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Autodesk Docs/230736 ATCC Student Services & Transportation Center/ATCC Student Services & Transportation Center - T32x4
2/26/2026 8:45:45 AM

AUDIO/VISUAL MULTIMEDIA LEGEND	
	WALL AV ROUGH-IN DETAIL
	CEILING AV ROUGH-IN DETAIL
	FLOOR AV ROUGH-IN DETAIL
	INTERACTIVE WHITE BOARD - WALL - CEILING
	MULTIMEDIA PROJECTOR
	MULTIMEDIA FLAT PANEL DISPLAY
	LOUD SPEAKER, CEILING MOUNTED - # INDICATES TYPE
	CONTROL PANEL
	TOUCH PANEL
	MICROPHONE, CEILING MOUNTED - # INDICATES TYPE
	VOLUME CONTROL
	WALL BOX ENCLOSURE
	D1 = DIGITAL SINGLE SIDED CLOCK / A1 = ANALOG SINGLE SIDED CLOCK
	D2 = DIGITAL DOUBLE SIDED CLOCK / A2 = ANALOG DOUBLE SIDED CLOCK
	CEILING ENCLOSURE
	PRESENTATION CAMERA - CEILING - WALL MOUNTED
	TEACHERS WORK STATION

PREMISE SECURITY LEGEND	
	CARD READER
	CARD READER MULLION
	INTRUSION DETECTION KEYPAD (REFERENCE SYMBOL LEGEND FOR DIFFERENT TYPES)
	INTERCOM (1 DATA CABLE, PLUS TRIGGER CABLE TO ACS PANEL)
	INTERCOM MASTER STATION (1 DATA CABLE)
	PANIC / DURESS BUTTON
	LOCK DOWN BUTTON
	MOTION DETECTOR (REFERENCE SYMBOL LEGEND FOR DIFFERENT TYPES)
	ACCOUSTICAL GLASS BREAK SENSOR
	BIOMETRIC READER
	REQUEST TO EXIT - SURFACE PIR
	KEY SWITCH
	LOCAL ALARM SOUNDER
	RED/GREEN INDICATOR LIGHT
	DOORBELL
	MAGNETIC DOOR HOLD
	VISUAL STROBE
	DOOR RELEASE BUTTON, CONTROLLED DOOR LEAF
	REQUEST TO EXIT - INTEGRAL TO DOOR HARDWARE, SURFACE MOUNT MOTION, INTEGRAL TO DOOR HARDWARE
	DOOR CONTACT / MONITOR / POSITION SWITCH
	ELECTRIFIED HARDWARE (REFER TO DIV 08 SCHEDULES)
	ADA DOOR AUTO OPERATOR BUTTON
	WIRELESS LOCK HUB, # = TYPE
	STANDARD IP SURVEILLANCE CAMERA, (1) DATA CABLE
	180° MULTI-PAGER IP SURVEILLANCE CAMERA, (1) DATA CABLE
	360° MULTI-PAGER IP SURVEILLANCE CAMERA, (1) DATA CABLE
	2 - SENSOR IP SURVEILLANCE CAMERA, (1) DATA CABLE
	360° FISHEYE LENS CAMERA, (1) DATA CABLE
	IR ILLUMINATOR, (1) DATA CABLE AND TRIGGER TO CAMERA
	ACCESS CONTROL PANEL LOCATION
	INTRUSION DETECTION PANEL LOCATION

STRUCTURED CABLING LEGEND	
	TELECOMMUNICATIONS OUTLET, # =NUMBER OF DATA CABLE(S)/JACK(S)
	TELECOMMUNICATIONS OUTLET, ## = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S)
	TELECOMMUNICATIONS OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S), SURFACE MOUNT
	TELECOMMUNICATIONS OUTLET, ## = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S), SURFACE MOUNT
	WALL MOUNT PHONE (1 CABLE/JACK)
	WALL MOUNT PHONE, SURFACE MOUNT (1 CABLE/JACK)
	FLOOR MOUNTED OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S) (FLOOR BOX BY E.C.)
	FLOOR MOUNTED OUTLET, ## = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S) (FLOOR BOX BY E.C.)
	CEILING MOUNTED DATA OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S)
	CEILING MOUNTED OUTLET FOR WIRELESS ACCESS POINT #=NUMBER OF CABLE(S)/JACK(S)
	WALL MOUNTED OUTLET FOR WIRELESS ACCESS POINT #=NUMBER OF CABLE(S)/JACK(S)
	CABLING SLEEVE(S)
	TYPICAL LADDER RACK
	TYPICAL CABLE TRAY, BASKET STYLE

GENERAL ANNOTATION LEGEND	
	MAIN TELECOMMUNICATIONS ROOM
	TELECOMMUNICATION ROOM
	MAIN DISTRIBUTION FRAME
	INTERMEDIATE DISTRIBUTION FRAME
	EXISTING TO REMAIN
	PROVIDED BY OTHERS
	ABOVE FINISHED FLOOR
	ABOVE FINISHED GRADE
	ABOVE COUNTER
	ELECTRICAL CONTRACTOR
	PREMISE SECURITY CONTRACTOR
	STRUCTURAL CABLING CONTRACTOR
	AV/MULTIMEDIA CONTRACTOR
	UNLESS NOTED OTHERWISE
	ACCESS CONTROL SYSTEM
	INTRUSION DETECTION SYSTEM
	VIDEO SURVEILLANCE SYSTEM

TECHNOLOGY SHEET INDEX	
SHEET NUMBER	SHEET NAME
T000	TECHNOLOGY - INDEX SHEET
T100	TECHNOLOGY - LEVEL 1 - OVERALL PLAN
T101a	TECHNOLOGY - LEVEL 1 FLOOR PLAN - TC AREA A
T101b	TECHNOLOGY - LEVEL 1 FLOOR PLAN - TC AREA B
T101c	TECHNOLOGY - MEZZANINE LEVEL - TC BUILDING
T500	TECHNOLOGY - DETAILS
T501	TECHNOLOGY - DETAILS
T600	TECHNOLOGY - SECURITY DETAILS
T601	TECHNOLOGY - SECURITY DETAILS
T602	TECHNOLOGY - SECURITY DETAILS
T700	TECHNOLOGY - AV DETAILS

TECHNOLOGY - GENERAL NOTES

- EACH KEYNOTE MAY NOT BE UTILIZED ON EVERY SHEET.
- ALL CONDUIT MEASUREMENTS REFER TO STANDARD CONDUIT TRADE SIZES.
- ALL CABLES SHALL BE CONCEALED.
- EACH CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY SLEEVES, WHETHER OR NOT SPECIFICALLY NOTED ON PROJECT DRAWINGS. ALL SLEEVES SHALL BE 2" UNLESS NOTED OTHERWISE ON THE DRAWINGS. CABLE FILL PERCENTAGE SHALL COMPLY WITH NEC.
- DEVICE LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL REVIEW CONDITIONS AND COORDINATE WITH OTHER TRADES AS NECESSARY FOR EXACT PLACEMENT.

TECHNOLOGY SYMBOLS LEGEND		NOT ALL SYMBOLS ARE USED	
	AV WALL ROUGH-IN WITH DATA		KEYNOTE
	Proposed Camera Direction SURVEILLANCE CAMERA		Camera Schedule Number (Floor #-Camera #)
	Camera (N)ew, (E)xisting Rough-in, (D)emo		Proposed Camera Direction PTZ CAMERA
	Proposed Camera Direction FIXED SURVEILLANCE CAMERA		Approximate view of lens Lens View Angle 360°/MULTI-SENSOR FIXED SURVEILLANCE CAMERA OR FISHEYE LENS CAMERA
	Lens size		MICROPHONE WITH AUDIO LINKED TO CAMERA
	SYMBOL TAG		SYMBOL TAG
	SYMBOL TAG		SYMBOL TAG
	SYMBOL TAG		SYMBOL TAG



21 W. Superior St., Ste 500 | Duluth, MN 55802 | 218.727.8446

CLIENT:

ALEXANDRIA TECH
AND COMM. COLLEGE
1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

ELECTRICAL CONSULTANT:

HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:

INSPEC
1000 Parkers Lake Road, Suite 100
Wayside, MN 55391

TECHNOLOGY CONSULTANT:

TRUE NORTH
140 3rd Street South
Stillwater, MN 55082

ACOUSTICS CONSULTANT:

KRA
1917 Coventry Court
Mendota Heights, MN 55118



THIS SQUARE APPEARS 1/2"x1/2"
ON FULL SIZE SHEETS

	02/27/2026	BID PACK #2
	12/22/2025	BID PACK #1
NO	DATE	ISSUED FOR

NO	DATE	REVISION
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PROJECT NAME:

ATCC-23
TRANSPORTATION
CENTER

1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

DRAWING TITLE:

TECHNOLOGY - INDEX
SHEET

DRAWN BY: Author

CHECKED BY: Checker

PROJ. NO: 230736

DRAWING NO:

T000

Autodesk Docs/230736-ATCC Student Services & Transportation Center/ATCC Student Services & Transportation Center - T2474
2/26/2026 8:44:55 AM

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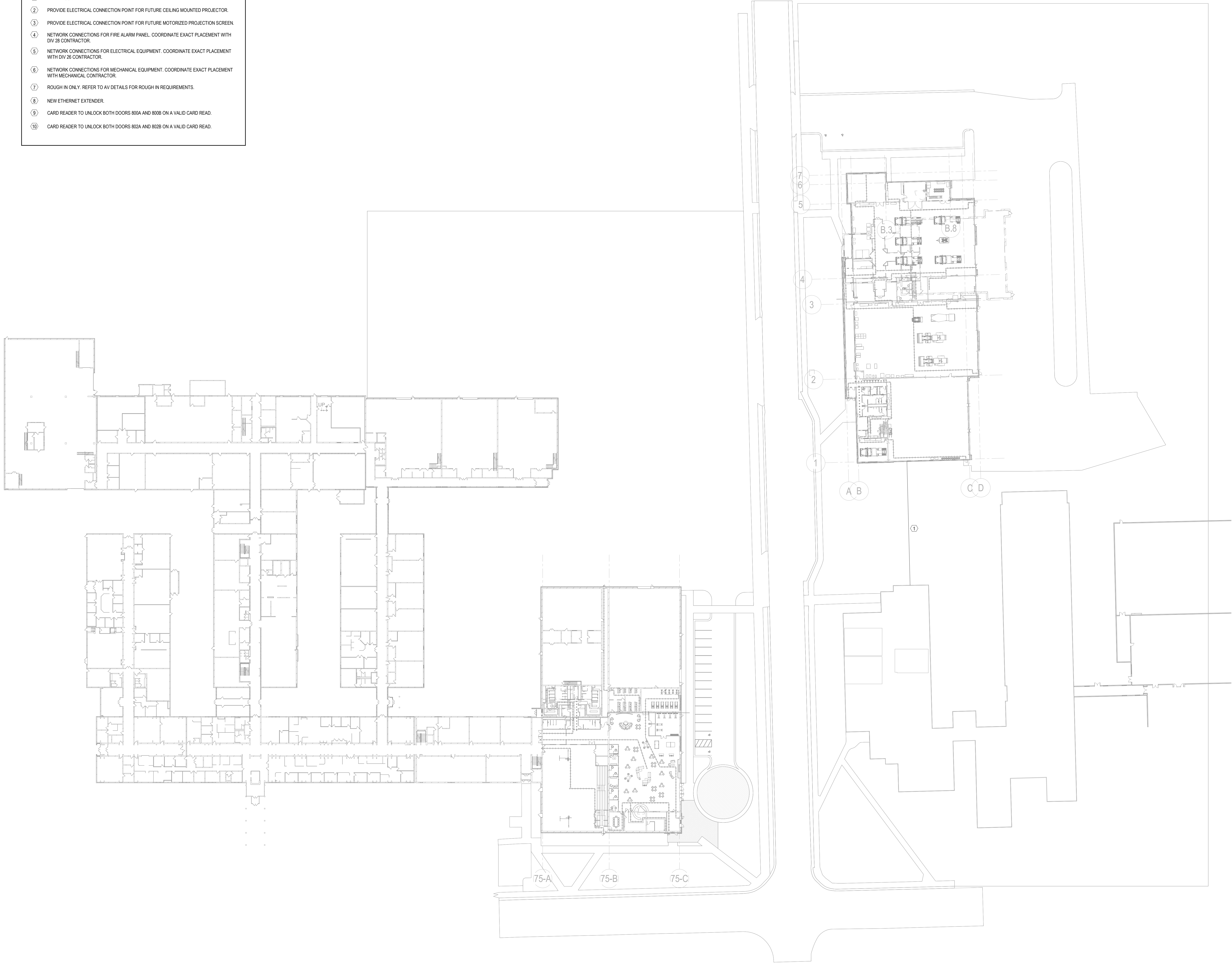
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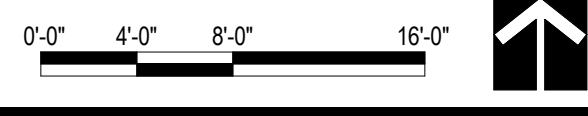
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TECHNOLOGY KEYNOTES	
①	INSTALL (1) 2" HDPE CONDUIT FROM 700 BUILDING TO NEW TRANSPORTATION BUILDING.
②	PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE CEILING MOUNTED PROJECTOR.
③	PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE MOTORIZED PROJECTION SCREEN.
④	NETWORK CONNECTIONS FOR FIRE ALARM PANEL. COORDINATE EXACT PLACEMENT WITH DIV 28 CONTRACTOR.
⑤	NETWORK CONNECTIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH DIV 26 CONTRACTOR.
⑥	NETWORK CONNECTIONS FOR MECHANICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH MECHANICAL CONTRACTOR.
⑦	ROUGH IN ONLY. REFER TO AV DETAILS FOR ROUGH IN REQUIREMENTS.
⑧	NEW ETHERNET EXTENDER.
⑨	CARD READER TO UNLOCK BOTH DOORS 800A AND 800B ON A VALID CARD READ.
⑩	CARD READER TO UNLOCK BOTH DOORS 802A AND 802B ON A VALID CARD READ.



1 OVERALL - LEVEL 1
SCALE: 1" = 40'-0"



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ALEXANDRIA TECH
AND COMM. COLLEGE
1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

ELECTRICAL CONSULTANT:

HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:

INSPEC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

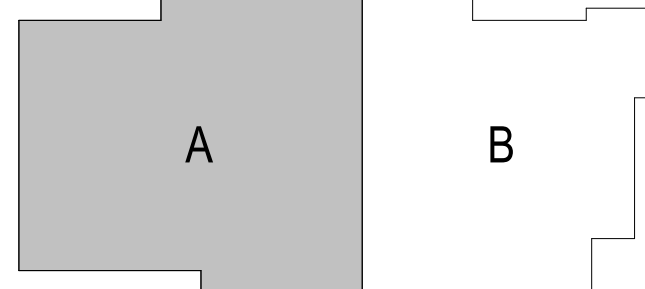
TECHNOLOGY CONSULTANT:

TRUE NORTH
140 3rd Street South
Stillwater, MN 55082

ACOUSTICS CONSULTANT:

KRA
1917 Coventry Court
Mendota Heights, MN 55118

TRANSPORTATION CENTER



KEYPLAN

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NO	DATE	REVISION
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PROJECT NAME:

ATCC-23
TRANSPORTATION
CENTER

1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

DRAWING TITLE:

TECHNOLOGY - LEVEL
1 - OVERALL PLAN

DRAWN BY: Author
CHECKED BY: Checker
PROJ. NO: 230736
DRAWING NO:

T100

ELECTRICAL CONSULTANT:
HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:
INSPC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
TRUE NORTH
140 3rd Street South
Stillwater, MN 55082

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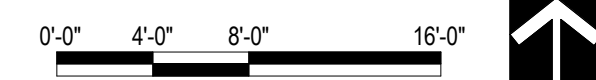
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ALEXANDRIA, MN 56308

DRAWING TITLE:
TECHNOLOGY - LEVEL
1 FLOOR PLAN - TC
AREA A

DRAWN BY: Author
CHECKED BY: Checker
PROJ. NO: 230736
DRAWING NO:

TECHNOLOGY KEYNOTES

- ① INSTALL (1) 2" HDPE CONDUIT FROM 700 BUILDING TO NEW TRANSPORTATION BUILDING.
- ② PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE CEILING MOUNTED PROJECTOR.
- ③ PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE MOTORIZED PROJECTION SCREEN.
- ④ NETWORK CONNECTIONS FOR FIRE ALARM PANEL. COORDINATE EXACT PLACEMENT WITH DWG CONTRACTOR.
- ⑤ NETWORK CONNECTIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH DWG CONTRACTOR.
- ⑥ NETWORK CONNECTIONS FOR MECHANICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH MECHANICAL CONTRACTOR.
- ⑦ ROUGH IN ONLY. REFER TO AV DETAILS FOR ROUGH IN REQUIREMENTS.
- ⑧ NEW ETHERNET EXTENDER.
- ⑨ CARD READER TO UNLOCK BOTH DOORS 800A AND 800B ON A VALID CARD READ.
- ⑩ CARD READER TO UNLOCK BOTH DOORS 802A AND 802B ON A VALID CARD READ.



1 LEVEL 1 FLOOR PLAN - TC AREA A
SCALE: 1/8" = 1'-0"

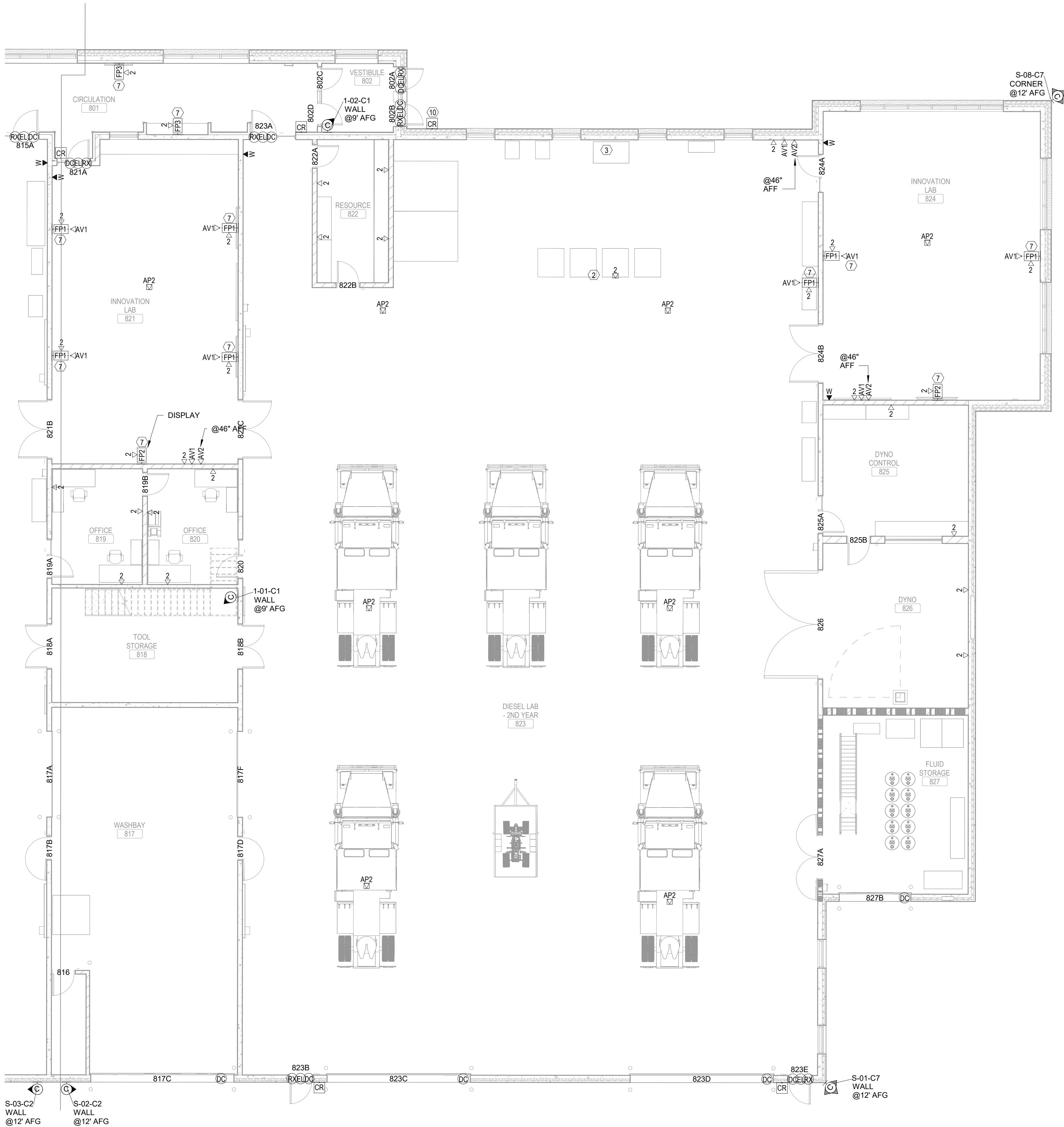
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1 LEVEL 1 FLOOR PLAN - TC AREA B
SCALE: 1/8" = 1'-0"

TECHNOLOGY KEYNOTES

1. INSTALL (1) 2" HDPE CONDUIT FROM 700 BUILDING TO NEW TRANSPORTATION BUILDING.
2. PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE CEILING MOUNTED PROJECTOR.
3. PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE MOTORIZED PROJECTION SCREEN.
4. NETWORK CONNECTIONS FOR FIRE ALARM PANEL. COORDINATE EXACT PLACEMENT WITH DIV 28 CONTRACTOR.
5. NETWORK CONNECTIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH DIV 26 CONTRACTOR.
6. NETWORK CONNECTIONS FOR MECHANICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH MECHANICAL CONTRACTOR.
7. ROUGH IN ONLY. REFER TO AV DETAILS FOR ROUGH IN REQUIREMENTS.
8. NEW ETHERNET EXTENDER.
9. CARD READER TO UNLOCK BOTH DOORS 800A AND 800B ON A VALID CARD READ.
10. CARD READER TO UNLOCK BOTH DOORS 802A AND 802B ON A VALID CARD READ.



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**ALEXANDRIA TECH
AND COMM. COLLEGE**
1601 JEFFERSON STREET
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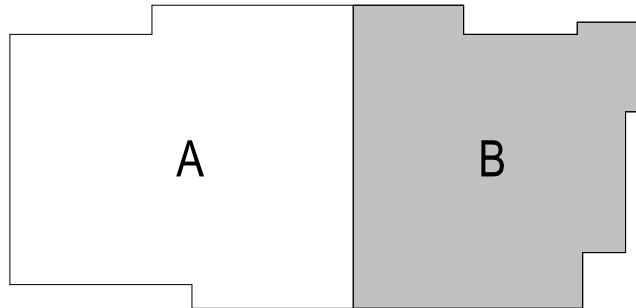
ELECTRICAL CONSULTANT:
HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:
INSPIC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
TRUE NORTH
140 3rd Street South
Stillwater, MN 55082

ACOUSTICS CONSULTANT:
KRA
1917 Coventry Court
Mendota Heights, MN 55118

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KEYPLAN

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12/22/2025	BID PACK #1
NO	DATE
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PROJECT NAME:
**ATCC-23
TRANSPORTATION
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1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

DRAWING TITLE:
**TECHNOLOGY - LEVEL
1 FLOOR PLAN - TC
AREA B**

DRAWN BY: Author
CHECKED BY: Checker
PROJ. NO: 230736
DRAWING NO:

T101b

0'-0" 4'-0" 8'-0" 16'-0"



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Autodesk Docs/07/07/2018 ATCC Student Services & Transportation Center/ATCC Student Services & Transportation Center - T2474
2/26/2026 8:55:11 AM

1 MEZZANINE FLOOR PLAN - TC BUILDING
SCALE: 3/32" = 1'-0"

0'-0" 4'-0" 8'-0" 16'-0"



TECHNOLOGY KEYNOTES	
①	INSTALL (1) 2" HDPE CONDUIT FROM 700 BUILDING TO NEW TRANSPORTATION BUILDING.
②	PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE CEILING MOUNTED PROJECTOR.
③	PROVIDE ELECTRICAL CONNECTION POINT FOR FUTURE MOTORIZED PROJECTION SCREEN.
④	NETWORK CONNECTIONS FOR FIRE ALARM PANEL. COORDINATE EXACT PLACEMENT WITH DIV 28 CONTRACTOR.
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⑥	NETWORK CONNECTIONS FOR MECHANICAL EQUIPMENT. COORDINATE EXACT PLACEMENT WITH MECHANICAL CONTRACTOR.
⑦	ROUGH IN ONLY. REFER TO AV DETAILS FOR ROUGH IN REQUIREMENTS.
⑧	NEW ETHERNET EXTENDER.
⑨	CARD READER TO UNLOCK BOTH DOORS 800A AND 800B ON A VALID CARD READ.
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CLIENT:
**ALEXANDRIA TECH
AND COMM. COLLEGE**
1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

ELECTRICAL CONSULTANT:
HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:
INSPIC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
TRUE NORTH
140 3rd Street South
Stillwater, MN 55062

ACOUSTICS CONSULTANT:
KRA
1917 Coventry Court
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PROJECT NAME:
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1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

DRAWING TITLE:
**TECHNOLOGY -
MEZZANINE LEVEL - TC
BUILDING**

DRAWN BY: Author
CHECKED BY: Checker
PROJ. NO: 230736
DRAWING NO:

T101c

Autodesk Docs/030736 ATCC Student Services & Transportation Center/ATCC Student Services & Transportation Center - T24-04
2/26/2026 8:55:11 AM

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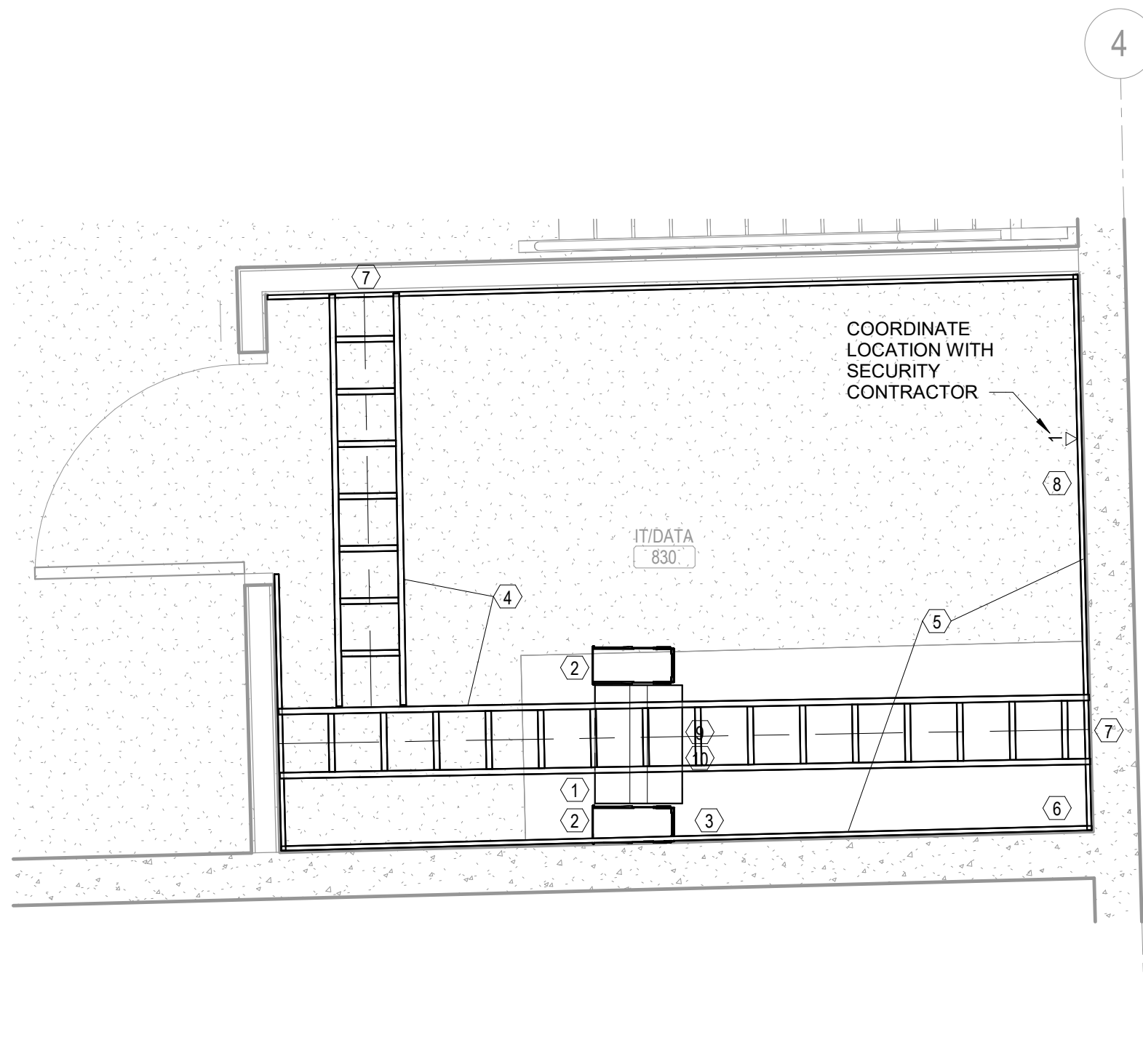
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1 ENLARGEMENT - IT/DATA ROOM 803A
SCALE: 1/2" = 1'-0"



ENLARGEMENT KEYNOTES

- 2-POST RACK, SECURED TO FLOOR WITH EXPANSION ANCHORS. FIRST RACK SHALL BE 6" FROM WALL. IF VERTICAL WIRE PRESENT BETWEEN RACK AND WALL THEN VERTICAL WIRE MANAGER ATTACHED TO WALL SIDE OF RACK SHALL BE 6" FROM WALL. (TYPICAL)
- 6" VERTICAL WIRE MANAGER SECURED TO SIDE OF RACK (TYPICAL)
- GROUND BUS BAR, MOUNTED 6" AFF, ELECTRON PLATED AND PREDRILLED TO ACCEPT STANDARD TWO-HOLE LUGS.
- 12"x2" LADDER RACK SECURED TO TOP OF RACK WITH LADDER RACK MOUNTING PLATE AND BOLTED TO WALL. WITH WATER FALLS INTO VERTICAL WIRE MANAGERS (TYPICAL)
- 3/4" FIRED RATED PLYWOOD SECURED TO WALL AT 22" AFF. IF THE PLYWOOD IS PAINTED, THE PAINT SHALL BE FIRE RETARDANT PAINT ON BOTH SIDES AND THE RATING STAMP ON THE PLYWOOD SHALL BE EXPOSED.
- (1) 4" CONDUIT SLEEVES STUBBED UP 4", FROM FLOOR BELOW, WITH UL-LISTED 2-HOUR RATED RE-ENTERABLE FIRE STOP SYSTEM.
- FIRESTOP SLEEVES, STI EZPATH OR HILTI SPEED SLEEVES.
- SPACE RESERVED FOR SECURITY PANELS.
- ONE, (1) CORDED RECEPTACLE (5-20R) DROP EXTENDING TO TOP OF DATA RACK PROVIDED BY E. C.
- ONE, (1) CORDED RECEPTACLE (5L30R) DROP EXTENDING TO TOP OF DATA RACK PROVIDED BY E. C.



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ELECTRICAL CONSULTANT:

HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:

INSPEC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

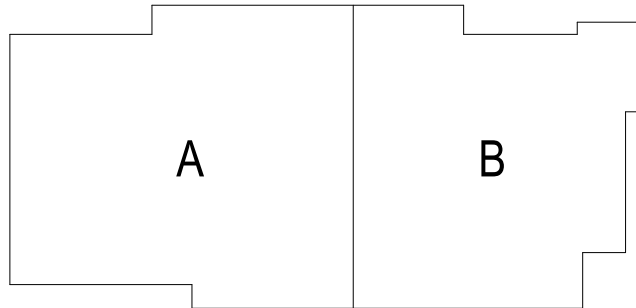
TECHNOLOGY CONSULTANT:

TRUE NORTH
140 3rd Street South
Stillwater, MN 55052

ACOUSTICS CONSULTANT:

KRA
1917 Coventry Court
Mendota Heights, MN 55118

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ATCC-23
TRANSPORTATION
CENTER

1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

DRAWING TITLE:

TECHNOLOGY -
ENLARGEMENTS

DRAWN BY: Author

CHECKED BY: Checker

PROJ. NO: 230736

DRAWING NO:

T400

Autodesk Docs/230718-ATCC Student Services & Transportation Center/ATCC Student Services & Transportation Center - T24-4
2/26/2026 8:55:02 AM



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CLIENT:
**ALEXANDRIA TECH
AND COMM. COLLEGE**
1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

ELECTRICAL CONSULTANT:
HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:
INSPEC
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
TRUE NORTH
140 3rd Street South
Stillwater, MN 55082

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KRA
1917 Coventry Court
Mendota Heights, MN 55118

GROUNDING & BONDING GENERAL NOTES

- ELECTRICAL CONTRACTOR RESPONSIBILITY - TELECOMMUNICATION MAIN GROUNDING BUSBAR (TMGB), TELECOMMUNICATION GROUNDING BUSBAR(S) (TGBS), AND THE BONDING CONDUCTORS TO THE BUILDING GROUNDING ELECTRODE, BUILDING STRUCTURAL STEEL, AND BONDING OF ALL TGBS TO THE TMGB SHALL BE FINISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL GROUNDING OF EQUIPMENT, RACKS, CABINETS, AND DEVICES SHALL BE THE RESPONSIBILITY OF THE DIVISION 27 TECHNOLOGY CONTRACTOR.
- REFER TO GROUNDING AND BONDING DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- BONDING CONDUCTORS SHALL BE #10 AWG COLOR GREEN INSULATED COPPER CONDUCTOR OR SIZED PER "BONDING CONDUCTOR SIZING CHART" (ANSI J-STD-607-B) IN PATHWAY.
- FASTENING BONDING CONNECTOR TWO-HOLE LUGS TO ALL BUSBARS SHALL BE CLEANED AND APPLY A COPPER ANTI-OXIDANT TO THE CONTACT AREA OF BOTH THE CONNECTOR LUG AND THE BUSBAR.
- BONDING CONDUCTORS AND BUSBARS SHALL BE LABELED, WITH IDENTIFICATION IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI/TIA/EIA-606-B.
- BONDING CONDUCTORS SHALL BE LABELED WITH IDENTIFICATION LABEL NOTED BELOW AND SECURED WITH CABLE TIE TO EACH CONDUCTOR. (ANSI J-STD-607-B) "IF THIS CONNECTOR OR CABLE IS LOOSE OR MUST BE REMOVED, PLEASE CALL THE BUILDING TELECOMMUNICATIONS MANAGER".
- DIVISION 27 CONTRACTOR SHALL PERFORM CONTINUITY TESTING MEASUREMENTS OF THE GROUNDING RESISTANCE TO NOT EXCEED 0.1 OHM BETWEEN:
 - THE TMGB AND THE NEAREST GROUNDING ELECTRODE.
 - THE TGB AND THE NEAREST GROUNDING ELECTRODE.
 - EACH TGB AND THE PATHWAY(S), RACK(S), CABINET(S) AND APPLICABLE EQUIPMENT.

GROUNDING & BONDING RISER DETAIL NOTES

- BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) TO BUILDING GROUNDING ELECTRODE. BCT SHALL NOT BE SMALLER THEN THE TBB.
- BCT TO TELECOMMUNICATIONS CABLE RUNWAY(S), RACK(S), CABINET(S) AND APPLICABLE EQUIPMENT. DAISY CHAINING OF BCT AT RELAY RACKS IS NOT ACCEPTABLE. EACH RACK IS TO HAVE A BCT TO A COMPRESSION LUGTAP TO DEDICATED HOME RUN ACT BACK TO THE TGB. SEE DETAILS.
- TYPICAL TBB(S) THAT INTERCONNECTS ALL IDF TGB(S) WITH THE TMGB.
- TYPICAL TBB(S) THAT INTERCONNECTS ALL IDF TGB(S) WITH THE TMGB.
- BONDING CONDUCTOR TO EACH ARMORED FIBER JACKET. IDF SIDE ONLY.
- TYPICAL OF ALL BONDING CONDUCTORS WITH IDENTIFICATION LABEL NOTED BELOW AND SECURED WITH CABLE TIE TO EACH CONDUCTOR. (ANSI J-STD-607-B) "IF THIS CONNECTOR OR CABLE IS LOOSE OR MUST BE REMOVED, PLEASE CALL THE BUILDING TELECOMMUNICATIONS MANAGER."

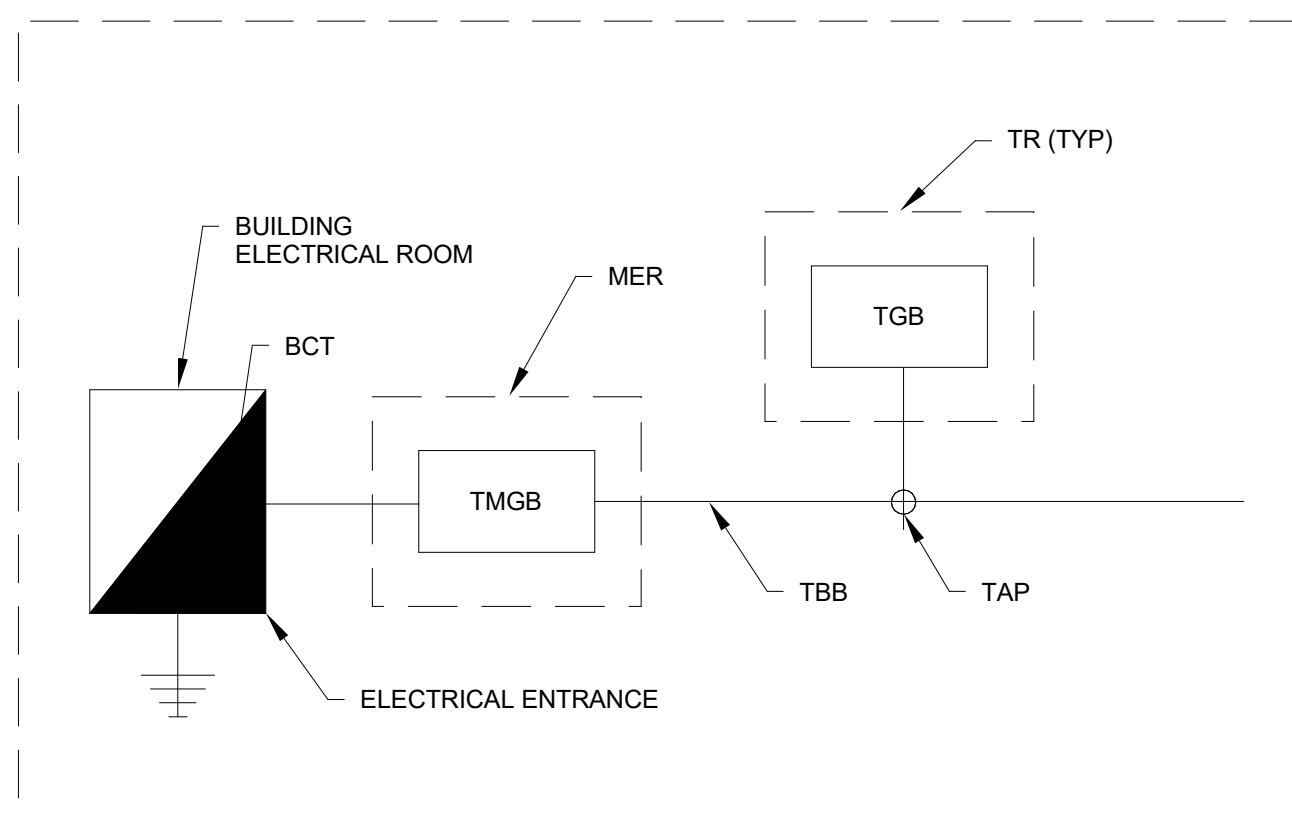
TYPICAL OF ALL BONDING CONDUCTORS CABLE IDENTIFIER/LABEL.

BONDING CONDUCTOR SIZING CHART

LENGTH (FEET)	SIZE (AWG)
LESS THAN (<) 13'	# 6
14' - 20'	# 4
21' - 26'	# 3
27' - 33'	# 2
34' - 41'	# 1
42' - 52'	# 1/0
53' - 66'	# 2/0
GREATER THAN (>) 66'	# 3/0

1 GROUNDING AND BONDING DETAIL

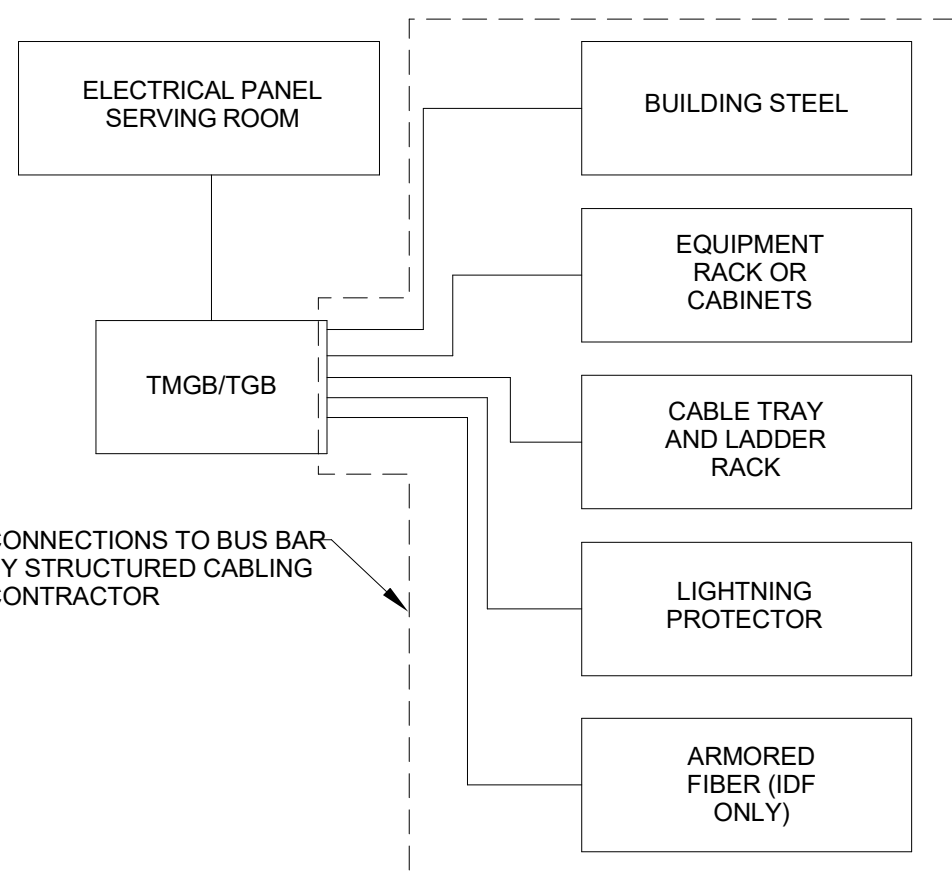
SCALE: NS



NOTES:
TMGB = Telecommunications main grounding busbar
TGB = Telecommunications main grounding busbar
TBB = Telecommunications bonding backbone
BCT = Bonding conductor for telecommunications
TAP = Conductor connects into a main feeder line
MER = Main equipment room
TR = Telecommunications room

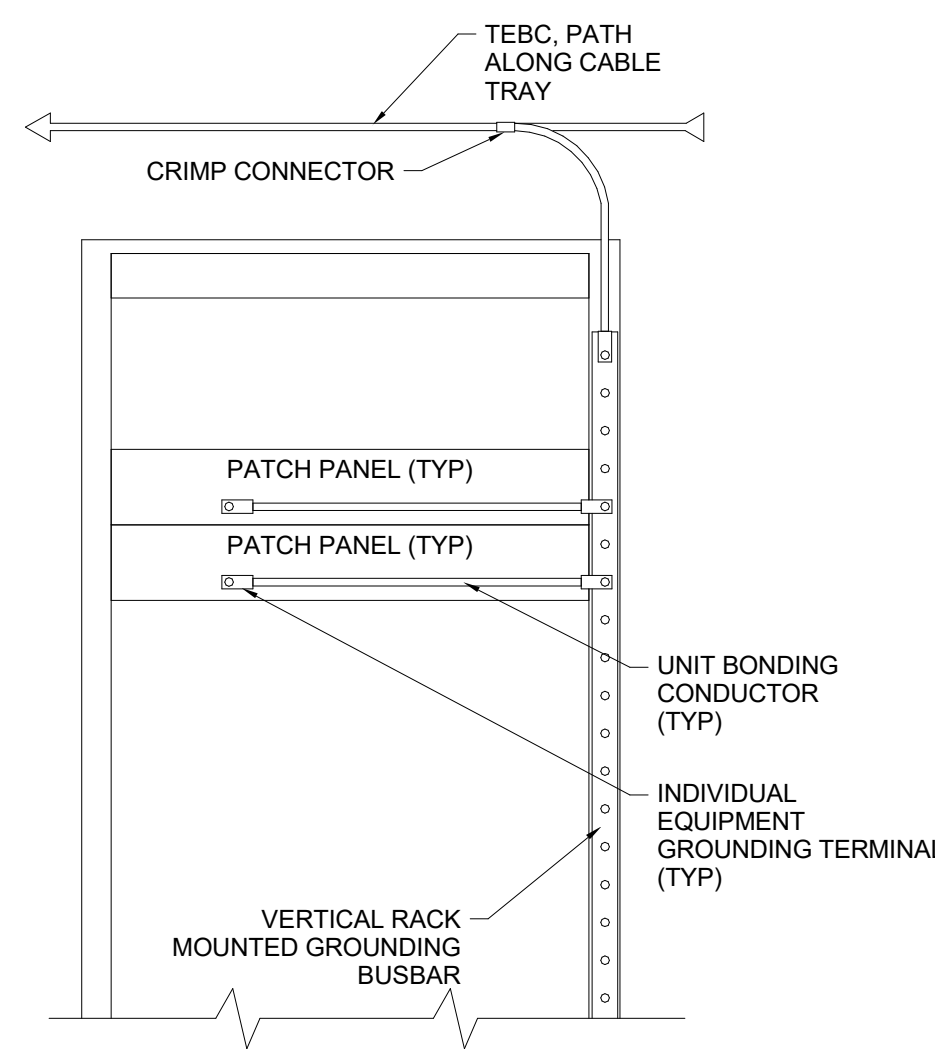
2 TYPICAL GROUNDING FLOW DIAGRAM

SCALE: NS



3 TELECOM ROOM BONDING DIAGRAM

SCALE: NS



4 RACK MOUNTED GROUNDING BAR DETAIL

SCALE: NS

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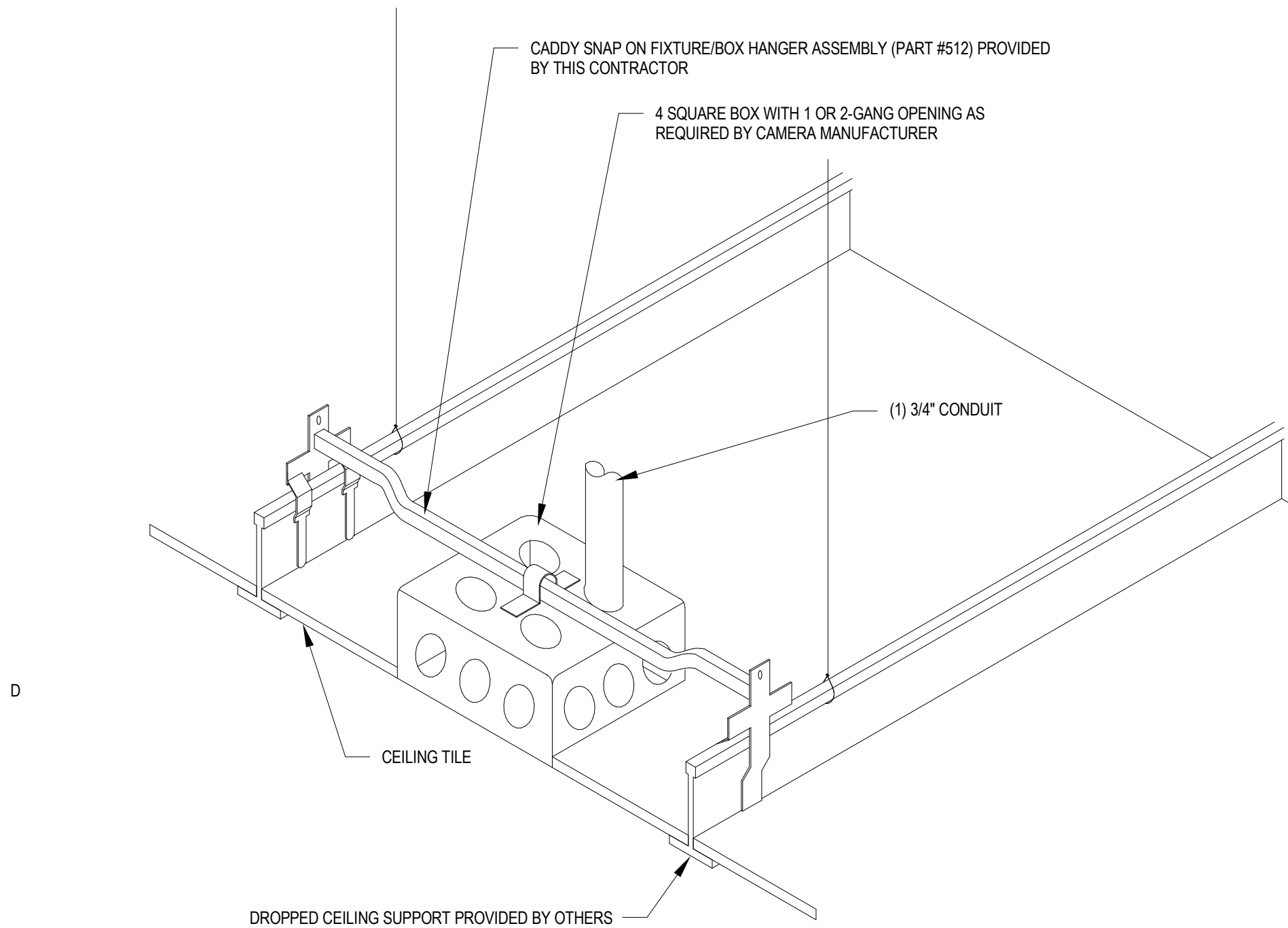
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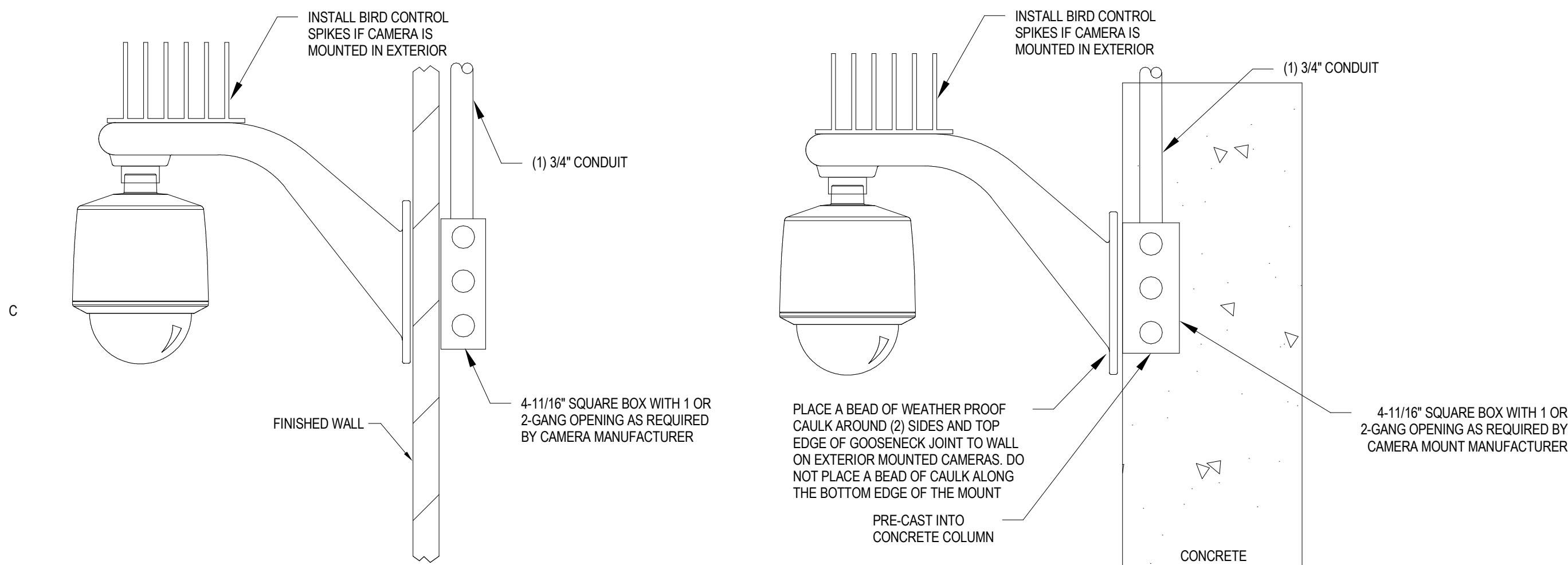
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- GENERAL NOTES:
1. REFER TO SECURITY SCHEDULE AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE WITH HEATER/BLOWER FOR ALL EXTERIOR CAMERAS.
 3. ALL CABLES FROM CAMERAS SHALL BE INSTALLED IN CONDUIT.
 4. ALL MOUNTING DETAILS ARE REFERENCE FOR ALL FIXED DOME, 180°, 360°, PTZ, AND "BULLET/BOX" CAMERAS.
 5. ALL DEVICE LOCATIONS REQUIRE BACK-BOX AND CONCEALED CONDUIT ROUTED WITHIN WALL TO CEILING AREA. CONTINUOUS CONDUITS SECTIONS SHALL BE PROVIDED AT ALL AREAS EXPOSED TO PUBLIC VIEW OR AREAS WITH ROUTINGS ACROSS INACCESSIBLE CEILINGS TO ACCESSIBLE CEILING LOCATION. J-HOOKS CAN BE PROVIDED ABOVE ACCESSIBLE CEILING AREAS. CONDUIT SLEEVES SHALL BE PROVIDED THRU WALLS.
 6. PROVIDE CONDUITS FOR 120VAC AS REQUIRED.

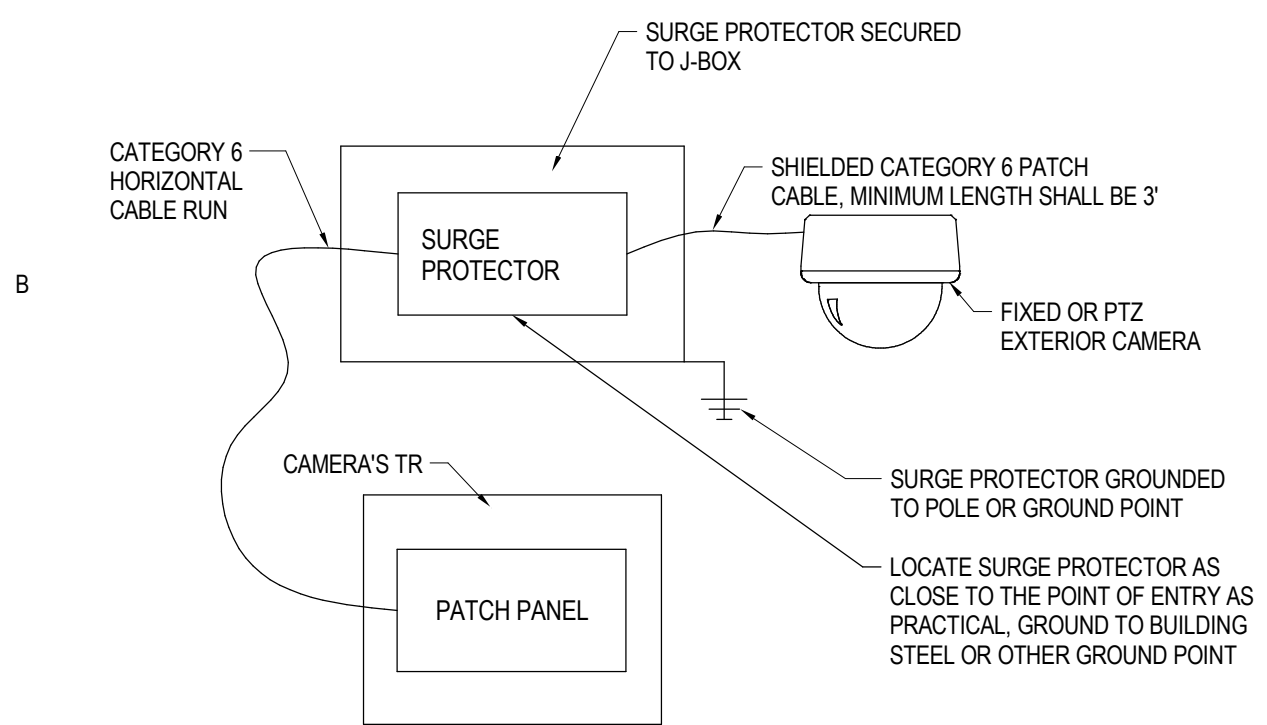


1 TYPICAL TILE BRIDGE SUPPORT DETAIL
SCALE: NTS

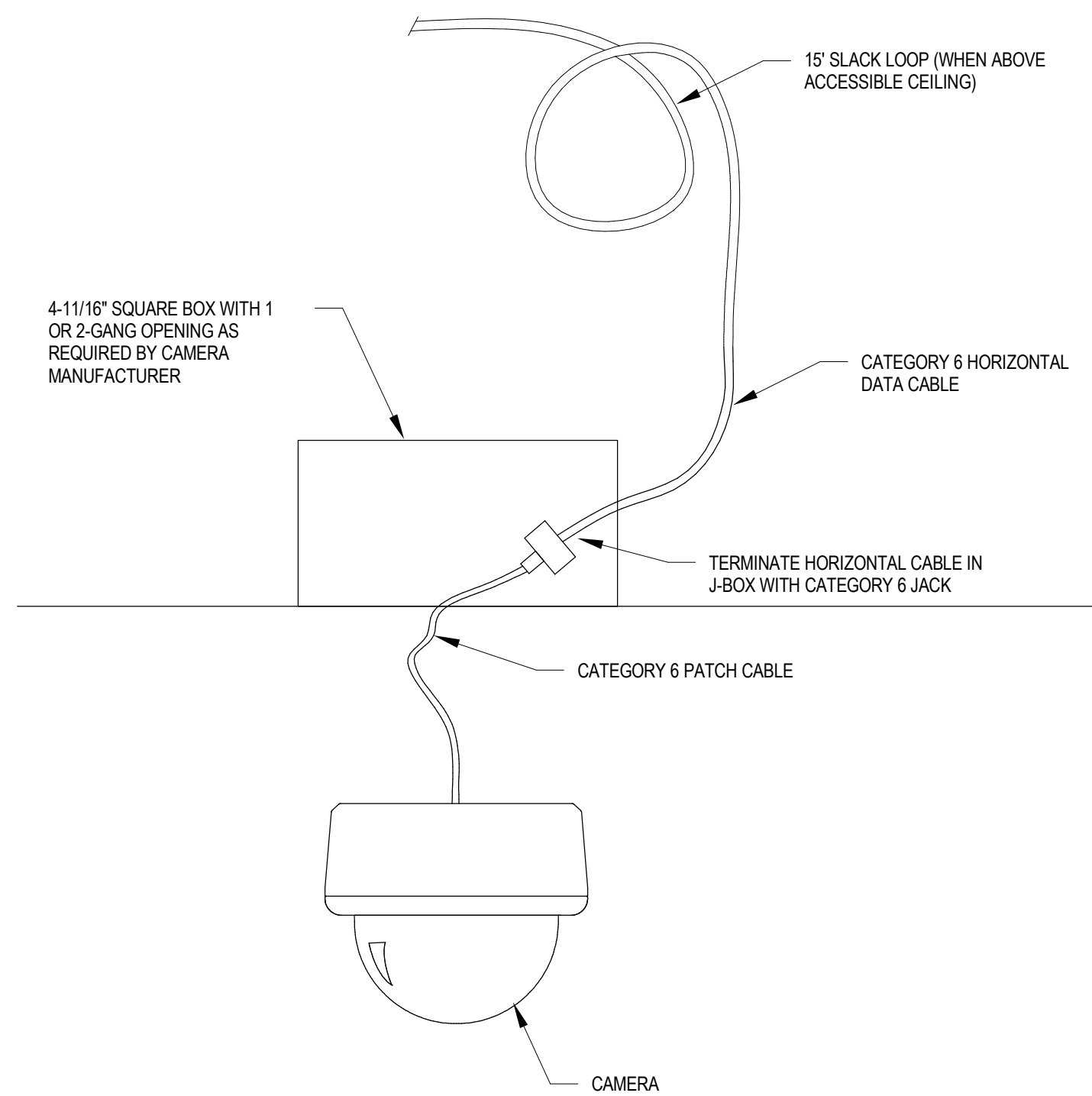


5 TYPICAL FINISHED WALL FLUSH CAMERA MOUNT
SCALE: NTS

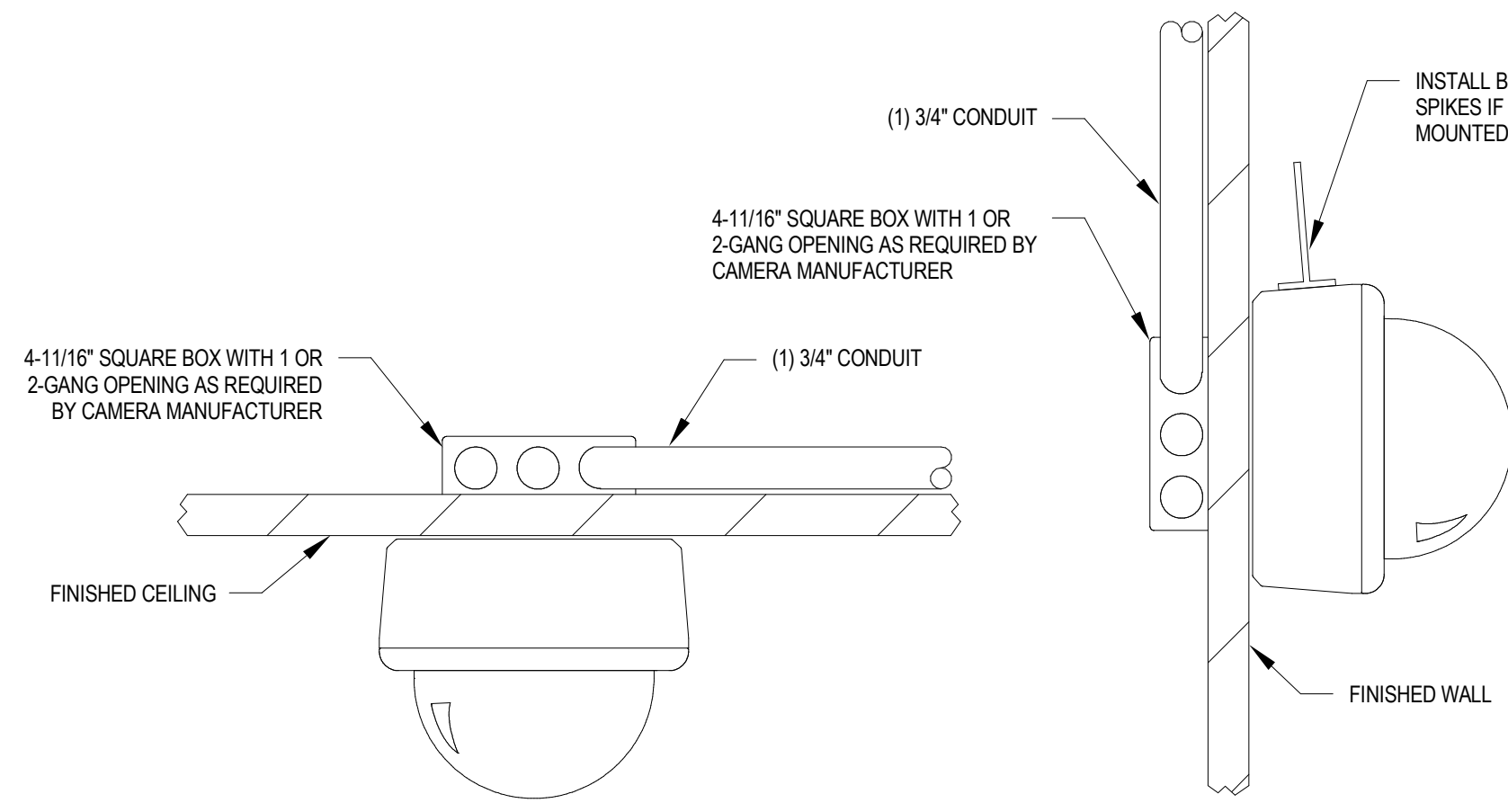
6 WALL MOUNTED CAMERA DETAIL FOR PRECAST NEW CONSTRUCTION
SCALE: NTS



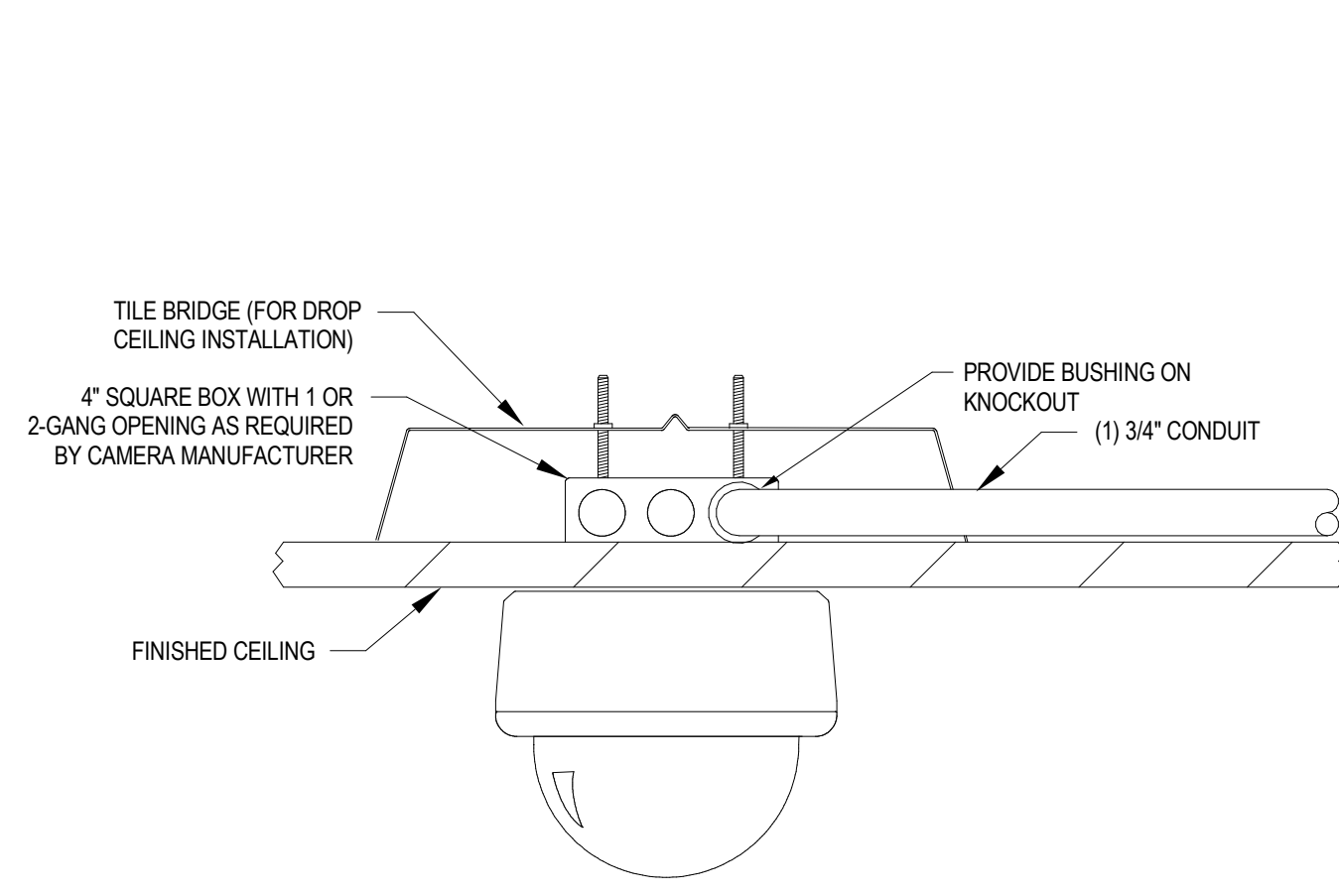
9 CAMERA SIDE SURGE PROTECTOR FOR EXTERIOR CAMERAS
SCALE: NS



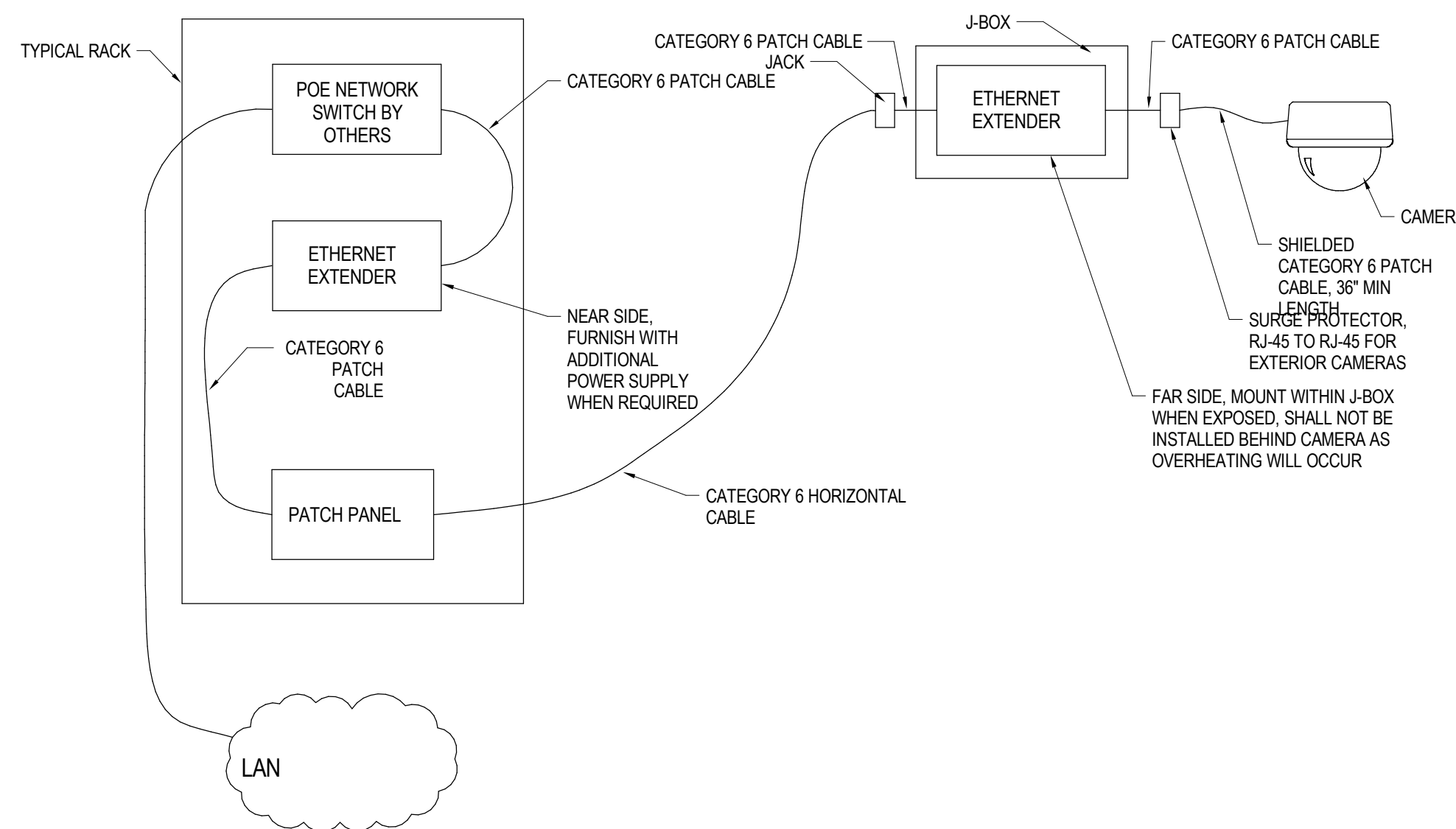
2 TYPICAL CAMERA INSTALLATION SECTION DETAIL
SCALE: NS



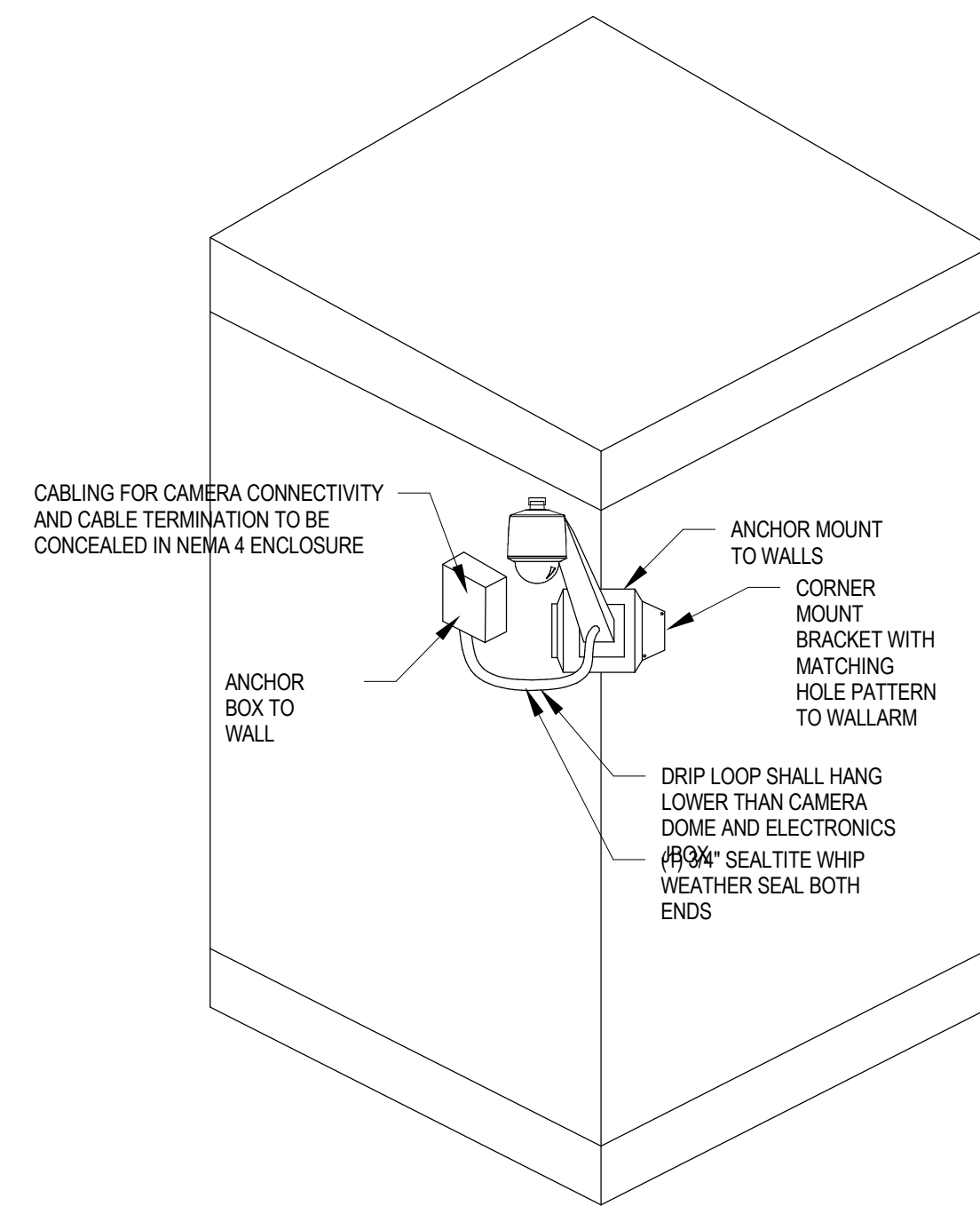
3 HARD CEILING OR WALL MOUNTED CAMERA DETAIL
SCALE: NTS



4 TYPICAL CEILING CAMERA MOUNT
SCALE: NTS



7 CAMERA FLOW DIAGRAM WITH ETHERNET EXTENDER
SCALE: NS



8 EXTERIOR CORNER MOUNTED CAMERA
SCALE: NTS



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CLIENT:
**ALEXANDRIA TECH
AND COMM. COLLEGE**
1601 JEFFERSON STREET
ALEXANDRIA, MN 56308

ELECTRICAL CONSULTANT:
HALLBERG ENGINEERING
5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:
INSPIC

1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
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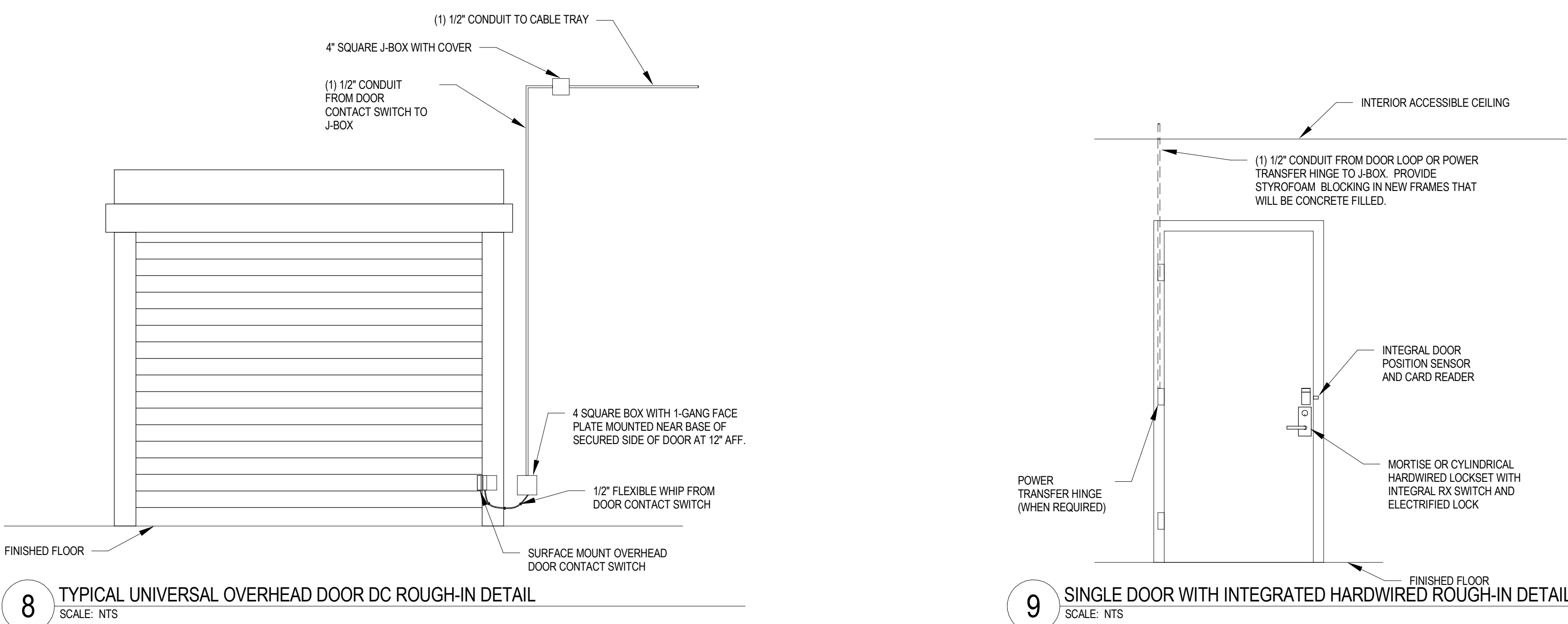
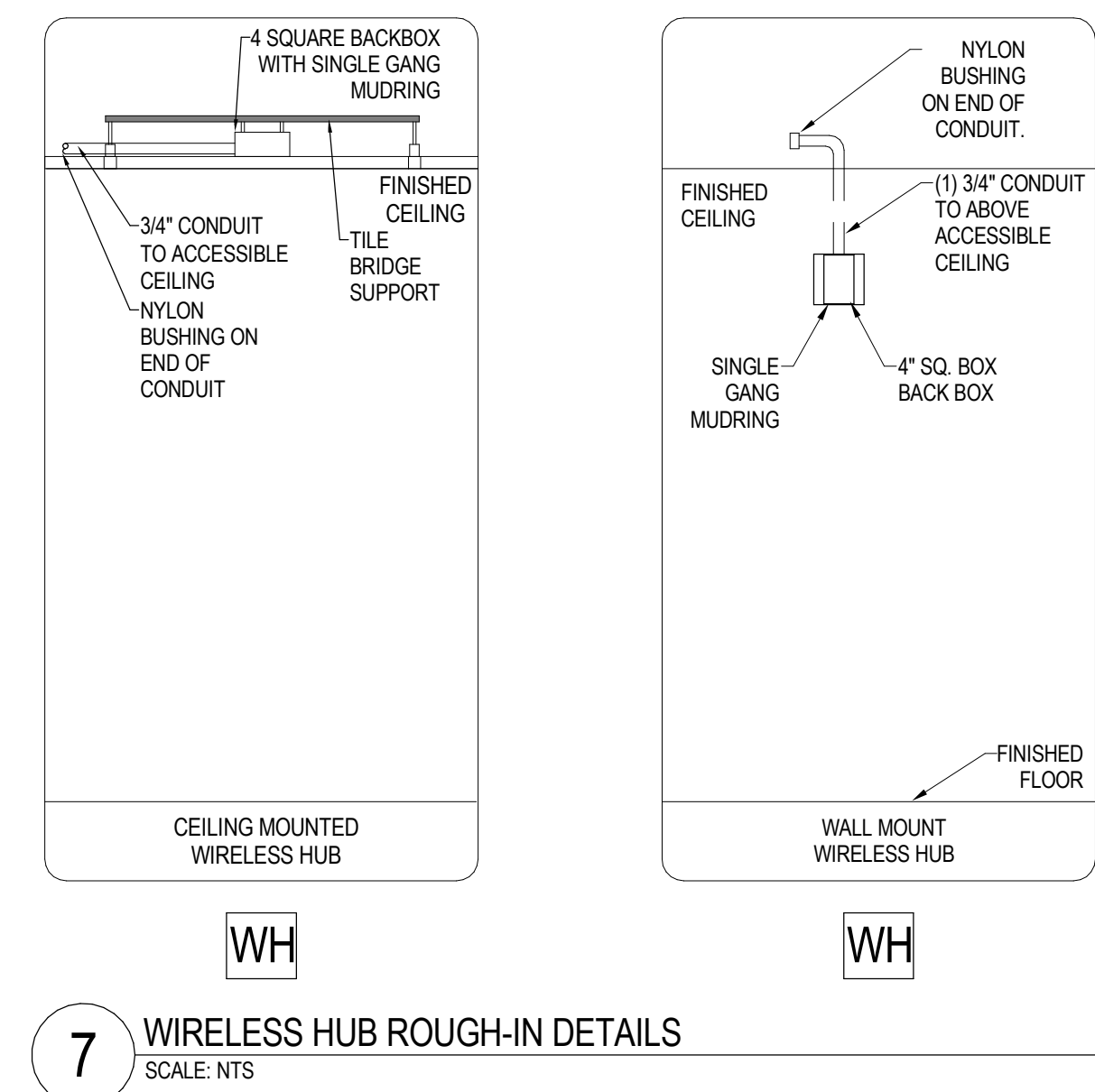
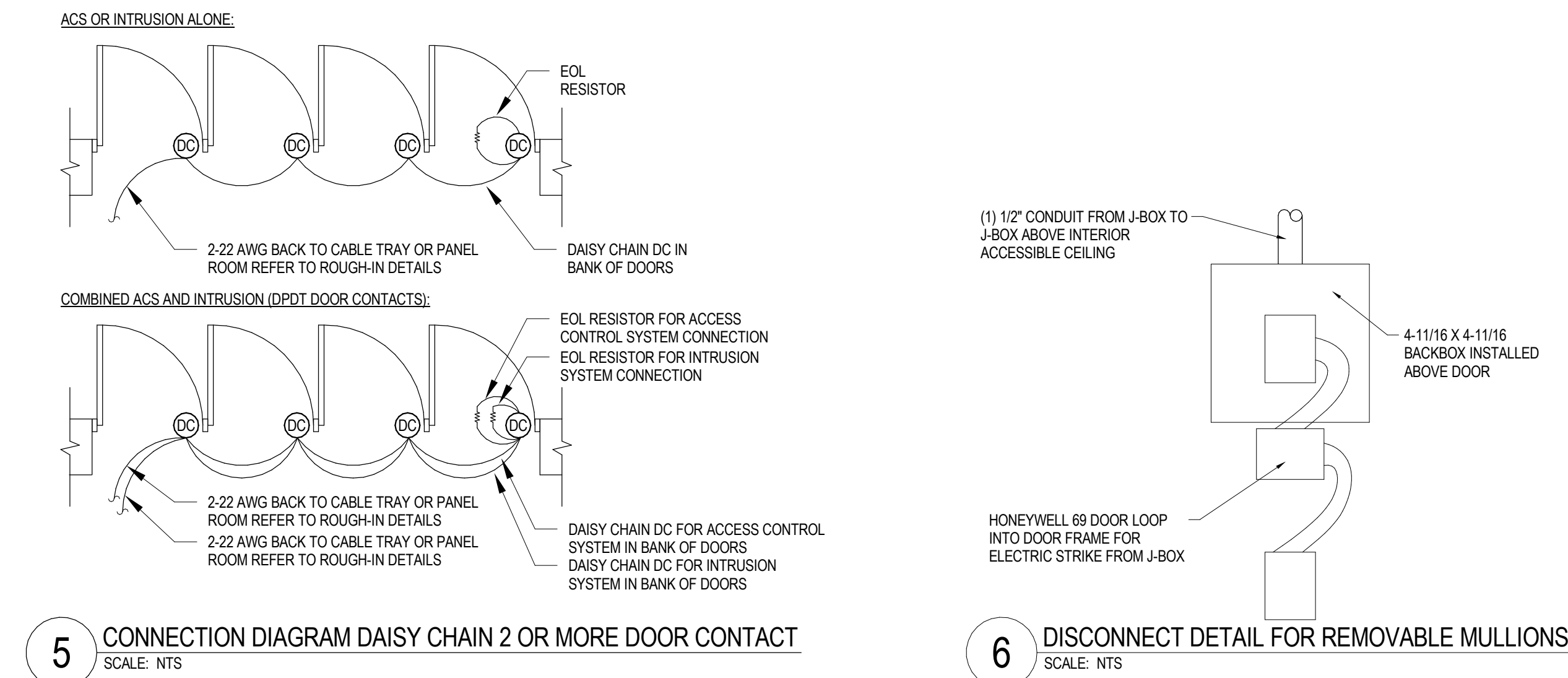
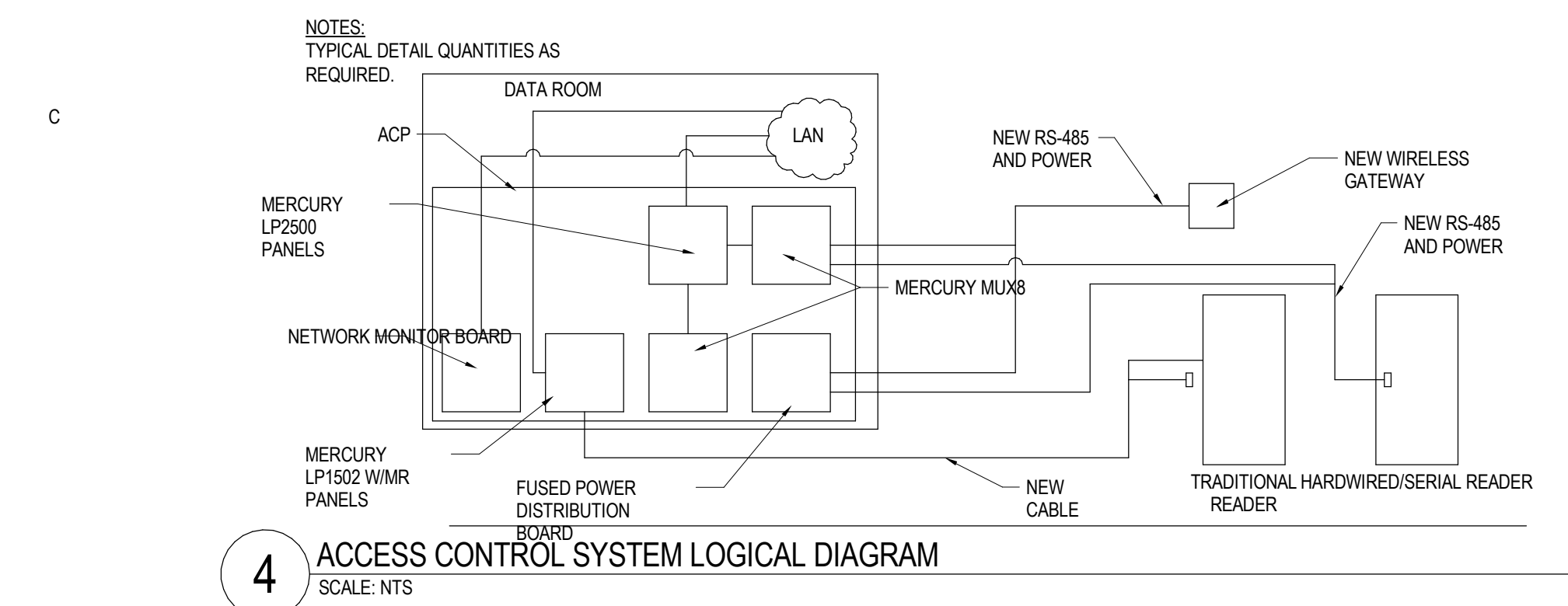
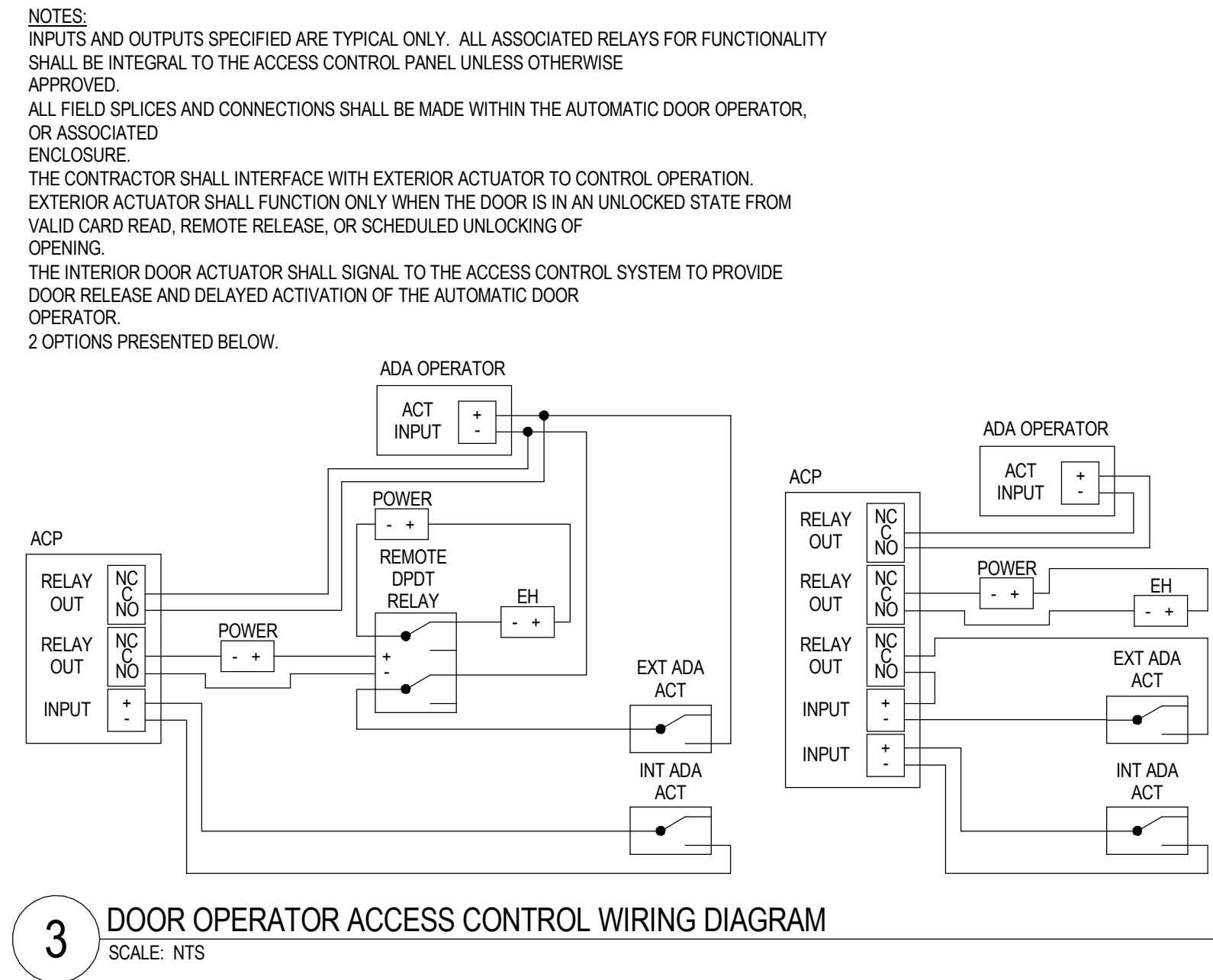
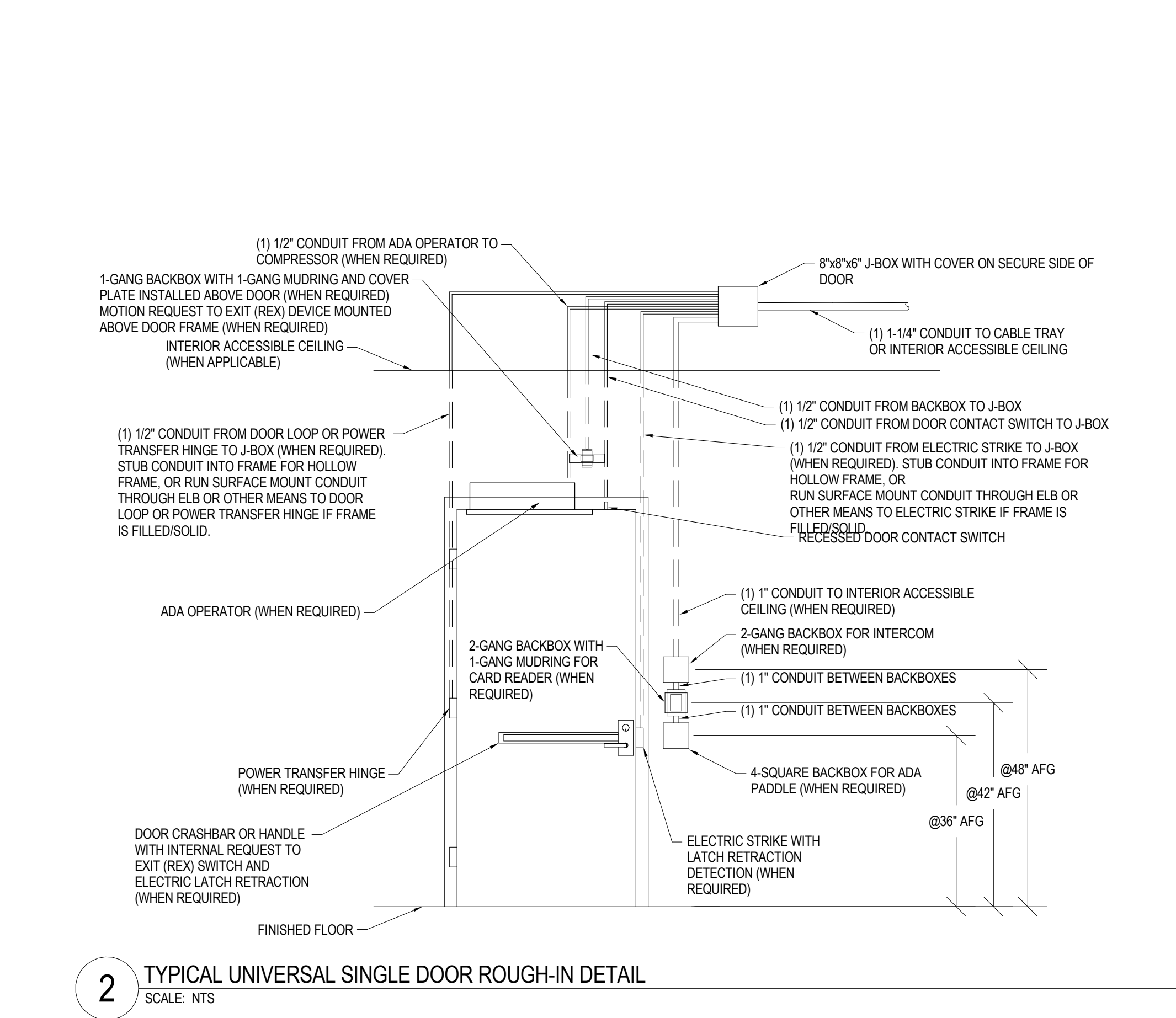
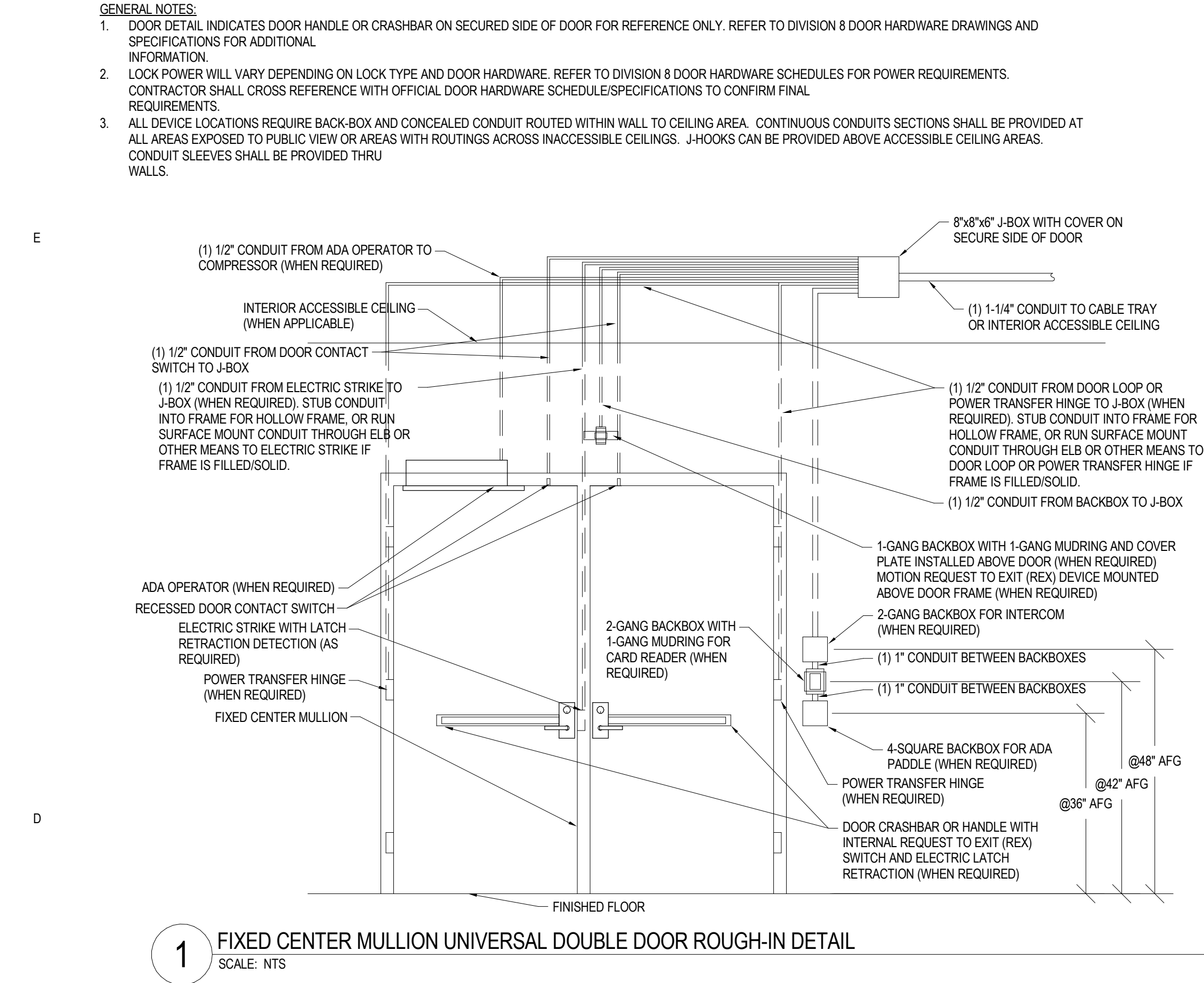
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5051 Miller Trunk Highway
Hermantown, MN 55811

ROOF CONSULTANT:

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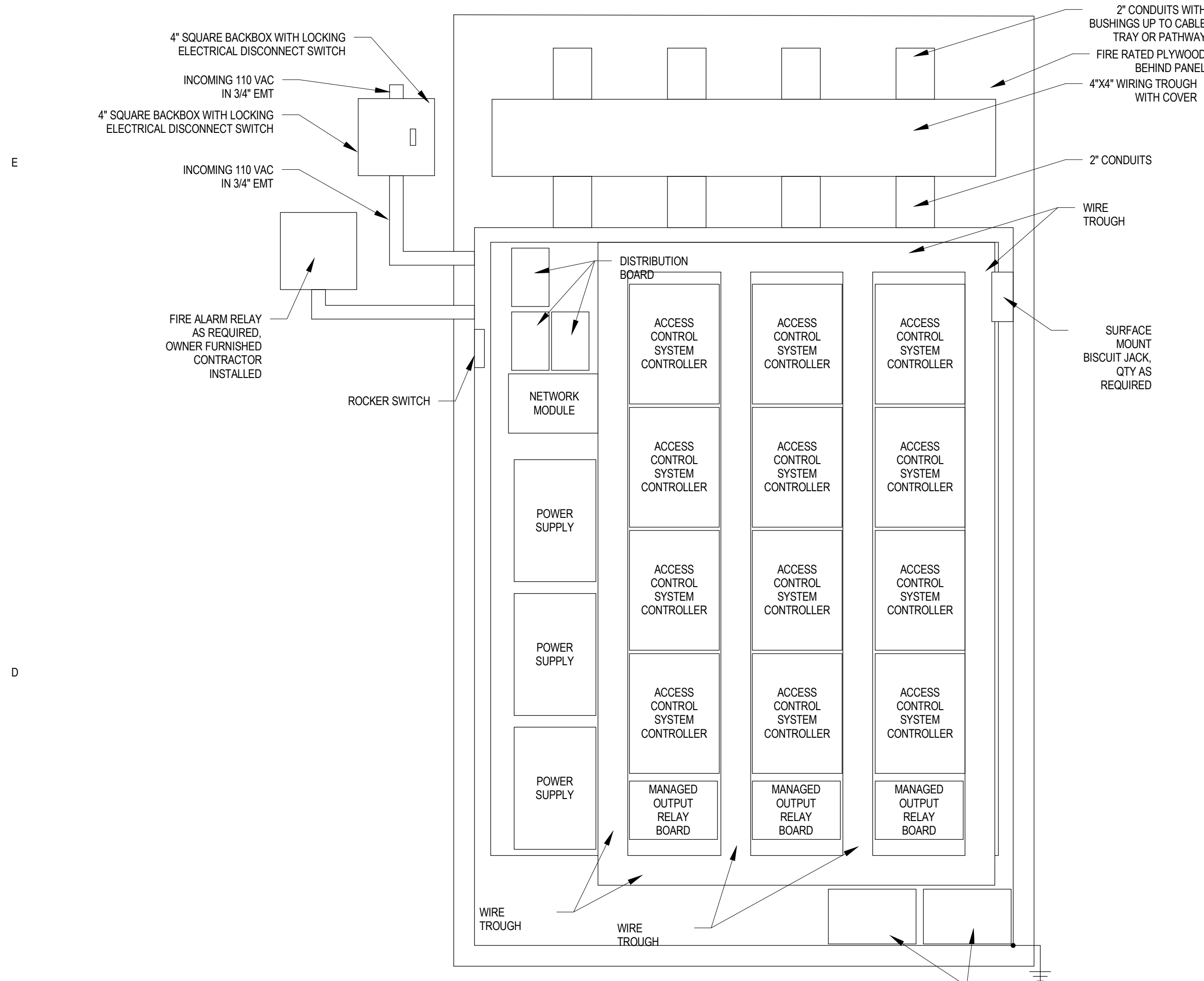
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5051 Miller Trunk Highway
Hermantown, MN 55811

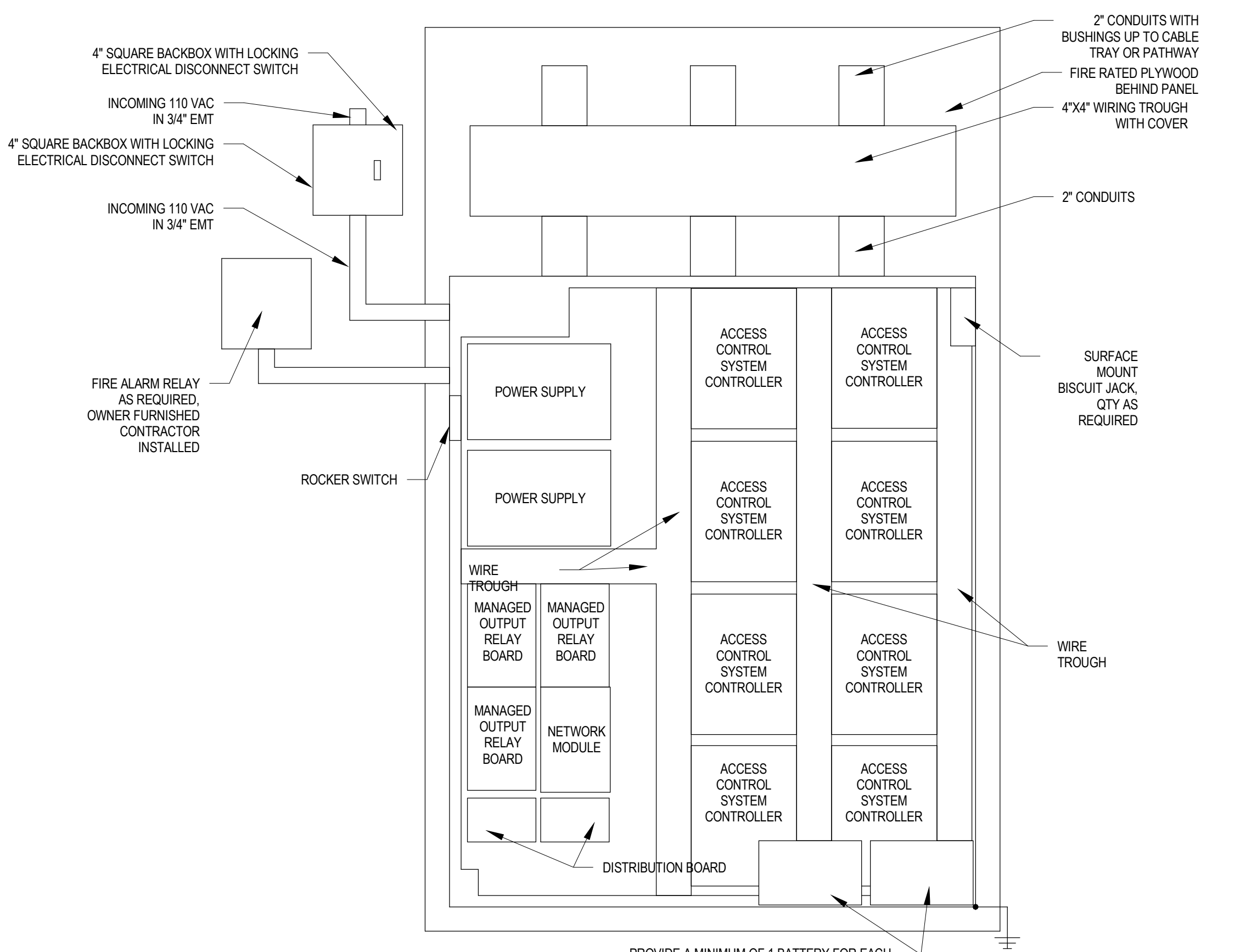
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INSPER
1000 Parkers Lake Road, Suite 100
Wayzata, MN 55391

TECHNOLOGY CONSULTANT:
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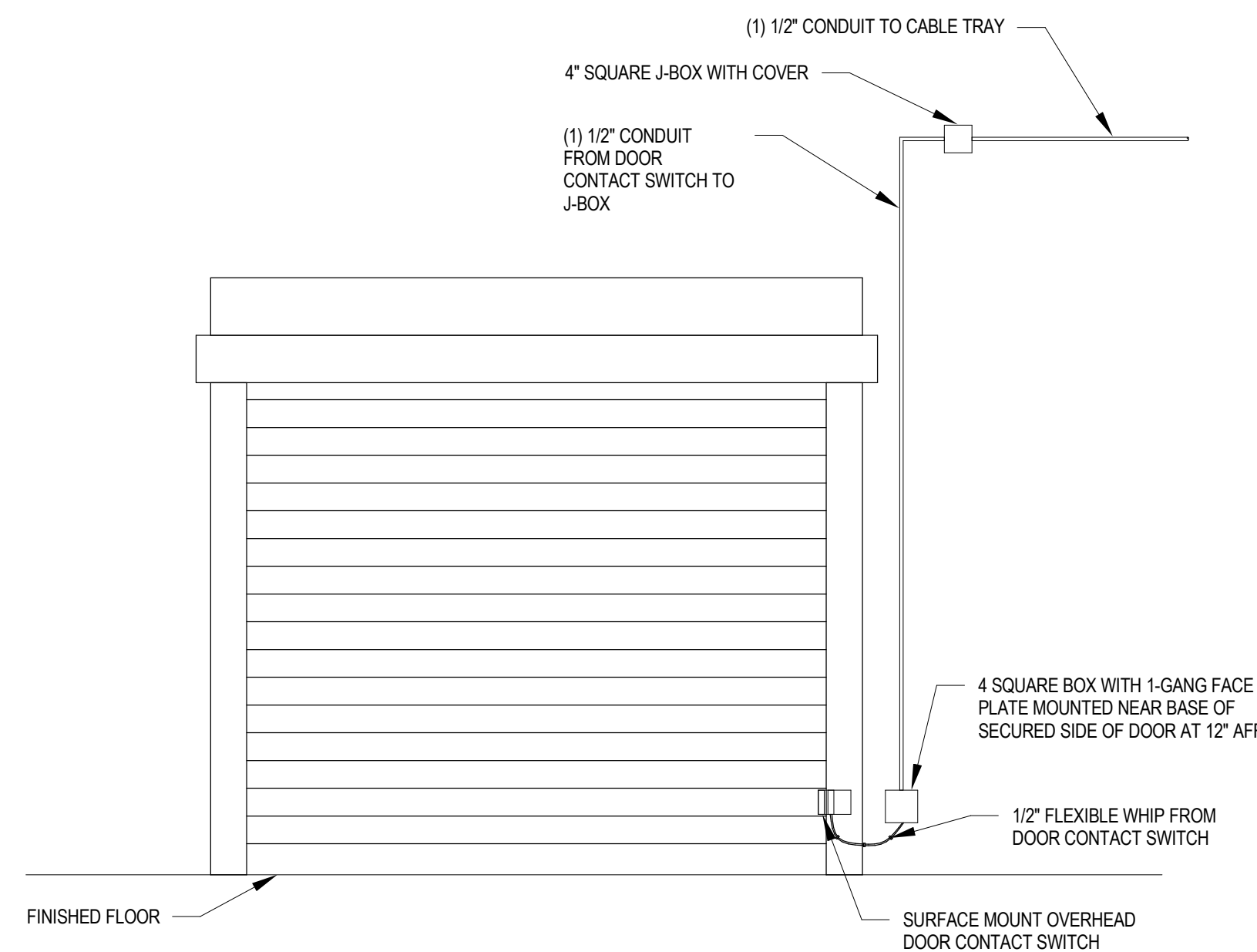
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1 TYPICAL INTEGRATED ACCESS CONTROL ENCLOSURE FOR UP TO 24 CONTROLLED DOORS
SCALE: NTS



2 TYPICAL INTEGRATED ACCESS CONTROL ENCLOSURE FOR UP TO 16 CONTROLLED DOORS
SCALE: NTS



3 TYPICAL UNIVERSAL OVERHEAD DOOR DC ROUGH-IN DETAIL
SCALE: NTS

Camera #	Data Closet	Camera Type	Mounting Structure	Location	View	90° View Mode	Notes
S-01	830	C7	CORNER	NE CORNER OF BUILDING	NE SIDE OF BUILDING	YES	WALLARM
S-02	830	C2	WALL	E SIDE OF BUILDING	E SIDE OF BUILDING	NO	WALLARM
S-03	830	C2	WALL	E SIDE OF BUILDING	E SIDE OF BUILDING	NO	WALLARM
S-04	830	C7	CORNER	E SIDE OF BUILDING	E SIDE OF BUILDING	YES	WALLARM
S-05	830	C7	CORNER	SE CORNER OF BUILDING	SE SIDE OF BUILDING	YES	WALLARM
S-06	830	C7	CORNER	SW CORNER OF BUILDING	SW SIDE OF BUILDING	YES	WALLARM, NEW ETHERNET EXTENDER
S-07	830	C5	WALL	W SIDE OF BUILDING	W SIDE OF BUILDING	NO	WALLARM
S-08	830	C7	CORNER	NW CORNER OF BUILDING	NW SIDE OF BUILDING	YES	WALLARM
1-01	830	C1	WALL	TOOL STORAGE 818	TOOL STORAGE 818	NO	
1-02	830	C1	WALL	VESTIBULE 802	VESTIBULE 802	NO	
1-03	830	C4	WALL	CIRC 801	CIRC 801	NO	
1-04	830	C1	WALL	CIRC 803	CIRC 803	NO	
1-05	830	C1	HARDLID	VESTIBULE 800	VESTIBULE 800	NO	
1-06	830	C2	WALL	TRUCK DRIVING LAB 814	TRUCK DRIVING LAB 814	NO	

4 CAMERA SCHEDULE
SCALE: NTS

Camera Type	Manufacturer	Part #	General Description
C1	Axis	P3275-LVIE 9MM	2MP, WDR, ZIPSTREAM, IR
C2	Axis	Q354B-LVIE	4K, WDR, ZIPSTREAM, IR
C3	Axis	M4318-PLIE	12 MP, FISHEYE, WDR, ZIPSTREAM, IR
C4	Axis	P4705-PLVE	(2) 2MP, WDR, ZIPSTREAM, IR
C5	Axis	P4708-PLVE	(2) 8MP, WDR, ZIPSTREAM, IR
C6	Axis	P3735-PLIE	(4) 2MP, WDR, ZIPSTREAM, IR
C7	Axis	P3738-PLIE	(4) 8MP, WDR, ZIPSTREAM, IR

5 CAMERA TYPE SCHEDULE
SCALE: NTS

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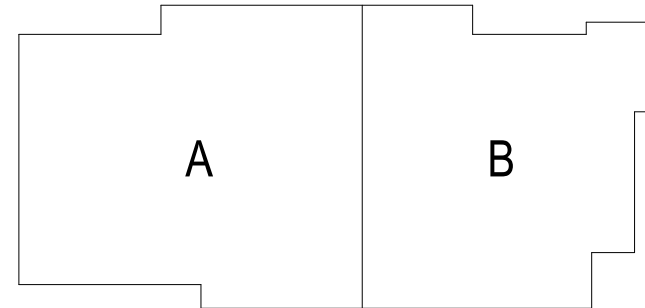
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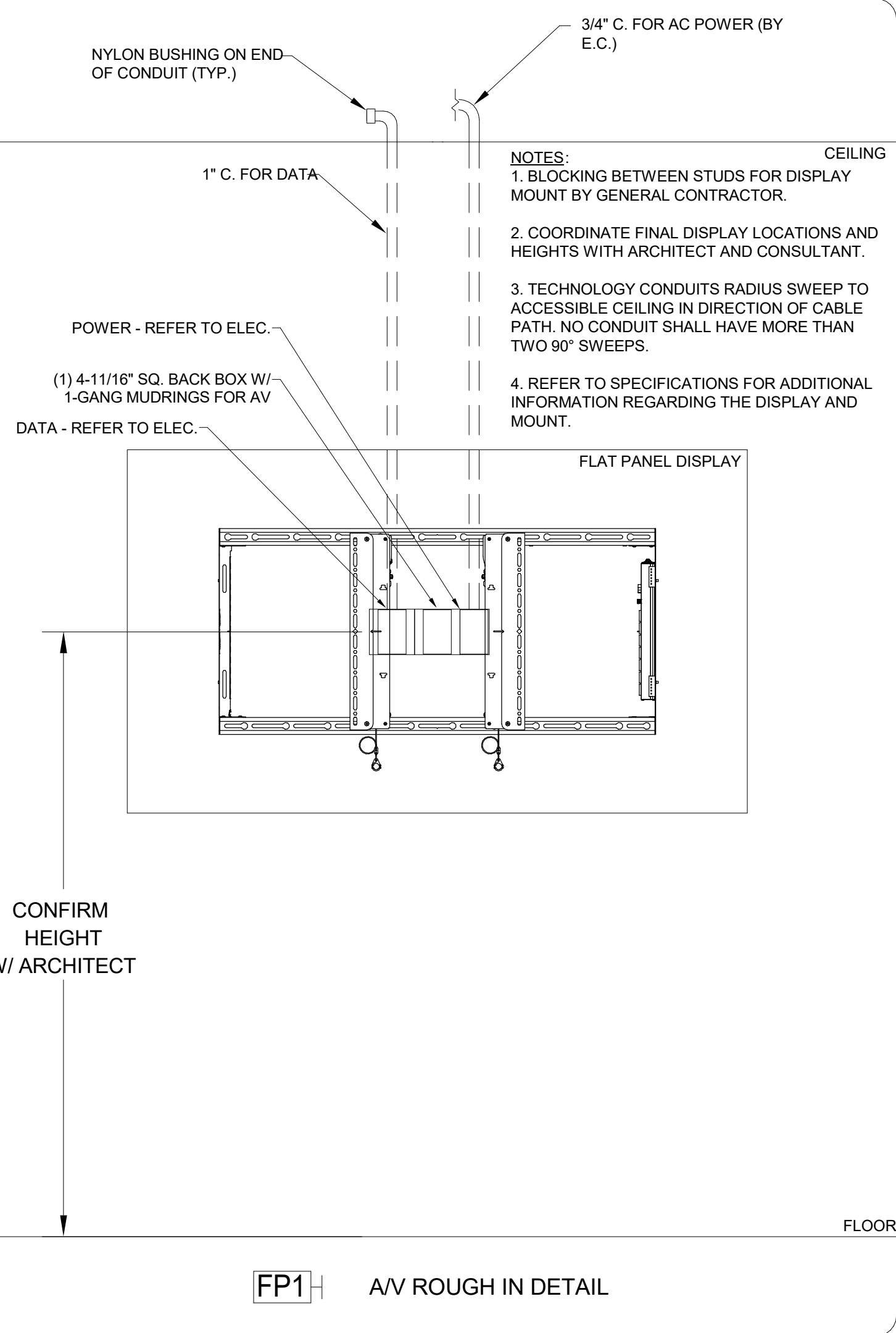
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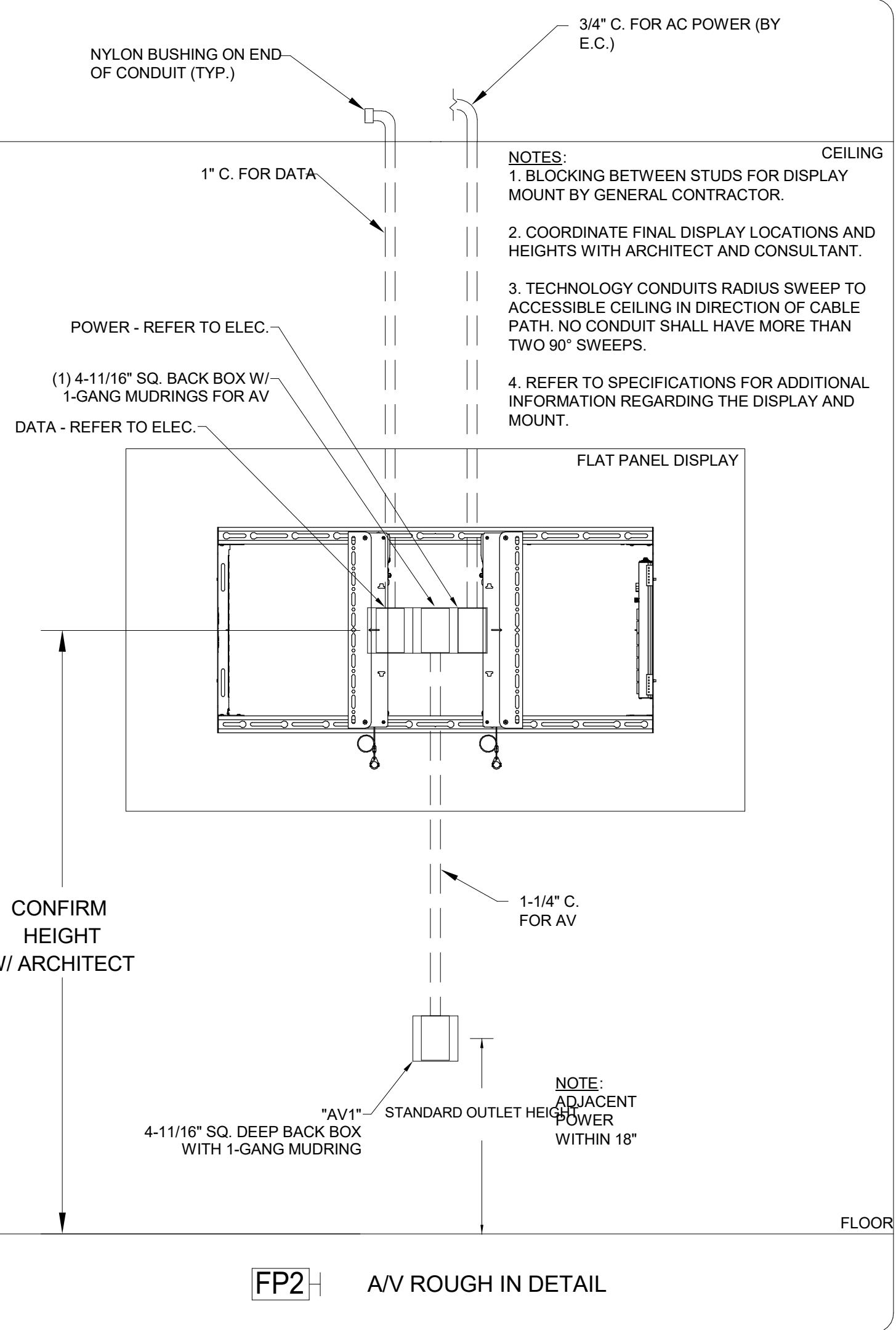
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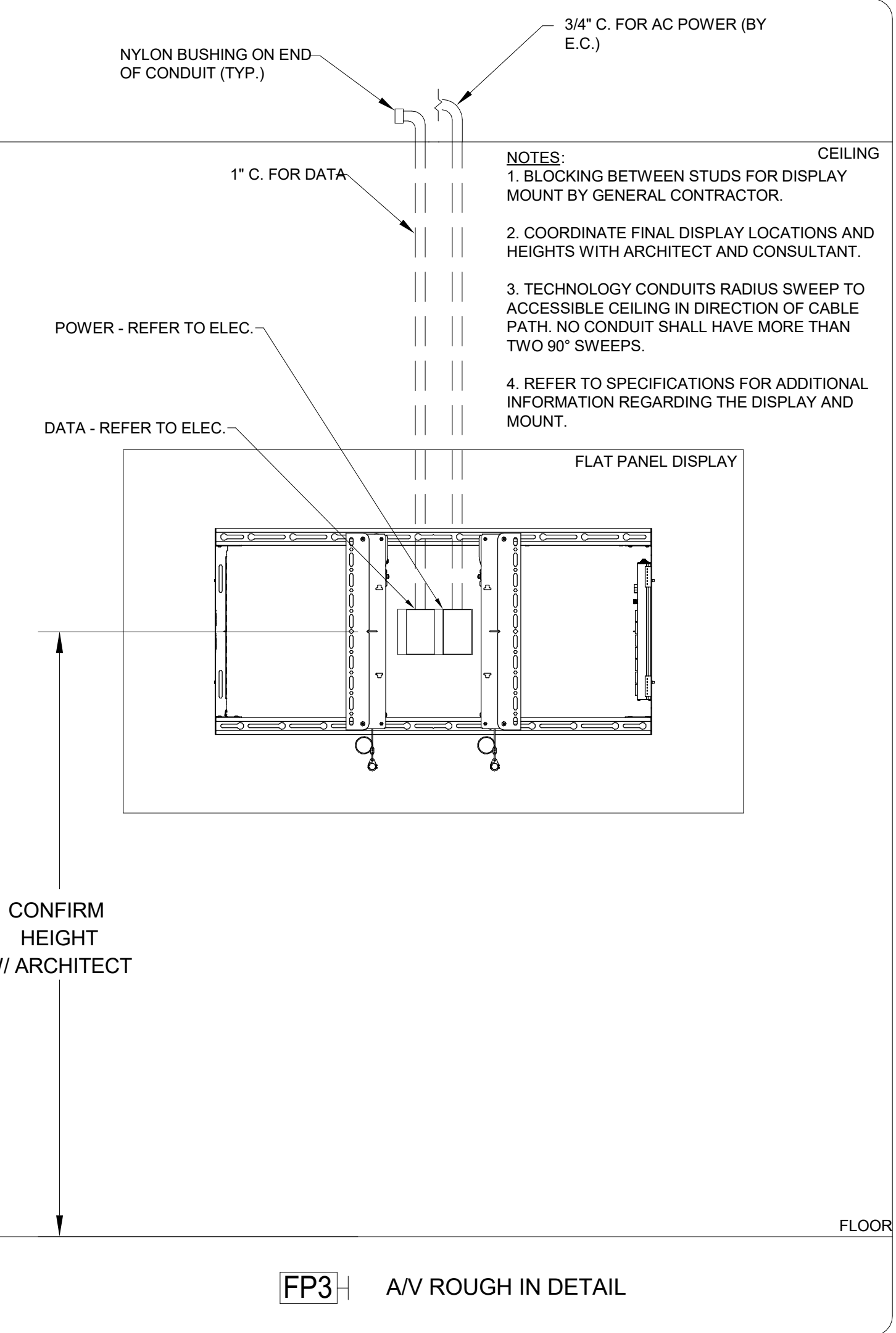
AS PERMITTED BY WALL THICKNESS, ALL
JUNCTION BOXES TO HAVE NOMINAL DEPTH
OF 3-1/2" UNLESS NOTED OTHERWISE



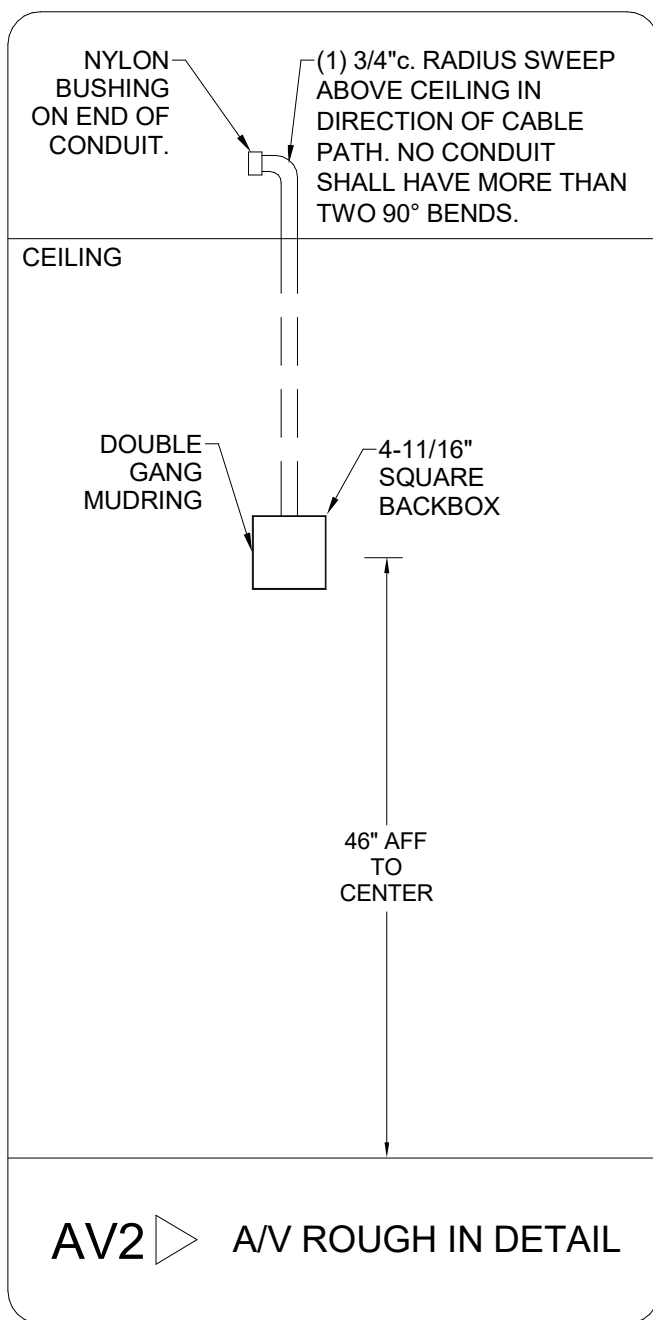
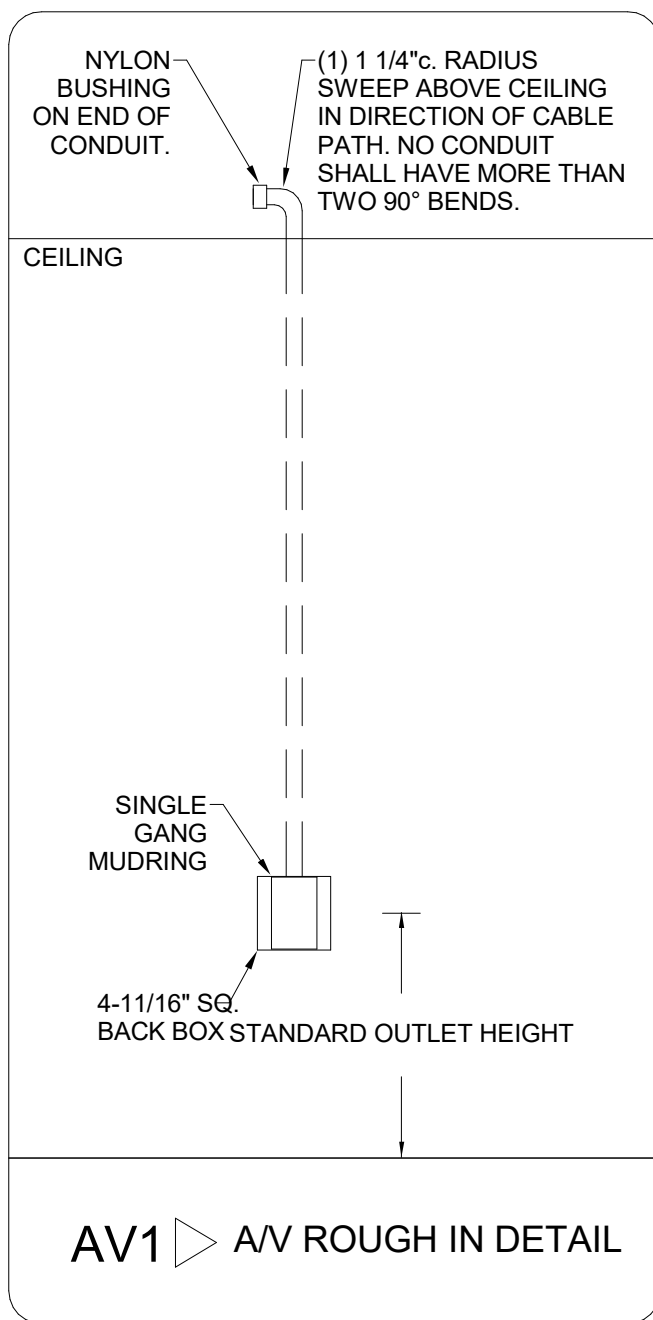
AS PERMITTED BY WALL THICKNESS, ALL
JUNCTION BOXES TO HAVE NOMINAL DEPTH
OF 3-1/2" UNLESS NOTED OTHERWISE



AS PERMITTED BY WALL THICKNESS, ALL
JUNCTION BOXES TO HAVE NOMINAL DEPTH
OF 3-1/2" UNLESS NOTED OTHERWISE



1 FLAT PANEL ROUGH-IN DETAILS - BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE
SCALE: NS



2 TECHNOLOGY ROUGH-IN DETAILS - BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE
SCALE: NS