Infrastructure Upgrades

Saint Joseph Public Schools

Saint Joseph, MI

Project Number: SJPS2304-0300

TECH DESIGN
6100 NEWPORT ROAD, SUITE 225, PORTAGE, MI 49002 269.203.2444 · AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Title Sheet

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
TG01

CABLING AND JACK LEGEND

PURPOSE	PREMISE CABLING				JACKS				
	COLOR	RATING	MANUFACTURER	MODEL	TR COLOR	WA COLOR	MANUFACTURER	MODEL	SHIELDED
COPPER BACKBONE	BLUE	PLENUM	GENERAL CABLE	GENSPEED 6000	RED	RED	PANDUIT	CJ688TGRD	CJS688TGRDY
RESERVED					ORANGE	ORANGE		CJ688TGOR	
WIRELESS ACCESS POINTS					YELLOW	YELLOW		CJ688TGYL	CJS688TGYLY
FACILITIES					GREEN	GREEN		CJ688TGGR	CJS688TGGRY
SPECIAL NETWORK					BLUE	BLUE		CJ688TGBU	CJS688TGBUY
SURVEILLANCE CAMERAS					VIOLET	VIOLET		CJ688TGVL	CJS688TGVLY
RESERVED					BACK	BLACK		CJ688TGBL	CJS688TGY
POTS LINES					GRAY	GRAY		CJ688TGIG	
GENERAL PURPOSE					WHITE	WHITE		CJ688TGWH	CJS688TGWHY

FIBER LEGEND

PURPOSE	TYPE	RATING	MANUFACTURER	MODEL
OUTSIDE PLANT	OUTSIDE PLANT	N/A	GENERAL CABLE	AQ***4M1A-DT
BACKBONE	INDOOR/OUTDOOR	PLENUM	GENERAL CABLE	AP***1ANU.BK

PATCH CORD LEGEND

PURPOSE	TR	WORK AREA
	COLOR	
GENERAL DATA	WHITE	
WIRELESS ACCESS POINTS	YELLOW	
FACILITIES	GREEN	
SURVEILLANCE CAMERAS	VIOLET	
PAGING	WHITE	
AV	WHITE	

WORK SCOPE LEGEND

CATEGORY	DEFINITION OF WORK	ELECTRICAL	STRUCT. CABLING	OWNER	NETWORK ELEC. CONTRACTOR
GENERAL DATA	DEMO EXISTING STRUCTURED CABLING EQUIPMENT (RETURN TO OWNER)		X		
	DEMO EXISTING STRUCTURED CABLING BACKBONE AND PREMISE CABLING		X		
	DEMO EXISTING ACCESS POINTS (RETURN TO OWNER)	X			
	PROVIDE ADAPTERS FOR RACEWAY, FLOORBOXES, ETC., TO ACCOMMODATE STANDARD FACEPLATES AND JACKS	X			
	PROVIDE STRUCTURED CABLING BACKBONE CABLING (AND TERMINATION)		X		
	PROVIDE STRUCTURED CABLING PREMISE CABLING (AND TERMINATION)		X		
	PROVIDE STRUCTURED CABLING PATCH CORDS		X		
	SUPPLY NETWORK ELECTRONICS				X
	CONFIGURE NETWORK ELECTRONICS				X
	INSTALL NETWORK ELECTRONICS				X
	CONNECT TECH EQUIPMENT TO GROUNDING BUSBARS		X		
	SUPPLY HARD-WIRED UPSES				X
	INSTALL HARD-WIRED UPSES				X
	CONNECT HARD-WIRED UPSES TO POWER				X
	PROVIDE IP ADDRESSES FOR NETWORK CONNECTED DEVICES			X	
	CONFIGURE VLANS			X	

RISER LEGEND

SYMBOL	DESCRIPTION
	ZONE OR AREA
	BY OTHERS OR EXISTING
	NEW
	OPTIONAL
	PLUG INTO 120V RECEPTACLE
	CONNECT TO GROUND
	WIFI CONNECTION
	GENERIC RF CONNECTION
	BLUETOOTH CONNCETION
	CELLULAR CONNECTION
8	8P8C (RJ45) NETWORK
8K	KEYED 8P8C (RJ45)
8S	SHIELDED 8P8C (RJ45)
CM	COMPONENT VIDEO
CS	COMPOSITE VIDEO
S	SVIDEO
V	HD15 (VGA) VIDEO
D	DVI VIDEO
H	HDMI VIDEO
LR	RED & WHITE RCA AUDIO
3S	3.5MM STEREO AUDIO
14	1/4" STEREO AUDIO
X	XLR MICROPHONE
F	COAX TYPE "F"
N	NEUTRIK NL4MP
U	USB

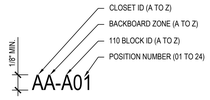
ABBREVIATIONS

ABBREVIATION	TERMINOLOGY
AC	ACCESS CONTROL
AFF	ABOVE FINISH FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
AV OR A/V	AUDIO / VIDEO
BAS	BUILDING AUTOMATION SYSTEM
BB	BACKERBOARD
CIP	CAST IN PLACE
CLG	CEILING
CP	CONSOLIDATION POINT
EC	ELECTRICAL CONTRACTOR
EF	ENTRANCE FACILITY
EMT	ELECTRICAL METALLIC TUBING
EQ	EQUAL
EQUIV	EQUIVALENT
ER	EQUIPMENT ROOM
EXIST	EXISTING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
HC	HORIZONTAL CROSS-CONNECT
IC	INTERMEDIATE CROSS-CONNECT
MC	MAIN CROSS-CONNECT
NIC	NOT IN CONTRACT
OC	ON CENTER
OSP	OUTSIDE PLANT
PBB	PRIMARY BONDING BUSBAR
PT	POKE-THROUGH
RBC	RACK BONDING CONDUCTOR
SBB	SECONDARY BONDING BUSBAR
SC	STRUCTURED CABLING
SCC	STRUCTURED CABLING CONTRACTOR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TE	TELECOMMUNICATIONS ENCLOSURE
TEBC	TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR
TO	TELECOMMUNICATIONS OUTLET
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
WA	WORK AREA

LIST OF DRAWINGS

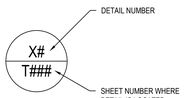
GENERAL NOTES

1. FOR DROPS INSTALLED ABOVE ACCESSIBLE CEILING, PROVIDE MAINTENANCE LOOP AS INDICATED ON TECHNOLOGY SYMBOL LEGEND. CABLE SHALL BE NEATLY COILED IN AN "S" LOOP AND SECURED TO BUILDING STRUCTURE AT DROP LOCATION FOR EASY RELOCATION.
2. LOAD THE LATEST AVAILABLE STABLE FIRMWARE FOR ALL DEVICES WHEN THEY ARE SUPPLIED FOR THIS PROJECT.
3. IN THE EVENT OF A DISCREPANCY BETWEEN TECHNOLOGY PLANS AND OTHER DISCIPLINES, CONTRACTOR SHALL SUBMIT AN RFI FOR CLARIFICATION.
4. LABEL CABLES ACCORDING TO "CABLING LABEL DETAIL" ON THIS PAGE.



Numbering for 110-Block Term. Drops
NTS

Numbering for Typical Data Drops
NTS



DETAIL CALLOUT
NTS

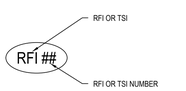
NOTES:
1. USED ON TECHNOLOGY FLOOR PLANS TO REFERENCE A DETAIL, ELEVATION, OR SYSTEM OF COMPONENTS ELEVATION ON ANOTHER SHEET.

ADDENDUM TAG
NTS

NOTES:
1. LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER BIDS HAVE BEEN RELEASED, BEFORE CONTRACT HAS BEEN AWARDED.

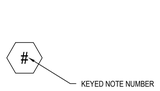
BULLETIN TAG
NTS

NOTES:
1. LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER CONTRACT HAS BEEN AWARDED.



RFI OR TSI TAG
NTS

NOTES:
1. RFI (REQUEST FOR INFORMATION) INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET THAT WAS NOT INITIATED BY TECHNOLOGY CONTRACTOR.
2. TSI (TECHNOLOGY INFORMATION) TAG INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET.

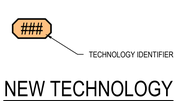


KEYED NOTE TAG
NTS

NOTES:
1. REFERENCE TO CORRESPONDING NOTES ON SAME SHEET THAT HAVE MORE INFORMATION RELATED TO SYMBOL.

REVISION CLOUD
NTS

NOTES:
1. DRAWN AROUND REVISION AREA RELATED TO ANY ADDENDUM OR BULLETIN.



NEW TECHNOLOGY
NTS

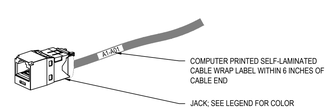
NOTES:
1. HEAVY SOLID LINE REPRESENTS NEW TECHNOLOGY. COMPLETE INSTALLATION OFTEN REQUIRES ROUGH-IN, CABLING, FACEPLATE AND/OR DEVICE. SEE DRAWINGS FOR MORE DETAIL.

DEMO TECHNOLOGY
NTS

NOTES:
1. HEAVY DASHED LINE REPRESENTS EXISTING TECHNOLOGY TO BE REMOVED. COULD REQUIRE DEMOLITION OF ROUGH-IN, CABLING, FACEPLATE AND/OR DEVICE. DEVICE MAY NEED TO BE SALVAGED FOR REINSTALLATION OR TURNED OVER TO OWNER. SEE DRAWINGS FOR MORE DETAIL.

EXISTING TECHNOLOGY
NTS

NOTES:
1. THIN SOLID LINE REPRESENTS EXISTING TECHNOLOGY TO REMAIN. NO WORK REQUIRED AT SPECIFIC LOCATION, BUT COULD REQUIRE EXISTING CABLING AND/OR DEVICES TO BE MAINTAINED DURING CONSTRUCTION TO SUPPORT SPECIFIC DEVICE. SEE DRAWINGS FOR MORE DETAIL.



Cabling Label Detail
6"=1'-0"

TECH DESIGN
6100 NEWPORT ROAD, SUITE 225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Technology General Information

ISSUE / DATE
2023-12-22 BIDS

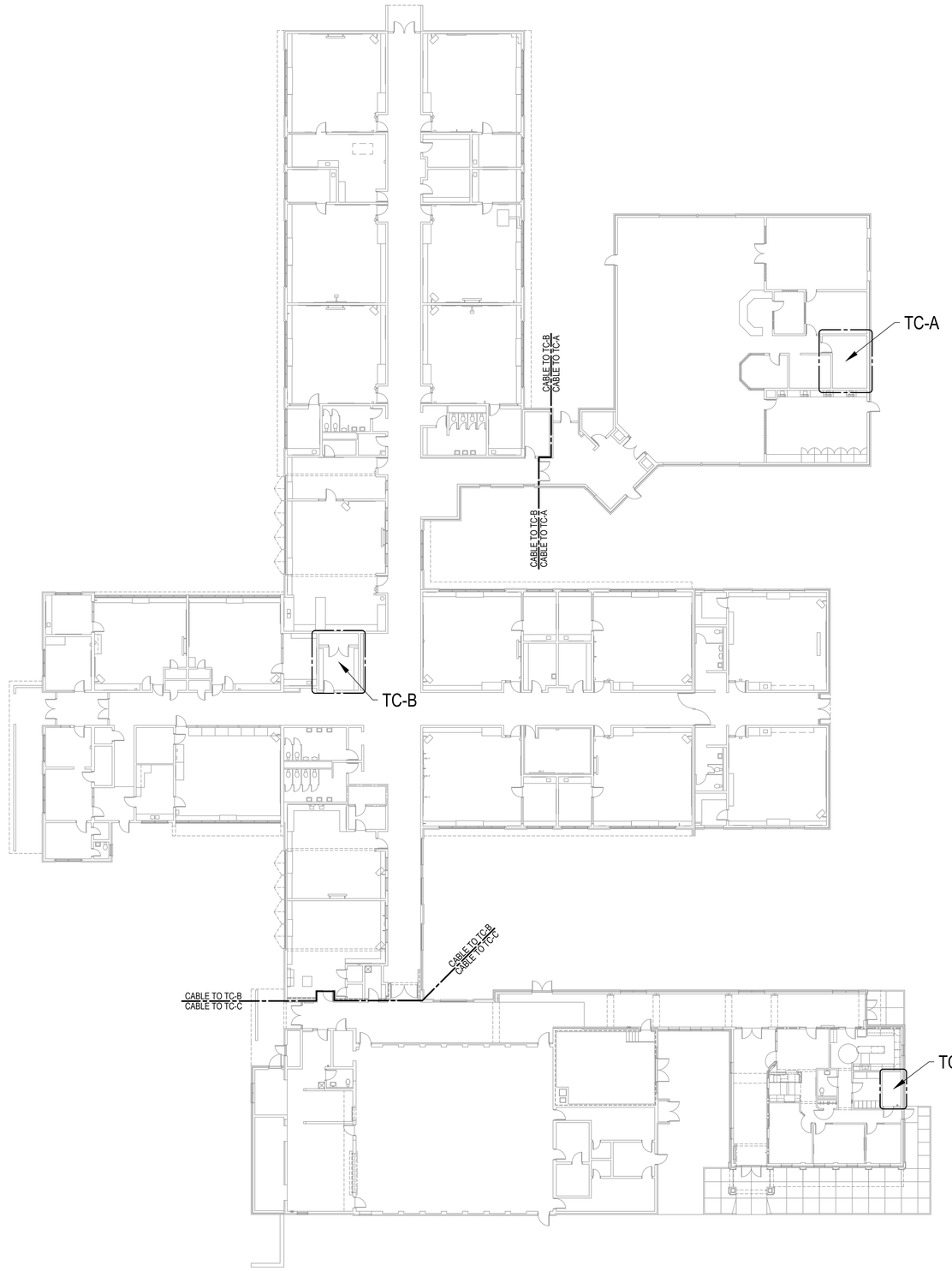
DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
TG02

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
2. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
3. FLOOR PLANS ARE NOT PROVIDED FOR THE CENTRAL OFFICE, TRANSPORTATION BUILDING, PRESSBOX, AND STADIUM.



Brown ES Technology Plan - Composite
1/16" = 1'-0"

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 · AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Brown ES Technology Plan - Composite

ISSUE / DATE
2023-12-22 BIDS

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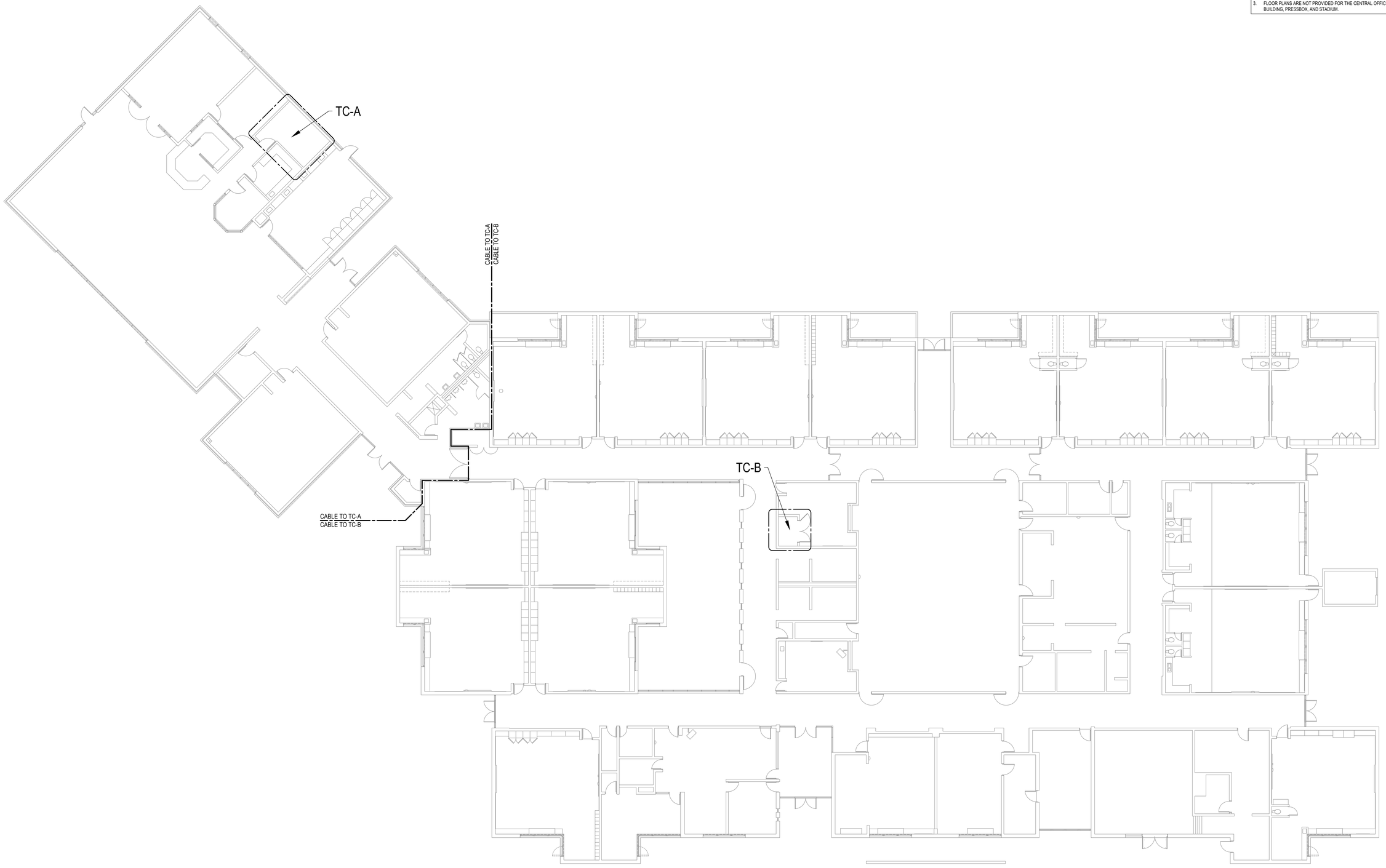
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T101

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
2. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
3. FLOOR PLANS ARE NOT PROVIDED FOR THE CENTRAL OFFICE, TRANSPORTATION BUILDING, PRESSBOX, AND STADIUM.



E.P. Clarke ES Technology Plan - Composite
3/32" = 1'-0"

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 · AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

E.P. Clarke ES Technology Plan - Composite

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T102

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
2. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
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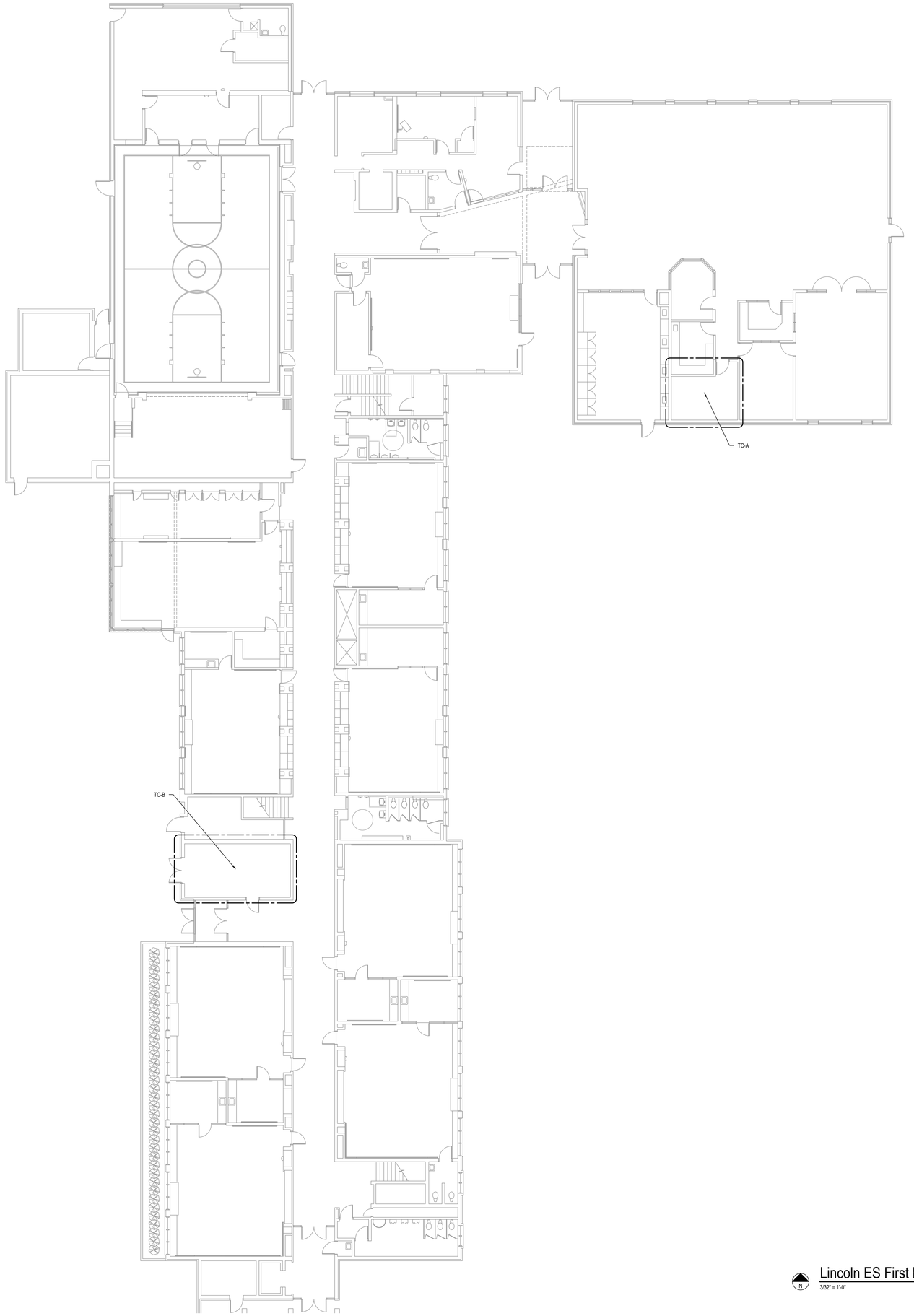

Lincoln ES First Floor Technology Plan - Composite
3/32" = 1'-0"

TECH DESIGN
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Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Lincoln ES First Floor Technology Plan - Composite

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PROJECT NO.
SJPS2304-0300

SHEET NO.
T103

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
2. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
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Upton MS Technology Plan - Unit A
3/32" = 1'-0"

TECH DESIGN
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Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Upton MS Technology Plan - Unit A

ISSUE / DATE
2023-12-22 BIDS

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CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T104A

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
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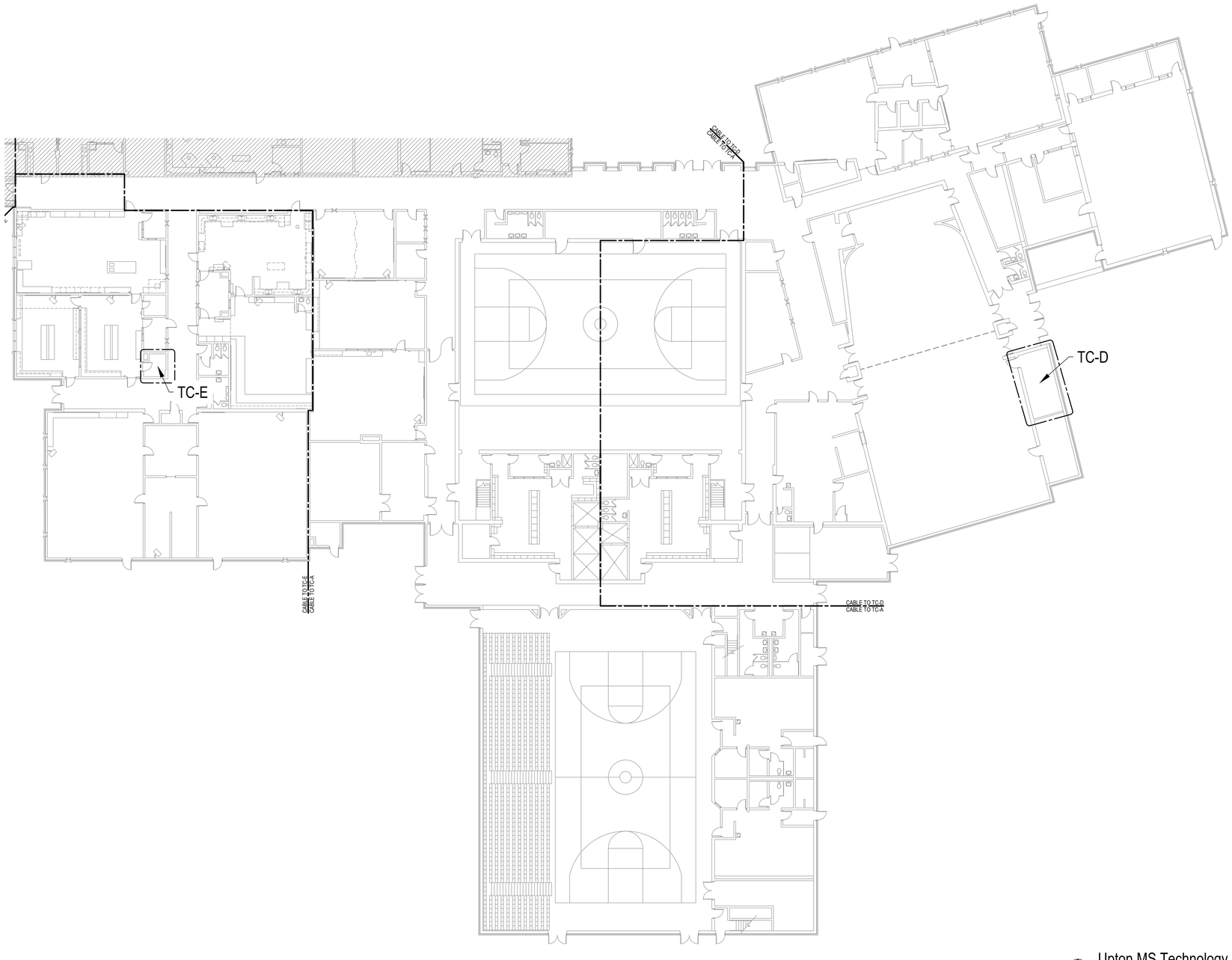

Upton MS Technology Plan - Unit B
1/16" = 1'-0"

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Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Upton MS Technology Plan - Unit B

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PROJECT NO.
SJPS2304-0300

SHEET NO.
T104B

DEMO GENERAL NOTES

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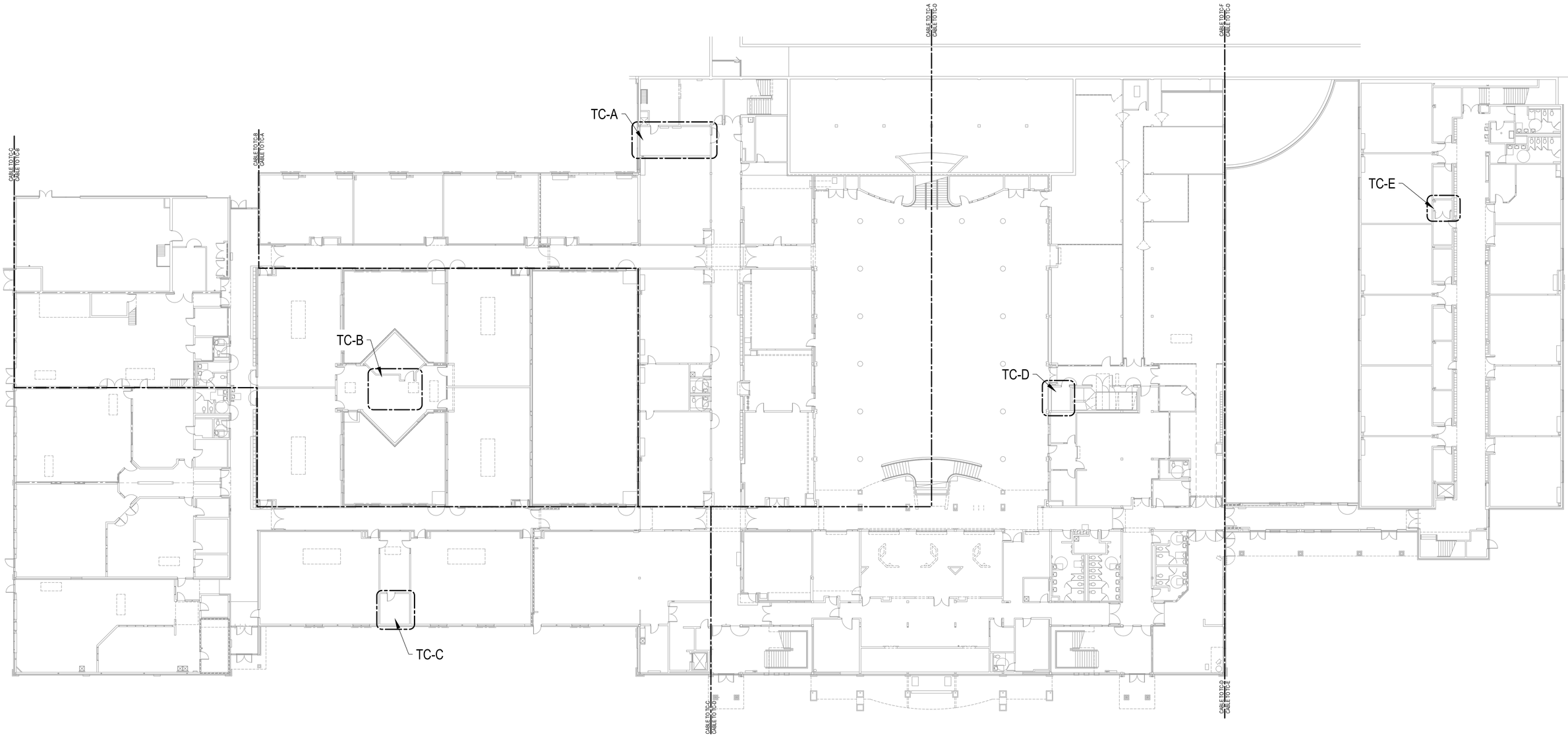

Saint Joseph HS Lower Floor Technology Plan
1/16" = 1'-0"

TECH DESIGN
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Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Saint Joseph HS Lower Floor Technology Plan

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T105

DEMO GENERAL NOTES

1. DEMO ALL ABANDONED CABLES BACK TO THEIR SOURCE.
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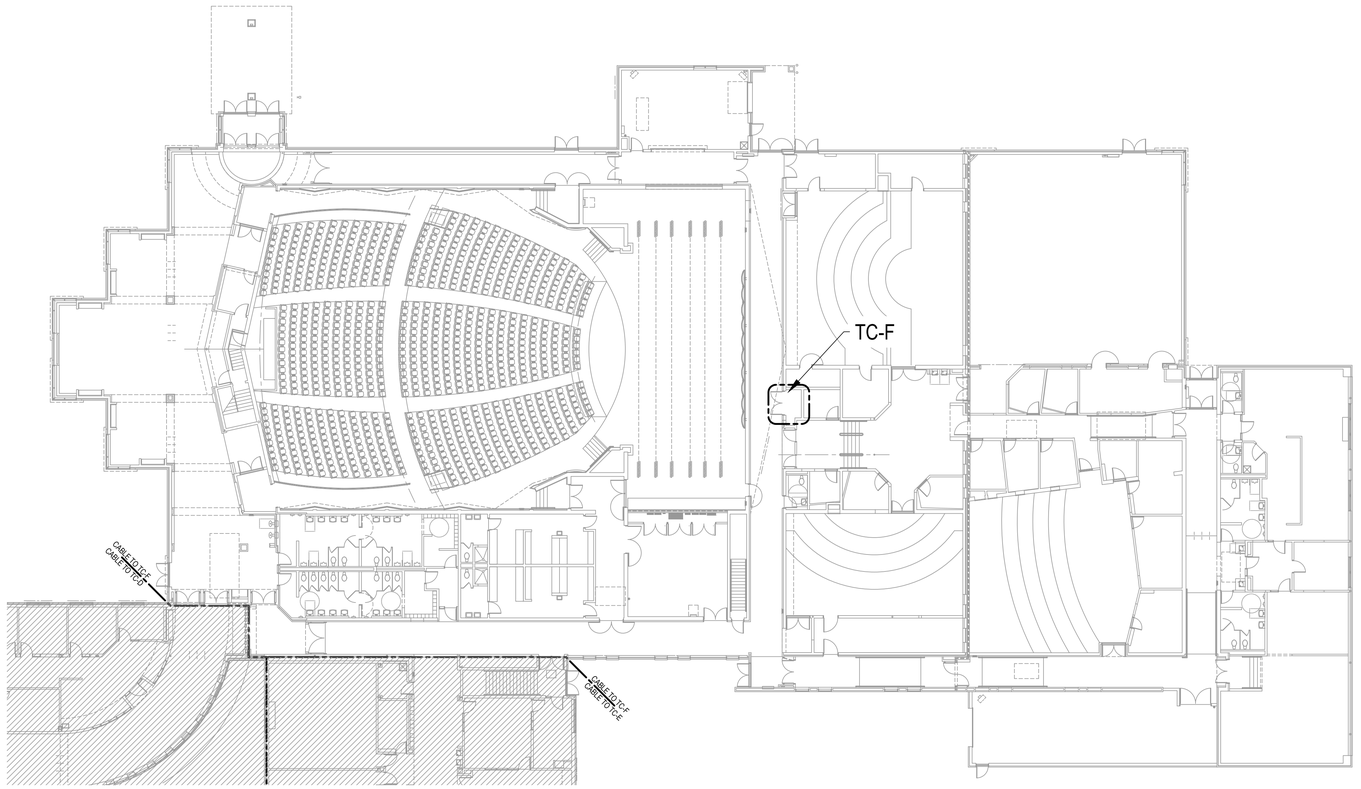

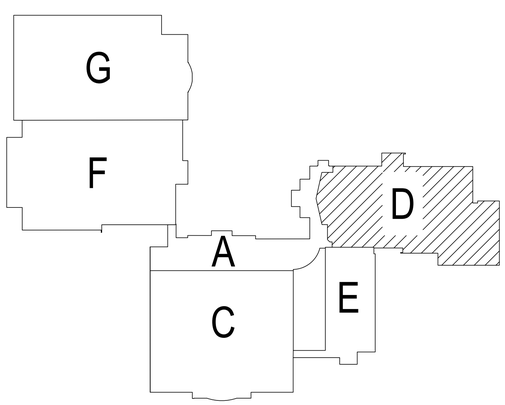

Saint Joseph HS Main Floor Technology Plan - Unit D
1/16" = 1'-0"

TECH DESIGN
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Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Saint Joseph HS Main Floor Technology Plan - Unit D

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T106A

DEMO GENERAL NOTES

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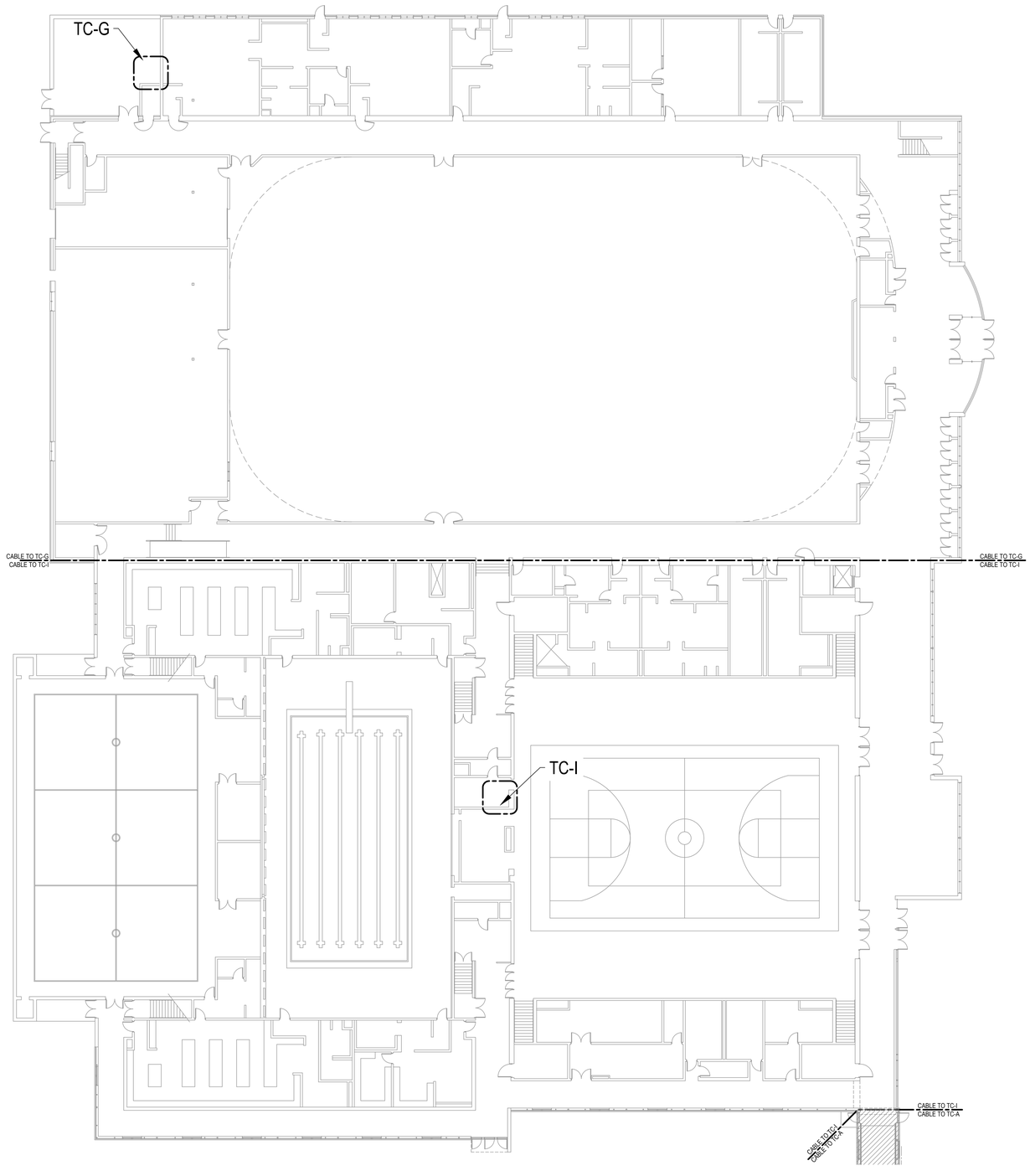

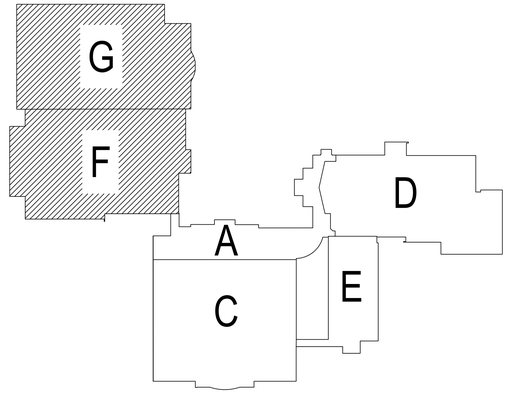

Saint Joseph HS Main Floor Technology Plan - Unit F & G
1/16" = 1'-0"

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Saint Joseph HS Main Floor Technology Plan - Unit F & G

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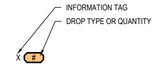
SJPS2304-0300
SHEET NO.
T106B

DATA LEGEND

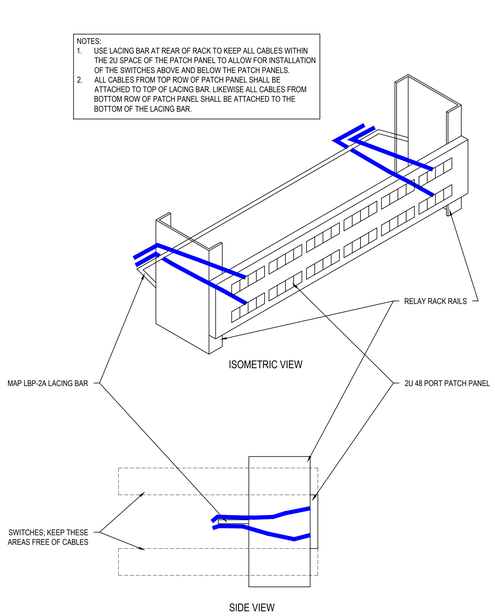
SYMBOL EXISTING	SYMBOL DEMO	SYMBOL NEW	DESCRIPTION	HEIGHT	DATA DROPS	NEW WORK ROUGH-IN	NEW WORK FACEPLATE	SURFACE MOUNT ROUGH-IN	SURFACE MOUNT FACEPLATE	NOTES ELECTRICAL	NOTES LOW VOLTAGE
0	0	0	DATA DROP - BLANK	18"AFF	0	1/T302	SEE NOTES	6/T302	SEE NOTES		1
#	#	#	DATA DROP - (# INDICATED)	18"AFF	#	1/T302	SEE NOTES	6/T302	SEE NOTES		2
FB #	FB #	FB #	DATA DROP - FLOOR BOX	FLOOR	#	SEE ELEC. NOTES	SEE NOTES	N/A	SEE NOTES	7	2
CH #	CH #	CH #	DATA DROP - COUNTERHEIGHT	SEE ELEC. NOTES	#	1/T302	SEE NOTES	6/T302	SEE NOTES	8	2
FR #	FR #	FR #	DATA DROP - FURNITURE	18"AFF	#	5/T302	11/T302	5/T302	11/T302	9	6
CW #	CW #	CW #	DATA DROP - CASEWORK	18"AFF	#	3/T302	SEE NOTES	7/T302	SEE NOTES	10	2
AP	AP	AP	WIRELESS ACCESS POINT - CEILING MOUNT	CEILING	1	N/A	SEE NOTES	N/A	SEE NOTES		3, 13
AP	AP	AP	WIRELESS ACCESS POINT - WALL MOUNT	144"AFF	1	1/T302	8/T302	6/T302	8/T302		3
P	P	P	ANALOG PHONE DROP	N/A	1	N/A	N/A	N/A	N/A	11	4
W	W	W	WALL PHONE	54"AFF	1	1/T302	14/T302	6/T302	14/T302		5
F#	F#	F#	FACILITIES DROP	SEE ELEC. NOTES	#	N/A	SEE NOTES	N/A	SEE NOTES	12	13

CABLING SUPPORT LEGEND

SYMBOL	DESCRIPTION	NOTES ELECTRICAL	NOTES LOW VOLTAGE
	1-1/2" EMT SLEEVE W/ BUSHINGS		
	1-1/2" EMT SLEEVE W/ BUSHINGS; SEAL ENDS W/ FIRE-PROOF PUTTY		
	1-1/2" EMT SLEEVE W/ BUSHINGS (UP)		
	1-1/2" EMT SLEEVE W/ BUSHINGS (DOWN)		
	4" EMT SLEEVE W/ BUSHINGS		
	STI EZ-PATH SERIES 44 OR APPROVED EQUIVALENT		
	4" EMT SLEEVE W/ BUSHINGS (UP)		
	4" EMT SLEEVE W/ BUSHINGS (DOWN)		

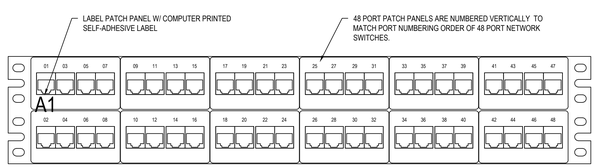


DATA DROP SYMBOL



Lacing Bar Detail

NTS



Typical Numbering for 48-Port Patch Panel

6"=1'-0"

DATA LEGEND NOTES

1. PROVIDE BLANK FACEPLATE.
2. 8/T302, 9/T302, OR 10/T302 DEPENDING ON THE NUMBER OF DROPS.
3. PROVIDE 20 FEET OF MAINTENANCE LOOP FOR CABLE.
4. TERMINATE ON 110 BLOCK IN TELECOMMUNICATIONS ROOM (TR).
5. TERMINATE ON PATCH PANEL IN TECH CLOSET.
6. ROUTE CABLES THROUGH FURNITURE TO FURNITURE FACEPLATE.
7. 3/T302 OR 4/T302 AS NEEDED.
8. MATCH ELEC. ROUGH-IN HEIGHT, TYPICALLY 8" ABOVE COUNTERTOP.
9. FACTORY CUT ROUGH-IN PROVIDED IN MODULAR FURNITURE.
10. PROVIDE ROUGH-IN IN FIXED CASEWORK.
11. COORDINATE LOCATION W/ EQUIPMENT SERVED.
12. COORDINATE FINAL LOCATION W/ BUILDING AUTOMATION SYSTEM CONTRACTOR.
13. USE 12/T302 OR 13/T302 DEPENDING ON THE NUMBER OF DROPS.

STRUCTURED CABLING NOTES

1. FOR ALL ALPHABETIC IDENTIFIERS THE LETTERS "O" AND "I" ARE NOT USED, TO PREVENT POSSIBLE CONFUSION WITH THE NUMBERS ZERO AND ONE.
2. ALL ANALOG PHONE DROPS ARE TO BE TERMINATED IN TECH CLOSETS ON 110 PUNCH-DOWN BLOCKS MOUNTED ON BACKBOARD.

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

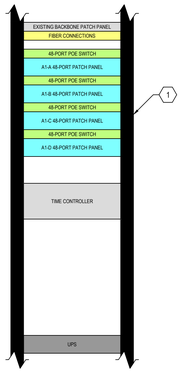
Structured Cabling General Information

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T301



RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

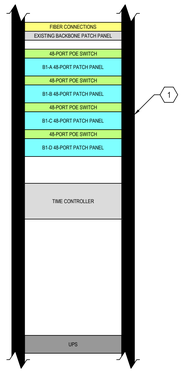
NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(4) NETWORK SWITCH - CISCO CATALYST 2960-X
(1) CISCO WIRELESS CONTROLLER
(1) ROUTER- CISCO CATALYST 2901
- **EXISTING**

(1) SITE SYNC TIME CONTROLLER
- **NEW**

(4) NETWORK SWITCH - MERAKI MS250-48

Brown ES TC-A Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) UPS -
SURGE SUPPRESSORS - APC PNET1GB
- **EXISTING**

PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

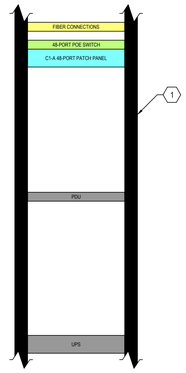
NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(4) NETWORK SWITCH - CISCO CATALYST 2960-X
- **EXISTING**

(1) SITE SYNC TIME CONTROLLER
- **NEW**

(4) NETWORK SWITCH - MERAKI MS250-48

Brown ES TC-B Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
FIBER PATCH PANEL
- **EXISTING**

PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-1500LVRT2UXLN
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
FIBER TERMINATION

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(1) NETWORK SWITCH - MERAKI MS250-48

Brown ES TC-C Tech Rack Elevation
NTS

TECH CLOSET GENERAL NOTES

1. TECHNOLOGY CLOSETS SHALL BE NON-SPRINKLER SPACES.
2. GENERAL BUILDING HVAC SHALL NOT BE INSTALLED IN ANY TECHNOLOGY CLOSET. IF ACTIVE COOLING IS REQUIRED, DEDICATED LOCAL SYSTEMS SHOULD BE INSTALLED IN EACH TECH CLOSET.
3. ALL OUTLETS IN THE TECHNOLOGY CLOSETS SHOULD BE ON UPS-BACKED, GENERATOR POWERED CIRCUITS.
4. EQUIPMENT MOUNTED ON BACKERBOARD SHALL MAINTAIN PROPER CLEARANCES FOR OPERATION AND BE COORDINATED WITH OTHER DISCIPLINES PRIOR TO INSTALL IF THERE IS A CONFLICT OF PLACEMENT.
5. RACK SIZES SHOWN ARE TYPICAL AND MAY NOT MATCH EXISTING RACK SIZES. ACTUAL EQUIPMENT LAYOUT IN RACKS SHALL FOLLOW EQUIPMENT ORDER SHOWN IN ELEVATIONS, ALONG WITH PROPER LABELING AND CABLE MANAGEMENT. CONFIRM FINAL INSTALL LOCATION WITH OWNER.
6. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
7. DEMO ALL ABANDONED EQUIPMENT AND CABLING, INCLUDING COAXIAL. DEMO CABLE TO SOURCE.
8. DEMO ALL LEVITON PATCH PANELS AND REPLACE WITH PANDUIT PATCH PANELS.
9. DEMO ALL POTS PATCH PANELS, CABLING, ASSOCIATED 110 BLOCKS, AND OTHER UNUSED POTS EQUIPMENT. DEMO CABLING TO SOURCE. PRIOR TO DEMO, CHECK FOR DIAL TONE ON ANY LINES. NOTIFY OWNER AND AETD OF ANY DIAL TONE IF DISCOVERED.
10. DEMO ALL UPS UNITS.
11. REMOVE ALL BACKERBOARD-MOUNTED FIBER ENCLOSURES AND RE-INSTALL SPLICED CONNECTORS IN THEIR RESPECTIVE RACK'S FIBER ENCLOSURE.
12. SEE NETWORK DIAGRAM ON T306 FOR MORE DETAILS ON NETWORK ELECTRONICS AND THEIR LOCATIONS.
13. RACK-MOUNTED EQUIPMENT SHALL BE INSTALLED WITH ENOUGH CLEARANCE SO THAT THE RACK CAN FUNCTION PROPERLY. PATCH CORDS, POWER CORDS, AND RELATED CABLING SHALL NOT PREVENT DOORS FROM CLOSING, RACK FROM SWINGING, OR OTHER SIMILAR FUNCTIONS.
14. EXISTING COPPER BACKBONE, PATCH CORDS, JACKS, AND PATCH PANELS TO REMAIN. RELOCATE PATCH PANELS TO THE TOP OF RACKS WHERE POSSIBLE.

TECH CLOSET KEYED NOTES

1. ENCLOSED SERVER RACK.
2. UPS. INSTALL IN BOTTOM OF RACK.
3. PDU.
4. MOVE SITESYNC IQ TIME CONTROLLER INTO RACK AT OWNER'S DIRECTION.
5. (2) EXISTING CONDUITS TO REMAIN

RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) UPS
LEVITON PATCH PANELS
FIBER PATCH PANEL
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN
(1) SURGE PROTECTION CHASSIS - APC PRM24
(2) SURGE PROTECTION MODULE - APC PNETR6
FIBER TERMINATION

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ
RELOCATE FIBER ENCLOSURE TO RACK FROM BACKERBOARD

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) CISCO WIRELESS CONTROLLER
(1) ROUTER - CISCO 2901
- **EXISTING**

(1) SITESYNC IQ TIME CONTROLLER
(4) NETWORK SWITCH - MERAKI MS250-48

E.P. Clarke ES TC-A Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) UPS -
- **EXISTING**

PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
(1) SURGE PROTECTION CHASSIS - APC PRM24
(4) SURGE PROTECTION MODULE - APC PNETR6

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(5) NETWORK SWITCH - MERAKI MS250-48
(1) SITESYNC IQ TIME CONTROLLER

E.P. Clarke ES TC-B Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

UPS - LIEBERT GXT3
LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

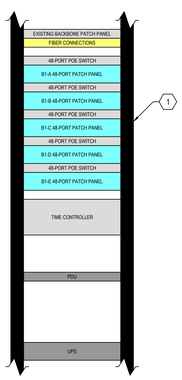
ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) ROUTER - CISCO 2901
- **EXISTING**

(1) SITE SYNC TIME CONTROLLER
(3) NETWORK SWITCH - MERAKI MS250-48

Lincoln ES TC-A Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
- **EXISTING**

PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

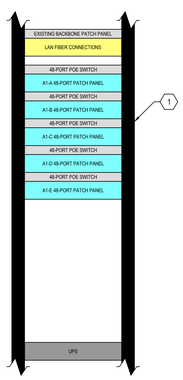
FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(1) SITE SYNC TIME CONTROLLER
(5) NETWORK SWITCH - MERAKI MS250-48

Lincoln ES TC-B Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
CONSOLIDATE ALL LAN FIBER CONNECTIONS IN THIS RACK. LEAVE WAN FIBER CONNECTIONS IN RACK 2
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

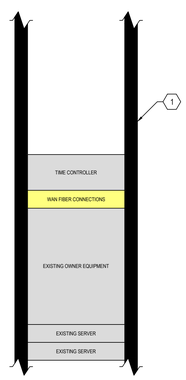
ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) ROUTER - CISCO 2901
- **EXISTING**

(5) NETWORK SWITCH - MERAKI MS250-48

Upton MS TC-A Tech Rack 1 Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

(2) UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
CONSOLIDATE ALL LAN FIBER CONNECTIONS IN RACK 1. LEAVE WAN FIBER CONNECTIONS IN THIS RACK

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) ROUTER - CISCO 2901
- **EXISTING**

(1) SYNOLOGY STORAGE DEVICE
(1) SITE SYNC TIME CONTROLLER
(1) SERVER - HP PROLIANT DL180 G6
(1) SERVER - HP PROLIANT DL380 G7

Upton MS TC-A Tech Rack 2 Elevation
NTS

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Tech Rack Elevations

ISSUE / DATE
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DRAWN BY
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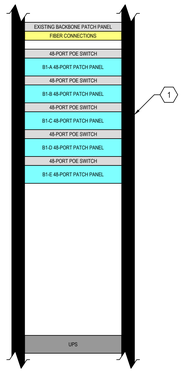
PROJECT NO.
SJPS2304-0300

SHEET NO.
T302



RACK EQUIPMENT SHALL BE:
- **DEMO**

UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

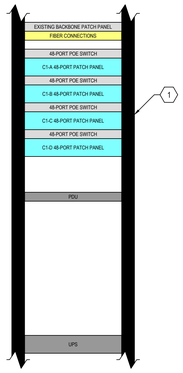
FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(5) NETWORK SWITCH - MERAKI MS250-48

Upton MS TC-B Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

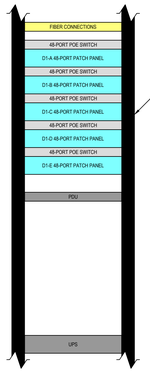
FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(4) NETWORK SWITCH - MERAKI MS250-48

Upton MS TC-C Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

WALL-MOUNTED TECH RACK
UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
LEVITON PATCH PANELS
- **EXISTING**

PANDUIT PATCH PANELS
UPON DEMO OF RACK, LEAVE ATTACHED CONDUITS TO REMAIN.
- **NEW**

(1) WALL-MOUNTED TECH RACK - MIDDLE ATLANTIC DWR-24-32
(1) FRONT RACK DOOR - MIDDLE ATLANTIC FD-24
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(5) NETWORK SWITCH - MERAKI MS250-48

Upton MS TC-D Tech Rack Elevation
NTS

TECH CLOSET GENERAL NOTES

1. TECHNOLOGY CLOSETS SHALL BE NON-SPRINKLER SPACES.
2. GENERAL BUILDING HVAC SHALL NOT BE INSTALLED IN ANY TECHNOLOGY CLOSET. IF ACTIVE COOLING IS REQUIRED, DEDICATED LOCAL SYSTEMS SHOULD BE INSTALLED IN EACH TECH CLOSET.
3. ALL OUTLETS IN THE TECHNOLOGY CLOSETS SHOULD BE ON UPS-BACKED, GENERATOR POWERED CIRCUITS.
4. EQUIPMENT MOUNTED ON BACKERBOARD SHALL MAINTAIN PROPER CLEARANCES FOR OPERATION AND BE COORDINATED WITH OTHER DISCIPLINES PRIOR TO INSTALL IF THERE IS A CONFLICT OF PLACEMENT.
5. RACK SIZES SHOWN ARE TYPICAL AND MAY NOT MATCH EXISTING RACK SIZES. ACTUAL EQUIPMENT LAYOUT IN RACKS SHALL FOLLOW EQUIPMENT ORDER SHOWN IN ELEVATIONS, ALONG WITH PROPER LABELING AND CABLE MANAGEMENT. CONFIRM FINAL INSTALL LOCATION WITH OWNER.
6. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
7. DEMO ALL ABANDONED EQUIPMENT AND CABLING, INCLUDING COAXIAL. DEMO CABLE TO SOURCE.
8. DEMO ALL LEVITON PATCH PANELS AND REPLACE WITH PANDUIT PATCH PANELS.
9. DEMO ALL POTS PATCH PANELS, CABLING, ASSOCIATED 110 BLOCKS, AND OTHER UNUSED POTS EQUIPMENT. DEMO CABLING TO SOURCE. PRIOR TO DEMO, CHECK FOR DIAL TONE ON ANY LINES. NOTIFY OWNER AND AETD OF ANY DIAL TONE IF DISCOVERED.
10. DEMO ALL UPS UNITS.
11. REMOVE ALL BACKERBOARD-MOUNTED FIBER ENCLOSURES AND RE-INSTALL SPLICED CONNECTORS IN THEIR RESPECTIVE RACK'S FIBER ENCLOSURE.
12. SEE NETWORK DIAGRAM ON T306 FOR MORE DETAILS ON NETWORK ELECTRONICS AND THEIR LOCATIONS.
13. RACK-MOUNTED EQUIPMENT SHALL BE INSTALLED WITH ENOUGH CLEARANCE SO THAT THE RACK CAN FUNCTION PROPERLY. PATCH CORDS, POWER CORDS, AND RELATED CABLING SHALL NOT PREVENT DOORS FROM CLOSING, RACK FROM SWINGING, OR OTHER SIMILAR FUNCTIONS.
14. EXISTING COPPER BACKBONE, PATCH CORDS, JACKS, AND PATCH PANELS TO REMAIN. RELOCATE PATCH PANELS TO THE TOP OF RACKS WHERE POSSIBLE.

TECH CLOSET KEYED NOTES

1. ENCLOSED SERVER RACK.
2. UPS. INSTALL IN BOTTOM OF RACK.
3. PDU.
4. MOVE SITESYNC IQ TIME CONTROLLER INTO RACK AT OWNER'S DIRECTION.
5. (2) EXISTING CONDUITS TO REMAIN

RACK EQUIPMENT SHALL BE:
- **DEMO**

UPS - LIEBERT GXT3 WITH ADDITIONAL BATTERY PACK
LEVITON PATCH PANELS
- **EXISTING**

VERTICAL PDU
PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUDLCZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **EXISTING**

(4) NETWORK SWITCH - MERAKI MS250-48

Upton MS TC-E Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- EXISTING OWNER EQUIPMENT
- NOT IN SCOPE. VERIFY WITH OWNER.

SJHS TC-A Tech Rack 1 Elevation
NTS

RACK EQUIPMENT SHALL BE:
- EXISTING OWNER EQUIPMENT
- NOT IN SCOPE. VERIFY WITH OWNER.

SJHS TC-A Tech Rack 2 Elevation
NTS

RACK EQUIPMENT SHALL BE:
- EXISTING OWNER EQUIPMENT
- NOT IN SCOPE. VERIFY WITH OWNER.

SJHS TC-A Tech Rack 3 Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) FLOOR STANDING UPS - LIEBERT NFINITY
- **EXISTING**

(1) VERTICAL PDU
- **NEW**

(1) FLOOR-STANDING UPS -
(1) RACK SHELF

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) WIRELESS CONTROLLER - CISCO CATALYST 5500
(2) CORE SWITCHES - CISCO CATALYST 4500-X
(5) NETWORK SWITCH - CISCO CATALYST 2960-X
(1) ROUTER - CISCO CATALYST C2901
- **EXISTING**

(1) FIREWALL
(1) IP PHONE BOX
- **NEW**

(2) CORE SWITCH - CISCO CATALYST C9500-40X
(5) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-A Tech Rack 4 Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

(1) VERTICAL PDU

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(4) NETWORK SWITCH - CISCO CATALYST 2960-X
- **EXISTING**

(1) BERRIEN RESA CPE - CISCO CATALYST 2960-S
(1) COMCAST CPE - CIENA 3916
- **NEW**

(4) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-A Tech Rack 5 Elevation
NTS

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Tech Rack Elevations

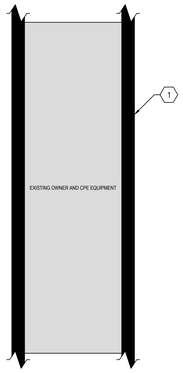
ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T303

RACK EQUIPMENT SHALL BE:
- EXISTING OWNER AND CPE EQUIPMENT
- NOT IN SCOPE. VERIFY WITH OWNER.



SJHS TC-A Tech Rack 6 Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

PANDUIT PATCH PANELS
- **NEW**

(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-2000LVRT2UXLN

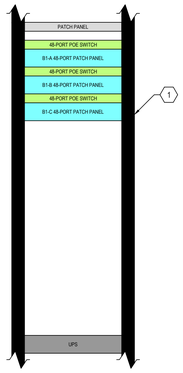
FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(3) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(3) NETWORK SWITCH - MERAKI MS250-48



SJHS TC-B Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS

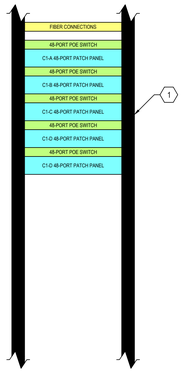
FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(5) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(2) NETWORK SWITCH - MERAKI MS250-48



SJHS TC-C Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-2000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(9) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(9) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-D Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-3000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(5) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(5) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-E Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS
(1) RACK-MOUNT PDU - MIDDLE ATLANTIC PD-915R-PL
- **NEW**

(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-2000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(2) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(2) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-F Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

LEVITON PATCH PANELS
(1) FIBER CONNECTION
(1) RACK-MOUNT UPS - APC SMART
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS
(1) HORIZONTAL PDU - MIDDLE ATLANTIC PD-915R-PL
- **NEW**

PANDUIT PATCH PANELS
(1) RACK SHELF
(1) FIBER CONNECTION
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-2000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(2) NETWORK SWITCH - CISCO CATALYST 2960-X
- **NEW**

(2) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-G Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) LEVITON FIBER ENCLOSURE
LEVITON PATCH PANELS
- **EXISTING**

(1) VERTICAL PDU
- **NEW**

PANDUIT PATCH PANELS
(1) RACK SHELF

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) NETWORK SWITCH - CISCO CATALYST 2960-S
- **EXISTING**

WHITE BOX
- **NEW**

(1) NETWORK SWITCH - MERAKI MS250-24

SJHS TC-H (Staduim)Tech Rack Elevation
NTS

RACK EQUIPMENT SHALL BE:
- **DEMO**

PANDUIT PATCH PANELS
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-1500LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) NETWORK SWITCH - CISCO CATALYST 2960-S
- **NEW**

(1) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-I Tech Rack Elevation
NTS

TECH CLOSET GENERAL NOTES

1. TECHNOLOGY CLOSETS SHALL BE NON-SPRINKLER SPACES.
2. GENERAL BUILDING HVAC SHALL NOT BE INSTALLED IN ANY TECHNOLOGY CLOSET. IF ACTIVE COOLING IS REQUIRED, DEDICATED LOCAL SYSTEMS SHOULD BE INSTALLED IN EACH TECH CLOSET.
3. ALL OUTLETS IN THE TECHNOLOGY CLOSETS SHOULD BE ON UPS-BACKED, GENERATOR POWERED CIRCUITS.
4. EQUIPMENT MOUNTED ON BACKERBOARD SHALL MAINTAIN PROPER CLEARANCES FOR OPERATION AND BE COORDINATED WITH OTHER DISCIPLINES PRIOR TO INSTALL IF THERE IS A CONFLICT OF PLACEMENT.
5. RACK SIZES SHOWN ARE TYPICAL AND MAY NOT MATCH EXISTING RACK SIZES. ACTUAL EQUIPMENT LAYOUT IN RACKS SHALL FOLLOW EQUIPMENT ORDER SHOWN IN ELEVATIONS, ALONG WITH PROPER LABELING AND CABLE MANAGEMENT. CONFIRM FINAL INSTALL LOCATION WITH OWNER.
6. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
7. DEMO ALL ABANDONED EQUIPMENT AND CABLING, INCLUDING COAXIAL. DEMO CABLE TO SOURCE.
8. DEMO ALL LEVITON PATCH PANELS AND REPLACE WITH PANDUIT PATCH PANELS.
9. DEMO ALL POTS PATCH PANELS, CABLING, ASSOCIATED 110 BLOCKS, AND OTHER UNUSED POTS EQUIPMENT. DEMO CABLING TO SOURCE. PRIOR TO DEMO, CHECK FOR DIAL TONE ON ANY LINES. NOTIFY OWNER AND AETD OF ANY DIAL TONE IF DISCOVERED.
10. DEMO ALL UPS UNITS.
11. REMOVE ALL BACKERBOARD-MOUNTED FIBER ENCLOSURES AND RE-INSTALL SPLICED CONNECTORS IN THEIR RESPECTIVE RACK'S FIBER ENCLOSURE.
12. SEE NETWORK DIAGRAM ON T306 FOR MORE DETAILS ON NETWORK ELECTRONICS AND THEIR LOCATIONS.
13. RACK-MOUNTED EQUIPMENT SHALL BE INSTALLED WITH ENOUGH CLEARANCE SO THAT THE RACK CAN FUNCTION PROPERLY. PATCH CORDS, POWER CORDS, AND RELATED CABLING SHALL NOT PREVENT DOORS FROM CLOSING, RACK FROM SWINGING, OR OTHER SIMILAR FUNCTIONS.
14. EXISTING COPPER BACKBONE, PATCH CORDS, JACKS, AND PATCH PANELS TO REMAIN. RELOCATE PATCH PANELS TO THE TOP OF RACKS WHERE POSSIBLE.

TECH CLOSET KEYED NOTES

1. ENCLOSED SERVER RACK.
2. UPS. INSTALL IN BOTTOM OF RACK.
3. PDU.
4. MOVE SITESYNC IQ TIME CONTROLLER INTO RACK AT OWNER'S DIRECTION.
5. (2) EXISTING CONDUITS TO REMAIN

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

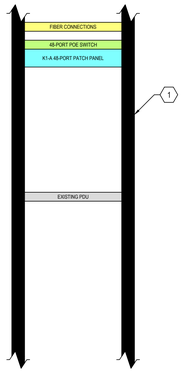
Tech Rack Elevations

ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB

PROJECT NO.
SJPS2304-0300

SHEET NO.
T304



RACK EQUIPMENT SHALL BE:
- **EXISTING**

FIBER CONNECTIONS
PANDUIT PATCH PANELS

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

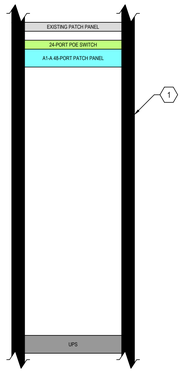
ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) NETWORK SWITCH - CISCO CATALYST 2960-S
- **NEW**

(1) NETWORK SWITCH - MERAKI MS250-48

SJHS TC-J (Pressbox) Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **NEW**

PANDUIT PATCH PANELS
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-1000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

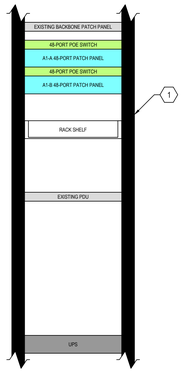
ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(1) NETWORK SWITCH - CISCO CATALYST 2960-S
(1) ROUTER - CISCO CATALYST 2901
- **NEW**

(1) NETWORK SWITCH - MERAKI MS250-24

Transportation TC-A Tech Rack Elevation
NTS



RACK EQUIPMENT SHALL BE:
- **DEMO**

(1) RACK-MOUNT UPS - ALTRONIX
- **EXISTING**

PANDUIT PATCH PANELS
(1) RACK-MOUNT PDU - APC
- **NEW**

PANDUIT PATCH PANELS
(1) RACK SHELF
(1) FIBER CONNECTION
(1) RACK-MOUNT UPS W/ NETWORK MONITORING CARD - LIEBERT GXT5-2000LVRT2UXLN

FIBER TERMINATIONS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
RACK-MOUNT FIBER ENCLOSURE - PANDUIT FCE1U
FIBER ADAPTER PANEL - PANDUIT FAP6WBUD*CZ

ALL PATCH PANELS SHALL BE:
PROVIDE QUANTITY AS REQUIRED TO TERMINATE ALL CABLES IN CLOSET
48-PORT PATCH PANEL - PANDUIT CPPL48WBLY (PREMISE CABLING)
24-PORT PATCH PANEL - PANDUIT CPPL24WBLY (BACKBONE)
STRAIN RELIEF BAR - PANDUIT SRB19D5BL

NETWORK ELECTRONICS SHALL BE:
- **DEMO**

(2) NETWORK SWITCH - CISCO CATALYST 9200L
(1) ROUTER - CISCO CATALYST 2901
- **NEW**

(2) NETWORK SWITCH - MERAKI MS250-48

Central Office TC-A Tech Rack Elevation
NTS

TECH CLOSET GENERAL NOTES

1. TECHNOLOGY CLOSETS SHALL BE NON-SPRINKLER SPACES.
2. GENERAL BUILDING HVAC SHALL NOT BE INSTALLED IN ANY TECHNOLOGY CLOSET. IF ACTIVE COOLING IS REQUIRED, DEDICATED LOCAL SYSTEMS SHOULD BE INSTALLED IN EACH TECH CLOSET.
3. ALL OUTLETS IN THE TECHNOLOGY CLOSETS SHOULD BE ON UPS-BACKED, GENERATOR POWERED CIRCUITS.
4. EQUIPMENT MOUNTED ON BACKERBOARD SHALL MAINTAIN PROPER CLEARANCES FOR OPERATION AND BE COORDINATED WITH OTHER DISCIPLINES PRIOR TO INSTALL IF THERE IS A CONFLICT OF PLACEMENT.
5. RACK SIZES SHOWN ARE TYPICAL AND MAY NOT MATCH EXISTING RACK SIZES. ACTUAL EQUIPMENT LAYOUT IN RACKS SHALL FOLLOW EQUIPMENT ORDER SHOWN IN ELEVATIONS, ALONG WITH PROPER LABELING AND CABLE MANAGEMENT. CONFIRM FINAL INSTALL LOCATION WITH OWNER.
6. DEMOED EQUIPMENT, WHOLE OR IN PART, SHALL BE PRESENTED TO OWNER FOR FIRST RIGHT OF REFUSAL BEFORE REMOVAL FROM SITE.
7. DEMO ALL ABANDONED EQUIPMENT AND CABLING, INCLUDING COAXIAL. DEMO CABLE TO SOURCE.
8. DEMO ALL LEVITON PATCH PANELS AND REPLACE WITH PANDUIT PATCH PANELS.
9. DEMO ALL POTS PATCH PANELS, CABLING, ASSOCIATED 110 BLOCKS, AND OTHER UNUSED POTS EQUIPMENT. DEMO CABLING TO SOURCE. PRIOR TO DEMO, CHECK FOR DIAL TONE ON ANY LINES. NOTIFY OWNER AND AETD OF ANY DIAL TONE IF DISCOVERED.
10. DEMO ALL UPS UNITS.
11. REMOVE ALL BACKERBOARD-MOUNTED FIBER ENCLOSURES AND RE-INSTALL SPLICED CONNECTORS IN THEIR RESPECTIVE RACK'S FIBER ENCLOSURE.
12. SEE NETWORK DIAGRAM ON T306 FOR MORE DETAILS ON NETWORK ELECTRONICS AND THEIR LOCATIONS.
13. RACK-MOUNTED EQUIPMENT SHALL BE INSTALLED WITH ENOUGH CLEARANCE SO THAT THE RACK CAN FUNCTION PROPERLY. PATCH CORDS, POWER CORDS, AND RELATED CABLING SHALL NOT PREVENT DOORS FROM CLOSING, RACK FROM SWINGING, OR OTHER SIMILAR FUNCTIONS.
14. EXISTING COPPER BACKBONE, PATCH CORDS, JACKS, AND PATCH PANELS TO REMAIN. RELOCATE PATCH PANELS TO THE TOP OF RACKS WHERE POSSIBLE.

TECH CLOSET KEYED NOTES

1. ENCLOSED SERVER RACK.
2. UPS. INSTALL IN BOTTOM OF RACK.
3. PDU.
4. MOVE SITESYNC IQ TIME CONTROLLER INTO RACK AT OWNER'S DIRECTION.
5. (2) EXISTING CONDUITS TO REMAIN

TECH DESIGN
6100 NEWPORT ROAD, SUITE #225, PORTAGE, MI 49002 269.203.2444 AETECH.DESIGN

Saint Joseph Public Schools
Infrastructure Upgrades
Saint Joseph, MI

Tech Rack Elevations

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PROJECT NO.
SJPS2304-0300

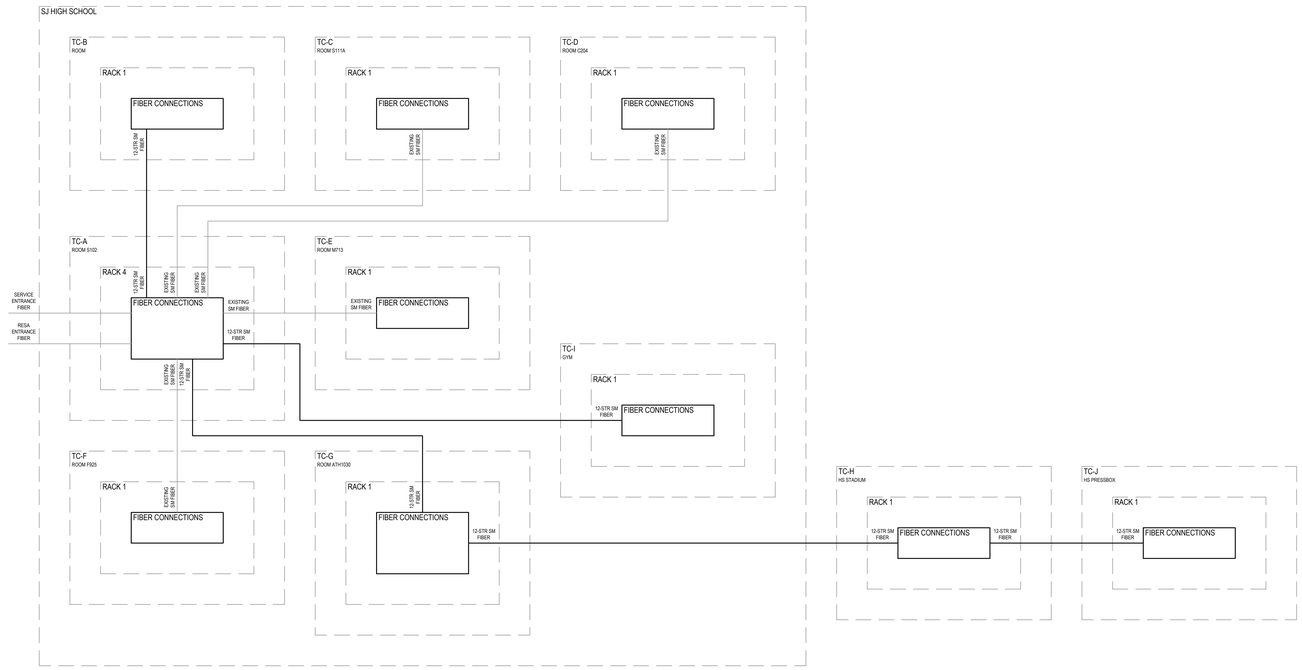
SHEET NO.
T305

CABLING DISTRIBUTION NOTES

1. PROVIDE 10 FEET OF MAINTENANCE LOOP AT TECHNOLOGY ROOM AND 1 FOOT OF MAINTENANCE LOOP AT WORK AREA FOR ALL CABLING UNLESS NOTED OTHERWISE.
2. FOR EACH RUN OF BACKBONE FIBER BETWEEN TECHNOLOGY ROOMS, TERMINATE 2 STRANDS. TEST ALL STRANDS.
3. SEE PATCH CORD LEGEND AND CABLING AND JACK LEGEND ON TG02 FOR MORE INFORMATION REGARDING APPROPRIATE COLORS REQUIRED.
4. BACKBONE RISERS ARE ONLY SHOWN FOR BUILDINGS WHERE INNER-BUILDING BACKBONES ARE BEING REPLACED.
5. COPPER BACKBONE CABLING, PATCH CORDS, PATCH PANELS, AND JACKS TO REMAIN.

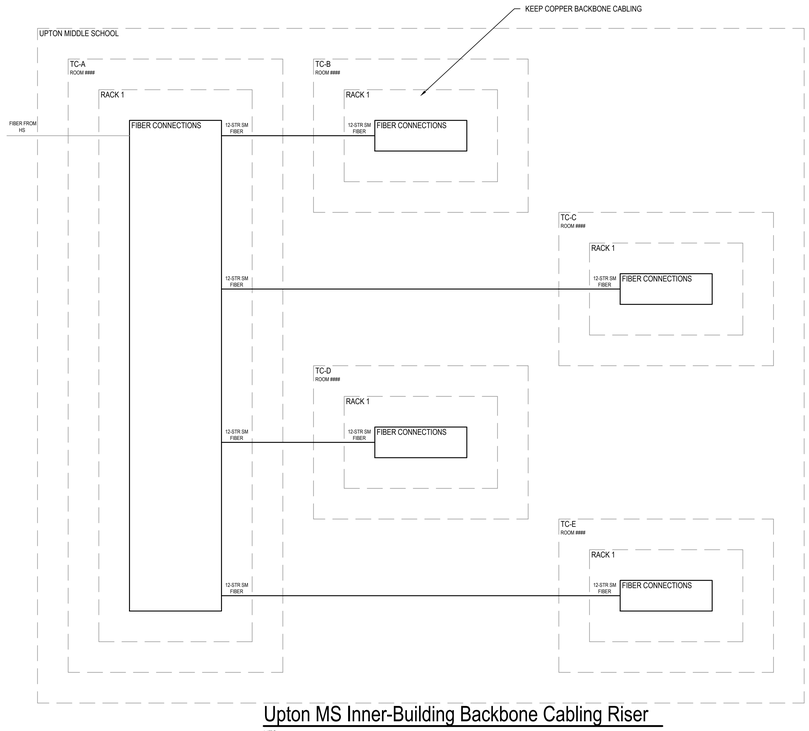
GROUNDING NOTES

1. ENSURE ALL GROUNDING CONNECTIONS TO RACKS AND CABLETRAYS ARE MAINTAINED.



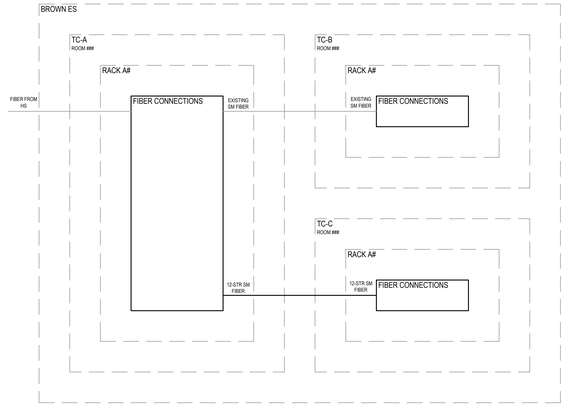
SJHS Inner-Building Backbone Cabling Riser

NTS



Upton MS Inner-Building Backbone Cabling Riser

NTS



Brown ES Inner-Building Backbone Cabling Riser

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Infrastructure Upgrades
Saint Joseph, MI

Structured Cabling Details & Risers

ISSUE / DATE
2023-12-22 BIDS

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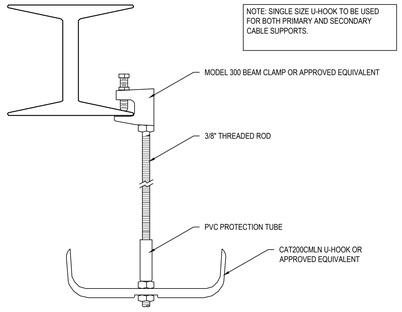
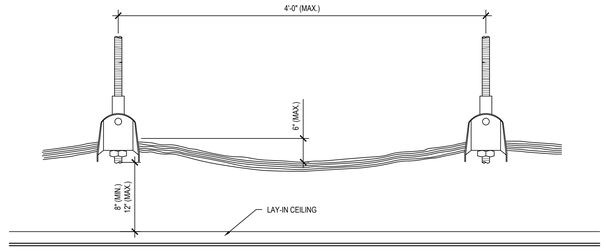
PROJECT NO.
SJPS2304-0300

SHEET NO.
T306



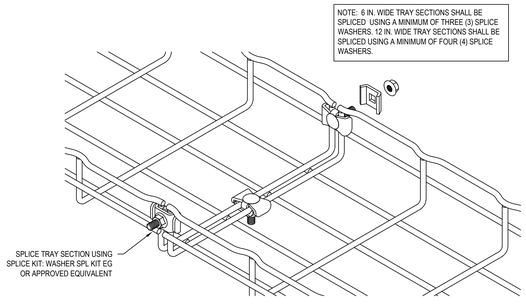
Cable Support Assembly Detail (J-Hooks)

NTS



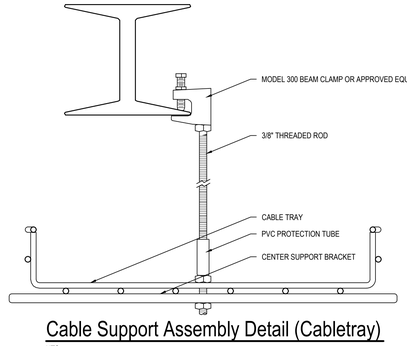
Cable Support Installation Detail (J-Hooks)

NTS



Cable Support Coupling Detail (Cabletray)

NTS



Cable Support Assembly Detail (Cabletray)

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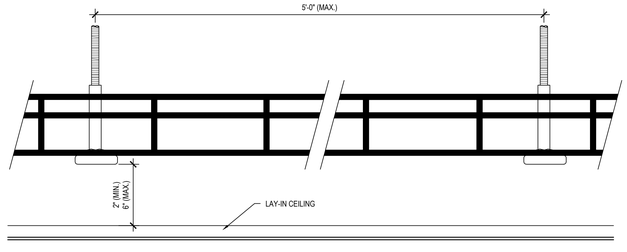
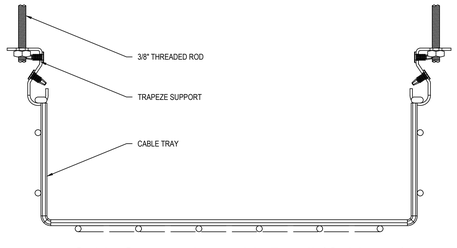


Cable Support Installation Detail (Cabletray)

NTS



Cable Support Assembly Detail (Cabletray)

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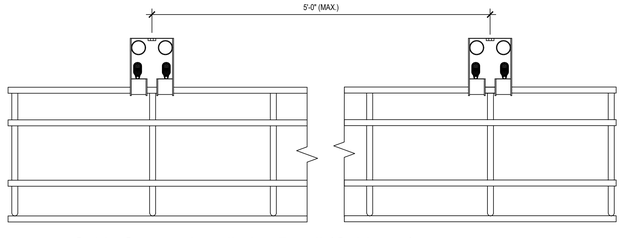

Cable Support Installation Detail (Cabletray)

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ISSUE / DATE
2023-12-22 BIDS

DRAWN BY
CDB
PROJECT NO.
SJPS2304-0300
SHEET NO.
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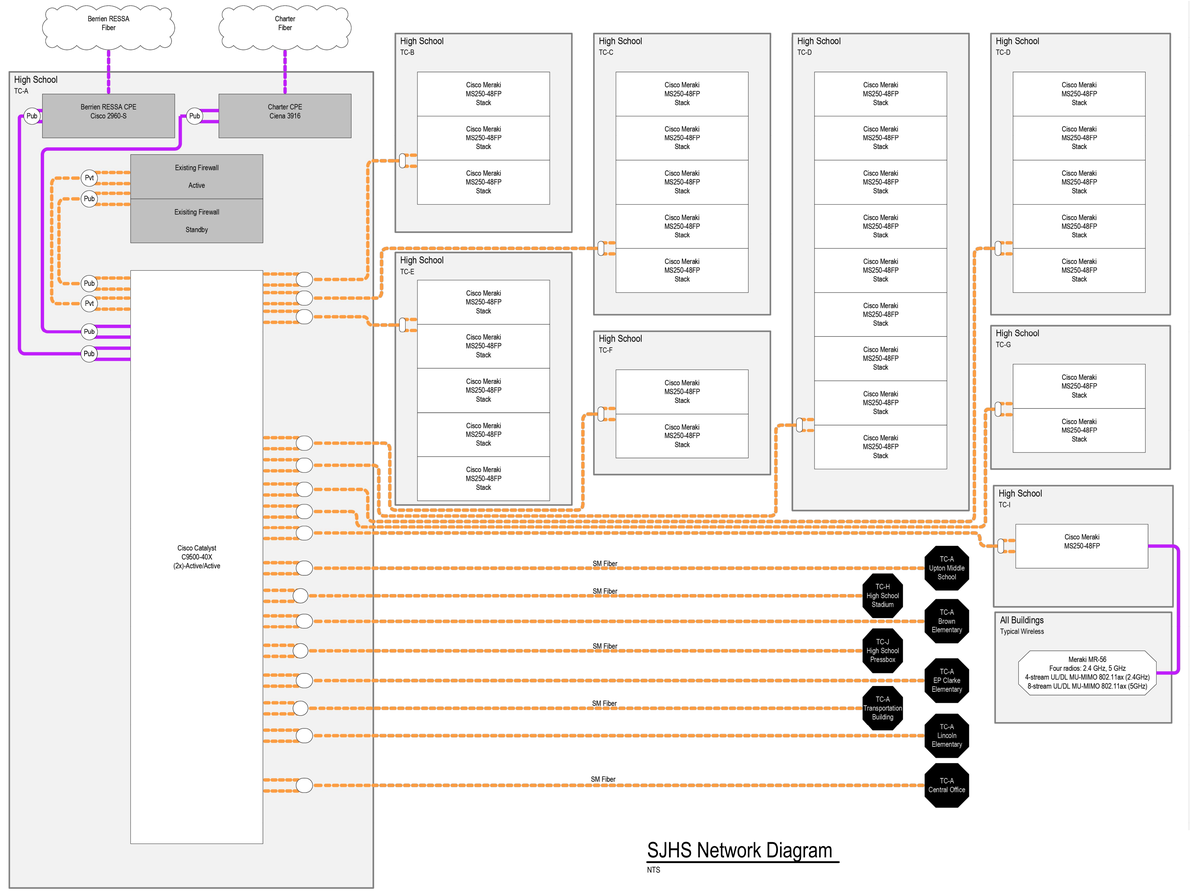

SJHS Network Diagram

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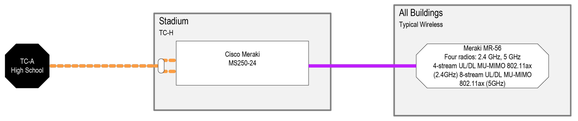
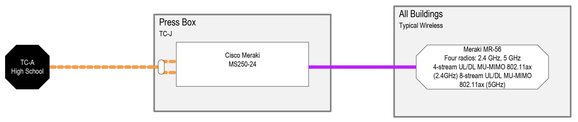


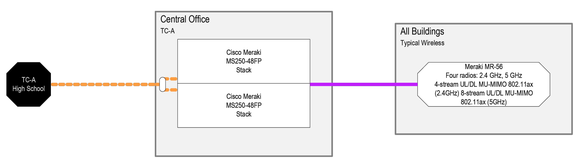
HS Stadium Network Diagram

NTS



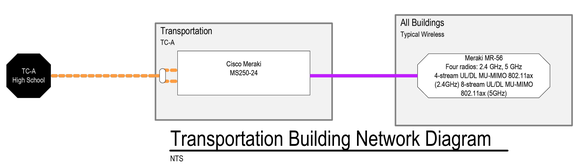
HS Pressbox Network Diagram

NTS



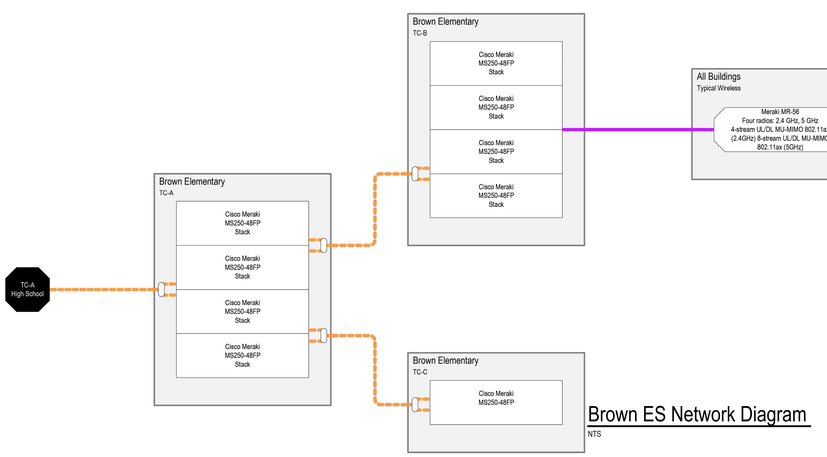
Central Office Network Diagram

NTS



Transportation Building Network Diagram

NTS



Brown ES Network Diagram

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Legend

Remote Connection (Not on Page)
White: Intra-building Connection
Black: Inter-Building Connection

Cloud
External Services
(Internet, Phone, etc.)

Router/Firewall

Switch or Generic Device

Wireless Access Point

Server

Building or Room

IP Phone

G0/0/0
G0/0/0
G0/0/0
G0/0/0

Grouped Interfaces
LACP, EtherChannel, Multilink, etc.

# = Untagged VLAN ID
T = Tagged Interface

STP

STP Failover/Redundant Link
Typically Disabled

Media Speed			
Generic		100 Mb/s	
<10 Mb/s		1 Gb/s	
10 Mb/s		10 Gb/s	

Media Type			
Generic		Fiber	
Circuit		Wireless	
UTP			

GENERAL NETWORK NOTES

1. INCLUDE 7-YEAR NETWORK ADVANTAGE LICENSES FOR CORE SWITCHES AND 10-YEAR LICENSES FOR MERAKI EDGE SWITCHES.
2. ALL CRITICAL EQUIPMENT SHALL BE CONNECTED TO BOTH CORE SWITCHES.
3. FOR BUILDING-TO-BUILDING FIBER CONNECTIONS, USE LR SFPS UNLESS ER IS REQUIRED DUE TO BUILDING DISTANCE. FOR INTRA-BUILDING FIBER CONNECTIONS, USE LRM SFPS UNLESS CLOSET DISTANCES REQUIRE LR. USE OEM OPTICS FOR CISCO AND MERAKI FOR BASE BID.
4. CONFIGURE ALL DUAL-UPLINK CONNECTIONS WITH LACP.
5. BUILDING BACKBONE CONNECTION SHALL OPERATE AT 20 GB (2 X 10 GB) LINKS.
6. INCLUDE DUAL POWER SUPPLIES FOR ALL SWITCHES.
7. ALL BACKBONE SHALL BE CONFIGURED AS 802.11Q VLAN TRUNKS.
8. ALL SWITCHES SHALL BE CONFIGURED TO SUPPORT VOICE VLAN.
9. ALL SWITCHES SHALL BE CONFIGURED WITH QOS TO PRIORITIZE VOICE AND VIDEO TRAFFIC.
10. RE-USE DISTRICTS EXISTING VLAN STRUCTURE.
11. PROVIDE ALL SFP UNITS AND FIBER PATCH CORDS, STACKING CABLES, ETC. AS REQUIRED TO IMPLEMENT A FULLY FUNCTIONING, TURN-KEY NETWORK.
12. CISCO AND MERAKI ARE USED AS THE BASIS OF DESIGN TO INTEGRATE WITH THE EXISTING NETWORK ENVIRONMENT. EQUIVALENT MANUFACTURERS MAY BE SUBMITTED AS A VOLUNTARY ALTERNATE.

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