BCA ARCHITECTS & ENGINEERS

Highland Falls – Fort Montgomery Central School District James I. O'Neill Renovation Project Re-Bid 09.10.2021 SED Control No.'s 44-09-01-04-0-008-017 BCA Project No. 2020-117

> Addendum No. 3 September 28, 2021

To: All Bidders

This addendum is hereby made part of the Contract Documents as though it were originally included therein. It modifies the following documents:

Original Drawings and Project Manual dated 09/10/2021.

Addendum No. 1 dated 09/17/2021

Addendum No. 2 dated 09/24/2021

All Bidders must acknowledge receipt of this Addendum in the space provided on the Form of Proposal.

GENERAL CLARIFICATIONS:

Refer

A. **Question:** What is the height from the floor to the attachment point in the ceiling for the Overhead Volleyball System?

Answer: Reference Drawing A-301 *Reflected Ceiling Plan – Gymnasium 254*. Bottom of main beams are 22'-2" from Gym Floor. Intermediate Beams are 22'-5" from Gym Floor. Gym Roof Deck is 26'-4.5" from Gym Floor.

RE-ISSUED SPECIFICATION SECTIONS:

10 4000 Exterior LED Message Center

REVISIONS TO THE PROJECT MANUAL:

- A. Refer to Specification Section 02 0800 Asbestos Abatement Procedures;
 - 1. Paragraph 3.17.1; **AMEND** to read:

"James I. O'Neill High School (Auditorium Abatement – Alternate No. 2)"

2. Paragraph 3.17.2; **AMEND** to read:

"James I. O'Neill High School (Auditorium Abatement - Alternate No. 3)"

B. Refer to Specification Section 10 4000 *Exterior LED Message Center;* **DELETE** in its' entirety and **REPLACE** with the attached Specification Section 10 4000 *Exterior LED Message Center.*

RE-ISSUED 24" X 36" DRAWINGS:

AD3/HM-100 Asbestos Abatement Plan – Area A AD3/A-202 Lift Landing Steel Structure and Marquee Details AD3/E-303 - Basement & First Floor Area B – Partial Plans

New 11" X 17" DRAWINGS:

AD3/E1 – Exterior Luminaire Schedule

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REVISIONS TO THE CONTRACT DRAWINGS:

- A. Refer to Drawing HM-100 *Asbestos Abatement Plan Area A;* **DELETE** in its' entirety and **REPLACE** with the attached drawing AD3/HM-100 *Asbestos Abatement Plan Area A.*
- B. Refer to Drawing A-202 *Lift Landing Steel Structure and Marquee Details*; **DELETE** in its' entirety and **REPLACE** with the attached drawing AD3/A-202 *Lift Landing Steel Structure and Marquee Details*.
 - <u>CLARIFICATION:</u> GC shall be responsible for foundation, columns, marquee sign in its' entirety. EC shall be responsible for conduit trench, conduit run, associated power disconnects, transformers and final connections to the new marquee.
- C. Refer to Drawing A-301 *Reflected Ceiling Plan Gymnasium 254*; **DELETE** All references to Alternate GC-06 in their entirety. **CLARIFICATION:** All work is now base bid.
- D. Refer to Drawing E-010 Partial Site Plans Lighting and Marquee;
 - 1. Keyed Note P5 **AMEND** to read:
 - "P5. REPLACEMENT OF EXISTING SCHOOL SIGN BY CONTRACTOR RESPONSIBLE FOR GENERAL WORK. CONTRACTOR RESPONSIBLE FOR ELECTRICAL WORK IS TO PROVIDE POWER CONNECTIONS TO NEW MARQUEE AND ASSOCIATED COMPONENTS. COORDINATE FINAL CONNECTION LOCATIONS AND CONFIGURATIONS ON SITE."
 - 2. Keyed Note P8 AMEND to read:
 - "P8. CONTRACTOR RESPONISBLE FOR ELECTRICAL WORK IS TO PROVIDE 10kVA 480-120/240V AC INDOOR / OUTDOOR PACKAGED POWER SUPPLY IN NEMA 3R ENCLOSURE. PACKAGED POWER SUPPLY TO BE EQUAL TO SQUARE D CATALOG #MPZ10S40F WITH 480V DELTA PRIMARY, 120/240V SCONDARY WITH 50A2P PRIMARY MCB AND 60A2P SECONDARY MCB. POPULATE PANEL SECTION WITH FOUR (4) 20A1P BREAKERS. ALL BREAKERS ARE TO BE BOLT-ON STYLE QOB TYPE. PROVIDE SYSTEM GROUND IN ACCORDANCE WITH NEC ARTICLE 250. FIELD PAINT PACKAGED POWER SUPPLY CUSTOM RAL COLOR AS SELECTED BY ARCHITECT UPON SUBMITTAL REVIEW.
 - 3. Keyed Note P9 **AMEND** to read:
 - "P9. SURFACE MOUNT PAKAGED POWER SUPPLY ON BACKSIDE OF MARQUEE MASONRY STRUCTURE, ON INSIDE FACE. FIELD COORDINATE INTALLATION LOCATION AND MOUNTING CONFIGURATION WITH GENERAL CONTRACTOR. UNIT IS TO BE POSITIONED TO MINIMIZE VISUAL IMPACT. COORDINATE EXACT PLACEMENT OF UNIT WITH ARCHITECT AND OWNER IN FIELD DURING PRE-CONSTRUCTION MEETING AND UPON SUBMISSION OF COORDINATION SHOP DRAWINGS WITH GC. FIELD COORDINATE ROUTING OF CONDUITS FROM PACKAGE POWER SUPPLY TO EACH OF THREE SIGN CABINETS WITH GC PRIOR TO COORDINATION DRAWING SUBMITTAL SUBMISSION.
- E. Refer to Drawing E-303 Basement & First Floor Area B Partial Plans; **DELETE** In its' entirety and **REPLACE** with the attached Drawing BID AD3 / E-303 Basement & First Floor Area B Partial Plans.



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F. Refer to Drawing E-600 *Schedules*; Exterior Luminaire Schedule; **DELETE** in its' entirety and **REPLACE** with the attached Drawing AD3 / E1 – *Exterior Luminaire Schedule*

END OF ADDENDUM

Please do not hesitate to contact me with any questions on this addendum, thank you.

Respectfully Submitted,

BCA ARCHITECTS & ENGINEERS

John Sokol, RA

Principal

SECTION 10 4000 EXTERIOR LED MESSAGE CENTER

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. LED message centers
- B. Backlit LED school name cabinet and school address cabinet (See drawing sheet A-202).
- C. Control software

1.02 REFERENCES

- A. Standard for Electric Signs, UL and CUL Listed
- B. Standard for Control Centers for Changing Message Type Signs
- C. Federal Communications Commission Regulation Part 15
- D. National Electric Code
- E. Designed to current UBC or IBC standards
- F. FCC Class A Compliant

1.03 SUBMITTAL

- A. The electronic LED display manufacturer shall provide a complete technical submittal within 60 days of contract award and shall not proceed with LED Matrix manufacture until the submittal is approved.
- B. Submit:
 - 1. All LED display manufacturer qualifications, as specified herein.
 - 2. LED display shop drawing.
 - 3. LED display Riser diagram.
 - 4. AC Site Power Requirements, including legs and Amps per leg.
 - 5. LED display control software operator's manual.
 - 6. LED display installation and maintenance manual.

1.04 QUALIFICATIONS

- A. LED Display Manufacturer shall:
 - Have been in the business of manufacturing permanently mounted outdoor LED displays for a minimum period of 15 years prior to the contract bid date. An "LED" display contains pixels constructed solely of high-intensity discrete LEDs
 - 2. Have in operation at bid date a minimum of 100 large outdoor permanently mounted LED displays as defined above. Each of these LED displays shall have operated successfully for a minimum period of one (1) year prior to the contract bid date.
 - 3. Have been in business under the same corporate name for a period of no less than 40 years prior to the contract bid date.
 - 4. Provide a toll-free help desk number that will be staffed from 7 a.m. to 7 p.m.
- B. Experience with manufacturing the following types of electronic sign products shall not satisfy the requirements of this LED display specification:
 - 1. Indoor displays of any size or type
 - 2. Back-lit displays
 - 3. Any type of matrix display that cannot be programmed to show a nearly infinite quantity of messages
- C. Coordination Drawings:
 - 1. Provide fully dimensioned coordination drawings showing structural elements, structural connections/supports/attachments, electrical equipment mounting, and routing of conduits within marquee.
 - 2. Fully coordinate with Electrical Contractor prior to submission of coordination drawings for review.
- D. As-Built drawings, including executed coordination drawings.

1.05 WARRANTY

A. Provide 5 years of parts coverage

- B. Provide toll-free service coordination
- C. Provide a toll-free help desk number that will be staffed from 7 a.m. to 7 p.m. Central Time

PART 2 PRODUCTS

2.01 LED DISPLAY

- A. Cabinet Construction
 - Manufacturer: Daktronics; Model: Galaxy GT6X 10mm LED Display or equivalent.
 - LED Message Center Cabinet dimensions shall not exceed 64 inches high by 90 inches wide. The front-to-back cabinet depth shall not exceed 7 inches.
 - 3. The cabinet shall contain a full LED matrix measuring a minimum of 108 Lines H/Matrix pixel rows high by 180 Columns W/Matrix pixel columns wide.
 - 4. Cabinet display configuration is:

B. Single-Face (SF)

- 1. The distance from the center of one line or column of pixels to the center of all adjacent lines or columns shall be 0.4" both horizontally and vertically.
- Maximum LED display power per face shall not exceed 1583 watts when 100% of the pixels are operating at their maximum possible drive current.
- 3. Display shall operate from the following power sources: 120 VAC, 60 Hz single-phase, including neutral and earth ground.
- 4. Display shall operate in a minimum ambient temperature range of -40° to +120°F (-40 to +50°C) and to a 95% humidity.
- 5. Internal display component hardware (nuts, bolts, screws, standoffs, rivets, fasteners, etc.) shall be fabricated from stainless steel, aluminum, nylon, or other durable corrosion-resistant materials suitable for the signage application.
- 6. Electrical display components shall be 100% solid-state.
- 7. The presence of ambient radio signals and magnetic or electromagnetic interference, including those from power lines, transformers, and motors, shall not impair performance of the display system.

C. Housing Frame

- Display materials shall use non-corrosive materials or have a protective coating so they shall be anti-corrosive and not degrade or oxidize.
 - a. Finish Color Selection by Architect.
- 2. Adequate ventilation shall be provided through convection without the need to provide extra space around the sides or behind the display.
- 3. Steel mounting points that can be used for mounting purposes shall be provided with the display and have the ability to be adjusted for alternative mounting methods.
- 4. Shall include lifting supports that can be removed after installation.

D. Exterior Finish

 The LED display border pieces shall be coated with an automotive-grade acrylic urethane paint.

E. Front Face Construction

- To meet the display readability requirements, the front face must be constructed in such a manner that it provides high contrast, low sunlight reflection and durability in all weather and site conditions.
- 2. Minimum features of front face shall:
- F. Include horizontal louvers for contrast enhancement.
- G. Include vertical ribbing for contrast enhancement
- H. Use surface materials in the active LED area, such as metal, plastic, or other face materials, designed for low sunlight reflectivity.

I. Serviceability

- The display housing shall provide safe and convenient front service access for all modular assemblies, components, wiring, and other materials located within the housing.
- 2. All internal components shall be removable and replaceable by a single technician with basic hand tools.

- 3. Service access shall be easily obtained by removal of one or more modules in front of the associated internal component.
- 4. Each module should allow simple removal with a single latch system.
- 5. Displays shall be designed with service features that minimize potential bodily harm.

2.02 DISPLAY COMPONENTS

- A. LED display modules shall be constructed for good readability, long life, and ease of service. Each display module shall be constructed as follows:
 - 1. Each module within the product family shall be designed with the same physical footprint of 14.4" x 14.4".
 - All modules and their components shall be fully encapsulated and sealed to meet IP-67 standards.
 - 3. An LED module shall consist of LEDs with all drive electronics mounted on a single Printed Circuit Board (PCB).
 - 4. LEDs shall be auto-inserted in order to maintain quality and uniformity of the LEDs within each LED module.
 - All PCBs shall be wave-soldered to ensure uniformity, quality, and durability of all solder joints.
 - All PCBs shall be cleaned in a manner so as not to contain more than 2 parts per million contaminants.
 - 7. Module signal and electrical connections shall be of the positive locking and removable type. Removal of a module from the display shall not require a de-soldering operation.
 - 8. Data to the modules shall be redundant in that the signal can reach the module from multiple directions in the event of a loss in signal path from either direction.
 - 9. All LED display modules in a single display shall be identical in construction and interchangeable throughout the display with the ability to be field calibrated.
 - All module rows shall include continuous louvers over the LEDs for sunlight shading and enhanced contrast.
 - 11. Modules shall be individually attached to the cabinet frame.
 - 12. Removal of one or more modules shall not affect the display's structural integrity.
 - 13. The distance from the center of one line or column of pixels to the center of all adjacent lines or columns shall be 0.4" both horizontally and vertically.
 - 14. The failure of a single pixel, module or power supply shall not cause the failure of any other pixel, module or power supply in the display.
 - 15. All modules shall have no less than a 160° horizontal half-intensity viewing angle.
- B. The transition of viewing intensity shall be consistent throughout the viewing cone.
- C. Pixels shall conform to the following specifications:
 - 1. Surface mount device LEDs shall be mounted to the surface of the circuit board.
 - 2. LEDs shall be non-diffused, ultra-bright, solid-state light emitting diodes.
 - 3. The red LEDs shall be constructed of AllnGaP technology and the green and blue LEDs shall be constructed of InGaN technology.
 - 4. Each color of LEDs used in all LED displays provided for this contract shall be from the same bin.
 - 5. LED half-life shall be an estimated minimum of 100,000 hours.
 - 6. Display shall have a minimum intensity of 8,000 cd/m2 for RGB maximum light output.

D. Power Supply

- All power supplies shall be regulated, auto-ranging AC to DC power, with protection for the LED pixel, LED display and driver circuitry in the event of power spikes or surges.
- 2. Each power supply and their connectors shall be fully sealed to protect from corrosive environmental factors meeting IP-67 standards.

E. Internal Wiring

- 1. Wiring for LED display modules and other internal components shall be installed in the housing in a neat and professional manner.
- Wiring shall not impede the removal of display modules, power supplies or other display components.
- 3. Wires shall not make contact with or be bent around sharp metal edges.

- 4. All wiring shall conform to the National Electric Code.
- F. The display shall be protected from electrical spikes and transients.
- G. The manufacturer shall provide an earth-ground lug on the display.

2.03 DISPLAY PERFORMANCE

- A. Display Capability
 - 1. The LED display shall present messages that are continuous, uniform, and unbroken in appearance.
 - The LED display shall be capable of producing 281 trillion colors for RGB at all dimming levels.
 - 3. Each display pixel shall be composed of one surface mount LED containing one each red, green, and blue LED within a single package.
 - 4. The LED display shall be capable of displaying all true type fonts.
 - 5. The display shall be able to display messages composed of any combination of alphanumeric text, punctuation symbols, graphic images, and pre-canned video files.
 - 6. Video and message files shall have up to a 30 frame per second playback capability.

B. Controller

- The display's controller shall be able to run independently from a controlling computing device allowing the display to operate even when the controlling device is unhooked or turned off.
- 2. Communication protocol shall support other matrix products from the vendor such as other outdoor or indoor displays of varying sizes and/or colors.
- 3. Each controller shall be connected to a light sensor allowing each LED display to automatically adjust brightness according to display direction and lighting conditions.
- 4. The controller shall allow connection to a temperature sensor that provides accurate site temperatures.
- 5. Active presentations, stored presentations, schedules, display configuration, time and date shall be stored in non-volatile memory. No external power or battery backup will be required to maintain this data.

C. Control and Communications

- The display controller should be DHCP-enabled and allow for static IP addressing.
- Each single face display shall be controller and monitored by its own embedded LED controller. Each 2V display shall be controlled and monitored by one sign controller in the primary face, and the secondary face must show the same mirrored content.
- 3. The LED controller shall be able to receive instructions from and provide information by accessing the Venus Control Suite using the following communication modes:
- D. Select one only:
- E. Ethernet Cellular Modem
 - 1. Include lifetime Verizon Cellular Account Connection
- F. Custom school name backlit sign (Top Cabinet, see Marquee Elevation 5/A-202).
- G. Custom school address backlit sign (bottom cabinet, see Marquee Elevation 5/A-202).

2.04 CONTROL SOFTWARE

- A. Control Software: Display content and scheduling shall be via Venus Control Suite (VCS) cloud-based solution. Software to be hosted on manufacturer's servers at no cost to the customer. Web browser access to the solution to support iOS Safari, Android Chrome, Internet Explorer v11+, Microsoft Edge, Google Chrome and Mozilla Firefox.
- B. Basic content creation to be performed via browser-based online editor.
- C. Expanded content creation tools available via PC-compatible Content Studio download.
- D. Supports import of images (PNG, BMP, GIF, JPG, PSD) and video files (AVI, MPG, MP4, MOV) in both browser-based and downloadable content utilities.

PART 3 EXECUTION

3.01 EXAMINATION

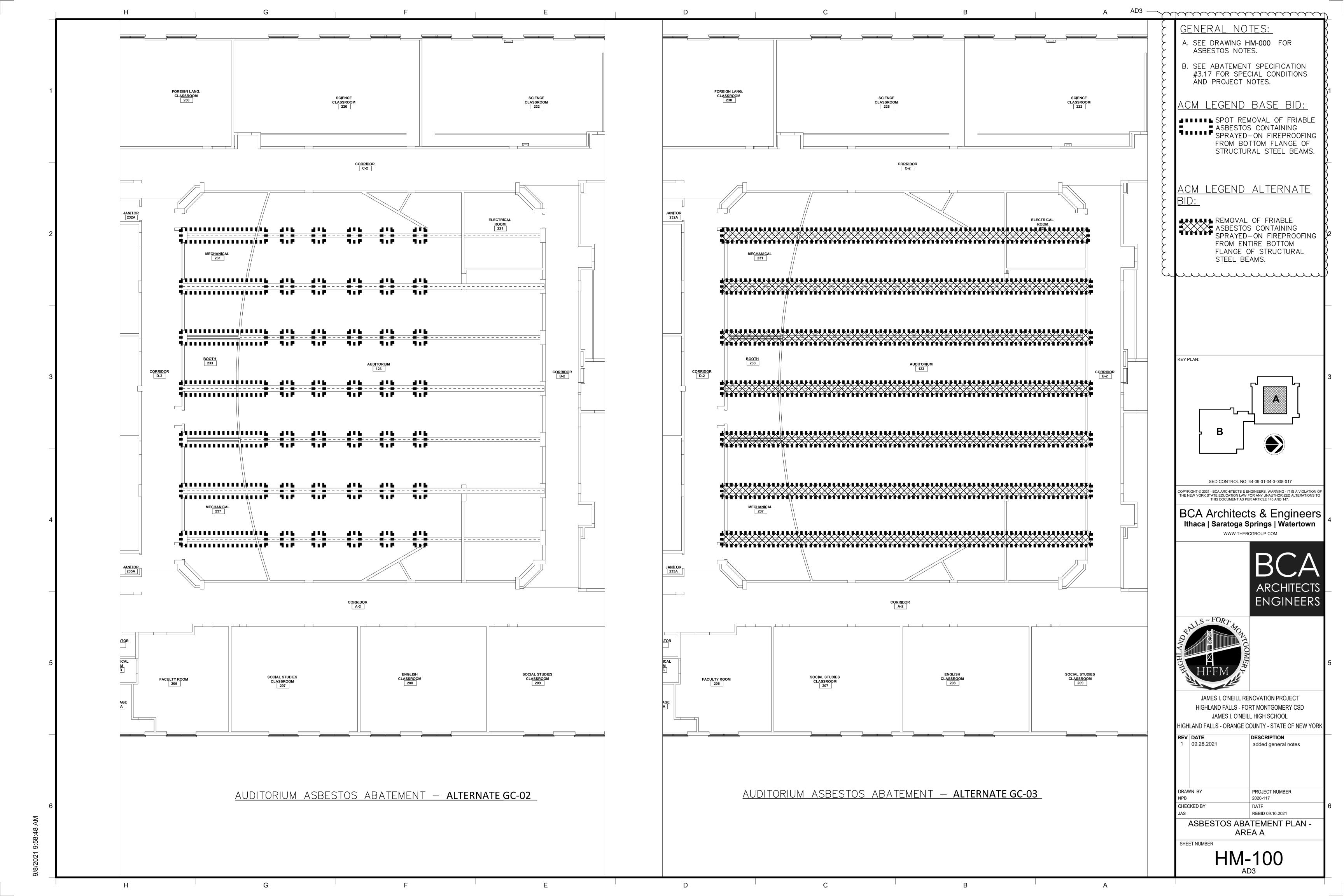
 Mounting structure to be installed by contractor to support desired displays in all locations. Verify that separate conduit is in place for power and data to display, unless fiber is being used. Verify that all control equipment has access to 120 VAC.

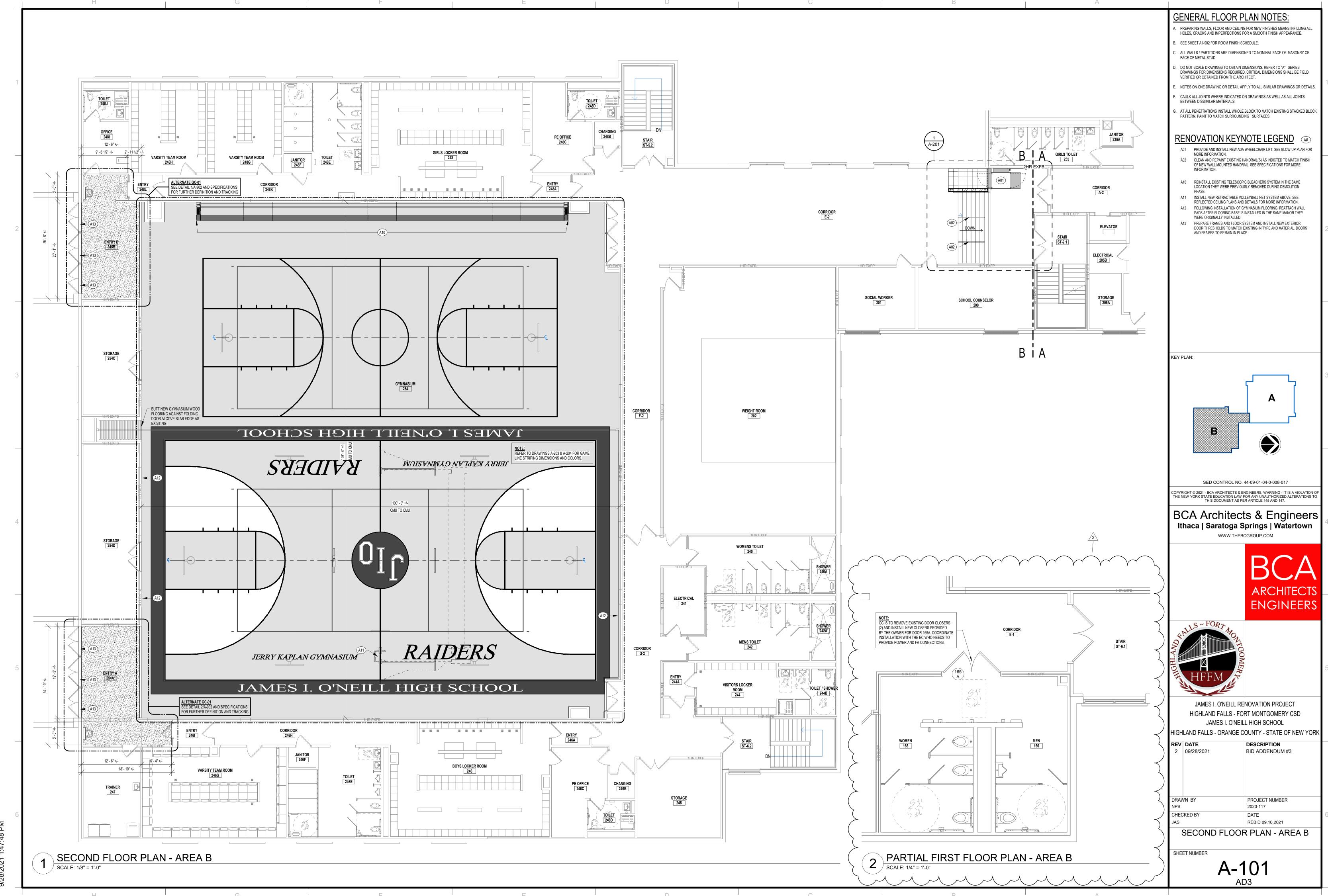
3.02 INSTALLATION

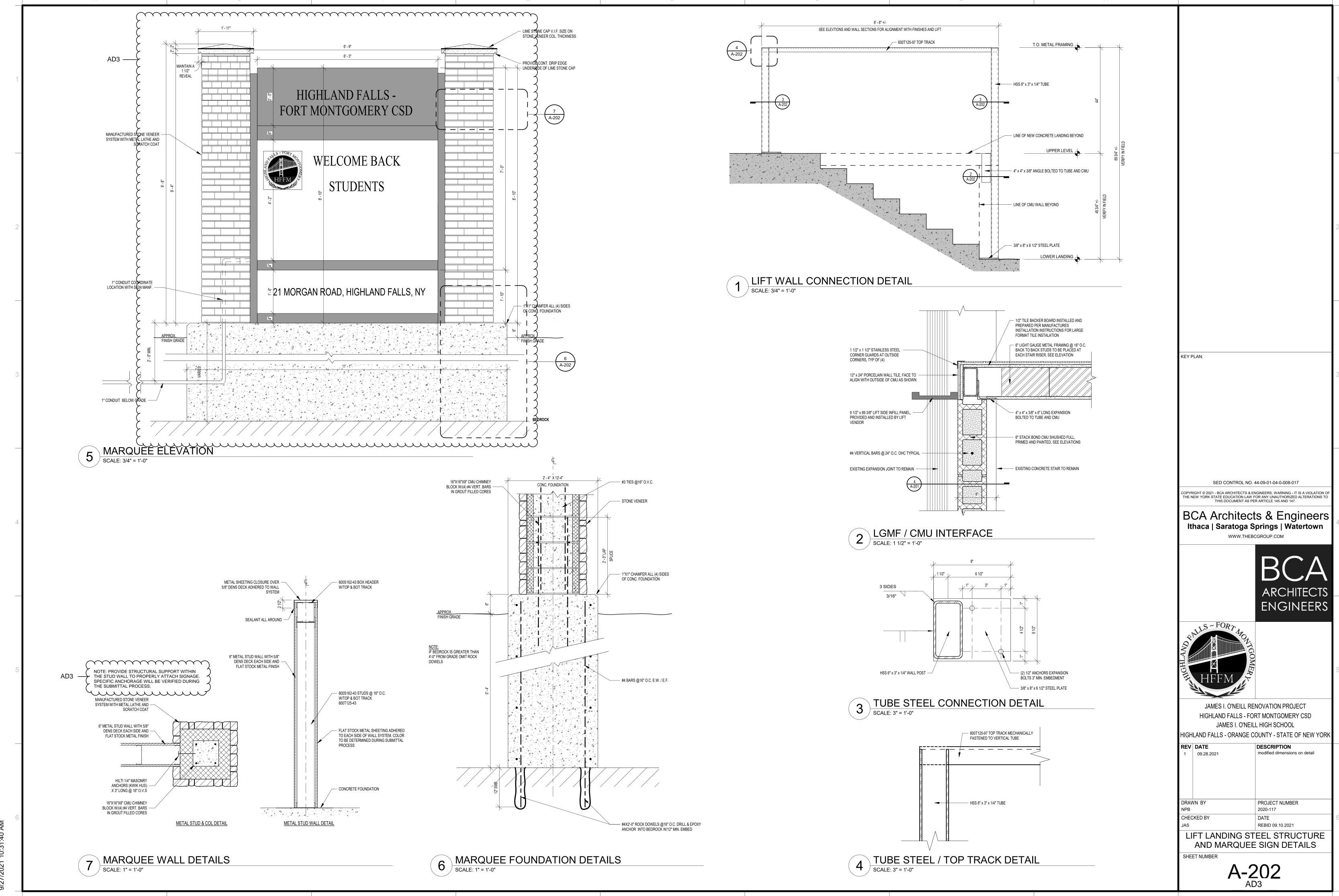
- A. Support structure design depends on the mounting methods, display size, and weight. The structure design is critical and should be done only by a qualified individual. It is the customer's responsibility to ensure that the structure and mounting hardware are adequate.
- B. It is the customer's responsibility to ensure that the installation meet local standards. The mounting hardware shall be capable of supporting all components to be mounted.
- C. All mounted displays must be inspected by a qualified structural engineer.
- D. Possible power and signal entrances are designated by etched markings. Separate conduit must be used to route the power, signal in wires, and signal out wires.
- E. Displays must be grounded according to the provisions outlined in Article 250 of the National Electrical Code. The display must be connected to earth-ground. Proper grounding is necessary for reliable equipment operation and protects the equipment from damaging electrical disturbances and lightning.
- F. Coordinate electrical connections and routing of conduits to each component, in field with contractor responsible for electrical work prior to start of work.

END OF SECTION

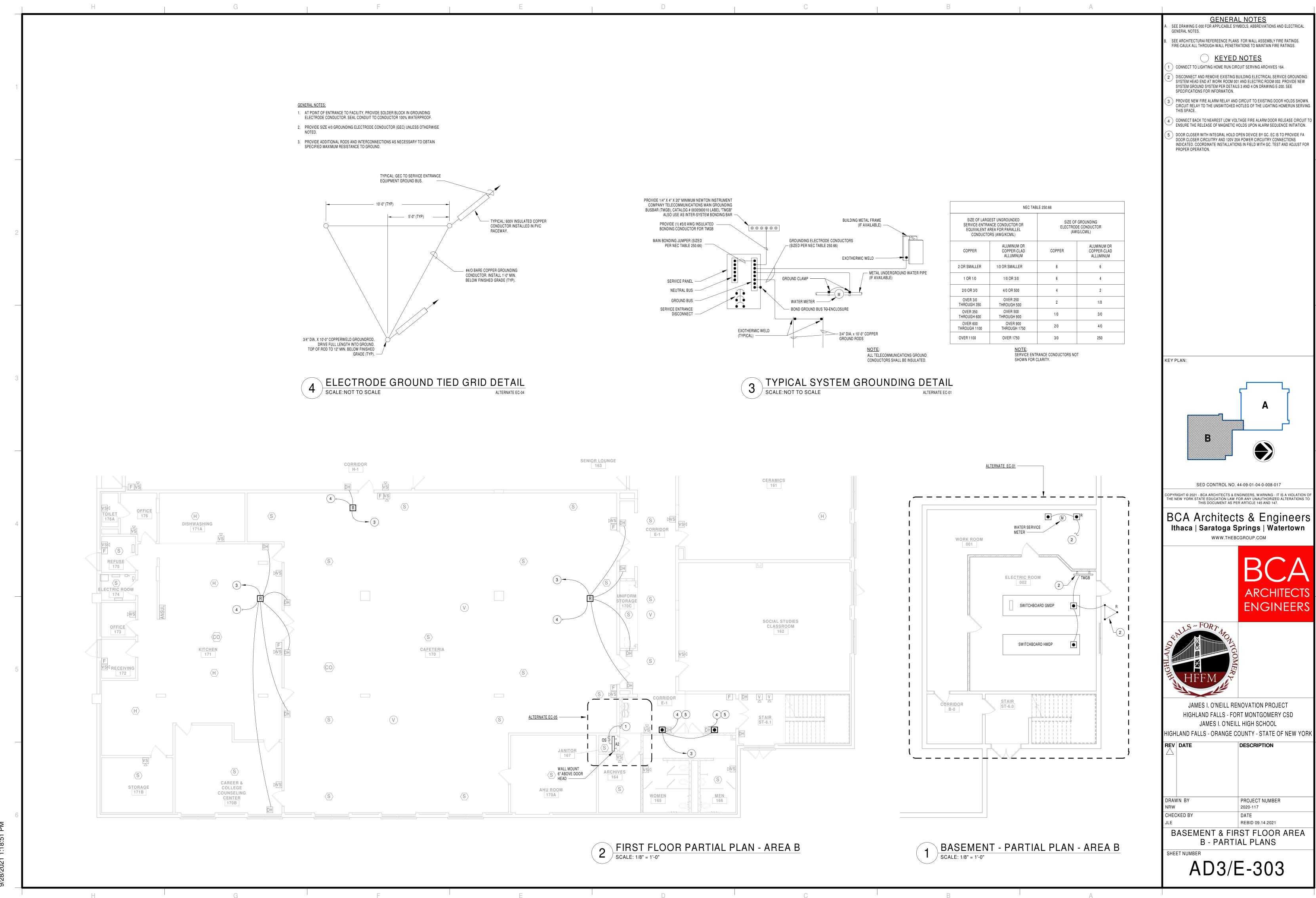








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1.100/00/02/05/

	EXTERIOR LUMINAIRE SCHEDULE								SPECIFICATION	ON 26 560)0
TYPE	DESCRIPTION	MFR. & CATALOG No.	LAMP	SIZE	VOLTAGE	MOUNTING	MOUNTING HEIGHT	WATTS	REMARKS	FINISH	TYPE
P1	POLE MOUNT SITE LIGHT - SINGLE HEAD 25'-0" POLE HEIGHT	MCGRAW-EDISON # GLEON-SA3-C-740-U-5WQ-BZ-MS/2-L40 POLE# RTA-25-C-6-B-4-BM	LED	16"W x 22"L x 4"H	MVOLT	POLE	25'-0"	171	SINGLE HEAD, 25' POLE, FSIR-100 PROGRAMABLE DIMMING CONTROL, SPECIFIED TO MATCH ADJACENT EXISTING SITE LIGHTING	DARK BRONZE	P1
P2	POLE MOUNT SITE LIGHT - TWO-HEAD 20'-0" POLE HEIGHT	MCGRAW-EDISON # GLEON-SA3-C-740-U-T4FT-BZ-MS/2-L40 POLE# RTA-20-C-6-B-4-BM	LED	16"W x 22"L x 4"H	MVOLT	POLE	20'-0"	342	TWO HEADS AT 180, 20' POLE, FSIR-100 PROGRAMMABLE DIMMING CONTROL, SPECIFIED TO MATCH ADJACENT EXISTING SITE LIGHTING	DARK BRONZE	P2
P3	POLE MOUNT SITE LIGHT - SINGLE HEAD 16'-0" POLE HEIGHT	MCGRAW-EDISON # GLEON-SA3-C-740-U-SL3-BZ-MS/2-L20 POLE# RTA-16-D-4-A-4-BM	LED	16"W x 22"L x 4"H	MVOLT	POLE	16'-0"	171	SINGLE HEAD AT 90 DEGREES, 16' POLE, FSIR-100 PROGRAMMABLE DIMMING CONTROL, SPECIFIED TO MATCH ADJACENT EXISTING SITE LIGHTING.	DARK BRONZE	P3
P4	POLE MOUNT SITE LIGHT - SINGLE HEAD 25'-0" POLE HEIGHT	MCGRAW-EDISON # GLEON-SA3-C-U-740-U-T4W-BZ-MS/2-L40 POLE# RTA-25-C-6-B-4-BM	LED	16"W x 22"L x 4"H	MVOLT	POLE	25'-0"	513	3 HEADS AT 120 DEGREES, 25' POLE, FSIR-100 PROGRAMMABLE DIMMING CONTROL, SPECIFIED TO MATCH ADJACENT EXISTING SITE LIGHTING.	DARK BRONZE	P4

Bernier, Carr & Associates, Engineers, Architects and Land Surveyors, P.C. 327 Mullin Street, Watertown, NY 13601 (315) 782-8130 - WWW.THEBCGROUP.COM JAMES I. O'NEILL RENOVATION PROJECT HIGHLAND FALLS - FORT MONTGOMERY CSD JAMES I. O'NEILL HIGH SCHOOL hland Falls - Orange County - New York

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THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS ALL DIMENSIONS AT THE SITE & NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.

Drawn By Checked By SMG Scale JLE Date AS INDICATED Project Number 09/28/21

EXTERIOR LUMINAIRE SCHEDULE

AD3/E1