

**MOORE PUBLIC SCHOOLS -
HIGHLAND EAST JUNIOR HIGH SCHOOL –
STEM ADDITION**

Moore Public Schools - Moore, Oklahoma
AGP - Moore, Oklahoma

CONSTRUCTION BULLETIN NO. 4

April 14, 2022

1. REVISED TECHNOLOGY INFORMATION AND DRAWINGS AS DIRECTED BY MOORE PUBLIC SCHOOLS.

END OF CONSTRUCTION BULLETIN NO. 4

CONSTRUCTION BULLETIN # ~~3~~ 4

Client: Abla Griffin Partnership
 Project Name: Highland East JH Classroom Addition
 Project Number: 2021-02035-00

April 13, 2022

Requested by: Owner
 Contractor:
 Salas O'Brien:

To: Mike Abla, Clay Griffin (AGP)

This Construction Bulletin is issued to:

- Offer additional information for clarification or supplemental drawings for layout assistance.
- Request cost and time impact to initiate a change to the Contract Documents. Owner approval is required, do not commence with revisions unless directed in writing. Avoid Work in areas that may be affected by proposed change until approved or rejected. Once approved, forward Change Order documentation as required by the Contract Documents.
- Direct a required change in the Contract Documents. Proceed with change(s) as indicated. Forward Change Order documentation as required by the Contract Documents.
- Response to RFI _____.

Item No.	Description	Attachment
1	Add 'IVD' to legend. Changes to Intrusion Detection Legend, Technology Legend, Technology General Notes, Intercom/Clock Legend and Fire Alarm Legend.	T001
2	Adjusted location of clock C2 in CORRIDOR 24.	T101
3	Adjusted location of wall mounted motion detector outside of VEST 3.	T101
4	Add intercom speaker 'S' and call button 'CB' in STORAGE 2.	T101
5	Add intercom speaker 'S' to STORAGE 17.	T101
6	Change teacher's desk and IVD locations in all classrooms and Labs.	T101
7	Add NAC panel to IDF IT 14a.	T201



END OF CB-03 4



TECHNOLOGY LEGEND	
SYMBOL	DESCRIPTION
ⓓ#	DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A NETWORK CONNECTION. THE "# SHALL BE REPLACED WITH NUMERIC TEXT THAT IDENTIFIES THE TOTAL NUMBER OF CATEGORY # NETWORK CABLES THAT ARE TO BE INSTALLED AT THE TECHNOLOGY OUTLET LOCATION. CONTRACTOR TO PROVIDE AND INSTALL CATEGORY # NETWORK CABLES. CATEGORY 6 CONNECTORS, STAINLESS STEEL FACEPLATES WITH IDENTIFICATION WINDOWS, LABELS, BLANK INSERTS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED OUTLET LOCATION. ALL FACEPLATES PROVIDED SHALL CONTAIN A MINIMUM 4 POTS AND SHALL BE APPROPRIATELY SIZED TO ACCOMMODATE THE NUMBER OF CIRCUITS BEING INSTALLED AT THIS TECHNOLOGY OUTLET LOCATION. MAXIMUM OF SIX(6) DATA CABLES PER OUTLET.
Ⓦ	DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A WALL MOUNTED TELEPHONE CONNECTION. CONTRACTOR TO PROVIDE AND INSTALL (1) CATEGORY 6 NETWORK CABLE, (1) CATEGORY 6 CONNECTOR, STAINLESS STEEL WALL TELEPHONE FACEPLATE, LABELS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED CIRCUIT AT EACH LOCATION SHOWN. CONTRACTOR SHALL MOUNT THIS OUTLET AT ADA HEIGHT (MATCH LIGHT SWITCH HEIGHT) AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 3" OF CLEARANCE ON ALL FOUR SIDES OF THE BACK BOX. OUTLETS SHALL REMAIN CLEAR OF ROOM DOORS, CABINET DOORS, APPLIANCE DOORS, AND SLIDING DRAWERS.
ⓐⓈ	DESIGNATES THAT THE ASSOCIATED TECHNOLOGY OUTLET IS INTENDED FOR THE USE OF A WIRELESS ACCESS POINT CONNECTION. CONTRACTOR TO PROVIDE AND INSTALL (2) CATEGORY 6 NETWORK CABLES, (2) CATEGORY 6 CONNECTORS, (2) CAT 6 BISCUIT, LABELS, AND ANY OTHER MATERIALS REQUIRED TO FURNISH A COMPLETE FUNCTIONAL AND TESTED CIRCUIT AT EACH LOCATION SHOWN. REFERENCE SPECIFICATIONS FOR PATCH CABLE REQUIREMENTS.
Ⓢ#	VOICE OUTLET WITH CABLE AND TERMINATION AS INDICATED.
NOTES:	
REFERENCE TECHNOLOGY GENERAL NOTES, PLAN KEYED NOTES, AND ALL OTHER SYSTEM LEGENDS/NOTES. THE STRUCTURED CABLING SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL CATEGORY 6 CABLE TO ALL SYSTEMS' EQUIPMENT REQUIRING NETWORK CONNECTIVITY.	

RACEWAY LEGEND	
SYMBOL	DESCRIPTION
Ⓚ	INDICATES THE LOCATION OF A FLOOR MOUNTED BOX AND RACEWAY FOR LOW VOLTAGE. CONTRACTOR TO PROVIDE AND INSTALL A FLOOR BOX. EACH FLOOR BOX SHALL HAVE ONE (1) SINGLE GANG PORT WITH ONE (1) 1" CONDUIT PER EVERY SIX(6) CATEGORY 6 OR FOUR(4) CATEGORY 6 CABLES AND ONE (1) DOUBLE GANG PORT WITH ONE (1) 1 1/2" CONDUIT UNLESS NOTED OTHERWISE. ALL CONDUITS SHALL ROUTE FROM THE FLOOR BOX, DIRECTLY TO THE WALL INDICATED AND STUB-UP INTO THE NEAREST ACCESSIBLE PLENUM CEILING
ⓀⓈ	INDICATES THE LOCATION OF A CEILING MOUNTED OUTLET. CONTRACTOR SHALL MOUNT THIS OUTLET AT +12" ABOVE THE CEILING AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS.
▼	INDICATES THE LOCATION OF A NEW LOW VOLTAGE OUTLET. CONTRACTOR TO PROVIDE ONE (1) DOUBLE GANG BACK BOX WITH A SINGLE GANG REDUCER ONE (1) 1" CONDUIT STUBBING INTO THE NEAREST, ACCESSIBLE PLENUM CEILING.
▼	INDICATES THE LOCATION OF A NEW LOW VOLTAGE OUTLET. CONTRACTOR TO PROVIDE ONE (1) SINGLE GANG BACK BOX WITH ONE (1) 1/4" CONDUITS STUBBING INTO THE NEAREST, ACCESSIBLE PLENUM CEILING.
▼	INDICATES THE LOCATION OF A NEW LOW VOLTAGE OUTLET. CONTRACTOR TO PROVIDE ONE (1) SINGLE GANG BACK BOX WITH ONE (1) 3/4" CONDUITS STUBBING INTO THE NEAREST, ACCESSIBLE PLENUM CEILING.
NOTES:	
<p>A. SYSTEM INSTALLER TO PROVIDE AND INSTALL A PLASTIC PROTECTIVE BUSHING ON ALL CONDUIT STUB-UP AND SLEEVES. PRIOR TO ROUTING CABLING IN CONDUIT, CUTTING BUSHING TO FIT ROUND INSTALLED CABLE WILL NOT BE ACCEPTED</p> <p>B. NO CONDUITS SHALL EXCEED FOR 40% MAXIMUM FILL RATIO. CONTRACTOR TO PROVIDE ADDITIONAL CONDUITS REQUIRED.</p> <p>C. ANY CONDUIT INSTALL FOR AUDIO /VIDEO SYSTEMS SHALL INCLUDE AT LEAST ONE (1) 1 1/4" CONDUIT.</p>	

INTRUSION DETECTION LEGEND	
SYMBOL	DESCRIPTION
ⓓⓓ	DESIGNATES THE LOCATION OF THE INTRUSION DETECTION SYSTEM, CONTROL PANEL, ZONE EXPANDER AND POWER SUPPLIES. ELECTRICAL CONTRACTOR TO PROVIDE 120V POWER TO PANEL.
ⓓⓐ	FLUSH MOUNTED MAGNETIC DOOR CONTACT
ⓓⓐⓐ	SURFACE MOUNTED MAGNETIC DOOR CONTACT.
ⓓⓐⓐⓐ	OVERHEAD DOOR, SURFACE MOUNTED DOOR CONTACT.
ⓐⓈ	INTRUSION DETECTION SYSTEM WITH MOTION SENSING KEYPAD.
ⓐⓈ	STANDARD RANGE WALL MOUNTED MOTION DETECTOR. PROVIDE WALL MOUNT FOR EACH DEVICE INSTALLED.
ⓐⓈ	CILING MOUNTED GLASS BREAK DETECTOR.
NOTES:	
1. REFERENCE SHEET SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

ACCESS CONTROL LEGEND	
SYMBOL	DESCRIPTION
ⓐⓐ	WALL OR MULLION MOUNTED ACCESS CONTROL PROXIMITY CARD READER.
ⓐⓐ	DOOR MOUNTED ACCESS CONTROL PROXIMITY CARD READER THAT IS INTEGRATED INTO THE DOOR HARDWARE.
ⓐⓐ	DOOR RELEASE BUTTON
ⓐⓐⓐ	DESIGNATES THE LOCATION OF THE ACCESS CONTROL SYSTEM, CONTROL PANEL, ELECTRICAL CONTRACTOR TO PROVIDE 120V POWER TO PANEL. PROVIDE NETWORK CABLE TO PANEL AND COORDINATE WITH THE OWNER'S TECHNOLOGY DEPARTMENT ON ACQUIRING AN IP ADDRESS.
ⓐⓐ	WALL OR MULLION MOUNTED, 2-WAY AUDIO/VIDEO INTERCOM DOOR STATION.
ⓐⓐ	DOOR MOUNTED, 2-WAY AUDIO/VIDEO INTERCOM DOOR STATION.
ⓐⓐ	2-WAY AUDIO INTERCOM MASTER STATION.
ⓐⓐ	WALL MOUNTED, LOCAL ALARM SOUNDER.
ⓐⓐ	DPDT MAGNETIC DOOR CONTACT/DOOR POSITION SENSOR. FLUSH MOUNTED IN DOOR FRAME, UNLESS NOTED OTHERWISE.
NOTES:	
1. REFERENCE ACCESS CONTROL SCHEDULE, DETAILS, AND DIVISION 28 SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

VIDEO SURVEILLANCE LEGEND	
SYMBOL	DESCRIPTION
ⓐⓐⓐ	4-SENSOR CAMERA WITH 3-SENSOR PROVIDING A 270 DEGREE AREA OF VIEW AND 1-SENSOR PROVIDING COVERAGE DIRECTLY UNDERNEATH THE CAMERA LOCATION. "# TO BE REPLACED WITH AN ALPHABETICAL TEXT DEPICTING THE CAMERA TYPE AS ASSOCIATED WITH THE VIDEO SURVEILLANCE CAMERA SCHEDULE.
ⓐⓐⓐ	4-SENSOR CAMERA, 4-SENSORS TO PROVIDE A 360 DEGREE AREA OF VIEW "# TO BE REPLACED WITH AN ALPHABETICAL TEXT DEPICTING THE CAMERA TYPE AS ASSOCIATED WITH THE VIDEO SURVEILLANCE CAMERA SCHEDULE.
ⓐⓐⓐ	2-SENSOR CAMERA. EACH SENSOR SHALL BE POSITIONED TO PROVIDE COVERAGE IN THE DIRECTION SHOWN. "# TO BE REPLACED WITH AN ALPHABETICAL TEXT DEPICTING THE CAMERA TYPE AS ASSOCIATED WITH THE VIDEO SURVEILLANCE CAMERA SCHEDULE.
ⓐⓐⓐ	1-SENSOR CAMERA. SENSOR SHALL BE POSITIONED TO PROVIDE COVERAGE IN THE DIRECTION SHOWN. "# TO BE REPLACED WITH AN ALPHABETICAL TEXT DEPICTING THE CAMERA TYPE AS ASSOCIATED WITH THE VIDEO SURVEILLANCE CAMERA SCHEDULE.
NOTES:	
1. REFERENCE VIDEO SURVEILLANCE SCHEDULE AND DIVISION 28 SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS	

SECURITY GENERAL NOTES	
1. THE SECURITY SYSTEM INSTALLERS SHALL BE RESPONSIBLE FOR CONNECTING ALL APPLICABLE SYSTEM EQUIPMENT TO THE OWNER'S NETWORK.	
2. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.	
3. SECURITY CAMERA SYSTEM INSTALLER SHALL PROVIDE A CEILING MOUNTED INSTALLATION KIT RECOMMENDED BY THE MANUFACTURER OF THE CAMERA. EACH CEILING MOUNTED CAMERA KIT SHALL HAVE A SUPPORT WIRE ATTACHED TO THE BUILDING'S STRUCTURE TO PREVENT THE CAMERA FROM DROPPING TO THE FLOOR AT ANY TIME. AT NO POINT SHALL THE WEIGHT OF THE CEILING MOUNTED SECURITY CAMERA BE SUPPORTED BY THE CEILING GRID SYSTEM OR CEILING TILES. ALL CEILING MOUNTED CAMERAS SHALL BE FLUSH MOUNTED.	
4. ALL EXTERIOR AND WALL MOUNTED CAMERA LOCATIONS AND MOUNTING HEIGHTS MUST BE COORDINATED WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATION MEETINGS SHALL BE SCHEDULED THROUGH THE ARCHITECT'S PROJECT MANAGER.	
5. PROVIDE AND INSTALL MAGNETIC DOOR CONTACT AT ALL ROOF HATCHES ON THE ENTIRE PROJECT. CONTACTS TO BE CONNECTED TO THE BUILDING'S INTRUSION DETECTION SYSTEM.	
COORDINATE MONITORING REQUIREMENTS WITH THE INSTALLER FOR EACH SYSTEM AND THE OWNER. PROGRAM SYSTEM TO ALERT THE OWNER DESIGNATED PERSONNEL UPON A MONITORED ALARM EVENT	

CONDUIT / CABLE FILL CHART						
CONDUIT SIZE (ID)	4-PR UTP CATEGORY 3	4-PR UTP CATEGORY 5/6E	4-PR UTP CATEGORY 6	4-PR UTP CATEGORY 6A	4-PR UTP CATEGORY 3/5	12-ST ARMORED FIBER OPTIC CABLE
1"	12	9	6	4	-	-
1-1/4"	21	15	12	8	-	-
1-1/2"	28	21	16	11	1	-
2"	47	35	27	19	3	1
3"	124	93	72	50	8	3
4"	208	155	120	83	12	6
<p>A. CONDUIT SIZE FOR 25-PAIR COPPER AND FIBER OPTIC CABLES APPLY TO SLEEVE SIZES ONLY. CONDUIT SIZES SHALL BE SIZED BASED ON MAXIMUM FILL RATION AND ALLOWING INSTALLATION TO NOT EXCEED THE MAXIMUM ALLOWABLE PULL TENSION.</p> <p>B. CONDUIT FILL RATIO MAY VARY BY MANUFACTURER. THIS CHART SHALL STIPULATE A MINIMUM REQUIREMENT. CONTRACTOR SHALL REFERENCE MANUFACTURER SPECIFICATION AND DECREASE CABLE COUNT PER CONDUIT SIZE IF REQUIRED.</p> <p>C. SIZES SHOWN DEPICT THE INTERIOR DIAMETER OF THE CONDUIT.</p>						

AUDIO/VIDEO LEGEND	
SYMBOL	DESCRIPTION
'AV-'#	INDICATES THAT THE DESIGNATED TECHNOLOGY OUTLET IS INTENDED FOR AN AUDIO/VIDEO (AV) INPUT. CONTRACTOR TO PROVIDE AND INSTALL A FLOOR MOUNTED OR WALL MOUNTED BOX AS INDICATED, (1) 1.25" CONDUIT AND (1) 1" CONDUITS FROM THE BOX TO THE NEAREST, PLENUM ACCESSIBLE CEILING WITHIN THE SAME ROOM. ALL FLOOR AND WALL MOUNTED BOXES SHALL BE A MINIMUM OF 2-GANGS. # - WHEN REPLACED WITH A "1" (AV-1) ONLY, THE OUTLET SHALL BE A STANDALONE, LOCAL INPUT TIED TO A LOCAL VIDEO DISPLAY (FSD, CMP, WMP, AV-2, ETC.). THIS OUTLET WILL NOT BE ASSOCIATED WITH ANY SYSTEM FOR ROUTING TO DISPLAYS LOCATED IN ANY OTHER PORTION OF THE PROJECT. IF NOT REPLACED WITH A "1" SEE THE NOTES AT THE BOTTOM OF THE LEGEND FOR ADDITIONAL INSTRUCTIONS.
'VD'	INDICATES THE LOCATION OF A WALL MOUNTED, INTERACTIVE VIDEO DISPLAY. PROVIDE AND INSTALL 'AV' CABLE FROM THE ASSOCIATED 'AV-1' AS PER SYSTEM SPECIFICATIONS. RACEWAY SHALL CONSIST OF 2-2 GANG BOX AND TWO (2) 1.25" CONDUITS STUBBING INTO THE ROOMS ACCESSIBLE CEILING. PROVIDE ONE DOUBLE-GANG FACEPLATE WITH TWO (2) DECORA PORTS. PROVIDE A DECORA STYLE INSERT THAT ACCEPTS THE STYLE OF DATA JACK BEING USED FOR STRUCTURED CABLING. WHEN THERE IS A LOCAL 'AV' INPUT ASSOCIATED WITH THE DISPLAY, PROVIDE A DECORA INSERT THAT CONFORMS WITH THE SYSTEMS SPECIFIED. OTHERWISE PROVIDE A BLANK INSERT IN THE SECOND PORT
NOTES:	
<p>A. IN THE EVENT THAT "1" IS NOT DEFINED IN THE OUTLET DESCRIPTION, THE DEVICE SHALL BE CONSIDERED A STANDALONE DEVICE, SERVING THE SYSTEM WITHIN THE SAME SPACE OR THE FOLLOWING SHALL APPLY:</p> <p># - UNLESS SPECIFICALLY NOTED OTHERWISE, THE FOLLOWING SHALL APPLY TO EACH DEVICE SHOWN ON THE ENTIRE PROJECT.</p> <p># - SHALL BE REPLACED WITH ALPHABETICAL CHARACTERS THAT SHALL INDICATE THE SPECIFIC VENUE THAT THE DEVICE IS ASSOCIATED WITH.</p> <p># - SHALL BE REPLACED WITH A NUMERIC VALUE THAT SHALL IDENTIFY THE SPECIFIC DEVICE WITHIN THE SPECIFIC VENUE.</p> <p>B. THE AUDIO/VIDEO SYSTEM INTEGRATOR SHALL COORDINATE ALL BOX AND CONDUIT SIZE REQUIREMENTS PRIOR TO ROUGH-IN BY THE PROJECTS ELECTRICAL CONTRACTOR.</p> <p>C. REFERENCE SCOPE MATRIX AND PROJECT SPECIFICATIONS FOR INSTRUCTIONS REGARDING THE PROVIDING AND INSTALLATION OF VIDEO DISPLAYS, PROJECTORS, SCREENS, MOUNTS, AND LIFTS.</p>	

TECHNOLOGY GENERAL NOTES	
1. CONTRACTOR SHALL COORDINATE WITH THE SYSTEM ENGINEER PRIOR TO THE INSTALLATION OF RACKS AND RACK EQUIPMENT. NO RACKS SHALL BE PERMANENTLY INSTALLED WITHOUT WRITTEN APPROVAL OF THE PROPOSED LOCATIONS.	
2. THE SELECTED, INSTALLING CONTRACTOR MUST BE A CERTIFIED INTEGRATOR/INSTALLER AUTHORIZED BY THE SPECIFIED SYSTEM MANUFACTURER TO INSTALL THE CABLE PLANT AND CONNECTIVITY PRODUCTS. REFER TO SPECIFICATIONS FOR PRODUCT TYPE AND DESCRIPTION.	
3. SYSTEM WIRING AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES AS ESTABLISHED BY ANSIEW/ITA, BICSI, AND THE NEC.	
4. ALL WIRING SHALL MEET ALL STATE AND LOCAL ELECTRICAL CODES.	
5. ALL TELECOMMUNICATIONS SYSTEMS EQUIPMENT AND MOUNTING LOCATIONS SHALL BE IN COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS.	
6. ALL INDUSTRY STANDARD CATEGORY 6 CABLING PRACTICES MUST BE FOLLOWED FOR ALL DATA CABLING.	
7. ALL DATA CABLES ARE TO BE INSTALLED AND SEPARATED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM AC POWER CABLES, INTERCOM, FIRE ALARM, SECURITY CABLES IN ANY PARALLEL OPEN WIRE RUN.	
8. ALWAYS CROSS OTHER SYSTEM CABLES AT A 90 DEGREE ANGLE.	

INTERCOM/CLOCK LEGEND	
SYMBOL	DESCRIPTION
ⓐ	PROVIDE AND INSTALL A 2". TILE REPLACEMENT, CEILING MOUNTED, 25/70V INTERCOM SPEAKER. SPEAKER TO BE INSTALLED FLUSH WITH CEILING UNLESS NOTED OTHERWISE.
ⓐ	PROVIDE AND INSTALL A 12" CEILING MOUNTED, 25/70V INTERCOM SPEAKER THAT IS TO BE FLUSH MOUNTED IN A SOLID CEILING ENVIRONMENT. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY.
ⓐ	INTERIOR WALL MOUNTED, 25/70V INTERCOM SPEAKER INTERCOM SPEAKER. SPEAKER TO BE INSTALLED FLUSH WITH WALL UNLESS NOTED OTHERWISE. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY.
ⓐ	EXTERIOR WALL MOUNTED INTERCOM PAGING HORN. PAGING HORN SHALL BE TAPPED AT 7 WATTS. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY. REFERENCE SHEET SPECIFICATIONS FOR MORE INFORMATION.
ⓐ	PROVIDE AND INSTALL A WALL MOUNTED, INTERCOM CALL BUTTON. DEVICE TO BE MOUNTED AT 48" AFF.
ⓐ	INDICATES THE LOCATION OF A SINGLE FACE SECONDARY TIME CLOCK. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE CABLING AS REQUIRED FOR THE TYPE OF CLOCK BEING INSTALLED:
<p>-IP BASED CLOCKS - PROVIDE ONE (1) CATEGORY 6 CABLE PER FACE</p> <p>- 12V/24V CLOCK TO BE POWERED VIA A CLOCK POWER SUPPLY AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p> <p>- 120V CLOCK SHALL BE POWERED VIA 120V ELECTRICAL OUTLET AT THE DEVICE LOCATION AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p>	
ⓐ	INDICATES THE LOCATION OF A DUAL FACE SECONDARY TIME CLOCK. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE CABLING AS REQUIRED FOR THE TYPE OF CLOCK BEING INSTALLED:
<p>-IP BASED CLOCKS - PROVIDE ONE (1) CATEGORY 6 CABLE PER FACE</p> <p>- 12V/24V CLOCK TO BE POWERED VIA A CLOCK POWER SUPPLY AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p> <p>- 120V CLOCK SHALL BE POWERED VIA 120V ELECTRICAL OUTLET AT THE DEVICE LOCATION AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p>	
17. PROVIDE AND INSTALL ONE (1) CATEGORY 6 CABLE TO THE BUILDING'S ACCESS CONTROL HEAD END PANEL. TERMINATION OF THIS CABLE SHALL BE COORDINATED WITH THE SYSTEM INSTALLER.	
18. PROVIDE AND INSTALL ONE (1) CATEGORY 6 CABLE TO THE BUILDING'S INTRUSION DETECTION PANEL. TERMINATION OF THIS CABLE SHALL BE COORDINATED WITH THE SYSTEM INSTALLER.	
19. PROVIDE AND INSTALL ONE (1) CATEGORY 6 CABLE TO EACH LIGHTING CONTROL HUB ON THE ENTIRE PROJECT. COORDINATE EXACT QUANTITY AND LOCATIONS WITH THE LIGHTING CONTROL SYSTEM INSTALLER. CONTRACTOR TO ASSUME A MINIMUM OF TEN (10) PER PROJECT.	
20. PROVIDE AND INSTALL TWO (2) CATEGORY 6 DATA CIRCUITS TO EACH FSD (ALL VARIATIONS OF), I/O, CMP, WMP, AND DS ON THE ENTIRE PROJECT.	
21. PROVIDE AND INSTALL ONE (1) CATEGORY 6 DATA CIRCUIT TO THE LOCAL AIR UNIT CONTROLLER IN EACH MDF AND IDF.	
22. PROVIDE AND INSTALL ONE (1) CATEGORY 6 CABLE TO EACH VIDEO SURVEILLANCE CAMERA ON THE ENTIRE PROJECT. REFERENCE VIDEO SURVEILLANCE LEGEND, NOTES, FLOOR PLANS, DETAILS, AND SCHEDULE.	

INTERCOM GENERAL NOTES	
1. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.	
2. ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.	
3. EXTERIOR SPEAKERS SHALL BE INDEPENDENTLY ZONED FROM INTERIOR SPEAKERS.	
4. ALL WALL MOUNTED CALL INITIATING DEVICES SHALL BE INSTALLED AT ADA HEIGHT, MATCHING THE HEIGHT OF THE INSTALLED LIGHT SWITCHES.	
5. ALL VOLUME CONTROLS SHALL BE CONFIGURED WITH EMERGENCY CALL OVERRIDE. ALLOWING EMERGENCY ANNOUNCEMENTS TO BE HEARD DESPITE THE POSITION OF THE VOLUME CONTROL.	
6. ALL 25/70V SPEAKERS SHALL BE CONNECTED TO A STANDARD PUNCH DOWN BLOCK LOCATED NEAR HEAD END EQUIPMENT AND THEN CONNECTED TO HEAD END EQUIPMENT.	
7. THE FOLLOWING AREAS SHALL BE ZONED SEPARATELY:	
1) EXTERIOR - ZONE 1	
2) INTERIOR - ZONE 2	
8. CONTRACTOR TO TAP ALL EXTERIOR SPEAKERS AT 7 WATTS.	
ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.	

GENERAL NOTES	
1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS, REMOTE POWER SUPPLIES AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATIONS AND CONNECTIONS WITH THE PROJECTS ELECTRICAL CONTRACTOR.	
2. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUITS, FLOOR BOX, BACK BOXES, JUNCTION BOXES, RACEWAYS, AND SLEEVES REQUIRED TO ESTABLISH CLEAR PATHWAYS FOR ALL SYSTEMS. ALL CONDUITS, SLEEVES, BOXES, AND RACEWAYS SHALL BE PROPERLY SIZED TO MAINTAIN A 40% MAXIMUM FILL RATIO. THE INSTALLER FOR EACH SYSTEM SHALL PROVIDE THE ELECTRICAL CONTRACTOR WITH SHOP DRAWINGS INDICATING LOCATIONS AND SIZES OF CONDUITS BEYOND THOSE SHOWN ON THE CONTRACT DOCUMENTS.	
3. ALL EXPOSED SYSTEMS WIRING OR WIRING ROUTING ACROSS NON-ACCESSIBLE CEILING SHALL BE ROUTED IN CONDUIT, PROVIDED AND INSTALLED BY THE PROJECTS ELECTRICAL CONTRACTOR. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".	
4. EACH SYSTEM INSTALLER SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.	
5. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.	
6. EACH SYSTEM INSTALLER SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.	
7. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLING THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.	
8. SHOULD THERE BE ANY CONFLICT BETWEEN THE RESPONSIBILITY MATRIX, PROJECT DRAWINGS, AND/OR SYSTEM SPECIFICATIONS, THE MORE COSTLY ITEM SHALL APPLY UNLESS WRITTEN CLARIFICATION IS PROVIDED BY THE PROJECTS ENGINEER. IF THE CONTRACT DOCUMENTS INCLUDE A SYSTEM SPECIFICATION, IT SHOULD BE ASSUMED THAT THE SYSTEM IS TO BE CFCI, UNLESS NOTED OTHERWISE.	

INTERCOM/CLOCK LEGEND	
SYMBOL	DESCRIPTION
ⓐ	PROVIDE AND INSTALL A 2". TILE REPLACEMENT, CEILING MOUNTED, 25/70V INTERCOM SPEAKER. SPEAKER TO BE INSTALLED FLUSH WITH CEILING UNLESS NOTED OTHERWISE.
ⓐ	PROVIDE AND INSTALL A 12" CEILING MOUNTED, 25/70V INTERCOM SPEAKER THAT IS TO BE FLUSH MOUNTED IN A SOLID CEILING ENVIRONMENT. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY.
ⓐ	INTERIOR WALL MOUNTED, 25/70V INTERCOM SPEAKER INTERCOM SPEAKER. SPEAKER TO BE INSTALLED FLUSH WITH WALL UNLESS NOTED OTHERWISE. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY.
ⓐ	EXTERIOR WALL MOUNTED INTERCOM PAGING HORN. PAGING HORN SHALL BE TAPPED AT 7 WATTS. SYSTEM INSTALLER TO PROVIDE BACK CANS TO PROJECTS ELECTRICAL CONTRACTOR FOR INSTALLATION. ON PROJECTS WITHOUT AN ELECTRICAL CONTRACTOR THE INSTALLER SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION INCLUDING BACK CANS AND ASSOCIATED RACEWAY. REFERENCE SHEET SPECIFICATIONS FOR MORE INFORMATION.
ⓐ	PROVIDE AND INSTALL A WALL MOUNTED, INTERCOM CALL BUTTON. DEVICE TO BE MOUNTED AT 48" AFF.
ⓐ	INDICATES THE LOCATION OF A SINGLE FACE SECONDARY TIME CLOCK. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE CABLING AS REQUIRED FOR THE TYPE OF CLOCK BEING INSTALLED:
<p>-IP BASED CLOCKS - PROVIDE ONE (1) CATEGORY 6 CABLE PER FACE</p> <p>- 12V/24V CLOCK TO BE POWERED VIA A CLOCK POWER SUPPLY AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p> <p>- 120V CLOCK SHALL BE POWERED VIA 120V ELECTRICAL OUTLET AT THE DEVICE LOCATION AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p>	
ⓐ	INDICATES THE LOCATION OF A DUAL FACE SECONDARY TIME CLOCK. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE CABLING AS REQUIRED FOR THE TYPE OF CLOCK BEING INSTALLED:
<p>-IP BASED CLOCKS - PROVIDE ONE (1) CATEGORY 6 CABLE PER FACE</p> <p>- 12V/24V CLOCK TO BE POWERED VIA A CLOCK POWER SUPPLY AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p> <p>- 120V CLOCK SHALL BE POWERED VIA 120V ELECTRICAL OUTLET AT THE DEVICE LOCATION AND CONNECTED TO THE SPECIFIED MASTER CLOCK.</p>	

RESPONSIBILITY MATRIX			
SCOPE ITEM	RESPONSIBILITY	NOTES	
COMMUNICATIONS - DIVISION 27	OFOI CFCI OFCI		
CATEGORY 6/ STRUCTURED CABLING SYSTEM			
VIDEO DISTRIBUTION SYSTEM - SPECIALS SPACE			
AUDIO DISTRIBUTION SYSTEM - SPECIAL SPACE			
VIDEO DISTRIBUTION SYSTEM - INSTRUCTIONAL SPACE			
AUDIO DISTRIBUTION SYSTEM - INSTRUCTIONAL SPACE			
BUILDING INTERCOM/PA, BELL, AND CLOCK SYSTEM			
NETWORK EQUIPMENT			
→ MDF/IDF NETWORK EQUIPMENT			
→ VOIP TELEPHONES			
→ WIRELESS ACCESS POINTS			
→ UNINTERRUPTABLE POWER SUPPLIES (UPS)			
RACEWAY: CONDUIT, BACK BOXES, SLEEVES, ETC.		SEE NOTE 4.	
ELECTRICAL POWER		SEE NOTE 4.	
LIFE SAFETY AND SECURITY - DIVISION 28	OFOI CFCI OFCI		
ACCESS CONTROL SYSTEM(ACS)			
INTRUSION DETECTION SYSTEM			
DOOR ACCESS VIDEO INTERCOM SYSTEM			
VIDEO SURVEILLANCE SYSTEM (VSS)			
→ VSS SERVERS			
→ VSS CAMERAS			
→ VSS PROGRAMMING			
→ VSS CABLING		SEE NOTE 7.	
FIRE ALARM SMOKE DETECTION WITH VOICE EVACUATION			
RACEWAY: CONDUIT, BACK BOXES, SLEEVES, ETC.		SEE NOTE 4.	
ELECTRICAL POWER		SEE NOTE 4.	
OFOI - OWNER FURNISHED AND OWNER INSTALLED			
CFCI - CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED			
OFCI - OWNER FURNISHED AND CONTRACTOR INSTALLED			
RESPONSIBILITY MATRIX NOTES:			
1. NONE IN PROJECT.			
2. OWNER CONFIGURED, CONTRACTOR INSTALLED AND PATCHED.			
3. OWNER CONFIGURED, CONTRACTOR INSTALLED AND PATCHED. CONTRACTOR TO PROVIDE AND INSTALL WALL MOUNT BRACKETS AND HIGH IMPACT ENCLOSURES.			
4. BY DIVISION 28.			
5. REFERENCE DIVISION 8 FOR DOOR HARDWARE.			
6. BY DIVISION 11.			
7. BY DIVISION 27.			

SUBSCRIPTS AND ABBREVIATIONS	
TEXT	DESCRIPTION
NY	INDICATES THAT THE DESIGNATED DEVICE IS TO BE WALL MOUNTED AT SPECIFIED HEIGHT OR IN COMPLIANCE WITH CODE REQUIREMENTS. ALL WALL MOUNTED HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.
WM	INDICATES THAT THE DESIGNATED DEVICE SHALL BE WEATHER PROOF AND RATED FOR EXTERIOR CONDITIONS INSTALLATION.
WP	INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED ABOVE THE COUNTERTOP. A NUMERIC VALUE SHALL REPLACE THE # SYMBOL AND SHALL DESIGNATE THE SPECIFIC HEIGHT ABOVE CEILING. ALL HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.
'AC'	INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED ABOVE THE FINISHED FLOOR. A NUMERIC VALUE SHALL REPLACE THE # SYMBOL AND SHALL DESIGNATE THE SPECIFIC HEIGHT ABOVE FINISHED FLOOR. ALL HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.
'AFP'	INDICATES THAT THE DESIGNATED DEVICE IS TO BE INSTALLED ABOVE THE FINISHED FLOOR. A NUMERIC VALUE SHALL REPLACE THE # SYMBOL AND SHALL DESIGNATE THE SPECIFIC HEIGHT ABOVE FINISHED FLOOR. ALL HEIGHTS ARE TO BE CONFIRMED WITH THE PROJECT'S ARCHITECT PRIOR TO ROUGH-IN.

NOTES TO CONTRACTOR	
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.	
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.	
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.	
4. ALL EXTERIOR AND WALL MOUNTED CAMERA LOCATIONS AND MOUNTING HEIGHTS MUST BE COORDINATED WITH THE OWNER PRIOR TO ROUGH-IN. COORDINATION MEETINGS SHALL BE SCHEDULED THROUGH THE ARCHITECT'S PROJECT MANAGER.	

FIRE ALARM LEGEND	
SYMBOL	DESCRIPTION
ⓐⓐ	FIRE ALARM CONTROL
ⓐⓐ	NOTIFICATION APPLIANCE CIRCUIT
NOTES:	
1. FIRE ALARM SYSTEM IS A PERFORMANCE BASED PER SPECIFICATIONS 28 46 00. CONTRACTOR TO REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.	
2. A LICENSED FIRE ALARM PLANNING SUPERINTENDENT CERTIFIED TO A MINIMUM LEVEL 3, IN THE SUBFIELD OF FIRE ALARM SYSTEMS THROUGH THE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET), SHALL PROVIDE PLANS AND CALCULATIONS FOR A MANUAL AND AUTOMATIC FIRE DETECTION AND ALARM SYSTEM TO COMPLY WITH THE BUILDING SPACE LAYOUT, BUILDING OCCUPANCY, CURRENT NFPA 72 LOCAL AND STATE CODE REQUIREMENTS, AND THE FIRE ALARM AND DETECTION SYSTEM SPECIFICATIONS.	

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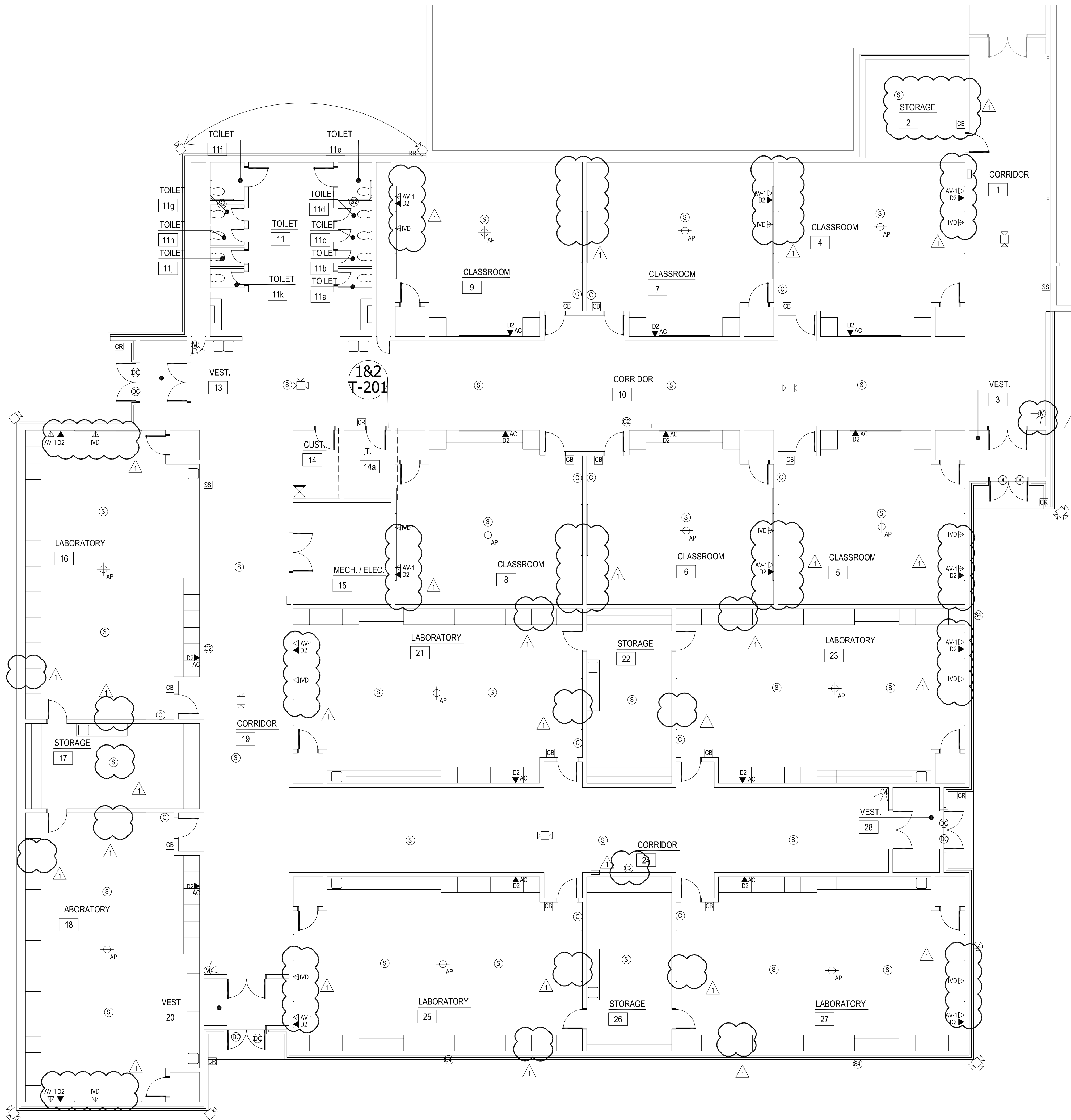
KFC ENGINEERING

STRUCTURAL

SALAS O'BRIEN

MECHANICAL / ELECTRICAL

NY
drawn by
JL
checked by
SEP



- ### GENERAL NOTES
- FIRE ALARM: CONNECT NEW FIRE ALARM DEVICES TO EXISTING SILENT KNIGHT FIRE ALARM SYSTEM. SUPPLY ALL NAC PANELS, POWER SUPPLIES, ETC. NEEDED TO MAKE A COMPLETE AND CODE COMPLIANT SYSTEM.
 - SECURITY: CONNECT NEW SECURITY ALARM DEVICES TO NEW ZONE EXPANDED AND POWER SUPPLY. CONNECT NEW ZONE EXPANDER AND POWER SUPPLY TO EXISTING MAIN BUILDING SECURITY CONTROL PANEL VIA 16 GAUGE 4 CONDUCTOR NON-SHIELDED CABLE.
 - INTERCOM: CONNECT NEW INTERCO DEVICES TO EXISTING TELECOR SYSTEM. INTERCOM WIRE MUST BE SHIELDED. PROVIDE TELECOR CLOCK DRIVER IF NEEDED.
 - CLOCK: CONNECT NEW CLOCK DEVICES TO EXISTING TELECOR SYSTEM. PROVIDE TELECOR CLOCK DRIVER IF NEEDED.
 - DATA: CONNECT NEW DATA AND WIFI DROPS TO NEW IDF. CONNECT NEW IDF TO EXISTING MDF VIA FIBER AND CAT 6. SEE NETWORK SPECIFICATIONS FOR FIBER AND CAT 6 INFO.
 - ACCESS CONTROL: CONNECT NEW ACCESS CONTROL DEVICES TO NEW KEYSKAN CONTROLLER. PROVIDE CONTROLLER READERS STRIKES ETC TO COMPLETE AN OPERABLE SYSTEM.
 - CAMERA: CONNECT NEW CAMERA DROPS TO NEW IDF. EXISTING SYSTEM IS AVIGILON. MATCH PER SPECIFICATIONS.
 - SEE DETAIL SHEET FOR CARD READER AND SECURITY CONTACT DETAILS.

drawn by MA

checked by NY

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date

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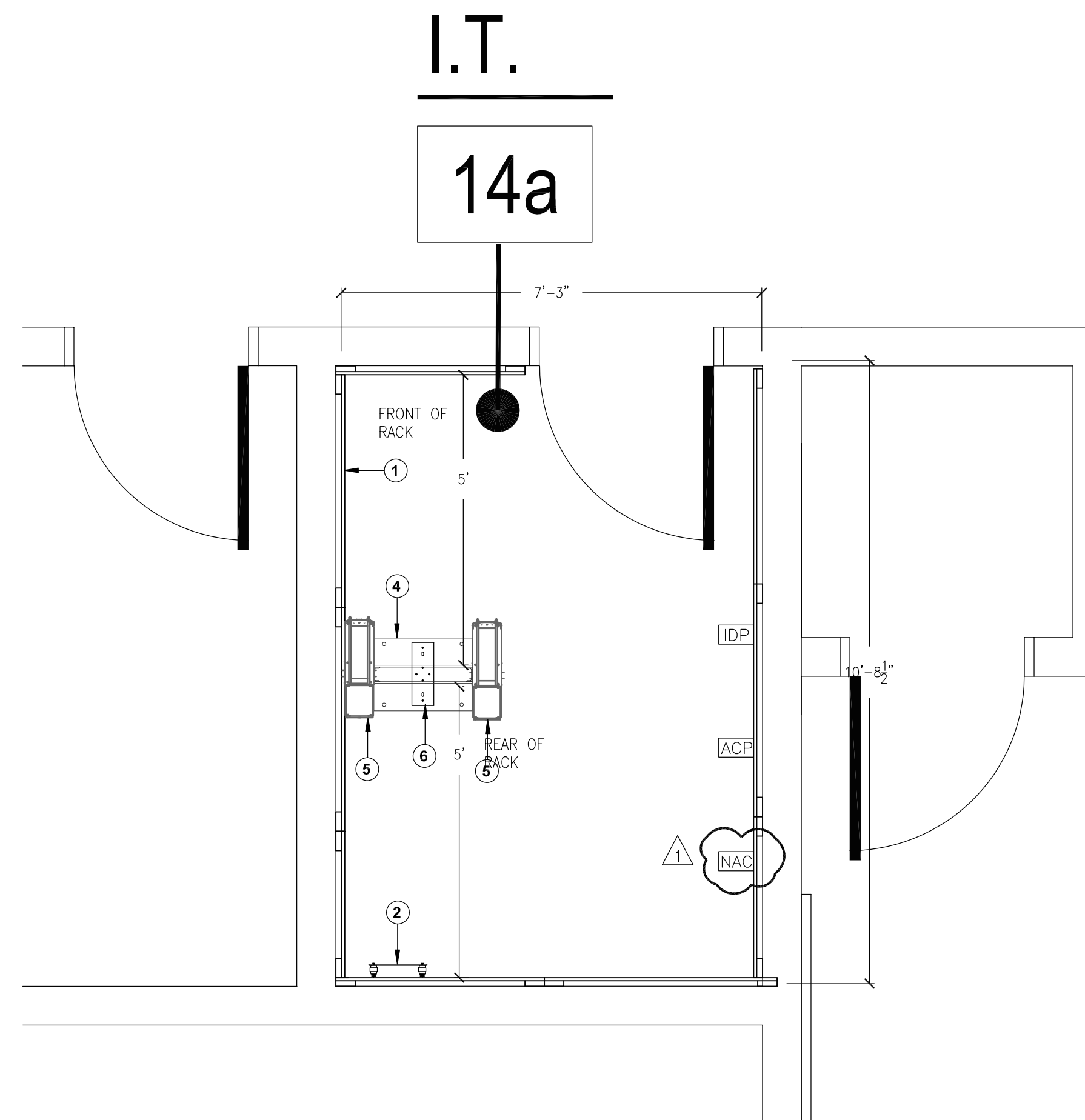


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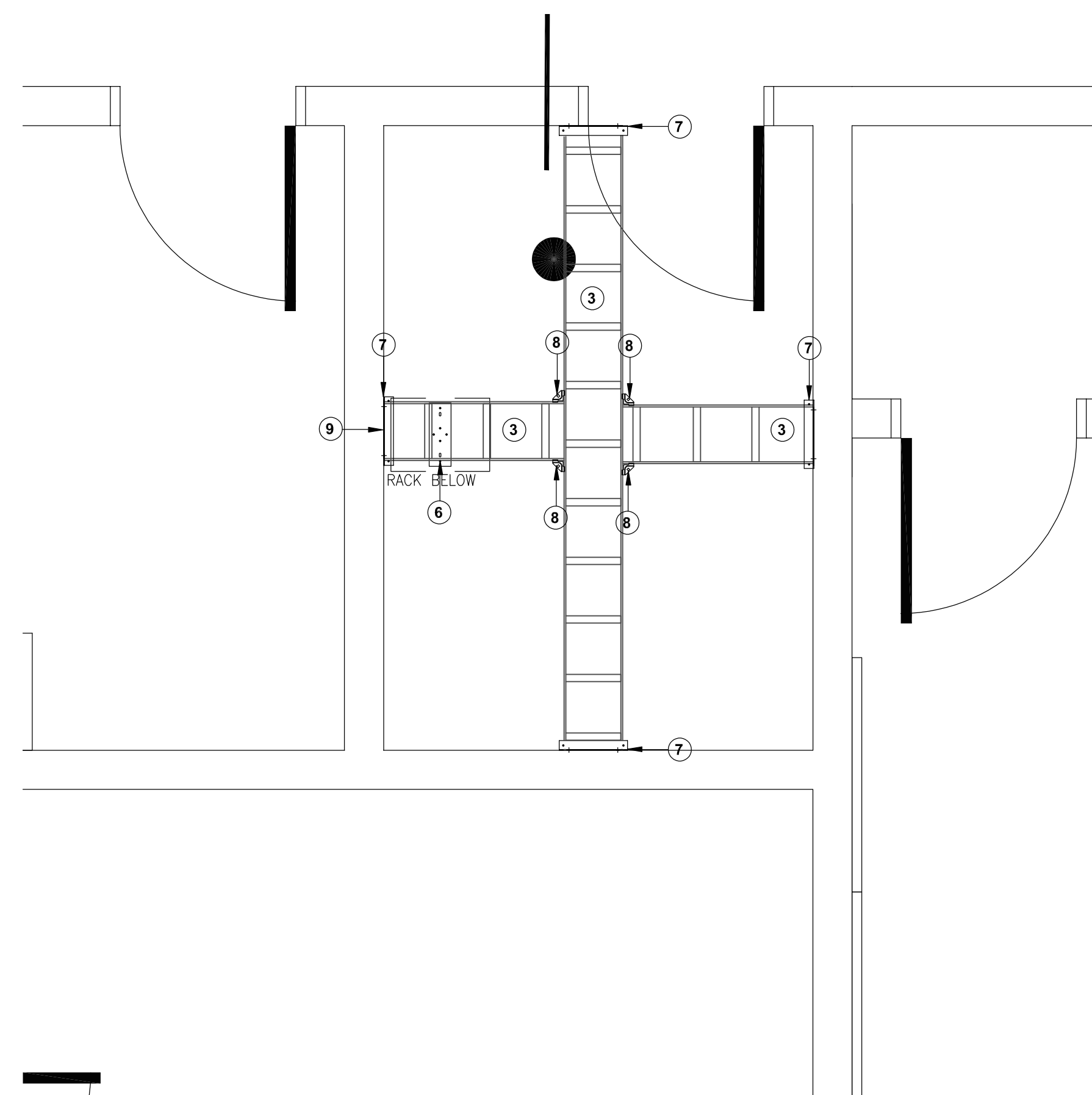
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1 TECHNOLOGY ENLARGED FLOOR PLAN
1/2" = 1'-0"



2 TECHNOLOGY ENLARGED CEILING PLAN
1/2" = 1'-0"



TECHNOLOGY ENLARGED PLAN KEYED NOTES

1. INDICATES THE LOCATION OF A 8" TALL, 3/4" FIRE RATED PLYWOOD CONTRACTOR TO PROVIDE AND INSTALL PLYWOOD AND ALL REQUIRED MOUNTING HARDWARE. PLYWOOD SHALL BE PAINTED WHITE WITH FIRE RATED PAINT. TYPICAL FOR ALL SHOWN ON DRAWING.
2. INDICATES THE LOCATION OF A NEW WALL MOUNTED TELECOMMUNICATION GROUND BUS BAR (TGBB). CABLING CONTRACTOR TO PROVIDE BUS BAR AND ALL REQUIRED MATERIAL TO MOUNT AT THE LOCATION SHOWN. TGBB TO BE MOUNTED AT +93" A.F.F.
3. PROVIDE AND INSTALL A 12" WIDE, UNIVERSAL LADDER TRAY AND ALL REQUIRED MOUNTING HARDWARE. LADDER TRAY SHALL BE BLACK IN COLOR. TYPICAL FOR ALL SHOWN ON ENTIRE PROJECT.
4. PROVIDE AND INSTALL ONE (1) 2-POST, FLOOR MOUNTED, 7' RELAY RACK (BLACK IN COLOR). PROVIDE BONDING WASHERS, BOLTS, AND NUTS AT ALL MECHANICALLY CONNECTED LOCATIONS OF THE RACK TO ENSURE THAT ALL PIECES OF THE RACK ARE COMPLETELY BONDED. SCRAPING PAINT FROM RACKS TO MAKE A BOND WILL NOT BE ACCEPTED. ALL RACK MOUNTED COMPONENTS SHALL BE MOUNTED WITH BONDING SCREWS AND THE CONTRACTOR SHALL PROVIDE THE OWNER WITH (50) ADDITIONAL BONDING SCREWS FOR THE INSTALLATION OF OWNER EQUIPMENT. NO DAISY CHAINING GROUNDS FROM RACK TO CABLE TRAY OR TO OTHER RACKS WILL BE ACCEPTED. ALL GROUNDS SHALL BE HOME RUN TO THE TELECOMMUNICATIONS GROUND BUS BAR (TGBB). TYPICAL FOR ALL SHOWN ON THE ENTIRE PROJECT.
5. PROVIDE AND INSTALL ONE (1) 7'x6", FRONT AND REAR MANAGED, VERTICAL CABLE MANAGER (BLACK IN COLOR). CABLE MANAGERS SHALL BE INSTALLED ON EACH END OF THE RACK SYSTEMS AND BETWEEN EACH RACK. CABLE MANAGERS SHALL HAVE A SINGLE, SOLID, FULL HEIGHT HINGED DOOR IN THE FRONT AND WIDE SPACED CABLE RINGS WITH SPIN-OPEN LATCHES IN THE REAR. TYPICAL FOR ALL SHOWN IN THE ENTIRE PROJECT.
6. PROVIDE AND INSTALL RACK-TO-RUNWAY MOUNTING PLATE FOR ALL LOCATIONS WHEN ASSOCIATED WITH A 2-POST OR 4-POST BACK RACK. MOUNTING PLATE SHALL BE BLACK IN COLOR. PROVIDE (1) 6" LADDER TRAY ELEVATION KIT (BLACK IN COLOR) AT EACH RACK-TO-RUNWAY MOUNTING PLATE LOCATION. TYPICAL FOR ALL SHOWN ON THE ENTIRE PROJECT.
7. INDICATES THE LOCATION OF A 12" LADDER TRAY WALL ANGLE SUPPORT BRACKET, BLACK IN COLOR. CONTRACTOR TO PROVIDE AND INSTALL WALL ANGLE SUPPORT BRACKET AND ALL REQUIRED MOUNTING HARDWARE AT EACH LOCATION WHERE LADDER TRAY TERMINATES INTO A VERTICAL WALL SECTION. TYPICAL FOR ALL SHOWN.
8. PROVIDE AND INSTALL A LADDER JUNCTION SPLICE KIT, BLACK IN COLOR. PROVIDE ONE (1) KIT AT EACH LADDER TRAY JUNCTION SPLICE LOCATION ON THE ENTIRE PROJECT.
9. PROVIDE AND INSTALL A MINIMUM OF THREE (3) STI EZPATH SERIES 44+ THRU-WALL PENETRATION SLEEVES WITH MULTI-GANG WALLPLATE BRACKET SYSTEM AT INDICATED LOCATION. PROVIDE ADDITIONAL AS REQUIRED TO MAINTAIN A MAXIMUM OF 40% FILL RATIO, PLUS ONE (1) ADDITIONAL FOR SPARE.

TECH ENLARGED PLAN GEN NOTES

- A. ALL RACK LOCATIONS SHALL BE COORDINATED WITH THE PROJECT'S TECHNOLOGY CONSULTANT AND OWNER PRIOR TO INSTALLATION. NO RACKS AND/OR ASSOCIATED CABLE TRAY SYSTEM SHALL BE PERMANENTLY INSTALLED PRIOR TO DOCUMENTED ACCEPTANCE.
- B. PATCH PANEL QUANTITY SHALL BE DETERMINED BY STATION CABLE DROP COUNTS SHOWN ON TECHNOLOGY PLANS AND THE ASSOCIATED PROJECT MATRIX. ENSURE PATCH PANEL QUANTITY IS SUFFICIENT TO SUPPORT THE NUMBER OF PORTS REQUIRED BY TECHNOLOGY PLANS PLUS AN ADDITIONAL 25% FOR FUTURE GROWTH.
- C. CONTRACTOR SHALL NOT MOUNT EXCEED MORE THAN A 50% RACK FILL RATIO ON ANY RACK.
- D. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS
- E. ALL RACKS, LADDER TRAYS, LIGHTNING PROTECTION ENCLOSURES AND ANY OTHER DEVICES, PART OF THE STRUCTURED CABLING SYSTEM, SHALL BE GROUNDED TO A GROUND BUS BAR LOCATED IN THE TELECOMMUNICATIONS ROOM WITH A #6AWG GROUND CABLE. DAISY CHAINING WILL NOT BE ACCEPTED. ALL ITEMS SHALL HAVE A DEDICATED GROUND CABLE TO BUS BAR. GROUND CABLE SHALL BE GREEN IN COLOR.

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