

LOCAL SOUND DEVICE LEGEND*	
	SPEAKER TYPE 1 CEILING MOUNT
	SPEAKER TYPE 2 STRUCTURE MOUNT
	EQUIPMENT SOUND RACK WALL OR FLOOR MT.
	INPUT JACKS-2 XLR MICROPHONE INPUT JACKS 1 SET OF RCA INPUT JACKS 1 3/8" STEREO INPUT JACK PROVIDE 4" SQUARE BOX WITH TWO GANG PLASTER RING, STUB 1/2" TO ABOVE ACCESSIBLE CEILING
	SINGLE MICROPHONE INPUT PROVIDE 4" SQUARE BOX WITH SINGLE GANG PLASTER RING, STUB 1/2" TO ABOVE ACCESSIBLE CEILING
	DUAL MICROPHONE INPUT PROVIDE 4" SQUARE BOX WITH SINGLE GANG PLASTER RING, STUB 1/2" TO ABOVE ACCESSIBLE CEILING
	JUNCTION BOX PROVIDE 4 1/2" SQUARE BOX WITH TWO GANG PLASTER RING, STUB (2) 1 1/4" TO ABOVE ACCESSIBLE CEILING

LOCAL SOUND WIRE LEGEND*	
A	1 TWISTED PAIR W/SHLD FOR MICROPHONE
B	1 #14 AWG PAIR ONE FROM EACH SPEAKER TO AMP
2A	NUMBER INDICATES QUANTITY OF CABLES, LETTER INDICATES TYPE OF CABLE

\* PLENUM RATED MATERIAL SHALL NOT BE PLACED BELOW GRADE IN ANY CIRCUMSTANCE.

\* ALL SYMBOLS SHOWN MAY NOT BE USED IN THIS DRAWING.

**GENERAL NOTES:**

- PROVIDE ATTIC STOCK FOR THE FOLLOWING ITEMS:  
3 UNITS -1 UNIT
- CONNECT ALL INTRUSION DEVICES ON THIS SHEET TO NEW INTRUSION ALARM CONTROL PANEL LOCATED IN DATA 103.
- IN AREAS WITH HIGH CEILINGS OR EXPOSED STRUCTURE, MAXIMUM MOUNTING HEIGHT OF WIRELESS ACCESS POINT DATA OUTLET DROP SHALL BE 11" O.A.F.F. STUB CONDUIT CONCEALED FROM DROP TO ABOVE ACCESSIBLE CEILING IN ADJACENT SPACE.
- IN AREAS WITH HIGH CEILINGS OR EXPOSED STRUCTURE, COORDINATE MOUNTING HEIGHT OF ACCESS CONTROL DATA OUTLET DATA DROP WITH ACCESS CONTROL VENDOR PRIOR TO ROUGHING IN.
- PROVIDE WIREGUARD FOR ALL WAPS (BY ALLOWANCE) IN GYMNASIUM 101. COORDINATE WITH OWNER REQUIRED DIMENSIONS OF WIREGUARD.

**CABLING LEGEND**

- WALL MOUNTED (UNLESS NOTED OTHERWISE ON DRAWINGS) ENHANCED CATEGORY 6e DATA OUTLET AT 18" ALL OUTLET LOCATIONS SHALL HAVE TWO(2) ENHANCED CATEGORY 6e CABLE DROPS AND TWO(2) ENHANCED CATEGORY 6e JACKS. NUMBER WHERE SHOWN DESIGNATES QUANTITY OF DROPS OTHER THAN TWO. "MV" WHERE SHOWN INDICATES A DATA DROP TO SERVE DIGITAL MEDIA VIEWER.
- SURFACE WALL MOUNTED BOX BY DIVISION 27 AT 6" ABOVE ACOUSTICAL CEILING (UNLESS OTHERWISE NOTED) WITH CATEGORY 6e JACK. ALL OUTLET LOCATIONS SHALL HAVE ONE (1) CATEGORY 6e DATA DROP AND ONE (1) CATEGORY 6e DATA JACK. PROVIDE ONE (1) MINIMUM OF 10' CATEGORY 6e PATCH CORD TO BE CONNECTED TO ACCESS CONTROL SYSTEM DEVICE.
- SURFACE WALL MOUNTED BOX BY DIVISION 27 AT 6" ABOVE ACOUSTICAL CEILING (UNLESS OTHERWISE NOTED) WITH CATEGORY 6e JACK. ALL OUTLET LOCATIONS SHALL HAVE TWO(2) CATEGORY 6e DATA DROPS AND TWO(2) CATEGORY 6e DATA JACKS. CABLEING TO BE ROUTED TO PATCH PANEL "WAP" AS INDICATED ON CABLEING RISER DIAGRAMS. PROVIDE TWO (2) MINIMUM OF 20' CATEGORY 6e PATCH CORDS TO BE CONNECTED FROM JACK DIRECTLY TO WIRELESS ACCESS DEVICE.
- SURFACE WALL MOUNTED BOX BY DIVISION 27 AT 6" ABOVE ACOUSTICAL CEILING (UNLESS OTHERWISE NOTED) WITH CATEGORY 6e JACK. ALL OUTLET LOCATIONS SHALL HAVE TWO(2) CATEGORY 6e DATA DROPS AND TWO(2) CATEGORY 6e DATA JACKS. PROVIDE TWO (2) MINIMUM OF 20' CATEGORY 6e PATCH CORD TO BE TURNED OVER TO THE OWNER FOR OWNER'S FUTURE USE.
- DATA OUTLET FOR FUTURE DATA CABLES. PROVIDE BLANK PLATE.

**GENERAL NOTES: (COMMUNICATIONS CABLING)**

- ADDITIONAL WALL SLEEVES AND WALL PENETRATIONS WILL BE REQUIRED FOR ALL VOICE CABLING. PROVIDE NECESSARY AND FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS.
- ALL CABLING SHALL BE BUNDLED AND SUPPORTED BY STRUCTURE ABOVE CEILING AT EVERY 45" FOR SUPPORT OF CABLING BY CEILING GRID OR GRID SUPPORTS SHALL BE USED AS AVAILABLE. PROVIDE D-RINGS, J-HOOKS OR OTHER SUPPORT DEVICES AS PER CABLE MANUFACTURER'S RECOMMENDATIONS.
- ALL CABLING SHALL BE PLENUM RATED. OUTER JACKET FOR CAT 6e CABLING SHALL BE GREEN. OUTER JACKET FOR CAT 6e CABLING FOR DATA SHALL BE WHITE. OUTER JACKET FOR CAT 6e CABLING FOR VOICE SHALL BE WHITE.
- ALL CABLING SHALL BE PLENUM RATED. OUTER JACKET FOR ENHANCED CATEGORY 6e DATA CABLING SHALL BE WHITE. OUTER JACKET FOR CAT 6e CABLING FOR VOICE SHALL BE WHITE.
- ALL OUTLET JACKS SHALL BE PROVIDED WITH THE FOLLOWING LABELING NOMENCLATURE:
- PROVIDE METAL D-RING OR RING RUNS AS NECESSARY TO PROPERLY LACE AND SUPPORT ALL VOICE CABLING AT TELEPHONE BACKBOARDS.
- ALL DEVICE COLORS SHALL BE GREY.
- ALL DATA/VOICE DROPS TO ROUTE TO DATA PATCH PANELS AT RACK INDICATED ON DRAWINGS. ALL VOICE DROPS TO PATCH TO VOICE PATCH PANEL.
- GROUND ALL RACKS WITH #6 COPPER LOCATED AT EACH BACKBOARD. LOCATE RACKS A MINIMUM OF 3" OFF OF WALL. PROVIDE 12" CABLE RUNWAY SPANNING FROM TOP OF RACK TO WALL AND TURNED UP TO ABOVE DROP TILE CEILING IN ORDER TO ROUTE CABLE TO RACK. AT EACH RACK LOCATION PROVIDE A 3/4"x48" PLYWOOD BACKBOARD PAINTED WITH TWO COATS OF BLACK FIRE RETARDANT PAINT. LOCATE 110 BLOCKS ON BACKBOARD.
- TY WRAPS SHALL NOT BE CINCHED DOWN TIGHT ENOUGH TO DEFORM CABLES. MAINTAIN MINIMUM BEND RADIUS ON FIBER, TIE CABLES, STATION WIRES, AND PATCH CORDS. TY WRAPS ARE REQUIRED TO BE PLENUM RATED.
- PROVIDE VELCRO CABLE WRAPS AT RACKS TO PROPERLY LACE AND TRAIN PATCH CORDS AT RACKS IN AN ORDERLY FASHION.
- PROVIDE ENHANCED CATEGORY 6e, FACTORY-BUILT, MANUFACTURED TESTED PATCH CORDS FOR EACH DATA DROP. PROVIDE 10' PATCH CORDS AT STATION END. PROVIDE 1' OR 3' PATCH CORDS AT RACK END AS REQUIRED. PROVIDE ENHANCED CATEGORY 6e, FACTORY-BUILT, MANUFACTURED TESTED PATCH CORDS FOR EACH WIRELESS ACCESS POINT DROP. PROVIDE 1', 3' OR 5' PATCH CORDS AT RACK END AS REQUIRED.
- INCLUDE IN BASE BID EIGHT(8) ADDITIONAL DATA DROPS TO BE LOCATED BY OWNER/ENGINEER. INCLUDE ALL LABOR AND TESTING FOR A COMPLETE INSTALLATION.
- DIVISION 27 CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALL ALL SURFACE WALL MOUNTED BOXES ABOVE CEILING AS NOTED FOR ALL ACCESS CONTROLS, DATA DROPS, AND WIRELESS ACCESS POINT LOCATIONS. ALL OTHER BOXES SHALL BE PROVIDED BY DIVISION 26.
- PRIOR TO INSTALL OF ANY CABLING, DIVISION 27 CONTRACTOR SHALL PROVIDE SCALED SHOP DRAWING PLAN INDICATING ALL OUTLET LOCATIONS AS WELL AS CALCULATED DISTANCES TO FURTHEST OUTLET FROM DATA CLOSET SERVING OUTLET. DIVISION 27 SHALL BE RESPONSIBLE FOR REVIEWING ARCHITECTURAL SET FOR INTERIOR ELEVATIONS AND CEILINGS.
- CATEGORY 6A CABLE SHALL BE PROVIDED FOR ALL WIRELESS ACCESS POINT DROPS. ALL CATEGORY 6A CABLE SHALL BE TERMINATED ON CATEGORY 6A JACKS AND PATCH PANELS AND SHALL MEET ANS/TIA-568-C 2 FOR AUGMENTED CATEGORY 6A CABLE AND CONNECTIVITY.
- LOCATE PATCH PANELS ON RACK AS SHOWN ON DETAILS. LEAVE ENOUGH RACK SPACE FOR NETWORK ELECTRONICS (48 PORT SWITCHES) TO BE INSTALLED BETWEEN PATCH PANELS. COORDINATE WITH OWNER.

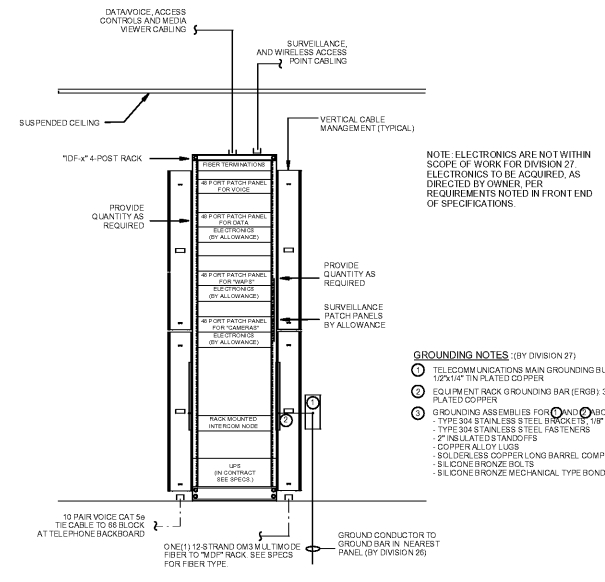
**DATA/VOICE, NETWORKING, INTRUSION AND LOCAL SOUND SYSTEM PLAN**

1 E402 SCALE: 1/8" = 1'-0"

2 LOCAL SOUND SYSTEM GYMNASIUM PLAN  
E402 SCALE: 1/16" = 1'-0"

**KEYED NOTES:**

- SHOWS ACTUAL SOUND PROJECTION INTO SEATS.
- MOUNT AT A MINIMUM OF 21" ABOVE FINISHED FLOOR. THIS IS THE ACTUAL SPEAKER LOCATION. TO BE MOUNTED A SWIVEL MOUNT. AIM TO ACHIEVE PROJECTION SHOWN INTO SEATS BY KEYED NOTE. 1. PROVIDE ALL MOUNTING ACCESSORIES. VERIFY ACTUAL MOUNTING HEIGHT WITH STRUCTURE.
- MOUNT AT A MINIMUM OF 25" ABOVE FINISHED FLOOR. THIS IS THE ACTUAL SPEAKER LOCATION TO BE PENDANT MOUNTED. PROVIDE ALL MOUNTING ACCESSORIES. VERIFY ACTUAL MOUNTING HEIGHT WITH STRUCTURE.
- PROVIDE CONTROL MODULE TO CUT POWER TO LOCAL SOUND SYSTEM UPON FIRE ALARM ACTIVATION.
- ALL LOW VOLTAGE CABLING IN THIS AREA IS TO BE INSTALLED IN CONDUIT PER SPECIFICATIONS. FREE AIR RUNS OF CABLING WILL NOT BE ACCEPTABLE.
- INTRUSION ALARM DETECTOR TO BE WALL MOUNTED. COORDINATE MOUNTING HEIGHT WITH MANUFACTURER'S RECOMMENDATIONS.



3 TYPICAL "IDF-x" RACK COMMUNICATIONS CABLING RISER  
E402 SCALE: NONE

- GROUNDING NOTES:** (BY DIVISION 27)
- TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TWGB) 4"x13 1/2" MIN. TYP. GALV. COPIPER
  - EQUIPMENT RACK GROUNDING BAR (ERGB) 3/4"x18 5/16"x3/16" TYP. PLATED COPPER
  - GROUNDING ASSEMBLIES FOR ONE (1) ABOVE SHALL INCLUDE:  
- TYPE 304 STAINLESS STEEL BRACKET 1/2" THICK  
- TYPE 304 STAINLESS STEEL FASTENERS  
- 2" INSULATED STANDOFFS  
- COPPER ALLOY LUGS  
- SOLID BRASS COPPER LONG BARREL COMPRESSION TYPE TERMINALS  
- SILICONE BRONZE BOLT  
- SILICONE BRONZE MECHANICAL TYPE BONDING CONNECTORS

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PROJECT TITLE:  
**MURPHEY  
MIDDLE  
SCHOOL P.E.  
BUILDING  
PROJECT #  
B-17-005-3756.1**

REVISIONS			
REV #	DATE	APPRV BY	REVISION
1	11/02/18	MAP	STATE FINAL
2	11/20/18	MAP	ISSUE FOR BID



DA PROJECT NUMBER & NAME:  
1707.1

DRAWING TITLE:  
**DATA/VOICE,  
NETWORKING,  
INTRUSION AND  
LOCAL SOUND  
SYSTEM PLAN**

**E402**

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