. Remove, handle, and dispose of any hazardous waste and debris in accordance with applicable City, State, and Federal Laws.

F. Transport demolition debris to off-site disposal area and legally dispose of debris.

G. Use street routes specifically designated by City for hauling debris.

H. When possible dispose of material to recycling centers. DIVISIONS 03 THRU 06 - NOT USED

SECTION 07 41 13 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

SUMMARY

A. Section Includes:

1. Provide labor, material, services and equipment necessary to furnish and install work as indicated and as specified herein, which includes, but is not limited to: a. Standing-seam metal roof panels.

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel B. ASTM A653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or

Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process. C. ASTM B32 - Standard Specification for Solder Metal.

D. ASTM B117 - Salt spray testing of coating 1000 Hrs.

F. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing. G.ASTM D2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and

E. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

H. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free

I. ASTM E 408/C - 1371: "Standard Test Method for Total Normal Emittance of Surfaces Using inspection - Meter Techniques. J. ASTM E 903/C - 1549: Standard Test Method for Solar Absorbance, using Integrating Spheres. K. ASTM E 1646 - Standard Test Method for Water Penetration of Exterior Metal Roof Panel

Systems by Uniform Static Air Pressure Difference; 1995. L. ASTM E 1680 - Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.

M. ASTM G 23 - Accelerated testing of coating 2000 hrs. N. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedure for

Superior Performing Organic Coating on Aluminum Extrusions and Panels. O. ASCE 7 - Minimum Design Loads for Buildings and other Structures.

P. FM - Tests Requirements for Class 1 Panel roofs, Factory Mutual Research Corporation. Q.UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies. R. UL2218 - Class 4 Impact Resistance Rating.

S. FED A-A-51145 - Flux, Soldering, Non-Electronic, Paste and Liquid. T. NRCA (National Roofing Contractors Association) - Roofing Manual.

U. SMACNA - Architectural Sheet Metal Manual. V. NAAMMM - Metal Finishes Manual for Architectural and Metal Products.

W. FBC - Florida Building Code.

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.

B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details

1. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not

C. Samples: For each type of finish required, prepared on Samples of size indicated below. 1. Metal Panels: 12 inches long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories. D. Delegated-Design Submittal: Submit design calculations, analysis data and shop drawings

indicating compliance with dedicated design requirements signed and sealed by the qualified Florida registered professional engineer responsible for their preparation. E. Approvals: Manufacturer shall submit documentation that product complies with and has been tested and approved in compliance with Florida Product Approval or Miami Dade NOA and applicable requirements.

INFORMATIONAL SUBMITTALS A. Qualification Data: For Installer and Manufacturer.

D. Sample Warranties: For special warranties.

F. Exposure: "Coastal". Distinguish between factory and field assembly work.

B. Product Test Reports: For each product, for tests performed by a qualified testing agency. C. Field quality-control reports.

1.6 MOCK-UP A.Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

B. Build mockup of typical roof area and eave, including fascia, and soffit in a location selected

by the architect; approximately 4 feet by 12 feet square by full thickness, including insulation, attachments, underlayment, and accessories.

C. Build mockups for typical roof area only, including accessories. D. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in

E. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

PRE-INSTALLATION MEETINGS

A. The Contractor shall conduct a pre-installation meeting at the project site a minimum of 30 days prior to any work being installed as indicated in this section and other related sections

that require coordination with this section. B. Meet with Owner, Architect, Owner's insurer if applicable, metal panel Installer, metal panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal panels, including installers of roof accessories and roof-mounted equipment.

C. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays. D. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.

E. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members. F. Review structural loading limitations of deck during and after roofing.

G.Review flashings, special details, drainage, penetrations, equipment curbs, and condition of other construction that affect metal panels.

H.Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.

I. Review temporary protection requirements for metal panel systems during and after installation. J. Review procedures for repair of metal panels damaged after installation.

K. Document proceedings, including corrective measures and actions required, and furnish copy

1.8 QUALITY ASSURANCE

of record to each participant.

A. Manufacturer Qualifications: Manufacturer shall have a minimum of ten (10) years experience in manufacturing panels of this nature, in a permanent stationary, indoor

production facility B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer, with a minimum five (5) years experience with roof as defined in these specifications.

C. Inspections 1. The roof shall be inspected by the manufacturer's representative within one year of

acceptance by the Owner in accordance with section 453.12.4, FBC, Building (DOE) 2. Provide at a minimum one in progress inspection with the Manufacturer's Representative and the Owner's Representative. The Manufacturer's Representative shall submit a written

report of the inspection results within ten (10) days after the inspection to the Architect. 3. Inspections: Provide on-site weekly inspections by Owner's representative during and after installation of roofing system.

4. The Contractor shall provide the Architect of Record a "final statement of compliance" for the Owner once the Final Inspection has been completed, stating that the finished roof membrane complies with the contractual documents in accordance with section 453.12.3, FBC, Building (DOE)

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling. B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and

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

D. Remove strippable protective covering on metal panels as panels are being installed. Do not leave the film on installed panels.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements

B. Field Measurements: Verify actual dimensions of construction contiguous with roof panels by field measurements before fabrication.

C. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with

actual equipment provided. D. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY A. When warranties are required, verify with Owner's counsel that special warranties stated in this article are not less than remedies available to Owner under prevailing local laws.

specified warranty period. 1. Failures include, but are not limited to, the following: a. Structural failures including rupturing or perforating. b. Deterioration of metals and other materials beyond normal weathering.

E. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or

replace components of metal panel systems that fail in materials or workmanship within

2. Warranty Period: 20 years and 6 months from date of Substantial Completion. B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following: a. Color fading more than 5 Hunter units when tested according to ASTM D 2244. b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.

1. Warranty Period: Twenty (20) years from date of Substantial Completion.

c. Cracking, chipping, peeling, or failure of paint to adhere to bare metal. 2. Finish Warranty Period: Twenty (20) years from date of Substantial Completion. C. Special Watertightness Warranty: Manufacturer's no dollar limit form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain watertight, including leaks, within specified warranty period.

D. Installer Warranty required when requiring "Special Watertightness Warranty" reflected A. Special Installer Warranty: Furnish a written warranty signed by the Panel Applicator for a two (2) year period from the date of substantial completion of the building guaranteeing

materials and workmanship for watertightness of the roofing system, flashings, penetrations,

1.12 PERFORMANCE REQUIREMENTS

and against all leaks.

A. Panel shall be designed in accordance with sound engineering methods and practices and in accordance with SMACNA, AAMA, and NRCA standards.

B. Roof structure shall be designed with proper recognition for the "floating system" which must exist to have a roof panel that meets expansion and contraction requirements. C. Damaged panel replacement shall not require the use of through the roof fasteners. D. Roof system shall have Underwriters Laboratories UL-90 wind uplift classification and comply with ANSI 58.1, and all applicable codes or applicable standard based on rating required. See

structural drawings. 1. The installation shall be designed to safely resist the positive and negative loads, as specified in the structural drawings. E. Structural Performance: Provide metal panel systems capable of withstanding the effects of

the following loads, based on testing according to ASTM E 1592:

wind-uplift-resistance class indicated.

1. Wind Loads: As indicated on structural drawings. F. Air Infiltration: Air leakage shall comply with the manufacturer's testing data when tested according to ASTM E 1680 and ASTM E 283 at the following test-pressure difference of 6.24

G. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 and ASTM E 331 at the following test-pressure difference of 6.24 lbf./sq. ft. H. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.

I. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for

1. Uplift Rating: UL 90. K. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F. L. Energy Performance: Provide roof panels that are listed on the EPA/DOE's ENERGY STAR "Roof Product List" for low-slope roof products. M. Delegated-Design: Provide delegated design services including calculations and shop drawings for load bearing items to comply with performance requirements, applicable code

requirements and design criteria signed and sealed by an engineer registered in the State of

requirements and functional qualities of the specified product and acceptance is provided by

N. Approvals: Manufacturer shall certify that product complies with and has been tested and approved in compliance with Florida Product Approval or Miami Dade NOA and applicable requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS A.Manufacturer and basis of design shall be the following however products of other manufacturers will be considered for acceptance provided they equal or exceed the material

1. Merchant and Evans, Inc. B. The following manufacturers are acceptable provided they equal or exceed the material requirements and functional qualities of the basis of design product.

1. ZIP-RIB, Merchant and Evans, Inc., Burlington, New Jersey. 2. Imetco 3. Bemo USA

4. Fabral/Alcan Building Products

2.2 STANDING-SEAM METAL ROOF PANELS A. Basis of Design: "Zip-Lok"

the Architect in writing prior to bidding.

1. Florida Product Approval: #FL-16111.4

B. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips,

cleats, pressure plates, and accessories required for weathertight installation C. Vertical-Rib, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and a pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and seaming panels together.

1. Material: Minimum 0.032" aluminum 3105-H14 alloy prepainted by the coil-coating process to comply with ASTM B209.

2. Clips: Per product approval. 3. Joint Type: Locking seam

4. Panel Coverage: 18" wide. 5. Panel Configuration: Straited

6. Finish: Smooth 7. Panel Height: 2" high ribs.

8. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency. D. Energy Performance

2. Three-year, aged Solar Reflectance Index of not less than 64 when calculated according to 3. Three-year, aged solar reflectance of not less than 0.55 and emissivity of not less than 0.75.

1. Provide roof panels according to one of the following when tested according to CRRC-1

2.3 UNDERLAYMENT MATERIALS

b. W.R. Meadows

A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 40 mils thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: Stable after testing at 240 deg F; ASTM D 1970.

2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970. 3. Manufacturer is as indicated however equal or better performing products of other manufacturers will be considered for acceptance by the Architect. a. Carlisle Construction Materials

c. W. R. Grace 2.4 MISCELLANEOUS MATERIALS

A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels. 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer. 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or

closed-cell laminated polyethylene; minimum 1-inch thick, flexible closure strips; cut o

premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction. B. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.

Finish flashing and trim with same finish system as adjacent metal panels. C. Gutters: Formed complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Provide wire ball strainers of compatible metal at outlets. Finish gutters, strap and brackets to match metal roof panels.

1. Gutters shall be minimum 6" wide x 6" deep and as indicated on drawings and sized to comply with SMACNA guidelines. If sizes are not indicated on plans, match existing in profile and size.

2. Material: Stainless-steel, fabricated from material thickness to comply with SMACNA

3. Gutter straps shall be 1" wide by 0.0781 inch (14-gauge) stainless-steel material and

4. Gutters support brackets shall be 1" wide by 0.1094 inch (12-gauge) stainless-steel material 5. Gutter brackets and straps shall be alternately spaced so they are offset 18".

6. Gutters shall be in minimum 10'-0" long sections formed to provide flush exterior seams between gutter sections. Joints between gutter sections shall be 1/2" wide with 6" wide cover plates and support brackets to allow for expansion and contraction. Joints shall be fully bedded in sealant on inside joints 7. Expansion Joints: Butt type with cover plate.

1. Fabricate 5"x5" minimum and to sizes and configurations as indicated on the drawings. 2. Downspouts shall be as indicated on drawings and fabricated in one continuous piece

D. Downspouts: Fabricate complete with formed elbows and offsets, of size and metal

thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts and

down to kick-out diverter section at bottom of downspout and tie into underground drainage system. 3. Downspouts shall be as indicated on drawings and fabricated in one continuous piece down to tie into locations for underground drainage system and onto splash blocks as

4. Downspout bracket/straps: Straps shall be 1" wide by 0.1094 inch (12-gauge) stainless-steel material located not more than 60" o.c. with top and bottom brackets located not more than 12" from ends of downspouts. Bracket shall provide 1" clear distance between wall, adjacent surface and downspout per SMACNA Fig. 1-35H. Material: 0.0125" (11 gauge) stainless-steel. E. Stainless Steel Downspout Adapters: Premanufactured 12-gauge thick stainless-steel

to the downspout size and drainage pipe size. The finish shall be satin stainless steel. 1. Manufacturers: The basis of design product shall be "Model SO" as manufactured by Piedmont Pipe Construction, Inc., equal or better performing products of other manufacturers will be considered for acceptance by the Architect.

downspout adapter with a offset transition. The adapter shall have a cleanout access opening

with a removal cover and an integral base plate. The openings sizes shall be sized to conform

F. Splash Pads: Provide and install precast concrete type, of sizes and profiles indicated; minimum 3000 psi at 28 days, with minimum 5% air entrainment. G.Roof Curbs: Fabricated from same material as roof panels, 0.048-inch nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of

size and height indicated. Finish roof curbs to match metal roof panels. 1. Insulate roof curb with 1-inch thick, rigid insulation. H. Panel Fasteners: Zinc-coated steel, corrosion resisting steel, zinc cast head, or nylon capped steel, type and size as approved for the applicable loading requirements. Exposed fasteners, where approved by architect, shall be gasketed or have gasketed washers on the exterior side of the covering to waterproof the penetration.

For approved sealant guidance refer to the approved list at http://www.berridge.com/wp-content/uploads/2014/06/Approved-Materials-Form-11-4-13.pdf D. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick 2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain

weathertight; and as recommended in writing by metal panel manufacturer. 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

J. Pipe Flashings 1. Provide EPDM (ethylene propylene diene monomer) rubber flashings for vent pipe penetrations in metal roof. Provide clamping rings, sealant, and fasteners as

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TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING

STATE

Revisions

lo. Date

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SPECIFICATIONS

A.Insulation: Provide "AC Foam II" as manufactured by Atlas Roofing Corporation. Comply with ASTM 1289, Type II, Class 1, Grade 3

B. Closed-cell HCFC FREE "Green" polyisocyanurate flat panel foam core manufactured using HCFC or ACUltra Hydrocarbon blowing agent and integrally laminated to heavy non-asphaltic fiber-reinforced felt facers with 25 psi density.

C. R-Value: R-value shall be a minimum R-30 and 5" thick and as indicated on drawings.

D. Provide tapers and crickets of the same material as indicated on the drawings and as required to provide proper slope.

2.7 FABRICATION

2.6 NOT USED

A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: On-Site Fabrication of panels is not acceptable.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel. D.Fabricate metal panel joints with factory-installed captive gaskets or separator strips that

provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements

E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. 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.

2. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards. 3. Fabricate cleats and attachment devices from same material as accessory being anchored

or from compatible, noncorrosive metal recommended in writing by metal panel

a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Sections shall be free of scratches and other serious surface blemishes and chemically cleaned.

B. High-Performance Organic Finish Two-Coat Fluoropolymer: Chemical Finish Organic Coating, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight. Complying with paint manufacturer's written instructions for cleaning, preparing, pretreating and apply coating to exposed metal surfaces to comply with AAMA 2604.

1. Color and Gloss: As selected by Architect from full range of industry colors and color densities. The intent is to match existing finish and color of metal panels. C. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored

acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

A.Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting

B. Verify that deck is structurally sound to support installers, materials and equipment without damaging or deforming work.

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

a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

C. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation. D. Verify that roof drains, scuppers, roof curbs, nailers, equipment supports, vents and other roof accessories are secured properly and installed in conformance with Contract Drawings

and submittals. E. Examine roof deck for suitability to receive insulation. Verify that substrate is dry, clean and

free of foreign material that will damage insulation or impede installation. F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written

3.3 INSULATION INSTALLATION

A.Install specified insulation using approved method in accordance with manufacturer's latest written instructions and as required by governing codes. B. Install with end joints staggered to avoid having insulation joints coinciding with joints in

deck. In multi-layer installations, stagger joints in top and bottom layers.

3.4 NOT USED

3.5 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below on Drawings, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 36 inches. Roll laps with roller. Cover underlayment within 14 days. 1. Apply over the entire roof surface.

B. Flashings: Install flashings to cover underlayment to comply with requirements specified in Specification Section "Sheet Metal Flashing and Trim." 3.6 METAL PANEL INSTALLATION

A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement. Installation shall be in accordance with Florida Product Approvals/NOA's.

1. Shim or otherwise plumb substrates receiving metal panels.

2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.

3. Install screw fasteners in predrilled holes.

4. Locate and space fastenings in uniform vertical and horizontal alignment.

5. Install flashing and trim as metal panel work proceeds.

6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws. 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions. C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates,

protect against galvanic action as recommended in writing by metal panel manufacturer. D. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners

recommended in writing by manufacturer. 1. Install clips to supports with self-tapping fasteners. 2. Install pressure plates (if required) at locations indicated in manufacturer's written installation instructions.

3. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied vinyl weatherseal are completely engaged. E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.

F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant. 1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

G.Roof Curbs: Install flashing around bases where they meet metal roof panels.

H. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

3.8 ERECTION TOLERANCES

A.Installation Tolerances: Shim and align substrate or framing within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.9 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing. B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.

C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

3.10 CLEANING AND PROTECTION

A.Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 41 13

1. SECTION 07 62 00 - FLASHING AND SHEET METAL

1.1 SCOPE OF WORK

A.Flashing, counter-flashing, roofing grounds and nailers, and fabricated sheet metal items for roofing intersections with vertical surfaces, copings, curbs, gutters, eaves, roof drains, scuppers, vents and other roof penetrations.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. See District Master Specifications and Design Criteria for other related sections. These include but are not limited to the following:

A. Section 01 25 13 - Product Substitution Procedures. B. Section 01 31 00 - Project Coordination.

C. Section 01 33 00 - Submittal Procedures.

D. Section 01 42 00 - References. E. Section 01 45 00 - Quality Control.

F. Section 01 66 00 - Product Storage and Handling.

G.Section 01 78 00 - Closeout Submittals. H. Section 05 31 23 - Steel Roof Decking.

I. Section 07 61 13 - Standing Seam Metal Roofing. J. Section 07 72 00 - Roof Accessories.

K. Section 07 92 13 - Elastomeric Joint Sealants.

1.3 REFERENCES

A. See Section 01 42 00 - References for additional reference standards, abbreviations, definitions, and acronyms.

B. ANSI-SPRI/ES-1. C. American Society for Testing and Materials (ASTM):

1. ASTM A240/A240M-15a: Standard Specification for Heat-resisting Chromium and Chromium-nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels

2. ASTM A653/A653M-13: Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process 3. ASTM A755/A755M-15: Standard Specification for Steel Sheet, Metallic-Coated by the Hot

Dipped Process (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip 4. ASTM D4586/D4586M-07(2012)e1: Standard Specification for Asphalt Roof Cement,

Asbestos Free. 5. ASTM B32-08(2014): Standard Specification for Solder Metal (Lead Free).

D. Florida Building Code (FBC), 6th Edition. E. National Roofing Contractors Association (NRCA) "Roofing and Waterproofing Manual" Detail for installation of units.

F. Sheet Metal and Air-Conditioning Contractor's National Association, Inc. (SMACNA): Architectural Sheet Metal Manual", latest Edition. Details for fabrication of units, including flanges and installation to coordinate with type of roofing indicated.

1.4 SUBMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. Submit Shop Drawings on flashing and sheet metal work.

1. Submit 8" (203 mm) x 8" (203 mm) square samples of each specified sheet materials to be exposed as finished surfaces. 2. Submit each samples of factory fabricated products exposed as finished work, complete with

1.5 QUALITY ASSURANCE

specified factory finish.

A. Comply with Section 01 45 00 - Quality Control.

B.Regulatory Requirements: Ensure flashing and sheet metal complies with requirements of Florida Building Code, NRCA, SMACNA, and ANSI-SPRI/ES-1. C.Coordinate application of flashings with application of roofing, protruding material, and roof

accessories to provide a complete weather tight installation under provisions of the specified warranty requirements. D.Perform work in accord with referenced standards and manufacturer's printed installation instructions.

1.6 PRE-INSTALLATION MEETING

A. Comply with Section 01 31 00 - Project Coordination.

B. Meeting Format: 1. Pre-installation meeting shall occur after approval of Shop Drawings by Contractor/CM and accepted by AE.

2. Meeting shall convene minimum of one week before starting work. 3. Required Attendees:

a. Contractor/CM.

b. Roof flashings installer

c. Roofing and roofing equipment manufacturers. d. Installers of deck or substrate construction to receive roofing work.

e. Installers of roof-top mechanical, plumbing or electrical items or other work in and around roofing that must precede or follow roofing work f. Other subcontractors associated with work.

a. Architect. h. Owner's Project Manager.

4. Contractor/CM shall make arrangements for meeting and notify parties required to attend.

Agenda shall include: a. Review preparation and installation procedures and coordinating and scheduling required with related work.

b. Review roof, roof equipment, doors, and window system requirements (drawings, specifications, and other contract documents).

c. Review Shop Drawings and associated submittals.

d. Review manufacturer's technical materials. e. Review and finalize construction schedule related to work and verify availability of materials, personnel, equipment and facilities needed to make progress and avoid delays

f. Review required inspection, testing, certifying and material usage accounting procedures. g. Review weather and forecasted weather conditions, and procedures for coping with

unfavorable conditions, including temporary roofing. h. Meeting may be combined with roofing pre-installation meeting.

1.7 WARRANTIES

A. Comply with Section 01 78 00 - Closeout Submittals.

B. Provide installer's five (5) year written warranty for flashings indicated. 1. Flashings shall resist design wind speeds required by Florida Building Code, Chapter 16, in which installer agrees to repair or replace flashing components of roofing system that fail in materials or workmanship within specified warranty period. 2. Flashing failures shall include water leaks, fasteners, accessories, flashing and sheet metal,

grounds/nailers, gutters and downspouts, scuttles and vents, curbs, and other flashing components of roofing system. C. See Roofing Specifications for additional warranties that shall also apply. D. Warranty shall be a term type, with no conditions, exclusions, including exclusions of remedies

by Owner, deductibles or limitations on coverage amount. Conditions, exclusions, or dollar limits. PART 2 PRODUCTS

2.1 MATERIALS

A. Manufactured flashing and sheet metal products are to contain recycled content.

B. Sheet Material: 1. Type 316L stainless steel, 22 gage, complying with ASTM A167. 2. Flashing for Pipes, Conduits, and Round Equipment Supports: Type 316L stainless steel, 22

gage, complying with ASTM A240. 3. Solder: Per ASTM B32.

C.Fastening Devices:

1. Stainless steel fasteners compatible with metal and roofing system. Use of powder-activated 2. Attach sheet metal to wood with exposed fastenings: No. 10 x 1-1/4" (31.8mm) pan head

stainless steel sheet metal screws. Provide neoprene sealant washers and stainless steel washers under screw heads.

3. Attachment of sheet metal to masonry or concrete: No. 10 x 1-1/4" (31.8mm) pan head stainless steel masonry screws. Provide neoprene sealant washers and stainless steel washers under screw heads.

4. Roofing Cement: Plastic roofing cement complying with requirements of ASTM D2822 or as appropriate and as recommended by roofing manufacturer.

2.2 ACCESSORIES

A. Sanitary Vent Stack Flashings: 1. 4 lb (1.82 Kg) per ft² lead flashing.

2. Form tubular lead flashing sleeve not less than 8" (202 mm) high with diameter ½" (12.7mm) larger than vent stack.

3. Provide 4" (101 mm) wide flange soldered water-tight. 4. Provide vandal-proof vent covers.

5. Type 316L stainless steel, 22 gage, stainless steel with mill finish.

6. Gutters shall be minimum 6" (152 mm) wide x 6" (152 mm) deep, 22-gage stainless steel with

7. Gutter straps shall be 1" (25.4 mm) wide rolled stainless steel located at 24" o.c. (61 cm) and pop riveted to gutter.

8. Gutter brackets shall be 1.25" wide by 0.125" thick stainless steel with mill finish located at

9. Gutters shall be in minimum 10'-0" long sections formed to provide flush exterior seams between gutter sections. Joints between gutter sections shall be 1/2" wide with 6" wide cover

J. Downspouts:

1. Downspouts a. Downspouts shall be 5" by 5" square 0.125" thick stainless steel with mill finish fabricated in one continuous piece down to kick-out diverter section at bottom of downspout.

plates and support brackets to allow for expansion and contraction. Joints shall be fully bedded

in sealant on inside joints.

2 Downspout bracket/straps:

b. Sections shall be welded and ground smooth. c. Type 316L stainless steel, 22 gage, stainless steel with mill finish.

a. Straps shall be 1" wide by 0.125" thick located not more than 4'-0" apart with top and bottom brackets located not more than 12" from ends of downspouts. b. Brackets shall be attached to structure with two .025"diameter Zamac drive pins per bracket.

c. Bracket shall be attached to gutter with two #10 sheet metal screws each side of bracket and calked with sealant.

d. Type 316L stainless steel, 22 gage, stainless steel with mill finish.

3.1 EXAMINATION

PART 3 EXECUTION

K.Do not proceed with work until conditions detrimental to proper and timely completion of work have been corrected in acceptable manner.

3.2 INSTALLATION

A.Lap, rivet, lock, or seal joints, as field conditions require. B. Provide necessary reinforcement, miscellaneous fittings, and accessories.

E. Isolate dissimilar metals with accepted isolation paint or other accepted materials. F. Make flashing and sheet metal work water and weather tight, with lines, arises and angles sharp and true and plane surfaces free from waves and buckles.

G.Provide sufficient fasteners and related hardware to ensure a complete and weather tight N.Roof penetration materials at pipes, conduits and round equipment supports.

1. After preliminary examination install conical sealant cover with sealant. O.Sanitary Vent Stack Flashings:

1. Install in accord with NRCA specifications.

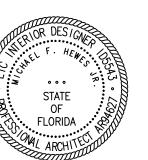
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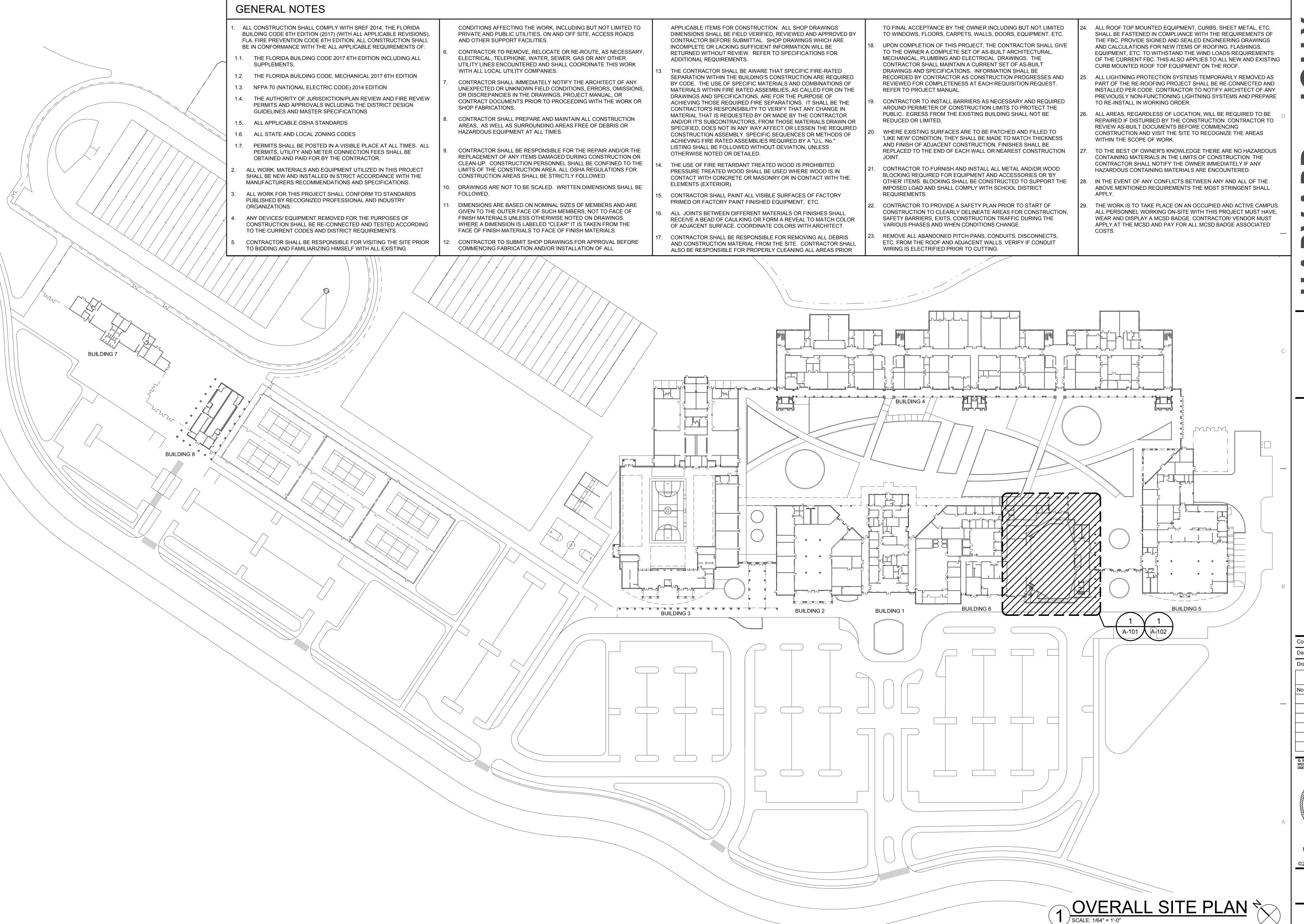


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No. Date

SPECIFICATIONS



MCSD JENSEN BEACH HIGH SC PARTIAL ROOF REPLACEMENT 2875 NW GOLDENROD RD, JENSEN BEAC 100% CONSTRUCTION DOCUMENTS

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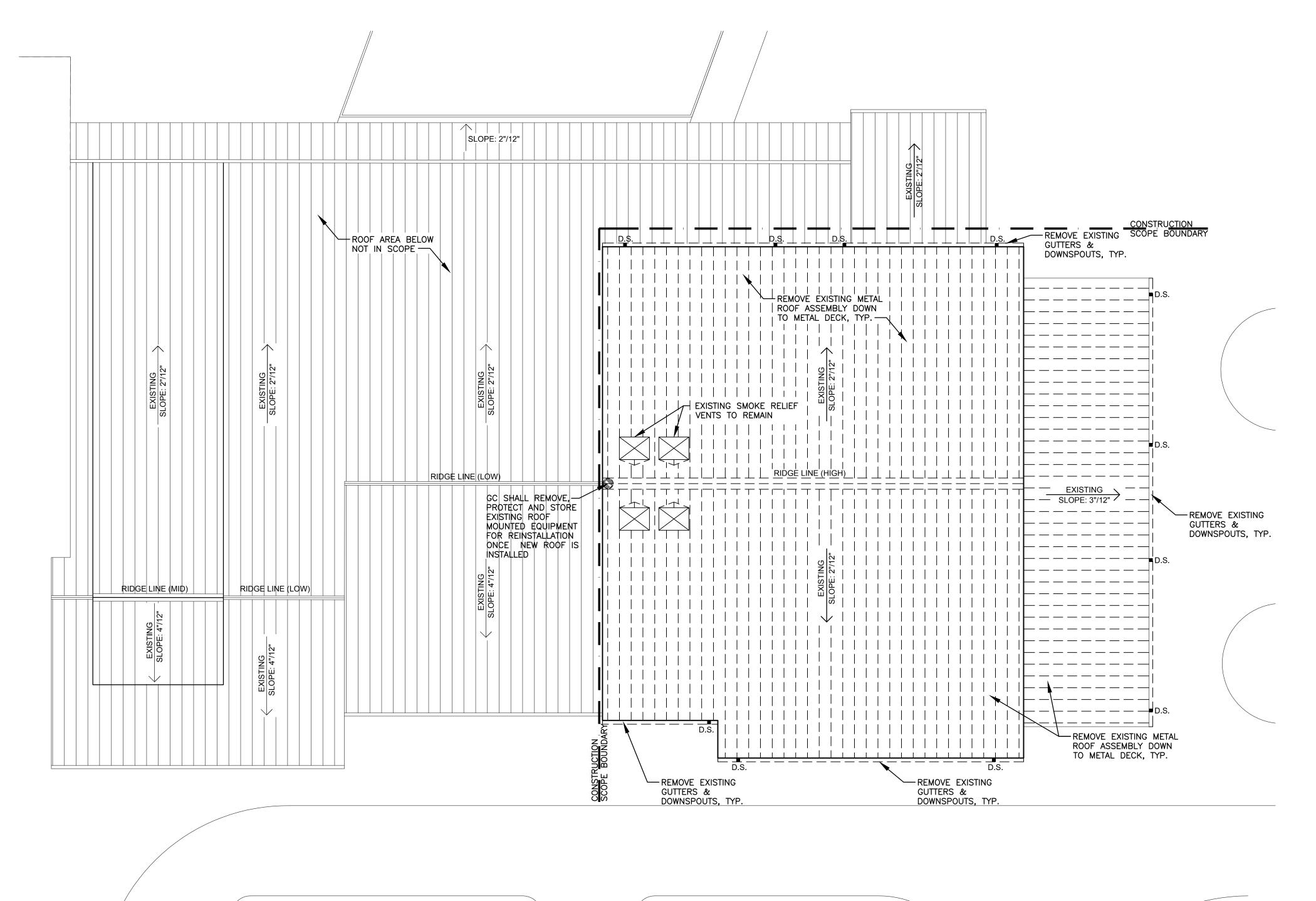
Revisions

No. Date

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OVERALL SITE PLAN

A-100



LEGEND

ROOF TO BE DEMOLISHED AND REPLACED

EXISTING ROOF TO REMAIN

EXISTING ROOF SLOPE DIRECTION

■ D.S. NEW STAINLESS STEEL DOWNSPOUT

DEMOLITION NOTES

- 1. ALL WORK, MATERIALS AND EQUIPMENT UTILIZED IN THIS PROJECT SHALL BE NEWD AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.
- RECOMMENDATIONS AND SPECIFICATIONS.

 2. DRAWINGS ARE NOT TO BE SCALED.
 WRITTEN DIMENSIONS SHALL BE

FOLLOWED.

- 3. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY UNEXPECTED OR UNKNOWN FIELD CONDITIONS, ERRORS, OMISSIONS, OR DISCREPANCIES IN THE DRAWINGS, PROJECT MANUAL OR CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH THE WORK OR SHOP FABRICATIONS.
- 4. CONTRACTOR SHALL SUBMIT SHOP
 DRAWINGS FOR APPROVAL BEFORE
 COMMENCING FABRICATION AND/OR
 INSTALLATION OF ALL APPLICABLE ITEMS
 FOR CONSTRUCTION. ALL SHOP DRAWINGS
 DIMENSIONS SHALL BE FIELD VERIFIED,
 REVIEWED AND APPROVED BY
 CONTRACTOR BEFORE SUBMITTAL.
- 6. REMOVE EXISTING METAL ROOF PANELS
 AND PREPARE EXISTING STRUCTURE AS
 REQUIRED FOR THE INSTALLATION OF NEW
 METAL ROOF SYSTEM AT A MINIMUM SLOPE
 OF 1/4" PER FOOT.
 7. NEW METAL ROOF ASSEMBLY SHALL MATCH
- EXISTING IN COLOR AND PROFILE.

 8. INSTALL NEW STAINLESS STEEL GUTTERS AND DOWNSPOUTS IN SIMILAR LOCATION. MATCH PROFILES AND SIZES AND RECONNECT TO UNDERGROUND UTILITIES AS REQUIRED.
- 9. CONTRACTOR SHALL PROVIDE NEW SPLASH BLOCKS TO REPLACE EXISTING (IF REQUIRED).

AND REINSTALL IDENTIFIED ROOF

 REPAIR DAMAGED FLASHING AS REQUIRED.
 CLEAN AND REPAINT EXISTING ROOF SMOKE RELIEF VENTS TO REMAIN. PROVIDE NEW ROOF CRICKETS ON HIGH SIDE TO PROVIDE POSITIVE DRAINAGE.
 CONTRACTOR SHALL CAREFULLY REMOVE

GENERAL NOTES

MOUNTED EQUIPMENT.

- 1. DEMOLITION KEY NOTES REFER TO
 DEMOLITION KEYNOTES FOR SPECIFIC
 DEMOLITION REQUIREMENTS. SPECIFIC
 DEMOLITION ITEMS ARE NOT TO BE CONSIDERED
 ALL INCLUSIVE OR COMPLETE IN THEMSELVES.
 PERFORM ADDITIONAL DEMOLITION THAT MIGHT
 REASONABLY BE REQUIRED FOR THE
 PREPARATION OF INSTALLATION OF NEW
 CONSTRUCTION OR SPECIFIED FINISHES.
 DEMOLITION SHALL BE PERFORMED IN A
 MANNER THAT WILL NOT DAMAGE ADJOINING
 SURFACES INDICATED TO REMAIN. SURFACES
 SHALL BE PATCHED IF NECESSARY TO PROVIDE
 A SUITABLE SUBSTRATE FOR NEW FINISHES.
- 2. SITE VISIT PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. NO CLAIMS FOR ADDITIONAL WORK DUE TO REASONABLY INFERRED OBSERVABLE CONDITIONS WILL BE CONSIDERED.
- 3. SCHEDULING SCHEDULE DEMOLITION WORK WITH OWNER'S PROJECT MANAGER PRIOR TO START OF WORK TO MAXIMIZE PRODUCTIVITY.

 4. PROTECTION EXERCISE CARE DURING WORK TO PROTECT INTERIOR AND EXTERIOR EXISTING CONSTRUCTION TO REMAIN. REPAIR TO EXISTING CONSTRUCTION DUE TO DAMAGE SHALL BE DONE AT NO COST TO THE OWNER.
- SHALL BE DONE AT NO COST TO THE OWNER.

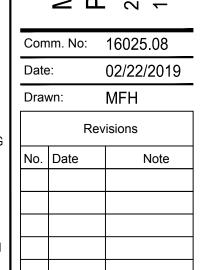
 5. HAZARDOUS MATERIALS THE CONTRACTOR
 SHALL IMMEDIATELY REPORT ANY HAZARDOUS
 OR TOXIC MATERIALS DISCOVERED TO
 ARCHITECT, OWNER AND AUTHORITIES HAVING
 JURISDICTION.

 6. CLITTING AND PATCHING REQUIRED FOR THE
- 6. CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF WORK OF OTHER TRADES SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

 7. THE WORK IS TO TAKE PLACE ON AN OCCUPIED.
- SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
 THE WORK IS TO TAKE PLACE ON AN OCCUPIED AND ACTIVE CAMPUS. ALL PERSONNEL WORKING ON-SITE WITH THIS PROJECT MUST HAVE, WEAR AND DISPLAY A MCSD BADGE. CONTRACTOR/VENDOR MUST APPLY AT THE MCSD AND PAY_FOR ALL MCSD BADGE ASSOCIATED COSTS.

 NEW STANDING SEAM METAL ROOF BASIS OF DESIGN IS MERCHANT & EVANS, INC. ZIP-LOK 2" x 18" WIDE ALUMINUM PANELS 0.032" THICK; FINISH TO MATCH EXISTING ADJACENT PANELS.
 FLORIDA PRODUCT APPROVAL #16111.4
 GENERAL CONTRACTOR SHALL PROVIDE AN ICE & WATER SHIELD IN THE ROOF REPLACEMENT ASSEMBLY.

4A 4B 4C



HOOL BUILDING (H, FL 34957

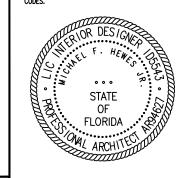
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ON DOCUMENTS

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.

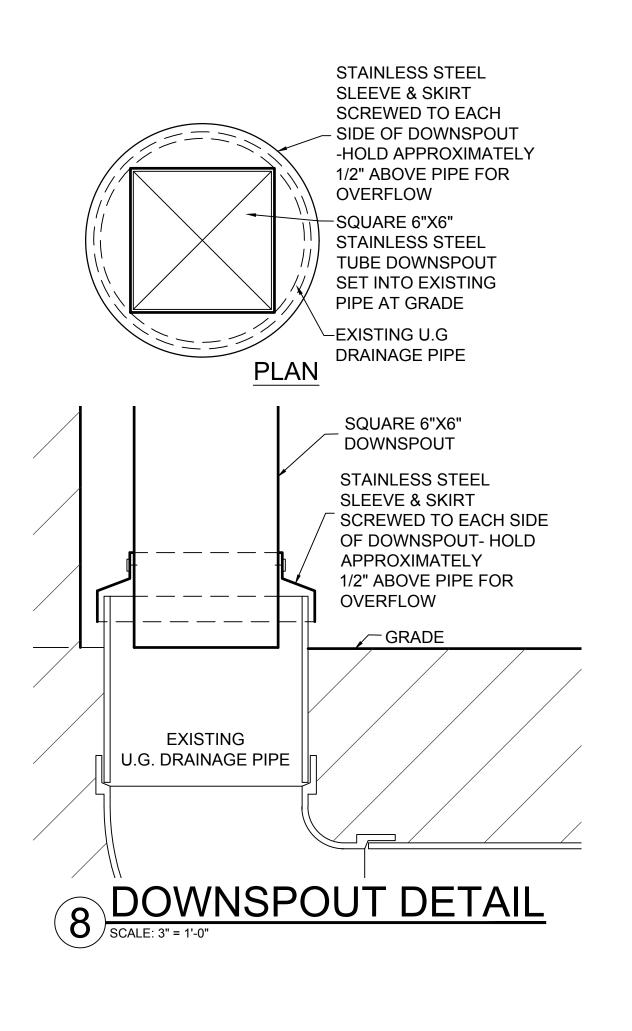


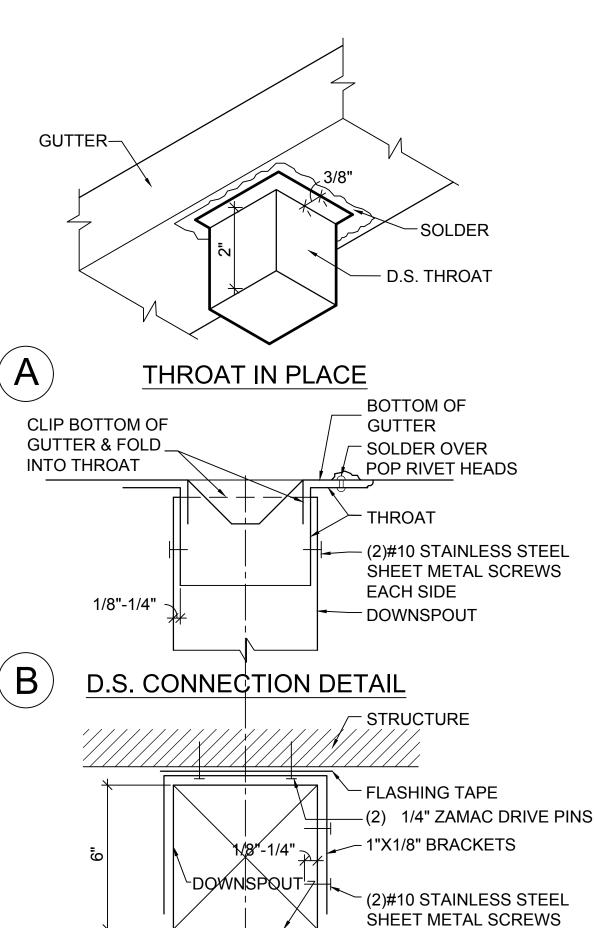
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DEMOLITION ROOF PLAN

A-101

PARTIAL ROOF DEMO PLAN
SCALE: 1/16" = 1'-0"





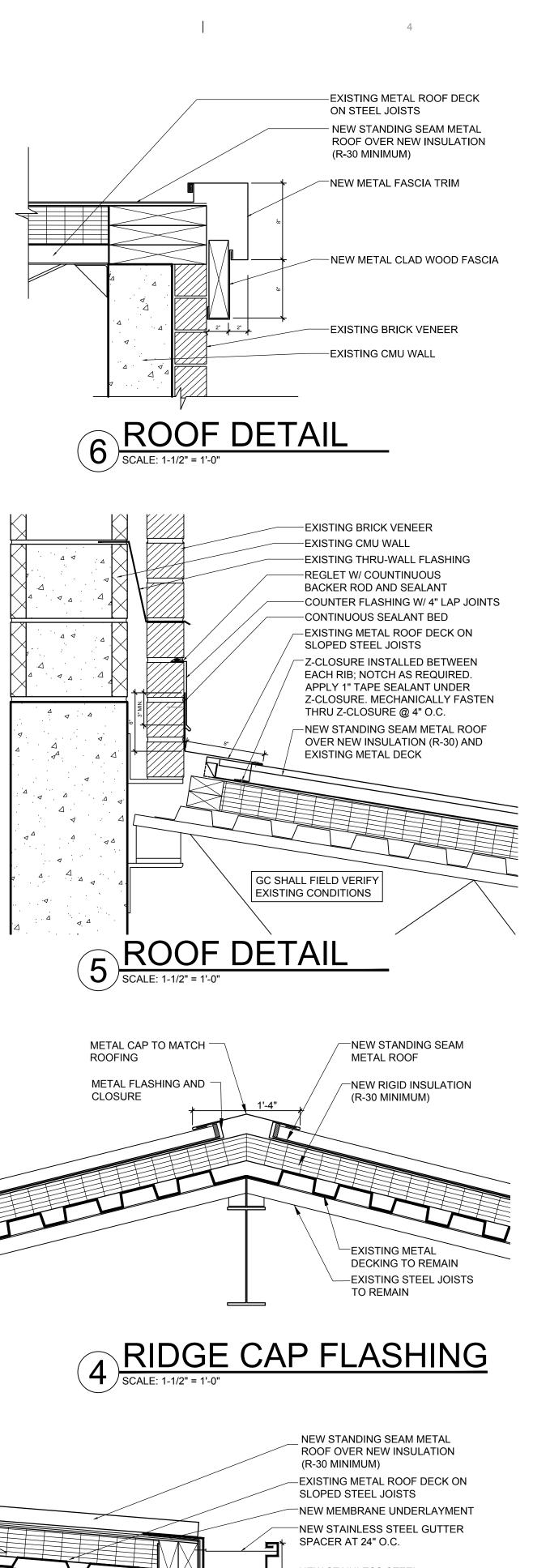
D.S. BRACKET SECTION

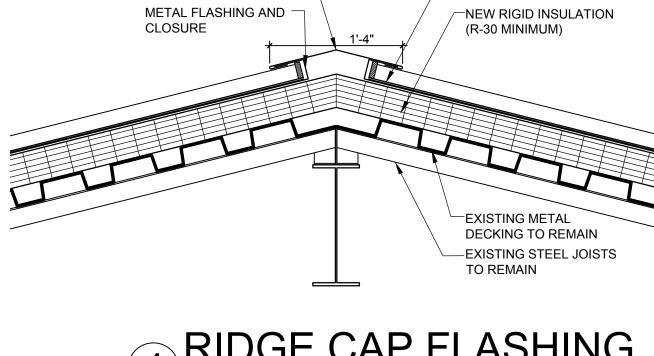
7 DOWNSPOUT DETAIL
SCALE: 3" = 1'-0"

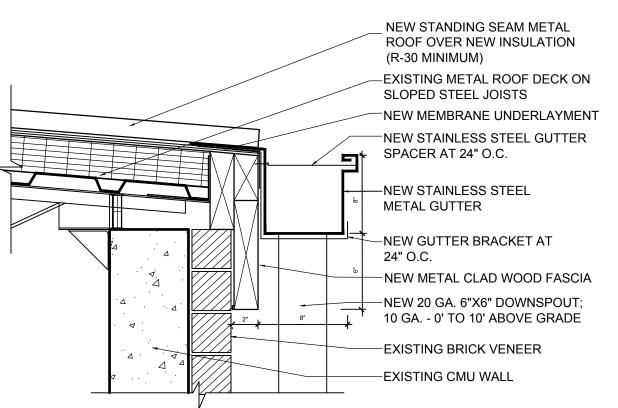
EACH SIDE EPOXY FILL

SCREW SLOTS AT TWO

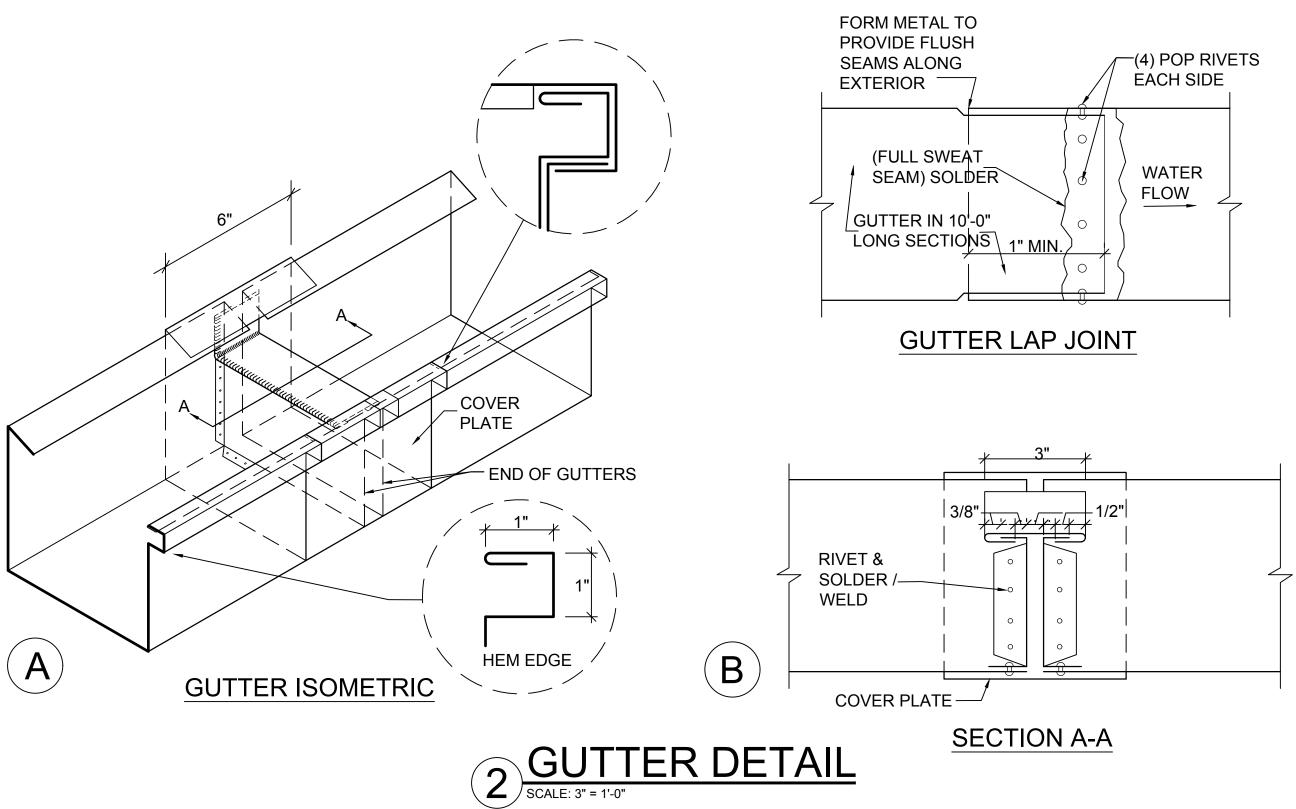
LOWEST BRACKETS

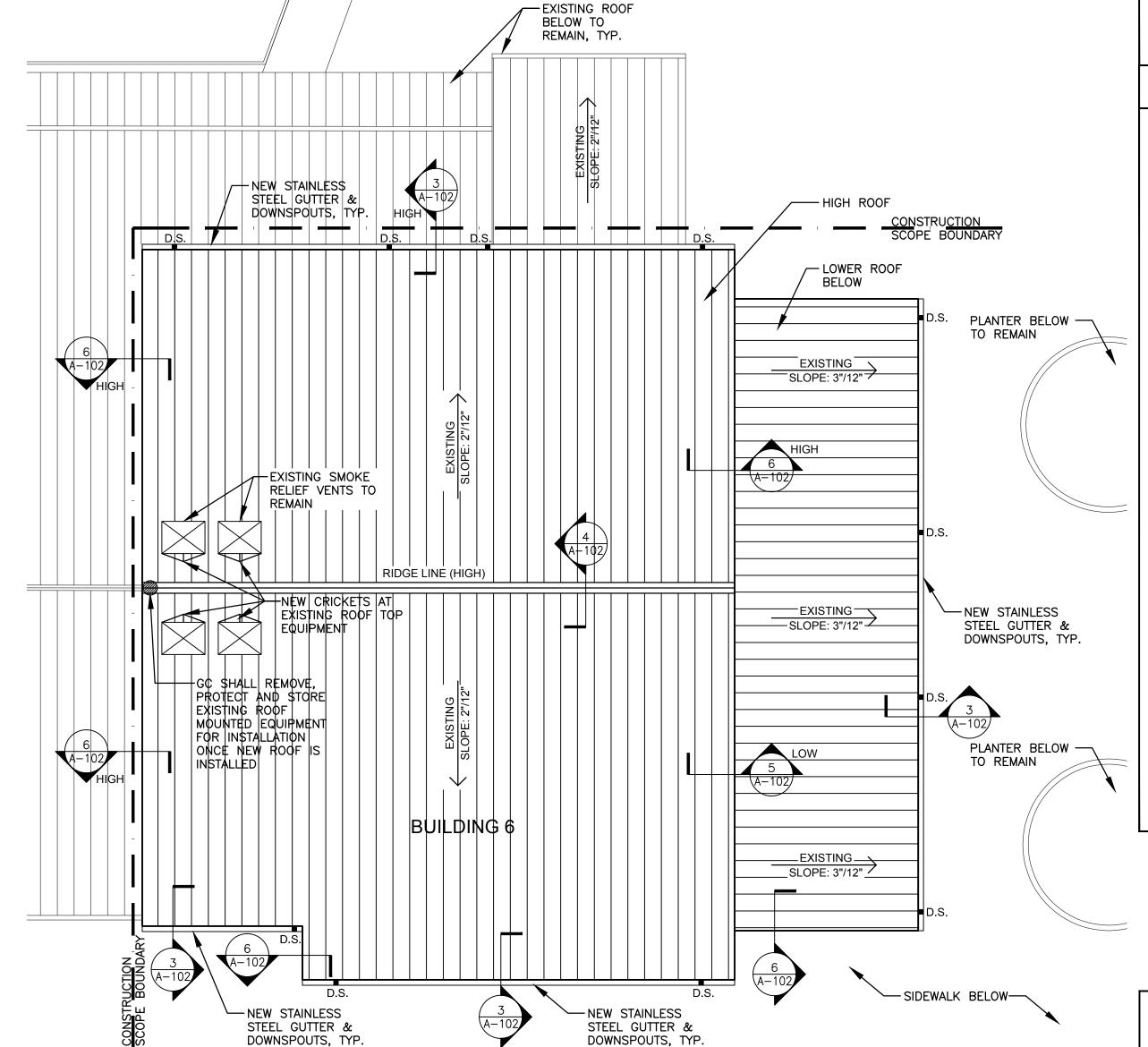


















ROOF TO BE DEMOLISHED AND REPLACED

EXISTING ROOF TO REMAIN

→ EXISTING ROOF SLOPE DIRECTION ■ D.S. NEW STAINLESS STEEL DOWNSPOUT

DEMOLITION NOTES

- ALL WORK, MATERIALS AND EQUIPMENT UTILIZED IN THIS PROJECT SHALL BE NEW AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY UNEXPECTED OR UNKNOWN FIELD CONDITIONS, ERRORS, OMISSIONS, OR DISCREPANCIES IN THE DRAWINGS, PROJECT MANUAL OR CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH THE WORK OR SHOP FABRICATIONS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL BEFORE COMMENCING FABRICATION AND/OR INSTALLATION OF ALL APPLICABLE ITEMS FOR CONSTRUCTION. ALL SHOP DRAWINGS DIMENSIONS SHALL BE FIELD VERIFIED, REVIEWED AND APPROVED BY CONTRACTOR BEFORE SUBMITTAL. REMOVE EXISTING METAL ROOF PANELS AND PREPARE EXISTING STRUCTURE AS REQUIRED FOR THE INSTALLATION OF NEW
- METAL ROOF SYSTEM AT A MINIMUM SLOPE OF 1/4" PER FOOT. NEW METAL ROOF ASSEMBLY SHALL MATCH EXISTING IN COLOR AND PROFILE. INSTALL NEW STAINLESS STEEL GUTTERS AND DOWNSPOUTS IN SIMILAR LOCATION.
- MATCH PROFILES AND SIZES AND RECONNECT TO UNDERGROUND UTILITIES AS REQUIRED. CONTRACTOR SHALL PROVIDE NEW SPLASH BLOCKS TO REPLACE EXISTING (IF REQUIRED).
- REPAIR DAMAGED FLASHING AS REQUIRED 1. CLEAN AND REPAINT EXISTING ROOF SMOKE RELIEF VENTS TO REMAIN. PROVIDE NEW ROOF CRICKETS ON HIGH SIDE TO
- PROVIDE POSITIVE DRAINAGE. CONTRACTOR SHALL CAREFULLY REMOVE AND REINSTALL IDENTIFIED ROOF MOUNTED EQUIPMENT.

GENERAL NOTES

- <u>DEMOLITION KEY NOTES</u> REFER TO DEMOLITION KEYNOTES FOR SPECIFIC **DEMOLITION REQUIREMENTS. SPECIFIC** DEMOLITION ITEMS ARE NOT TO BE CONSIDERED ALL INCLUSIVE OR COMPLETE IN THEMSELVES. PERFORM ADDITIONAL DEMOLITION THAT MIGHT REASONABLY BE REQUIRED FOR THE PREPARATION OF INSTALLATION OF NEW CONSTRUCTION OR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES INDICATED TO REMAIN. SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUBSTRATE FOR NEW FINISHES. SITE VISIT - PRIOR TO BIDDING, THE
- CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. NO CLAIMS FOR ADDITIONAL WORK DUE TO REASONABLY INFERRED OBSERVABLE CONDITIONS WILL BE SCHEDULING - SCHEDULE DEMOLITION WORK WITH OWNER'S PROJECT MANAGER PRIOR TO
- START OF WORK TO MAXIMIZE PRODUCTIVITY. PROTECTION - EXERCISE CARE DURING WORK O PROTECT INTERIOR AND EXTERIOR EXISTING CONSTRUCTION TO REMAIN. REPAIR TO EXISTING CONSTRUCTION DUE TO DAMAGE SHALL BE DONE AT NO COST TO THE OWNER **HAZARDOUS MATERIALS** - THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY HAZARDOUS OR TOXIC MATERIALS DISCOVERED TO ARCHITECT, OWNER AND AUTHORITIES HAVING
- JURISDICTION. CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF WORK OF OTHER TRADES SHALL BE PROVIDED AT NO ADDITIONAL COST
- TO THE OWNER. THE WORK IS TO TAKE PLACE ON AN OCCUPIED AND ACTIVE CAMPUS. ALL PERSONNEL WORKING ON-SITE WITH THIS PROJECT MUST HAVE, WEAR AND DISPLAY A MCSD BADGE. CONTRACTOR/ VENDOR MUST APPLY AT THE MCSD AND PAY_ FOR ALL MCSD BADGE ASSOCIATED COSTS. NEW STANDING SEAM METAL ROOF BASIS OF DESIGN IS MERCHANT & EVANS, INC. ZIP-LOK 2" x 18" WIDE ALUMINUM PANELS 0.032" THICK; FINISH TO MATCH EXISTING ADJACENT PANELS. FLORIDA PRODUCT APPROVAL #16111.4 GENERAL CONTRACTOR SHALL PROVIDE AN ICE & WATER SHIELD IN THE ROOF REPLACEMENT ASSEMBLY.

4A | 4B | 4C

KEYPLAN

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.

I BEACH HIGH S

REPLACEMEN

OD RD, JENSEN BEA

ON DOCUMENTS

Comm. No: 16025.08

Revisions

Drawn:

No. Date

02/22/2019

Note

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PARTIAL ROOF PLAN

A-102

ROOF WIND ZONES

SCALE: 1/8"=1'-0"

GENERAL STRUCTURAL NOTES

1. The Structural Drawings shall be read in conjunction with the other Contract Documents which include, but are not limited to, Architectural, Site, Civil, Electrical and Mechanical Drawings, and the Specifications. Report any discrepancies between Contract Documents to the Architect before proceeding.

All work shall be in accordance with the 2017 Florida Building Code, FBC.

All referenced standards and codes shall be as listed in the Florida Building Code 2017.

1. Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field, and report any errors or discrepancies to the Structural Engineer prior to the fabrication and erection of any new members. The contractor has the responsibility for the correctness and fit of the new parts to the old part.

2. The Contractor shall coordinate and check all dimensions relating to architectural finishes, structural framing, mechanical openings, equipment, etc. The Structural Engineer and Architect shall be notified of any discrepancies before proceeding with work in any area under question.

- 1. Provide and erect steel roof deck in accordance with the latest Steel Deck Institute's
- 2. Steel deck shall be galvanized in accordance with ASTM 525, Class G90 uno. All abrasions shall be touched up after erection is complete.
- 3. The deck shall be 18 gauge, wide rib deck to match the existing deck profile. Suspended ceilings, light fixtures, ducts, and other mechanical or electrical fixtures are not to be supported by roof deck.
- 4. Fix the deck to the joists with 7-5/8" puddle welds per 36" wide sheet. Provide 7-#10 TEK screws
- 5. The roof deck shall be vented unless the deck manufacturer provides information that indicates that an un-vented deck provided may be used with cellular concrete insulation.

DESIGN LOADING PER FBC 2017, WIND LOADS PER ASCE 7 10 ROOF LIVE LOAD = 20 PSF ROOF DEAD LOAD = 20 PSF ULTIMATE WIND SPEED = 180 MPH (139 MPH ASD) RISK CATEGORY III BUILDING: ENCLOSED

WIND EXPOSURE C MEAN ROOF HEIGHT = 34 FT WIND DIRECTIONALITY FACTOR Kd = 0.85 INTERNAL PRESSURE COEFFICIENT = \pm 0.18

			TRIBUTARY AREA 10 SQ. FT.		
AREA	ZONE		ULTMATE LOADS	ASD LOADS	
MAIN ROOF	1,2&3	PRESSURE psf	46	27	
MAIN NOOI	1	SUCTION psf	-72	-43	
	2	SUCTION psf	-126	-76	
	3	SUCTION psf	-186	-112	
OVERHANG	2	SUCTION psf	-159	-96	
	3	SUCTION psf	-260	-156	

TABLE 1: GROSS ROOF CLADDING LOADS

ZONE 1

ZONE 3

Comm. No: 16025.08 02/22/2019 AM

Revisions No. Date

SCHOOL NT: BUILD EACH, FL 3499

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM BUILDING CODES.

ANDREW MORGAN PE 57171 © HARVARD JOLLY, INC.

ROOF WIND ZONES AND DESIGN INFORMATION

GENERAL 2. These general notes are to be read in conjunction with the notes on other structural drawings. COORDINATION WITH OTHER TRADES STEEL DECK REPLACEMENT specifications and the deck manufacturer's specifications. side lap fasteners per sheet. Field paint welds to roof deck after erection. DESIGN CRITERIA ULTIMATE WIND PRESSURE = 69 PSF. ROOF SLOPE < 27 DEGREES WIND ZONE WIDTH a = 11'-3"

LEGEND

NORTH

BUILDING 06 (AUDITORIUM)

ZONE 2