

DOCUMENT 009113 – ADDENDUM #1

1.1 PROJECT INFORMATION

- A. Project Name: Downtown Greenville Technology Upgrades
- B. Owner: City of Greenville
- C. Designer: AE Tech Design
- D. Designer Project Number: GREN2202-0200
- E. Date of Addendum: 2022-01-12

1.2 NOTICE TO BIDDERS

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is unchanged by this Addendum at same time and location.

1.3 ATTACHMENTS

- A. This Addendum includes the following attached Sheets:
 - 1. All previously released technology sheets have been reissued for ease of viewing.
 - 2. Technology Sheet T305 Structured Cabling Network Diagram, dated 2022-01-12 (new).

1.4 REVISIONS TO DRAWING SHEETS

- A. Sheet TG02 – Technology General Information
 - 1. The “List of Drawings” has been updated to include new sheet T305.
- B. Sheet TS01 – Technology Site Plan – Composite
 - 1. “Site General Notes,” “Site Keyed Notes,” and “Symbol Legend” have been added to the sheet.
- C. Sheet TS02 – Technology Site Plan – Surveillance
 - 1. “Site General Notes,” “Site Keyed Notes,” and “Symbol Legend” have been added to the sheet.
- D. Sheet TS03 – Technology Site Plan – Paging

1. "Site General Notes," "Site Keyed Notes," and "Symbol Legend" have been added to the sheet.
- E. Sheet TS04 – Technology Site Plan – Network
1. "Site General Notes," "Site Keyed Notes," and "Symbol Legend" have been added to the sheet.
- F. Sheet TS05 – Technology Site Plan Details
1. Detail 5 "Typical Underground Fiber Entrance" was changed to show conduit pathway on the interior of the building instead of the exterior.
- G. Sheet T301 – Structured Cabling General Information
1. Camera descriptions for CM1, CM2, and CM3 in the "Data Count Legend" were changed to match their descriptions on T401.
 2. The data drop count for speaker SM1 in the "Data Count Legend" was changed from 1 to 0.
 3. The "Cabling Distribution Riser (TYP.)" was modified to show additional fiber connection details.

END OF DOCUMENT 009113

Downtown Greenville Technology Upgrades

City of Greenville
411 S. Lafayette St, Greenville, MI 48838

Project Number: GREN2202-0200



City of Greenville
Downtown Greenville Technology Upgrades
411 S. Lafayette St, Greenville, MI 48838

Title Sheet

ISSUE / DATE 2023-01-11 BIDS 2023-01-12 ADDENDUM 1 ----- ----- -----
DRAWN BY CDB
PROJECT NO. GREN2202-0200
SHEET NO. TG01

CABLING AND JACK LEGEND								
PURPOSE	PREMISE CABLING				JACKS			
	COLOR	RATING	MANUFACTURER	MODEL	TR COLOR	WA COLOR	MANUFACTURER	MODEL
COPPER BACKBONE	BLUE	PLENUM	GENERAL CABLE	GENSPEED 6000	RED	RED	PANDUIT	CJ688TGRD
WIRELESS ACCESS POINTS					YELLOW	YELLOW		CJ688GYL
PAGING					GREEN	GREEN		CJ688TGGR
SURVEILLANCE CAMERAS					VIOLET	VIOLET		CJ688TVL
RESERVED					BLACK	BLACK		CJ688TGBL
POTS LINES					GRAY	GRAY		CJ688TGIG
GENERAL PURPOSE					WHITE	WHITE		CJ688TOWH

FIBER LEGEND				
PURPOSE	TYPE	RATING	MANUFACTURER	MODEL
INDOOR/OUTDOOR	12 STRAND, SINGLE-MODE (O2)	N/A	CORNING	ALTOS LITE LOOSE TUBE, GEL FREE, SINGLE-JACKET, SINGLE-ARMORED CABLE
PATCH CORD		N/A	UBIQUITI	UF-SM-PATCH-UPC-APC, UF-SM-PATCH-APC-APC

COPPER PATCH CORD LEGEND	
PURPOSE	COLOR
GENERAL DATA	WHITE
WIRELESS ACCESS POINTS	YELLOW
SURVEILLANCE CAMERAS	VIOLET
PAGING	GREEN

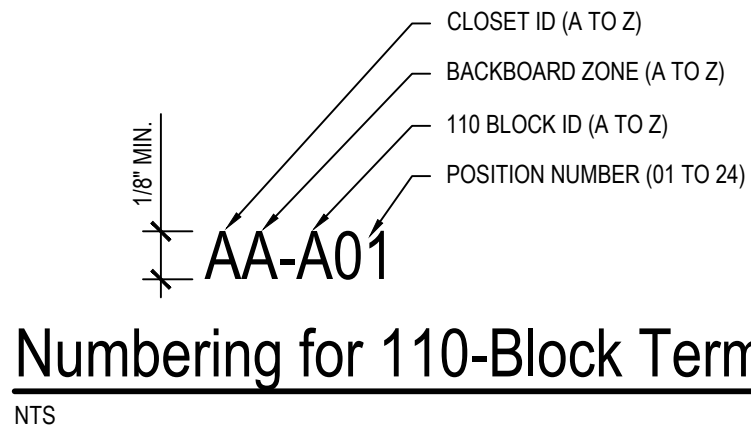
SYMBOL	DESCRIPTION
---	ZONE OR AREA
	BY OTHERS OR EXISTING
	NEW
	OPTIONAL
	PLUG INTO 120V RECEPTACLE
	CONNECT TO GROUND
	WIFI CONNECTION
	GENERIC RF CONNECTION
	BLUETOOTH CONNECTION
	CELLULAR CONNECTION
	8P8C (RJ45) NETWORK
	KEYED 8P8C (RJ45)
	SHIELDED 8P8C (RJ45)
	COMPONENT VIDEO
	COMPOSITE VIDEO
	SVIDEO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

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

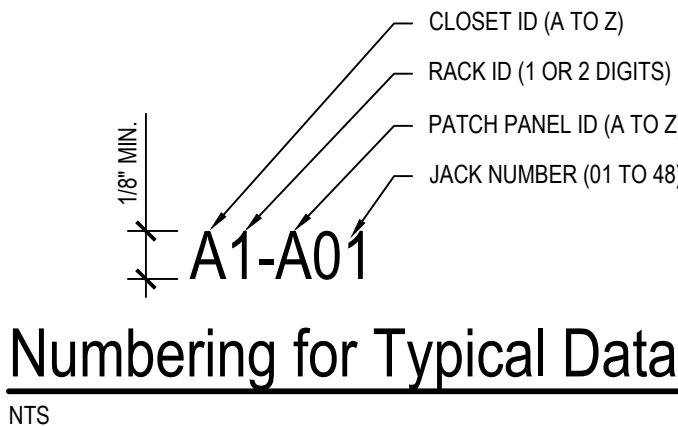
LIST OF DRAWINGS	
NUMBER	TITLE
TG01	Title Sheet
TG02	Technology General Information
TS01	Technology Site Plan - Composite
TS02	Technology Site Plan - Surveillance
TS03	Technology Site Plan - Paging
TS04	Technology Site Plan - Network
TS05	Technology Site Plan Details
T301	Structured Cabling General Information
T303	Structured Cabling Light Pole Details
T304	Structured Cabling Support Information
T305	Structured Cabling Network Diagram
T401	Security Systems General Information
TS01	Distributed Systems General Information

GENERAL NOTES

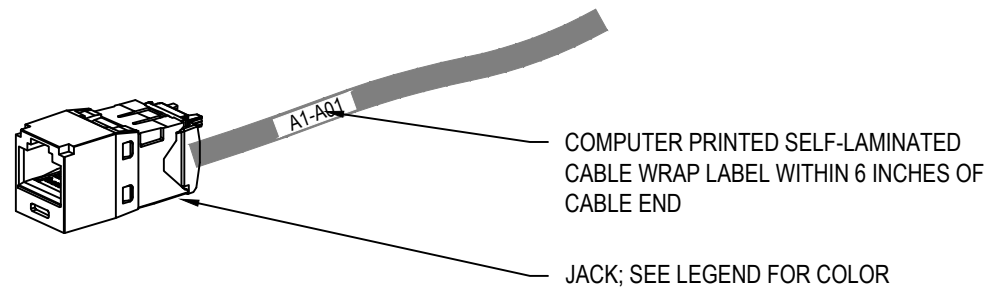
- FOR DROPS INSTALLED ABOVE ACCESSIBLE CEILING, PROVIDE MAINTENANCE LOOP AS INDICATED ON TECHNOLOGY SYMBOL LEGEND. CABLE SHALL BE NEATLY COILED IN AN "S" LOOP AND SECURED TO BUILDING STRUCTURE AT DROP LOCATION FOR EASY RELOCATION.
- LOAD THE LATEST AVAILABLE FIRMWARE FOR ALL DEVICES WHEN THEY ARE SUPPLIED FOR THIS PROJECT.



Numbering for 110-Block Term. Drops

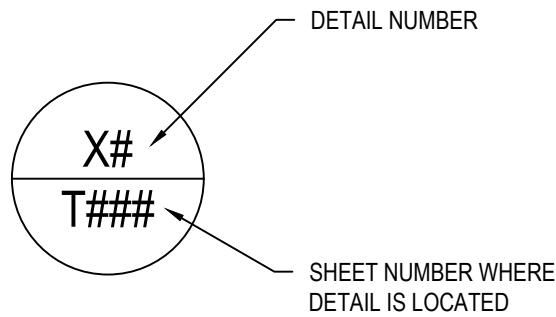


Numbering for Typical Data Drops



Cabling Label

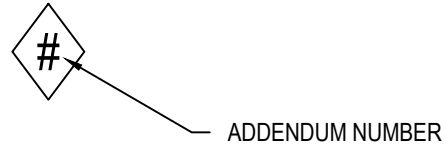
6"±1'-0"



DETAIL CALLOUT

NTS

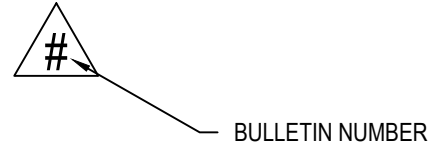
- NOTES:
- USED ON TECHNOLOGY FLOOR PLANS TO REFERENCE A DETAIL, ELEVATION, OR SYSTEM OF COMPONENTS ELEVATION ON ANOTHER SHEET.



ADDENDUM TAG

NTS

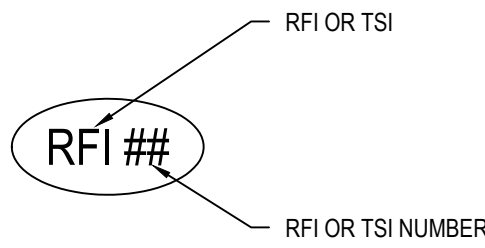
- NOTES:
- LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER BIDS HAVE BEEN RELEASED, BEFORE CONTRACT HAS BEEN AWARDED.



BULLETIN TAG

NTS

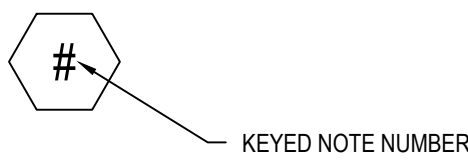
- NOTES:
- LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER CONTRACT HAS BEEN AWARDED.



RFI OR TSI TAG

NTS

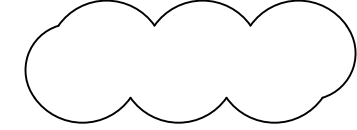
- NOTES:
- RFI (REQUEST FOR INFORMATION) INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET THAT WAS NOT INITIATED BY TECHNOLOGY CONTRACTOR.
 - TSI (TECHNOLOGY INFORMATION) TAG INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET.



KEYED NOTE TAG

NTS

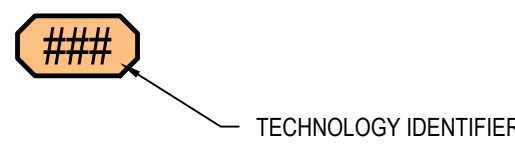
- NOTES:
- REFERENCE TO CORRESPONDING NOTES ON SAME SHEET THAT HAVE MORE INFORMATION RELATED TO SYMBOL.



REVISION CLOUD

NTS

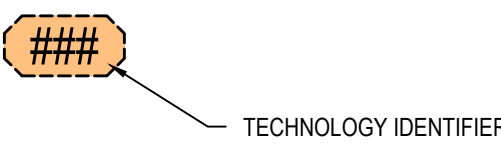
- NOTES:
- DRAWN AROUND REVISION AREA RELATED TO ANY ADDENDUM OR BULLETIN.



NEW TECHNOLOGY

NTS

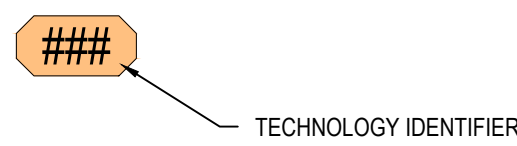
- NOTES:
- HEAVY SOLID LINE REPRESENTS NEW TECHNOLOGY. COMPLETE INSTALLATION OFTEN REQUIRES ROUGH-IN CABLING, FACEPLATE AND/OR DEVICE. SEE DRAWINGS FOR MORE DETAIL.



DEMO TECHNOLOGY

NTS

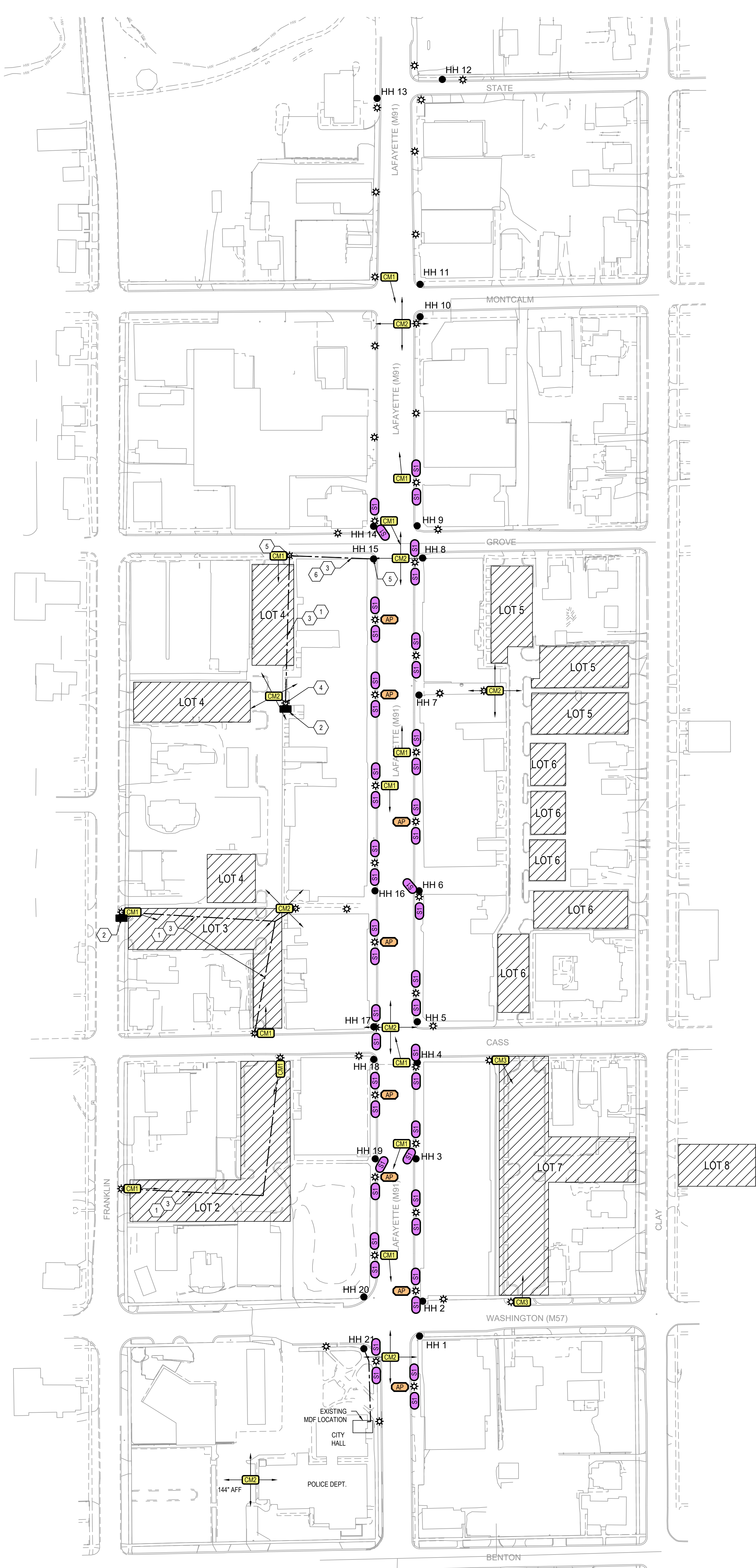
- NOTES:
- HEAVY DASHED LINE REPRESENTS EXISTING TECHNOLOGY TO BE REMOVED. COULD REQUIRE DEMOLITION OF ROUGH-IN CABLING, FACEPLATE AND/OR DEVICE. DEVICE MAY NEED TO BE SALVAGED FOR REINSTALLATION OR TURNED OVER TO OWNER. SEE DRAWINGS FOR MORE DETAIL.



EXISTING TECHNOLOGY

NTS

- NOTES:
- 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.



Technology Site Plan - Composite
1" = 80'-0"

SITE GENERAL NOTES

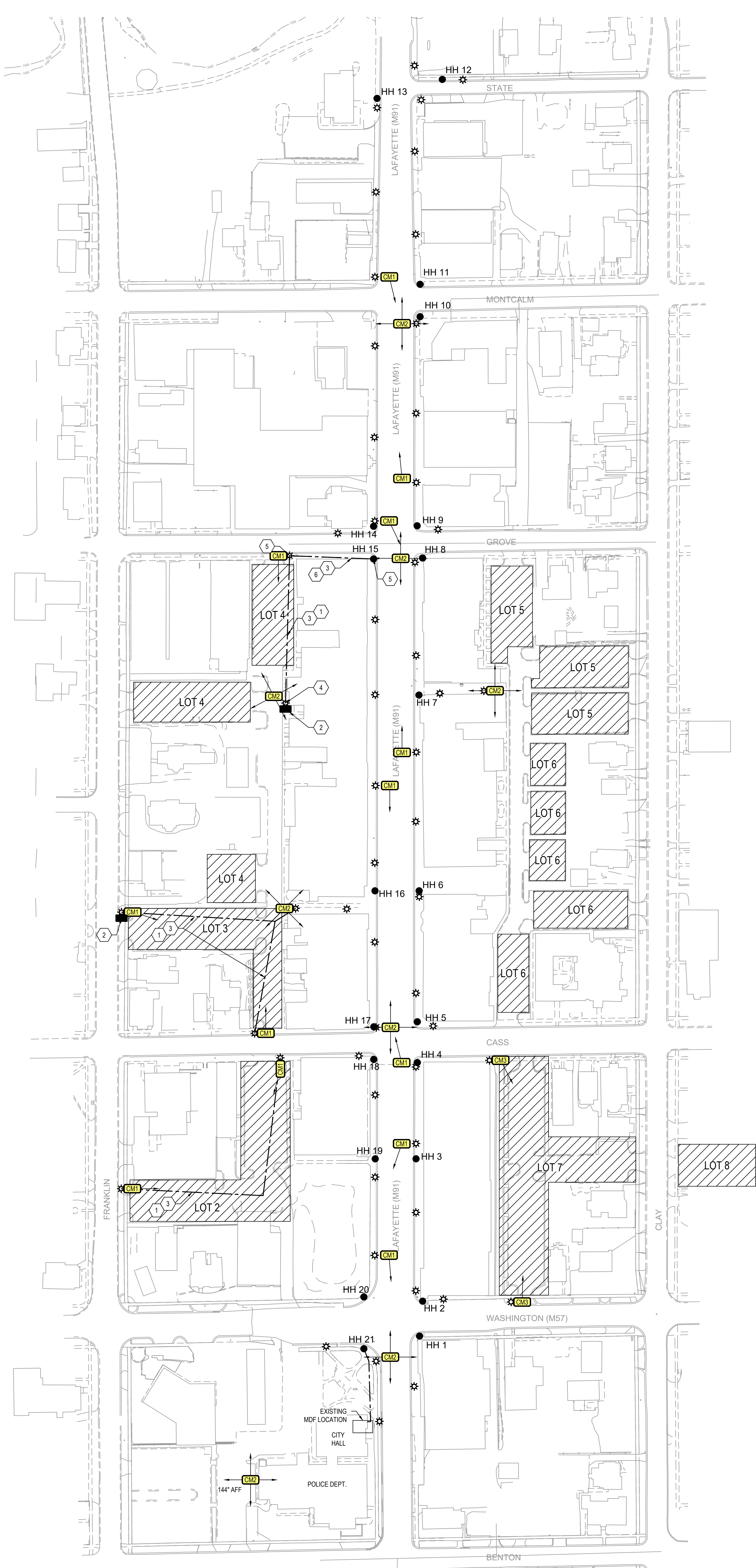
1. DEMO ANY EXISTING LOW VOLTAGE EQUIPMENT, CABLING, ACCESSORIES, AND MOUNTING HARDWARE ON STREET LIGHT POLES.
2. EQUIPMENT BELONGING TO, OR ASSOCIATED WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SHALL NOT BE TOUCHED OR MANIPULATED WITHOUT EXPRESS CONSENT FROM MDOT.
3. LIGHT POLES THAT DO NOT HAVE PATHWAY SHOWN HAVE EXISTING USEABLE PATHWAY. ONLY NEW PATHWAY SHOWN. FINAL FIBER ROUTE TO BE DETERMINED IN FIELD.

SITE KEYED NOTES

1. PATHWAY FOR LOW VOLTAGE CABLING TO BE PLOWED.
2. 24"x36" HANDHOLE.
3. (1) 1" INNERDUCT.
4. MOUNT LOW VOLTAGE EQUIPMENT TO EXISTING POLE IN PARKING LOT.
5. CORE IN TO EXISTING MANHOLE OR LIGHT POLE BASE FOR NEW CONDUIT ENTRY.
6. PATHWAY FOR LOW VOLTAGE CABLING TO BE DIRECTIONALLY BORED.
7. FIBER DISTRIBUTION AND SPLICE POINT. SEE T303 FOR DETAILS.
8. FIBER CONSOLIDATION POINT. SEE T303 FOR DETAILS.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	NEW PATHWAY
	EXISTING MANHOLE
	NEW HANDHOLE
	LIGHT POLE
	WIRELESS ACCESS POINT - SEE T301 FOR DETAILS
	CAMERA - SEE T401 FOR DETAILS
	SPEAKER - SEE T501 FOR DETAILS



1

SITE GENERAL NOTES

- DEMO ANY EXISTING LOW VOLTAGE EQUIPMENT, CABLING, ACCESSORIES, AND MOUNTING HARDWARE ON STREET LIGHT POLES.
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1

2

3

4

5

6

7

8

SITE KEYED NOTES

1 PATHWAY FOR LOW VOLTAGE CABLING TO BE PLOWED.

2 24"X36" HANDHOLE.

3 (1) 1" INNERDUCT.

4 MOUNT LOW VOLTAGE EQUIPMENT TO EXISTING POLE IN PARKING LOT.

5 CORE IN TO EXISTING MANHOLE OR LIGHT POLE BASE FOR NEW CONDUIT ENTRY.

6 PATHWAY FOR LOW VOLTAGE CABLING TO BE DIRECTIONALLY BORED.

7 FIBER DISTRIBUTION AND SPLICE POINT. SEE T303 FOR DETAILS.

8 FIBER CONSOLIDATION POINT. SEE T303 FOR DETAILS.

SYMBOL

DESCRIPTION

NEW PATHWAY

EXISTING MANHOLE

NEW HANDHOLE

LIGHT POLE

WIRELESS ACCESS POINT - SEE T301 FOR DETAILS

CAMERA - SEE T401 FOR DETAILS

SPEAKER - SEE T501 FOR DETAILS



1

SITE GENERAL NOTES

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- EQUIPMENT BELONGING TO, OR ASSOCIATED WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SHALL NOT BE TOUCHED OR MANIPULATED WITHOUT EXPRESS CONSENT FROM MDOT.
- LIGHT POLES THAT DO NOT HAVE PATHWAY SHOWN HAVE EXISTING USEABLE PATHWAY. ONLY NEW PATHWAY SHOWN. FINAL FIBER ROUTE TO BE DETERMINED IN FIELD.

1

2

3

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8

SITE KEYED NOTES

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5 CORE IN TO EXISTING MANHOLE OR LIGHT POLE BASE FOR NEW CONDUIT ENTRY.

6 PATHWAY FOR LOW VOLTAGE CABLING TO BE DIRECTIONALLY BORED.

7 FIBER DISTRIBUTION AND SPLICE POINT. SEE T303 FOR DETAILS.

8 FIBER CONSOLIDATION POINT. SEE T303 FOR DETAILS.

SYMBOL

DESCRIPTION

NEW PATHWAY

EXISTING MANHOLE

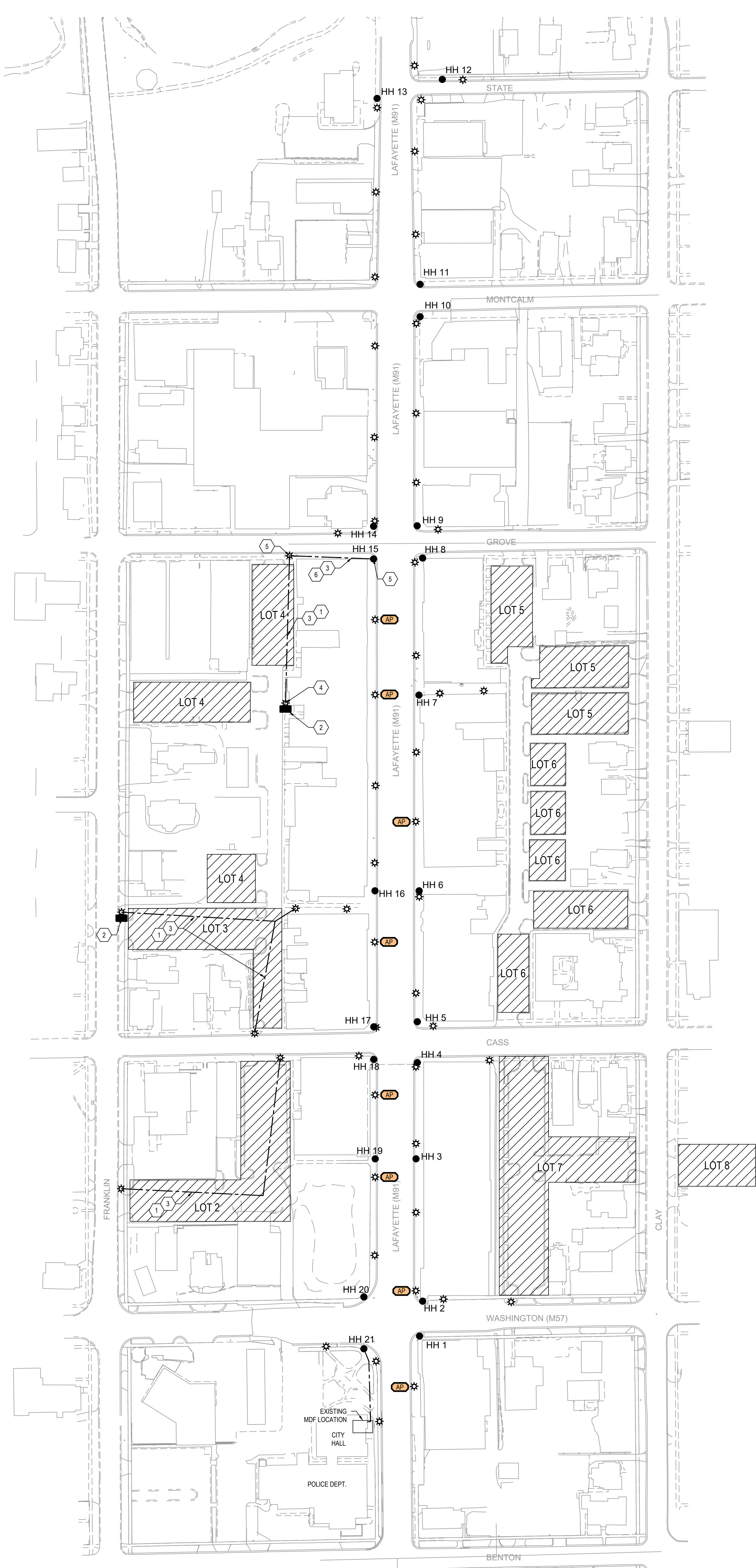
NEW HANDHOLE

LIGHT POLE

WIRELESS ACCESS POINT - SEE T301 FOR DETAILS

CAMERA - SEE T401 FOR DETAILS

SPEAKER - SEE T501 FOR DETAILS



1

SITE GENERAL NOTES

- DEMO ANY EXISTING LOW VOLTAGE EQUIPMENT, CABLING, ACCESSORIES, AND MOUNTING HARDWARE ON STREET LIGHT POLES.
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- LIGHT POLES THAT DO NOT HAVE PATHWAY SHOWN HAVE EXISTING USEABLE PATHWAY. ONLY NEW PATHWAY SHOWN. FINAL FIBER ROUTE TO BE DETERMINED IN FIELD.

SITE KEYED NOTES

1

PATHWAY FOR LOW VOLTAGE CABLING TO BE PLOWED.

2

24"X36" HANDHOLE.

3

(1) 1" INNERDUCT.

4

MOUNT LOW VOLTAGE EQUIPMENT TO EXISTING POLE IN PARKING LOT.

5

CORE IN TO EXISTING MANHOLE OR LIGHT POLE BASE FOR NEW CONDUIT ENTRY.

6

PATHWAY FOR LOW VOLTAGE CABLING TO BE DIRECTIONALLY BORED.

7

FIBER DISTRIBUTION AND SPLICE POINT. SEE T303 FOR DETAILS.

8

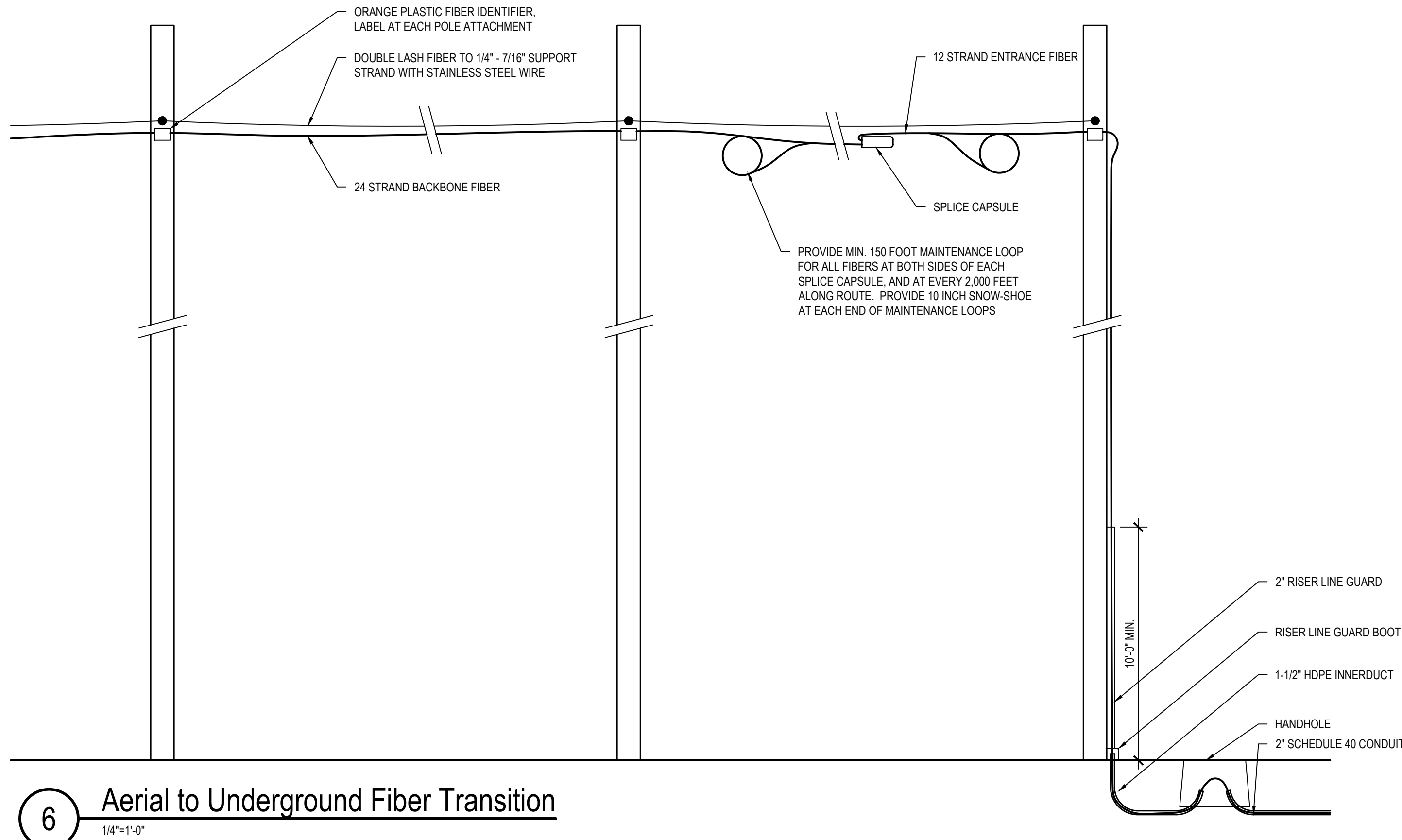
FIBER CONSOLIDATION POINT. SEE T303 FOR DETAILS.

SYMBOL LEGEND

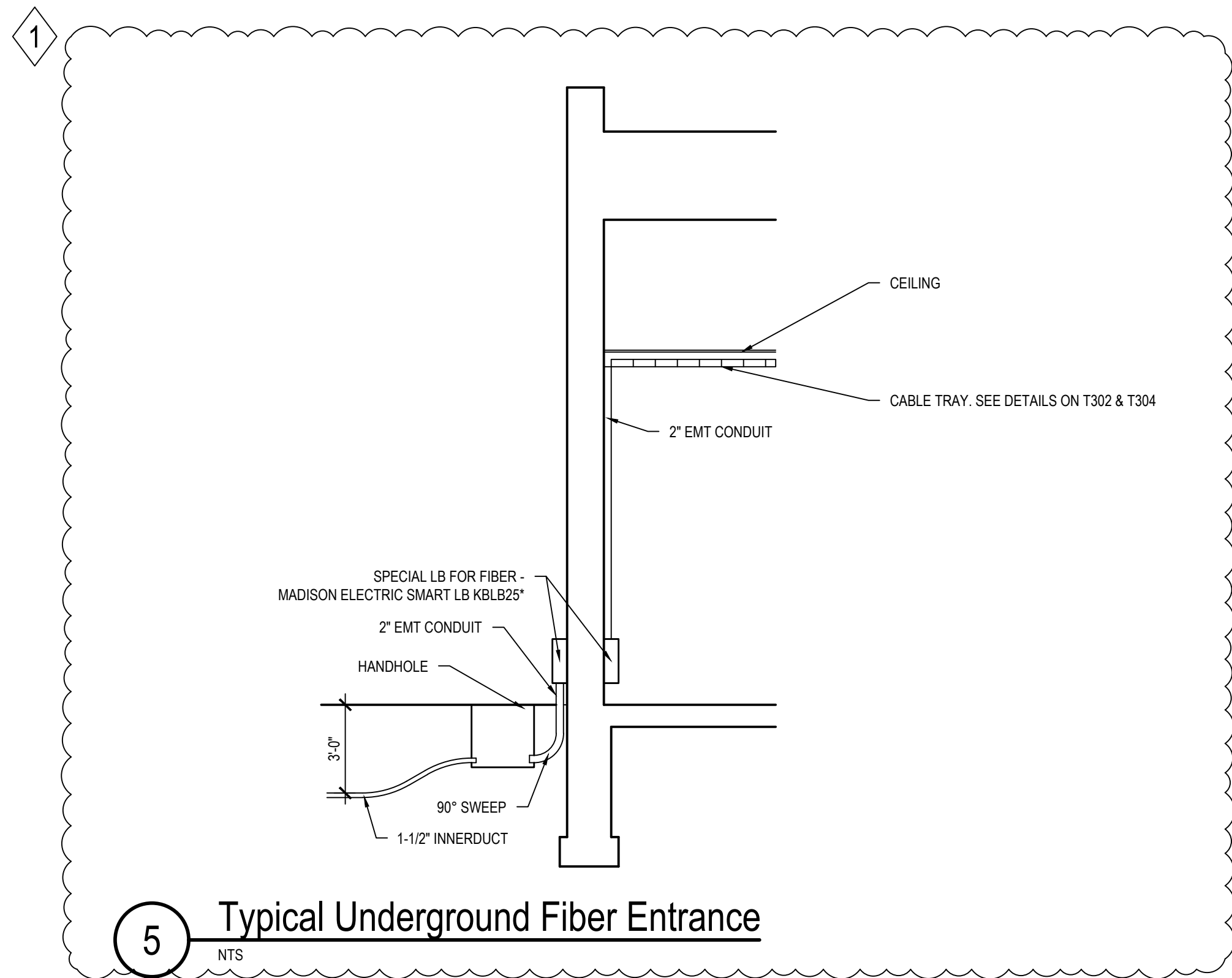
SYMBOL	DESCRIPTION
	NEW PATHWAY
	EXISTING MANHOLE
	NEW HANDHOLE
	LIGHT POLE
	WIRELESS ACCESS POINT - SEE T301 FOR DETAILS
	CAMERA - SEE T401 FOR DETAILS
	SPEAKER - SEE T501 FOR DETAILS

FIBER GENERAL NOTES

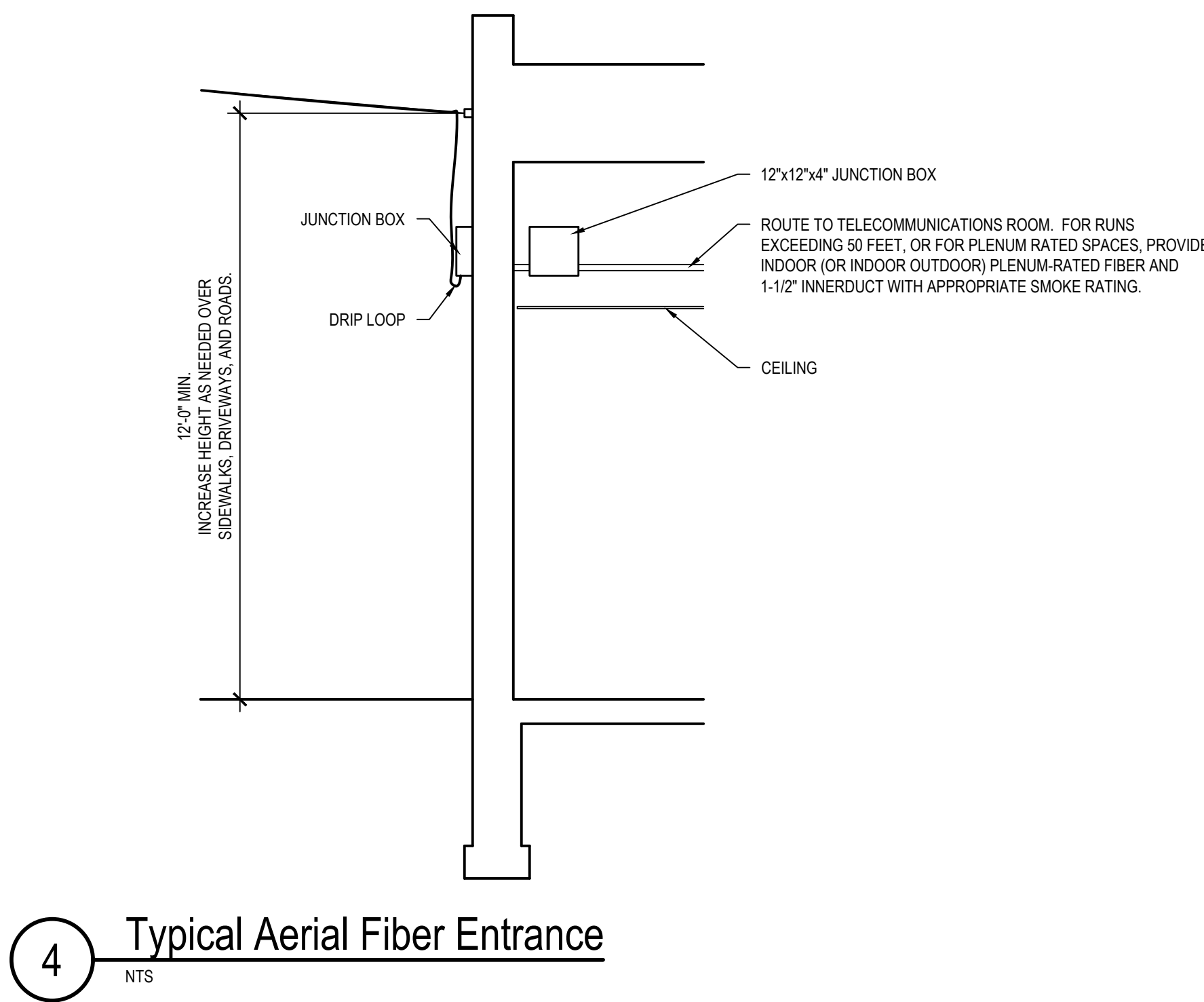
1. INSTALL ALL HANDHOLES AND DUCTS WITHIN PUBLIC ROAD RIGHT-OF-WAY OR ON OWNER'S PRIVATE PROPERTY.
2. ALL DUCTS RUNNING BETWEEN HANDHOLES ARE TO BE CONTINUOUS WITHOUT SPLICES OR COUPLERS.
3. ALL HANDHOLES TO HAVE POLYMER CONCRETE LIDS INSCRIBED WITH THE WORD "COMMUNICATIONS"



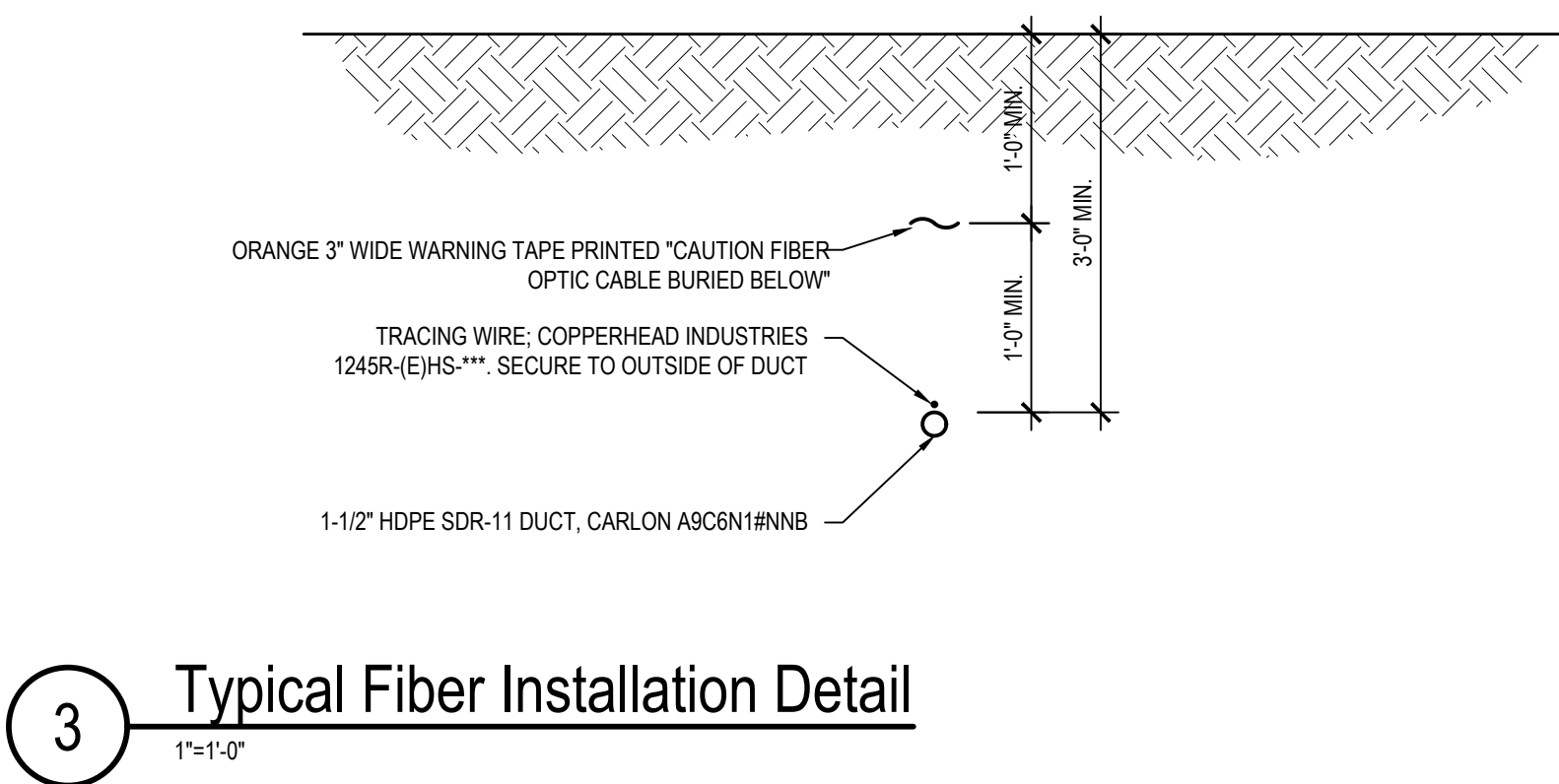
6 Aerial to Underground Fiber Transition
1/8"=1'-0"



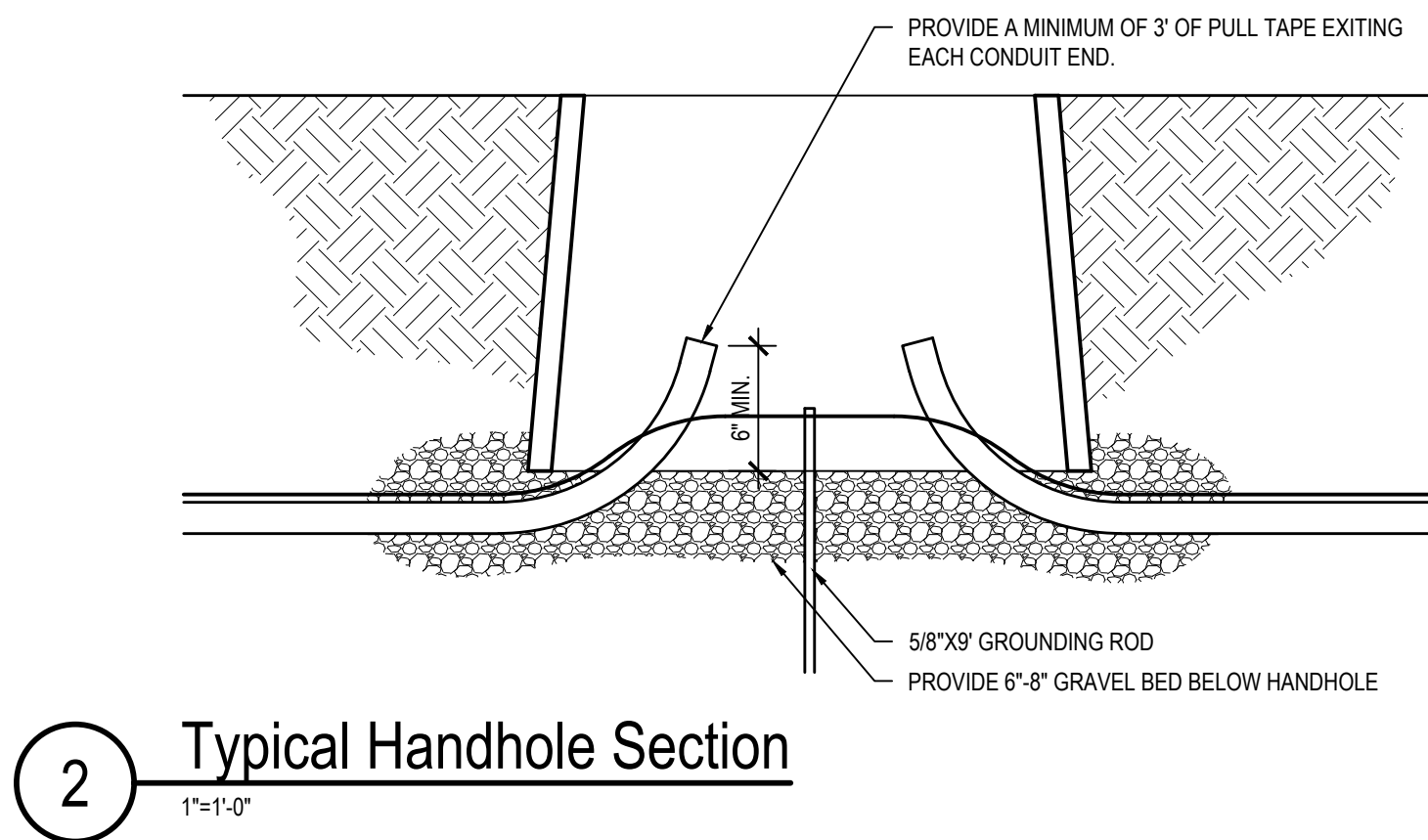
5 Typical Underground Fiber Entrance
NTS



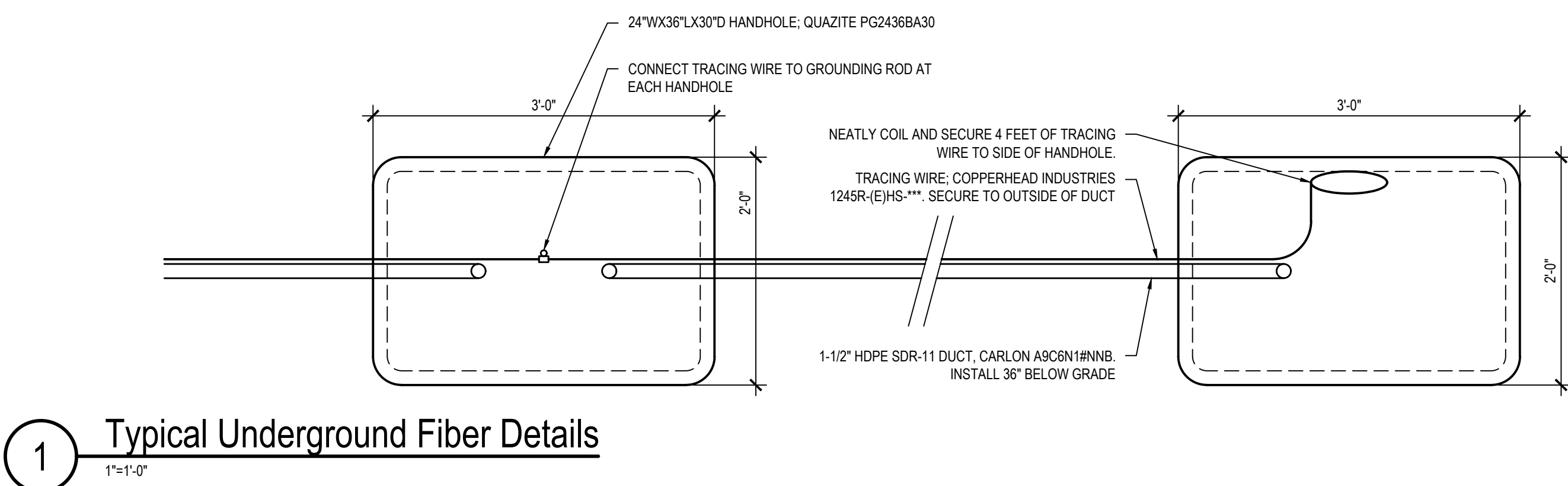
4 Typical Aerial Fiber Entrance
NTS

























3 Typical Fiber Installation Detail
1"=1'-0"

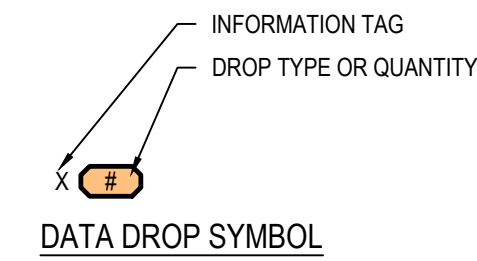






2 Typical Handhole Section
1"=1'-0"

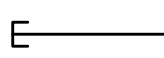
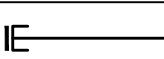
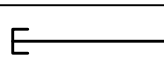
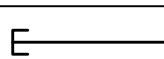
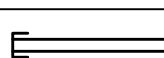
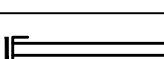
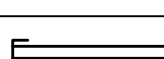
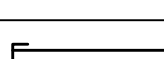


1 Typical Underground Fiber Details
1"=1'-0"

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



DATA COUNT LEGEND		
SYMBOL	DESCRIPTION	DATA DROPS
	CAMERA - DOME	1
	CAMERA - MULTIVIEW	1
	CAMERA - BULLET	1
	SPEAKER - POLE MOUNTED	0

CABLING SUPPORT LEGEND			
SYMBOL	DESCRIPTION	NOTES	
		ELECTRICAL	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		
	ST1 EZ-PATH SERIES 44 OR APPROVED EQUIVALENT		
	4" EMT SLEEVE W/ BUSHINGS (UP)		
	4" EMT SLEEVE W/ BUSHINGS (DOWN)		

- ### DATA LEGEND NOTES
- PROVIDE BLANK FACEPLATE.
 - 8/T302, 9/T302, OR 10/T302 DEPENDING ON THE NUMBER OF DROPS.
 - PROVIDE 20 FEET OF MAINTENANCE LOOP FOR CABLE.
 - TERMINATE ON 110 BLOCK IN TELECOMMUNICATIONS ROOM (TR).
 - TERMINATE ON PATCH PANEL IN TECH CLOSET.
 - ROUTE CABLES THROUGH FURNITURE TO FURNITURE FACEPLATE.
 - 3/T302 OR 4/T302 AS NEEDED.
 - MATCH ELEC. ROUGH-IN HEIGHT, TYPICALLY 8" ABOVE COUNTERTOP.
 - FACTORY CUT ROUGH-IN PROVIDED IN MODULAR FURNITURE.
 - PROVIDE ROUGH-IN IN FIXED CASEWORK.
 - COORDINATE LOCATION W/ EQUIPMENT SERVED.
 - COORDINATE FINAL LOCATION W/ BUILDING AUTOMATION SYSTEM CONTRACTOR.
 - POLE MOUNTED ON STREET LIGHT POLE. SEE 2/T303 FOR DETAILS.

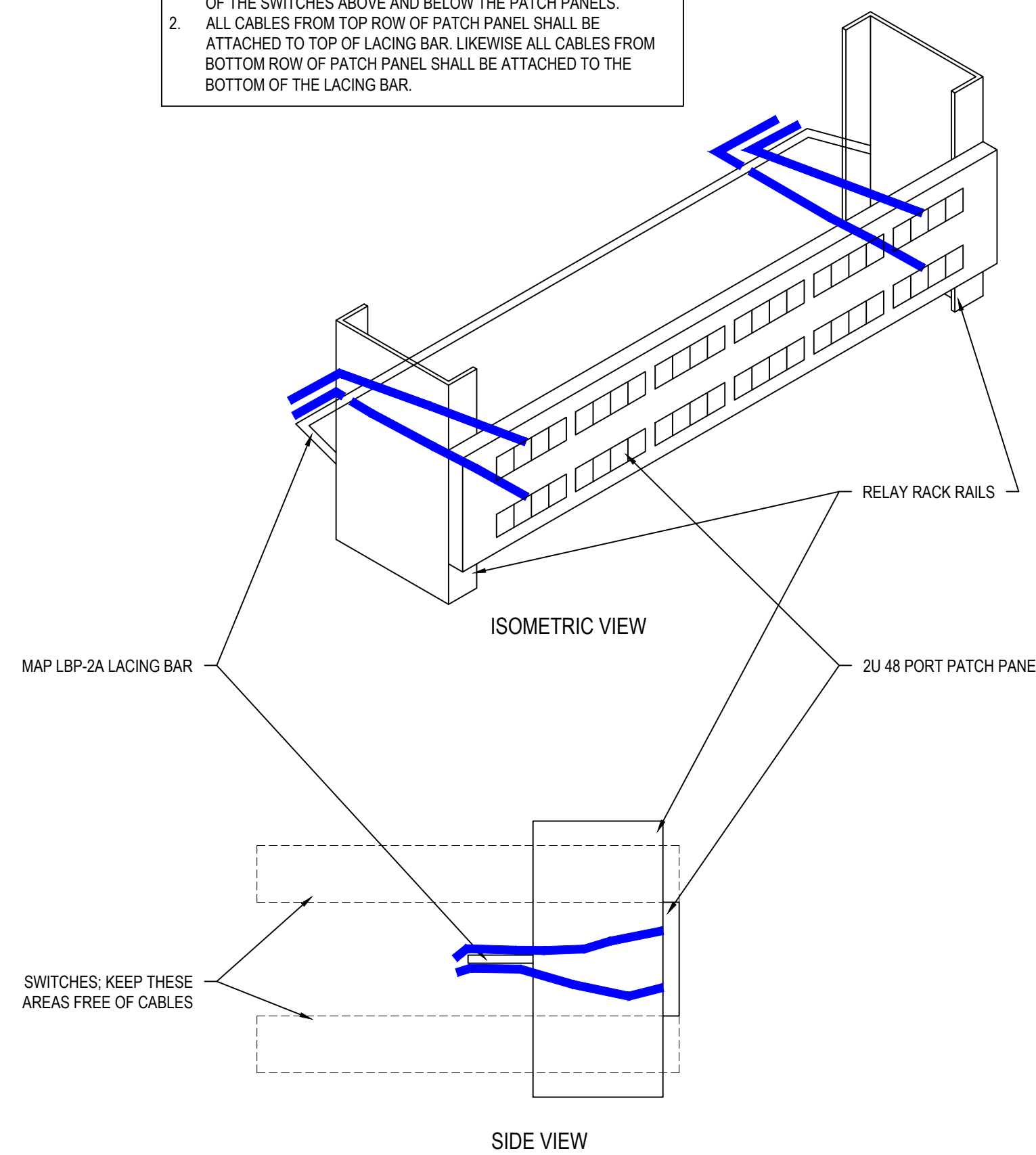
- ### CABLING SUPPORT LGND NOTES
- NONE

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

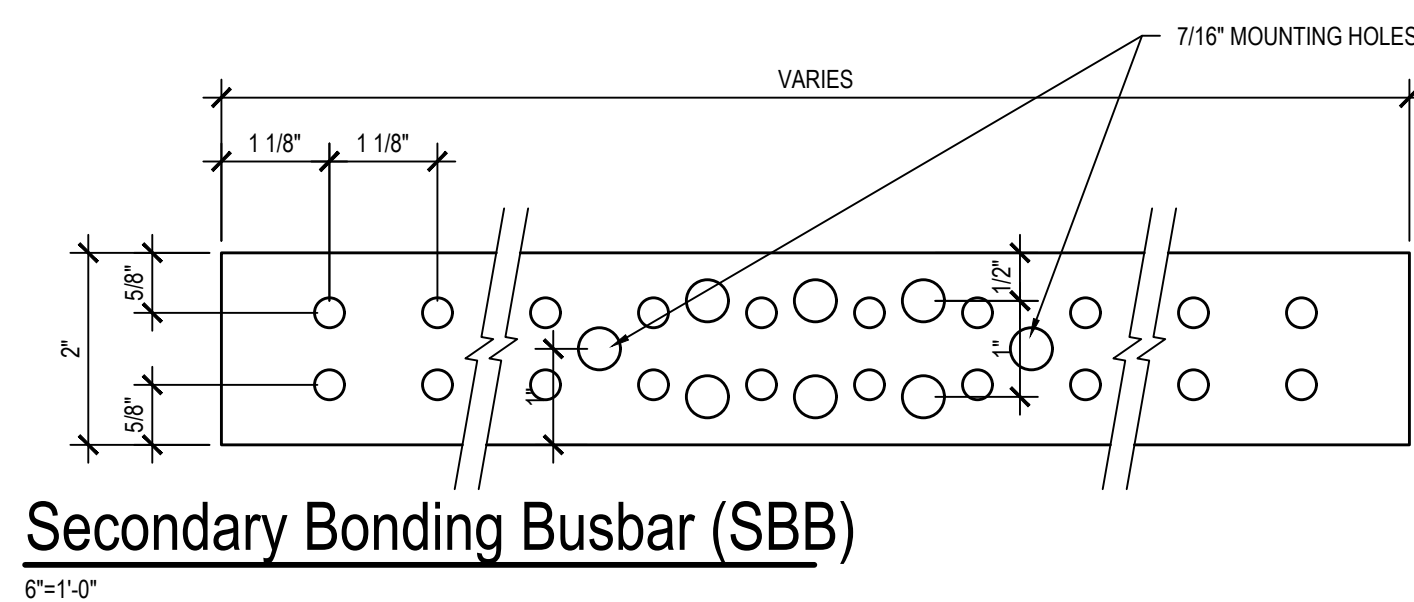
- ### CABLING DISTRIBUTION NOTES
- PROVIDE 10 FEET OF MAINTENANCE LOOP AT TECHNOLOGY ROOM AND 1 FOOT OF MAINTENANCE LOOP AT WORK AREA FOR ALL CABLING UNLESS NOTED OTHERWISE.
 - FOR EACH RUN OF BACKBONE FIBER BETWEEN TECHNOLOGY ROOMS, TERMINATE 2 STRANDS. TEST ALL STRANDS.
 - SEE PATCH CORD LEGEND AND CABLING AND JACK LEGEND ON T602 FOR MORE INFORMATION REGARDING APPROPRIATE COLORS REQUIRED.
 - CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.

- ### GROUNDING NOTES
- ELECTRONICS LOCATED IN ENCLOSURE ON LIGHT POLES SHALL BE GROUNDED TO THE ENCLOSURE, AND ENCLOSURE GROUNDED TO THE POLE.
 - GROUNDING BUSBARS IN EVERY TECH CLOSET TO BE CONNECTED TO AVAILABLE BUILDING STEEL AND ELECTRICAL PANELS (TYP.).

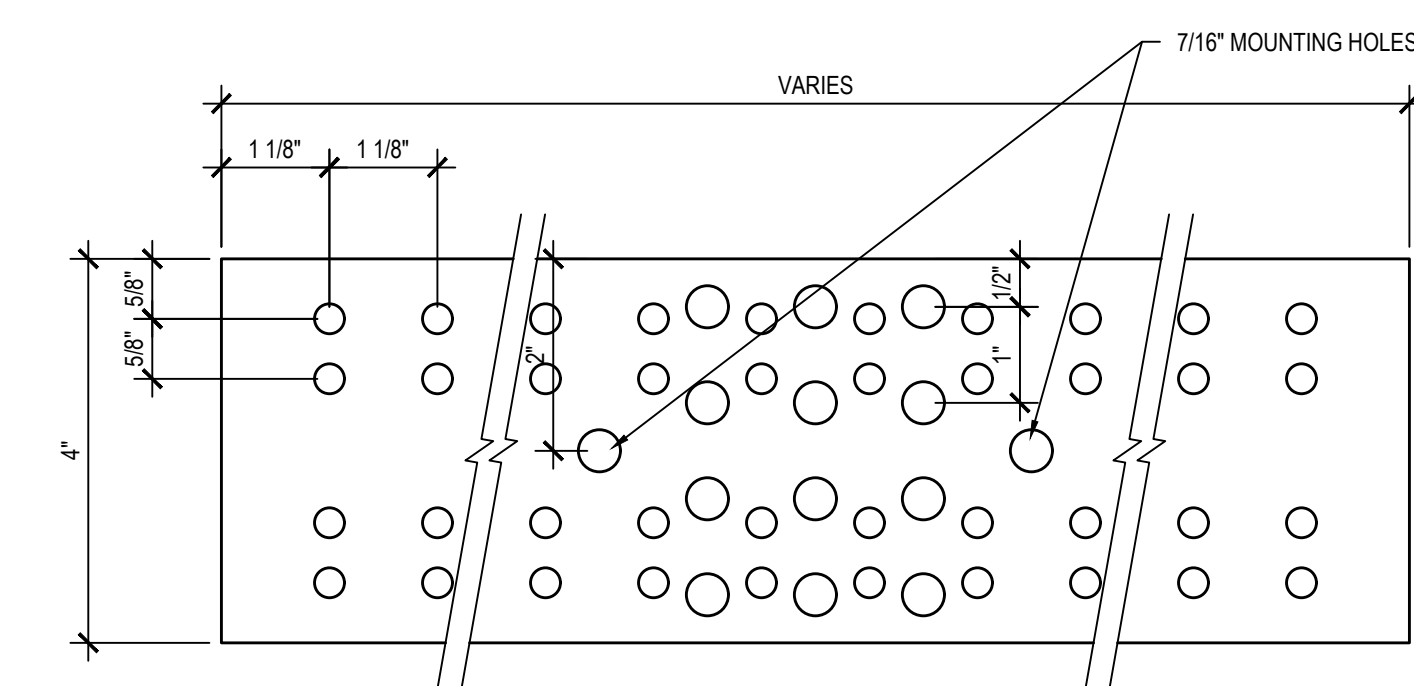
- NOTES:
- USE LACING BAR AT REAR OF RACK TO KEEP ALL CABLES WITHIN THE 2U SPACE OF THE PATCH PANEL TO ALLOW FOR INSTALLATION OF THE SWITCHES ABOVE AND BELOW THE PATCH PANELS.
 - ALL CABLES FROM TOP ROW OF PATCH PANEL SHALL BE ATTACHED TO TOP OF LACING BAR. LIKEWISE ALL CABLES FROM BOTTOM ROW OF PATCH PANEL SHALL BE ATTACHED TO THE BOTTOM OF THE LACING BAR.



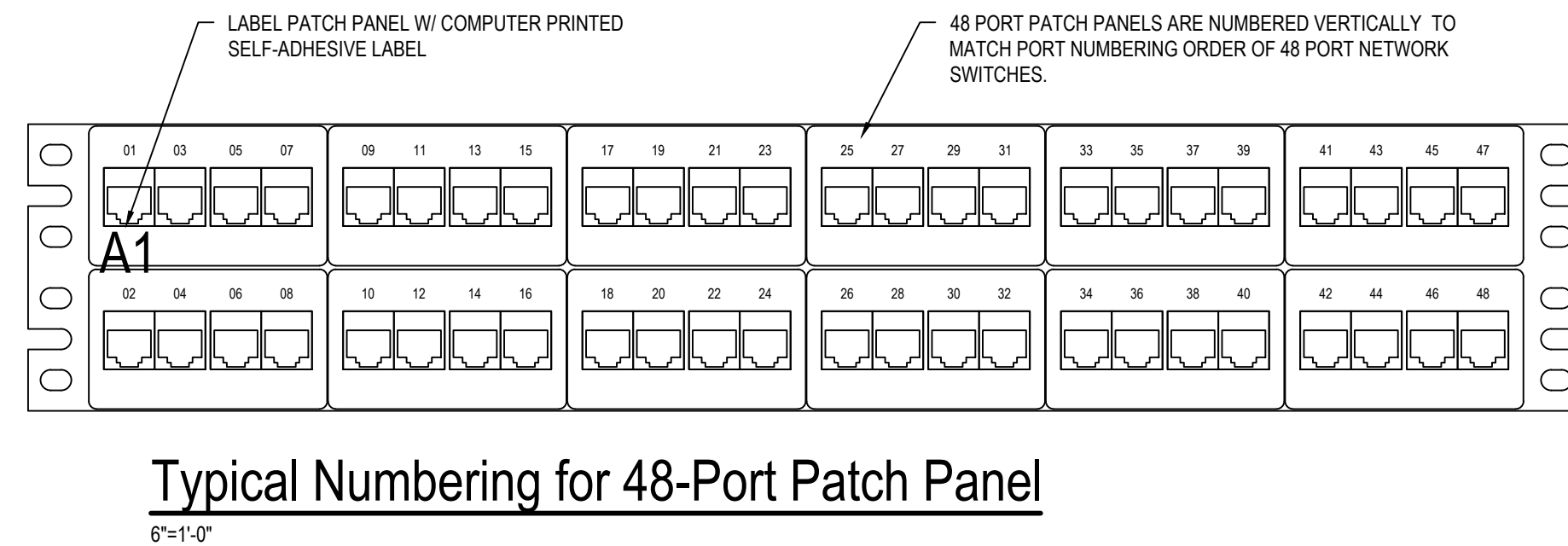
Lacing Bar Detail
NTS



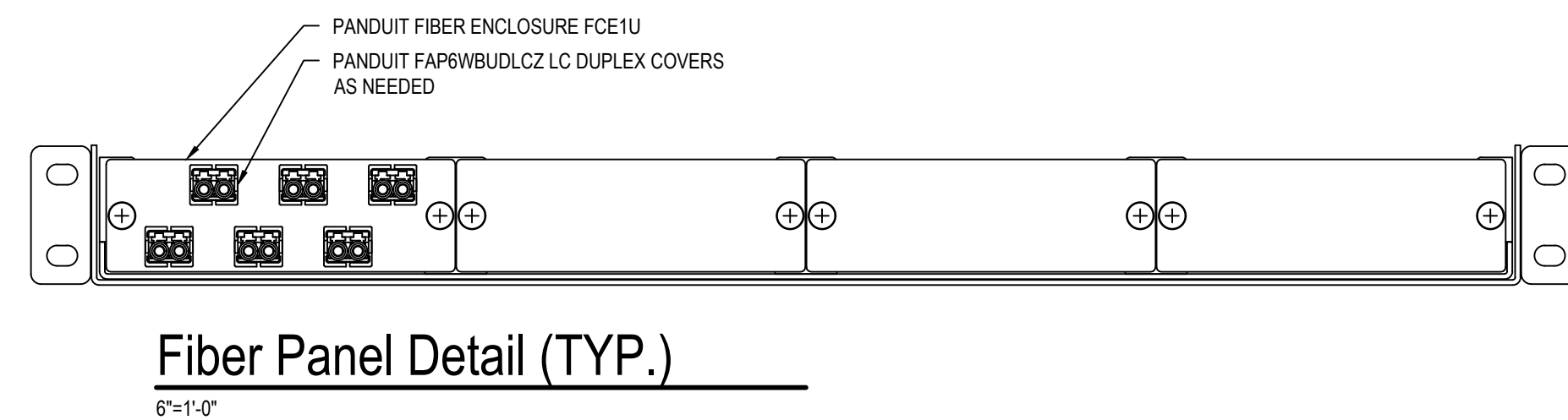
Secondary Bonding Busbar (SBB)



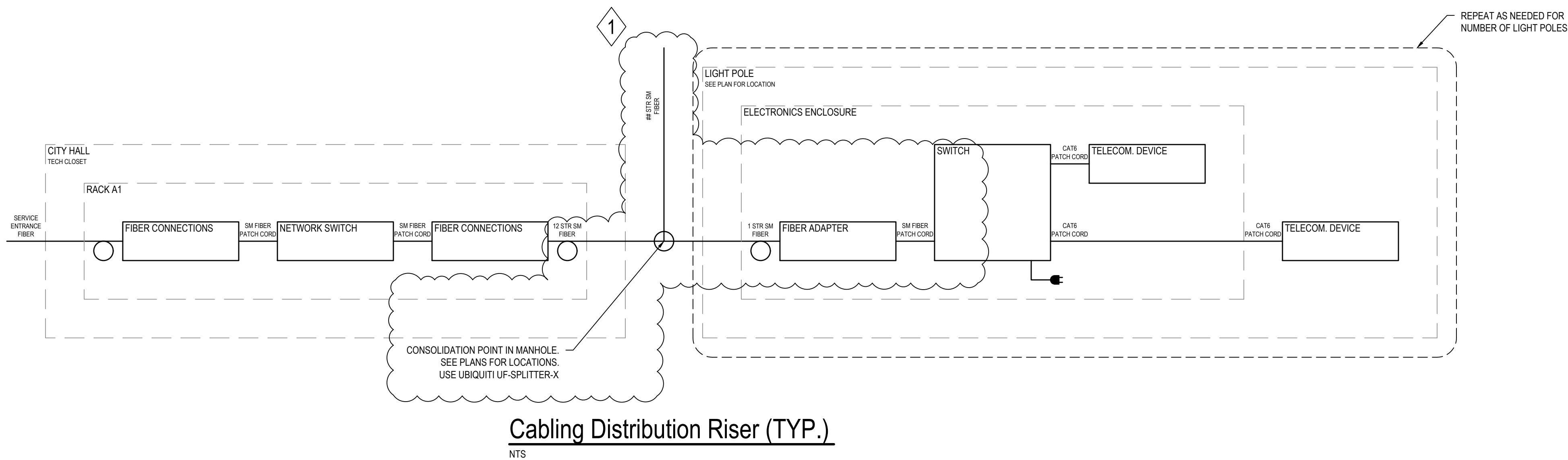
Primary Bonding Busbar (PBB)



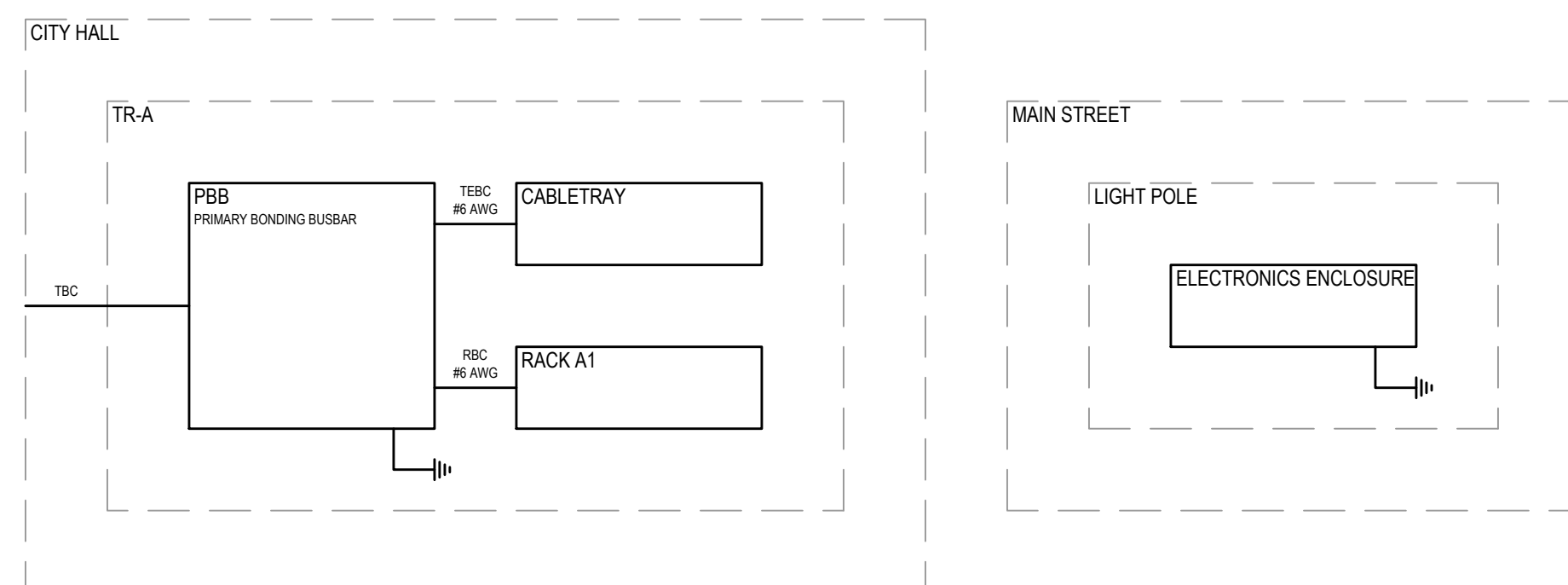
Typical Numbering for 48-Port Patch Panel



Fiber Panel Detail (TYP.)

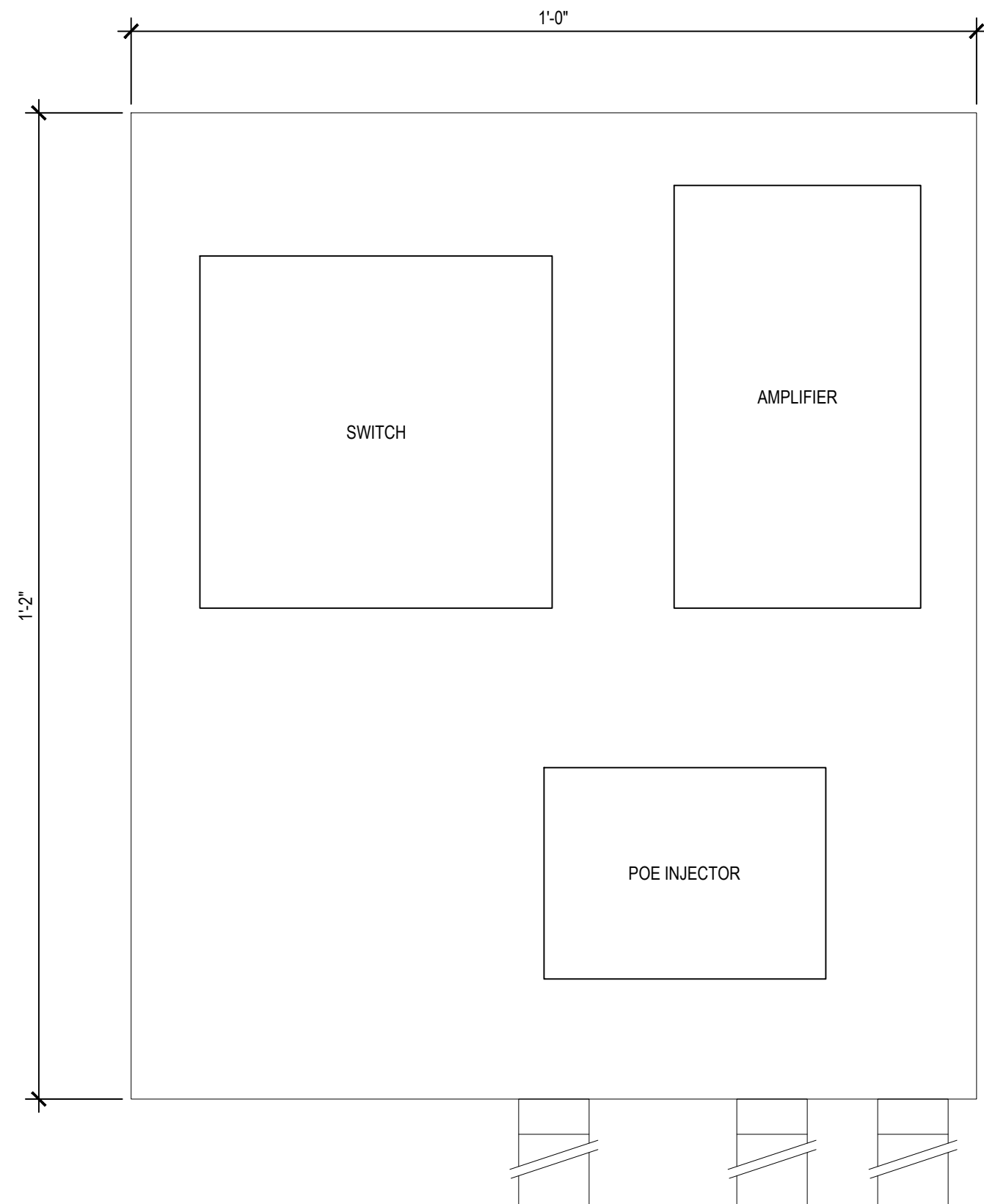


Cabling Distribution Riser (TYP.)
NTS

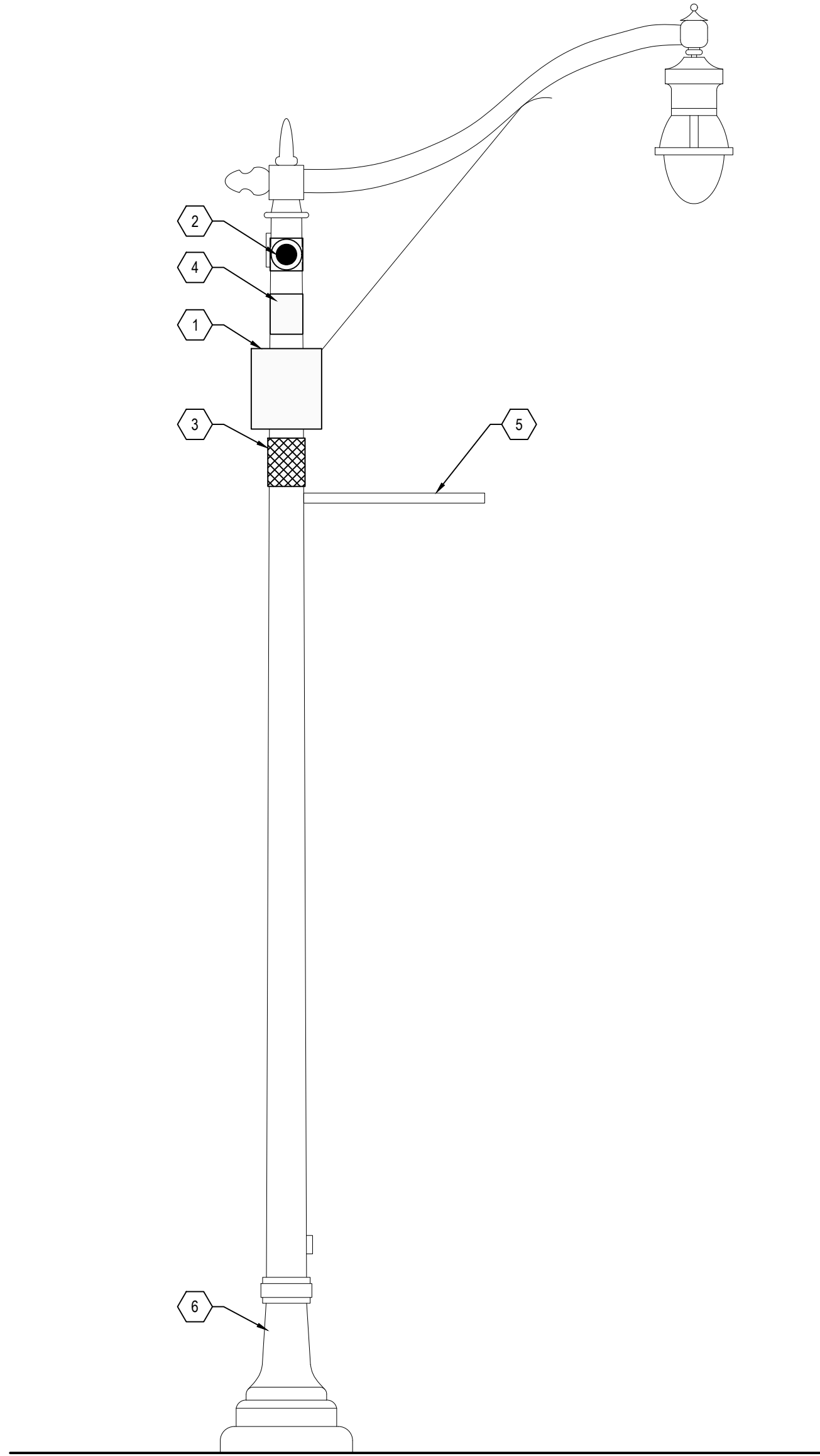


Telecommunications Grounding Riser
NTS

3 Electronics Enclosure Details
NTS



2 Light Pole Elevation (TYP.)
NTS



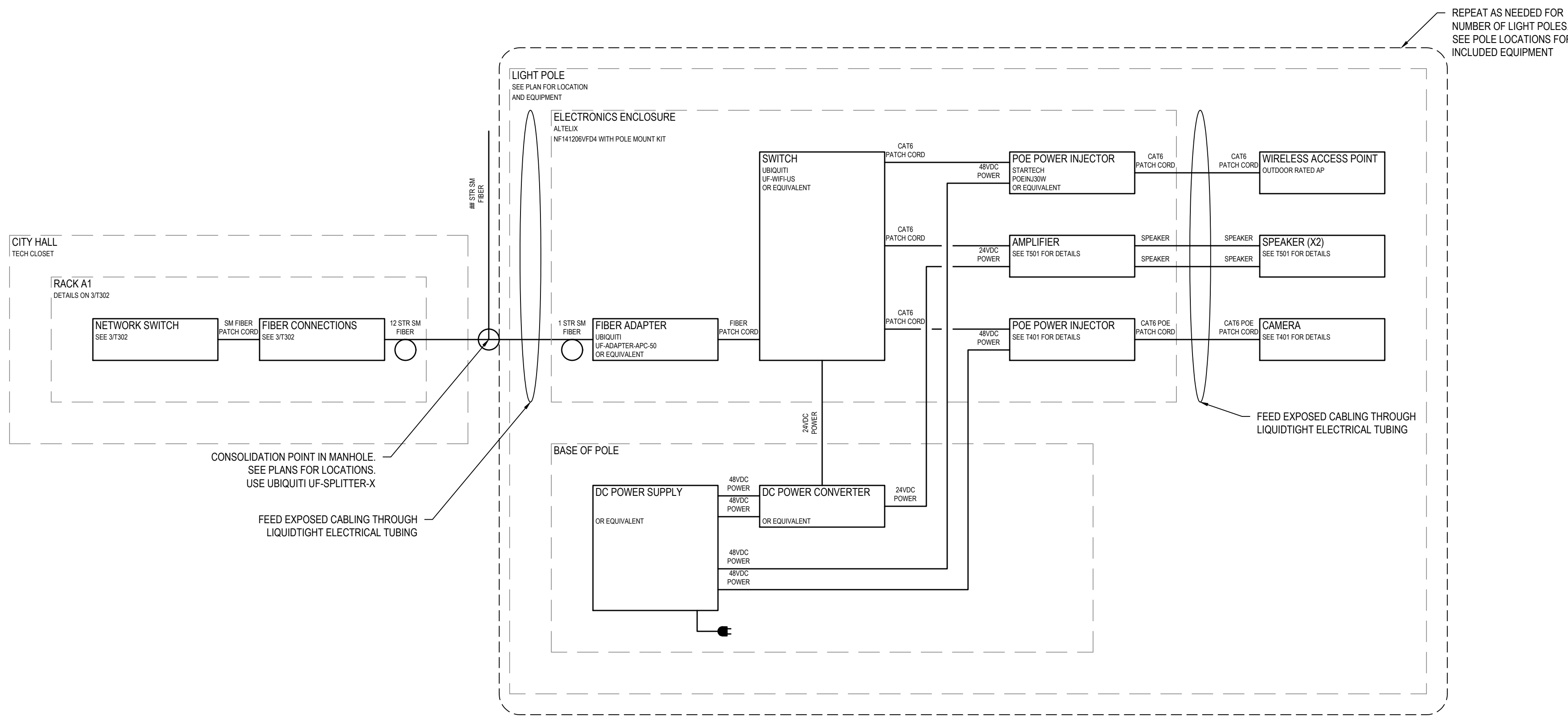
LIGHT POLE GENERAL NOTES

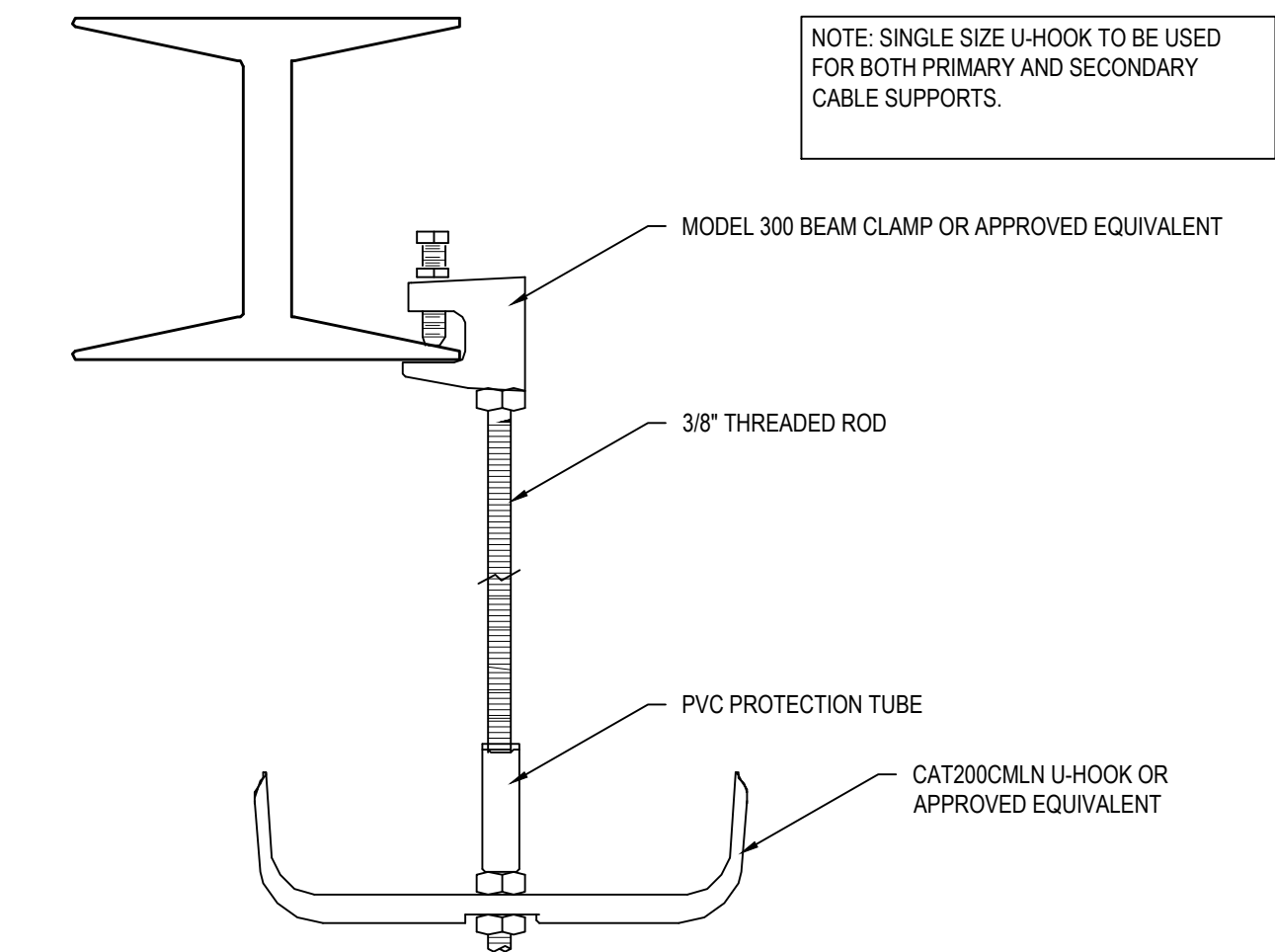
1. MOUNT EQUIPMENT AS TO ALLOW PROPER EQUIPMENT CLEARANCES AND AVOID EXISTING LIGHT POLE FEATURES.
2. CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.
3. ELECTRONICS RESIDING IN ENCLOSURE SHALL BE MOUNTED ON A BACK-PLATE AND PROPERLY SPACED FOR HEAT DISSIPATION AND CABLING PRIOR TO FINAL INSTALLATION IN ENCLOSURE.
4. ACTUAL EQUIPMENT INSTALLED IN EACH ENCLOSURE WILL VARY BY POLE. REFER TO PLANS FOR POLE SPECIFIC EQUIPMENT.

LIGHT POLE KEYED NOTES

1. EXTERIOR ELECTRONICS ENCLOSURE. SEE DETAILS 3/T303. COORDINATE FINAL COLOR WITH OWNER.
2. SURVEILLANCE CAMERA (TYP.). REFER TO PLANS FOR SPECIFIC MODEL LOCATION AND VIEWS. MOUNTING HEIGHT AND STYLE MAY VARY. SEE DETAILS ON T401.
3. LOUDSPEAKER. SEE DETAILS ON T501.
4. WIRELESS ACCESS POINT.
5. EXISTING POLE BANNER ARM. INSTALL ALL EQUIPMENT ABOVE THIS ARM ON APPLICABLE POLES.
6. DC POWER SUPPLY LOCATED IN BASE OF LIGHT POLE.

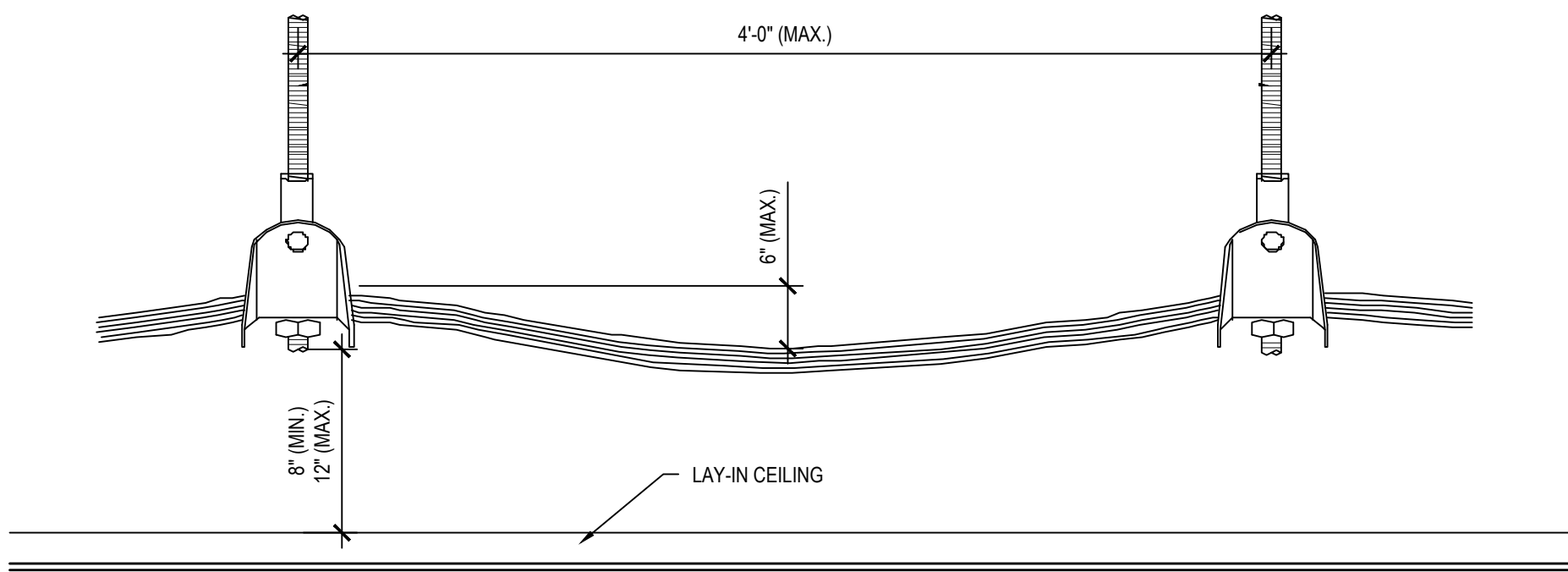
1 Electronics Enclosure (TYP.) Detail Riser
NTS





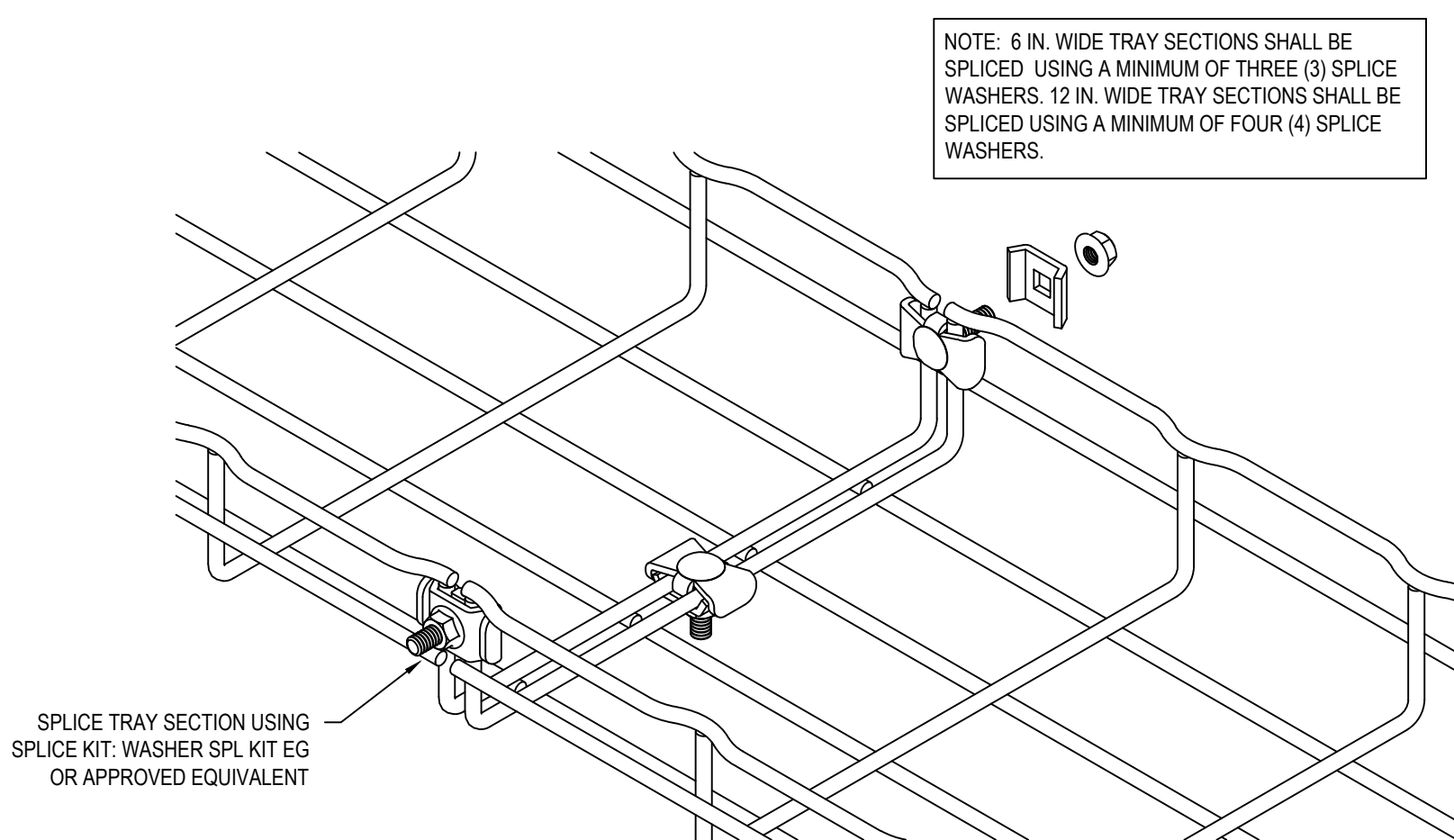
Cable Support Assembly Detail (J-Hooks)

NTS



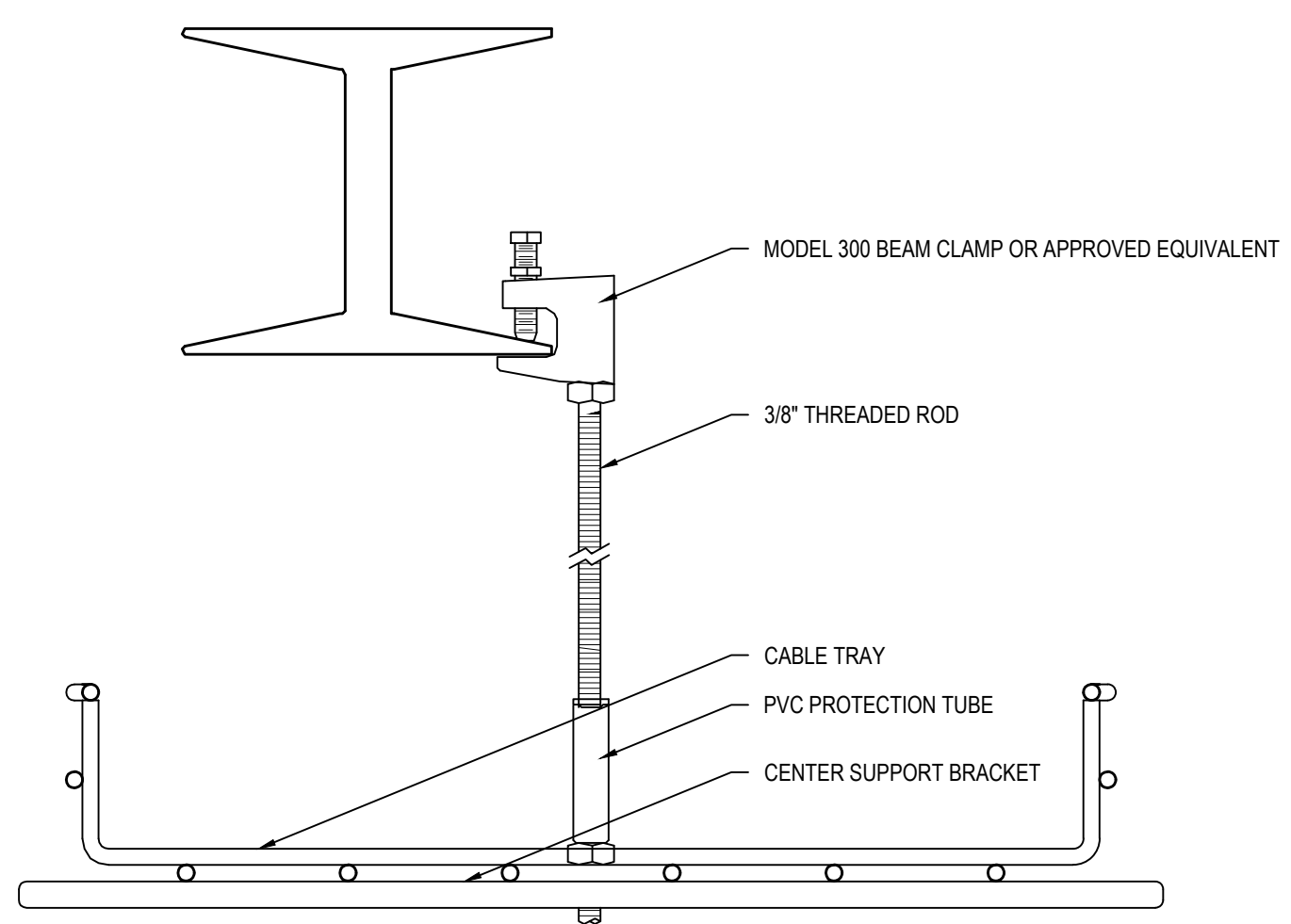
Cable Support Installation Detail (J-Hooks)

NTS



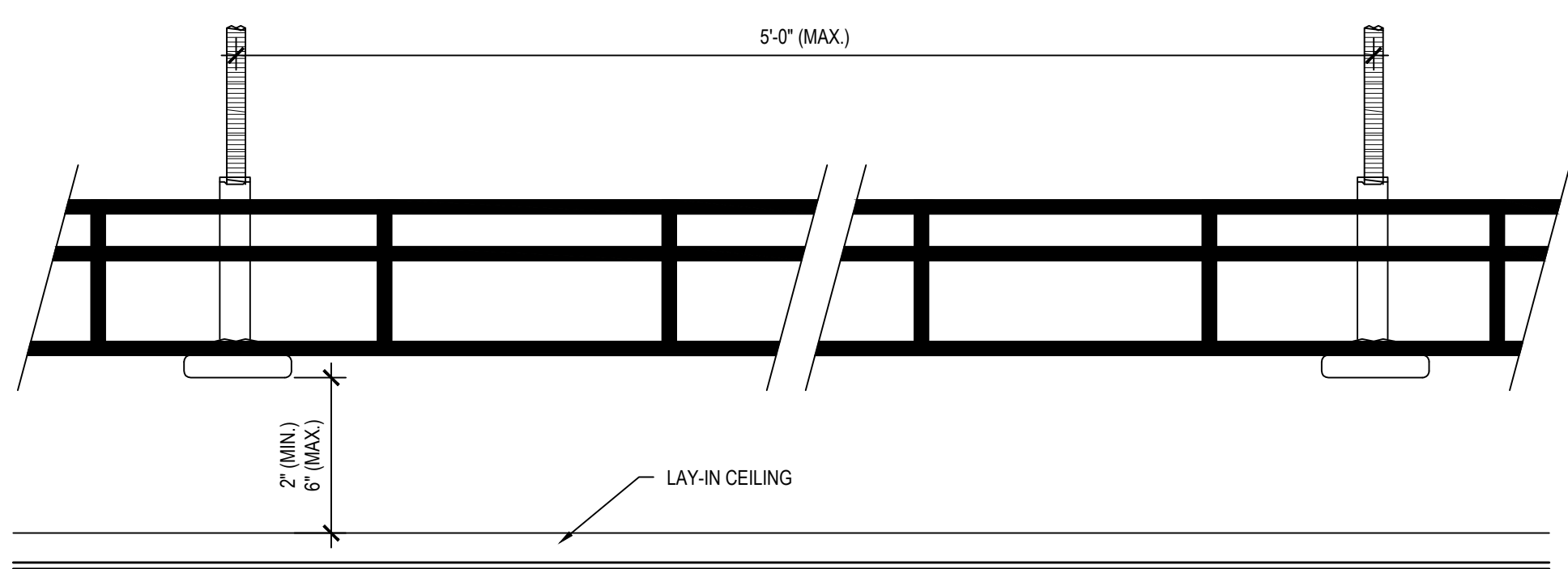
Cable Support Coupling Detail (Cabletray)

NTS



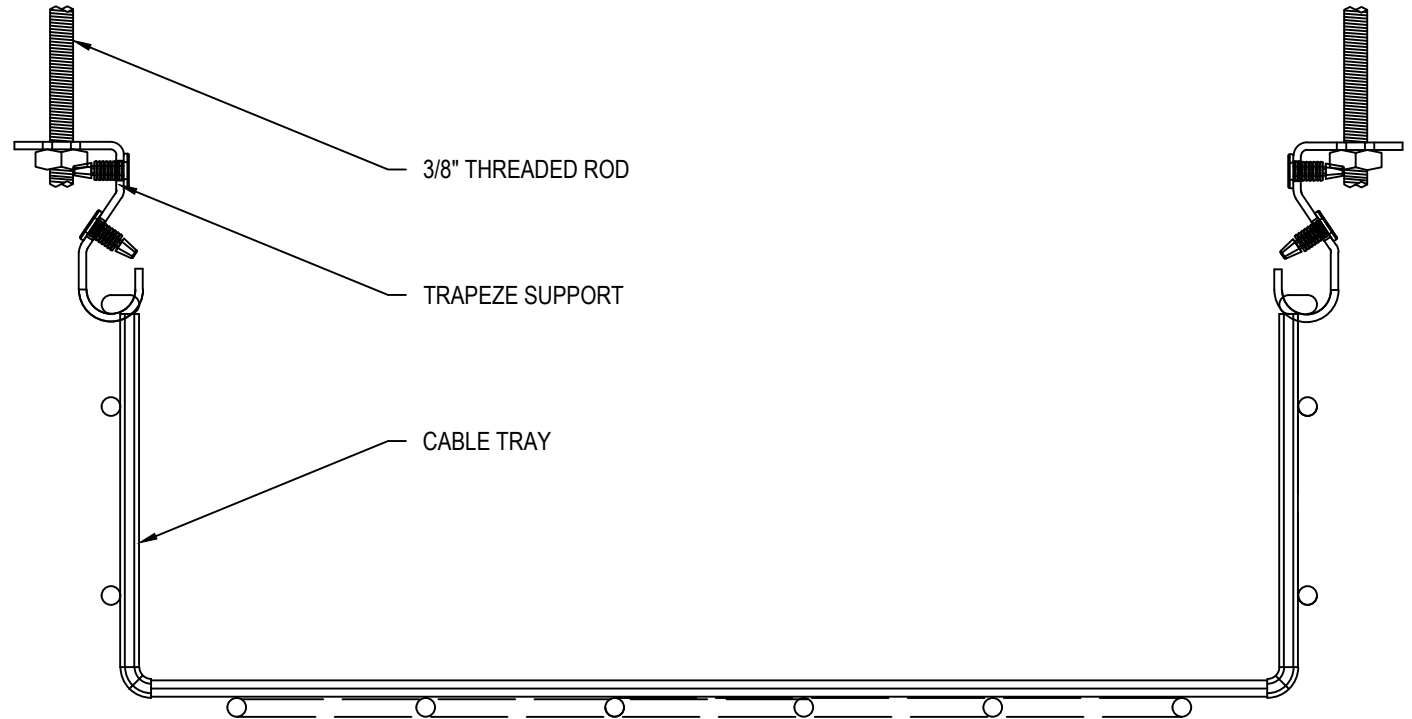
Cable Support Assembly Detail (Cabletray)

NTS



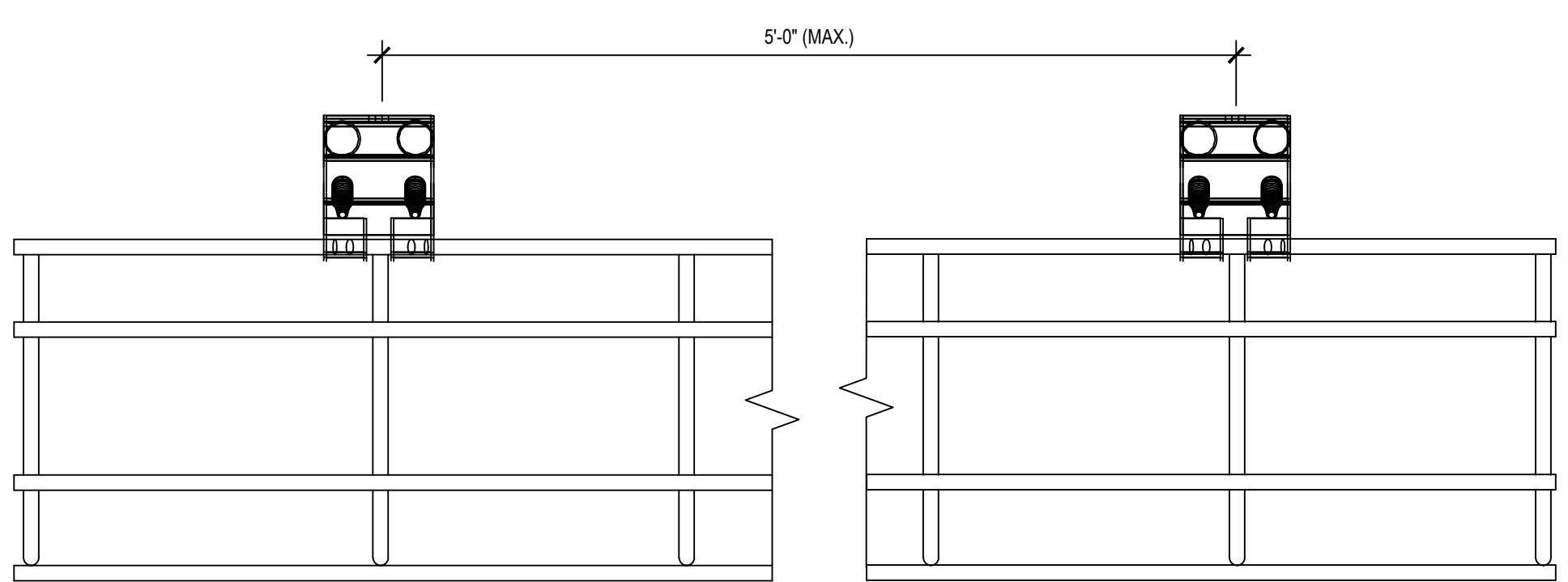
Cable Support Installation Detail (Cabletray)

NTS



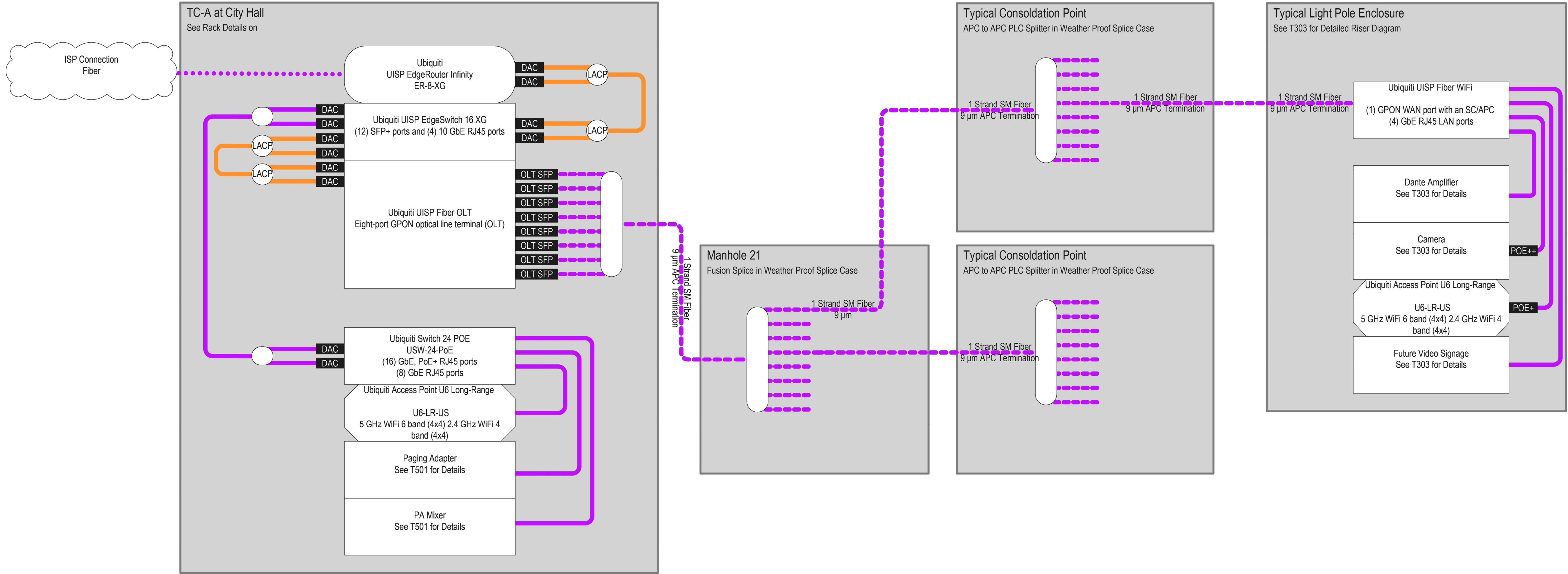
Cable Support Assembly Detail (Cabletray)

NTS



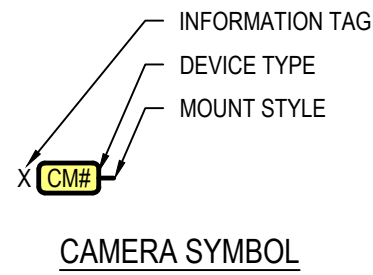
Cable Support Installation Detail (Cabletray)

NTS



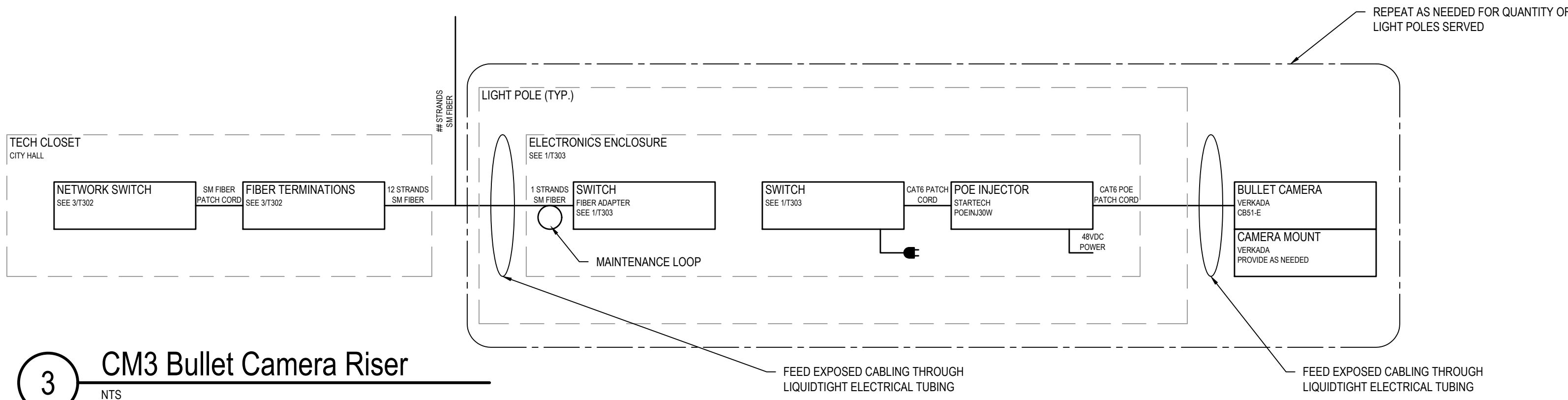
Legend	
	Remote Connection (Not on Page)
	White: Intra-building Connection
	Black: Inter-Building Connection
Cloud External Services (Internet, Phone, etc.)	
Router/Firewall	
Switch or Generic Device	
Wireless Access Point	
Server	
Building or Room	
IP Phone	
Grouped Interfaces LACP, EtherChannel, Multilink, etc.	
# = Untagged VLAN ID T = Tagged Interface	
Template Pluggable Module - (SFP, GBIC, etc.) AA = based on IEEE 802.3 standards Examples See http://ieee802.org/3/	
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	

CAMERA LEGEND									
SYMBOL	DESCRIPTION	HEIGHT	DATA DROPS	NEW WORK		SURFACE MOUNT		NOTES	
				ROUGH-IN	FACEPLATE	ROUGH-IN	FACEPLATE	ELECTRICAL	LOW VOLTAGE
CM1	DOME CAMERA	SEE NOTES	SEE T301	N/A	1/T401	N/A	1/T401		1
CM2	MULTIVIEW CAMERA	SEE NOTES	SEE T301	N/A	1/T401	N/A	1/T401		1
CM3	BULLET CAMERA	SEE NOTES	SEE T301	N/A	1/T401	N/A	1/T401		1

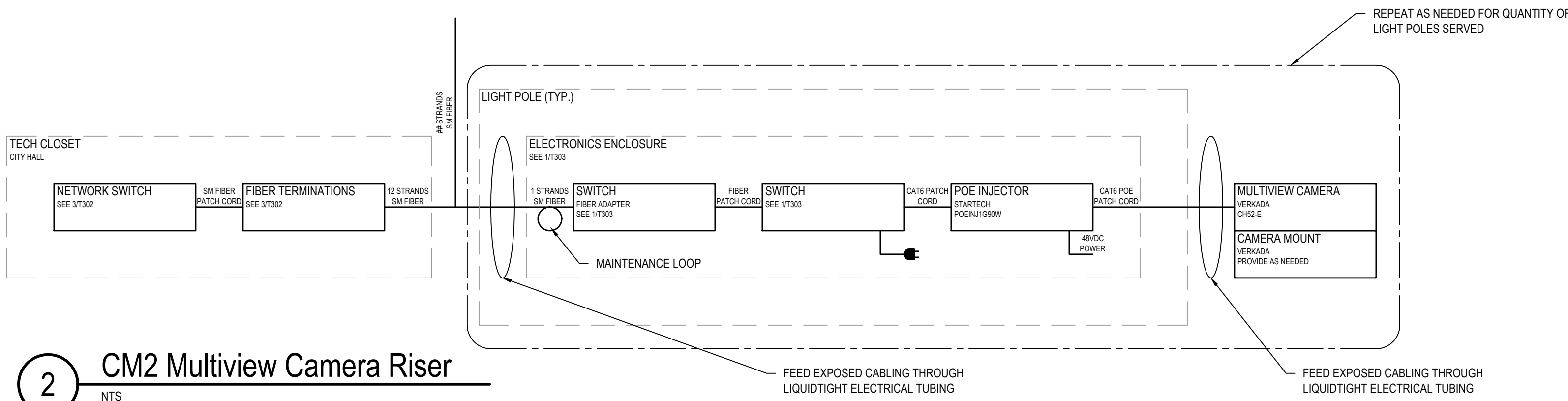


CAMERA LEGEND NOTES
1. CAMERA MOUNTED ON LIGHT POLE UNLESS SHOWN OTHERWISE ON PLANS. REFER TO 2/T303 FOR POLE MOUNT APPLICATIONS.

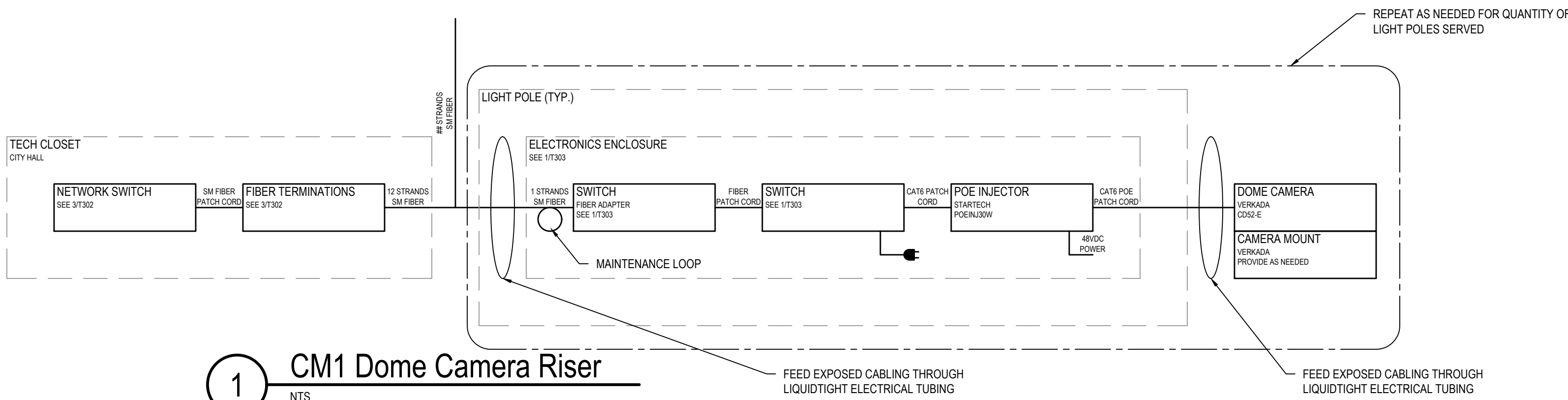
CAMERA NOTES
1. INSTALL AND CONFIGURE SERVER LICENSING AS NEEDED. PROVIDE ONE CAMERA LICENSE AND ONE SUPPORT LICENSE FOR EACH CAMERA INSTALLED. CONFIGURE SOFTWARE PER SPECIFICATION TO SUPPORT ALL CAMERAS.
2. RELOCATE CAMERA DATA DROP AS REQUIRED FOR OPTIMAL CAMERA POSITION. NEATLY COIL AND SECURE ANY REMAINING MAINTENANCE LOOP TO BUILDING STRUCTURE.
3. SECURE EXTERIOR CAMERAS TO BUILDING AT MINIMUM OF 14" AFF, UNLESS NOTED OTHERWISE.
4. CAMERA CONTRACTOR IS RESPONSIBLE FOR DRILLING ANY HOLES THAT ARE REQUIRED TO PROVIDE PATHWAY FOR CAMERA PATCH CORDS. SEAL ALL PENETRATIONS APPROPRIATELY (REMOVABLE WATERPROOF CAULK FOR EXTERIOR WALLS, AND FIRE-PROOF PUTTY FOR FIRE-RATED WALLS).
5. CAMERA CONTRACTOR TO PROVIDE MOUNTING HARDWARE AS NEEDED BASED ON CAMERA TYPE AND MOUNTING LOCATION.
6. IMPORT BUILDING FLOOR PLANS AND PLACE CAMERA ICONS TO ALLOW VIEWING SELECTION OF A GIVEN CAMERA FROM THE SOFTWARE INTERFACE.
7. ASSIST THE OWNER IN LOADING AND USAGE OF VIEWING SOFTWARE ON UP TO FIVE (5) COMPUTERS AND PROVIDE ABILITY TO VIEW CAMERAS FROM A MOBILE DEVICE TO THE EXTENT POSSIBLE WITH THE SYSTEM.
8. CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.



3 CM3 Bullet Camera Riser
NTS



2 CM2 Multiview Camera Riser
NTS



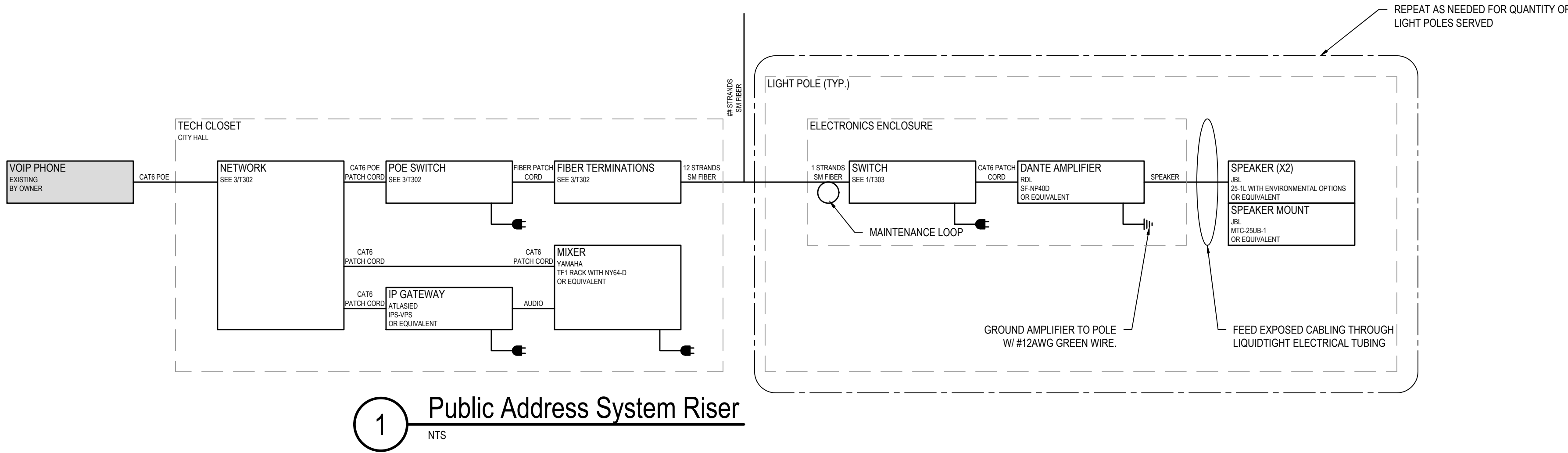
1 CM1 Dome Camera Riser
NTS

PAGING LEGEND									
SYMBOL	DESCRIPTION	HEIGHT	DATA DROPS	NEW WORK		SURFACE MOUNT		NOTES	
				ROUGH-IN	FACEPLATE	ROUGH-IN	FACEPLATE	ELECTRICAL	LOW VOLTAGE
	SPEAKER	SEE NOTES	SEE T301	SEE ELEC. NOTES	N/A	N/A	N/A		1

INFORMATION TAG
DEVICE TYPE
PAGING SYMBOL

PAGING LEGEND NOTES
1. POLE MOUNTED. SEE DETAILS ON 2/T303.

DISTRIBUTED SYSTEMS NOTES
1. CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.



1 Public Address System Riser
NTS