

INTEGRATED AUDIO-VIDEO SYSTEMS EQUIPMENT

PART 1 – GENERAL

1.01 GENERAL

- A. This specification outlines the Production Systems Contractor (Contractor) requirements to furnish and install the following integrated audio and video equipment for:
 - a. Newberry High School Gymnasium, Newberry SC - Sound and camera equipment
 - b. Mid-Carolina High School Gymnasium, Prosperity, SC – Sound and camera equipment
 - c. Mid-Carolina High School Cafeteria, Prosperity, SC – Sound and video projection equipment
- B. The Gymnasiums shall host a variety of events including gameday events and student assemblies. The sound & video systems are provided to support the production requirements.
- C. The sound system shall feature a multi-function DSP/Processor, amplifiers, and loudspeaker system to cover seating sections and floor level (when required). In addition to wired and wireless microphones, the system allows input from portable mixers and CD/MP3 player for music playback. Mixing, processing, source devices and amplifiers are securely mounted in an equipment rack located in a locking steel wall mount equipment rack.
- D. Along with the Gymnasiums audio system video cameras are used to relay gymnasium events to display systems with HD projector, screen, switching, and touch-panel control located in the school auditorium or cafeteria.
- E. The Newberry High School Gymnasium sound and camera equipment are to feed the existing AV system located in the School Auditorium.
- F. The Mid-Carolina High School Gymnasium sound and camera equipment are to feed the new AV system located in the School Cafeteria.
- G. AV system drawings show work by PSC and EC. PSC is to retain and subcontract high voltage electrical work and A/V signal raceway to provide the infrastructure needed for the AV systems renovations. Electrical contractor is responsible for all conduit and AC power shown on sheets EPS-L, EPS-x.x. Backbox locations and responsibility is shown on EPS-x.x , etc. Low voltage wiring and AV plates are by Production Systems Contractor. PSC is to coordinate all EC work.**
- H. Systems:

1. Newberry High School Gymnasium Sound System:

- a. 6 element loudspeaker array
 - i. Wireless microphone, wired microphone input , program playback input
 - ii. Portable production mixer input.
 - iii. Portable production mixer tie line inputs from stage position to system control position.
 - iv. Equipment rack for amplifiers, DSP, control, assisted listening system
 1. DSP system inputs include:
 - a. Wireless mic input
 - b. Wired mic input
 - c. Playback input for computer or MP3 players
 - d. Portable mixer inputs
 - v. Portable mixer for additional input control for game day or assembly events
 - a. 6 microphone tie lines from the stage
 - b. 2 line level tie lines to the stage position from the control positions
 - c. Extension snake for portable mixer
 - d. Portable powered loudspeakers for stage monitors with tripod stands
 - e. Additional cables for connecting OFE computer or MP3 playback through Gymnasium sound system
 2. Remote control panel for sound system DSP providing the following functions
 - a. Wireless mic level control
 - b. Mic A input level control
 - c. Playback input level control
 - vi. Video Camera System
 1. Wall mount remote control camera with PTZ functions.
 2. Camera control panel in auditorium for camera PTZ control and preset recall.
 - vii. Gymnasium to Auditorium system connections
 1. Camera to existing video switch input
 2. Audio to existing video switch input
 3. Control to new camera control system

2. Mid-Carolina High School Gymnasium Sound System:

- i. 13 element loudspeaker array
 1. Loudspeaker array presets in the DSP allow for the following functions:
 - a. Gameday with 11 (8 sides and 3 court) loudspeakers operating
 - b. Full Assembly mode with 10 (8 side and 2 end wall loudspeakers) operating and coverage zones synchronized to end stage source position

- c. Partial assembly mode with stage position on side wall 7(4 side and 3 court) with bleachers collapsed. Loudspeaker coverage zones synchronized to side stage position
 - ii. Wireless microphone, wired microphone input , program playback input
 - iii. Portable production mixer system for use in Gymnasium or Cafeteria:
 - iv. Connections for portable production mixer tie line inputs from 3 possible source positions
 - 1. Gameday announce position – North bleachers
 - 2. End stage position –East wall
 - 3. Side stage position – North bleachers
 - 4. Mixer position at gameday announce or West end of North Bleachers
 - v. Equipment rack for amplifiers, DSP, control, assisted listening system
 - 1. DSP system inputs include:
 - a. Wireless mic input
 - b. Wired mic input
 - c. Playback input for computer or MP3 players
 - d. Portable mixer inputs
 - vi. Portable mixer for additional input control for game day or assembly events
 - a. 10 microphone tie lines from the stage
 - b. 2 line level tie lines to the stage position from the control positions
 - c. Extension snake for portable mixer
 - d. Portable powered loudspeakers for stage monitors with tripod stands
 - e. Additional cables for connecting OFE computer or MP3 playback through sound system
 - 2. Remote control panel for sound system DSP providing the following functions
 - a. Wireless mic level control
 - b. Mic A input level control
 - c. Playback input level control
 - vii. Video Camera System
 - 1. Wall mount remote control camera with PTZ functions.
 - 2. Camera control panel in auditorium for camera PTZ control and preset recall.
- 3. Portable mixing system for use with Gymnasium or Cafeteria Sound System:**
- 1. 16 input analog mixer with 12 mic and 4 stereo line inputs
 - 2. 2 wireless microphones with handheld and bodypack transmitters
 - 3. 4 hard wired vocal microphones
 - 4. 2 boom mounted choral microphones
 - 5. 2 instrument direct boxes
 - 6. CD player with ipod dock
 - 7. Cable for computer audio connection.

8. Microphone stands
9. Microphone cables
10. 4 Portable powered stage monitor loudspeakers with tripod stands
11. Extension audio cable for mixer connection to tie line panels
12. Portable mixing desk on casters.

4. Mid-Carolina Cafeteria Sound and Video System:

- i. 2 element loudspeaker array at stage position (south wall)
- ii. Monitor loudspeaker at equipment rack
- iii. Wireless microphone, wired microphone input , program playback input
- iv. Connections for portable production mixer system for use in Gymnasium or Cafeteria:
 - v. Portable production mixer tie line inputs from stage position to North East corner of cafeteria
 - vi. Equipment rack for amplifiers, DSP, control, assisted listening system
 1. DSP system inputs include
 - a. Wireless mic input
 - b. Wired mic input
 - c. Playback input for computer or MP3 players
 - d. Playback for video switch outputs
 - e. Portable mixer inputs
 2. Remote control panel for sound system DSP providing the following functions
 - a. Wireless mic level control
 - b. Mic A input level control
 - c. Playback input level control
 - d. Video playback level
 - vii. Video Projection System
 1. Video projector with motorized screen mounted on ceiling
 2. Computer and HDMI input at stage position
 3. Computer and HDMI input at equipment rack position
 4. Camera control panel for gymnasium camera PTZ control and preset recall located at equipment rack
 5. Remote control for projector, screen and video input selection.
- I. The production system contract consists of equipment, installation, performance verification, documentation, and Owner training. System is described by the drawings and equipment list.
- J. **It is the responsibility of the PSC to supply production systems in full working order and furnish all minor equipment or any items needed for a complete system even if not specifically mentioned in these specifications or in the associated drawings without claim for additional payment. PSC is responsible for providing through their electrical subcontract all AC system power and AV raceway for a complete system. Notify the owner of any discrepancies in part numbers or quantities before**

bid. Failing to provide such notification, supply items and quantities according to the intent of the specification and drawings, without claim for additional payment

- K. Although most Contractors associate a system specification to be centered on the equipment to be supplied and installed, the system will not be considered complete until as-built documentation and training of facility personnel on the system operation is complete. This facet of the services to be provided by the Contractor is deemed very important to the satisfactory completion of the contract. To that end a final payment reserve of 10% of the system purchase price will be held from payment until the documentation package and training described in Part III is delivered.
- L. Schedule: Work is to be completed by May 1, 2014. On-site work can begin as soon as the purchase contract is issued. The project work has to be coordinate with School District Facility management:

Mr. Jim C. Suber, Jr.
Assistant Superintendent for Operations and Administration
School District of Newberry County
P.O. 718
Newberry, S.C. 29108
Office -803-321-2600
Cell -803-940-0310

As school is in session during the construction period the following school district restrictions apply:

1. PSC will have to work around the remainder of basketball season and PE classes during the school day.
2. Coordinate installation work with school Principals to work out a schedule that is acceptable.
3. Weekends are open for the most part and after basketball season afternoons starting around 3:15 are open.
4. It is potentially feasible for the gym to be closed and allow work during the school day on a limited basis if the PSC can identify the specific day and time they need.
5. Regular season basketball games end around Feb.19th. Potential playoff games could push that out another week.
6. Holidays: March 7 professional workday, April 18 - 25

1.02 SCOPE

- A. Provide all labor and material for the complete installation of the production systems as hereafter specified and shown.

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- B. Provide proof of qualifying Low Voltage License for AV Systems Contractor to do work in South Carolina
- C. Provide proof of Electrical License for Electrical Subcontractor to do work in South Carolina.
- D. Obtain all necessary license to do business in the State of South Carolina, Newberry County, SC and in cities of Newberry and Prosperity, SC.
- E. The Contractor shall furnish and install all low voltage wiring required for a fully operational system.
- F. The Contractor shall furnish through their electrical subcontractor and install all low raceway and AC power voltage wiring required for a fully operational system.
- G. Coordinate all work with Owner and Electrical contractors
- H. All loudspeakers are to be suspended from the building structure or attached rated framing. It is the responsibility of the Contractor to provide a safe support system for the loudspeaker clusters using rated hardware from the loudspeaker manufacturer or specifications by ATM-Flyware. These suspension systems must be reviewed and approved by the General Contractor.
- I. All of the control booth equipment is to be secured and mounted in equipment racks or furniture consoles.
- J. All equipment must be installed in a neat and orderly fashion by competent workmen according to the manufacturer's instructions.
- K. All system components shall be completely prewired with all field connections clearly labeled. All equipment shall be UL and or CE listed and shall comply with the National Electrical Code or equivalent authority and all applicable regulations of serving utilities and governmental bodies having jurisdiction.
- L. Production equipment shall not be stored at the job site. Equipment shall be moved to the job site from a conditioned space only when scheduled for installation.
- M. The entire system (excluding lamps and fuses) shall be fully factory tested prior to shipment and shall be guaranteed against defects in material and workmanship for one year from date of acceptance by the Owner or (18) eighteen months from the date of shipment, whichever occurs first.

shall be covered by this warranty. Unspecified length of warranties shall not be acceptable.

- O. Contractor shall provide for replacement of defective materials and repair of faulty workmanship within (48) forty-eight hours of notification by owner - guaranteed at no cost to the owner during the warranty period.
- P. Contractor shall provide emergency service and support 24 hours a day and 7 days a week. This service is intended as emergency response to failures that require immediate help from a qualified systems technician. The Contractor shall provide this service through an established toll-free line. This emergency service must include a return call from a qualified systems technician within 2 hours. This emergency service must also provide an on-site visit from a qualified systems technician within 12 hours of the initial phone call, should it be deemed necessary by both parties to resolve the service issue. This emergency service and support shall be made available throughout the warranty period at no additional charge to the owner.
- Q. In addition to supplying and installing the equipment as part of this contract the PSC is to aid the owners' consultant on site observations, sound system commission/performance verification, video system proof and owner training and production assistance. All consultant fees for after bid work done for the owner are to be paid by the PSC as part of the contract. An allowance of \$3,800.00 is to be contained in the bid budget to cover these fees. Fee payment schedule is to be as follows:
 - a. Consultant billing -10 days after initial rough in observation - \$800
 - b. Consultant billing -10 days before system is to be commissioned - \$1,200
 - c. Consultant billing – 10 days after system commissioning and sign off - \$1,800.00
 - d. Owner's Consultant is:

Jim Brawley
James S. Brawley & Associates, Inc.
115 Brookwood Drive
Clemson, SC 29631
864-654-5539, JSBrawley@aol.com

1.03 SUBMITTALS

- A. Bid Price
 - a. Single bid for all systems described in equipment list, drawings, and specifications.
- B. Contractor Qualifications:
 - 1. Statement that the bid is based on specified products.

2. Statement that the Contractor is an authorized sales center for the major manufacturers specified.
3. List of employee names with CTS certification identification number and expiration date.
4. List of employee names with Extron School certification certificate.
5. Statement that the Contractor has an in-house electronic service department.
6. Statement that the Contractor has an established toll-free hotline and will provide 24-hour/7-day-a-week phone support and on-site emergency service as necessary to correct technical failures.
7. Statement that the Contractor has an in-house installation department.
8. List of five installations completed within the last three years that are similar in size, type and scope to the work specified in this Section. Include project name, date of installation and owner contact information.
9. Name of contractor personnel who will be supervising the installation of the system. This person will be a full time employee of the contractor.

C. Insurance and Bonds

a. Contractor's Liability Insurance

- i. The Contractor shall purchase and maintain in a company or companies acceptable to the Owner such insurance as will protect him from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable:
 1. Claims under worker' or workmen's compensation, disability benefit and other similar employee benefit acts;
 2. Claims for damages because of bodily injury, occupational sickness or disease, or death of his employee;
 3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
 4. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;
 5. Claims for damages other than the work itself because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
 6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or used of any motor vehicle.

- b. The insurance required by Subparagraph 1.03.C shall be written for not less than any limits of liability specified in the Contract Documents, or required by law,

whichever is greater.

- c. Minimum limits of liability for the following type of insurance are required.
 - i. Workers' Compensation, State Statutory, including:
 - 1. Workers' Compensation Insurance
 - 2. Employers' Liability per accident \$100,000
 - 3. Employers Liability disease – Policy limit \$500,000
 - 4. Employers Liability disease – Each employee \$100,000
 - ii. Comprehensive General Liability, including:
 - 1. General Aggregate (per project) \$1,000,000
 - 2. Products/Completed Operations \$1,000,000
 - 3. Personal and Advertising Injury \$1,000,000
 - 4. Each Occurrence \$1,000,000
 - 5. Fire Damage (Any one fire) \$50,000
 - 6. Medical Expenses (Any one person) \$5,000
 - iii. Comprehensive Automobile Liability, including:
 - 1. All owned Automobiles, Non owned, and Hired Car Coverage,
 - 2. Bodily Injury and Property Combined – Single Limit \$1,000,000; or
 - 3. Bodily injury-\$750,000 and Property Damage - \$750,000.
- d. In addition to Contractual Liability, including indemnification provision, Bodily Injury and Property Damage coverage under both comprehensive General and Comprehensive Automobile forms shall include “occurrence” basis wording, which means an event, or continuous or repeated exposure to condition which unexpectedly caused injury or damage during policy period.
- e. Contractor shall either (a) require each of its Subcontractors to procure and maintain during the life of its subcontract, Subcontractor Comprehensive General Liability, Automobile Liability, and Property Damage Liability Insurance of the type and in the same amounts as specified in this Subparagraph, or (b) insure the activities of its Subcontractors in its own policy”
- f. Certificate of Insurance must be filed through Consultant on AIA Document G705, latest edition, by an insurer authorized to do business in South Carolina by South Carolina State Insurance Commission. All blanks and questions of Certificate must be filled out completely. Incomplete or inadequate Certificate will be returned to Contractor as unsatisfactory and commencement of its work will be delayed until satisfactory Certificate is submitted. Such delay will not warrant extension of Contract time.”
- g. Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These certificates shall contain a provision that coverage's afforded under the policies will not be canceled until at least

thirty days prior written notice has been given to the Owner.”

- h. If excavation is required, Contractor shall obtain underground hazard coverage insurance in addition to those shown above.”
 - i. Bonds
 - i. Contractor shall provide and pay the cost of Performance and Payment Bonds, in the form of AIA Document A312 “PERFORMANCE BOND AND PAYMENT BOND, 1984 Edition.” Each shall be in the full amount of the Contract Sum, issued by a Surety Company licensed in South Carolina, with an “A” minimum rating of performance as stated in the most current publication of Best’s Key Rating Guide, Property Liability” which shall show a financial strength rating of at least five (5) times the Contract Price. Each Bond shall be accompanied by an “Power of Attorney” authorizing the attorney-in-fact to bind the surety and certified to include the date of Bond”
 - ii. Contractor shall provide a Bid Bond in the amount of five percent of the amount of the bid.
 - iii. The Owner reserves the right to accept or reject the qualification of any bonding company submitted by the Contractor.
- D. Shop drawings:
- 1. Submit 4 copies of shop drawings and equipment submittals for approval. Drawings shall be D-size sheets, AutoCAD
 - 2. An equipment list noting equipment quantities, manufacturer, brief description and specification number.
 - 3. Manufactures cut sheets of supplied equipment.
 - 4. Equipment location plan with backbox descriptions and conduit sizes.
 - 5. Audio, video, and control wiring diagrams with wire types and numbers.
 - 6. Fabricated equipment
 - a. No work shall begin on the fabrication of the control booth, equipment racks or speaker rigging prior to written approval.
 - b. Detail drawings of equipment racks, speaker rigging, receptacle plates, and projector mount, and screen rigging...
 - 1. Equipment rack elevations.
 - 2. Point to point wiring of component and custom panel interconnect.
 - 3. Loudspeaker system suspension schematic.
 - 4. Projector and screen suspension schematic.
 - 7. Provide 1/8" = 1'-0" plans (AutoCad) of all locations which contain equipment in this contract. Show all equipment correctly located dimensioned and labeled.
 - 8. Power requirements, one-line riser diagrams and installation circuit diagrams for electrical equipment. Show all required wire sizes and counts between all components.

1.04 MANUALS

- A. Before final acceptance, the Contractor shall submit two bound copies of instruction and maintenance manuals for the equipment. Two sets of as-built drawing shall be supplied with these manuals. All items of equipment and all installation procedures for the production systems equipment shall meet all applicable requirements of the NEC and local codes. Manuals and PDF drawings are to be printed and as electronic files on data disc.

1.05 PRODUCTION SYSTEMS CONTRACTOR'S QUALIFICATIONS

- A. Contractors making proposals under this specification must meet the following qualifications.
1. Be regularly engaged in the design, fabrication, installation and service of professional sound and video systems.
 2. PSC is a factory-authorized dealer for the majority of equipment supplied under this contract.
 3. Have a minimum of 1 full time engineer with CTS-D certification.
 4. Have a minimum of 1 full time installer with CTS-I certification.
 5. Have suitable service facilities and test equipment for providing competent service for all types of professional dimming, sound and A/V equipment.
 6. Have qualified a "production expert" with sufficient experience in theatrical production to providing training and assistance to the Owner during the initial system use period.
 7. Regular business under the same name and/or address for a period of five years.
 8. Staffed shop and office facilities within a 250-mile radius of the project site.
 9. Proof of successful completion, with present key staff, of five projects of the type or magnitude of that specified herein.
 10. Certifications for permanent staff members;
 - i. CTS-D
 - ii. CTS-I
 - iii. Extron School
 - iv. Crestron School
 - v. Certification of DSP chosen for the project

PART 2 – EQUIPMENT

2.01 MANUFACTURERS

- A. For the purpose of selecting quality and type of equipment, the equipment is listed by specific model and make. The specified make and model of a listed item is to be considered to have the minimum standard of quality, performance and feature set required for a functional system. Contractors may provide alternate products from the

manufactures listed in part B provided that they meet the performance standard of the specified item. Equipment substitutions are subject to approval by owner representative upon review of submittal documents described in paragraph 1.03.

B.

- 1. Loudspeakers**
 - a. Renkus
 - b. JBL
 - c. Yamaha
- 2. Audio Amplifiers**
 - a. Crown
 - b. Bose
 - c. QSC
 - d. Yamaha
- 3. Audio Processing**
 - a. BiAmp
 - b. BSS Soundweb London
 - c. Yamaha DME
- 4. Analog Audio Mixer**
 - a. Allen & Heath
 - b. Soundcraft
 - c. Yamaha
- 5. Assistive Listening System**
 - a. Gentner
 - b. Listen
 - c. Telex
- 6. Equipment Racks and Accessories**
 - a. Atlas
 - b. Mid Atlantic
 - c. Lowell
- 7. Microphones**
 - a. Audix
 - b. Shure
 - c. Sennheiser
- 8. Video Projection**
 - a. Digital Projection
 - b. Eiki
 - c. Hitachi
 - d. Panasonic
- 9. Video Screens**
 - a. DaLite
 - b. Draper
 - c. Stewart
- 10. Video Camera**
 - a. Panasonic
 - b. Sony
 - c. Vaddio
- 11. Control**
 - a. AMX

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- b. Crestron
- c. Extron
- d. Kramer

12. Plates Panels Misc

- a. Proco
- b. Panel Authority
- c. Rapco
- d. RCI
- e. Wireworks

13. General Wire and Connectors

- a. Amphenol
- b. Neutrik
- c. Switchcraft
- d. Belden
- e. Liberty
- f. West Penn

2.02 EQUIPMENT LIST – Substitutions allowed as described in paragraph 2.01.A

NEWBERRY HIGH SCHOOL

<i>Item</i>	<i>Qty.</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>
NA1	4	Ultimate Support	Pro-T-F	Tripod Boom Microphone Stand Black
NA2	1	Biamp Systems	RED-1	C1.1: Ethernet Remote Control w/LED Screen, Operates Audia or Nexia, Mounts Over 1G Box
NA3	1	Biamp Systems	8x8	Audia Solo Digital Signal Processor Matrix, with 8 Mic/Line Inputs and 8 Line Outputs
NA4	2	Crown	XTi4002	Two Channel Power Amplifier 650w @8ohm, 1,200w @ 4ohm, 2RU
NA5	2	JBL Professional	AM5215/66-WH	2-Way Loudspeaker System w/1x15" LF, 400W, 43Hz-18kHz, Trapezoidal 60° x 60° Coverage, White Finish - Rotate horn as required for 60° H x 60° V coverage
NA6	2	JBL Professional	AM5215/95-WH	2-Way Loudspeaker System w/1x15" LF, 400W, 43Hz-18kHz, Trapezoidal 90° x 50° Coverage, White Finish - Rotate horn as required for 90° H x 50° V coverage
NA7	2	JBL Professional	ASB6118-WH	White High-Power Single 18In. Subwoofer
NA8	as req	Liberty Wire & Cable	10005USOP	Standard Category 5e Modular Plug, RJ45 UTP, Clear Shell
NA9	as req	Liberty Wire & Cable	24-4P-P-L5SH-BLK	Plenum Rated STP, 100% Foil Shield, 24 Awg, 4 Pair Cat5E, Black
NA10	1	Lowell Mfg.	RPSB-MR	Switch Momentary SPST Rocker 1-LED 19W x 1RU
NA11	3	Lowell Mfg.	RPC-1-20A-CD	20 Amp (1-Duplex) Remote Controlled Power Relay with 6Ft. Power Cord

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NA12	1	Lowell Mfg.	MSM	Momentary Switch Module
NA13	1	Lowell Mfg.	SCS-4R	4 Stage Rack Mountable Sequencer
NA14	1	Lowell Mfg.	RPC-4-CD	15A Remote Power Control Rack-Mount w/4 Duplex RU2 Panel, 6Ft. Cord and Plug
NA15	1	Middle Atlantic	EB-1 LOGO	1-Space Econo Flanged Blank Panel-- SFPS Logo
NA16	1	Middle Atlantic	D2	2-Space (3 in.) Rack Drawer, Black Anodized Finish
NA17	1	Middle Atlantic	DWR-16-22	16-Space (28") Sectional Wall Rack, 20" Useable Depth, Black Powdercoat Textured Finish
NA18	1	Middle Atlantic	VFD-16	16-Space Vented Front Door
NA19	1	Middle Atlantic	EB-1	1-Space Econo Flanged Blank Panel
NA20	1	Netgear	FS108PNA	ProSafe 8 Port 10/100 Desktop Switch with 4 Port PoE
NA21	1	ProCo Sound	Plateworks	TL1.1: Custom 4G Plate w/4 Connectors, Engraving, Std Finish
NA22	1	ProCo Sound	Plateworks	AT1.1, AT1.2: Custom 1G Plate w/1 Connectors, Engraving, Std Finish
NA23	2	ProCo Sound	Plateworks	ST1.1, ST1.2: Custom 2G Plate w/1 Connector, Engraving, Std Finish
NA24	2	ProCo Sound	Plateworks	TL1.1, TL 1.2: Custom 4G Plate w/8 Connectors, Engraving, Std Finish
NA25	6	ProCo Sound	AQ-25	25ft. Ameriquade Microphone Cable. XLR-F to XLR-M Black/Gold 24AWG Quad Wire
NA26	1	ProCo Sound	DB1	Passive Direct Box, 1/4 in. Phone Input w/Loop Thru, Balance
NA27	2	Rapco	SBM1-100	XLR-XLR Microphone Cable, Black Switchcraft Connectors
NA28	1	RDL	D-CIJ3	IN1.1: Decora Style Audio Plate, Includes L/R RCA Input Jacks
NA29	1	RDL	D-J1	IN1.1: Decora Connector Plate, Microphone Input XLR Female Jack, 1G
NA30	1	RDL	D-XLR2F	IN1.1: Decora Connector Plate, Dual XLR 3-Pin Female Jacks on D Plate, 1G
NA31	1	Radio Design Labs	CP-3	IN1.1: 3G Decora Cover Plate-White
NA32	2	Radio Design Labs	TX-AT1	Audio Isolation Transformer 600 Ohm 1:1
NA33	2	Hosa	CMM-105	TRS 3.5mm to Same, Interconnect Cable
NA34	1	Honeywell	CG510A1019	Honeywell CG510A1019 Locking Wall Cover for C1.1
NA35	1	ProCo Sound	SMA1204FFX-25	25' 16 channels (12 mic 4 returns) mic snake fan to fan (mixer to TL panel)

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NA36	1	ProCo Sound	SMA1204FBX-25	25' 16 channels (12 mic 4 returns) mic snake stage box to fan (stage box to TL panel)
NA37	1	SKB	1SKB-1615	Audio Mixer Road Case
NA38	2	Shure	SM58S	Dynamic Handheld Cardioid Vocal Microphone w/Switch
NA39	3	Shure	SLX124/85/SM58-L4	UHF Wireless Combo System w/ SLX2/SM58 Handheld Transmitter, WL185 Lavalier Mic, SLX1 Bodypack Transmitter, SLX4 Receiver (Freq L4,TV 42-45, Rack mount Included)
NA40	2	Shure	SM58-LC	Dynamic Handheld Cardioid Vocal Microphone
NA41	as req	Extron Electronics	100-260-01	BNC Male RG6 75 Ohm Crimp Connectors
NA42	2	Shure	PG81-LC	Cardioid Condenser Instrument Microphone, On-Off Switch, Battery or Phantom Power
NA43	1	SKB	SKB600	6 Hole Microphone Case
NA44	1	SKB	SKB9P2016-01BE	Case for portable mixer - SKB Low Cost Utility W20 x 16 x 7.5 Case with pick and pluck foam. Adjust case size and foam to fit portable mixer. http://www.skbcasesusa.com/skb-ls-series.htm
NA45	as req	West Penn	25225B	2-Cond. 16 Awg Plenum-Rated Speaker Cable
NA46	as req	West Penn	25227B	2-Cond. 12 Awg Plenum Speaker Cable
NA47	as req	West Penn	256350	RG6/U Type SDI Coaxial Cable, 18AWG Solid Center, Plenum
NA48	as req	West Penn	25291B-BK	2-Cond. 22 Awg Plenum Shielded Audio Line Level Cable with black Jacket
NA49	as req	Yamaha	MG124CR-CA	MG124CR-CA - 12-input, 4-bus mixer with 4 channels of single-knob compression, can be rack mounted using optional RKMG124-CA 13.63 x 3.39 x 17.19"
Item	Qty.	Manufacturer	Model	Description
NV1	as req	BTX	CD-9709S	D-Sub 9 Pin Female Solder Connector
NV2	2	BTX	CD-MX915H	Hood for MaxBlox HD15 & DB9
NV3	1	Crestron Electronics	MPC-M25-B-T	Media Presentation Controller, 3-G Wall-mountable 2-Series Control System, 15 Buttons, Nav Pad, Volume Control; 2 RS-232, 2 IR, 4 input, 6 relay; Black, Textured
				This controller replaces the existing Kramer controller. Kramer functions are moved to Crestron controller

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			Custom Programming	Program the system to provide the following functions:
				<ul style="list-style-type: none"> • Camera Pan, Tilt, Zoom • Camera Preset Positions 1.2.3.4 • Preset store • Camera Focus. Auto, near, far • Projector On • Projector Off • Screen Up • Screen Down • Switcher input select • Switcher audio up • Switcher audio down
NV4	4	Crestron Electronics	CBL-HD-6	Crestron Certified HDMI Interface Cable, 6Ft
NV5	1	Crestron Electronics	CBL-HD-20	Crestron® Certified HDMI® Interface Cable, 20Ft
NV6	1	Crestron Electronics	CBL-HD-DVI-1.5	Crestron Certified HDMI to DVI Interface Cable, 1.5Ft
NV7	1	Crestron Electronics	IRP2	Infrared (IR) Emitter Probe for 2-Series Systems
NV8	1	Extron Electronics	60-997-01	Two Output HDMI Distribution Amplifier, 1/4 Rack Width
NV9	1	Extron Electronics	60-190-20	Rack Shelf Kit
NV10	as req	Liberty Wire & Cable	24-4P-P-L5SH-BLK	Plenum Rated STP, 100% Foil Shield, 24 Awg, 4 Pair Cat5E, Black
NV11	as req	Liberty Wire & Cable	10005USOP	Standard Category 5e Modular Plug, RJ45 UTP, Clear Shell
NV12	1	ProCo Sound	Plateworks	CAM1.1: Custom 2Gang plate w/1-1/2" grommetted hole.
NV13	1	Vaddio	999-6966-000	WallVIEW HD-22 DVI/HDMI Pan Tilt Zoon Camera
NV14	2	Lowell	FS18-14	Wall Shelf
NV15	1	Extron Electronics	60-1174-11	Fiber Optic Transmitter for HDMI, Audio, and RS-232
NV16	1	Extron Electronics	60-1174-21	Fiber Optic Receiver for HDMI, Audio, and RS-232
NV17	as req	Extron Electronics	QLC MM	Multi-Mode Fiber Optic Cable and Quick LC Fiber Optic Connectors
NV18	as req	West Penn	25225B	2-Cond. 16 Awg Plenum-Rated Speaker Cable
NV19	as req	West Penn	25291B-BK	2-Cond. 22 Awg Plenum Shielded Audio Line Level Cable with black Jacket

MID-CAROLINA HIGH SCHOOL

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Item	Qty.	Manufacturer	Model	Description
CA1	1	Biamp Systems	8x8	Audia Solo Digital Signal Processor Matrix, with 8 Mic/Line Inputs and 8 Line Outputs
CA2	1	Biamp Systems	RED-1	C1.1: Ethernet Remote Control w/LED Screen, Operates Audia or Nexia, Mounts Over 1G Box
CA3	1	Honeywell	C6510A1019	C1.1: Locking Wall Plate Cover
CA4	1	Crown	XTi4002	Two Channel Power Amplifier 650w @8ohms, 1,200w @ 4ohms
CA5	2	JBL Professional	CBT 70J-1 Black Finish	J-Shaped Coaxial Line Array with 16 x 1" and 4 x 5" Drivers 8 ohms 60 Hz-20 kHz 500W 45° or 25° Vertical Coverage Includes Wall Bracket
CA6	2	JBL Professional	CBT 70JE-1 Black Finish	Extension for CBT 70J-1 Line-Array Column Loudspeaker Black 500W Continuous 8 Ohm Impedance Freq. Range 45-700Hz Includes Coupler Plate
CA7	as req	Liberty Wire & Cable	10005USOP	Economy Standard Category 5e Modular Plug, RJ45 UTP, Clear Shell
CA8	as req	Liberty Wire & Cable	24-4P-P-L5SH-BLK	Plenum Rated STP, 100% Foil Shield, 24 Awg, 4 Pair Cat5E, Black
CA9	2	Lowell Mfg.	RPC-1	15 Amp Single Duplex Power Relay with Power Cord
CA10	1	Lowell Mfg.	RPC-4-CD	15A Remote Power Control Rack-Mount w/4 Duplex RU2 Panel, 6Ft. Cord and Plug
CA11	1	Lowell Mfg.	RPSB-MR	Switch Momentary SPST Rocker 1-LED 19W x 1RU
CA12	1	Lowell Mfg.	SCS-4	Power Sequence Controller, 4 Channel, Time Delay
CA13	1	Middle Atlantic	DWR-24-22	24-Space (42") Sectional Wall Rack, 20" Useable Depth, Black Powdercoat Textured Finish
CA14	1	Middle Atlantic	VFD-24	Vented Front Door, Fits 24-Space DWR Series Racks, Black Textured Finish
CA15	1	Middle Atlantic	EB-1 LOGO	1-Space Econo Flanged Blank Panel, Logo
CA16	1	Middle Atlantic	D2	2-Space (3 in.) Rack Drawer, Black Anodized Finish
CA17	2	Middle Atlantic	EB-1	1-Space Econo Flanged Blank Panel
CA18	1	Netgear	FS108PNA	ProSafe 8 Port 10/100 Desktop Switch with 4 Port PoE
CA19	1	ProCo Sound	Plateworks	TL1.1, TL2.1: Custom 4G Plate w/8 Connectors, Engraving, Std Finish
CA20	1	ProCo Sound	Plateworks	TL3.1, TL4.1: Custom 2G Plate w/8 Connectors, Engraving, Std Finish
CA21	1	ProCo Sound	Plateworks	AT1.1, AT1.2: Custom 1G Plate w/1 Connectors, Engraving, Std Finish
CA22	2	ProCo Sound	Plateworks	ST1.1, ST1.2: Custom 2G Plate w/1 Connector, Engraving, Std Finish
CA23	1	Panel Authority	Custom 19 1RU 3	19" Custom 1RU Plate with 3 Connectors

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CA24	1	Radio Design Labs	CP-3	IN1.1, IN1.2: 3G Decora Cover Plate
CA25	1	RDL	D-CIJ3	IN1.1, IN1.2: Decora Style Audio Plate, Includes L/R RCA Input Jacks – Mono Output, 1G, Requires Cover Plate
CA26	1	RDL	D-XLR2F	IN1.1, IN1.2: Decora Connector Plate, Dual XLR 3-Pin Female Jacks on D Plate - Solder 1G
CA27	1	RDL	D-J1	IN1.1, IN1.2: Decora Connector Plate, Microphone Input XLR Female Jack, 1G, Requires Cover Plate
CA28	1	RDL	TX-AT1	Audio Isolation Transformer 600 Ohm 1:1
CA29	1	Sescom	SES-RM	Rack Mount Stereo Speaker System, 50 Watts
CA30	1	Shure	UA830USTV	In-Line Antenna Amplifier for Remote-Mounting 470-698 MHz
CA31	1	Shure	UA8100	UHF Remote Antenna Extension Cable, BNC-BNC, RG213/U Type
CA32	1	Shure	ULXP124/85-J1	ULXP Wireless UHF Professional Combo System. Include ULXP4 Receiver, ULX1 Bodypack Transmitter, WL185 Cardioid Lavalier Mic, and ULX2/58 Handheld Transmitter with SM58 Microphone, Include Rack Mounting Kit
CA33	2	Shure	UA820-J1	1/2 Wave Omnidirectional Antenna for UR4S/UR4D 638-698 MHz
CA34	as req	Switchcraft	A3M	XLR 3-Pin Male Cable End Connector
CA35	as req	Switchcraft	A3F	XLR 3-Pin Female Cable End Connector
CA36	as req	West Penn	25226B	2-Cond. 14 Awg Plenum-Rated Speaker Cable
CA37	as req	West Penn	25291B-BK	2-Cond. 22 Awg Plenum Shielded Audio Line Level Cable with black Jacket
Item	Qty.	Manufacturer	Model	Description
CV1	1	Chief Manufacturing Inc	RPAU	Universal Inverted LCD/DLP Projector Ceiling Mount, Black
CV2	1	Crestron Electronics	MPC-M25-B-T Custom Programming	Media Presentation Controller, 3-G Wall-mountable 2-Series Control System, 15 Buttons, Nav Pad, Volume Control; 2 RS-232, 2 IR, 4 input, 6 relay; Black, Textured Program the system to provide the following functions: <ul style="list-style-type: none"> • Camera Pan Tilt Zoom • Camera Preset Potions 1.2.3.4 • Preset store • Camera Focus. Auto, near, far • Projector On • Projector Off • Screen Up • Screen Down

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CV3	6	Crestron Electronics	CBL-HD-3	<ul style="list-style-type: none"> • Switcher input select • Switcher audio up • Switcher audio down Crestron Certified HDMI Interface Cable, 3Ft
CV4	2	Crestron Electronics	CBL-HD-20	Crestron Certified HDMI® Interface Cable, 20Ft
CV5	1	Draper Inc	116486	Access XL/Series E, 16:10 Format Wall mount screen, 226" Diag. (120"H x 192"W), XT1000E Matt White, w/Built-In Low Voltage Control, 260 Lbs
CV6	1	Extron Electronics	60-1238-01	Eight Input HDCP-Compliant Scaling Presentation Switcher with DTP Extension, 1RU
CV7	2	Extron Electronics	60-190-10	RSU 126 Universal Rack Shelf Kit w/False Faceplates, 6" Deep, 1 RU
CV8	1	Extron Electronics	60-1366-12	IF1.1 DTP T UWP 232 D Two Input DTP Transmitter for HDMI and VGA, 2G Decora Wallplate, Black
CV9	1	Extron Electronics	60-1271-13	DTP HDMI 230 Rx HDMI Twisted Pair Extender Receiver
CV10	1	Hitachi	CP-WX8265	WXGA 1280x800 LCD Projector, 6,500 Lumens, Motorized (1.5-3.0:1 Ratio) Lens w/H&V Lens Shift, VGA, 5-BNC, HDMIx2, RJ45 LAN, RS-232C
CV11	1	Kee Klamp	62-8	1.5" NPS Standard Railing Flange Base
CV12	8	Liberty Wire & Cable	10005USOP	Standard Category 5e Modular Plug, RJ45 UTP, Clear Shell
CV13	as req	Liberty Wire & Cable	24-4P-P-L5SH-BLK	Plenum Rated STP, 100% Foil Shield, 24 Awg, 4 Pair Cat5E, Black
CV14	1	Samsung	UN22F5000AF	22" LED/LCD TV Monitor, Full HD 1080p, Slim Design, HDMIx2, USB, Component Input, IR Remote
CV15	1	Lowell Mfg.	FS18-14	Wall Shelf 18" w x 14" d
CV16	1	Vaddio	999-6966-000	Wall View HD-22 DVI/HDMI Camera
CV17	1	Extron Electronics	60-1174-11	FOXBOX Tx HDMI MM Multimode Transmitter
CV18	1	Extron Electronics	60-1174-21	FOXBOX Rx HDMI MM Multimode Receiver
CV19	as req	Extron Electronics	QLC MM	Multi-Mode Fiber Optic Cable and Quick LC Fiber Optic Connectors
Item	Qty.	Manufacturer	Model	Description
GA1	6	Ultimate Support	Pro-T-F	Tripod Boom Microphone Stand Black
GA2	1	Belkin	F9D1001-15	10-Outlet Metal Power Strip w/Surge Protection, 15Ft. Cord
GA3	1	Biamp Systems	8x8	Audia Solo Digital Signal Processor Matrix, with 8 Mic/Line Inputs and 8 Line Outputs

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GA4	1	Biamp Systems	RED-1	C1.2: Ethernet Remote Control w/LED Screen, Operates Audia or Nexia, Mounts Over 1G Box
GA5	1	Honeywell	C6510A1019	C1.2: Locking Wall Plate Cover
GA6	3	Crown	XTi4002	Two Channel Power Amplifier 650w @8ohm, 1,200w @ 4ohms
GA7	13	JBL Professional	229-00009-01	Forged Steel Eye Bolts (Set of 3)
GA8	2	JBL Professional	AM5215/66-WH	2-Way Loudspeaker System w/1x15" LF, 400W, 43Hz-18kHz, Trapezoidal 60° x 60° Coverage, White Finish
GA9	11	JBL Professional	AM5215/95-WH	2-Way Loudspeaker System w/1x15" LF, 400W, 43Hz-18kHz, Trapezoidal 90° x 50° Coverage, White Finish
GA10	as req	Liberty Wire & Cable	10005USOP	Standard Category 5e Modular Plug, RJ45 UTP, Clear Shell
GA11	as req	Liberty Wire & Cable	24-4P-P-L5SH-BLK	Plenum Rated STP, 100% Foil Shield, 24 Awg, 4 Pair Cat5E, Black
GA12	1	Listen Technologies	LA-122	Universal Antenna Kit w/Mounting Hardware and 25 Ft Coax
GA13	1	Listen Technologies	LA-326	Universal Rack Mounting Kit
GA14	1	Listen Technologies	LS-02-072-01	ADA FM (72MHz) System 1-LT800-72 Transmitter 4-LR300-72 Digital Receivers 4 Earbuds and ADA Signage
GA15	4	Lowell Mfg.	RPC-1	15 Amp Single Duplex Power Relay with Power Cord
GA16	1	Lowell Mfg.	RPC-4-CD	15A Remote Power Control Rack-Mount w/4 Duplex RU2 Panel, 6Ft. Cord and Plug
GA17	1	Lowell Mfg.	RPSB-R	Rackmount Maintained SPST Rocker Switch, 1-LED,
GA18	1	Lowell Mfg.	RPSW2-MP	Switch-Momentary SPST-Rocker Switch, 2 Status LED, 1-Gang
GA19	1	Lowell Mfg.	SCS-8	8 Channel Sequencer
GA20	2	Middle Atlantic	D2	2-Space (3 in.) Rack Drawer, Black Anodized Finish
GA21	1	Middle Atlantic	DWR-16-22	16-Space (28") Sectional Wall Rack, 20" Useable Depth, Black Powdercoat Textured Finish
GA22	1	Middle Atlantic	EB-1	1-Space Econo Flanged Blank Panel
GA23	2	Middle Atlantic	EB-1 LOGO	1-Space Econo Flanged Blank Panel, Logo
GA24	1	Middle Atlantic	VFD-16	16 Space Vented Front Door
GA25	1	Netgear	FS108PNA	ProSafe 8 Port 10/100 Desktop Switch with 4 Port PoE
GA26	1	ProCo Sound	Plateworks	TL1.2, TL2.3: Custom 4G Plate w/8 Connectors, Engraving, Std Finish
GA27	1	ProCo Sound	Plateworks	TL3.2, TL3.3: Custom 2G Plate w/4 Connectors, Engraving, Std Finish

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GA28	1	ProCo Sound	Plateworks	TL2.2: Custom 4G Plate w/8 Connectors, Engraving, Std Finish
GA29	1	ProCo Sound	Plateworks	TL4.2: Custom 2G Plate w/4Connectors, Engraving, Std Finish
GA30	1	ProCo Sound	Plateworks	AT1.1, AT1.2: Custom 1G Plate w/1 Connectors, Engraving, Std Finish
GA31	2	ProCo Sound	Plateworks	ST1.1, ST1.2: Custom 2G Plate w/1 Connector, Engraving, Std Finish
GA32	1	Panel Authority	Custom 19 1RU 3	19" Custom 1RU Plate with 3 Connectors
GA33	1	Radio Design Labs	CP-3	IN1.3: 3G Decora Cover Plate
GA34	1	RDL	D-CIJ3	IN1.3: Decora Style Audio Plate, Includes L/R RCA Input Jacks – Mono Output, 1G, Requires Cover Plate
GA35	1	RDL	D-XLR2F	IN1.3: Decora Connector Plate, Dual XLR 3-Pin Female Jacks on D Plate - Solder 1G
GA36	1	RDL	D-J1	IN1.3: Decora Connector Plate, Microphone Input XLR Female Jack, 1G, Requires Cover Plate
GA37	2	RDL	TX-AT1	Audio Isolation Transformer 600 Ohm 1:1
GA38	12	ProCo Sound	AQ-25	25ft. Ameriquade Microphone Cable. XLR-F to XLR-M Black/Gold 24AWG Quad Wire
GA39	2	ProCo Sound	DB1	Passive Direct Box, 1/4 in. Phone Input w/Loop Thru, Balance
GA40	1	ProCo Sound		100' 16 channels (12 mic 4 returns) mic snake fan to fan (mixer to TL panel)
GA41	1	ProCo Sound	SMC1604FFX-100	100' 16 channels (12 mic 4 returns) mic snake stage box to fan (stage box to TL panel)
GA42	1	ProCo Sound	SMC1604FBX-100	25' 16 channels (12 mic 4 returns) mic snake fan to fan (mixer to TL panel)
GA43	1	ProCo Sound	SMA1204FFX-25	25' 16 channels (12 mic 4 returns) mic snake stage box to fan (stage box to TL panel)
GA44	4	Mackie	SMA1204FBX-25 SRM550	1600W 12" Two-Way High-Definition Powered Loudspeaker
GA45	4	SSRC	25EDIF/EDIM	25' Edison Jumper Cable
GA46	4	Shure	SM58-LC	Dynamic Handheld Cardioid Vocal Microphone
GA47	2	Shure	UA8100	UHF Remote Antenna Extension Cable, BNC-BNC, RG213/U Type
GA48	2	Shure	UA820L3	1/2 Wave Omnidirectional Antenna for UR4S/UR4D 638-698 MHz
GA49	2	Shure	UA830USTV	In-Line Antenna Amplifier for Remote-Mounting 470-698 MHz
GA50	1	Shure	UA844SWB	Wideband UHF (470-952 MHz) Four-Way Active Antenna Splitter and Power Distribution System for SLX/ULX Systems, Include External Power Supply
GA51	2	Shure	PG81-LC	Cardioid Condenser Instrument Microphone, On-Off Switch, Battery or Phantom Power

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GA52	3	Shure	ULXP124/58-J1	Dual UHF Wireless System. Include 2 ULXP4 Diversity Receivers, 1 ULX2/58 Handheld Transmitter w/ SM-58 Microphone, 1 ULX1 Bodypack, Instrument cable.(Freq. J1, TV 28-33)
GA53	1	SKB	1SKB19-R1006	Roto Mini Gig Rig 10RU Angled Top, w/ 6RU Vertical Rack Space
GA54	1	SKB	1SKB-R1906	Roto Molded Rack 6RU Expander Base w/ 5" Casters, Front & Rear Rack Rail
GA55	as req	Switchcraft	A3M	XLR 3-Pin Male Cable End Connector
GA56	as req	Switchcraft	A3F	XLR 3-Pin Female Cable End Connector
GA57	1	Tascam	CD-200i	Professional Single CD Player iPod Dock Unbalanced RCA Audio Outputs MP3 & WAV Playback
GA58	4	Ultimate Support System	TS-90B	TeleLock Black Aluminum Speaker Stand w/Safety Collar, Adjustable Height: 3'8" - 6'7", 150 Lb. Capacity
GA59	as req	West Penn	25225B	2-Cond. 16 Awg Plenum Rated Speaker Cable
GA60	as req	West Penn	25227B	2-Cond. 12 Awg Plenum Rated Speaker Cable
GA61	as req	West Penn	25291B-BK	2-Cond. 22 Awg Plenum Rated Shielded Audio Line Level Cable with Black Jacket
GA62	1	Yamaha	MG206C-CA	20-Input, 6-Bus Mixer w/Single-Knob Compression, Include Rack Mount

End of Equipment List

PART 3 - EXECUTION

3.01 ACCURACY OF DATA

- A. It shall be the sole responsibility of the Contractor to verify all dimensions, take his own field measurements, and install all work to suit conditions encountered on the job site.
- B. The drawings are generally diagrammatic and except where dimensions are indicated are not intended to show exact locations of outlets, conduits, etc. All work shall be installed as nearly as possible in the locations indicated, with minor adjustments as required to avoid interferences with structure or the work of other trades.
- C. Prior to beginning work, the Contractor shall carefully examine all construction drawings and the job site and report to the Owner any discrepancies or interference that may be discovered. If, during the course of construction, any such discrepancies or interferences are noted, the Contractor shall promptly report them to the Owner. Failure to report such discrepancies or interferences shall result in the correction of the same at the Contractor's expense. All work under this specification, which either interferes with the architectural or any other work or deviates from the drawings and specifications without prior approval of the Owner, shall be altered by the Contractor at his expense. These alterations

shall clear such interferences or shall comply with the drawings and specifications as directed by the Owner.

3.02 MECHANICAL

- A. Except for portable equipment, all other equipment must be permanently installed. This shall include speaker cabinets, cables, etc. Fastenings and supports must provide a safety factor of at least three times that required for safe support. Precautions must be taken to prevent electrostatic and electromagnetic hum and radio frequency interference. All electronic equipment must be easily accessible and have adequate ventilation.

3.03 CONNECTIONS

- A. All low voltage wiring connections must be made with rosin core solder or mechanical connectors as specified. Terminations on all cable must be dressed properly with shrink tubing. All low voltage control level connections to terminal blocks are to be made with crimp on spade lugs. All crimp on connectors must be fastened with the proper tool as specified by the manufacturer. Improper crimping will be cause for rejection. All "drain" wires on microphone and line level terminations are to be properly dressed using transparent shrink tubing to avoid the possibility of shorting "whiskers".

3.04 LABELS

- A. All wiring is to be numbered on both ends with "EZ Code" type markers. Wire numbers are to be secured with transparent shrink tubing. Wire numbers are to follow a logical sequence and are to be listed on the proper document. "Brady" type labels are acceptable.

3.05 DOCUMENTATION

- A. Upon final completion of the system a documentation package is to be turned over to the Owner and include the following items:
- B. System signal flow diagrams (for audio, video) showing all components, interconnections, and connector types and wire numbers.
- C. As-built revisions are to be noted on the submittal drawings.
- D. Manufacturer instruction manuals for all electronics.
- E. Product specification sheets for all equipment without instruction manuals such as microphones and loudspeakers.

- F. Copies of the proof of performance data. Provide one original (no photocopies) and one copy (photocopies are acceptable) of the total documentation package.
- G. A single copy of the system signal flow diagram with wire numbers indicated is to be laminated and posted in the door of the sound equipment rack.

3.07 WARRANTY

- A. Contractor is to provide the following minimum warranty.
 - 1. All equipment is to be new and warranted free of faulty workmanship and damage.
 - 2. The total system (parts and labor) is to be warranted free of defects for a period of one year from date of final acceptance.
 - 3. Contractor shall provide emergency service and support 24 hours a day and 7 days a week. This service is intended as emergency response to failures that require immediate help from a qualified systems technician. The Contractor shall provide this service through an established toll-free line. This emergency service must include a return call from a qualified systems technician within 2 hours. This emergency service must also provide an on-site visit from a qualified systems technician within 12 hours of the initial phone call, should it be deemed necessary by both parties to resolve the service issue. This emergency service and support shall be made available throughout the warranty period at no additional charge to the owner.
 - 4. Paint and exterior finishes, fuses and lamps are excluded from the above warranties except when damage or failure results from defective materials or workmanship covered by warranty.
 - 5. The minimum warranty provisions specified above shall not diminish the terms of individual equipment manufacturer warranties.

3.08 TRAINING

- A. Provide at least twelve (3) hours of training as outlined below.
 - 1. Sound & A/V Systems – 3 hours
- B. Provide “Production Systems Expert” for 6 hours total of on-site event rehearsal and performance as determined by owner..
- C. Provide at least three hours of training to person(s) selected by the Owner on operation and basic use of all A/V and sound systems. The training and event attendance is to take place during the 30-day period after system completion.

3.09 CLEAN UP

- A. During construction periodically remove discarded containers and refuse from the job site. At the completion of the job the sound system components and equipment areas are

to be left clean and neat and all refuse removed from the site.

3.10 SOUND SYSTEM TEST AND MEASUREMENT

- A. The contractor is to conduct a performance verification test for the Owner. The contractor must complete the installation and verify that it is in working order and conforms to the following performance criteria. These performance standards are set forth as an indication of a properly installed and functioning sound system. It is implied through his action of submitting a bid that the contractor has reviewed these documents and is in agreement with the concept and execution of the design of the specified sound system. No financial adjustments will be allowed for discrepancies discovered after bid is accepted.
1. Microphone line resistance: Less than 1.7 Ohms with short at input jack. Measured from mixer end of microphone cable. Measure with Ohmmeter.
 2. Maximum amp output: 100% of rated power at less than 0.25% THD. Measure with distortion analyzer
 3. Signal to noise ratio: Better than 80 dB or an absolute noise level less than -62 dBm for systems with +18 dBm maximum line operating level. Measured at amplifier input with RMS voltmeter with dB scale.
 4. Audio frequency response: +/- 1 dB 40 Hz to 15 kHz - control equalizer set flat and room equalizers switched out – Microphone input to amplifier output. Measure with RTA
 5. Polarity: All microphones and source equipment are to be wired so as to be in absolute polarity with the loudspeaker systems. Measure with polarity checker
 6. Synchronize delay and fill systems to within 15 milliseconds of first arrival of primary loudspeaker system as measured on Smaart or TEF measurement systems
 7. Acoustic coverage: Maximum +/- 3 dB SPL variance front to rear / side-to-side in audience area through the 4 kHz full octave band. Measure with octave band Sound Level Meter.
 8. Acoustic amplitude response: With the room equalizers switched in +/- 3 dB maximum deviation from the following curve averaged from three test positions in the audience area - flat 80 Hz to 2 kHz, -10 dB at 50 Hz and 12 kHz. With subbass systems operating +3 dB 50 Hz to 100 Hz, -10 dB at 35 Hz. Measure with RTA
 9. Electroacoustic gain: No less than 15 dB from 500 Hz to 4 kHz with one microphone and 12-inch source to microphone distance. Gain is to be measured 50 feet from the source. Measure with Sound Level Meter
 10. Maximum sound level: Greater than 95 dB-C when amplifier occasionally clips on program peaks. Measure with Sound Level Meter,
 11. Acoustic noise floor: No audible hum, hiss, or R.F. interference shall be audible under normal room conditions in audience seating area and floor areas.
 12. All loudspeakers are to exhibit the same acoustic polarity. Measure with polarity checker

3.11 VIDEO SYSTEM PROOF OF PERFORMANCE

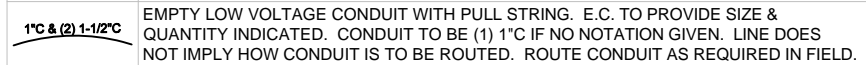
1. Verify all devices and cables match information on final drawings
2. Test all inputs on video switcher / scaler.
3. Adjust Color Temperatures on projectors to accurately reproduce NTSC and RGBHV Data Color Bars.
4. Adjust projector images to match screen size, eliminating any overscan, underscan or keystone.
5. Adjust all switching functions to eliminate sync roll or glitches upon switching.
6. Test all video sources for full operation. Test all data sources up to maximum projector frequency.
7. Test audio output of switcher scaler. Verify that all input audio levels are equal. Verify maximum audio output not to exceed +4dB.
8. Verify no Humbar exists in projected image.
9. Optimize projector contrast, sharpness and brightness to avoid blooming and achieve optimal black level.

END OF SPECIFICATION

GENERAL NOTES

1	ALL LINE VOLTAGE ELECTRICITY SHALL BE PROVIDED AND INSTALLED BY E.C.
2	ALL VOICE SERVICES, DATA SERVICES, COMPUTER NETWORKING SERVICES AND CABLING FOR SAID SERVICES SHALL BE PROVIDED BY OTHERS.
3	ALL FREE AIR CABLING SHALL BE PLENUM RATED.
4	ALL DEVICE PLATES MOUNTED IN INTERIOR WALL SHALL HAVE A NATURAL ALUMINUM FINISH, U.N.O.
5	ALL DEVICE PLATES MOUNTED INSIDE FLOOR BOXES SHALL HAVE A NATURAL ALUMINUM FINISH, U.N.O.
6	ALL DEVICE PLATES SHALL BE STANDARD SIZE U.N.O.

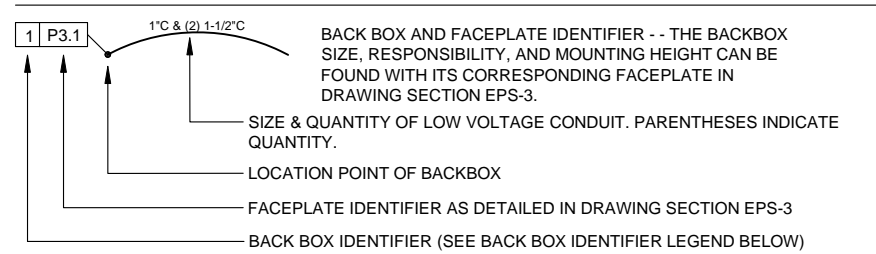
SYMBOL LEGEND

	BACK BOX AND FACE PLATE IDENTIFIER
	
	E.C. SUPPLIED CIRCUIT(S). ARROWS DENOTE QUANTITY OF CIRCUITS. CROSSMARKS INDICATE QUANTITY OF CONDUCTORS PER CIRCUIT. ALL CONDUCTORS TO BE 20A 120VAC CONDUCTORS UNLESS NOTED OTHERWISE. ALL RUNS TO INCLUDE GROUNDING CONDUCTOR WHICH IS NOT INCLUDED IN THE CROSSMARKS. RUNS DEVOID OF CROSSMARKS ARE TO CONTAIN (2) 20A 120VAC CONDUCTORS & (1) GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE. "IG" INDICATES ISOLATED GROUNDING CONDUCTOR.
	PULL BOX SUPPLIED BY E.C. SIZE AS REQUIRED. LOCATE BOX IN ACCESSIBLE AREA.
	CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING IN ROOM WHERE SYMBOL IS SHOWN, UNO
	WALL-MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT
	CEILING MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT
	20A/120VAC DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT MOUNTED IN FLOOR BOX
	WALL-MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND ON DEDICATED 20A CIRCUIT
	CEILING MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND ON DEDICATED 20A CIRCUIT
	20A/120VAC DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND MOUNTED IN FLOOR BOX ON DEDICATED 20A CIRCUIT
	RADIO FREQUENCY TRANSMISSION SYSTEM
	SHEET KEYNOTE IDENTIFIER. SEE SHEET KEYNOTE WITH CORRESPONDING NUMBER "XX". NOTES CAN BE FOUND IN THE SHEET KEYNOTES TABLE ON PAGE WHERE IDENTIFIER APPEARS.

ABBREVIATIONS

AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AV	AUDIO VISUAL
BLW CLG	BELOW CEILING
BOS	BOTTOM OF STEEL
CKT	CIRCUIT
EC	ELECTRICAL CONTRACTOR
IR	INFRARED
MC	METAL-CLAD
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PROSC	PROSCENIUM
PSC	PRESENTATION SYSTEMS CONTRACTOR
RCP	REFLECTED CEILING PLAN
SL	STAGE LEFT
SR	STAGE RIGHT
UNO	UNLESS NOTED OTHERWISE
VAC	VOLTS-ALTERNATING CURRENT

CONVENTIONS



BACK BOX IDENTIFIER LEGEND

- 1 SINGLE GANG BACK BOX - MINIMUM DEPTH 3"
- 2 TWO GANG BACK BOX - MINIMUM DEPTH 3"
- 3 THREE GANG BACK BOX - MINIMUM DEPTH 3"
- 4 FOUR GANG BACK BOX - MINIMUM DEPTH 3"
- 5 SURFACE MOUNTED WIRE TROUGH
- 6 HOFFMAN 8" X 8" X 4" SCREW COVER PULL BOX
- 7 FLOOR BOX
- 8 CEILING SPEAKER
- 9 WALL MOUNTED EQUIPMENT RACK
- 10 PROJECTION SCREEN
- 11 LOW VOLTAGE SCREEN CONTROLLER

PRESENTATION SYSTEM SHEET INDEX

- EPS-L LEGEND
- EPS-1.1 CAFETERIA INFRASTRUCTURE FLOOR PLAN
- EPS-1.2 GYMNASIUM INFRASTRUCTURE FLOOR PLAN
- EPS-2.1 CAFETERIA REFLECTED CEILING PLAN
- EPS-2.2 GYMNASIUM REFLECTED CEILING PLAN
- EPS-3.1 DETAILS
- EPS-3.2 DETAILS
- PS-1.1 CAFETERIA FLOW DIAGRAMS
- PS-1.2 GYMNASIUM FLOW DIAGRAMS
- PS-1.3 GYM/CAFETERIA FLOW DIAGRAMS
- PS-1.4 AUDIO TIE-LINE FLOW DIAGRAMS
- PS-1.5 CAFETERIA PORTABLE MIXER FLOW DIAGRAM
- PS-1.6 GYMNASIUM PORTABLE MIXER FLOW DIAGRAM

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**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE REVISION SCHEDULE

LEGEND

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

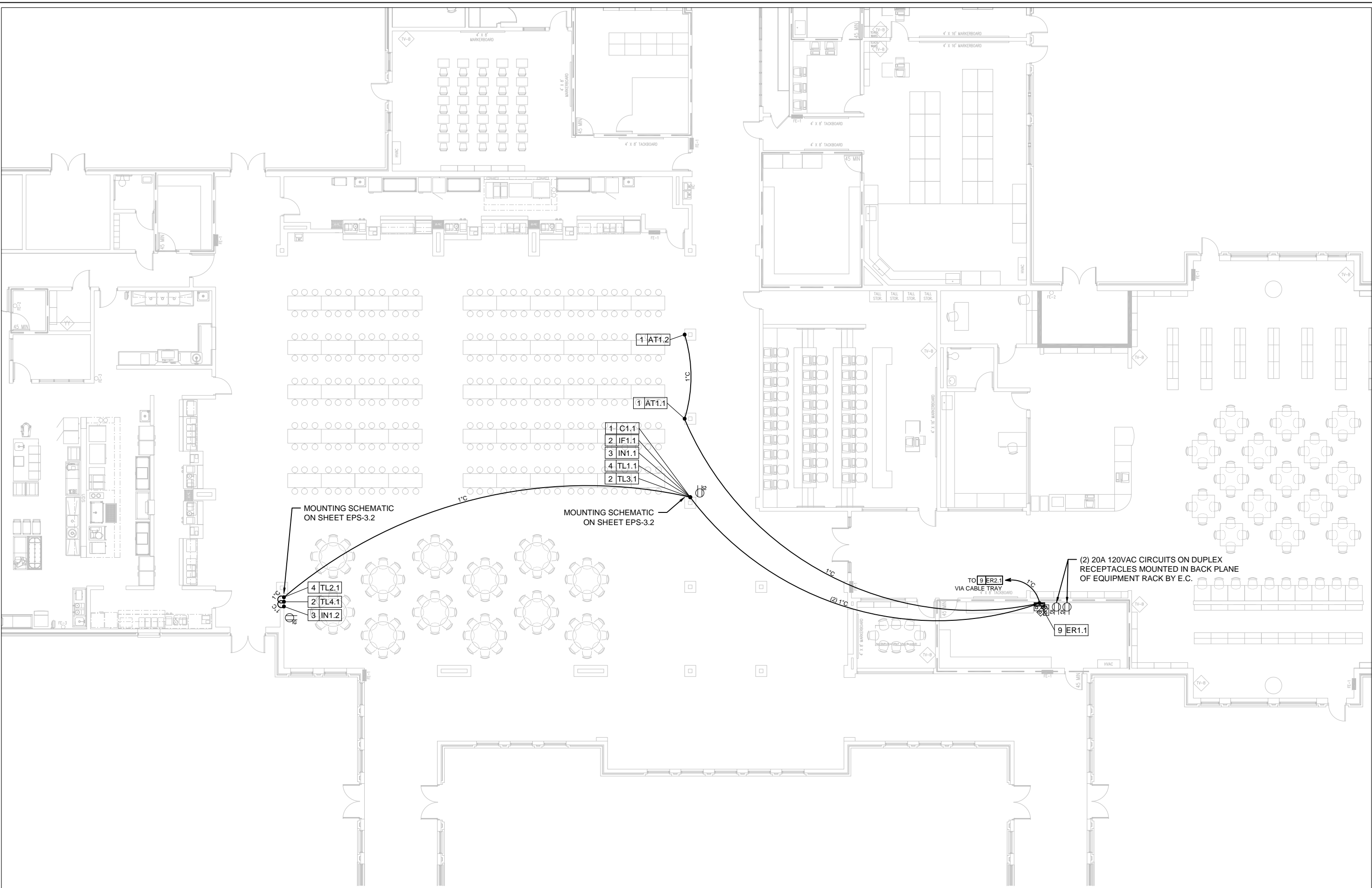
SCALE: NONE

02/11/14

EPS-L

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

LEGEND



**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14 BID-SET
 02/11/16 80% INFRASTRUCTURE
 REVISION SCHEDULE

**CAFETERIA
 INFRASTRUCTURE
 FLOOR PLAN**

DRAFT: DAC CHECK: MR APRVD: JSB

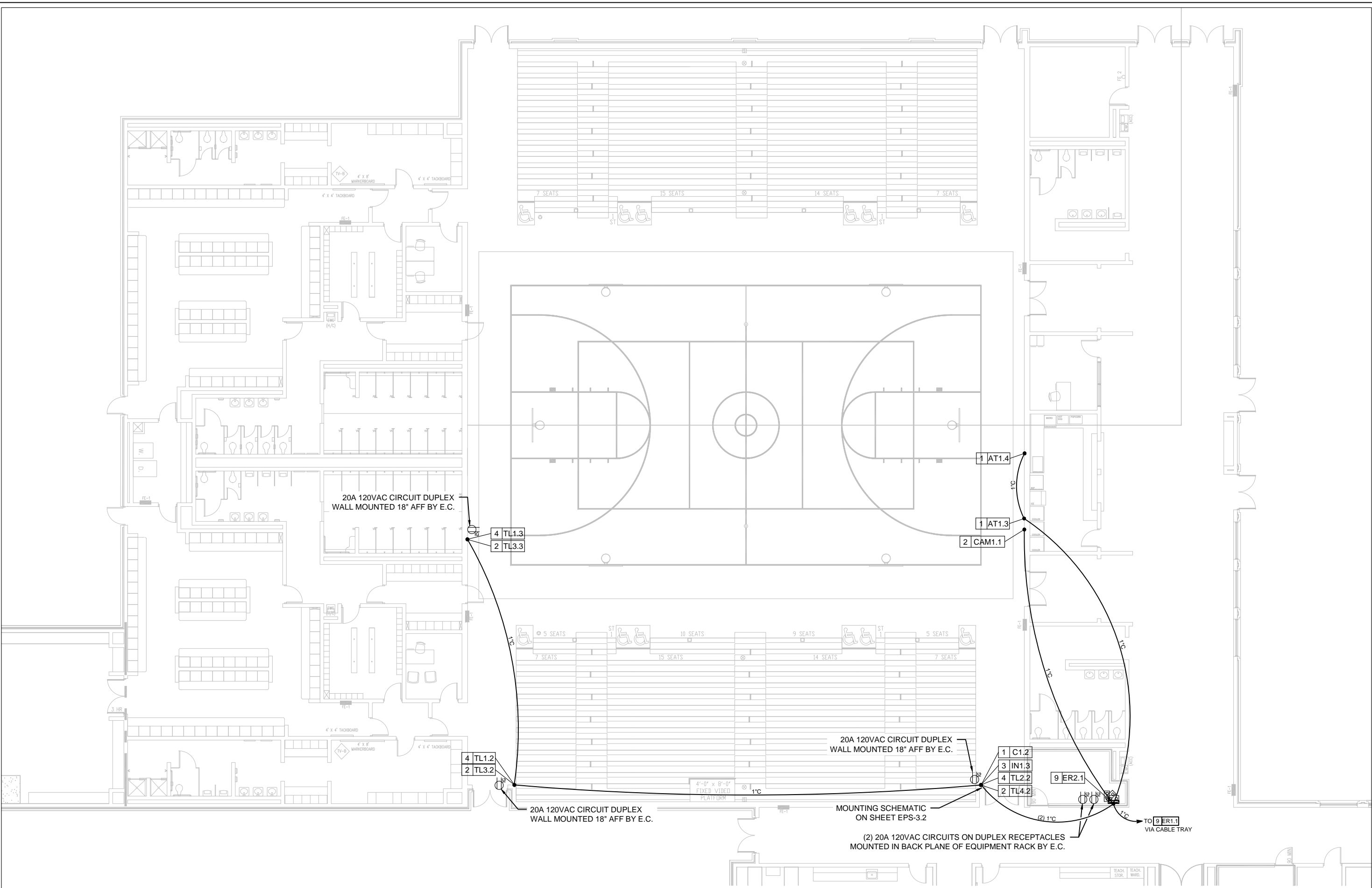
SCALE: 1/16" = 1'

02/11/14

EPS-1.1

CAFETERIA INFRASTRUCTURE FLOOR PLAN

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**



02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE REVISION SCHEDULE

**GYMNASIUM
 INFRASTRUCTURE
 FLOOR PLAN**

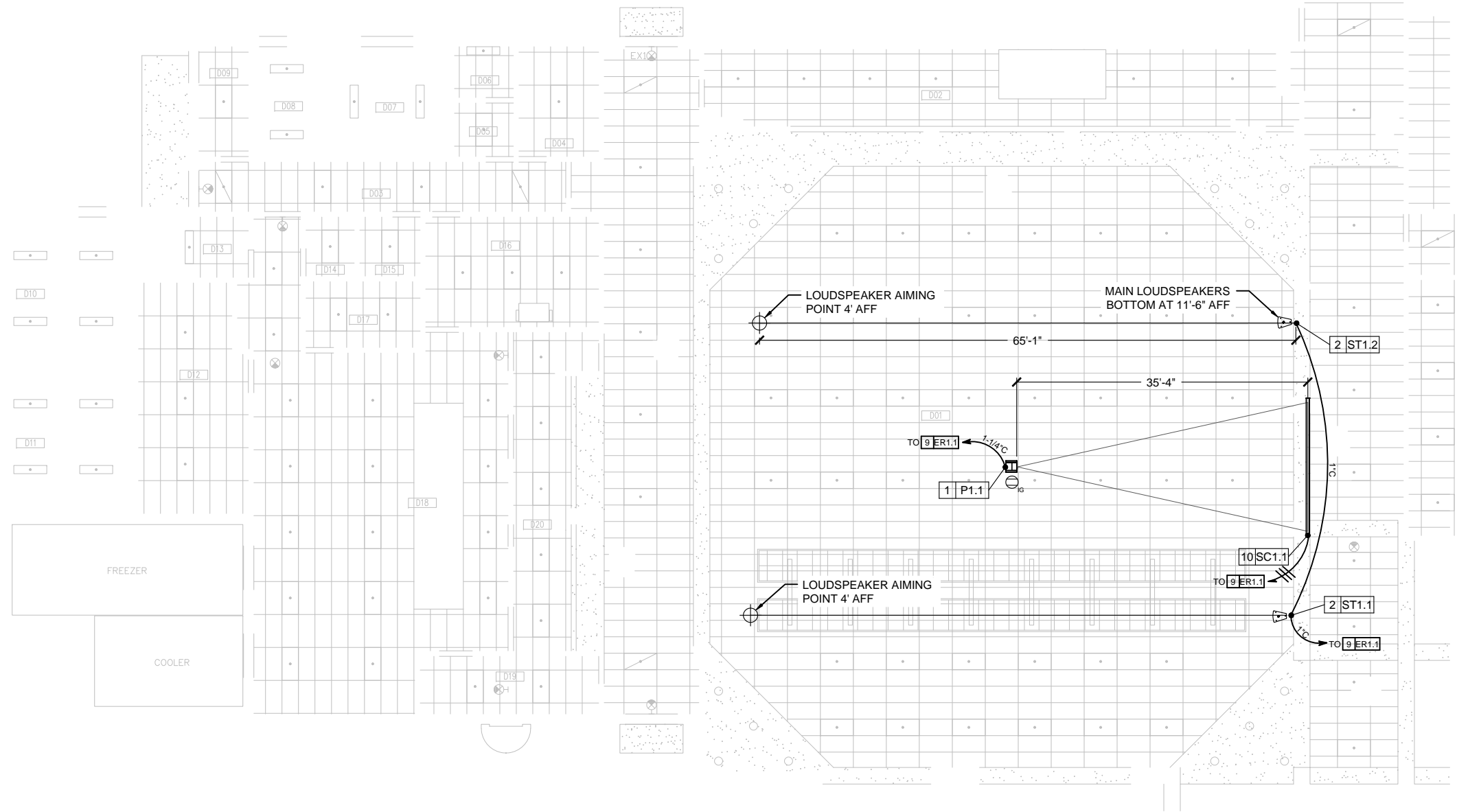
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DAC	MR	JSB

SCALE: 1/16" = 1'

02/11/14

EPS-1.2

GYMNASIUM INFRASTRUCTURE FLOOR PLAN



**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14 BID-SET
 02/11/16 80% INFRASTRUCTURE
 REVISION SCHEDULE

**CAFETERIA
 REFLECTED
 CEILING PLAN**

DRAFT: DAC CHECK: MR APRVD: JSB

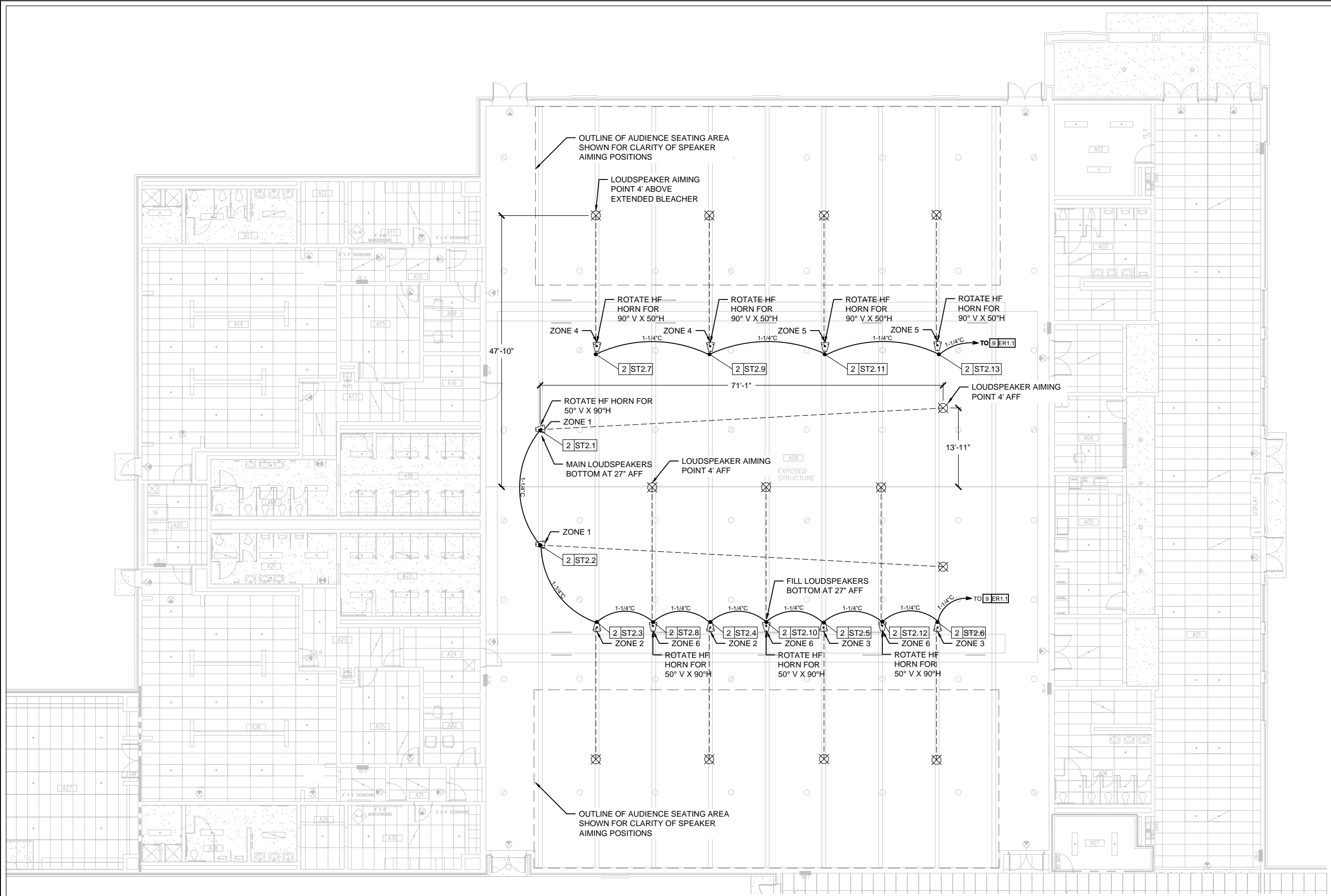
SCALE: 1/16" = 1'

02/11/14

EPS-2.1

CAFETERIA REFLECTED CEILING PLAN

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**



GYMNASIUM REFLECTED CEILING PLAN

02/18/14 BID-SET
 02/11/16 80% INFRASTRUCTURE
 REVISION SCHEDULE

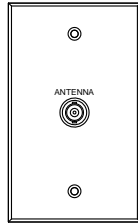
**GYMNASIUM
 REFLECTED
 CEILING PLAN**

DRAFT: DAC CHECK: MR APRVD: JSB

SCALE: 1/16" = 1'

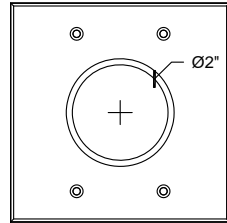
02/11/14

EPS-2.2



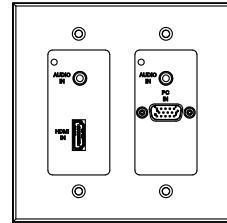
1 | AT1.1 | THRU | 1 | AT1.4

ANTENNA DISTRIBUTION PLATE
 SINGLE GANG BACKBOX RECESSED FLUSH 144" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



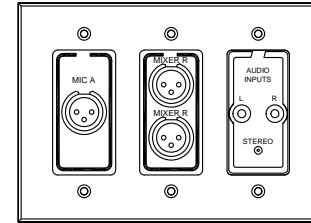
2 | CAM1.1

P/T/Z CAMERA I/O PLATE
 TWO GANG BACKBOX RECESSED FLUSH 144" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



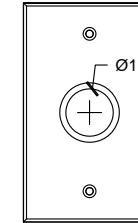
2 | IF1.1

VIDEO INTERFACE PLATE
 TWO GANG BACKBOX RECESSED FLUSH 18" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



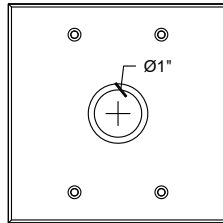
3 | IN1.1 | THRU | 3 | IN1.3

GYMNASIUM INPUT PLATE
 THREE GANG BACK BOX MOUNTED 18" AFF
 BACK BOX PROVIDED AND INSTALLED BY E.C.
 FACE PLATE PROVIDED AND INSTALLED BY PSC



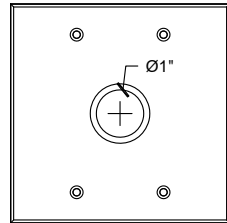
1 | P1.1

PROJECTOR I/O PLATE
 ONE GANG BACKBOX RECESSED FLUSH ON CEILING
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



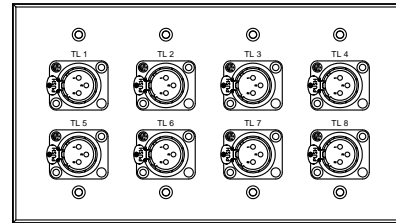
2 | ST1.1 | THRU | 2 | ST1.2

SPEAKER OUTPUT PLATE
 TWO GANG BACKBOX RECESSED FLUSH ON CEILING
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



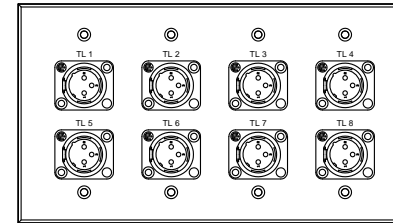
2 | ST2.1 | THRU | 2 | ST2.13

SPEAKER OUTPUT PLATE
 TWO GANG BACKBOX SURFACE MOUNTED ON CEILING
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



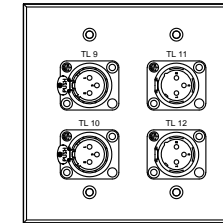
4 | TL1.1 | THRU | 4 | TL1.3

AUDIO TIE-LINE PANEL
 FOUR GANG BACKBOX RECESSED FLUSH 18" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



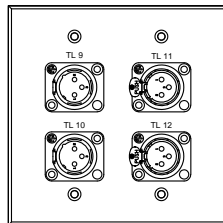
4 | TL2.1 | THRU | 4 | TL2.2

AUDIO TIE-LINE PANEL
 FOUR GANG BACKBOX RECESSED FLUSH 18" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



2 | TL3.1 | THRU | 2 | TL3.3

AUDIO TIE-LINE PANEL
 TWO GANG BACKBOX RECESSED FLUSH 18" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC



2 | TL4.1 | THRU | 2 | TL4.2

AUDIO TIE-LINE PANEL
 TWO GANG BACKBOX RECESSED FLUSH 18" AFF
 BACKBOX PROVIDED AND INSTALLED BY E.C.
 FACEPLATE PROVIDED AND INSTALLED BY PSC

MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

DETAILS

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: 3" = 1'

02/11/14

EPS-3.1

DETAILS

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

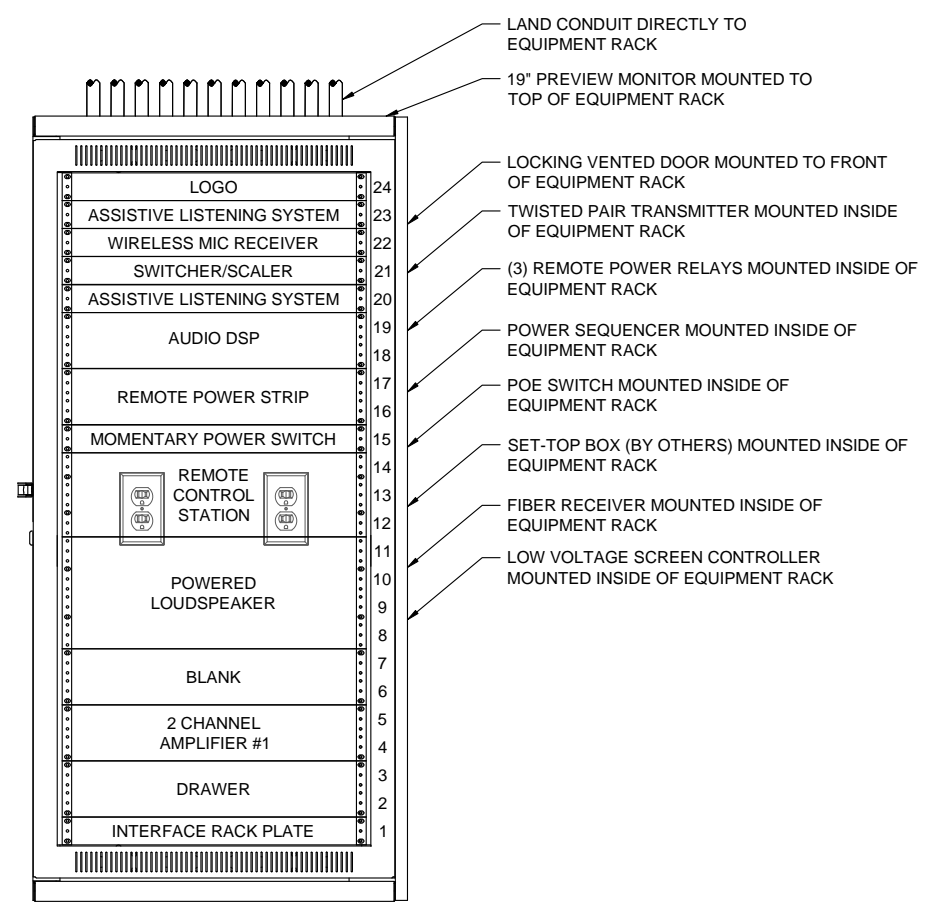
02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

DETAILS		
DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: 1" = 1'

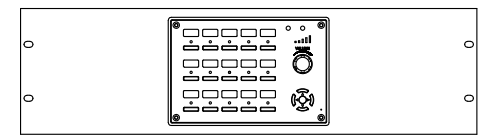
02/11/14

EPS-3.2

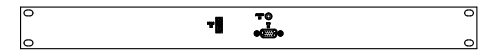


9 ER1.1
 CAFETERIA EQUIPMENT RACK
 RACK WALL MOUNTED 18" A.F.F. CONDUIT DIRECTLY TO RACK
 RACK PROVIDED BY PSC AND INSTALLED BY E.C.
 EQUIPMENT IN RACK PROVIDED AND INSTALLED BY PSC
 REQUIRES (2) 20A 120VAC CIRCUITS ON DUPLEX RECEPTACLES BY E.C.

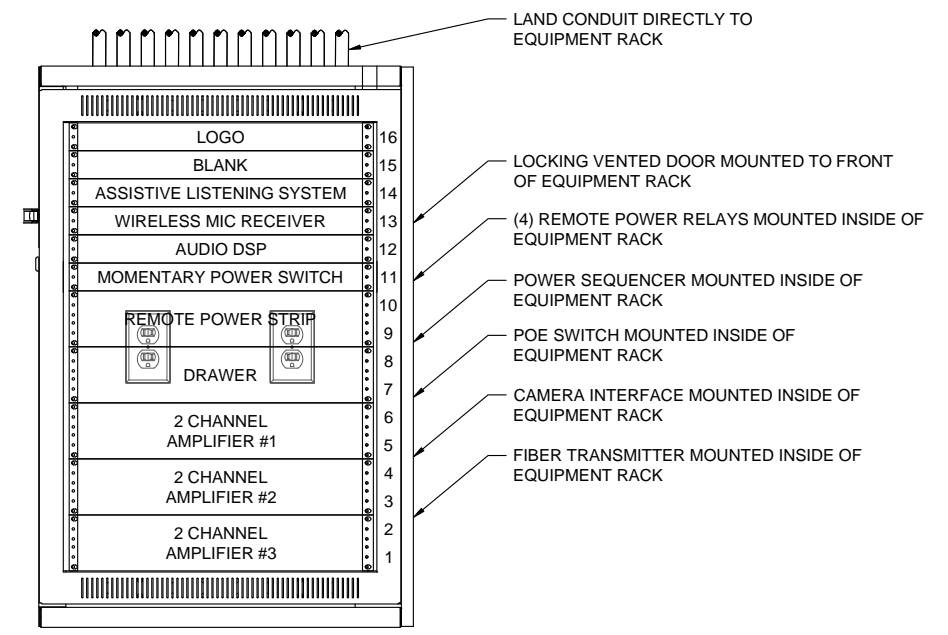
1 CAFETERIA EQUIPMENT RACK
 EPS-3.2 SCALE: 1" = 1'



3 REMOTE CONTROL STATION MOUNTED IN RACK
 EPS-3.2 SCALE: 1-1/2" = 1'

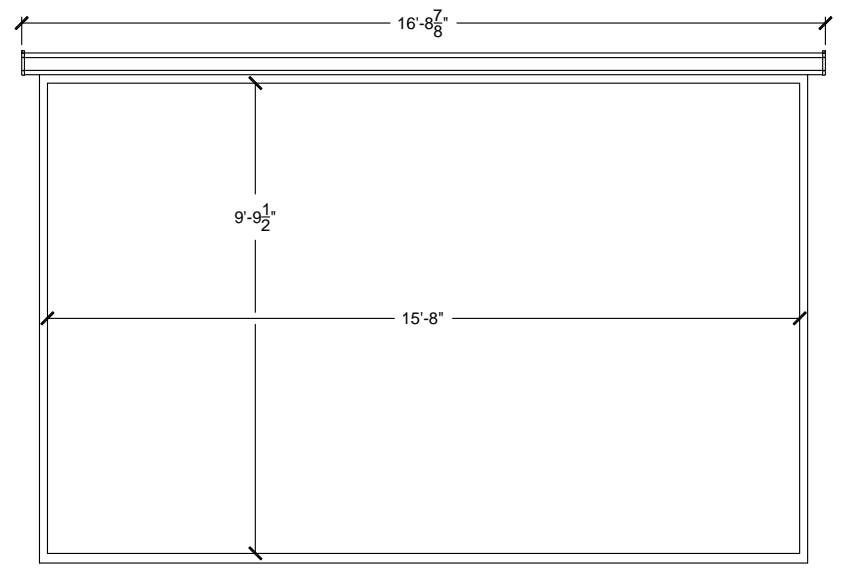


4 INTERFACE RACK PLATE
 EPS-3.2 SCALE: 1-1/2" = 1'



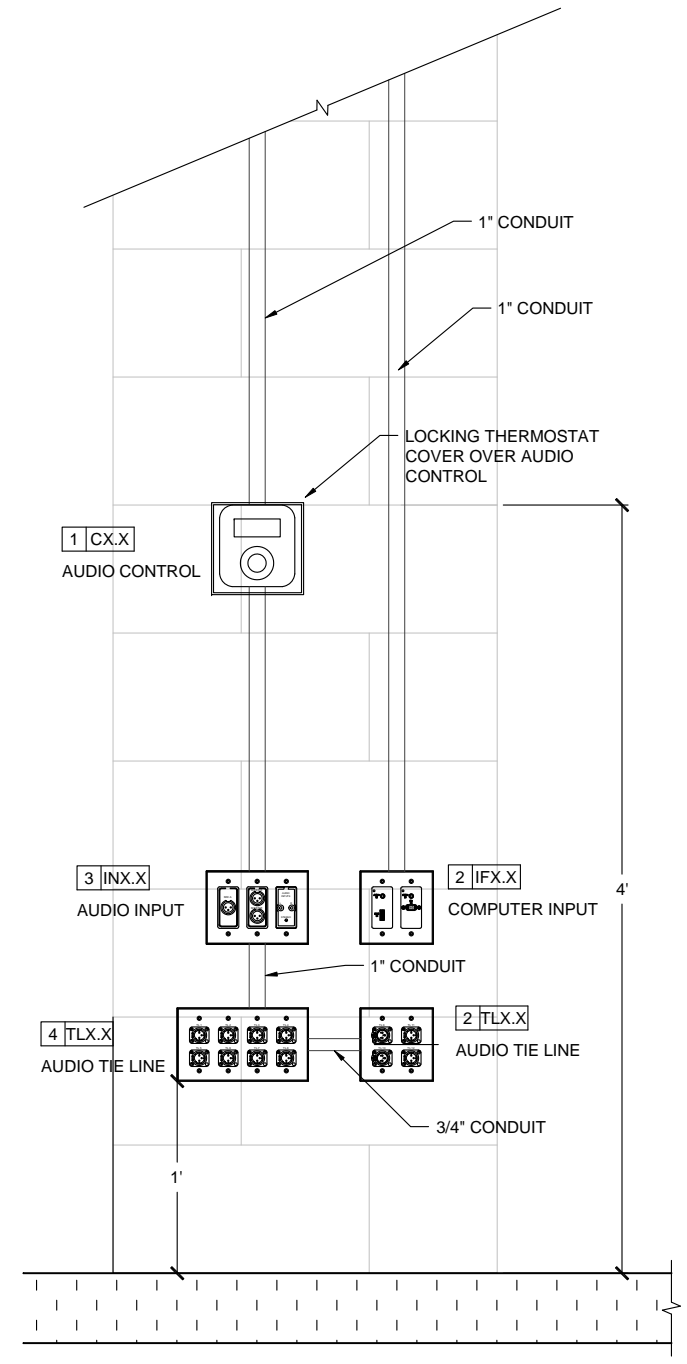
9 ER1.1
 GYMNASIUM EQUIPMENT RACK
 RACK WALL MOUNTED 18" A.F.F. CONDUIT DIRECTLY TO RACK
 RACK PROVIDED BY PSC AND INSTALLED BY E.C.
 EQUIPMENT IN RACK PROVIDED AND INSTALLED BY PSC
 REQUIRES (2) 20A 120VAC CIRCUITS ON DUPLEX RECEPTACLES BY E.C.

2 GYMNASIUM EQUIPMENT RACK
 EPS-3.2 SCALE: 1" = 1'



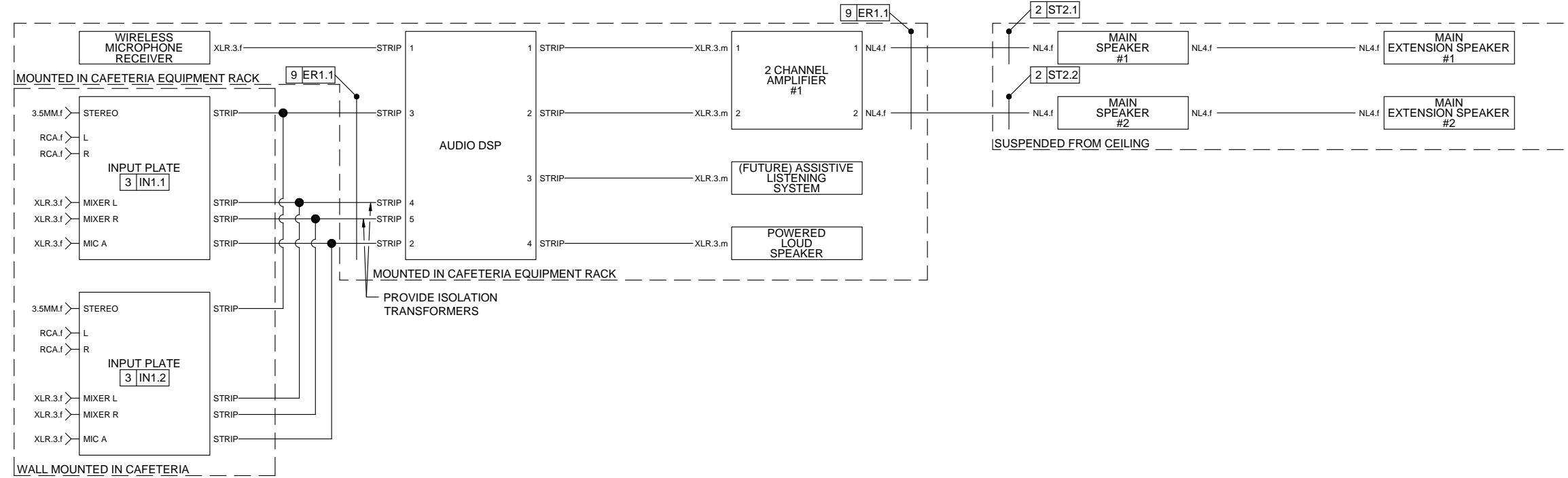
10 SC1.1
 CAFETERIA PROJECTION SCREEN
 PROJECTION SCREEN SURFACE MOUNTED ON WALL
 PROJECTION SCREEN PROVIDED AND INSTALLED BY PSC
 LVC MOUNTED IN EQUIPMENT RACK 9/ER1.1

6 CAFETERIA PROJECTION SCREEN
 EPS-3.2 SCALE: 1/4" = 1'

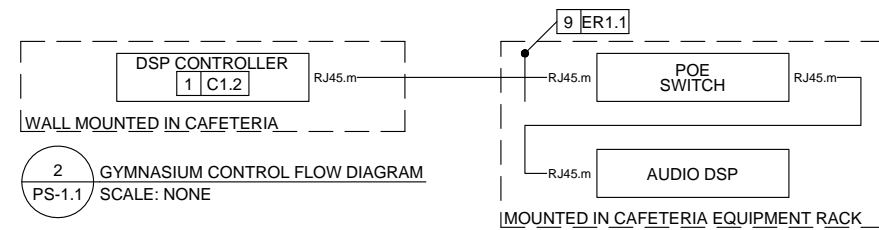


5 TYPICAL BACKBOX LAYOUT
 EPS-3.2 SCALE: 1" = 1'

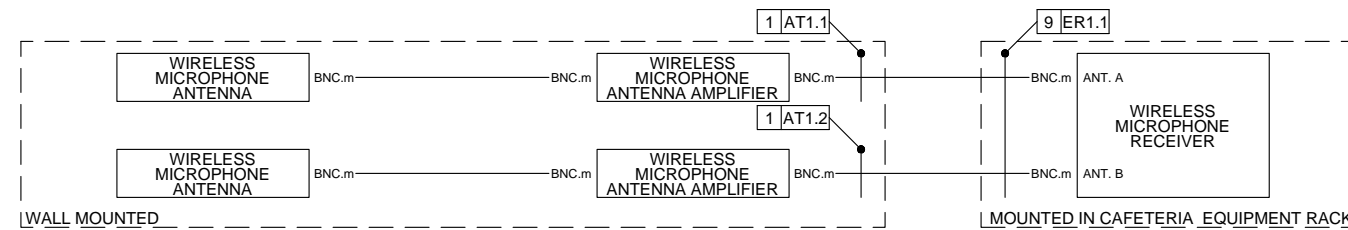
DETAILS



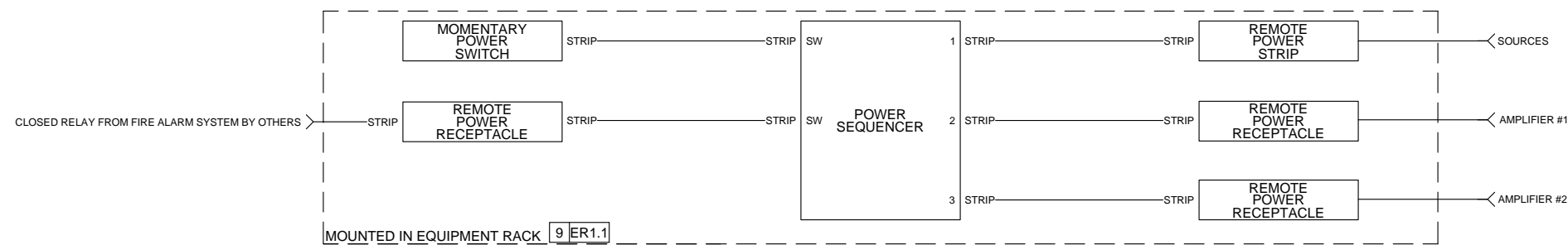
1 GYMNASIUM AUDIO FLOW DIAGRAM
 PS-1.1 SCALE: NONE



2 GYMNASIUM CONTROL FLOW DIAGRAM
 PS-1.1 SCALE: NONE



3 GYMNASIUM WIRELESS MICROPHONE ANTENNAE DISTRIBUTION FLOW DIAGRAM
 PS-1.1 SCALE: NONE



4 GYMNASIUM POWER FLOW DIAGRAM
 PS-1.1 SCALE: NONE

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

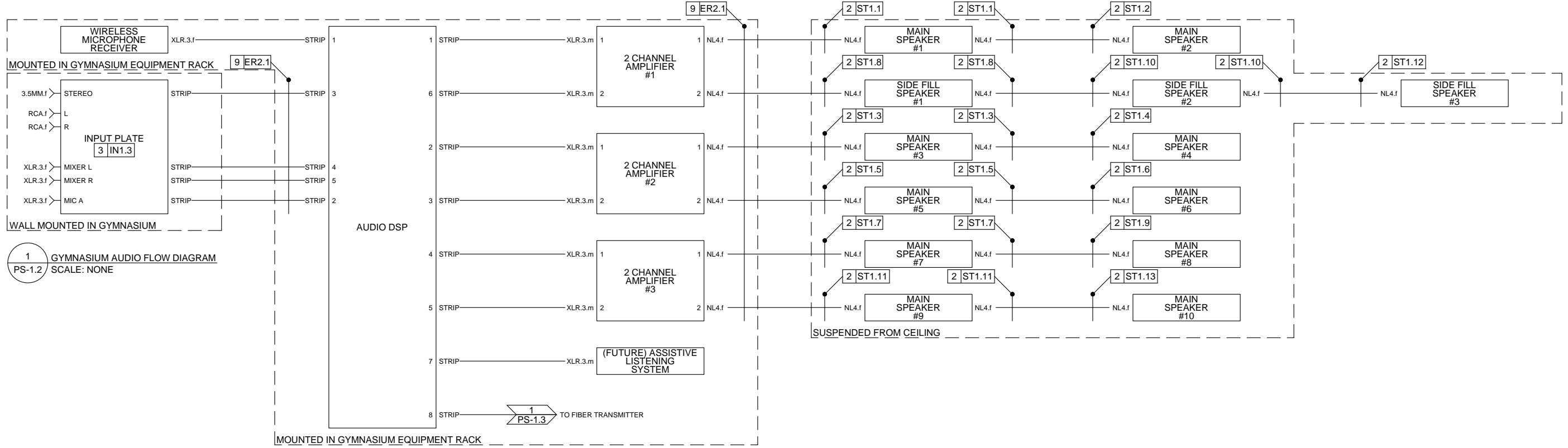
**CAFETERIA
 FLOW
 DIAGRAMS**

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

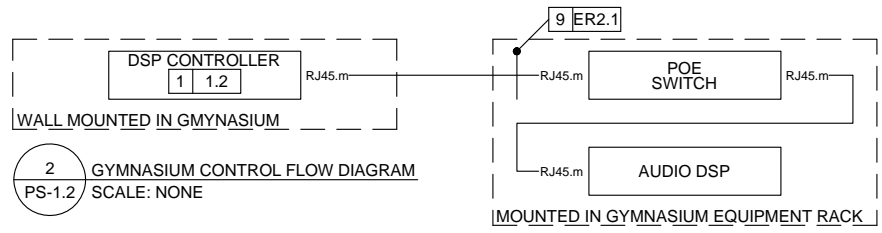
SCALE: NONE

02/11/14

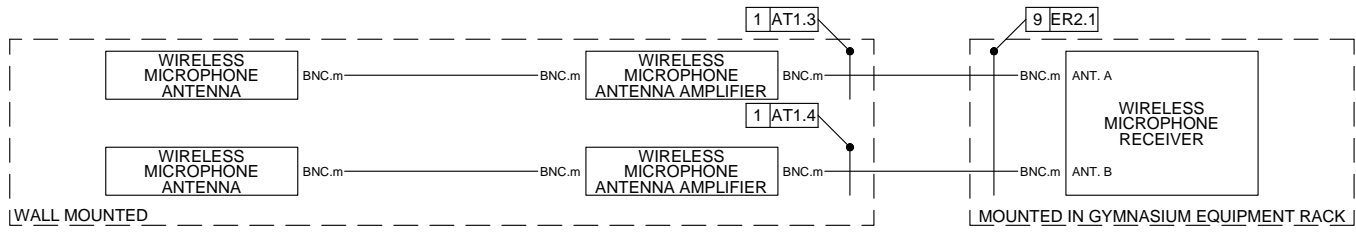
PS-1.1



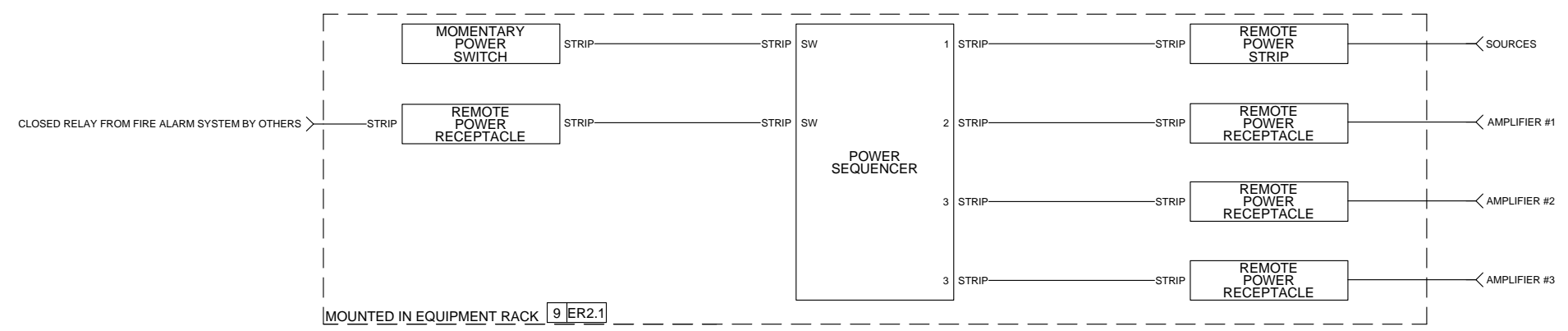
1 GYMNASIUM AUDIO FLOW DIAGRAM
 PS-1.2 SCALE: NONE



2 GYMNASIUM CONTROL FLOW DIAGRAM
 PS-1.2 SCALE: NONE



3 GYMNASIUM WIRELESS MICROPHONE ANTENNAE DISTRIBUTION FLOW DIAGRAM
 PS-1.2 SCALE: NONE



4 GYMNASIUM POWER FLOW DIAGRAM
 PS-1.2 SCALE: NONE

MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

GYMNASIUM
 FLOW
 DIAGRAMS

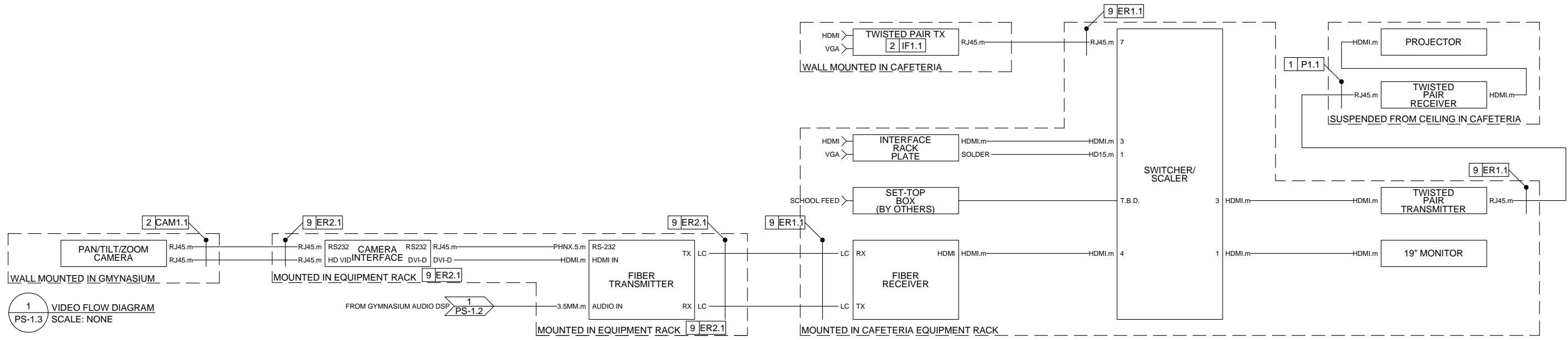
DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

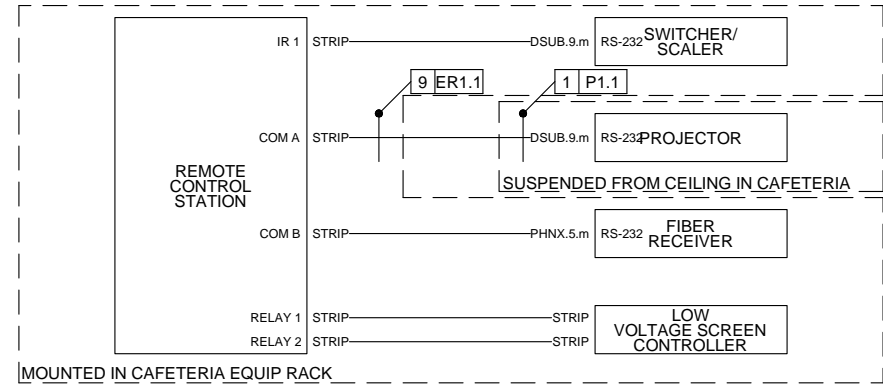
02/11/14

PS-1.2

GYMNASIUM FLOW DIAGRAMS



1 VIDEO FLOW DIAGRAM
 PS-1.3 SCALE: NONE



2 GYM/CAFETERIA CONTROL FLOW DIAGRAM
 PS-1.3 SCALE: NONE

MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

GYM/CAFETERIA
 FLOW
 DIAGRAMS

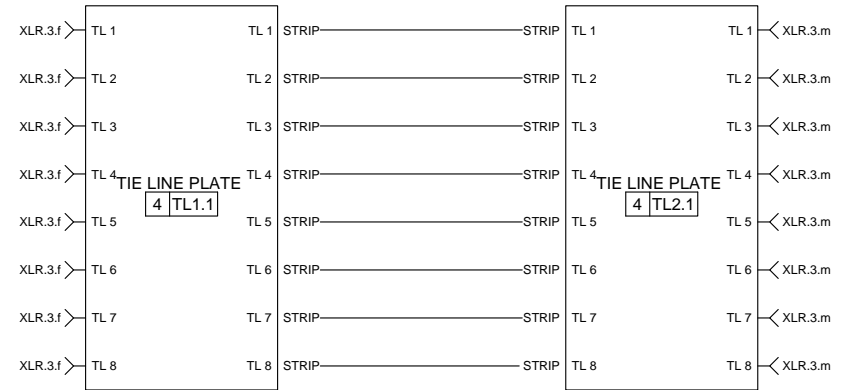
DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

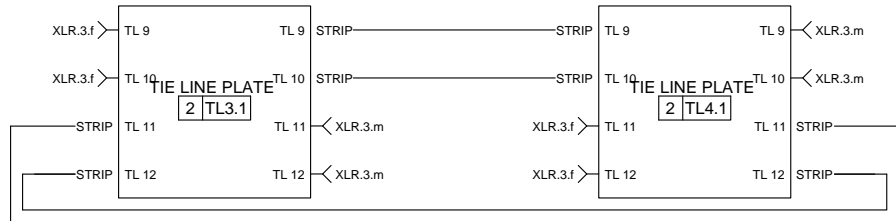
02/11/14

GYM/CAFETERIA FLOW DIAGRAMS

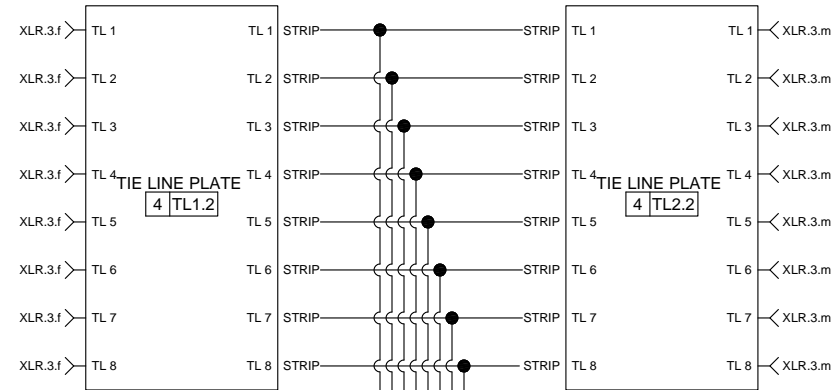
PS-1.3



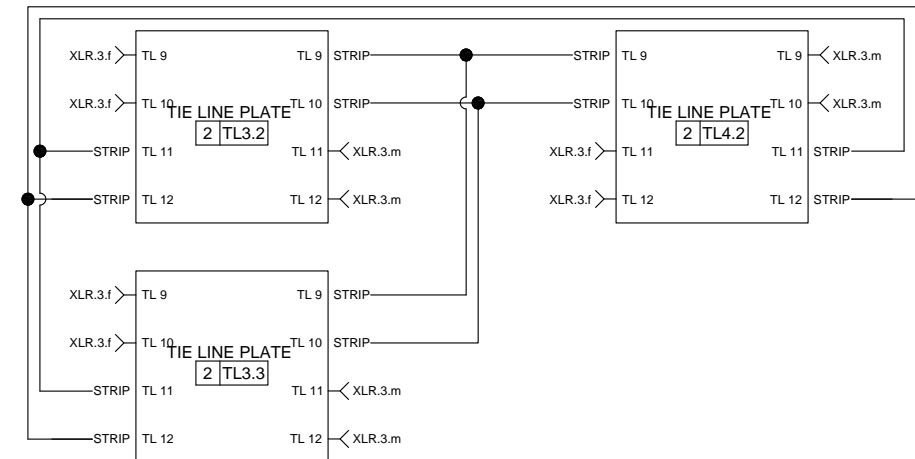
1 CAFETERIA AUDIO TIE LINE FLOW DIAGRAM
 PS-1.4 SCALE: NONE



2 CAFETERIA AUDIO TIE LINE FLOW DIAGRAM
 PS-1.4 SCALE: NONE



3 GYM AUDIO TIE LINE FLOW DIAGRAM
 PS-1.4 SCALE: NONE



4 GYM AUDIO TIE LINE FLOW DIAGRAM
 PS-1.4 SCALE: NONE

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE
	REVISION SCHEDULE

**AUDIO TIE-LINE
 FLOW
 DIAGRAMS**

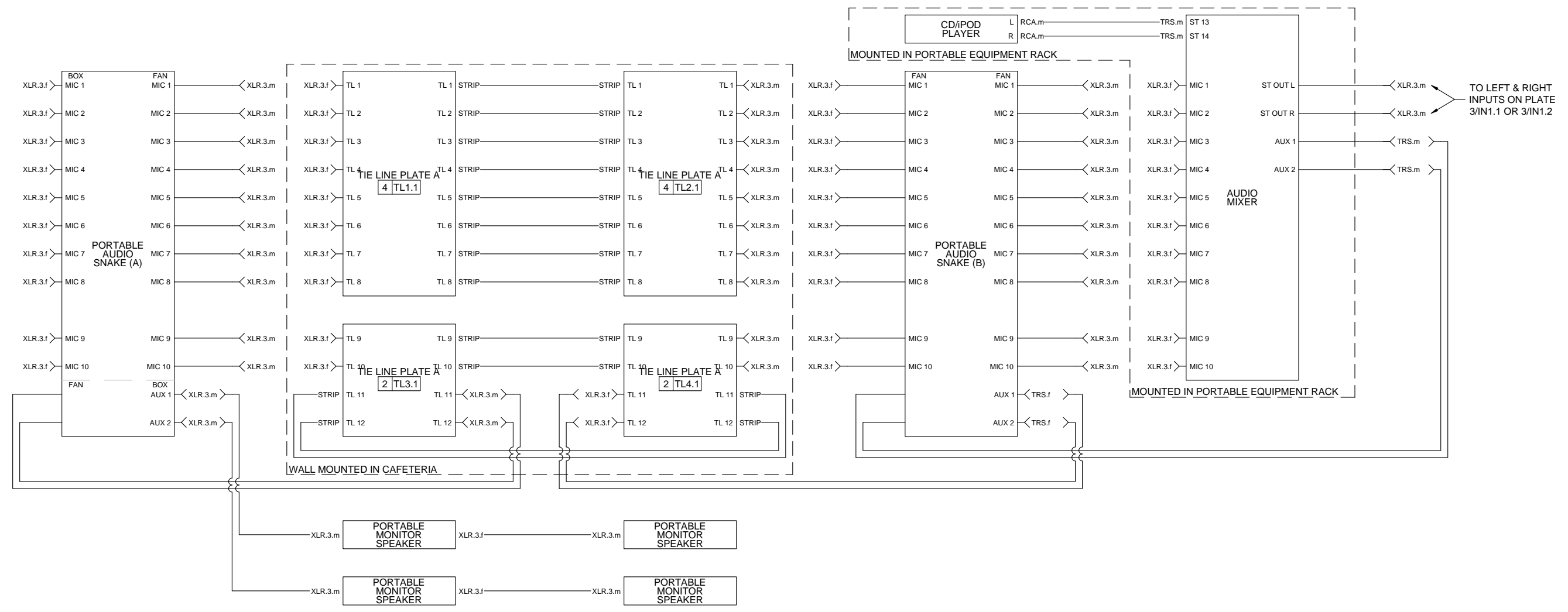
DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

02/11/14

PS-1.4

AUDIO TIE-LINE FLOW DIAGRAMS



1 CAFETERIA PORTABLE MIXER FLOW DIAGRAM
 PS-1.5 SCALE: NONE

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE REVISION SCHEDULE

CAFETERIA PORTABLE MIXER FLOW DIAGRAM

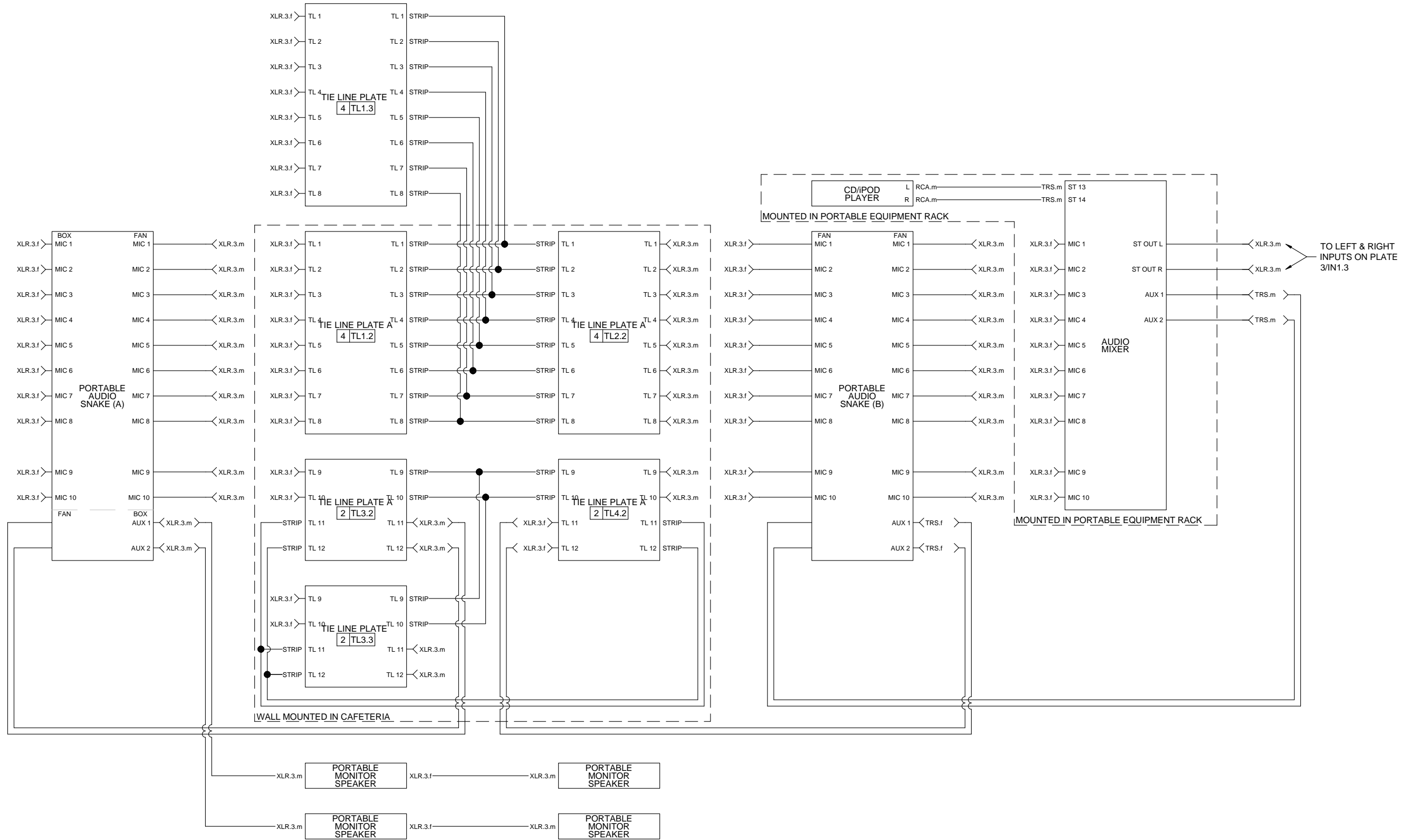
DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

02/11/14

PS-1.5

CAFETERIA PORTABLE MIXER FLOW DIAGRAM



1 GYMNASIUM PORTABLE MIXER FLOW DIAGRAM
 PS-1.6 SCALE: NONE

**MID CAROLINA HIGH SCHOOL
 GYM AND CAFETERIA
 PROSPERITY, SC**

02/18/14	BID-SET
02/11/16	80% INFRASTRUCTURE REVISION SCHEDULE

GYMNASIUM PORTABLE MIXER FLOW DIAGRAM

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

02/11/14

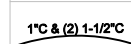
PS-1.6

GYMNASIUM PORTABLE MIXER FLOW DIAGRAM

GENERAL NOTES

1	ALL LINE VOLTAGE ELECTRICITY SHALL BE PROVIDED AND INSTALLED BY E.C.
2	ALL VOICE SERVICES, DATA SERVICES, COMPUTER NETWORKING SERVICES AND CABLING FOR SAID SERVICES SHALL BE PROVIDED BY OTHERS.
3	ALL FREE AIR CABLING SHALL BE PLENUM RATED.
4	ALL DEVICE PLATES MOUNTED IN INTERIOR WALL SHALL HAVE A NATURAL ALUMINUM FINISH, U.N.O.
5	ALL DEVICE PLATES MOUNTED INSIDE FLOOR BOXES SHALL HAVE A NATURAL ALUMINUM FINISH, U.N.O.
6	ALL DEVICE PLATES SHALL BE STANDARD SIZE U.N.O.

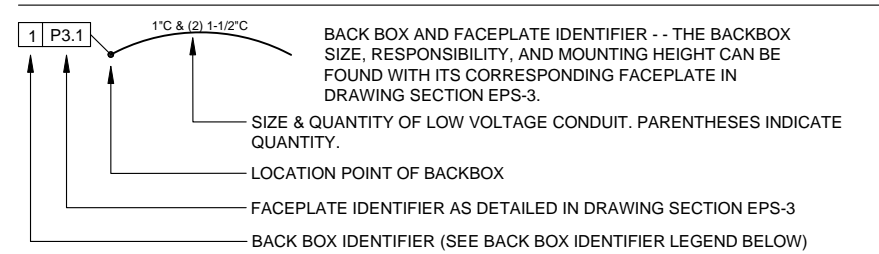
SYMBOL LEGEND

	BACK BOX AND FACE PLATE IDENTIFIER
	EMPTY LOW VOLTAGE CONDUIT WITH PULL STRING. E.C. TO PROVIDE SIZE & QUANTITY INDICATED. CONDUIT TO BE (1) 1"Ø IF NO NOTATION GIVEN. LINE DOES NOT IMPLY HOW CONDUIT IS TO BE ROUTED. ROUTE CONDUIT AS REQUIRED IN FIELD.
	E.C. SUPPLIED CIRCUIT(S). ARROWS DENOTE QUANTITY OF CIRCUITS. CROSSMARKS INDICATE QUANTITY OF CONDUCTORS PER CIRCUIT. ALL CONDUCTORS TO BE 20A 120VAC CONDUCTORS UNLESS NOTED OTHERWISE. ALL RUNS TO INCLUDE GROUNDING CONDUCTOR WHICH IS NOT INCLUDED IN THE CROSSMARKS. RUNS DEVOID OF CROSSMARKS ARE TO CONTAIN (2) 20A 120VAC CONDUCTORS & (1) GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE. "IG" INDICATES ISOLATED GROUNDING CONDUCTOR.
	PULL BOX SUPPLIED BY E.C. SIZE AS REQUIRED. LOCATE BOX IN ACCESSIBLE AREA.
	CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE CEILING IN ROOM WHERE SYMBOL IS SHOWN, UNO
	WALL-MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT
	CEILING MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT
	20A/120VAC DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT MOUNTED IN FLOOR BOX
	WALL-MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND ON DEDICATED 20A CIRCUIT
	CEILING MOUNTED 20A/120V DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND ON DEDICATED 20A CIRCUIT
	20A/120VAC DUPLEX RECEPTACLE ON DEDICATED 20A CIRCUIT WITH ISOLATED GROUND MOUNTED IN FLOOR BOX ON DEDICATED 20A CIRCUIT
	RADIO FREQUENCY TRANSMISSION SYSTEM
	SHEET KEYNOTE IDENTIFIER. SEE SHEET KEYNOTE WITH CORRESPONDING NUMBER "XX". NOTES CAN BE FOUND IN THE SHEET KEYNOTES TABLE ON PAGE WHERE IDENTIFIER APPEARS.

ABBREVIATIONS

AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AV	AUDIO VISUAL
BLW CLG	BELOW CEILING
BOS	BOTTOM OF STEEL
CKT	CIRCUIT
EC	ELECTRICAL CONTRACTOR
IR	INFRARED
MC	METAL-CLAD
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PROSC	PROSCENIUM
PSC	PRESENTATION SYSTEMS CONTRACTOR
RCP	REFLECTED CEILING PLAN
SL	STAGE LEFT
SR	STAGE RIGHT
UNO	UNLESS NOTED OTHERWISE
VAC	VOLTS-ALTERNATING CURRENT

CONVENTIONS



BACK BOX IDENTIFIER LEGEND

- 1 SINGLE GANG BACK BOX - MINIMUM DEPTH 3"
- 2 TWO GANG BACK BOX - MINIMUM DEPTH 3"
- 3 THREE GANG BACK BOX - MINIMUM DEPTH 3"
- 4 FOUR GANG BACK BOX - MINIMUM DEPTH 3"
- 5 SURFACE MOUNTED WIRE TROUGH
- 6 HOFFMAN 8" X 8" X 4" SCREW COVER PULL BOX
- 7 FLOOR BOX
- 8 CEILING SPEAKER
- 9 WALL MOUNTED EQUIPMENT RACK
- 10 PROJECTION SCREEN
- 11 LOW VOLTAGE SCREEN CONTROLLER

PRESENTATION SYSTEM SHEET INDEX

- EPS-L LEGEND
- EPS-1.1 INFRASTRUCTURE FLOOR PLAN
- EPS-2.1 REFLECTED CEILING PLAN
- EPS-3.1 GYMNASIUM DETAILS
- EPS-3.2 GYMNASIUM DETAILS
- PS-1.1 GYMNASIUM FLOW DIAGRAMS
- PS-1.2 GYMNASIUM FLOW DIAGRAMS

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**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**

02/18/14	BID-SET
02/07/14	INFRASTRUCTURE REVISION SCHEDULE

LEGEND

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

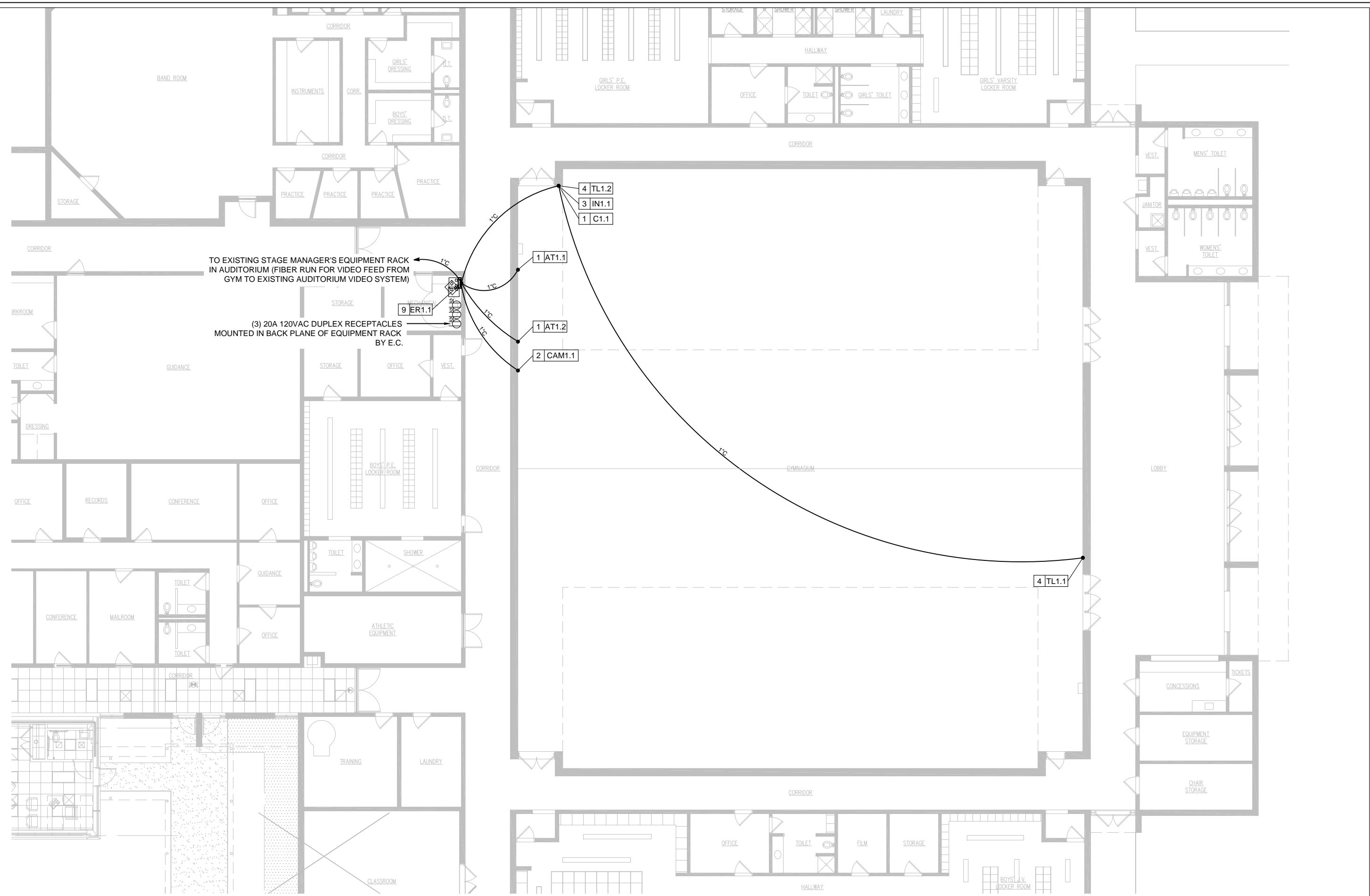
02/07/14

EPS-L

**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**

LEGEND

**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**



02/18/14	BID-SET
02/07/14	INFRASTRUCTURE REVISION SCHEDULE

INFRASTRUCTURE FLOOR PLAN

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: 1/16" = 1'

02/07/14

INFRASTRUCTURE FLOOR PLAN

EPS-1.1

**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**

02/18/14 BID-SET
 02/07/14 INFRASTRUCTURE
 REVISION SCHEDULE

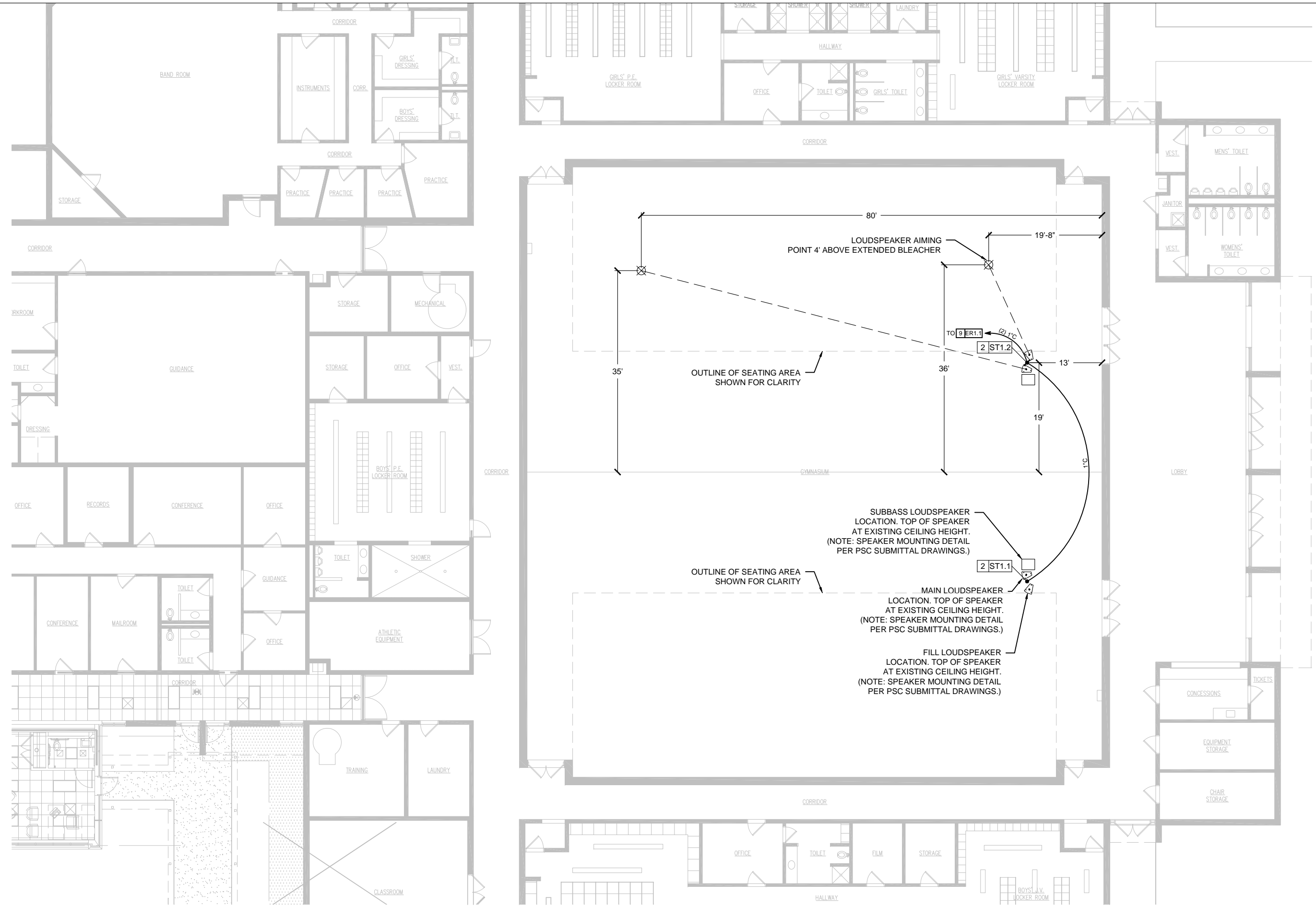
**REFLECTED
 CEILING
 PLAN**

DRAFT: DAC CHECK: MR APRVD: JSB

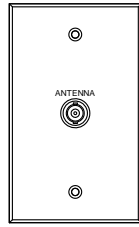
SCALE: 1/16" = 1'

02/07/14

EPS-2.1

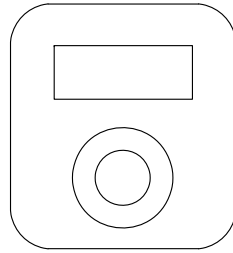


REFLECTED CEILING PLAN



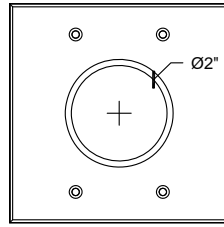
1 | AT1.1 | THRU | 1 | AT1.2

ANTENNA DISTRIBUTION PLATE
SINGLE GANG BACKBOX RECESSED FLUSH 10" AFF
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC



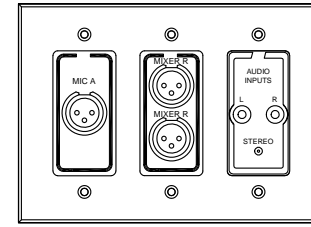
1 | C1.1

AUDIO DSP CONTROLLER
SINGLE GANG BACKBOX RECESSED FLUSH 48" A.F.F.
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC
REQUIRES HONEYWELL #CG510A1019 LOCKABLE COVER PROVIDED
AND INSTALLED BY PSC



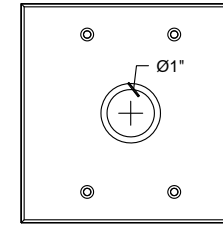
2 | CAM1.1

P/T/Z CAMERA I/O PLATE
TWO GANG BACKBOX RECESSED FLUSH 120" AFF
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC



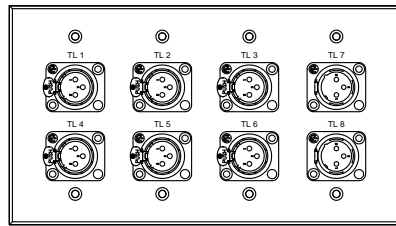
3 | IN1.1

GYMNASIUM INPUT PLATE
THREE GANG BACK BOX MOUNTED 18" AFF
BACK BOX PROVIDED AND INSTALLED BY E.C.
FACE PLATE PROVIDED AND INSTALLED BY PSC



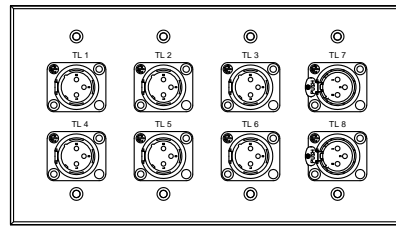
2 | ST1.1 | THRU | 2 | ST1.2

SPEAKER OUTPUT PLATE
SINGLE GANG BACKBOX SURFACE MOUNTED ON CEILING
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC



4 | TL1.1

AUDIO TIE-LINE PANEL
FOUR GANG BACKBOX RECESSED FLUSH 18" AFF
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC



4 | TL1.2

AUDIO TIE-LINE PANEL
FOUR GANG BACKBOX RECESSED FLUSH 18" AFF
BACKBOX PROVIDED AND INSTALLED BY E.C.
FACEPLATE PROVIDED AND INSTALLED BY PSC

**NEWBERRY HIGH SCHOOL
GYMNASIUM
NEWBERRY, SC**

02/18/14	BID-SET
02/07/14	INFRASTRUCTURE REVISION SCHEDULE

**GYMNASIUM
DETAILS**

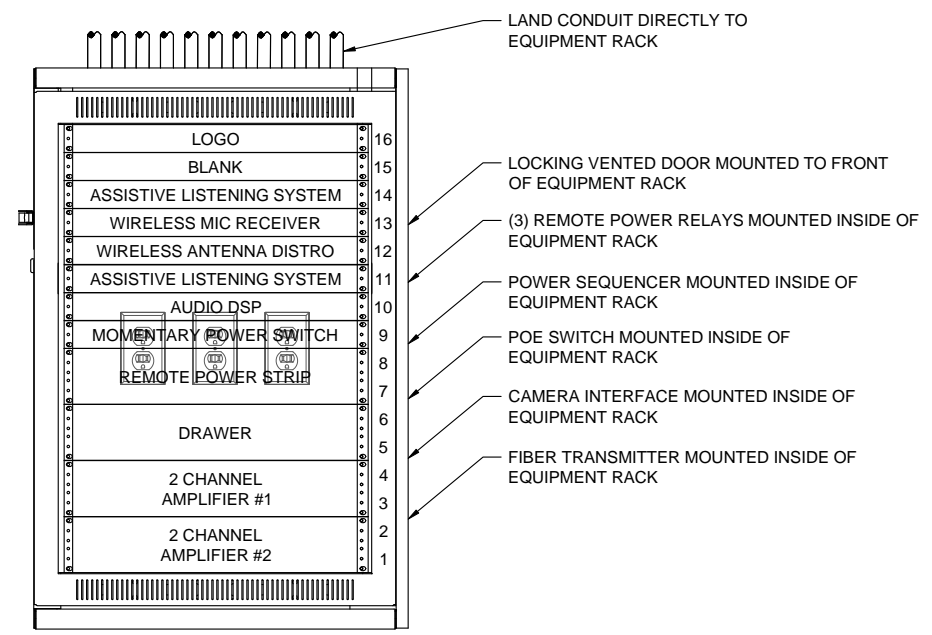
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DAC	MR	JSB

SCALE: 3" = 1'

02/07/14

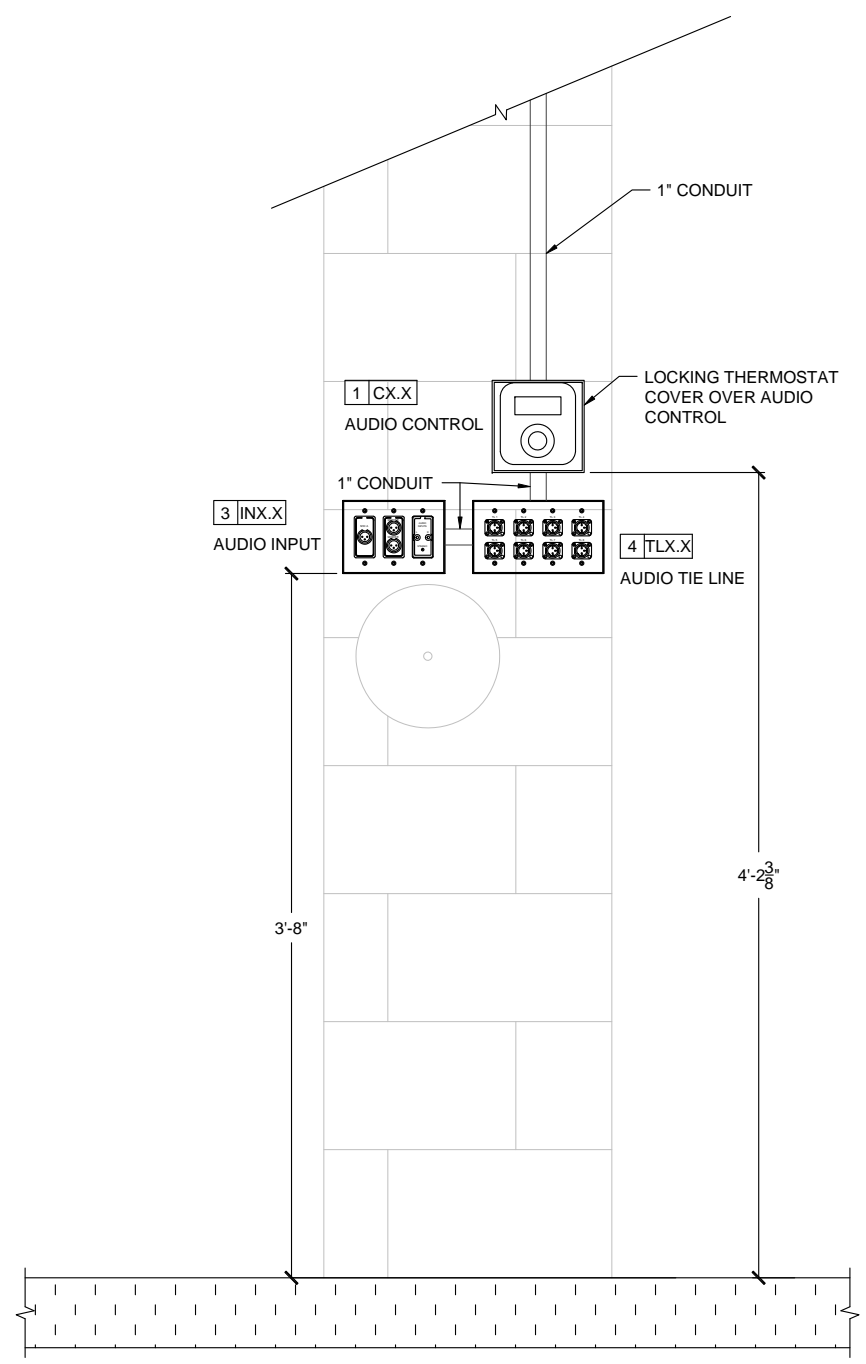
EPS-3.1

GYMNASIUM DETAILS



9 ER1.1
 GYMNASIUM EQUIPMENT RACK
 RACK WALL MOUNTED 18" A.F.F. CONDUIT DIRECTLY TO RACK
 RACK PROVIDED BY PSC AND INSTALLED BY E.C.
 EQUIPMENT IN RACK PROVIDED AND INSTALLED BY PSC
 REQUIRES (3) 20A 120VAC CIRCUITS ON DUPLEX RECEPTACLES BY E.C.

1 GYMNASIUM EQUIPMENT RACK
 EPS-3.2 SCALE: 1" = 1'



2 GYMNASIUM PLUG BOX LOCATION SCHEMATIC
 EPS-3.2 SCALE: 1" = 1'

**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**

02/18/14	BID-SET
02/07/14	INFRASTRUCTURE
	REVISION SCHEDULE

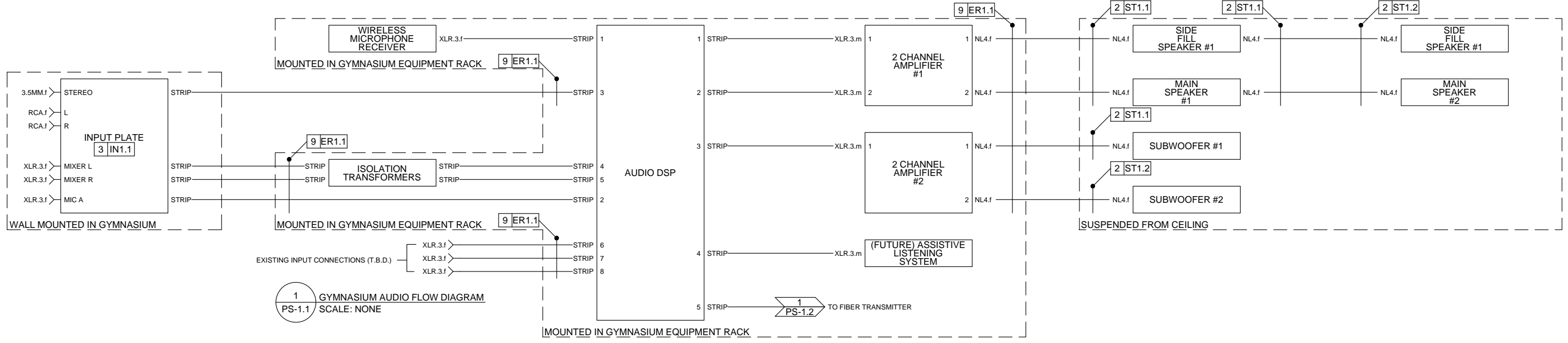
**GYMNASIUM
 DETAILS**

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

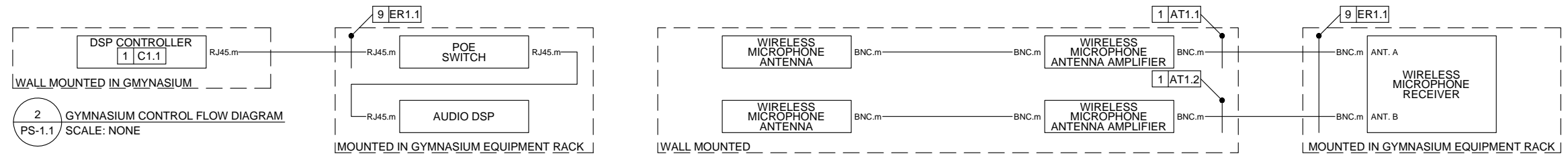
SCALE: 1" = 1'

02/07/14

EPS-3.2

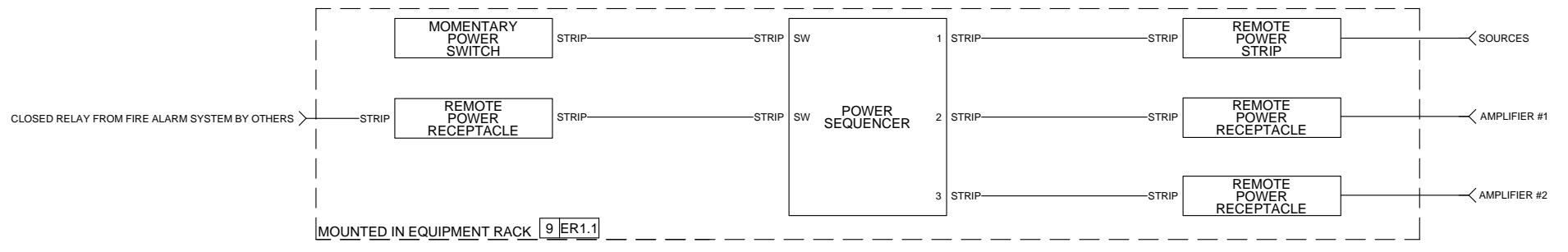


1 GYMNASIUM AUDIO FLOW DIAGRAM
 PS-1.1 SCALE: NONE



2 GYMNASIUM CONTROL FLOW DIAGRAM
 PS-1.1 SCALE: NONE

3 GYMNASIUM WIRELESS MICROPHONE ANTENNAE DISTRIBUTION FLOW DIAGRAM
 PS-1.1 SCALE: NONE



4 GYMNASIUM POWER FLOW DIAGRAM
 PS-1.1 SCALE: NONE

**NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC**

02/18/14	BID-SET
02/07/14	INFRASTRUCTURE
	REVISION SCHEDULE

**GYMNASIUM
 FLOW
 DIAGRAMS**

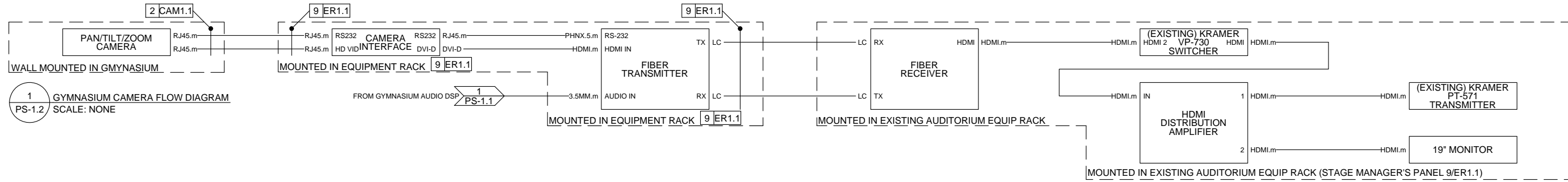
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DAC	MR	JSB

SCALE: NONE

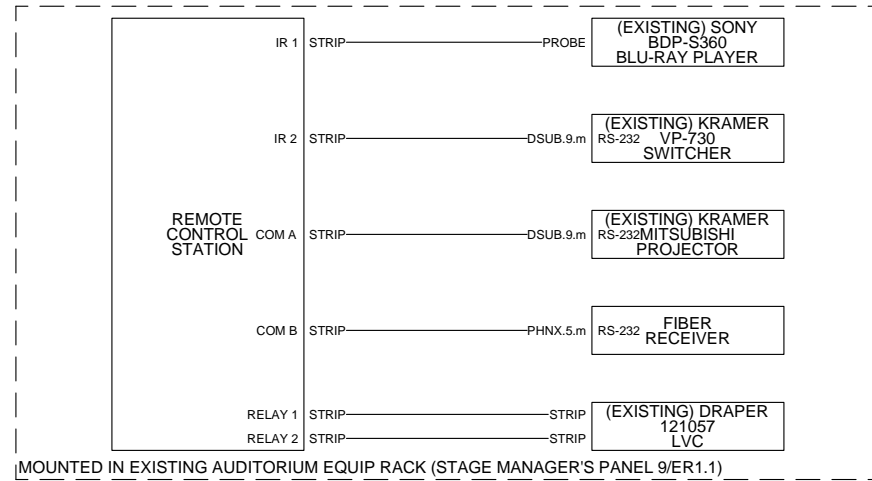
02/07/14

GYMNASIUM FLOW DIAGRAMS

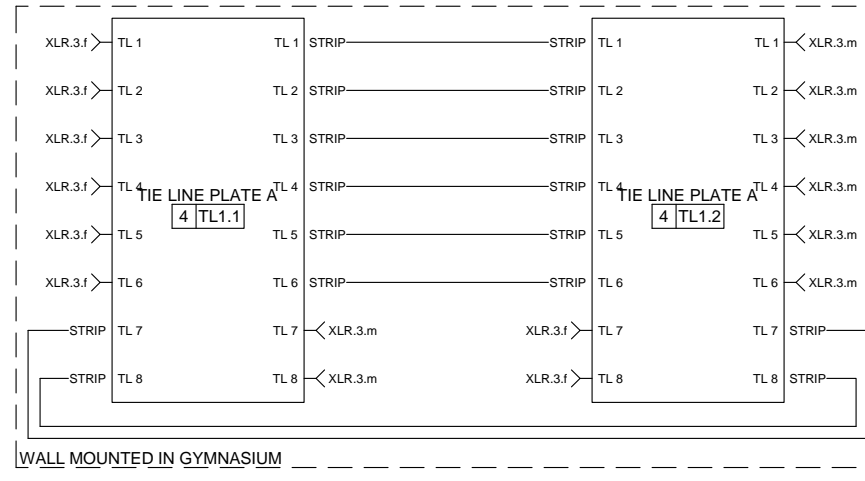
PS-1.1



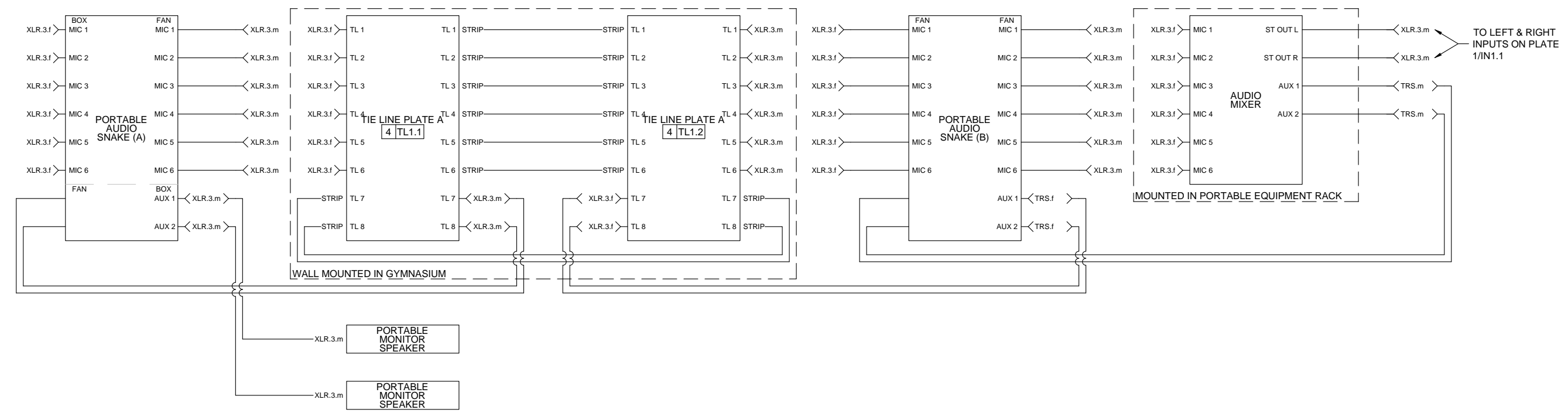
1 GYMNASIUM CAMERA FLOW DIAGRAM
 PS-1.2 SCALE: NONE



2 GYM/(EXISTING) AUDITORIUM CONTROL FLOW DIAGRAM
 PS-1.2 SCALE: NONE



3 AUDIO TIE LINE FLOW DIAGRAM
 PS-1.2 SCALE: NONE



4 PORTABLE MIXER FLOW DIAGRAM
 PS-1.2 SCALE: NONE

NEWBERRY HIGH SCHOOL
 GYMNASIUM
 NEWBERRY, SC

02/18/14	BID-SET
02/07/14	INFRASTRUCTURE
	REVISION SCHEDULE

GYMNASIUM
 FLOW
 DIAGRAMS

DRAFT:	CHECK:	APRVD:
DAC	MR	JSB

SCALE: NONE

02/07/14

PS-1.2

GYMNASIUM FLOW DIAGRAMS