



This addendum forms a part of the Contract Documents and modifies the original Documents dated **February 2, 2026**, as noted below. Acknowledge receipt of this addendum in the space provided on the Official Bid Form. Failure to do so may subject the Bidder to disqualification.

**REVISION TO 26 0923 – LIGHTING CONTROL DEVICES**

Disregard **original** – 26 0923 - LIGHTING CONTROL DEVICES and replace with the **ENCLOSED 26 0923 – LIGHTING CONTROL DEVICES (NO-DLM)**, *in its entirety*.

**REVISION TO 26 5100 – LED LIGHTING**

Disregard **original** – 26 5100 – LED LIGHTING and replace with the **ENCLOSED 26 5100 – LED LIGHTING (INTERIOR & PERIMETER ONLY)**, *in its entirety*.

**SUBSTITUTION REQUESTS**

**NOT APPROVED**

1. Section: 26 0923 – Lighting Control Devices  
Product: Lighting controls layout plan

This substitution request was not approved for the following reason:

- Request was not submitted in the proper format provided in the bid documents dated February 2, 2026.

2. Section: 26 5100 – LED Lighting  
Product: Type B1, MARK, WHSPR Series  
Paragraph: Luminaire Schedule

**Proposed Substitution**

Manufacturer: Visioneering, LRT-G Series

Description: LRT-G-2x4-8-35K-UNV-P94-040L

3. Section: 26 0923 – Lighting Control Devices  
Product: Basis of Design: Acuity nLight Controls  
Paragraph: Various Controls Items

**Proposed Substitution**

Manufacturer: Copper Wavelinx Controls

Description: Various Controls Items

4. Section: 26 5100 – LED Lighting  
Product: Type B1: Mark Architectural - WHSPR  
Paragraph: 2x4 Recessed Troffer

**Proposed Substitution**

Manufacturer: Corelite: 24D3X-WO-40-L835-UNV-STD-U

Description: 2x4 Recessed Troffer

## **REVISION TO DRAWINGS**

*Replace the following with enclosed revised sheets*

### **AD2.00 DEMOLITION FLOOR PLAN**

1. Existing flooring Finish in Rooms B13, B14, and B18 was shown being demolished in original bid drawings. Existing floor finish in these rooms has been revised to remain as-is, NOT to be demolished.

### **A2.00 OVERALL FLOOR PLAN**

1. Floor finish in Rooms B13, B14, and B18 have been revised from new polished concrete to owner furnished and installed carpet.

### **A2.10 DEMO & NEW FLOOR PLANS, RCPs, FINISH PLAN, ELEVATIONS – EAST RR**

1. Added Sheet Note #19 and #20 to Sheet Note List and Demo Floor Plan B1/A2.10. Note #19 indicates walls to be removed in their entirety. Note #20 indicates wall framing to remain.
2. New floor drain location is now shown in Floor Plan B2/A2.10 and Finish Plan B3/A2.10.
3. Interior Finish Schedule Acoustic Ceiling Tile Note now includes more precise product description, "15/16" ANGLED TEGULAR, ITEM #1824"

### **A2.11 DEMO & NEW FLOOR PLANS, RCPs, FINISH PLAN, ELEVATIONS – BOYS RR**

1. Added Sheet Note #19 to Sheet Note List and Demo Floor Plan B1/A2.11. Note #19 indicates walls to be removed in their entirety.
2. Interior Finish Schedule Acoustic Ceiling Tile Note now includes more precise product description, "15/16" ANGLED TEGULAR, ITEM #1824"

### **A2.12 DEMO & NEW FLOOR PLANS, RCPs, FINISH PLAN, ELEVATIONS – GIRLS RR**

1. Added Sheet Note #19 to Sheet Note List and Demo Floor Plan B1/A2.12. Note #19 indicates walls to be removed in their entirety.
2. Interior Finish Schedule Acoustic Ceiling Tile Note now includes more precise product description, "15/16" ANGLED TEGULAR, ITEM #1824"

### **E0.04 ELECTRICAL OVERALL PLAN**

1. Revised keynote 1 for clarity

### **ED2.10 ELECTRICAL DEMOLITION PLAN – NW QUADRANT**

1. Revised general note 'G'. Indicated existing emergency luminaires based completely on as-built documentation.

### **ED2.11 ELECTRICAL DEMOLITION PLAN – NE QUADRANT**

1. Revised general note 'G'. Indicated existing emergency luminaires based completely on as-built documentation.

### **ED2.12 ELECTRICAL DEMOLITION PLAN – SW QUADRANT**

1. Revised general note 'G'. indicated existing emergency luminaires based completely on as-built documentation.

### **ED2.13 ELECTRICAL DEMOLITION PLAN – SE QUADRANT**

1. Revised general note 'G'. Indicated existing emergency luminaires based completely on as-built documentation.

P0.02 PLUMBING SCHEDULES

1. Updated quantity of new floor drains in project.

P1.01 194/195 RESTROOMS

1. Updated floor drain from existing to new based on existing conditions.
2. Added keynote 7 to address ensuring existing floor drains are flush with new tile floor.

P1.02 192 – BOYS RESTROOM

1. Added keynote 7 to address ensuring existing floor drains are flush with new tile floor.

P1.03 193 – GIRLS RESTROOM

2. Added keynote 7 to address ensuring existing floor drains are flush with new tile floor.

**QUESTIONS AND CLARIFICATIONS**

Question: Is the contactor that is to be replaced shown on Sheet E004, Detail 2 and 3 for lighting control?

**Answer: The contactor is related to a standalone piece of equipment not yet identified by the owner. The contactor appears to be faulty and has been bypassed as a temporary fix. Contractor to coordinate with the owner.**

Question: It appears there will be a Lighting Control system installed with this modernization. What is the purpose of the contactor?

**Answer: The contactor is related to a standalone piece of equipment not yet identified by the owner. The contactor appears to be faulty and has been bypassed as a temporary fix. Contractor to coordinate with the owner.**

Question: Will temporary power and lighting be required? If so, please provide a plan of what is expected. (Example: job trailer locations, egress lighting, etc.).

**Answer: Construction will take place in the summer, when the school is out. Contractor to use active school power and lighting as needed. The contractor shall provide the lighting required to perform the work. Prior to operating hours, the contractor shall ensure all branch circuits and lighting controls are operational during scheduled business hours. Contractor to coordinate scheduling with the owner.**

Question: I do not see a Division 26 section included in the Project Manual. Can you confirm whether a written electrical specification will be issued, or if the electrical scope is to be governed solely by the drawings and Division 01 requirements?

**Answer: Electrical Division 26 sections were included in Addendum #1 dated February 12, 2026, and shared with bidders by email link on February 13, 2026.**

Question: Is the area above the ceilings considered a return air plenum? We need to confirm this so we can determine the appropriate low-voltage cabling type (plenum-rated vs. non-plenum).

**Answer: Based on available as-built drawings, the plenum is NOT a return air path.**

Question: Regarding the contactor discussed during the walkthrough, Sheet E0.04 Note 1 appears to indicate that the contactor is to replace as needed. How shall this be bid? Is it expected that contractor will have made that notation at walkthrough?

- Answer:** Keynote is rewritten to state ‘CONTRACTOR TO REPLACE EXISTING CONTACTOR IN ASSOCIATED ENCLOSURE BELOW PANEL AND RECONNECT EXISTING ASSOCIATED EQUIPMENT. COORDINATE EXACT REQUIREMENTS, ASSOCIATED EQUIPMENT, AND SCHEDULING WITH OWNER AND EXISTING CONDITIONS. REFERENCE DETAILS THIS SHEET FOR ADDITIONAL INFORMATION.’ The associated equipment is unknown and will need to be identified by the owner.
- Question:** Do we know slab thickness in restrooms?
- Answer:** The existing drawings indicate a 4" thick slab-on-grade with welded wire mesh reinforcing. There are various locations that indicate a 1" depression for floor finishes, which appear to occur at all bathrooms. This is based solely on existing drawing documentation, and the contractor is responsible for any variations in field conditions. Contractor is to provide infill to match existing slab thickness and to align top of new tile floor finish with existing top of adjacent hallway concrete finish.
- Question:** Do restroom walls get complete demo to ceiling? Plans appear to suggest only demo for tile, but at site walk it was mentioned “complete gut”
- Answer:** The interior walls of the restrooms are to be fully demolished unless otherwise noted. Keynote #19 “DEMOLISH WALL IN ITS ENTIRETY” has been added to the Restroom plans sheets. Note that the only interior restroom wall to remain is the entry wall of the east restroom (194/195) shown in Plans B1 and B2 on Sheet A2.10.
- Question:** Is there a more specific ACT tile spec than “school Zone” Fine fissured. Speaking with the vendor, they thought it was an Armstrong 1824, which is a fire-resistant tile. There are fire rating differences inside the described tile.
- Answer:** The intent for the new acoustic ceiling panels to match the panels installed in the recent Obsidian Middle School Renovation project. Those tiles are the Armstrong School Zone Fine Fissured 24” x 48” and 24” x 24” panels with 15/16” angled tegular edges. #1824 is the 24” x 48” version and appears to be the only Armstrong panel that matches these attributes. This panel number and description has been added to the Interior finish schedule on sheets A2.10, A2.11, and 2.12.
- Question:** Demo note D on sheet E0.01 says to extend existing emergency circuit to the new emergency fixture locations, see demo plans for approximate existing emergency fixture locations. However, it doesn't appear that the demo sheets show any existing emergency fixture locations. Please provide locations of existing emergency fixtures.
- Answer:** Refer to the updated demolition drawings E2.10 - ED2.13, which are based entirely on the As-Built documentation supplied to the engineers. The contractor is responsible for field verifying, tracing, and relabeling associated panel schedules when needed.
- Question:** Will the School District be removing any of the ceiling mounted components prior to construction (i.e. WAPs, Projectors, etc.)
- Answer:** All ceiling mounted equipment to be removed and salvaged by contractor except for the lighting, controls and ACT ceiling panels.
- Question:** Could you please confirm whether the following plan sheets are still part of the contract documents, as they are not included: M0.03, E2.00 thru E2.13, E3.00.

**Answer:** M0.03 was removed. E2.00 through E2.13 and E3.00 were removed from the set, with minimal information transferred to other sheets to remain.

**Question:** Signage Questions

- A. Signage Schedule: Is there a separate Signage/Graphics (SG) series or a detailed schedule available that lists the specific room IDs and quantities?
- B. Material Specs: Do you have specifications for the sign construction (e.g., acrylic, photopolymer, or metal)?
- C. Exterior Scope: The site plan mentions "No exterior work", but will there be any new building identification or directional signs needed to match the new interior branding?
- D. Procurement: Is the signage being bid as part of the general contract, or is it an "Owner Furnished, Contractor Installed" item?

**Answer:** New signage is not part of this project. Existing entry signage at the three restroom renovations will be removed if required for new work and reinstalled.

**Question:** Is contractor responsible for content manipulation?

**Answer:** The District will be responsible for moving furniture and contents.

**Question:** What state of the content will owner leave classrooms?

**Answer:** The District will be responsible for moving furniture and contents.

**Question:** Demo General Note E indicates demo'd elements to be salvaged per owner direction. Please specify which elements are to be salvaged.

**Answer:** All ceiling mounted equipment to be removed and salvaged by contractor except for the lighting, controls and ACT ceiling panels.

**Question:** There is no information noting who is responsible for school classroom furniture, shelving, desks, etc. move out. The expectation is all rooms will need to be cleared for ceiling tile and grid painting scopes of work. Please clarify.

**Answer:** The District will be responsible for moving furniture and contents.

**Question:** Please specify what, if any, school activities will take place during the course of construction and the location in the school. Will temp partitions are required.

**Answer:** No occupancy is anticipated during construction.

**Question:** Low voltage devices that will need to be removed and reinstalled are not shown on the drawings. Since the jobsite walk did not include all rooms, can you please have the devices added to the electrical demo plan, or provide a count and/or allowance we are to carry for these devices?

**Answer:** Contractor should account for the disconnection and reconnection of (1) fire alarm device, (1) WAP, and (1) Projector for all classrooms, including (1) FA device, and (1) lighting control device for every 50-feet of circulation area as part of replacing the ceiling tiles. Similarly, the contractor can also account for (6) cord reels in (2) separate classrooms for tile installation.

**Question:** The existing 2x4 light fixtures do not have slack wires for support. Please confirm if the new 2x4 light fixtures will require slack wires for seismic or support.

**Answer:** **All lighting shall be installed per the requirements of IBC and as direction in specification section 26 51 00.**

**Question:** Please confirm that the suspended ceilings within the three restroom renovations will be fully demolished and replaced, including grids and panels.

**Answer:** **Correct, unlike other ceilings throughout the project where the ceiling grids are to remain in place, the grids and panels in the three restrooms will be completely removed and replaced per the restroom reflected ceiling plans.**

**END OF ADDENDUM 2**

## SECTION 26 09 23 - LIGHTING CONTROL DEVICES

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. Section Includes:
  - 1. Time switches.
  - 2. Outdoor photoelectric switches.
  - 3. Indoor occupancy and vacancy sensors.
  - 4. Switchbox-mounted occupancy sensors
  - 5. Digital timer light switches.
  - 6. High-bay occupancy sensors.
  - 7. Outdoor motion sensors.
  - 8. Lighting contactors.
  - 9. Emergency shunt relays.
  - 10. Lighting Control Relay Panels
- B. Related Requirements:
  - 1. Section 26 27 26 "Wiring Devices" for wall-box dimmers and manual light switches.

#### 1.02 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
  - 1. Show installation details for occupancy/vacancy and light-level sensors.
  - 2. Interconnection diagrams showing field-installed wiring.
  - 3. Include diagrams for power, signal, and control wiring.

#### 1.03 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.
- B. Remote Configuration Tools.

#### 1.04 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace lighting control devices that fail(s) in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Five year(s) from date of Substantial Completion.
    - a. One (1) on-site visit by factory trained and certified technician, eight months after substantial completion, to recommission and retrain Owner's personnel.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURER STANDARDIZATION

- A. In order to standardize and match existing light control systems in other throughout the school district, the decision has been made to only use Acuity nLight devices and systems. Devices or systems by other manufacturers will not be accepted.

### 2.02 INDOOR OCCUPANCY AND VACANCY SENSORS

- A. Manufacturers: Design is based on Acuity nLight nCM RJB family.
- B. General Requirements for Sensors:
1. Wall and Ceiling-mounted, solid-state indoor occupancy and vacancy sensors.
  2. Dual technology (passive infrared and ultrasonic).
  3. Separate power pack, unless installed on gyp. board ceilings or walls.
  4. Hardwired (line or low-voltage) connection to switch.
  5. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  6. Operation (as noted on plans):
    - a. Occupancy Sensor: Unless otherwise indicated, turn lights on when coverage area is occupied, and turn them off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
    - b. Vacancy Sensor: Unless otherwise indicated, lights are manually turned on and sensor turns lights off when the room is unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
  7. Sensor Output: Sensor is powered from the power pack.
  8. Power: Line voltage where installed on gyp. board ceilings or walls.
  9. Power Pack: Dry contacts rated for 20A LED load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Sensor has 24-V dc, 150-mA, Class 2 power source, as defined by NFPA 70.
  10. Mounting:
    - a. Sensor: Suitable for mounting in any position on a standard outlet box.
    - b. Relay: Externally mounted through a 1/2-inch (13-mm) knockout in a standard electrical enclosure.
    - c. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind hinged door.
  11. Indicator: Digital display, to show when motion is detected during testing and normal operation of sensor.
  12. Bypass Switch: Override the "on" function in case of sensor failure.
  13. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lux); turn lights off when selected lighting level is present.
- C. Dual-Technology Type: Wall or Ceiling mounted (as noted on plans); detect occupants in coverage area using PIR and ultrasonic detection methods. The particular technology or combination of technologies that control on-off functions is selectable in the field by operating controls on unit.
1. Sensitivity Adjustment: Separate for each sensing technology.
  2. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm), and



- detect a person of average size and weight moving not less than 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
3. Ceiling Mounted Detection Coverage (Standard Room): Detect occupancy anywhere within a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
  4. Wall Mounted Detection Coverage: Detect occupancy anywhere within a 180-degree pattern centered on the sensor over an area of 2000 square feet (220 square meters) when mounted 72 inches above finished floor.

## 2.03 SWITCHBOX-MOUNTED OCCUPANCY SENSORS, DUAL TECHNOLOGY

- A. Manufacturers: Design is based on Acuity nLight nWSX PDT LV family.
- B. Description: Switchbox-mounted, combination lighting-control sensor and conventional switch lighting-control unit using dual technology (passive infrared and ultrasonic).
  1. Connections: Hard wired.
  2. Rated 1200 W at 120-V ac for tungsten lighting, 10 A at 120-V ac or 10 A at 277-V ac for fluorescent or LED lighting, and 1/6 hp at 120-V ac.
  3. Adjustable time delay of 5 to 20 minutes.
  4. Comply with NEMA WD 1, UL 20, and FS W-S-896.

## 2.04 HIGH-BAY OCCUPANCY SENSORS

- A. Manufacturers: Design is based on Acuity nLight nCM RJB family.
- B. Description:
  1. Rated for indoor use.
  2. Mounting heights between 15' and 40'.
  3. Adjustable time delay (15 seconds - 30 minutes; factory preset at 15 minutes).
  4. Low-voltage operation with power pack, or line-voltage operation with integral power pack.
  5. Operating conditions: Temperature 32-158°F (0-70°C); Humidity 20-90%, non-condensing.
- C. PIR Type: Ceiling mounted; detect occupants in coverage area by their heat and movement.
  1. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm).
  2. Detection Coverage: Detect occupancy anywhere in a circular area of 40-foot diameter when mounted on a 20-foot high ceiling.
  3. Detection Coverage: Detect occupancy anywhere in a circular area of 100-foot diameter when mounted on a 40-foot high ceiling.
  4. Detection Coverage: Detect occupancy anywhere in a linear area of 60-foot long when mounted on a 40-foot high ceiling.
- D. Remote Configuration Tool: Include remote configuration tool to allow for sensor setup and adjustment from the floor.

## 2.05 LIGHTING CONTACTORS

- A. Manufacturers: Design is based on ASCO 918 Series, but subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - 1. Allen-Bradley/Rockwell Automation.
  - 2. ASCO.
  - 3. Eaton.
  - 4. General Electric Company.
  - 5. Square D.
- B. Description: Electrically operated and mechanically held, complying with NEMA ICS 2 and UL 508.
  - 1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less THD of normal load current).
  - 2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.
  - 3. Enclosure: Comply with NEMA 250.
  - 4. Provide with Hand-Off-Auto switch and pilot devices as indicated on Drawings, matching the NEMA type specified for the enclosure.
  - 5. Provide solid-state control module as required for 2 or 3 wire control.

## 2.06 EMERGENCY LIGHTING CONTROL DEVICES

- A. Manufacturers: Refer to Design Documentation for additional information. Design is based on Acuity n-Light Controls, but subject to compliance with requirements, available manufacturers offering products for compliance:
- B. Emergency Lighting Control Unit - A UL 924 listed device that monitors a switched circuit providing normal lighting to an area. The unit provides normal ON/OFF control of emergency lighting along with the normal lighting. Upon normal power failure the emergency lighting circuit will close, forcing the emergency lighting ON until normal power is restored. Features include:
  - 1. 120/277 volts, 50/60 Hz, 20 amp ballast rating
  - 2. Push to test button
  - 3. Auxiliary contact for remote test or fire alarm system interface

## 2.07 LIGHTING CONTROL RELAY PANEL

- A. Manufacturers: Design is based on Acuity nLight ARP relay panel.
- B. Panel description:
  - 1. UL Listed with 14,000 SCCR.
  - 2. Enclosure: NEMA 1 rated with hinged, lockable, surface or flush cover (as shown on plans).
  - 3. Interior: Barrier for separation of high voltage (class 1) and low voltage (class 2) wiring.
  - 4. Relays: Up to (8) single-pole or (4) two-pole relays. Relays shall be electrically held relays with auxiliary contacts for pilot light switching. SPST and DPST relays with 20A contact ratings for:
    - a. Light fixture ballasts/drivers.
    - b. General purpose loads.

- c. 1/2 HP motor at 120V.
  - d. 1 HP motor at 208, 240 or 480V.
- 5. Back-lit Touchscreen User Interface:
  - a. Timeclock with 8 Channels of time control, up to 42 holidays and automatic daylight savings adjustment.
  - b. Non-volatile program memory to retain time keeping during power outages for at least 48 hours.

C. External Control device interface:

- 1. 8 universal switch inputs that are low voltage, self-configuring and do not require programming to accept momentary on/ momentary off switch, push button switch (cycling), maintained switch or 24VDC signals from occupancy sensors, photocells or other interfacing devices.
- 2. After-hour interior lighting shut off control shall provide a full duration override time of 1 to 240 minutes with a warning blink five minutes prior to shutting the lighting off. An impending shut off will be cancelled and the override period re-initialized by pressing the automatic control switch push button.
- 3. Control exterior lighting via photocell input (do not use astronomical clock function).

2.08 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."
- B. Classes 2 and 3 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 18 AWG. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables." Consult manufacturer for Class 2 wiring requirements. Provide in a separate raceway if manufacturer does not allow cabling shared with Class 1 cabling.
- C. Class 1 Control Cable: Multi-conductor cable with stranded-copper conductors not smaller than No. 14 AWG. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

PART 3 - EXECUTION

- 3.01 DEVICE LOCATIONS - Device locations on plan drawings are approximate and are intended to indicate general area to be covered.
- 1. All devices shall be installed in strict accordance with manufacturer's guidelines.
  - 2. Contractor shall provide additional devices and associated hardware as required to cover the entire area.
  - 3. Occupancy sensor locations shall be shifted as necessary to ensure the following:
    - a. Normal devices shall be installed only no higher than 120" AFF.
    - b. No device employing PIR sensing shall be installed in a location where obstacles may block the sensor's field of view.
    - c. Any device employing ultrasonic sensing shall be installed at a minimum of 6' away from any strong transfer of air such as supply diffusers.

3.02 INSTALLATION

- A. Comply with NECA 1.
- B. Examine all lighting control devices before installation. Reject lighting control devices that are wet, moisture damaged, or mold damaged.
- C. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- D. Install and aim sensors in locations to achieve not less than 90-percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.
- E. Mount electrically held lighting contactors with elastomeric isolator pads to eliminate structure-borne vibration unless contactors are installed in an enclosure with factory-installed vibration isolators.
- F. Provide detailed point to point wiring diagrams for every termination. Provide wire specifications and wire colors to simplify contactor termination requirements
- G. Install the work of this Section in accordance with manufacturer's printed instructions unless otherwise indicated.
- H. Calibrate all sensor time delays and sensitivity to guarantee proper detection of occupants and energy savings.
  - 1. Adjust time delay so that controlled area remains lighted for 5 minutes after occupant leaves area.
- I. Provide written or computer-generated documentation on the commissioning of the system including room by room description including:
  - 1. Sensor parameters, time delays and sensitivities.
  - 2. Sequence of operation, (e.g. manual ON, Auto OFF. etc.)
  - 3. Load Parameters (e.g. blink warning, etc.)

3.03 WIRING - In general, all devices and equipment shall be wired in accordance with manufacturer's guidelines. Wireless devices shall only be used if specifically approved in writing by the Engineer.

- A. Wiring Method: Comply with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 3/4 inch.
- B. Low voltage cables do not require raceway where concealed in accessible ceilings. Cabling shall be cleanly organized and supported by J-Hooks or approved methods every 6 feet.
- C. Low voltage cables shall be installed in conduit/raceway where exposed.
- D. Wiring within Enclosures: Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- E. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.

- F. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

#### 3.04 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 26 05 53 "Identification for Electrical Systems."
  - 1. Identify controlled circuits in lighting contactors.
  - 2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.
- B. Label time switches and contactors with a unique designation.

#### 3.05 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
  - 1. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
  - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Lighting control devices will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

#### 3.06 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting lighting control devices to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.
  - 1. For occupancy and motion sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.
  - 2. For daylighting controls, adjust set points and deadband controls to suit Owner's operations.
  - 3. Align high-bay occupancy sensors using manufacturer's laser aiming tool.

#### 3.07 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 26 09 23

## SECTION 26 51 00 - LED LIGHTING

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. Section Includes:
  - 1. Interior lighting fixtures that are designed for and exclusively use LED lamp technology.
  - 2. Emergency power units.
  - 3. Exit signs.
  - 4. Emergency lighting units.
  - 5. Luminaire supports.
- B. Related Sections:
  - 1. Section 26 09 23 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.
  - 2. Section 26 27 26 "Wiring Devices".

#### 1.02 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color Rendering Index.
- C. Fixture: See "Luminaire."
- D. IP: International Protection or Ingress Protection Rating.
- E. LED: Light-emitting diode.
- F. Lumen: Measured output of lamp and luminaire, or both.
- G. Luminaire: Complete lighting unit, including lamp, reflector, and housing.
- H. THD: Total Harmonic Distortion.

#### 1.03 PRIOR APPROVAL

- A. Prior approvals are not required unless otherwise noted on the Luminaire Schedule.
  - 1. All material supplied to the project must meet or exceed the quality, performance, and have similar features to the product originally specified. It is the contractor's responsibility to ensure that substituted equipment matches the exterior dimensions, weight, and configuration of the specified equipment.

#### 1.04 ACTION SUBMITTALS

- A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:

1. Physical description of lighting fixture including dimensions.
  2. Ballast/Driver, including THD.
  3. Emergency lighting units including battery and charger.
  4. Energy-efficiency data.
  5. Life, output (lumens, CCT, and CRI), and energy-efficiency data.
  6. Fixture UL/ETL rating.
  7. Design Lights Consortium (DLC) certification and/or Energy Star rating.
  8. Photometric data and adjustment factors based on laboratory tests, complying with IESNA Lighting Measurements Testing & Calculation Guides, of each lighting fixture type. The adjustment factors shall be for lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project.
    - a. Manufacturer Certified Data: Photometric data shall be certified by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
  9. Color samples (if color is to be chosen by architect/engineer).
  10. Foot-candle calculations for spot lights and flood lights.
  11. List of all parts necessary for particular installation configuration.
- B. Shop Drawings: For nonstandard or custom luminaires.
1. Include plans, elevations, sections, and mounting and attachment details.
  2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  3. Include diagrams for power, signal, and control wiring.
- 1.05 INFORMATIONAL SUBMITTALS
- A. Seismic Qualification Certificates: For luminaires, accessories, and components, from manufacturer.
- B. Sample warranty.
- 1.06 CLOSEOUT SUBMITTALS
- A. Operation and Maintenance Data.
- 1.07 MAINTENANCE MATERIAL SUBMITTALS
- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Plastic Diffusers and Lenses: One for every 100 of each type and rating installed. Furnish at least one of each type.
  2. Fixture-mounted, emergency battery pack: One for every 50 emergency lighting unit.
  3. Ballasts/Drivers: One for every 100 of each type and rating installed. Furnish at least one of each type.
  4. Globes and Guards: One for every 20 of each type and rating installed. Furnish at least one of each type.

1.08 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NFPA 70.

1.09 COORDINATION

- A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.
- B. Fire rated assemblies: Fixtures installed in fire rated assemblies shall maintain the fire rating of said assembly. Contractor is required to coordinate with Architectural draws to verify assembly ratings.
- C. Insulated ceiling space: Fixtures installed in an insulated ceiling be IC rated or manufacturer recommended clearances between fixture and insulation. Contractor is required to coordinate with Architectural draws to verify insulated areas above ceilings.

1.10 WARRANTY

- A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.
- B. Warranty Period: Five years from date of Substantial Completion.
- C. Special Warranty for Emergency Lighting Batteries: Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.01 MANUFACTURER STANDARDIZATION

- A. In order to standardize and match existing light control systems in other throughout the school district, the decision has been made to only use Acuity represented manufacturers for coordination with the standardization of the nLight lighting control devices and systems. Devices or systems by other manufacturers will not be accepted.



## 2.02 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Luminaires shall withstand the effects of earthquake motions as noted in 260548.16, "Seismic Controls for Electrical Systems".
- B. Seismic Performance: Luminaires and lamps shall be labeled vibration and shock resistant.
  - 1. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified and the luminaire will be fully operational during and after the seismic event."
  - 2. Component Importance Factor: 1.5.

## 2.03 GENERAL LUMINAIRE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Standards - Where noted on plans, comply with the following:
  - 1. ENERGY STAR or Design Lights Consortium (DLC) certified.
  - 2. NRTL Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by an NRTL.
  - 3. UL Listing: Listed for damp and/or wet locations as required.
  - 4. Recessed luminaires shall comply with NEMA LE 4.
- C. Indoor fixtures shall have a minimum CRI of 80 UNO and a CCT of 4100 K UNO.
- D. Outdoor fixtures shall have a minimum CRI of 65 UNO and a CCT of 4100 K UNO.
- E. Outdoor fixtures shall have mounting type and distribution as noted on plans.
- F. Minimum rated LED lamp life of 50,000 hours to L70.
- G. Lamps dimmable from 100 percent to 10 percent of maximum light output.
- H. Internal ballast/driver, UNO.
- I. Nominal Operating Voltage: As noted on the plans.
- J. Lens Thickness: At least 0.125 inch minimum UNO.
- K. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:
  - 1. White Surfaces: 85 percent.
  - 2. Specular Surfaces: 83 percent.
  - 3. Diffusing Specular Surfaces: 75 percent.
- L. Lens and Refractor Gaskets for Exterior Luminaires: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.
- M. Source Limitations: For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.
- N. Housings:
  - 1. Rigidly formed, light-tight enclosure that will not warp, sag, or deform in use.
  - 2. Provide weather-tight enclosure with filter/breather for enclosed exterior luminaires.

- O. Metal Parts:
  - 1. Free of burrs and sharp corners and edges.
  - 2. Indoor applications: Sheet metal components shall be steel unless otherwise indicated.
  - 3. Exterior applications: Sheet metal components shall be corrosion-resistant aluminum.
  - 4. Form and support to prevent warping and sagging.
- P. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.
- Q. Diffusers, and Globes - Tempered glass, acrylic or polycarbonate as noted on plans.
  - 1. Acrylic: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
    - a. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless otherwise indicated.
    - b. UV stabilized.
  - 2. Glass: Annealed crystal glass unless otherwise indicated.

## 2.04 METAL FINISHES

- A. Variations in finishes are unacceptable in the same piece. Variations in finishes of adjoining components are acceptable if they are within the range of approved Samples and if they can be and are assembled or installed to minimize contrast.
- B. Source Limitations: For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.
- C. Factory-Applied, powder-coat finish, UNO, with standard color chosen by Architect or as noted on plans.
  - 1. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
    - a. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
    - b. Class I, Color-Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker), complying with AAMA 611.
  - 2. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
    - a. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
    - b. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.

2.05 LED ASSEMBLIES

- A. Products UL rated for 40 degree C (104 degrees F) ambient environments.
- B. Minimum 4000K color temperature unless noted otherwise in the drawings.
- C. 50,000 hour fixture life including driver, 5 year warranty.
- D. All products compliant with EISNA LM-79 and LM-80 standards.

2.06 EMERGENCY POWER UNIT

- A. Internal Type: Self-contained, modular, battery-inverter unit, factory mounted within lighting fixture body and compatible with ballast. Comply with UL 924.
  - 1. Emergency Connection: Operate all or a portion of LED lamps continuously at an output of 1100 lumens. Connect unswitched circuit to battery-inverter unit and switched circuit to fixture ballast.
  - 2. Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
  - 3. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
    - a. Ambient Temperature: Less than 0 deg F (minus 18 deg C) or exceeding 104 deg F (40 deg C), with an average value exceeding 95 deg F (35 deg C) over a 24-hour period.
    - b. Ambient Storage Temperature: Not less than minus 4 deg F (minus 20 deg C) and not exceeding 140 deg F (60 deg C).
    - c. Humidity: More than 95 percent (condensing).
    - d. Altitude: Exceeding 3300 feet (1000 m).
  - 4. Nightlight Connection: Operate lamp in a remote fixture continuously.
  - 5. Test Push Button and Indicator Light: Visible and accessible without opening fixture or entering ceiling space.
    - a. Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
    - b. Indicator Light: LED indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
  - 6. Battery: Sealed, maintenance-free, nickel-cadmium type.
  - 7. Charger: Fully automatic, solid-state, constant-current type with sealed power transfer relay.
  - 8. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.
- B. External Type: Self-contained, modular, battery-inverter unit, suitable for powering LED lamps, remote mounted from lighting fixture. Comply with UL 924.
  - 1. Emergency Connection: Connect unswitched circuit to battery-inverter unit and switched circuit to fixture ballast.

2. Retain "Nightlight Connection" Subparagraph below if nightlight connections are used. If used, differentiate two connection modes on Drawings or in the Interior Lighting Fixture Schedule on Drawings.
3. Nightlight Connection: Operate lamp in a remote fixture continuously.
4. Battery: Sealed, maintenance-free, nickel-cadmium type.
5. Charger: Fully automatic, solid-state, constant-current type.
6. Housing: NEMA 250, Type 1 enclosure. Listed for installation remote from luminaire. Remote assembly shall be located no more than half the distance recommended by the emergency power unit manufacturer
7. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
8. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
9. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.

## 2.07 EXIT SIGNS

- A. General Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
- B. Internally Lighted Signs:
  1. Lamps for AC Operation: LEDs, 50,000 hours minimum rated lamp life.
  2. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
    - a. Battery: Sealed, maintenance-free, nickel-cadmium type.
    - b. Charger: Fully automatic, solid-state type with sealed transfer relay.
    - c. Operation: Relay automatically energizes lamp from battery when circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
    - d. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
    - e. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
    - f. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.

## 2.08 EMERGENCY LIGHTING UNITS

- A. General Requirements for Emergency Lighting Units: Self-contained units complying with UL 924.
  1. Battery: Sealed, maintenance-free, lead-acid type.
  2. Charger: Fully automatic, solid-state type with sealed transfer relay.
  3. Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay

- disconnects lamps from battery, and battery is automatically recharged and floated on charger.
4. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
  5. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
  6. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.

## 2.09 LUMINAIRE SUPPORTS

- A. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.
- B. Single-Stem Hangers: 1/2-inch (13-mm) steel tubing with swivel ball fittings and ceiling canopy. Finish same as luminaire.
- C. Twin-Stem Hangers: Two, 1/2-inch (13-mm) steel tubes with single canopy designed to mount a single fixture. Finish same as fixture.
- D. Wires: ASTM A 641/A 641 M, Class 3, soft temper, zinc-coated steel, 12 gauge (2.68 mm).
- E. Rod Hangers: 3/16-inch (5-mm) minimum diameter, cadmium-plated, threaded steel rod.
- F. Hook Hangers: Integrated assembly matched to luminaire, line voltage, and equipment with threaded attachment, cord, and locking-type plug.

## 2.10 SCREW-IN BASE FIXTURES

- A. Fixture shall be compatible with common type Medium Base E26 bulb.
- B. Fixture shall be dimming compatible and compatible with dimmable LED type bulb.
- C. Lamp shall be compatible with dimmer switch to allow full, flicker-free dimming throughout the lamp's full dimming range.
- D. Comply with UL1598 and comply with minimum performance requirements for retrofit lamps - NEMA SSL 4.
- E. SPARE LAMPS - Spare lamps shall be provided in quantities of 10% of total lamps of each screw-in base type installed. Quantity of spares shall not be less than four (4) spare lamps for any one lamp type.

## PART 3 - EXECUTION

### 3.01 GENERAL INSTALLATION

- A. Comply with NECA 1.
- B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

- C. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- D. Fasten luminaire to structural support.
- E. Supports:
  - 1. Sized and rated for luminaire weight, and weight of emergency power unit where applicable.
  - 2. Able to maintain luminaire position after cleaning, while relamping and when testing emergency power unit.
  - 3. Provide support for luminaire and emergency power unit without causing deflection of ceiling or wall.
  - 4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire and emergency power unit weight and vertical force of 400 percent of fixture weight.
  - 5. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- F. Flush-Mounted Luminaire Support: Secured to outlet box.
- G. Wall-Mounted Luminaire Support:
  - 1. Attached to structural members in walls or to a minimum 20 gauge backing plate attached to wall structural members.
  - 2. Do not attach luminaires directly to gypsum board.
- H. Ceiling-Mounted Luminaire Support:
  - 1. Secure to any required outlet box and attach to structural member in ceiling or to a minimum 20 gauge backing plate attached to ceiling structural members.
  - 2. Do not attach luminaires directly to gypsum board.
  - 3. Provide offset from ceiling as required by luminaire manufacturer.
  - 4. Secure emergency power unit using approved fasteners in a minimum of four locations, spaced near corners of emergency power unit.
- I. Suspended Luminaire Support:
  - 1. Pendants and Rods: Where longer than 48 inches (1200 mm), brace to limit swinging.
  - 2. Stem-Mounted, Single-Unit Luminaires: Suspend with twin-stem hangers. Support with approved outlet box and accessories that hold stem and provide damping of luminaire oscillations. Support outlet box vertically to building structure using approved devices.
  - 3. Continuous Rows of Luminaires: Use tubing or stem for wiring at one point and tubing or rod for suspension for each unit length of luminaire chassis, including one at each end.
  - 4. Do not use ceiling grid as support for pendant luminaires. Connect support wires or rods to building structure.
- J. Lay-in Ceiling Lighting Fixtures Supports: Use grid as a support element.
  - 1. Install ceiling support system rods or wires, independent of the ceiling suspension devices, for each fixture. Locate not more than 6 inches (150 mm) from lighting fixture corners.
  - 2. Support Clips: Fasten to lighting fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.
  - 3. Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch (20-mm) metal channels spanning and secured to ceiling tees.

- 4. Install at least two independent support rods or wires from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.
- K. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections.
- L. Temporary Lighting: If it is necessary, and approved by Architect, to use permanent luminaires for temporary lighting, install and energize the minimum number of luminaires necessary. When construction is sufficiently complete, remove the temporary luminaires, disassemble, clean thoroughly and reinstall.
- M. Remote Mounting of Ballasts/Drivers: Distance between the driver and fixture shall not exceed that recommended by luminaire manufacturer.

### 3.02 IDENTIFICATION

- A. Install labels with panel and circuit numbers on concealed junction and outlet boxes. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

### 3.03 INSULATED CEILING SPACES

- A. Provide IC rated fixture assemblies or manufacturer recommended clearances between fixture and insulation.

### 3.04 FIRE RATED ASSEMBLIES

- A. Provide fire rated fixture assemblies or a third party fire rated cover.
  - 1. Fire rated covers
    - a. Provide manufacturer recommended clearances for all non IC rated fixtures.

### 3.05 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
  - 1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
  - 2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.
- B. Luminaire will be considered defective if it does not pass operation tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 26 51 00



**SUBSTITUTION REQUEST: DATE SUBMITTED** 2/17/2026

- 1.01 SUBMIT TO: SAJ Architects, Jeff Reynoldson, Project Manager at [jeffr@saj-arch.com](mailto:jeffr@saj-arch.com) and Steve Earle, Senior Project Manager, at [steve.earle@hmkco.org](mailto:steve.earle@hmkco.org).

**1.02 PROJECT:** Obsidian Middle School Modernization Project

**1.03 SPECIFIED ITEM:**

- A. SECTION NAME AND NUMBER: PLANS, E0.03
- B. PRODUCT TYPE AND NAME AND MODEL: TYPE B1, MARK, WHSPR Series
- C. PARAGRAPH AND PRODUCT DESCRIPTION: LUMINAIRE SCHEDULE

**1.04 PROPOSED SUBSTITUTION:**

- A. MANUFACTURER AND MODEL NUMBER(S): Visioneering, LRT-G Series
- B. PRODUCT DESCRIPTION: LRT-G-2x4-8-35K-UNV-P94-040L
- C. Attached data includes product description, specifications, drawings, photographs, performance, test data and **point by point comparative matrix** adequate for evaluation of request including identification of applicable data portions. Attached data also includes description of changes to Contract Documents the proposed substitution requires for proper installation.
- D. It is the responsibility of the requestee to assemble a comparative matrix outlining key elements of proposed substitution.

**1.05 UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:**

- A. Proposed substitution does not affect dimensions shown on the drawings.
- B. Undersigned pays for changes to building design, including engineering design, detailing, and construction costs caused by proposed substitution.
- C. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.
- D. Maintenance and service parts are available locally or readily obtainable for proposed substitution.





1.06 UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

1.07 UNDERSIGNED FURTHER CERTIFIES THAT THE MANUFACTURER OF THE PROPOSED SUBSTITUTION IS AWARE OF THIS SUBSTITUTION REQUEST AND AGREES TO THE STATEMENTS NOTED ABOVE.

1.08 UNDERSIGNED AGREES THAT THE TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

1.09 SUBMITTED BY:

A. PRINT NAME: David Wray

SIGNATURE: *David Wray*

B. FIRM NAME: LIT Lighting & Controls

C. FULL MAILING ADDRESS: NA

City: Vancouver State: WA Zip: NA

D. PHONE: 360.853.0569 E-MAIL: dwrap@litllc.net

1.10 FOR USE BY ARCHITECT OR ENGINEER

A. APPROVED OR APPROVED AS NOTED BY: \_\_\_\_\_


B. NOT APPROVED BY: *Lee C. Georgetown* Lee C. Georgetown, SAJ Architecture


C. RECEIVED TOO LATE: \_\_\_\_\_

D. REMARKS: District desires new lighting system to match recent renovation. No substitutions.

E. DATE OF RESPONSE: District desires new lighting to match existing. No substitutions.

END OF SECTION

Submitted by Solus Lighting & Controls		<b>Catalog Number:</b> SUBSTITUTION REQUEST FORM	<b>Type:</b> <b>MISC</b>
	<b>Job Name:</b> Obsidian Middle School Modernization - Controls	Notes:	SOLUS26-228966



REDMOND SCHOOL DISTRICT  
MODERNIZATION PROJECT  
OBSIDIAN MIDDLE SCHOOL  
SUBSTITUTION REQUEST FORM  
SECTION 01 6023

**SUBSTITUTION REQUEST: DATE SUBMITTED** 02/17/26

1.01 SUBMIT TO: SAJ Architects, Jeff Reynoldson, Project Manager at [jeffr@saj-arch.com](mailto:jeffr@saj-arch.com) and Steve Earle, Senior Project Manager, at [steve.earle@hmkco.org](mailto:steve.earle@hmkco.org).

1.02 **PROJECT:** Obsidian Middle School Modernization Project

1.03 **SPECIFIED ITEM:**

A. SECTION NAME AND NUMBER: Electrical Lighting Control Legend - Sheet E0.01

B. PRODUCT TYPE AND NAME AND MODEL: Basis of Design: Acuity nLight Controls

C. PARAGRAPH AND PRODUCT DESCRIPTION: Various Controls Items

1.04 **PROPOSED SUBSTITUTION:**

A. MANUFACTURER AND MODEL NUMBER(S): Cooper Wavelinx Controls

B. PRODUCT DESCRIPTION: Various Controls Items - Please see Substitution Package for all offered items

C. Attached data includes product description, specifications, drawings, photographs, performance, test data and **point by point comparative matrix** adequate for evaluation of request including identification of applicable data portions. Attached data also includes description of changes to Contract Documents the proposed substitution requires for proper installation.

D. It is the responsibility of the requestee to assemble a comparative matrix outlining key elements of proposed substitution.

1.05 **UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:**

A. Proposed substitution does not affect dimensions shown on the drawings.

B. Undersigned pays for changes to building design, including engineering design, detailing, and construction costs caused by proposed substitution.

C. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.


D. Maintenance and service parts are available locally or readily obtainable for proposed substitution.

SECTION 01 6023 — 1

Submitted On: Feb 17, 2026

1/2

Index Page


Submitted by Solus Lighting & Controls		<b>Catalog Number:</b> SUBSTITUTION REQUEST FORM	<b>Type:</b> <b>MISC</b>
	<b>Job Name:</b> Obsidian Middle School Modernization - Controls	Notes:	SOLUS26-228966




REDMOND SCHOOL DISTRICT  
MODERNIZATION PROJECT  
OBSIDIAN MIDDLE SCHOOL  
SUBSTITUTION REQUEST FORM  
SECTION 01 6023

- 1.06 UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.
- 1.07 UNDERSIGNED FURTHER CERTIFIES THAT THE MANUFACTURER OF THE PROPOSED SUBSTITUTION IS AWARE OF THIS SUBSTITUTION REQUEST AND AGREES TO THE STATEMENTS NOTED ABOVE.
- 1.08 UNDERSIGNED AGREES THAT THE TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.
- 1.09 SUBMITTED BY:
- A. PRINT NAME: Elisa Cresto  
SIGNATURE: Elisa Cresto
- B. FIRM NAME: Solus Inc.
- C. FULL MAILING ADDRESS: 1820 E Burnside Street  
City: Portland State: OR Zip: 97214
- D. PHONE: (206) 575-6865 - Ext. 1663 E-MAIL: ecresto@solus.com
- 1.10 FOR USE BY ARCHITECT OR ENGINEER
- A. APPROVED OR APPROVED AS NOTED BY: \_\_\_\_\_
- B. NOT APPROVED BY: Lee C. Georgetown Lee C. Georgetown, SAJ Architecture
- C. RECEIVED TOO LATE: \_\_\_\_\_
- D. REMARKS: District desires new lighting system to match recent renovation. No substitutions.
- E. DATE OF RESPONSE: District desires new lighting to match existing. No substitutions.

END OF SECTION

Submitted by Solus Lighting & Controls		<b>Catalog Number:</b> SUBSTITUTION REQUEST FORM	<b>Type:</b> <b>MISC</b>
	<b>Job Name:</b> Obsidian Middle School Modernization Architect: SAJ Architecture (Bend) Engineer: Morrison Maierle (Bend) (Bend)	Notes:	SOLUS26-228783



REDMOND SCHOOL DISTRICT  
MODERNIZATION PROJECT  
OBSIDIAN MIDDLE SCHOOL  
SUBSTITUTION REQUEST FORM  
SECTION 01 6023

**SUBSTITUTION REQUEST: DATE SUBMITTED** 02/16/26

1.01 SUBMIT TO: SAJ Architects, Jeff Reynoldson, Project Manager at [jeffr@saj-arch.com](mailto:jeffr@saj-arch.com) and Steve Earle, Senior Project Manager, at [steve.earle@hmkco.org](mailto:steve.earle@hmkco.org).

1.02 **PROJECT:** Obsidian Middle School Modernization Project

1.03 **SPECIFIED ITEM:**

A. SECTION NAME AND NUMBER: Luminaire Schedule - Sheet E0.03

B. PRODUCT TYPE AND NAME AND MODEL: Type B1: Mark Architectural - WHSPR

C. PARAGRAPH AND PRODUCT DESCRIPTION: 2x4 Recessed Troffer

1.04 **PROPOSED SUBSTITUTION:**

A. MANUFACTURER AND MODEL NUMBER(S): Corelite: 24D3X-WO-40-L835-UNV-STD-U

B. PRODUCT DESCRIPTION: 2x4 Recessed Troffer

C. Attached data includes product description, specifications, drawings, photographs, performance, test data and **point by point comparative matrix** adequate for evaluation of request including identification of applicable data portions. Attached data also includes description of changes to Contract Documents the proposed substitution requires for proper installation.

D. It is the responsibility of the requestee to assemble a comparative matrix outlining key elements of proposed substitution.

1.05 **UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:**

A. Proposed substitution does not affect dimensions shown on the drawings.

B. Undersigned pays for changes to building design, including engineering design, detailing, and construction costs caused by proposed substitution.

C. Proposed substitution has no adverse effect on other trades, construction schedule, or specified warranty requirements.

D. Maintenance and service parts are available locally or readily obtainable for proposed substitution.

SECTION 01 6023 — 1

Submitted On: Feb 16, 2026

1/2

Index Page

**Job Name:**

Obsidian Middle School Modernization  
 Architect: SAJ Architecture (Bend)  
 Engineer: Morrison Maierle (Bend) (Bend)

**Catalog Number:**

SUBSTITUTION REQUEST FORM

Notes:

**Type:****MISC**

SOLUS26-228783



REDMOND SCHOOL DISTRICT  
 MODERNIZATION PROJECT  
 OBSIDIAN MIDDLE SCHOOL  
 SUBSTITUTION REQUEST FORM  
 SECTION 01 6023

1.06 UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

1.07 UNDERSIGNED FURTHER CERTIFIES THAT THE MANUFACTURER OF THE PROPOSED SUBSTITUTION IS AWARE OF THIS SUBSTITUTION REQUEST AND AGREES TO THE STATEMENTS NOTED ABOVE.

1.08 UNDERSIGNED AGREES THAT THE TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

## 1.09 SUBMITTED BY:

- A. PRINT NAME: Elisa Cresto  
 SIGNATURE: Elisa Cresto
- B. FIRM NAME: Solus Inc.
- C. FULL MAILING ADDRESS: 1820 E Burnside Street  
 City: Portland State: OR Zip: 97214
- D. PHONE: (206) 575-6865 - Ext. 1663 E-MAIL: ecresto@solus.com

## 1.10 FOR USE BY ARCHITECT OR ENGINEER

- A. APPROVED OR APPROVED AS NOTED BY: \_\_\_\_\_
- B. NOT APPROVED BY: Lee C. Georgetown Lee C. Georgetown, SAJ Architecture
- C. RECEIVED TOO LATE: \_\_\_\_\_
- D. REMARKS: District desires new lighting system to match recent renovation. No substitutions.
- E. DATE OF RESPONSE: District desires new lighting to match existing. No substitutions.

**END OF SECTION**