

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PAT MCCRORY GOVERNOR ANTHONY J. TATA Secretary

ADDENDUM NO. 2

September 23, 2014

RE: NCDOT Ferry Division – Swan Quarter Ferry Facility, Swan Quarter, NC SCO ID No. 11-09078-01A

PREPARED BY: Facilities Design, NCDOT

The following clarifications, changes, additions and/or deducts shall be made to the Working Drawings and Specifications of the above-referenced project. These changes shall be included in the Contract Amount for the Construction Work as indicated below:

Drawings:					
Item	Sheet No.	Description:			
1.	S2	Refer to "Partial Foundation Plan" 1/S2 and to Attachment 'A' – "Clarification of Sloped Slab at Entrance" Sketch SB1. Per attached Sketch SB1, warp concrete paving to provide a drainage swale to low point to be coordinated with civil design for finish grade.			
2.	A1.0	Refer to "Floor Plan" 1/A1.0. In Conference Room 105, the marker board shall be 12' long by 4' high. The tack board shall be 4' by 4'. All other requirements of drawings and specifications shall apply.			
3.	A1.0, A4.2	Refer to "Floor Plan" 1/A1.0 and to "Interior Elevation – Rm 106" 14/A4.2. Finished ends of stowage alcove walls for Operable Wall shall be flush with the face of the outermost wall panel in its stored position.			
4.	E1.0	Refer to "Floor Plan - Lighting Plan". In Women's Room 115, change occupancy sensor shown as "OD3" to read "OS3".			
5.	E1.0	Add one OS5 occupancy sensor in ceiling of Covered Porch 100. Electrical device "PE" shown on Covered Porch 100 is a			

		photosensor to control lights according to the amount of exterior light. Mount photocell on gable end of building facing north. Photosensor "PE" shall control emergency egress lights on the building such that they are on from dusk to dawn. Non- emergency exterior lights on the Covered Porch shall be controlled by occupancy sensor "OS5".
6.	E2.0, E3.1	Refer to "Floor Plan – Power Plan" 1/E2.0 and to Details 3, 4, and 5/E3.1. Extend concrete duct banks to inside face of concrete wall footing. Conduits inside that line shall not require duct bank protection. Per details, top of concrete duct bank shall be a minimum of 30" below finish grade; however, duct banks may be required to be lower to accommodate the minimum conduit bend to vertical at panel locations.
7.	E2.0	Refer to "Floor Plan – Power Plan" 1/E2.0. In Conference Room 105, add connection to motorized projector screen to Panelboard P1B, circuit 36, 2#12, 1#12 G, ½" C. Provide "Raise, Lower, Off" switch for screen on wall. Coordinate location with architect's drawings and receive architect's approval prior to rough-in of switch in to order to coordinate with other wall-mounted devices in the room.
8.	E3.1	Refer to Note 4. Top of concrete duct bank shall be a minimum of 30" below finish grade.
9.	E3.1	Refer to Note 8. The minimum compressive strength of concrete for duct banks shall be 3,000 PSI.
10.	E3.1	Refer to Drawing E3.1 Detail 3. Delete note below detail in its entirety and add the following note in its place: "Note: For all underground branch circuits not passing under roadways."
<u>Speci</u>	fications:	
<u>ltem</u>	<u>Page No.</u>	Description:
1.	07 2100	Refer to Specification Section 07 1200 "Thermal Insulation", Paragraph 2.02 A.6 "Manufacturers". Subject to all other requirements of the drawings and specifications, the following manufacturer's product may be incorporated into the work of this project:
		R-Max, 1649 South Batesville Road, Greer, SC 29650; Telephone: 800-845-4455; Fax: 864-234-7548
2.	07 4113	Refer to Specification Section 07 4113 "Metal Roof Panels" Paragraph 1.06 "Warranty". Add the following paragraph:

		 "D. 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 D2244. b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214. c. Cracking, checking, peeling, or failure of paint to adhere to bare metal. 2. Finish Warranty Period: 20 years minimum from date of Substantial Completion."
3.	07 4113	Refer to Specification Section 07 4113 "Metal Roof Panels" Paragraph 2.01 B "Manufacturers". Subject to all other requirements of the drawings and specifications, the following manufacturers'products may be incorporated into the work of this project:
		Construction Metal Products, Inc., 2204 West Front Street, Statesville, NC 28677; telephone: 704-871-8704; fax: 704-871- 1381; www.cmpmetalsystems.com. Product: S-2500.
		MBCI, 2280 Monier Avenue, Lithia Springs, GA 30122; telephone: 770-948-7568; fax: 770-739-6228; www.mbci.com. Product: BattenLok HS.
		Union Corrugating Company, 701 South King Street, Fayetteville, NC 28302; Telephone: 888-685-7663; <u>www.unioncorrgating.com</u> ; Procuct: ML200 Panel.
4.	07 4113	Refer to Specification Section 07 4113 "Metal Roof Panels" Paragraph 2.03 "Attachment System". Standing seam metal roofing anchors shall be floating clips specifically designed for manufacturer's roofing panels. All other requirements indicated in the specifications and drawings shall apply.
5.	07 4113	Refer to Specification Section 07 4113 "Metal Roof Panels" Paragraph 2.04 "Panel Finish". Architect shall make color selection for roof panels, trim, gutters, downspouts, and other accessories from manufacturer's full line of colors.
6.	09 6813	Refer to Specification Section 09 6813 "Tile Carpeting", Paragraph 2.02 A2 "Tile Size". Basis of Design carpet tile by Miliken is 50 cm x 50 cm (20 inches x 20 inches). Carpet tile sizes 24 inches x 24 inches are also acceptable.

7.	10 2000	Refer to Detail 2/A5.2 "Louver Elevations". Provide louvers per Attachment 'B' Specification Section 10 2000 "Louvers and Vents".
8.	10 2226.33	Refer to Specification Section 10 2226.33 "Folding Panel Partitions". Operable Wall shall have a minimum STC rating of 50. Delete Paragraph 2.02 I: no pocket enclosure is required.
9.	12 2400	Refer to Specification Section 12 2400 "Window Shades", paragraph 2.01 "Manufacturers. Subject to all other requirements of the construction documents, the following manufacturer's products may be incorporated into this project: Inside Outfitters, 8333 Green Meadows Drive N, Suite B, Lewis Center, OH 43035; phone: 614-798-3500; fax: 614-798-3511.
10.	12 4813	Refer to Floor Plan 1/A1.0 and Detail 4/A1.0. Provide entrance mats per Attachment 'C' Specification Section 12 4813 "Entrance Floor Mats and Frames".
11.	26 0533, 26 0543	Refer to Specifications Sections 26 0533 "Raceways and Boxes for Electrical Systems" and 26 0543 "Underground Ducts and Raceways for Electrical Systems". To comply with State Construction Office requirements, all service entrance conductors shall be encased in 3 inches minimum of concrete all around for both normal (utility) power and emergency (generator) power. Per notes on Drawing E0.3, encase telecommunications and service conduits including emergency power in concrete. Refer to details on Drawing E3.1. Note that emergency power ductbank concrete shall be colored red.

END ADDENDUM NO. 2

APPROVED BY: Mark D. Gibson AIA, NCDOT Facilities Design

cc: Email to all Bidders, Plan Rooms, SCO; Priscilla T. Williams, PE, Director Facilities Management Division, NCDOT; Amber Farrelly, PE, B & F Consulting; Kim Reitterer PE, Elm Engineering, Inc.



ATTACHMENT "B"

SECTION 102100

LOUVERS, GRILLES AND VENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fixed-Blade Extruded-Aluminum Louvers:
 - 1. Horizontal drainable-blade louver.
- B. Louver Screens.

1.2 RELATED SECTIONS

- A. Section 05500 Metal Fabrications.
- B. Section 07920 Joint Sealants.
- C. Section 09910 Painting.

1.3 REFERENCES

- A. Air Movement and Control Association International (AMCA):
 - 1. AMCA 500-L Laboratory Methods of Testing Louvers for Rating.
 - 2. AMCA 501 Application Manual for Air Louvers.
 - 3. AMCA 511 Certified Ratings Program Product Rating Manual for Air Control Devices.
- B. ASTM International (ASTM):
 - 1. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM A 666 Standard Specification for Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - 3. ASTM A 788 Standard Specification for Steel Forgings, General Requirements.
 - 4. ASTM B 26 Standard Specification for Aluminum Alloy Sand Castings.
 - 5. ASTM B 209 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
 - 6. ASTM B 221 Standard Specification for Aluminum and Aluminum Alloy Rolled or Cold Finished Bar, Rod, and Wire.
 - 7. ASTM C 578 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - 8. ASTM C 612 Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
 - 9. ASTM D822 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
 - 10. ASTM D 1187 Standard Specification for Asphalt Base Emulsions for Use as Protective Coatings for Metal.
 - 11. ASTM D4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
 - 12. ASTM D2244 Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates.

- 13. ASTM E 90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- 14. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- 15. ASTM E 413 Classification for Rating Sound Insulation.
- C. American Architectural Manufacturer's Association (AAMA).
 - 1. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
 - 2. AAMA 2603 Voluntary Specification. Performance Requirements and Test Procedures For. Pigmented Organic Coatings on Aluminum Extrusions.
 - AAMA 2604 High Performance Organic Coatings on Architectural Extrusions and Panels.
 - 4. AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum.
- D. National Association of Architectural Metal Manufacturers (NAAMM): Metal Finishes Manual for Architectural and Metal Products.
- E. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): Architectural Sheet Metal Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets for each product and assembly specified.
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Cleaning methods.
- C. Shop Drawings: For units and accessories. Include plans; elevations; sections; and details showing profiles, angles, and spacing of elements. Show unit dimensions related to wall openings and adjacent construction; free area for each size indicated for louvers; profiles of frames at jambs, heads, and sills; and anchorage details and locations.
 - 1. Verify openings by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 2. For installed products indicated to comply with design loadings, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Product Certificates:
 - 1. Air Performance: Certificates signed by Air Movement and Control Association International Inc (AMCA) certifying that the manufacturer's stock units are tested in accordance with AMCA Standard 500 and are licensed to bear the AMCA Certified Ratings Seal in accordance with AMCA Standard 511.
 - 2. Water Penetration: Certificates signed by Air Movement and Control Association International Inc (AMCA) certifying that the manufacturer's stock units are tested in accordance with AMCA Standard 500 and are licensed to bear the AMCA Certified Ratings Seal in accordance with AMCA Standard 511.
 - 3. Weather Louver Effectiveness: Certificates signed by Air Movement and Control Association International Inc (AMCA) certifying that the manufacturer's stock units are tested in accordance with AMCA Standard 500-L99, Section 8.3.2 - Wind Driven Rain Water Penetration Test, and are licensed to bear the AMCA Certified Ratings Seal in accordance with AMCA Standard 511.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project

names and addresses, names and addresses of architects and owners, and other information specified.

- F. Selection Samples: Two complete color charts showing the full range of colors available for units with factory-applied color finishes.
- G. Samples for Verification: For each finish specified, two samples representing actual finishes specified; prepared on Samples of same thickness and material indicated for final Work. Where finishes involve normal color and texture variations, include Sample sets showing the full range of variations expected.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 years manufacturing similar products. The manufacturer shall have implemented a program for the management of quality objectives, continual improvement, and monitoring of customer satisfaction to assure that customer needs and expectations are met.
- B. Installer Qualifications: Minimum 2 years experience installing similar louvers.
- C. Professional Engineer Qualifications: A professional engineer legally qualified to practice in jurisdiction where Project is located and experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of products that are similar to those indicated for this Project in material, design, and extent.
- D. Source Limitations: Obtain products through one source from a single manufacturer where alike in one or more respects regarding type, design, or factory-applied color finish.
- E. AMCA Standard 500-L: Air performance, water penetration and air leakage ratings shall be determined in accordance with Air Movement and Control Association International Inc (AMCA) Standard 500, "Laboratory Methods of Testing Louvers for Rating."
- F. SMACNA Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" recommendations for fabrication, construction details, and installation procedures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.
- B. Store products indoors in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage.

1.7 SEQUENCING AND SCHEDULING

- A. Field Measurements: Verify openings and adjacent construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to established dimensions.
 - 2. Coordinate Setting Drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

1.8 **PROJECT CONDITIONS**

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

1.9 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard limited warranty for louver systems for a period of 1 year from date of installation, no more than 18 months after shipment from manufacturing plant. When notified in writing from the Owner of a manufacturing defect, manufacturer shall promptly correct deficiencies without cost to the Owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Ruskin Co.: <u>www.ruskin.com</u>; Basis of design: Ruskin ELF6375DXD drainable stationary louver
- B. Aerolite Company, LLC: <u>www.aerolite.com</u>
- C. Construction Specialties, Inc. www.c-group.com
- D. Substitutions: See Section 01 6000- Product Requirements.

2.2 LOUVERS, GRILLES AND VENTS - GENERAL.

- A. The supporting structure shall be designed to accommodate the point loads transferred by the louvers when subject to the design wind loads.
- B. Performance Requirements:
 - 1. Structural Performance: Provide products capable of withstanding the effects of loads and stresses from wind and normal thermal movement without evidencing permanent deformation of components including blades, frames, and supports; noise or metal fatigue caused by component rattle or flutter; or permanent damage to fasteners and anchors.
 - a. Wind Load: Uniform pressure (velocity pressure) of 40 lbf/sq. ft. (1900 Pa), acting inward or outward.
 - b. Thermal Movements: Provide products that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, and other detrimental effects:
 - c. Temperature Change (Range): 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.
- C. Materials:
 - 1. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy 6063-T5 or T-52.
 - 2. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 but containing no asbestos fibers, or cold-applied asphalt emulsion complying with ASTM D 1187.
- D. Fabrication:
 - a. Continuous Vertical Assemblies: Where height of units exceeds fabrication and handling limitations, fabricate units to permit field-bolted assembly with close-fitting joints in jambs and mullions, reinforced with splice plates and without interrupting blade-spacing, or grille or screen pattern.

- 2. Maintain equal louver blade spacing to produce uniform appearance.
- 3. Fabricate frames, including integral sills for louvers, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining materials' tolerances, and perimeter sealant joints.
- 4. Include supports, anchorages, and accessories required for complete assembly.

2.3 FIXED-BLADE EXTRUDED-ALUMINUM LOUVERS

A. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.4 LOUVER SCREENS

- A. General: Provide exterior louvers with louver screens.
 - 1. Screen Location for Fixed Louvers: Interior face.
- B. Attachment: Secure screens to louver frames with stainless-steel machine screws, spaced 18 inches (458 mm) o.c.
- C. Louver Screen Frames: To sizes indicated on Drawings.
 - 1. Fabrication: Mitered corners.
 - 2. Metal: Roll formed aluminum.
 - 3. Finish: Same finish as louver frames to which louver screens are attached.
 - 4. Type: Rewirable frames with a driven spline or insert for securing screen mesh.
- D. Louver Screening for Aluminum Louvers:
 - 1. Bird Screening: Aluminum, 1/2 inch (12.7 mm) square mesh, 0.063 inch (1.6 mm) wire.
 - 2. Insect Screening: Aluminum, 18-by-16 (1.4-by-1.6 mm) mesh, 0.012 inch (0.30 mm) wire.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish units after assembly.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Prepare substrates and openings using methods recommended by manufacturer for achieving best result for substrates under project conditions.
- B. Do not proceed with installation until substrates and nailers have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
- C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
 - 1. Locate and place units level, plumb, and at indicated alignment with adjacent work.
 - 2. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight

connection.

- 3. Form closely fitted joints with exposed connections accurately located and secured.
- 4. Provide perimeter reveals and openings of uniform width for sealants and joint fillers as indicated on Drawings.
- 5. Repair finishes damaged by cutting, welding, soldering, and grinding. Restore finishes so no evidence remains of corrective work. Return items that cannot be refinished in the field to the factory, make required alterations, and refinish entire unit or provide new units.
- 6. Protect galvanized and nonferrous-metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.
- B. Install concealed gaskets, flashings, joint fillers, and insulation, as installation progresses, where weathertight joints are required. Comply with Division 7 Section "Joint Sealants" for sealants applied during installation.

3.3 ADJUSTING, CLEANING AND PROTECTION

- A. Test operation of adjustable louvers and adjust as needed to produce fully functioning units that comply with requirements.
- B. Protect products from damage until completion of project. Use temporary protective coverings where needed and approved by manufacturer. Remove protective covering at the time of Substantial Completion.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

ATTACHMENT "C"

SECTION 12 4813

ENTRANCE FLOOR MATS AND FRAMES

PART1 GENERAL

1.01 SECTION INCLUDES

- A. Extruded aluminum recessed entrance floor grids with vinyl thread.
- B. Recessed mat frames.

1.02 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Entrance Floor Grids:
 - 1. Balco Inc.; www.balcousa.com. Basis of design: Balco FG 1 1/2V
 - 2. Arden Architectural Specialties, Inc; : www.ardenarch.com.
 - 3. Pawling Corporation; : www.pawling.com.
 - 4. Reese Enterprises, Inc; : www.reeseusa.com.
 - 5. Substitutions: See Section 01 6000 Product Requirements.

2.02 ENTRANCE FLOOR GRILLES AND GRATINGS

- A. Entrance Floor Grilles: Recessed extruded aluminum grille assembly with nominal 1 inch wide tread strips running perpendicular to traffic flow, slots between treads, and perimeter frame forming sides of recess; grille hinged for access to recess.
 - 1. Recess Depth: 1-5/8 inches.
 - 2. Tread Surfaces: Alternating rigid serrated vinyl.
 - 3. Colors: To be selected by NCDOT from manufacturer's full selection.
 - 4. Length in Direction of Traffic Flow: 40 inches.
 - 5. Width Perpendicular to Traffic Flow: Full width of entrance door opening.
 - 6. Frame: Clear anodized aluminum for embedding in concrete; minimal exposed trim; stud or hook concrete anchors.
- B. Mounting: Top of non-resilient members level with adjacent floor.
- C. Structural Capacity: Capable of supporting a rolling load of 500 pounds without permanent deformation or noticeable deflection.
- D. Vibration Resistant Fabrication: All members welded, riveted, or bolted; no snap or friction connections.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that floor opening for mats are ready to receive work.

3.02 PREPARATION

- A. Mats: Verify size of floor recess before fabricating mats.
- B. Vacuum clean floor recess.

3.03 INSTALLATION

- A. Install frames to achieve flush plane with finished floor surface.
- B. Install walk-off surface in floor recess flush with finish floor after cleaning of finish flooring.

END OF SECTION