

Monmouth Memorial School
Monmouth, ME
RSU 2
Bidding Documents Educational AV Systems

SECTION 2-A

NOTICE TO CONTRACTORS

PUBLIC SCHOOL PROJECT

Sealed proposals, in envelopes plainly marked proposal for:

Monmouth Memorial School, Educational AV Systems, Monmouth, Maine.

Dated: 01/29/2020

Brief Job Description:

Furnishing of, coordination, installation and training of Educational AV Systems for the new Monmouth Memorial School, Monmouth, ME.

Addressed to: **RSU 2**
7 Reed St.
Hallowell, ME 04347

Bids shall be emailed in PDF format, in the same message, delivered to John@TabbTech.com and JARmentrout@kidsrsu.org and received no later than 2:00 PM (Eastern Time), on Wednesday, January 29, 2020. Bids received after 2:00 PM (Eastern Time) will not be considered.

All interested bidders shall register for addenda and Q/A responses to John@TabbTech.com. Any questions must be submitted via email no later than 12:00 PM on January 24, 2020. Answers will be forwarded to all bidders.

There will be a site inspection on Thursday, January 16, 2020 at 10AM. It is highly recommended, but not mandatory, that interested parties attend as the facility will be nearing completion at this time and conditions will be virtually identical to those that will be found for the AV systems installation.

The owner reserves the right to waive all formalities, and reject any and all proposals, or to accept any proposal. Proposals shall be submitted upon the letterhead of the bidder in pdf format. No decision regarding who is the successful bidder will be made at the time of bid receipts.

Electronic PDF format files of Bidding Documents may be downloaded at:

Maine BREM website:

<http://www.maine.gov/dafs/brem/business-opportunities>

END OF SECTION

SECTION 2-B

PROPOSAL FORM
SHORT FORM
PUBLIC SCHOOL PROJECT

BIDDER: _____

TO: **RSU 2**
7 Reed St.
Hallowell, ME 04347

John@TabbTech.com
Jarmentrout@kidsrsu.org

A. Having carefully examined the form of contract, general conditions and plans and specifications dated 01/07/2020

Prepared by:

For: **Monmouth Memorial School, Educational AV Systems, Monmouth, Maine 04347.**

as well as the premises and conditions affecting the work, we the undersigned propose to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this proposal for the amount of:

Base Bid _____ Dollars \$ _____

B. This proposal includes the following addenda to the plans and specifications:

Addendum No. _____, Dated _____ Addendum No. _____, Dated _____
Addendum No. _____, Dated _____ Addendum No. _____, Dated _____

C. The undersigned agrees, if awarded the contract, to start the work on **1 April 2020** and complete the work as outlined in section I.I.3.

Any material or materials not specified in the bidding document but deemed worthy of consideration may be introduced by the bidder in a separate letter attached to this proposal. A cost comparison must be included giving the comparison with the material specified and the reason for the suggested substitution. The basic bid shall be as specified.

The undersigned agrees, if this proposal is accepted, to sign a contract and deliver it, along with the bonds and affidavits of all insurance specified within twelve (12) calendar days after the date of notification of such acceptance, except if the 12th day falls on a holiday, a Saturday or Sunday, then the conditions will be fulfilled if the required documents are received before 12:00 o'clock noon on the day following the holiday, or the Monday following the Saturday or Sunday, and as a guarantee thereof, herewith submits a certified or cashiers check or bid bond as required.

SIGNED: _____

BY: _____

P.O. Address

NOTE: If bidder is a corporation, write state of incorporation, and if a partnership, give full names of all partners.

END OF SECTION

**MONMOUTH
MEMORIAL SCHOOL**

Monmouth, Maine

Request for Proposals

for

Educational Audio Visual Systems

I. GENERAL

- A. Divisions 00 Procurement and Contracting Requirements and 01 General Requirements apply to the work herein.
- B. These specifications are for Educational Audio Visual Systems for the new Monmouth Elementary/Middle School in Monmouth, ME
- C. Vendors to meet all specific features listed in this request for proposal (RFP). If there are alternates in a proposal that would be of benefit to the Owner either through reduced cost or improved functionality specifically indicate which features and specifications are not being included, and what features are being added that are not herein listed, and how these modifications benefit the user (i.e. price/performance).
- D. All work on site must be performed in compliance with rules and guidelines established by the Owner. The winning bidder will be working directly for RSU 2.
- E. Compliance with all relevant codes including:
 - 1. Local and state building, plumbing, mechanical, electrical, fire and health department and public safety codes agencies.
 - 2. National Fire Protection Association (NFPA).
 - 3. Occupational Safety and Health Act (OSHA).
 - 4. National Electrical Code (NEC).
 - 5. National Electrical Safety Code (NESC).
 - 6. The ICC National Building Code.
- F. Wherever the drawings and specifications do not agree the more stringent shall apply. Provide an RFI to the Owner for clarification.
- G. Equipment types included in this RFP
 - 1. Digital projectors and interactive projectors.
 - 2. Audio systems.
 - 3. Multimedia control systems.
 - 4. LCD Displays.
 - 5. Digital Signage Systems.
 - 6. Mounts, racks, etc.
 - 7. Cable management.

8. AV cabling.
9. Any power supplies, cables, connectors, or ancillary equipment that is required to allow the specified systems to function.

H. PROJECT CONDITIONS

1. The Monmouth Elementary/Middle School is a new facility currently finishing construction.
2. Careful coordination with other trades and the Owner will be required to avoid damage to equipment and finished building areas.
3. The current schedule has the School becoming available for AV installations on or around April 1, 2020 with completion scheduled for no later than May 31, 2020.
4. No standing on equipment or furniture is permitted. Vendor will provide all ladders, lifts, staging, etc. necessary to complete the work. Note that the General Contractor will not be on site at the time of installation so no lifts will be available.
5. Cleanup will be done daily and removed from site with as much material as possible being recycled. Areas worked in shall be left in a vacuumed condition. In all cases leave the area in better condition than you found it.
6. Any repairs required due to incidental damage during AV systems installation will be the responsibility of the AV installer to repair back to new condition. This includes but is not limited to any painting/patching of walls, and replacement of damaged ceiling tiles. Note that all other trades will have completed their work prior to the start of the AV installation.
7. Owner training will be required near the time of substantial completion and again at the beginning of the 2020/21 school year. Schedule for training to be coordinated with the Owner according to the parameters listed in Section III – Execution.
8. Related systems provided and installed by others:
 - a. Structured cabling system for Voice, Data and CATV.
 - b. Intercom System.
 - c. Motorized screens (control integrated by AV Contractor).
 - d. Topcat Audio systems in classrooms.
 - e. Conduits, Back Boxes, and Cable Tray.
 - f. Equipment racks (telecommunications only, AV racks are by the AV Contractor) and telecommunications backboards.
 - g. Tables and/or counters to hold tabletop AV Equipment.
9. AV Contractor to verify location with Owner before placing any penetrations in furniture or woodwork

10. Verify location of wall blocking provided before mounting monitors and projectors.

I. PERFORMANCE REQUIREMENTS

1. In addition to the bid form include documentation on major system components with the proposal (e.g. brochures or technical data sheets in pdf format).
2. The intent is to select one vendor for all items described in this RFP to simplify system compatibility, training, and service after the sale. It is allowable for the successful bidder to employ subContractors to maximize expertise in installation and compliance with the requirements of this RFP.
3. The work shall include everything necessary or incidental to complete the installation EXCLUDING wire raceway, raceway fittings, outlet boxes, pull boxes, 120 volt AC power circuits, and insulated ground cables. Such excluded equipment shall be furnished and installed by the project Electrical Contractor prior to the start of AV installation work.
4. It shall be the responsibility of the AV Contractor to employ the services of the fireproofing contractor employed on this project to patch/repair existing fireproofing at interior structural steel to accommodate scope of work included as a portion of these Contract Documents.
5. Include all necessary labor, software, programming and the selection of the proper type and quantities of the system components and accessories to assure a complete and operational system.
6. Indicate how the systems will be integrated (hardware, software & user interface) in order to operate as simply as possible.
7. Describe the extent of on site training which is included and the incremental cost to acquire additional on site training as needed.
 - a. Minimum requirement of 3 training sessions per system. These training sessions shall include a comprehensive training for personnel, a follow up session after the system has been in use for not less than one month and not more than three months after system acceptance. Coordinate timing with the Owner.
 - b. Training sessions may need to be divided to keep the number of attendees to a manageable number, dividing a training session does not constitute conducting multiple trainings.
 - c. Each system shall have a quick reference guide, laminated and provided for each room where the system is in use. Additionally, (1) paper copy and a pdf file of these guides shall be provided to the Owner at time of commissioning.
8. Include proof of manufacturers authorized dealer status for major system components where this is required for extended warranty service.
9. The AV Contractor must maintain staff and equipment required to support and service the installed systems. The AV Contractor must be able to respond to service calls within

one (1) business day.

10. The AV Contractor shall demonstrate to the satisfaction of the Owner that the AV Contractor has:
 - a. Adequate plant and equipment to pursue the work properly and expeditiously.
 - b. The Contractor's primary business is the provision, fabrication and installation of professional audiovisual and related systems.
 - c. The Contractor has been factory trained in the installation, maintenance and programming of the AV systems included in the proposal.
 - d. Adequate staff and technical experience.
 - e. Suitable financial status to meet the obligations of the work including requirements in Division 01 00 00.
11. Each vendor must include a list of at least 3 similar projects completed in the last 5 years. Include contacts for references - name, email, telephone number and physical address.

J. WARRANTY

1. Provide for the warranty of each delivered system under the following terms and exclusions:
 - a. Warranty all equipment to be free of faulty workmanship and defects, and from damage due to contamination by construction dust and debris for a minimum period of one (1) year from date of final acceptance.
 - b. Paint and exterior finishes, fuses, lamps, and projection lamps excluded from above warranties except when damage or failure results from defective materials or workmanship covered by warranty.
2. The terms of individual equipment manufacturers' warranties are not diminished by the minimum warranty provisions specified above.

K. SERVICE CONTRACT

1. Provide a one-year Service Contract to commence after Owner's written acceptance of installation. The cost of the service contract shall be included in the base bid. Service to include two semi-annual visits to the site for routine adjustment and maintenance of all equipment. Provide a preliminary schedule for the semi-annual visits to Owner for approval.
2. Three months before the end of each year's Service Contract, provide the Owner with a proposal for continued service during the next year.

L. SUBSTITUTIONS

1. Where manufacturer's names are listed this is to establish a standard for quality and design. Where one manufacturer's name is mentioned, products of other manufacturers will be acceptable if, in the opinion of the Owner, the substitute product is of quality and features equal to or better than that of the product specified.
2. Substitutions are changes, modifications or deviations in those products, materials, equipment, and methods of construction required by the Construction Documents proposed by the Contractor after the receipt of Bids. Substitutions for the convenience of the Contract or subcontractors, or materials suppliers will only be considered if submitted prior to the receipt of Bids, in strict conformance with the Instructions to Sub-bidders. The following shall not be considered substitutions:
 - a. Changes, modifications, or deviations requested by Bidders during the bidding period and accepted prior to the receipt of Bids shall be considered as included in the Contract Documents and are not subject to the requirements of this Section.
 - b. Revisions to Construction Documents requested by the Owner.
 - c. Specified options of products or materials included in the Construction Documents where both a manufacturer and Model/Product # is specified.
 - i. Where specified options include Manufacturer name only but do not specify a specific Model/Product # by said manufacturer the Contractor shall submit a Substitution Request per the procedures included within this Section.
 - d. The Contractor's compliance with governing regulations and orders issued by governing authorities, subject to the Owner's prior written notice and approval.
3. Substitution Requests: Request for substitution will be considered only if, in the opinion of the Owner, such substitution will be of benefit to the Owner. Substitution requests after receipt of bids will not be considered solely related to an "or approved equal" clause in the Construction Documents.
 - a. The Contractor's substitution request will be considered by the Owner when all of the following conditions are satisfied, as determined by the Owner; otherwise requests will be returned without action.
 - i. Extensive revision to the Construction Documents are not required.
 - ii. Proposed changes are in keeping with the general intent of the Construction Documents.
 - iii. The request is timely, fully documented and properly submitted.
 - iv. A benefit to the Owner can be shown long term.
4. Detailed specifications and, if the Owner determines it is necessary, samples of proposed alternate products shall be provided to the Owner for review prior to purchase or installation of proposed alternates.
5. Cost for removal and replacement of any unapproved alternates pertaining to the items specified in this section is the sole responsibility of the AV Contractor.
6. Where HDBaseT is used to connect to projectors or monitors it is acceptable to use either an integrated HDBaseT port on the display device or an external receiver. If an external receiver is used it shall be from the same manufacturer as the transmitter. Any costs for additional receivers and cables between devices shall be included in the base

bid. Where integrated receivers are used the submittal shall include documentation that the transmitter and receiver ends are certified to work seamlessly together. The cost for remediating any HDBaseT issues due to incompatibility between the transmitter and receiver, including integrated receivers, is the sole responsibility of the AV contractor and shall be resolved at no additional cost to the Owner.

M. SUBMITTALS

1. Provide submittals in PDF format following award of contract. Submittals shall be approved in writing prior to commencing work.
2. Submittals shall be provided as a complete set, not product by product. Failure to do so will result in rejection of the submittal.
3. Refer to item code (e.g. IWB) in addition to model/part # throughout submittal for easy cross reference.
4. Submittal documentation shall include the following:
 - a. Table of contents.
 - b. AV Contractor Name, Contact Name, Address, Telephone Number, and email address.
 - c. Name, Contact Name, Address, Telephone Number, and email address of any Subcontractors.
 - d. Manufacturers' certificate of warranty for the complete (or each and every of the various subsystems) systems. Clear documentation of effective warranty periods. All warranties shall be filled out in the Owner's name and dated to begin following final acceptance of the installation.
 - e. Elevations for AV control racks where applicable.
 - f. Wiring diagrams for connectivity between equipment for each AV system.
 - g. A complete list, with quantities, of ALL equipment and materials which are to be furnished. Accompanying the list shall be manufacturers' specification or cut sheets for all sound system equipment (e.g. microphones, audio program source equipment, power amplifiers, speakers), audio-visual equipment (e.g. projectors, program source equipment, monitors, video processing equipment), AV control equipment (e.g. Touch Screens, system controllers, interface/control cards), and any other MAJOR items of equipment. All items shall reference the product tag (e.g. INT, PRJ1) shown in the specifications.
 - h. Details of proposed equipment suspension including attachment methods, weights, and suspension locations approved by the AV Contractors' Structural Engineer.
 - i. Details showing camera/projector/television/flat panel display mounting.

- j. Maintenance Documentation including the following:
 - i. List of all equipment by manufacturer.
 - ii. Information necessary for the Owner's technical staff to perform routine and/or corrective maintenance.
 - iii. List of all spare parts including replacement lamp part numbers.
 - iv. Original copies of manufacturer's installation and operation instructions arranged alphabetically by manufacturer.

II. PRODUCTS

- A. The work of this Section consists of the provision of all materials, labor and equipment and the like necessary and/or required for the complete execution of all audiovisual system equipment and related work for this project as required by the specifications, schedules, keynotes and drawings, including, but not limited to the following:
 - 1. Supply only new equipment, parts and material, and protect all equipment from construction dust and debris until final acceptance. Operate only as required for testing as part of installation procedure. Provision of all manufactured components, installation, wiring, and testing is the responsibility of a single AV Contractor.
 - 2. The system drawings indicate the general layout of the various items of equipment and their functional relationships. However, layout of equipment, accessories, and conduit systems are diagrammatic unless specifically detailed and do not necessarily indicate every item required for a complete installation. Provide any incidental equipment needed in order to result in a complete and operable system even if not specified or shown on drawings without claim for additional payment.
 - 3. Refer to the Electrical floor plan drawings for receptacle back-box location and quantity information.
 - 4. Supply and install miscellaneous steel above finished ceiling for mounting projectors and sound system devices (speakers, etc.).
 - 5. All primary conduit and wireways, AC power, and network data drops shown on the system Contract Drawings are included in the Electrical Contractor's scope of work and are not to be provided in this Contract. Supply and install all additional conduit and wireways to the extent not included in the electrical scope in order to provide a complete and operable system.
 - 6. Provide a contact closure to the audio digital signal processor in each local sound system to recall a setting that mutes all program audio when a signal is received from the fire alarm system or when a paging announcement is made through the building-wide Public Address system. Provide appropriate cabling to complete the contact closure installation and coordinate connection and testing with Fire Alarm and Public

Address system.

7. This AV Contractor shall furnish, install and maintain in safe and adequate condition all mechanical hoisting equipment, operating personnel, rigging, staging, planking, and scaffolding that is necessary for the proper execution of the work of this section.
- B. All AV cabling, connectivity, faceplates, patch panels, etc. shall be the responsibility of the AV Contractor.
1. All HDBaseT cabling shall be Cat6A shielded with shielded jacks, patch panels, and patch cords included and installed to provide a shielded system from end to end.
 2. All AV cabling run in cable trays shall be placed neatly.
 3. All cabling and patch cords between components shall have cable management or be sleeved with expandable braided sleeving to look neat and professional.
 4. HDMI cables shall be certified by the manufacturer for the lengths required including associated patch cords and mated connectors. This information shall be documented in the submittals.
 5. All cabling, equipment, and device endpoints shall be labeled based on the device and location they are connected to. Labels shall be mechanically produced and resistant to smudging and wear and match the font type, size, and color of the IT components.
 6. No cabling or outlets associated with monitors shall be visible once monitor is in place. Where this is not possible due to location of power, data, or AV outlets, cabling shall be neatly dressed and enclosed in a cable loom where more than one cable is run together.
- C. Power, Data, and CATV connectivity is provided by others to the faceplates. It is the responsibility of the AV Contractor to provide patch cables for these links to all associated monitors, projectors, etc. Faceplates for AV systems shall be stainless steel.
- D. AV Cabling between input locations and the display device are the responsibility of the AV installer. This shall be HDMI for runs below 35-feet with the cable tested and verified to perform at full resolution.
- E. All power supplies and associated equipment required for the equipment listed here or on the drawings to function is the responsibility of the AV Contractor.
- F. Any software required for the full operation of equipment (i.e. interactive projectors) shall have licensing included for a minimum of 1-year from final acceptance. Any future licensing expenses beyond the first year shall be clearly identified in the proposal as a separate item.
- G. Classroom Audio Systems
1. A Lightspeed Topcat audio system (provided by others) is included for each classroom noted in the room data spreadsheet. The AV systems installer shall provide and install a direct, wired connection, from the projector audio out to the Topcat unit. Only the link from the projector to the Topcat shall be included in the bid.

2. Music Room Audio System (C101)
 - a. Wireless Microphone System
 - i. Shure BLX14R/MX53
 - ii. Earset head-worn microphone, Shure MX153.
 - iii. BLX1 Bodypack Transmitter. Include (4) AA rechargeable batteries for each transmitter and a battery recharger.
 - iv. BLX4R Rack mount receiver.
 - b. Mixer/Amplifier
 - i. JBL VMA 1120 or approved alternate
 - ii. 5 inputs with one via USB, plus bluetooth.
 - iii. 27VDC phantom power on mic inputs.
 - iv. 1 output of 120 watts of power compatible with 8 Ohm, 70V and 100V speaker systems.
 - v. 1U design with included rack mounting hardware.
 - vi. Provide a 10' cable to go from the 3.5mm audio out on a computer to one of the inputs on the mixer/amp.
 - c. DVD player
 - i. Provide a DVD player for the Music room only.
 - ii. Include cables to connect to the HDMI input to the projector and an audio only output to the Mixer/Amp.
 - d. Wall mount rack
 - i. Provide and install a wall mount rack/shelf for wireless receivers, mixer/amp, and DVD player.
 - ii. Coordinate location with the Owner.
 - e. Speakers (2 per room)
 - i. JBL Control 28-1 or approved alternate.
 - ii. 8" woven fiberglass woofer, 1" PEI dome tweeter.
 - iii. Sensitivity of 91dB SPL, 1W, 1m.
 - iv. Overload protection circuitry.
 - v. Compatible with 8 Ohm, 70V, and 100V amplification.
 - vi. Built in mounting hardware and wall mounts included.

- f. Microphones (4)
 - i. Shure SM58 or approved alternate.
 - ii. Cardioid pickup pattern.
 - iii. Rugged handheld design.
 - iv. For each microphone include a heavy duty tripod boom microphone stand with adapter compatible with the microphone provided.
 - v. For each microphone include a 20' XLR male to female cable.
- g. USB Mixer
 - i. Alesis Multimix 8 USB FX Regular or approved alternate.
 - ii. 8 channel mixer with mic, line, and guitar level inputs.
 - iii. XLR inputs with 48V phantom power.
 - iv. 1/4" line level inputs for instruments and high-impedance (guitar) input.
 - v. Main and headphone outputs with independent level controls for each.
 - vi. USB plug and play interface for Mac and PC.

H. Projectors

- 1. Classroom Projectors
 - a. Basis of design is Epson PowerLite 700U, or equal.
 - b. 4000 lumen output with equal color and white brightness.
 - c. 20,000 hour laser light source.
 - d. 2x HDMI inputs.
 - e. Native WUXGA 1920 x 1200 resolution.
 - f. Ultra Short Throw with 16:10 aspect ratio and diagonal display size of 70-130".
 - g. 1 to 1.35 digital zoom.
 - h. Include and install PowerLite Pilot 3 connection and control box. Integrate projector controls and inputs through the Pilot 3. Coordinate location with the Owner.
 - i. Include wireless streaming device compatible with IOS and Chrome devices that allow full audio and video connectivity to the projector via a WiFi link.
 - i. Note that this device (or the projector if integrated) shall have access to a wired Cat6 link which should be used to tie this device to the network.
 - ii. Include Patch cords to connect to the network.

2. Large Space Projector (Stage (2) and Library (1))
 - a. Basis of design is Epson Pro L1100U Laser with standard lens or equal.
 - b. Include lens to fill the screens from the mounting points indicated on the drawings.
 - c. 6000 lumen output
 - d. Integrated HDBaseT certified input.
 - e. 20,000 hour lamp life.
 - f. Native WUXGA 1920 x 1200 resolution.
 - g. Submittal shall confirm that included lens and mounting distance will fill the motorized screens provided by others. Provide calculations on lens selection.
 - h. Projectors shall include ceiling mounts to be installed in each space.
 - i. Include wireless streaming device compatible with IOS and Chrome devices that allow full audio and video connectivity to the projector via a WiFi link.
 - i. Note that this device (or the projector if integrated) shall have access to a wired Cat6 link which should be used to tie this device to the network.
 - ii. Include Patch cords to connect to the network.
- I. LCD Monitors
 1. LCD55
 2. Monitors shall be the size class indicated by the number in their tag (e.g. LCD55 indicates a 55" class monitor). See room program sheet for size and location.
 3. Monitors for digital signage shall be rated to operate 24/7.
 4. Shall support HDCP 2.2.
 5. LED direct lit.
 6. Full UHD, 3840P native resolution.
 7. Display ratio: 16:9
 8. Brightness: minimum of 300cd/square meter.
 9. Refresh rate: 60Hz.
 10. IR remote control shall be provided for each monitor and affixed to the side or rear of the monitor with velcro.
 11. Input terminals:
 - a. 2-HDMI.
 - b. COAX.

12. Monitors shall NOT be "Smart TV's". No internet browsing or other capabilities shall be built in.
13. Wall mounts shall be provided with each monitor. Mounts shall have adjustable tilt, from +0 degrees to -12 degrees.

J. Interactive Monitor

1. Basis of design is Promethean ActivPanel.
2. 86" diagonal size
3. 4K UHD resolution
4. Include wall mount.
5. Integrated Android module to allow tablet like functionality without an attached computer or other device.

K. Stage Control System

1. Basis of design is the Crestron MPC3-201-B.
2. Integrated Crestron 3-series control engine.
3. Ethernet communications port.
4. (6) Assignable buttons with 25 pre-labeled icon chips and blackout chips included.
5. Volume controls and volume gauge for volume level indication.
6. Control of which projector and which part of the audio system is operated shall be programmed into the control unit to allow users to easily direct programming to either the cafeteria side or gym side.
7. Each capacitive button is backlit white when inactive and blue when active.
8. Mount in a 2-gang low voltage bracket to be provided and installed by the AV installer. Coordinate location with the Owner.

III. EXECUTION

A. There are (2) configurations for classrooms identified in the attached matrix.

1. Standard Classroom with Ultra Short Throw Projector and integration to existing Topcat Audio system.
2. Music Classroom with Projector and Audio system with wireless microphone and distributed speakers.

B. Standard Classroom with Projector and integration to Topcat Audio system.

1. Projector shall be mounted above the whiteboard (whiteboard provided by others) at

the location shown on the drawings.

2. Installation of HDMI input shall be coordinated with the owner. Confirm length of HDMI cable from input to the projector which may not be the same for each classroom.
 3. Audio out from the projector shall be hard-wired to the input on the Topcat system.
 4. Wireless streaming to the projector shall be configured for iPads and Chromebooks.
- C. Music/Drama Classrooms with Projector and Audio system with distributed speakers.
1. Projector shall be mounted above the whiteboard (whiteboard provided by others) at the location shown on the drawings.
 2. Installation of HDMI input shall be coordinated with the owner.
 3. Audio out from the projector shall be hard-wired to the input on the Music Room Audio system, not the Topcat.
 4. Coordinate location of the amp/mixer for the Music room with the Owner and furniture plan.
 5. Wireless streaming to the projector shall be configured for iPads and Chromebooks.
- D. Standard Conference rooms
1. Monitor (LCD55) shall be located as shown on the drawings or indicated in the room schedule.
 2. There shall be a single input location with an HDMI cable to the monitor. Additionally an HDMI patch cord shall be provided that is able to reach any seat at the table in the room.
 3. Control of the monitor shall be through an IR remote included with the monitor. Remote shall be velcro-ed to the back of the monitor in an accessible location for storage.
 4. Patch cords are the responsibility of the AV Contractor. At the monitor cables include CATV, and HDMI.
- E. Corridor Digital Signage Monitors
1. Monitors (LCD55) as noted on drawings shall be on tilt mounts to allow cable access.
 2. Monitors for digital signage shall be rated for 24/7 operation.
 3. All cables and accessories associated with the monitor shall be neatly contained behind the monitor in a manner to reduce visibility and susceptibility to tampering.
 4. Link to monitors shall be through a Chromebit (Chromebit provided by the Owner).
 5. All patch cords to the monitor and Chromebit shall be included. The remote shall be labeled identifying the specific monitor it is tied to and provided to the owner.

F. Stage Projectors (2)

1. Projectors shall be mounted to the ceiling above the stage.
2. Input from AV control system on Stage shall be installed (conduit by others).
3. Output to Sound system on Stage shall be installed (conduit and sound system by others).
4. Output to video projector interface shall be installed. Video projector interface provided by the screen installer, screen is Da-Lite Tensioned Advantage Deluxe Electrol.
 - a. Include wireless streaming device compatible with IOS and Chrome devices that allow full audio and video connectivity to the projector via a WiFi link.
 - i. Note that this device (or the projector if integrated) shall have access to a wired Cat6 link which should be used to tie this device to the network.
 - ii. Include Patch cords to connect to the network.

G. Stage control system

1. Consult with the Owner on configuration of the stage controller on configuration of control buttons and configuration of function of the control system.
2. System shall integrate control of projectors, screens, audio direction, volume, and source selection.

H. Gym projector

1. The gym projector will be the same as classroom projectors installed over the whiteboard with the exception that the projector in the gym will require a protective cage installed around it.
2. The cage shall be designed to protect against projectiles the size of a baseball or larger.
3. Audio from the projector shall be tied into the gym PA system, provided by others and located on the stage.
4. Any switching to control the source and volume of audio to the PA shall be extended to the area of the projector to allow control during gym class.

I. Library Projector

1. Projector shall be mounted to the ceiling centered on the screen.
2. Input via HDBaseT shall be provided from location adjacent to screen.
3. Output of audio shall be provided to Topcat Audio system in the Library (Topcat provided by others).

J. FIELD QUALITY CONTROL

1. Provide single on site job supervisor to coordinate with all trades.

2. There will be a mandatory Pre-Start Meeting to review existing conditions and project schedule with Owner.
3. Owner will require a schedule to be submitted prior to commencing along with a Purchase & Delivery Schedule to be updated monthly.
4. Perform operational test with Owner upon completed installation to verify proper operation of all systems.

K. FIELD SERVICES

1. Make final connections to units.
2. Perform field inspection and testing.
3. Demonstrate system operation and provide on site training.
4. Provide the services of an authorized technician of the manufacturer of the equipment to supervise the installation and final connections, plus adjusting, programming and all testing of the system required to assure a complete and fully operating facility and to instruct designated personnel in the operation, adjustment, testing and maintenance of the system.
5. Include testing at substantial completion. Invite the Owner, and Design Consultant to witness each test, provide two weeks advance notice to schedule the witnessing of the tests.

L. SYSTEM TESTS AND ADJUSTMENTS

1. The AV Contractor shall be responsible for preliminary field tests and adjustments of the completed audio-visual communication systems prior to the time reserved for system equalization. Such tests shall be made in conformance with the recommendations of the equipment manufacturer.
2. A full report of all tests conducted and their results shall be provided to the Owner prior to substantial completion.
3. System tests and adjustments shall include but not be limited to the following:
 - a. Verification that all speakers are properly installed, tapped, and circuited as indicated on the drawings.
 - b. Measurement of each speaker line impedance to verify that no short/open circuits exist (including shorts to conduit/ground) and proper/expected loads are connected.
 - c. Testing of each speaker to ascertain that none of the units "squawk" or "rattle" when energized with one-third octave bands of pink noise at a nominal input power of two watts.
 - d. Functional tests of all individual audio, video and control equipment.

- e. Phasing of all microphones, microphone cords and microphone inputs.
- f. Alignment, convergence and source input settings for each video projector and flat panel display.
- g. Functional tests of all audio-visual control system software functions.
- h. Functional tests of the installed systems as required to assure that the systems are ready for operation.
- i. Include photo of each AV rack both front and back with component labels.

M. SYSTEM WARRANTY AND MAINTENANCE

1. The AV Contractor shall warranty the audio-visual communication system against defects in materials and workmanship, including any required parts and labor, during a one year warranty period from date of final acceptance or first beneficial use, whichever occurs first, of the completed audio-visual communication system at no cost to the Owner.
2. The AV Contractor shall provide a 1-year service contract from the date of final acceptance at no additional charge.
3. The AV Contractor shall make at least two visits to the facility to determine that all equipment is functioning satisfactorily, and to perform any maintenance services that may be required. The first of these visits shall occur approximately six months after the commencement of the warranty period, and the second visit shall occur approximately six months thereafter, but prior to the end of the warranty period.
4. Maintenance services requiring additional visits shall also be performed at no charge to the Owner. Maintenance services shall consist of, but not be limited to, operational tests and checks of all equipment.
5. Any defective equipment discovered during any maintenance visit shall be repaired or replaced under the terms of the warranty. The AV Contractor shall not be liable for equipment damaged by improper use, negligence, or acts of nature.

N. OPERATING AND MAINTENANCE INSTRUCTIONS

1. The AV Contractor shall assemble (2) operating and maintenance instruction notebooks and a PDF copy, as described below, for the audio-visual communication system, and forward accurate field drawings of all wire numbers and control panel and patch panel engraving (for use in record drawing revisions) together with the notebooks.
2. Operating Instruction notebook contents shall include a Table of Contents, system operating instructions, manufacturers' operating instructions, instructions on systems test and adjustments, warrantee information, manufacturers' service manuals having schematic diagrams and parts lists, 11X17 record drawings, and any other information pertaining to the operation and routine maintenance of each major item of electronic equipment.

3. Use section tabs with color coded labels (similar to Avery Big Tabs) to neatly organize all equipment manuals by category and other required sections. Where possible, manufacturers' original documents shall be furnished. Photocopied materials shall be equally legible as the originals.
 - a. Provide condensed operating instruction sheets for all systems on a laminated 8.5 x 11" sheet for each room with AV equipment.
 - b. Provide a paper copy in each notebook and an electronic copy of condensed operating instructions in pdf format.
 - c. Provide a photograph of each rack both front and rear with components labeled.

O. TRAINING

1. Provide training on operation of all control systems.
2. Configuration of the digital signage both changing the graphical appearance and content.
3. Minimum requirement of 4 training sessions per system (2 each for elementary and middle school staff).
 - a. These training sessions shall include a comprehensive training for personnel and a follow up session after the system has been in use. Coordinate timing with the Owner.
 - b. Training sessions may need to be divided to keep the number of attendees to a manageable number, dividing a training session does not constitute conducting multiple trainings.
 - c. Each system shall have a quick reference guide, laminated and provided for each room where the system is in use. Additionally, (1) paper copy and a pdf file of these guides shall be provided to the Owner before commissioning and training.
4. A 5% retainer shall be withheld until the final training is completed.

P. ADJUSTING

1. System adjustments shall be done once at substantial completion and again 6 months thereafter at a time to be coordinated with the Owner.
2. Projectors shall be mounted and aimed to maximize image size on the projection surface and calibrated to ISF standards.
3. Unless otherwise directed, all projectors shall be configured to operate in economy mode.
4. Monitors shall be calibrated to ISF standards.

End of Section

Monmouth Elementary / Middle School

		UST Proj	Topcat conn	55" Mon	HO Proj	Interactive Monitor	Notes
A000	CORRIDOR						
A000A	ELEV LANDING						
A000B	CORRIDOR						
A001	SPED CLASSROOM	1	1				
A002	KINDERGARTEN CLASSROOM	1	1				
A005	K-2 SWING CLASSROOM	1	1				
A006	2ND GRADE CLASSROOM	1	1				
A007	SMALL GROUP			1			
A008	2ND GRADE CLASSROOM	1	1				
A009	1ST GRADE CLASSROOM	1	1				
A010	SMALL GROUP			1			
A011	1ST GRADE CLASSROOM	1	1				
A012	KINDERGARTEN CLASSROOM	1	1				
A014	PRE-K CLASSROOM	1	1				
A016	WORK ROOM						
A100	LOBBY			1			Digital Signage
A100A	VESTIBULE						
A100B	ELEV LANDING						
A100C	CORRIDOR						
A100D	CORRIDOR						
A100E	CORRIDOR						
A101	CONFERENCE ROOM			1			
A102	MAIN OFFICE						
A102A	CORRIDOR						
A103	NURSE						
A103A	EXAM						
A104	ASSIST PRIN						
A105	PRIN						
A106	CONF/RECORDS			1			
A107	GUIDANCE						
A108	GUIDANCE						
A109	WORK ROOM						
A114	HEALTH	1	1				
A115	MS LIFE SKILLS	1	1				
A116	ES LIFE SKILLS	1	1				
A116B	WORK ROOM						
A117	SPEECH	1	1				
A118	PSYCH						
A119	OT/PT						
A119A	STOR						
A120	TEST						
A200	CORRIDOR						
A200A	ELEV LANDING						
A200C	CORRIDOR						
A201	SPED CLASSROOM	1	1				
A202	3RD GRADE CLASSROOM	1	1				
A202A	SMALL GROUP			1			
A205	3RD GRADE CLASSROOM	1	1				
A206	4TH GRADE CLASSROOM	1	1				
A207	SMALL GROUP			1			
A208	4TH GRADE CLASSROOM	1	1				
A209	5TH GRADE CLASSROOM	1	1				
A210	SMALL GROUP			1			
A211	5TH GRADE CLASSROOM	1	1				
A212	3-5 SWING CLASSROOM	1	1				
A214	WORK ROOM						
B100	CORRIDOR			1			Digital Signage
B101	LIBRARY				1		Integrate to Audio Equipment by others
B102	LEARNING LAB					1	
B102A	TECH STORAGE						
B103	TECH						

B109	WORK ROOM					
B110	SPEL CLASSROOM	1	1			
B111	MS MATH	1	1			
B112	MS MATH	1	1			
B113	SMALL GROUP			1		
B114	MS ENGLISH	1	1			
B115	MS ENGLISH	1	1			
B116	MS FOREIGN LANG	1	1			
B117	MS SOCIAL STUDIES	1	1			
B118	MS SOCIAL STUDIES	1	1			
B119	MS SCIENCE	1	1			
B122	MS SCIENCE	1	1			
B122A	PREP ROOM					
B124	ART	1	1			
C101	MUSIC ROOM	1				
C101A	STORAGE					
C101B	PRAC					
C106	GYM	1				
C106C	CLOSET					
C106G	PE OFFICE					
C107	CAFETERIA			1		
C108	STAGE				2	
C108A	STAGE STORAGE					
C109	KITCHEN					
C113	OFFICE					

Add music room sound system see RFP

Cage to protect projector, Audio conn to PA

Include system for switching and volume control, integrate w/ exist sound system.

Total 34 32 11 3 1

UST Proj Topcat 55" Mon HO Proj Interactive Monitor