



**CALVERT COUNTY
DEPARTMENT OF FINANCE & BUDGET**

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Board of Commissioners
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October 21, 2020

ADDENDUM NO. 2

Board of County Commissioners
ITB 2020-108
Construction of Program Space
Barstow, Calvert County, Maryland

To Prospective Bidders:

Following is an addendum to the referenced specifications. Please acknowledge receipt of this addendum by executing the signature block provided below. This signed addendum must be included with your proposal. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the specifications and supplements and modifies them as indicated below:

DIVISION 26 SPECIFICATIONS

- Section 265100 – INTEROPR LIGHTING: Add Paragraph 1.2-A-4
4. Lighting Controls.
- Section 265100 – INTEROPR LIGHTING: Delete Paragraph 1.2-B-1
- Section 265100 – INTEROPR LIGHTING: Add Paragraph 1.4-I
I. Coverage Plans:
 1. Show locations and coverage patterns for all occupancy sensors.
 2. Electrical floor plans indicate the minimum number of sensors required for the basis of design product. Additional sensors may be required by other manufacturers in order to ensure proper coverages within rooms. Manufacturers shall perform device layouts prior to bid. Additional sensors shall be furnished and installed at no additional cost to the owner.
- Section 265100 – INTEROPR LIGHTING: Add Paragraph 2.7.

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Mailing Address: 175 Main Street, Prince Frederick, Maryland 20678
Maryland Relay for Impaired Hearing or Speech: 1-800-735-2258

2.7 INDOOR OCCUPANCY/VACANCY SENSORS

- A. General Requirements for Sensors: Wall or ceiling-mounted, solid-state digital indoor occupancy/vacancy sensors.
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Operation: Unless otherwise indicated, manual-on when coverage area is occupied, and automatic-off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 30 minutes in 1-minute increments. Default setting: 20 minutes.
 3. Sensor Output: Used to turn loads on and off based on occupancy. Sensor is powered from the control panel.
 4. Mounting:
 - a. Sensor: Suitable for mounting in any position.
 - b. Time-Delay and Sensitivity Adjustments: Recessed and concealed behind removable cover.
 5. Indicator: Digital display, to show when motion is detected during testing and normal operation of sensor.
- D. Dual-Technology Type: Ceiling/Wall mounted; 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. Detection Coverage (Corner Mount): Detect occupancy anywhere within an area of 2,000 sq. ft. or walking motion and 1,000 sq.ft. of desktop motion when mounted on a 120-inch high ceiling.
 4. Detection Coverage (Center Mount): Detect occupancy anywhere within an area of 1,000 sq. ft. or walking motion and 1,000 sq.ft. of desktop motion when mounted on a 120-inch high ceiling.
- Section 265100 – INTEROPR LIGHTING: Add Paragraph 2.8.

2.8 DIGITAL LOW-VOLTAGE WALL SWITCHES

- A. All switches shall be digital and communicate via RS 485. Contact closure style switches, except as specified for connection to the micro relay panel matrixed contact closure inputs, shall be acceptable.

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- B. Low voltage momentary pushbutton switches in 1, 2, 3, 4, 5 and 8 button configuration; available in white; compatible with wall plates with decorator opening. Wall switches shall include the following features:
 - 1. Two-way infrared (IR) transceiver for use with personal and configuration remote controls.
 - 2. Removable buttons for field replacement with engraved buttons and/or engraved alternate color button. Button replacement may be completed without removing the switch from the wall.
- C. Two RJ-45 ports for connection to local network.
- D. Multiple digital wall switches may be installed in a room by simply connecting them to the free topology local network. No additional configuration will be required to achieve multi-way switching.
- E. The following switch attributes may be changed or selected using a wireless configuration tool.
 - 1. Load and Scene button function may be reconfigured for individual buttons (from Load to Scene, and vice versa).
 - 2. Individual button function may be configured to Toggle, On only or Off only.
 - 3. Individual scenes may be locked to prevent unauthorized change.
 - 4. Fade Up and Fade Down times for individual scenes may be adjusted from 0 seconds to 18 hours.
 - 5. Ramp rate may be adjusted for each dimmer switch.
 - 6. Switch buttons may be bound to any load on a room controller and are not load type dependent; each button may be bound to multiple loads.
 - 7. Switch buttons may be bound to any load on a room controller and are not load type dependent; each button may be bound to multiple loads.
- F. Digital low voltage switch shall be a device that sits on the lighting control system bus. Digital switch shall connect to the system bus using the same cable and connection method required for relay panels. System shall provide capability to locally and remotely program each individual switch button, monitor and change function of each button locally and remotely. Each button shall be capable of being programmed for On only, Off only, On/Off (toggle), Raise (Dim up) and Lower (Dim down). Switches requiring low voltage control wires to be moved from one input terminal to another to accomplish these functions are not acceptable.
- G. Keyed switches shall be programmable and connect to the lighting controls system bus.
- H. Digital switches for high abuse areas (common areas, gymnasiums etc.) shall be vandal resistant and available with up to three buttons in a single gang. Multi gang versions shall also be available. Touch pads shall be Stainless Steel and capable of handling both high abuse and wash down locations. High abuse switches shall connect to the lighting control system digital bus. Each high abuse switch touch button shall be able to control any relay or any group in any panel or panels that is part of the lighting control system. Each touch button shall be able to be programmed for On, Off, Toggle or Maintain operation. All programming shall be done locally or remotely via dial up modem or web interface as

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described in other paragraphs of this section. High abuse switches shall be able to be enabled or disabled digitally. Each touch pad is to be identified as to function by an engraved label. Switches must be capable of handling electrostatic discharges of at least 30,000 volts (1cmspark) without any interruption or failure in operation.

- Section 265100 – INTEROPR LIGHTING: Add Paragraph 2.9.

2.9 LIGHTING CONTROL PANEL

A. Relay Panels:

1. NEMA rated enclosure with hinged door.
2. 16 AWG steel barrier shall separate the high voltage and low voltage compartments of the panel and separate 120v and 277v.
3. Input power shall be capable of accepting 120v or 277v without rewiring.
4. For large spaces and egress areas control electronics in the low voltage section shall be capable of driving 2 to 48 relays, control any individual or group of relays, provide individual relay overrides, provide a master override for each panel, store all programming in non-volatile memory, after power is restored return system to current state, provide programmable blink warn times for each relay and every zone, and be able to control Normally Open (NO) or Normally Closed (NC) relays..
5. For classrooms and corridors with daylight sensing lighting control system shall be digital and consist of LCPs with up to 4 individual relays, digital switches, digital interface cards. All system components shall connect and be controlled via a single Category 5, 4 twisted par cable with RJ45.
6. Relay panels shall have up to 4-20a lighting relays and shall control all lighting in the designated area indicated on the plans. Each relay panel shall provide minimum 150ma at 24vdc for powering occupancy sensors.
7. Relay panel shall provide 4 programmable photocell inputs, 4 programmable occupancy sensor inputs and matrixed contact closure inputs. This requirement is to insure integration of entire lighting system into one networked, lighting control system.
8. Relay panels shall be capable of outputting 4 independent 0v to 10v dimming signals, one independent dimming signal at each or 4 relays. In order to maximize daylight harvesting and minimize disruption to occupants, each dimming output shall provide adjustment for baseline start point, mid point, end point trim, fade up rate, fade down rate, time delay and enable/disable masking. All photocell setting must be remotely accessible. Systems providing On, Off with Time-Delay only, and system that do not provide remote access are not acceptable.
9. Electrically held, electronically latched SPST relay.
10. Relays shall be replaceable relay cards. Relay terminal blocks shall be capable of accepting two (2) #10AWG wires on both the line and the load side. Systems that do not allow for individual relay replacement or additions are not acceptable.
11. Rated at 20 Amp, 277VAC Ballast, Tungsten, HID 1 HP at 120Vac, 2 HP at 240 Vac.

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MECHANICAL DRAWINGS

- P2.1
Refer to attached Drawing P2.1 for rerouting of condensate piping.
- M8.1
Refer to attached Drawing M8.1 for deletion of Automatic Controls General Notes.
- M9.1
Refer to attached Drawing M9.1 for revised air device schedule.

ELECTRICAL DRAWINGS

- E0.1
Refer to attached Drawing E0.1 for revised legend and notes.
- E3.1
Refer to attached Drawing E3.1 for added outlet and circuit.
- E3.2
Refer to attached Drawing E3.2 for location of camera DVR and racks.
- E5.1
Refer to attached Drawing E5.1 for added circuit.

ATTACHMENTS

Full Size Drawings:

P2.1 FLOOR PLAN – ADDITION - PLUMBING
M8.1 MECHANICAL CONTROLS
M9.1 MECHANICAL SCHEDULES

E0.1 LEGEND AND ABBREVIATIONS
E3.1 FLOOR PLAN-POWER
E3.2 OVERALL FLOOR PLAN
E5.1 SCHEDULES, RISERS, AND ELEVATIONS

All other specifications and terms remain as stated in original document. This addendum is hereby made a part of the Contract Documents, on which the Contract is based and is intended to modify, explain, correct and/or add to the original Contract Documents.

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