

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT ANY OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE VERIZON REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF A DISCREPANCY WITH ALL APPLICABLE CODES, THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH NOTIFICATION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, UTILITIES, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND SAFE AT ALL TIMES. AFTER THE CONSTRUCTION AND DISPOSE OF ALL DEBRIS, TRASH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. DETAILS OF EQUIPMENT TO BE INCLUDED IN PROJECT OR TO BE REMOVED SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE VERIZON REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO OBTAIN MATERIALS OR TO BEGIN CONSTRUCTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE VERIZON REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. ALL UNISTRUT, HARDWARE, AND OUTDOOR JUNCTION BOXES SHALL BE GALVANIZED STEEL. FOR FIELD CUTS OF GALVANIZED ITEMS, FIRST COAT SHALL BE COLD GALVANIZED AND SECOND COAT SHALL BE MARINE GRADE GALVANIZED.
17. GENERAL CONTRACTOR TO PROVIDE PORTABLE BATHROOM FACILITIES DURING CONSTRUCTION.
18. RETURN ANY UNUSED MATERIALS WITH REQUIRED DOCUMENTATION TO THE VERIZON WAREHOUSE WITHIN 14 DAYS OF PROJECT COMPLETION. RETURNED MATERIALS NEEDS TO BE ACCOMPANIED WITH AN RMA FORM AND PACKAGING REQUIREMENTS STIPULATED BY THE VERIZON CONSTRUCTION ENGINEER.
19. WITHIN 24 HOURS, CONTRACTOR SHALL OPEN A REMEDY TICKET WITH THE VERIZON NOCC AND PERFORM DAILY VISUAL MONITORING AND PROVIDE A NIGHTLY STATUS MONITORING DEVICE UNTIL THE SITE IS ON AIR.
20. FILL OUT THE PROVIDED ENVIRONMENTAL EVALUATION SUMMARY (EES) AND SUBMIT WITHIN 24 HOURS OF COMPLETION OF THE WORK OUTLINED IN ATTACHMENT 'A' OF THE FORM.
21. CONTRACTOR IS RESPONSIBLE FOR STORAGE OF ALL MATERIALS PROVIDED BY VERIZON, AND IS LIABLE FOR THOSE MATERIALS ONCE PICKED UP FROM THE WAREHOUSE.
22. CONTRACTOR SHALL PERFORM A PUNCH WALK WITH VERIZON CONSTRUCTION OPERATIONS REPRESENTATIVE PRIOR TO DECLARING CONSTRUCTION COMPLETE.
23. GENERAL CONTRACTOR SHALL PROVIDE A 10LB. DRY-CHEMICAL FIRE EXTINGUISHER ON SITE DURING CONSTRUCTION. UPON COMPLETION OF ALL WORK, CONTRACTOR SHALL REMOVE FIRE EXTINGUISHER FROM SITE.

CODE ANALYSIS OVERALL SITE

APPLICABLE BUILDING CODES:	2017 DC BUILDING CODE 2015 IBC WITH 2017 DCMR12A SUPPLEMENT 2015 IEBC WITH 2017 DCMR12J SUPPLEMENT. 2014 NEC WITH 2017 DCMR12C SUPPLEMENT 2015 IFGC WITH 2017 DCMR12D SUPPLEMENT. 2015 IFC WITH 2017 DCMR12H SUPPLEMENT 2012 ISCC WITH 2017 DCMR12K SUPPLEMENT 2015 IECC WITH 2017 DCMR12I SUPPLEMENT 2015 IPC WITH 2017 DCMR12G SUPPLEMENT 2015 IMC WITH 2017 DCMR12E SUPPLEMENT
INDUSTRY STANDARDS:	ASCE/SEI 7-2010 2010 ANSI/AISC 360 2010 ANSI/AISC 341 2010 ANSI SI000-07/52 2009 AISI SI000-07/51 2004 ASTM A325 OR A490 2015 AWS D1.1 2014 ACI 318 2011 ACI 530 2011 ACI 530.1 2016 TIA 222-G 2015 TIA 607-C 2012 IEEE81 2005 IEEE1100 2002 IEEE C62.41 TELCORDIA GR-1275 TELCORDIA GR-1503 1991 ANSI T1.311 FOR TELECOM 2011 NFPA 780 LIGHTNING PROTECTION CODE 2011

SITE INFORMATION	
USE GROUP:	UTILITY (U)
CONSTRUCTION TYPE:	IIB
EXISTING COMPOUND AREA:	528 SQ. FT.
PROPOSED COMPOUND AREA:	506 SQ. FT.
PLATFORM AREA: (VERIZON EQUIPMENT PLATFORM)	325.5 SQ. FT.
ELECTRIC UTILITY COMPANY:	PEPCO
NATURAL GAS UTILITY COMPANY:	WASHINGTON GAS

GENERATOR USE

THE PROPOSED VERIZON WIRELESS GENERATOR IS AN OPTIONAL STAND-BY UNIT AND DOES NOT SUPPLY LIFE SAFETY EQUIPMENT. THE GENERATOR IS USED TO BACKUP THE TELEPHONE EXCHANGE EQUIPMENT IN ORDER TO KEEP THE CELL SITE IN FULL OPERATION IN THE EVENT OF NORMAL UTILITY POWER FAIL. THEREFORE, NFPA 110 DOES NOT APPLY.

INDEX OF DRAWINGS

- C5-1 SITE LOCATION AND VICINITY PLAN, INDEX OF DRAWINGS, AND CODE ANALYSIS
- C-1 SITE PLAN
- C-2 ENLARGED, COMPOUND LAYOUT, DETAILS & TOWER ELEVATION
- C-3 ANTENNA SECTOR PLAN, DETAILS & SCHEDULE
- S-1 STRUCTURAL DETAILS
- S-2 STRUCTURAL DETAILS
- S-3 STRUCTURAL DETAILS
- S-4 STRUCTURAL DETAILS & NOTES
- E-1 ELECTRICAL SPECIFICATIONS, SYMBOLS LIST, AND SCHEDULES
- E-2 POWER SITE PLAN AND NOTES
- E-3 PART PLANS, POWER RISER, AND NOTES
- E-4 GROUNDING SITE PLAN AND NOTES
- E-5 DETAILS
- E-6 DETAILS
- E-7 HYBRIFLEX DETAILS AND DIAGRAM
- E-8 PLUMBING DIAGRAM AND DETAILS
- E-9 DUCTBANK DETAILS

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW VERIZON FENCED COMPOUND WITH ELEVATED EQUIPMENT PLATFORM ON GRADE FOR MOUNTING OF VERIZON TELECOMMUNICATIONS EQUIPMENT AND ASSOCIATED STAND-BY GENERATOR. THE ASSOCIATED TWELVE (12) ANTENNAS WILL BE MOUNTED ON THE EXISTING 84'-0" MONOPOLE TOWER, WITH PROPOSED 15'-0" EXTENSION, AT A RAD CENTER OF 44'-0".

DIRECTIONS TO SITE

FROM JUNCTION DRIVE:

- MERGE ONTO MD-52 E
- TAKE EXIT I/OC TO MERGE ONTO BALTIMORE-WASHINGTON PKWY
- CONTINUE ONTO MD-201
- CONTINUE ONTO STATE HWY 295
- TAKE THE EXIT TOWARD BENNING RD/FOOTE ST/RFK STADIUM
- MERGE ONTO KENILWORTH AVENUE NORTHEAST
- TAKE THE RAMP TO BENNING ROAD
- MERGE ONTO BENNING RD NE
- TURN RIGHT ONTO 26TH ST NE
- DESTINATION WILL BE ON THE RIGHT

VERIZON REVIEW	
BUILDING OWNER _____	DATE _____
ENGINEERING _____	DATE _____
OPERATIONS _____	DATE _____
CONSTRUCTION _____	DATE _____



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KINGMAN PARK
2600 BENNING RD
(AKA: 2600 BENNING RD NE)
WASHINGTON, DC 20002
(DISTRICT OF COLUMBIA)

REVISONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VzW COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:	
PROJECT NO:	240870
DATE:	APRIL 02, 2025
SCALE:	AS NOTED
TITLE:	SITE LOCATION AND VICINITY PLAN, INDEX OF DRAWINGS, AND CODE ANALYSIS

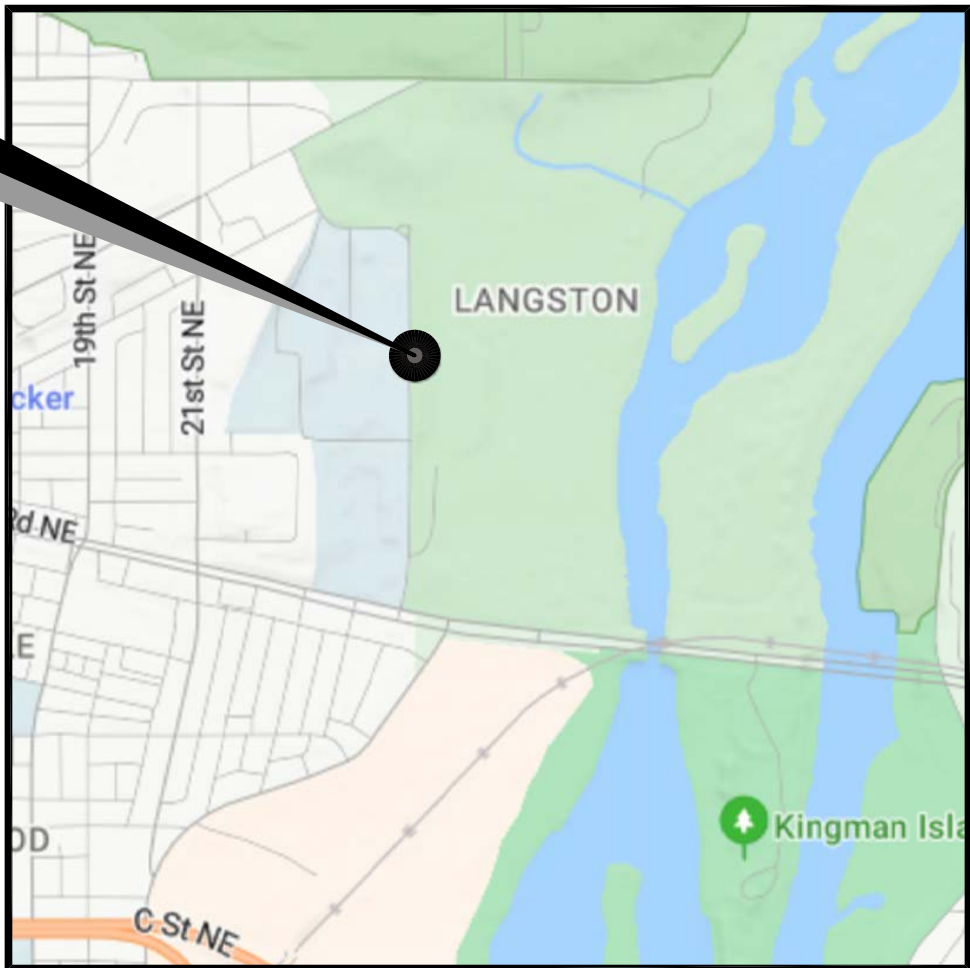
SHEET:

CS-|

000|



SITE



VICINITY MAP
SCALE: 1" = 1000'

- SITE NOTES:**
1. APPLICANT: VERIZON WIRELESS
10170 JUNCTION DRIVE, STE 800
ANNAPOLIS, MARYLAND 21401
TEL: (301) 512-2000
FAX: (301) 512-2186
 2. PROPERTY OWNER: DISTRICT OF COLUMBIA
2000 14TH ST NW
8TH FLOOR
WASHINGTON, DC 20004
 3. SITE DATA: DEED BOOK: 3223 PAGE: X
SSL ID: PAR 01600042
TRACT AREA: 530,332 SF
NEIGHBORHOOD: OS2
ADDRESS: 26TH STREET NE
WASHINGTON, DC 20002
EXISTING USE: RECREATIONAL / TELECOMMUNICATIONS
 4. ZONING: RA-2
 5. HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED ON A GPS LATITUDE BY MORRIS & RITCHIE ASSOCIATES, INC. DATED JANUARY 13, 2025.
LATITUDE: N38° 54' 05.45" (38.901236°)
LONGITUDE: W76° 58' 12.34" (-76.970108°)
GROUND ELEVATION: 44.00± AMSL (AVG.)
EXISTING STRUCTURE HEIGHT: 84.00± ASL
PROPOSED STRUCTURE HEIGHT / HIGHEST POINT: 108.00± ASL
TOTAL ELEVATION (AMSL): 157.00± AMSL
 6. TOTAL DISTURBED AREA = 500± SF
 7. THE PROPOSED FACILITIES WILL CONSIST OF ONE (1) 21'-0" LONG X 12'-6" WIDE STEEL EQUIPMENT PLATFORM WITHIN A 18'-6" X 27'-0" FENCED STAND. TWELVE (12) ANTENNAS SHALL BE MOUNTED ON AN EXISTING 84'-0" MONOPOLE WITH A PROPOSED 15'-0" EXTENSION WITH A RAD CENTER AT AN ELEVATION OF 44'-0" ABOVE GRADE LEVEL FOR THE RECEPTION OF VERIZON WIRELESS TELECOMMUNICATIONS.
 8. THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT WARNING OR OTHER SAFETY RECORDS.
 9. THE APPLICANT WILL PROVIDE A CERTIFICATION FROM A REGISTERED ENGINEER THAT THE STRUCTURE WILL MEET THE APPLICABLE DESIGN STANDARDS FOR WIND LOADS PER THE REQUIREMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION.
 10. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT OWNER'S EXPENSE.
 11. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
 12. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.
 13. BOUNDARY SHOWN PER COUNTY RECORDS.
 14. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
 15. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL, OR CONSTRUCTION PLANS BY OTHERS.
 16. STRUCTURAL ANALYSIS/DESIGN TO BE PERFORMED BY OTHERS AT CLIENT AND/OR OWNER'S DISCRETION PRIOR TO COMMENCEMENT OF ANY WORK.
 17. THE COMMUNICATION EQUIPMENT SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL, AND WITH ACCESS AND PARKING FOR NO MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.
 18. THE PROPOSED COMMUNICATIONS EQUIPMENT, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.

- GENERAL NOTES**
1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (811) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.
 2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.
 3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
 4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.
 5. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.
 6. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

STRUCTURAL CERTIFICATION NOTES

1. "STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE D.C. CONSTRUCTION CODES SUPPLEMENT AS AMENDED TO DATE."



MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-B East Joppa Road, Suite 400K
Towson, Maryland 21286
410-821-1890
410-821-1748 Fax



I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

verizon
KINGMAN PARK
2600 BENNING RD
(AKA: 2500 BENNING RD NE)
WASHINGTON, DC 20002
(DISTRICT OF COLUMBIA)

REVISIONS:		
NO.	DESCRIPTION	DATE
1	PERMIT COMMENTS	06/10/25
2	PERMIT COMMENTS	06/05/25
3	VERIZON COMMENTS	04/14/25
4	VERIZON COMMENTS	04/07/25
5	PERMIT DWGS	04/02/25
6	ZONING SUBMISSION	11/13/24

DESIGNED BY:	JT
DRAWN BY:	DNT
REVIEWED BY:	JT
PROJECT NO:	10427.1781
FUZE PROJECT NO:	17324607
DATE:	11/07/2024

TITLE:
Site Plan

SHEET:
C-1
CIV001

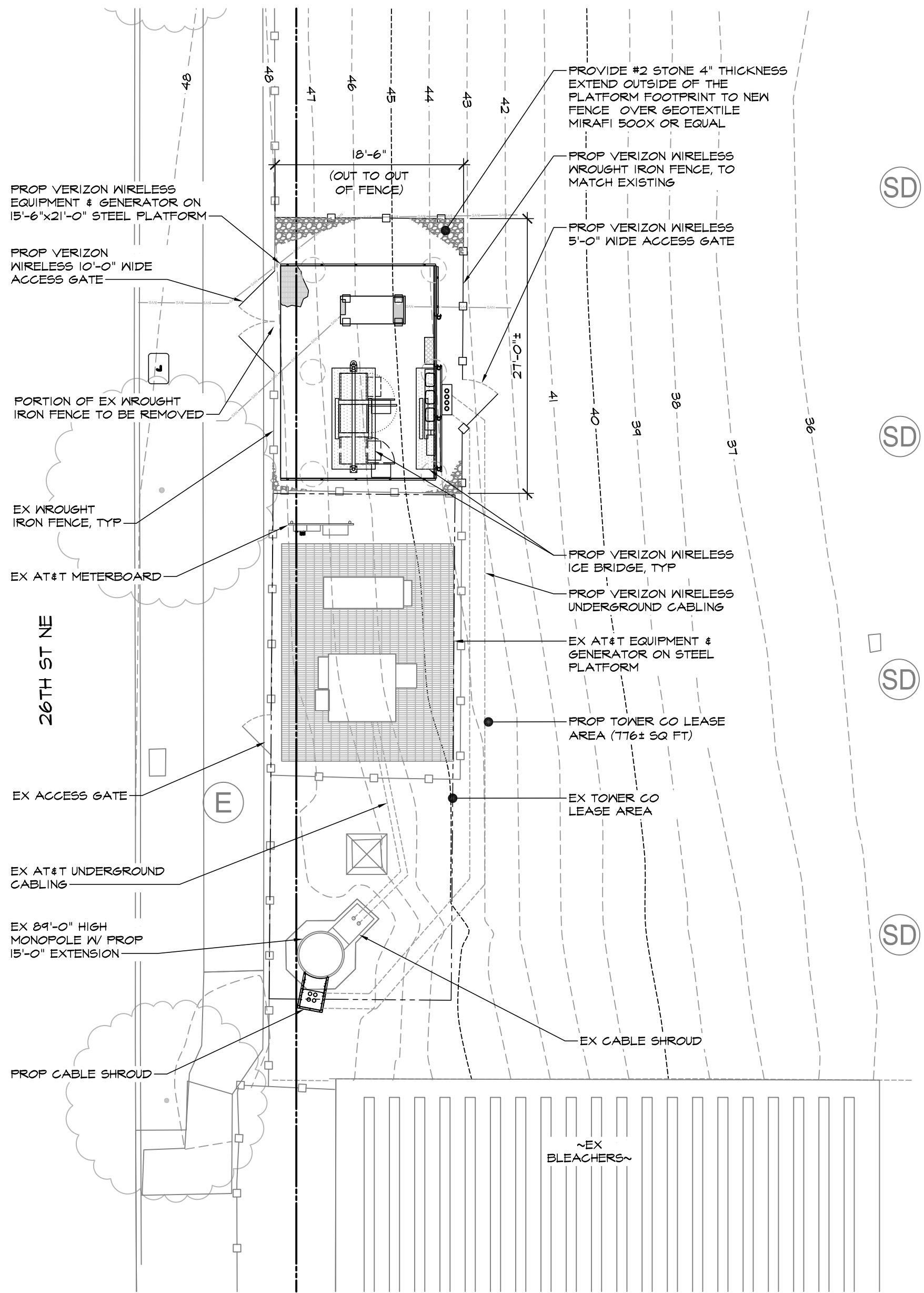


Know what's below.
Call before you dig.

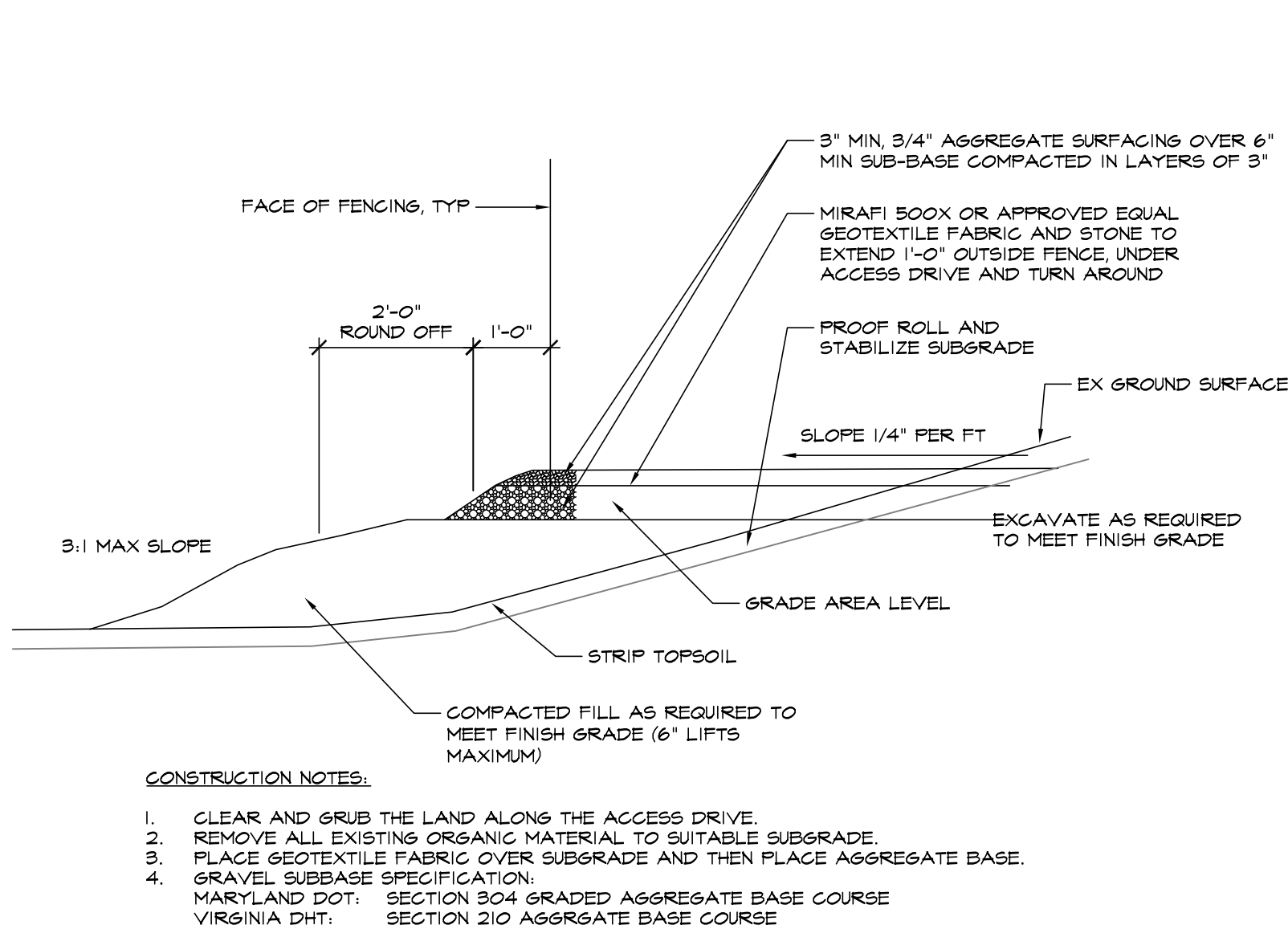
PROTECT YOURSELF. GIVE THREE WORKING DAYS NOTICE.
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

SITE PLAN
SCALE: 1" = 100'-0"

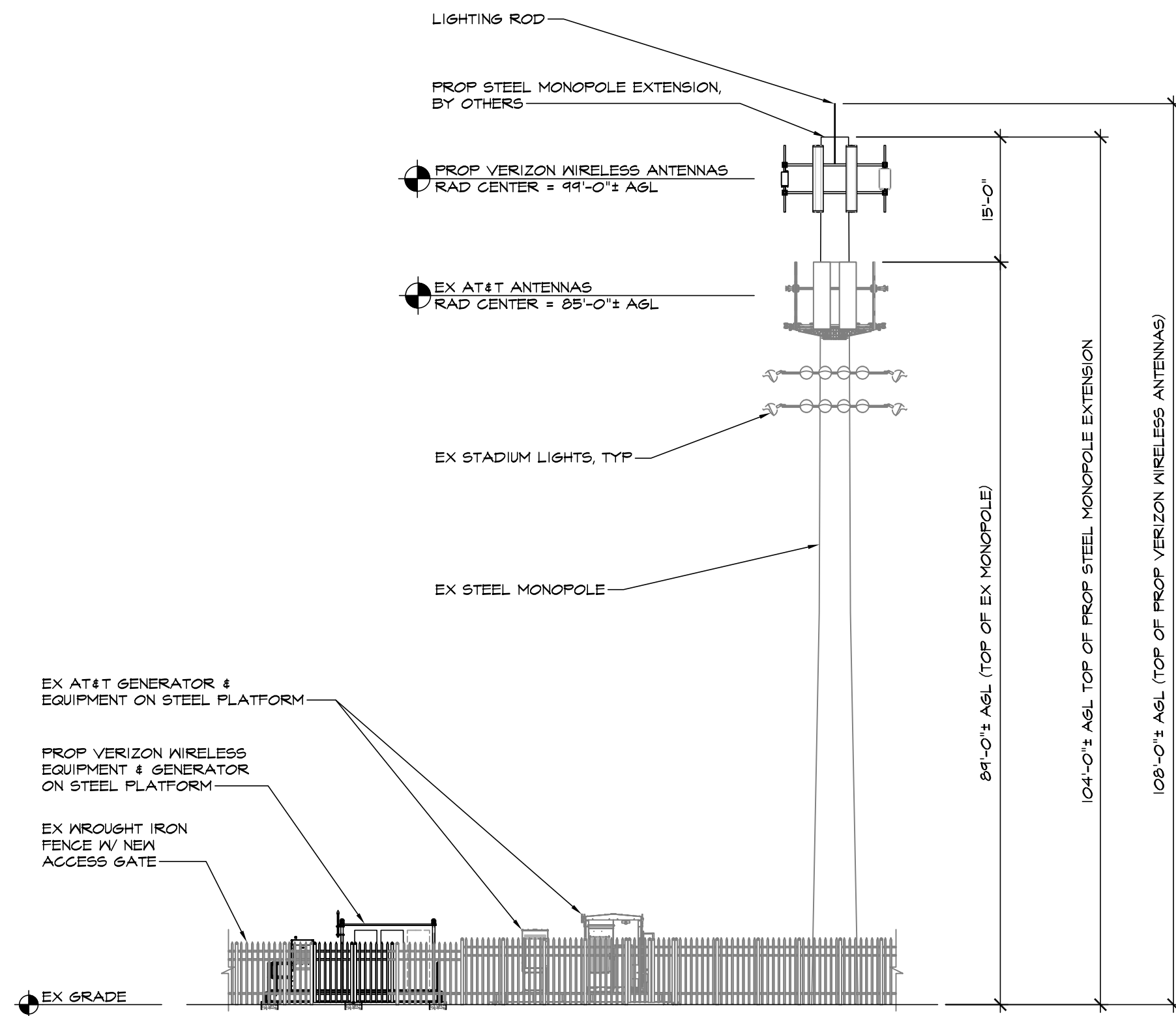




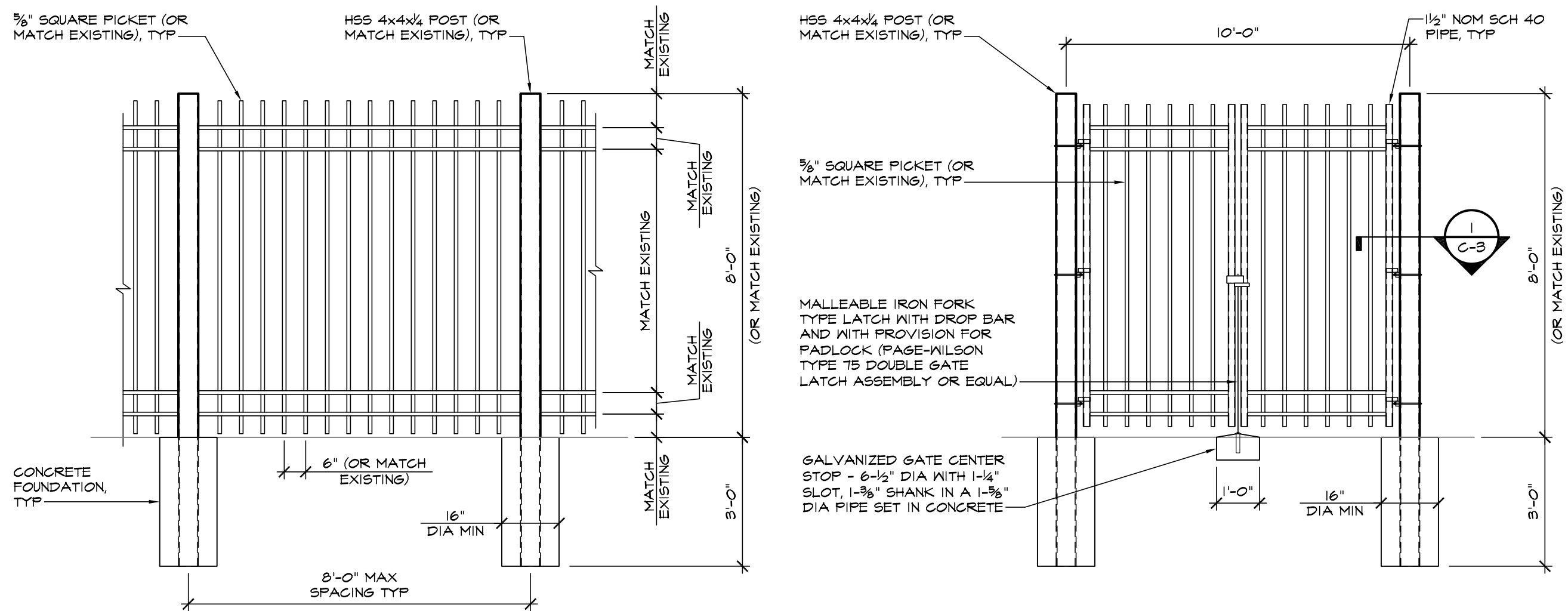
ENLARGED COMPOUND LAYOUT
SCALE: 1" = 10'-0"



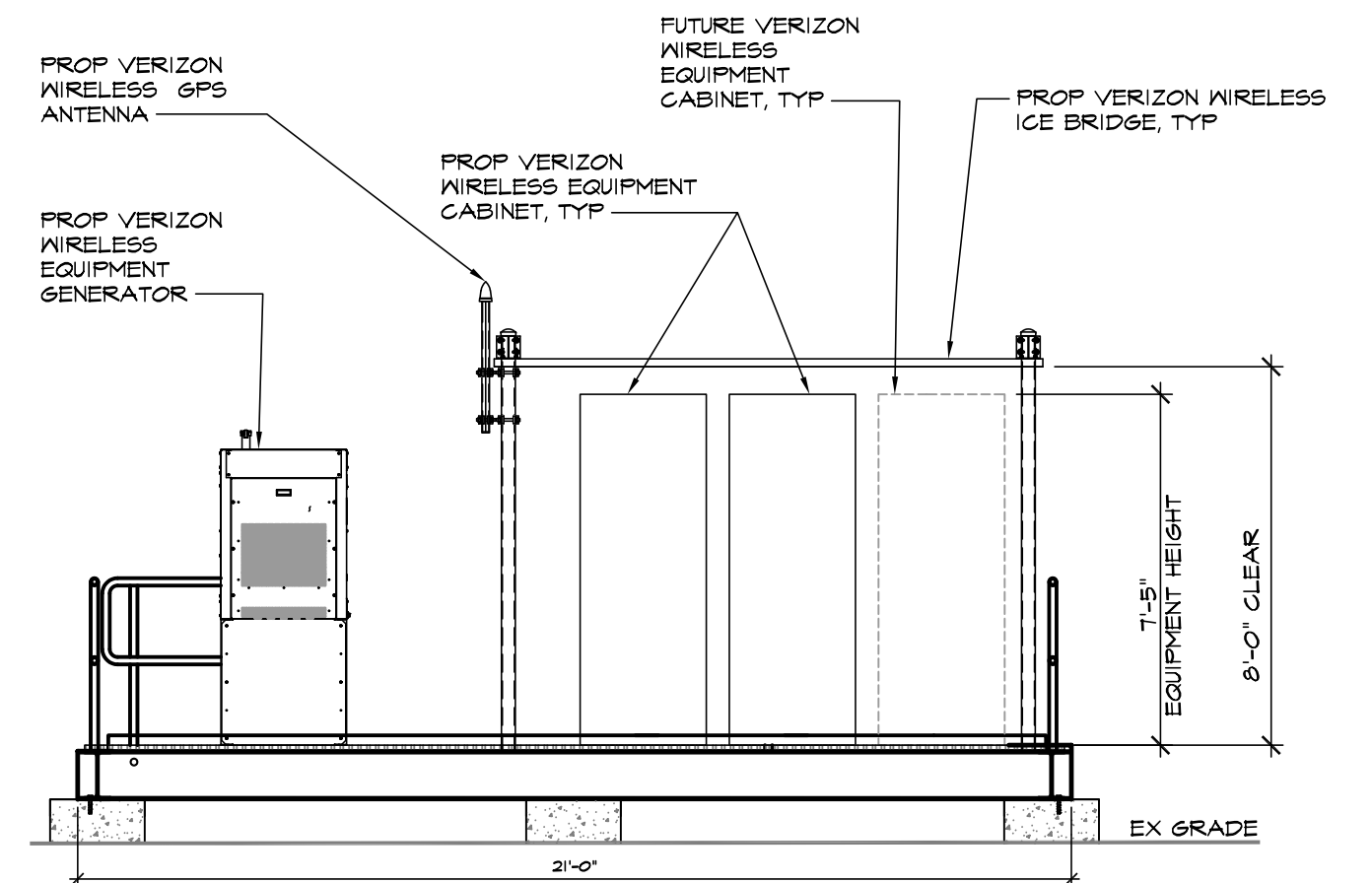
LEASE AREA, ACCESS DRIVE & TURN AROUND AREA SURFACING
SCALE: 1/2" = 1'-0"



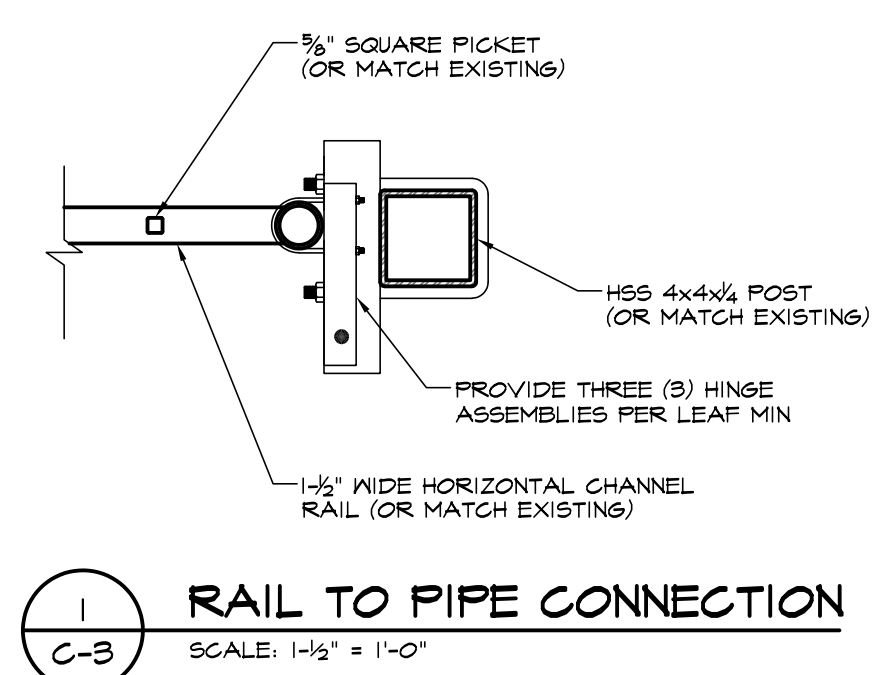
TOWER ELEVATION
SCALE: 1" = 15'-0"



TYP WROUGHT IRON FENCE AND GATE DETAIL
SCALE: 3/8" = 1'-0"



STEEL PLATFORM ELEVATION W/ DIESEL GENERATOR
SCALE: 1/4" = 1'-0"



RAIL TO PIPE CONNECTION
SCALE: 1-1/2" = 1'-0"



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ACT OF 1970 AND ALL RULES AND REGULATIONS
THERE TO APPURTENANT.



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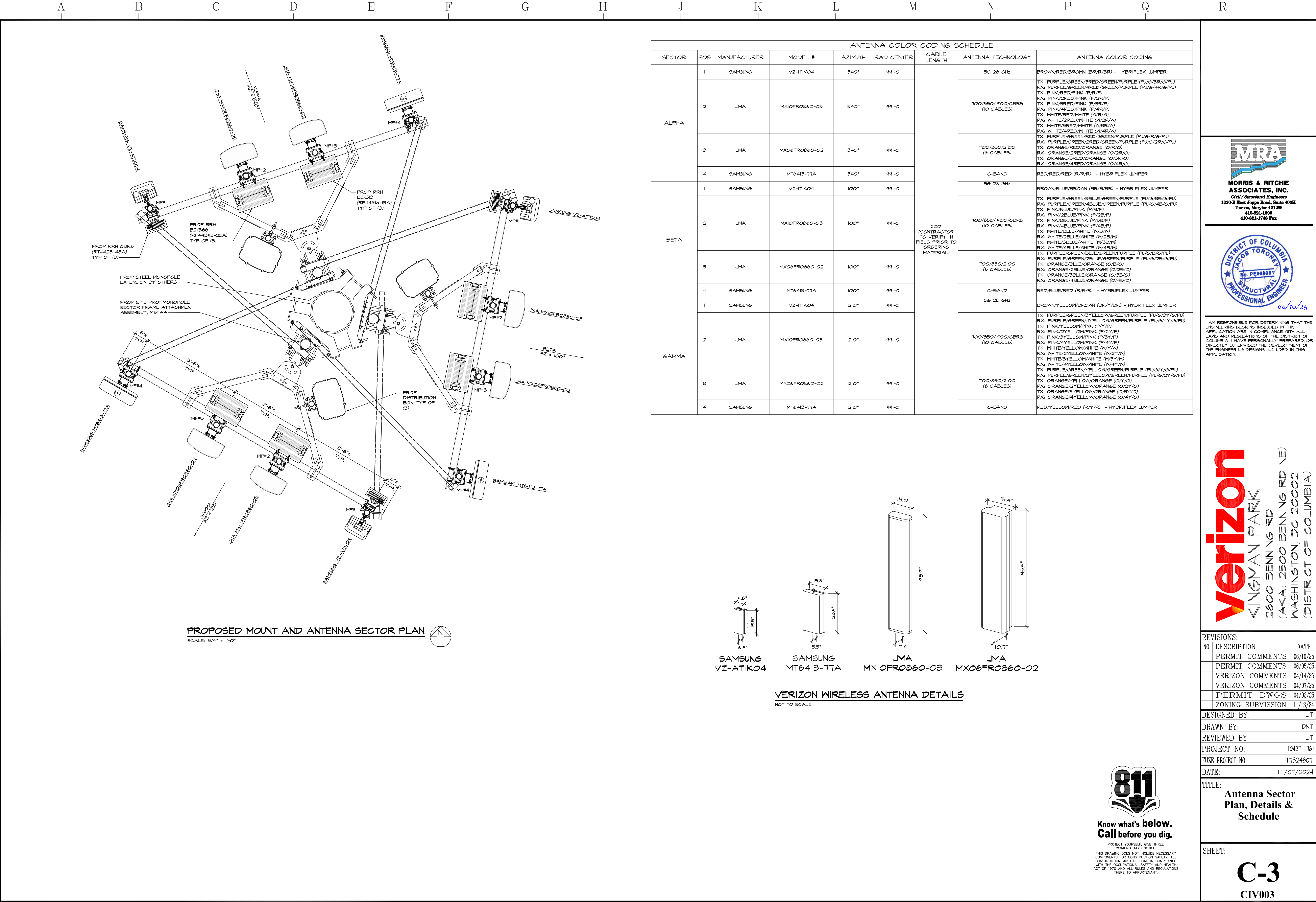
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6	ZONING SUBMISSION	11/13/24

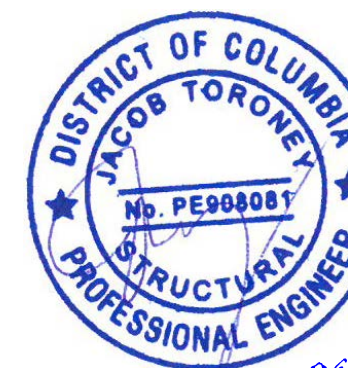
DESIGNED BY: JT
DRAWN BY: DNT
REVIEWED BY: JT
PROJECT NO: 10427.1781
FUZE PROJECT NO: 17324607
DATE: 11/07/2024

TITLE:
**Enlarged Compound
Layout, Details &
Tower Elevation**

SHEET:
C-2
CIV002



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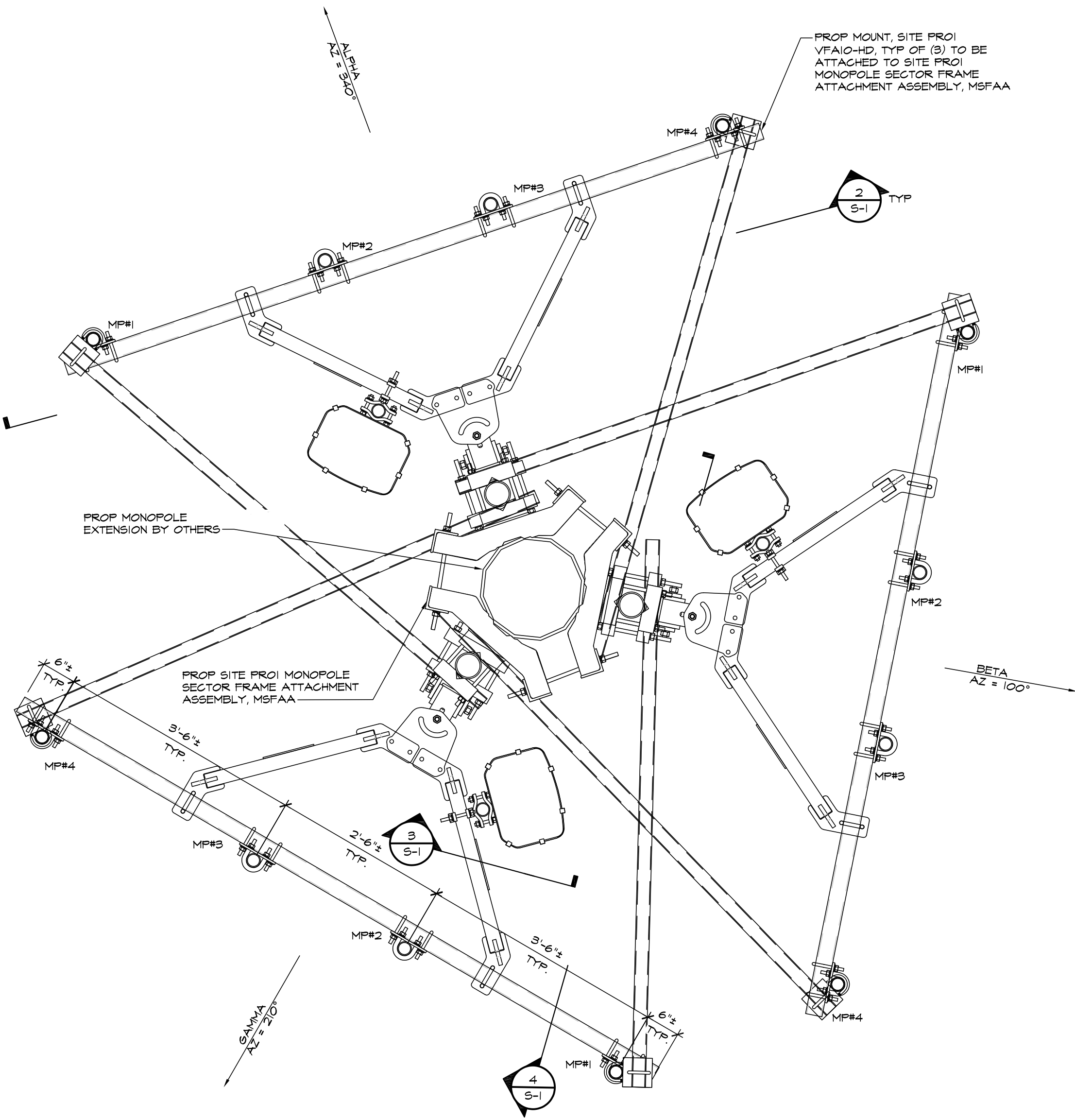
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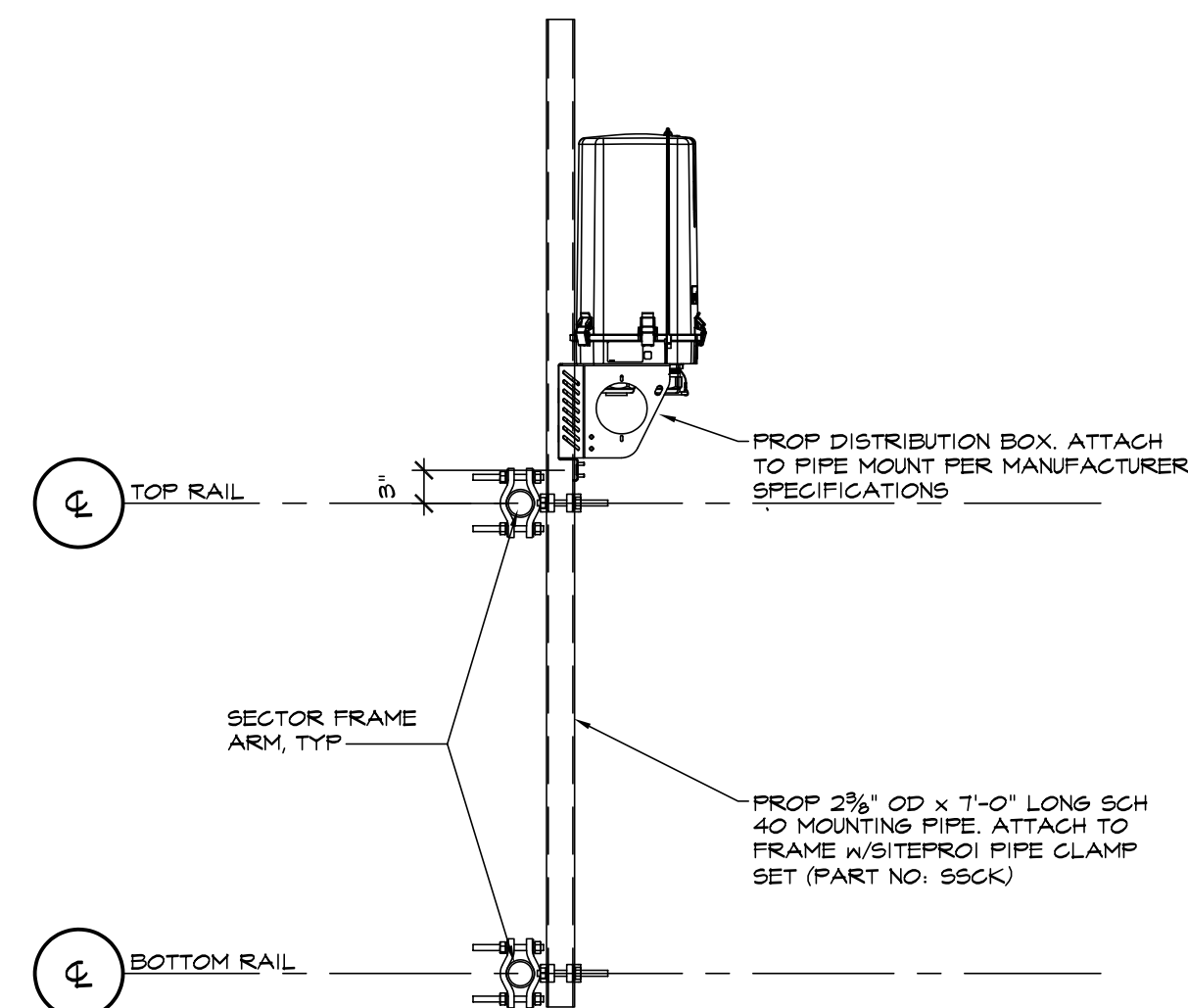
DESIGNED BY: JT
DRAWN BY: DNT
REVIEWED BY: JT
PROJECT NO: 10427.1781
FUZE PROJECT NO: 17324607
DATE: 11/07/2024

TITLE:
Antenna Sector Plan, Details & Schedule

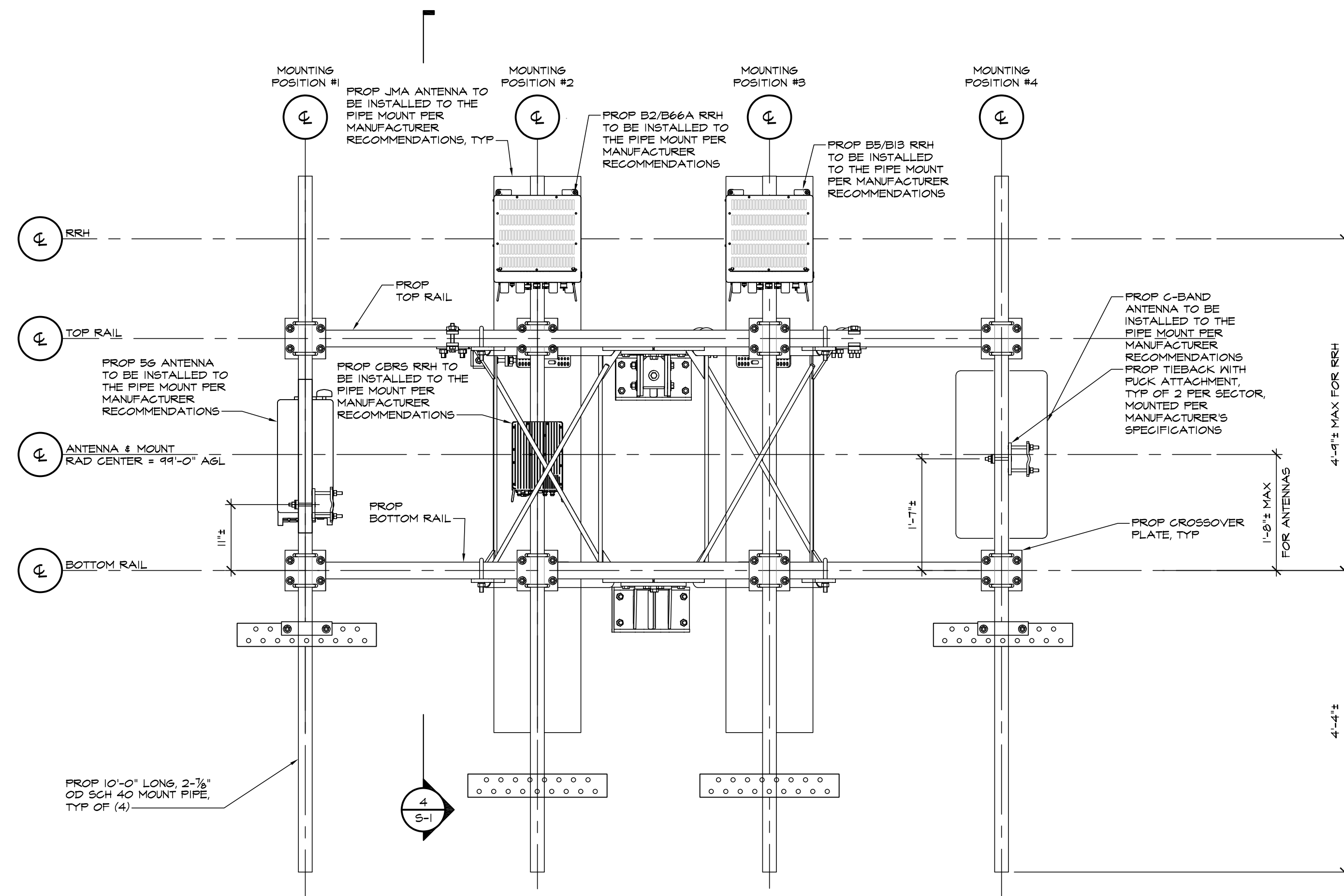
SHEET:
C-3
CIV003



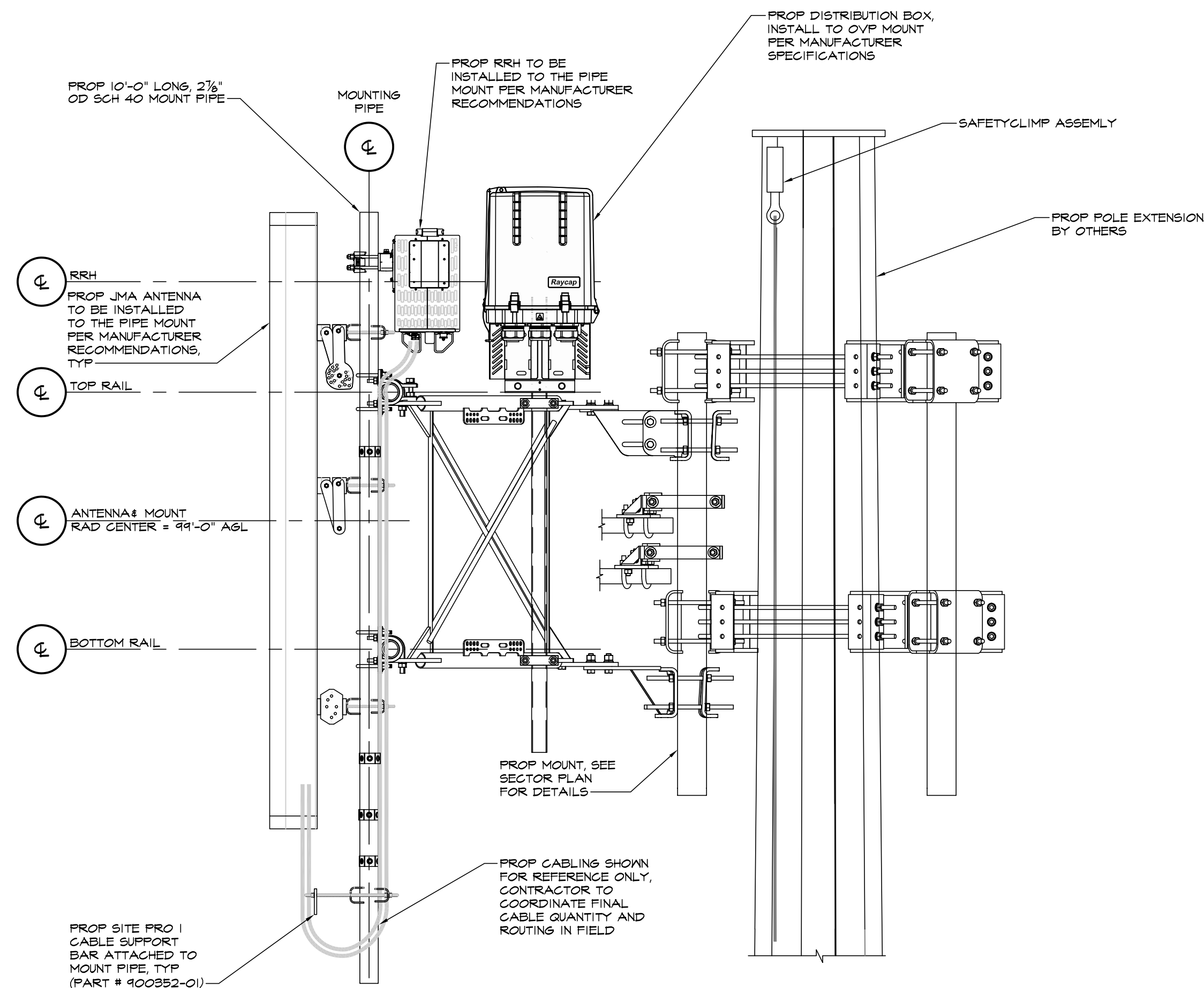
ANTENNA MOUNT PLAN
SCALE: 3/4" = 1'-0"



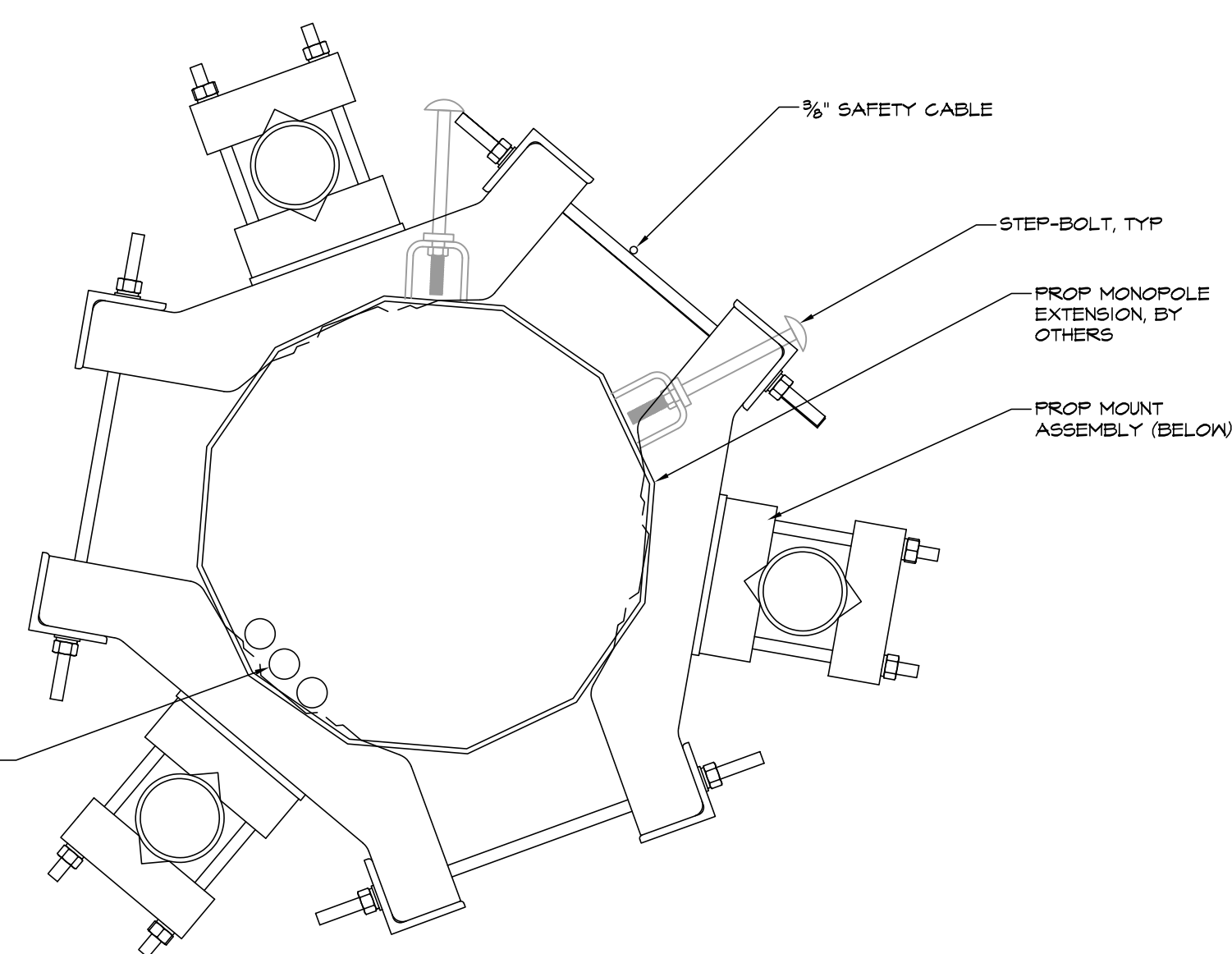
3
S-1
TYP OVP MOUNT
SCALE: 3/4" = 1'-0"



2
S-1
TYPICAL SECTOR REAR ELEVATION
SCALE: 3/4" = 1'-0"



4
S-1
TYPICAL ANTENNA MOUNT SIDE ELEVATION
SCALE: 3/4" = 1'-0"

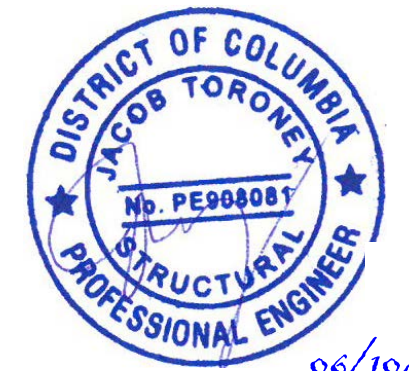


NOTE:
GENERAL CONTRACTOR TO
CONFIRM SAFETY CABLE IS NOT
OBSTRUCTED OR COMPROMISED/
RUBBING ON THE COLLAR

B
CABLE MOUNTING PLAN
SCALE: 1-1/2" = 1'-0"



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DESIGNED BY: JT

DRAWN BY: DNT

REVIEWED BY: JT

PROJECT NO: 10427.1781

FUZE PROJECT NO: 17324607

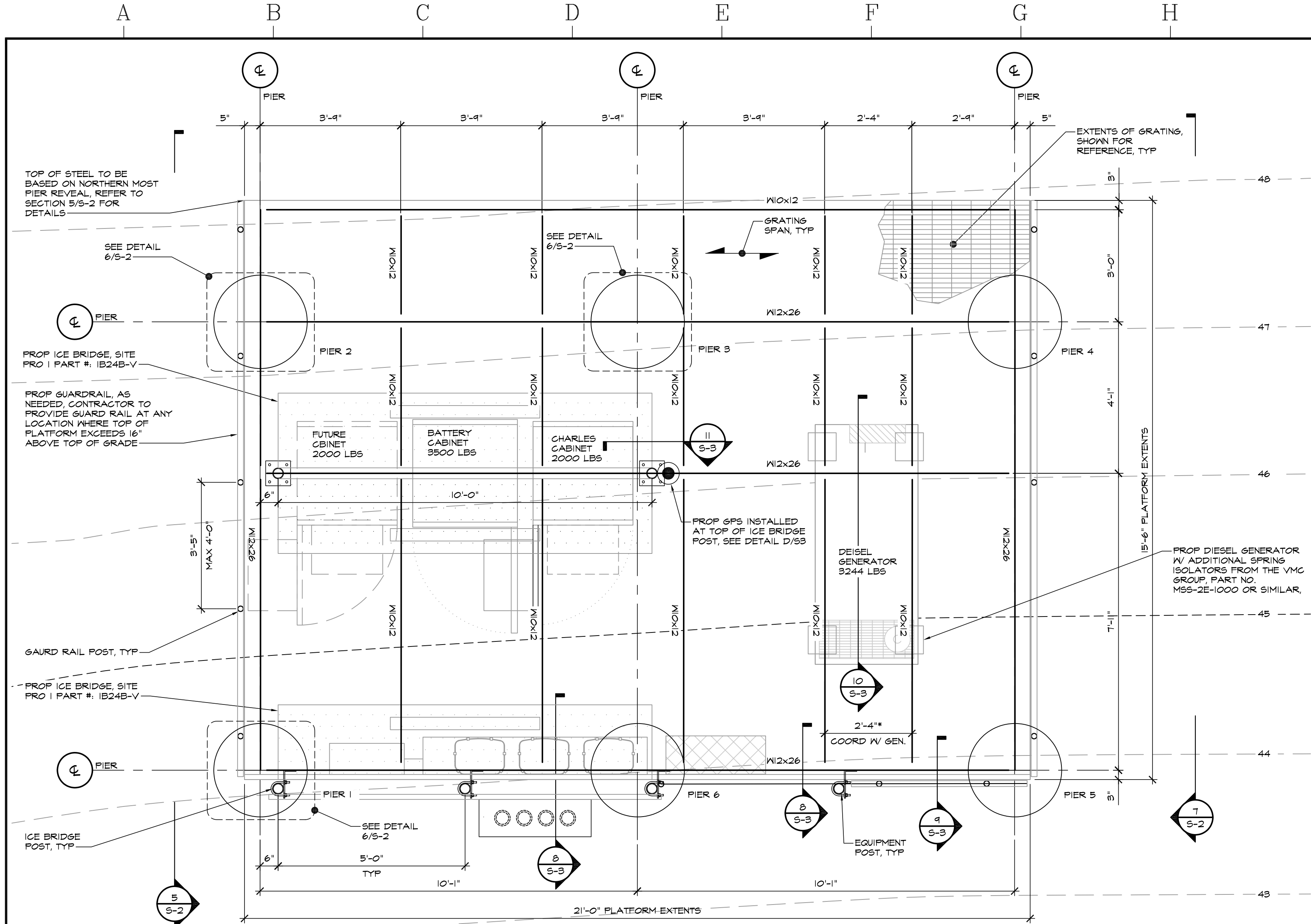
DATE: 11/07/2024

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Details**

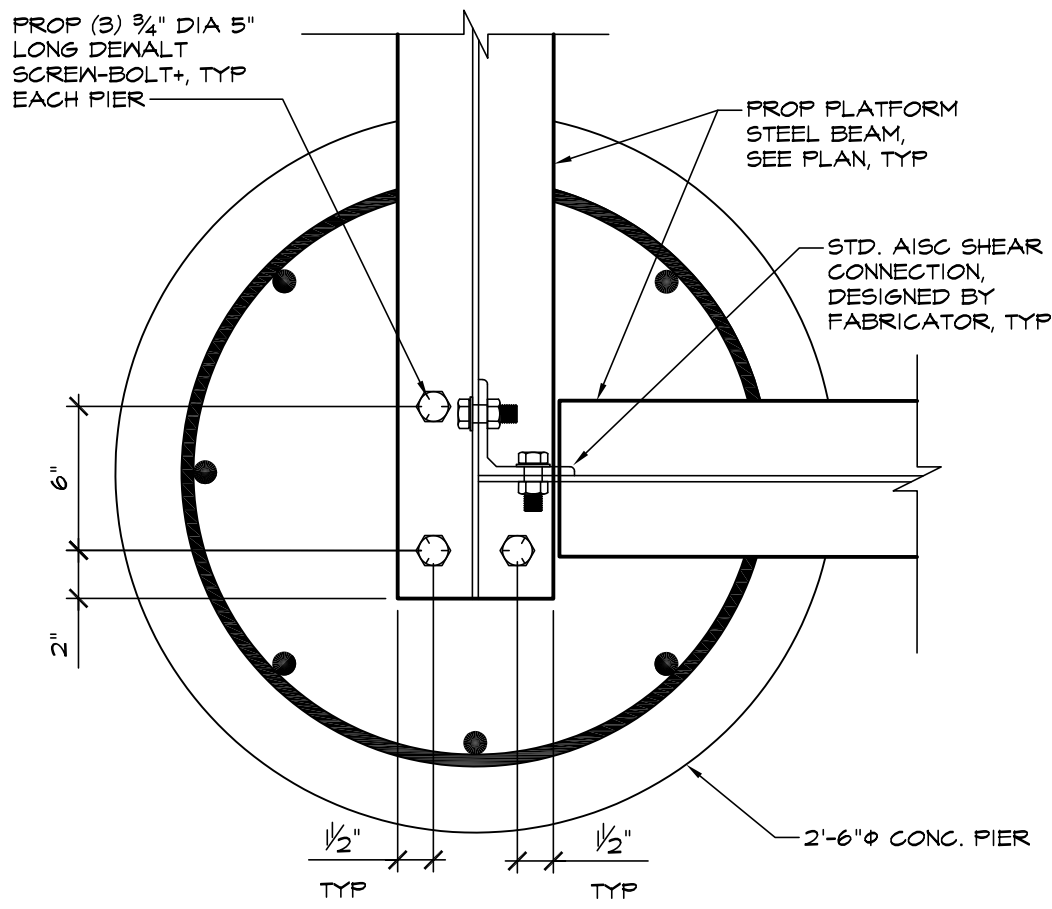
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S-1
S001

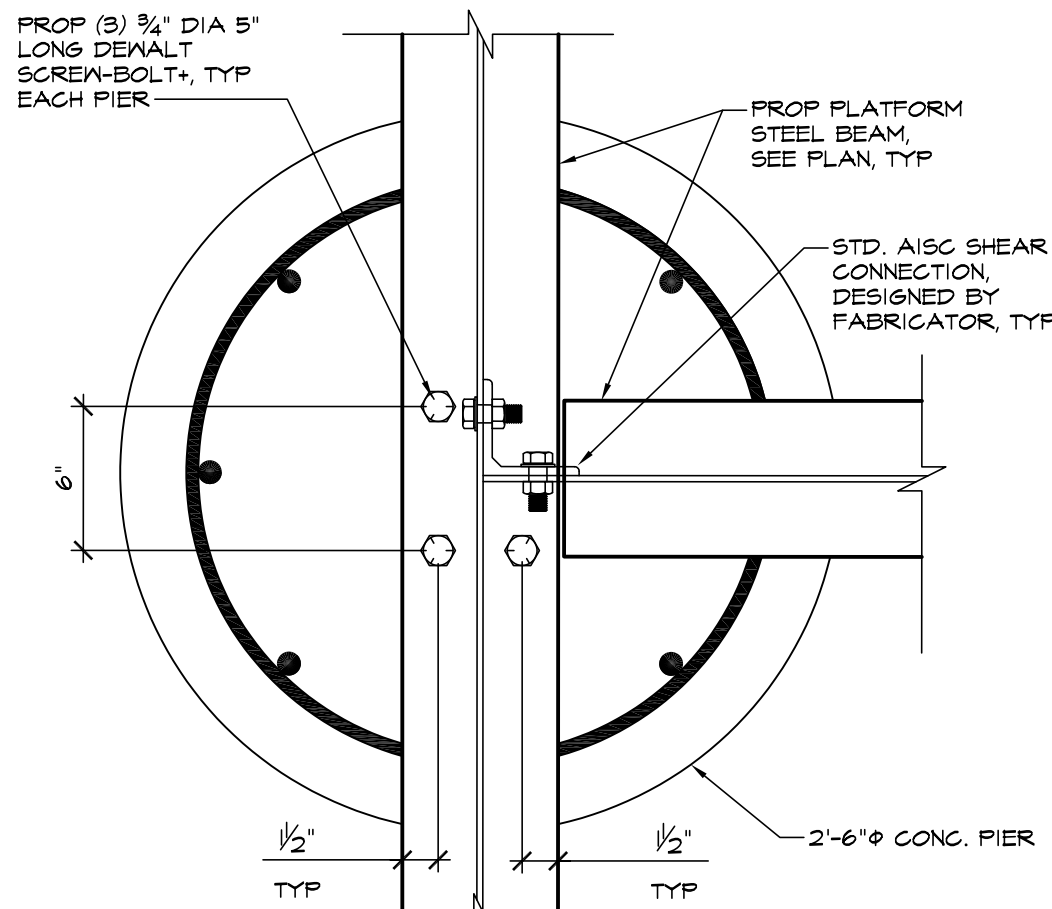


PLATFORM FRAMING PLAN
SCALE: 1/2" = 1'-0"

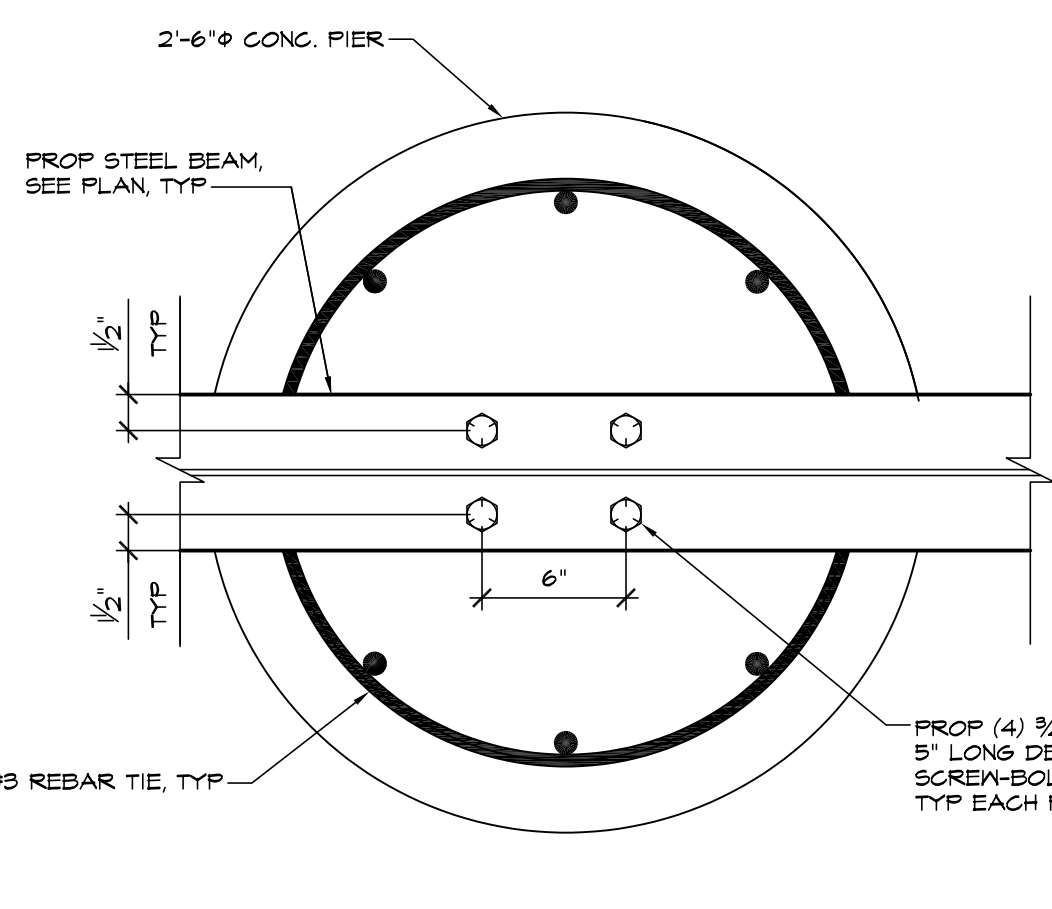
- PLATFORM FRAMING NOTES
1. PLATFORM CONSTRUCTION SHALL CONSIST OF GALVANIZED STEEL GRATING WITH $\frac{1}{2} \times \frac{3}{8}$ " BEARING BARS SPACED AT $\frac{1}{2}$ ", SUPPORTED BY STEEL BEAMS. ATTACH GRATING TO ALL SUPPORTING STEEL BEAMS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
 2. TOP OF FINISHED GRATING ELEVATION SHALL BE 48.0'. TOP OF STEEL BEAM IS DEFINED AS BOTTOM OF GRATING. THE TOP OF ALL FLOOR FRAMING STEEL SHALL BE LEVEL.
 3. ALL STEEL EXPOSED TO WEATHER SHALL RECEIVE A HOT-DIPPED GALVANIZED FINISH.
 4. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS. COORDINATE OPENINGS, SLEEVE LOCATIONS, AND ADDITIONAL REINFORCING OR FRAMING WITH TYPICAL DETAILS.
 5. ALL BEAM-BEAM CONNECTIONS SHALL BE STANDARD AISC SHEAR CONNECTIONS, UNLESS NOTED OTHERWISE. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.



PIER 1 ATTACHMENT



PIER 2 ATTACHMENT



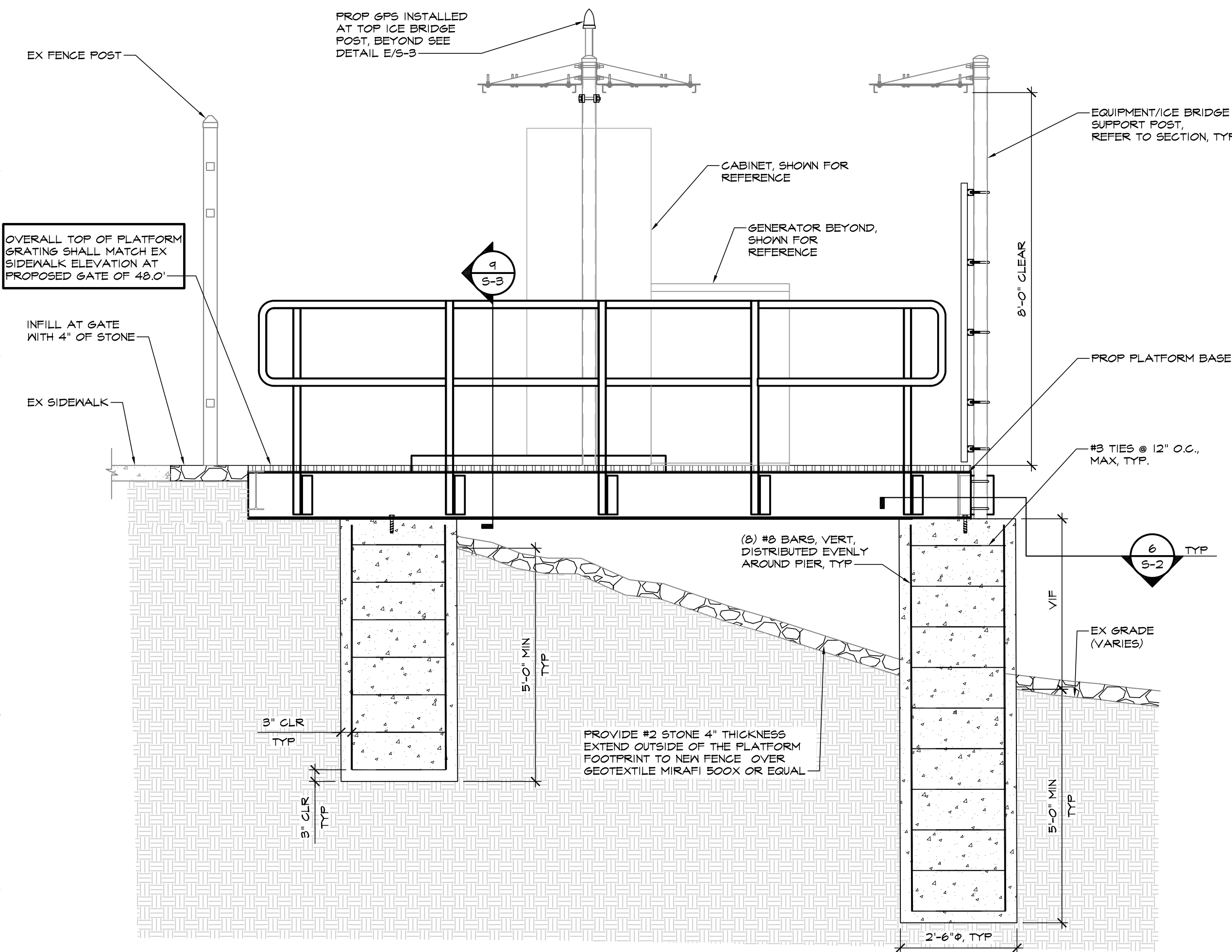
PIER 3 ATTACHMENT

6
S-2
TYP PIER ATTACHMENT
SCALE: 1-1/2" = 1'-0"

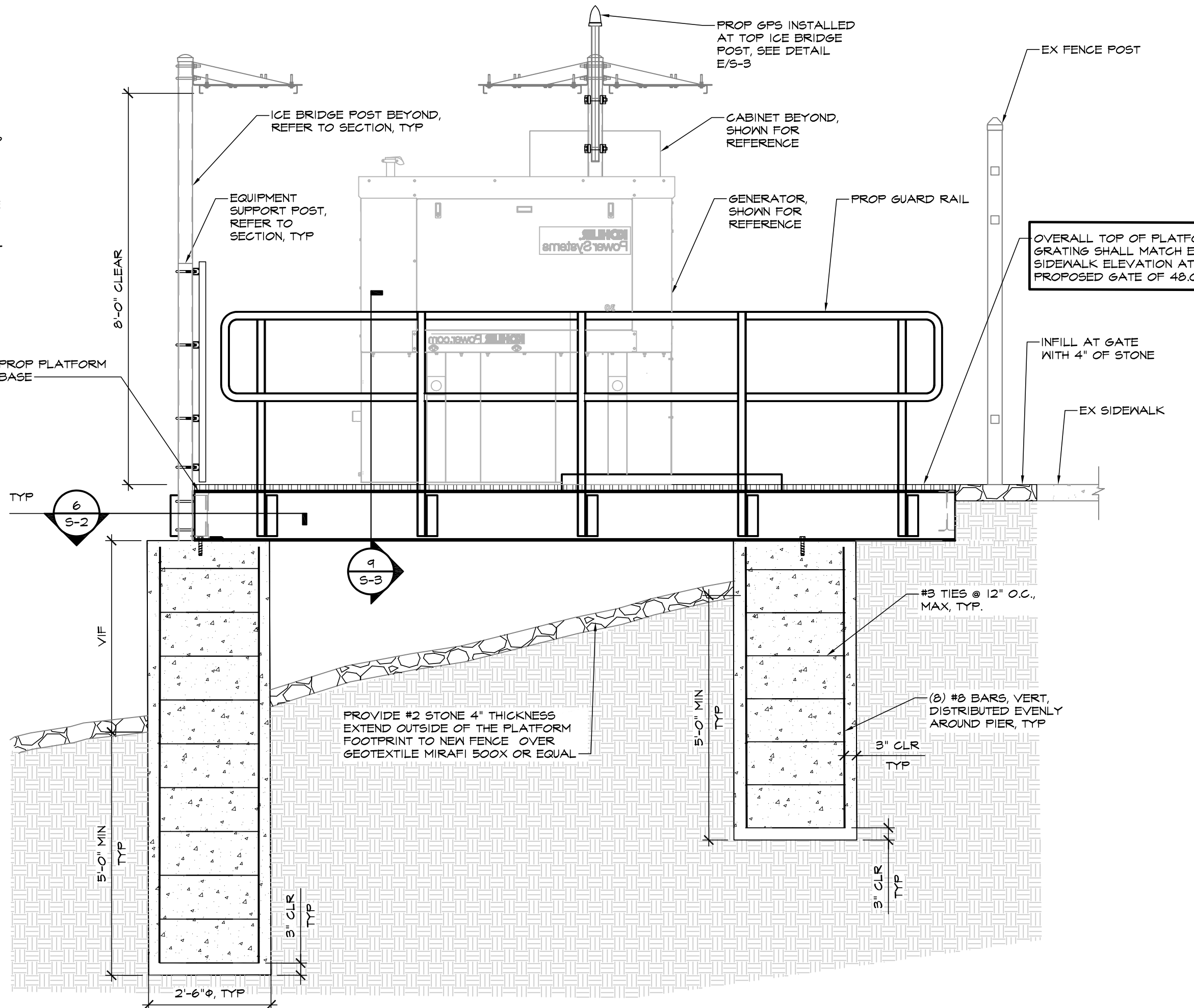
DRILLED PIER FOUNDATIONS (CAISSONS) NOTES:

1. THE SOIL PARAMETERS AND PRESENCE OF NATURAL MATERIAL SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS.
2. DRILLED PIER FOUNDATIONS SHALL BE DRILLED WITHOUT DISTURBING THE SURROUNDING SOIL, AND SHALL BE KEPT FREE OF WATER INFILTRATION UNTIL CONCRETE CAN BE PLACED.
3. DEWALT SCREW-BOLT+ POST-INSTALLED ANCHOR HOLES MUST BE DRILLED WITHIN REBAR CASE, NOTE LOCATION OF REBAR CASE PRIOR TO DRILLING HOLES.

SOIL PARAMETERS		
ELEVATION	UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)
0'-0"	110	30



5
S-2
EQUIPMENT PLATFORM FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



7
S-2
EQUIPMENT PLATFORM FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

verizon
KINGMAN PARK
2600 BENNING RD
(AKA: 2500 BENNING RD NE)
WASHINGTON, DC 20002
(DISTRICT OF COLUMBIA)

REVISIONS:		
NO.	DESCRIPTION	DATE
1	PERMIT COMMENTS	06/10/25
2	PERMIT COMMENTS	06/05/25
3	VERIZON COMMENTS	04/14/25
4	VERIZON COMMENTS	04/07/25
5	PERMIT DWGS	04/02/25
6	ZONING SUBMISSION	11/13/24

DESIGNED BY: JT
DRAWN BY: DNT
REVIEWED BY: JT
PROJECT NO: 10427.1781
FUZE PROJECT NO: 17324607
DATE: 11/07/2024

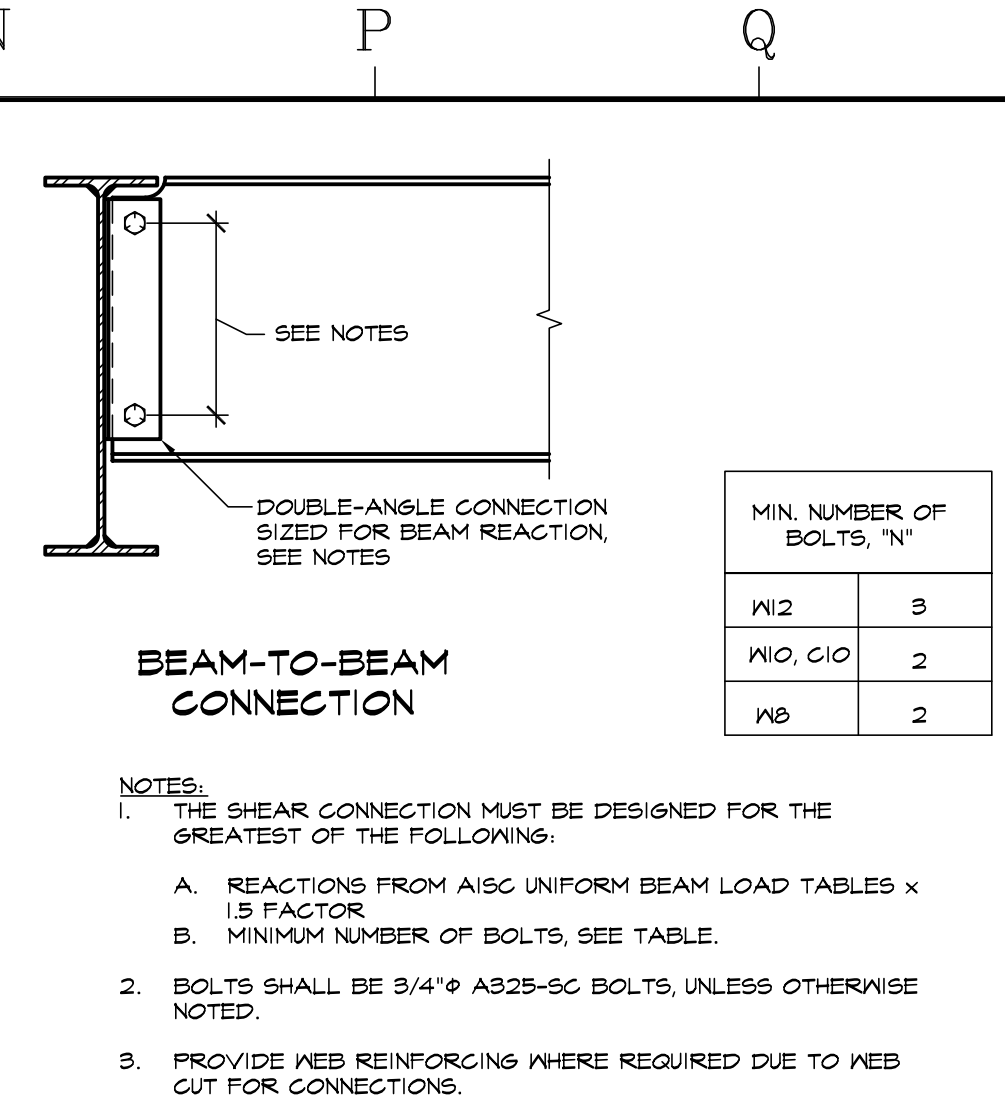
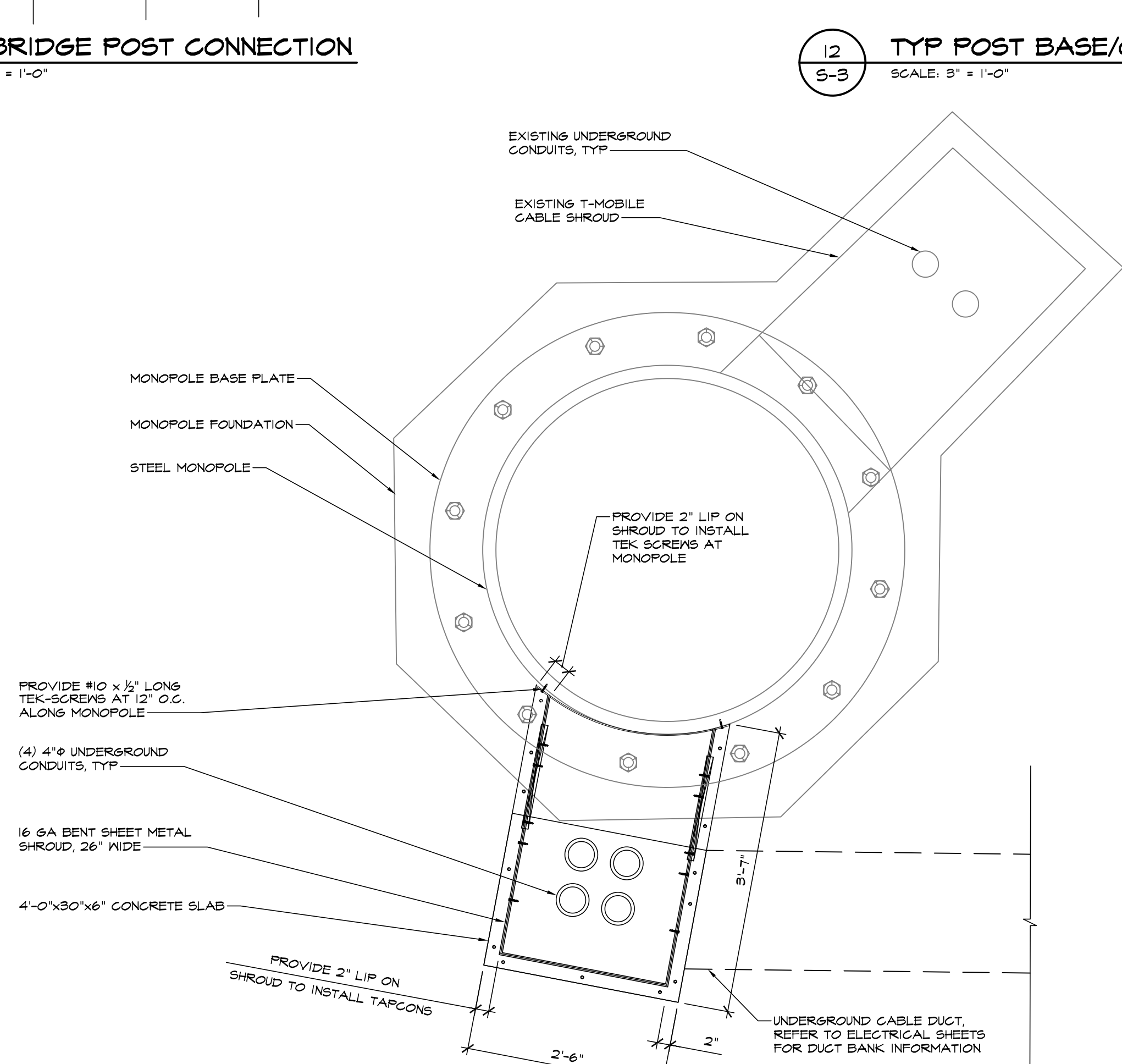
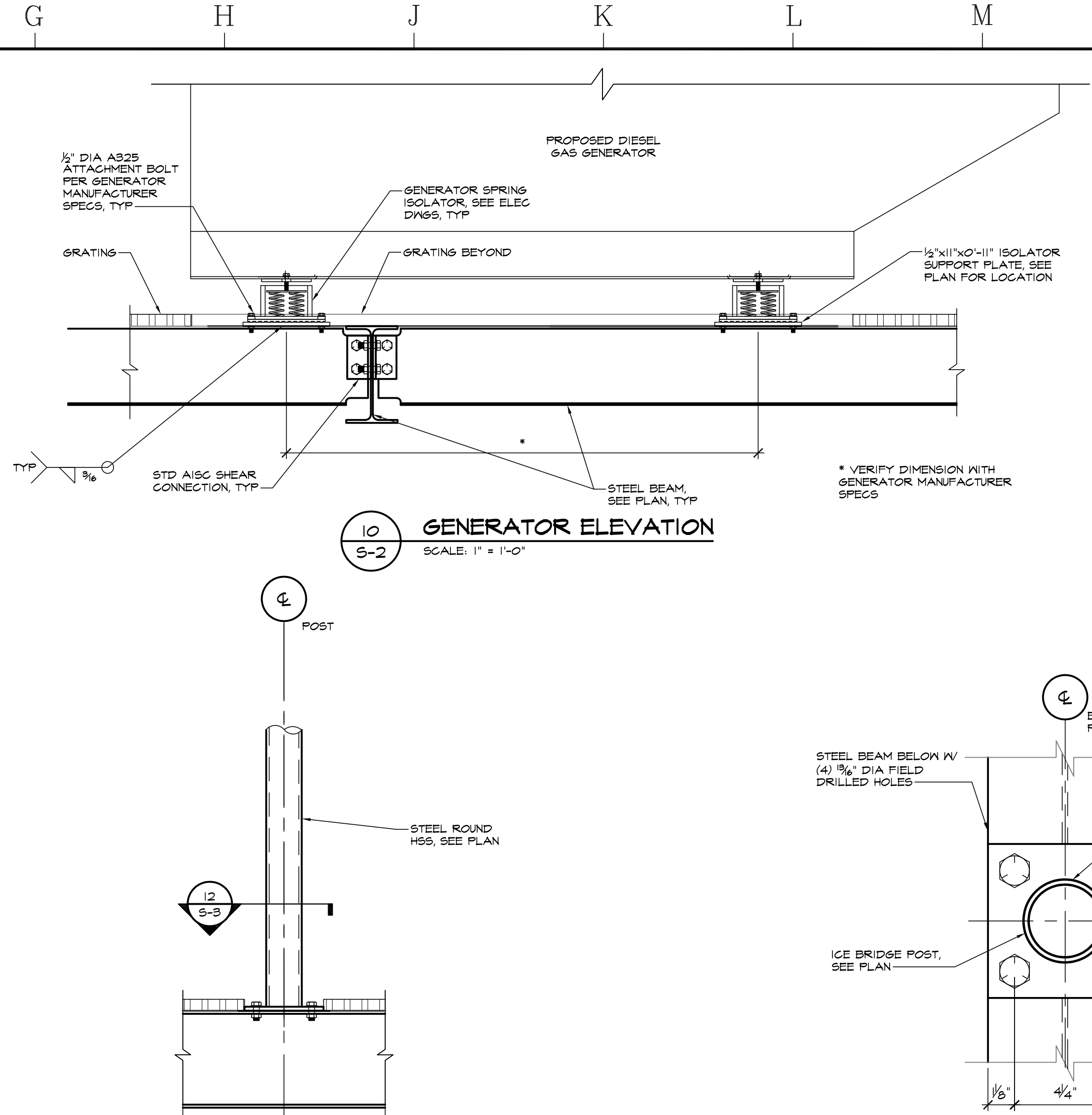
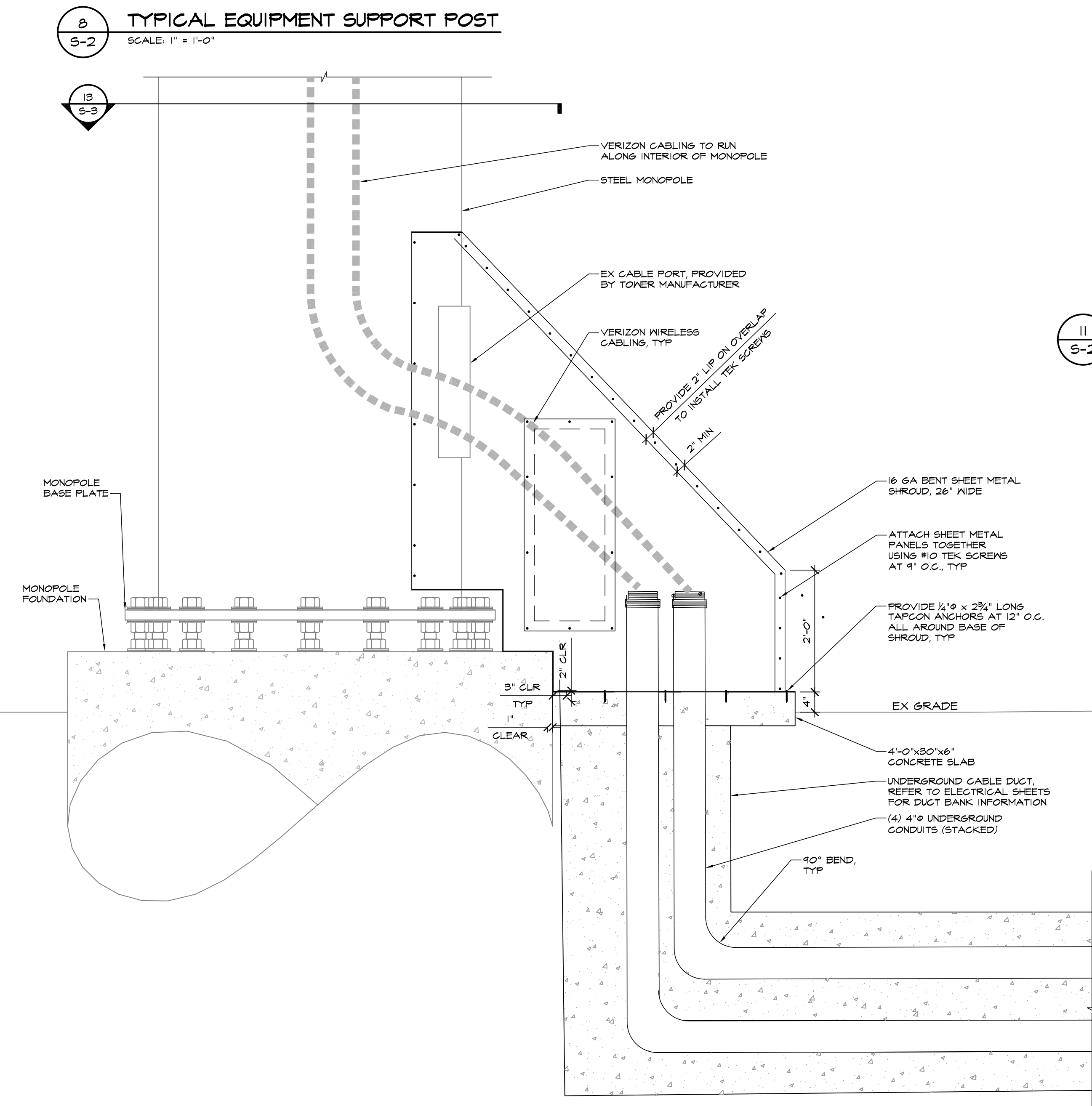
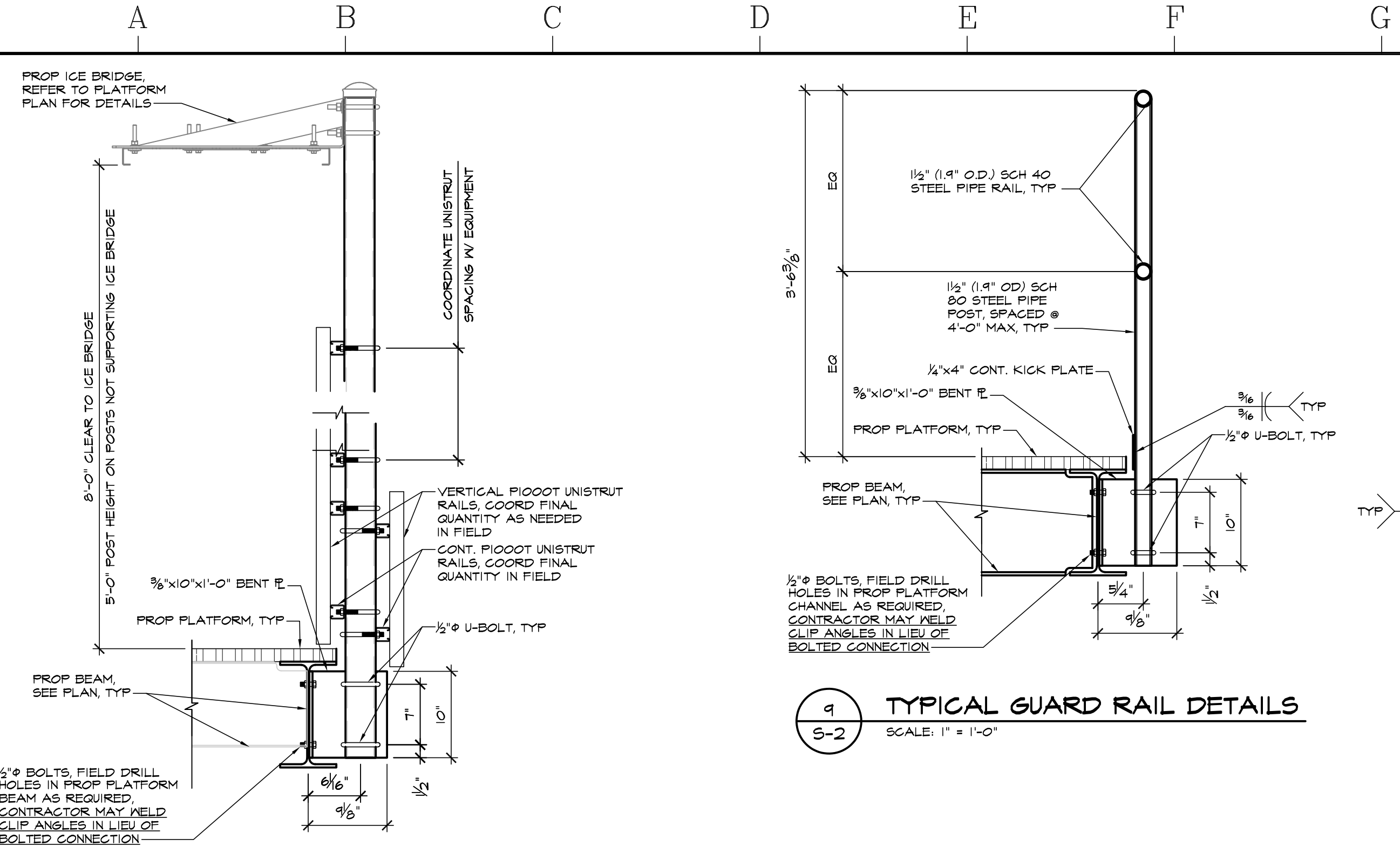
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**Structural
Details**

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S-2
S002



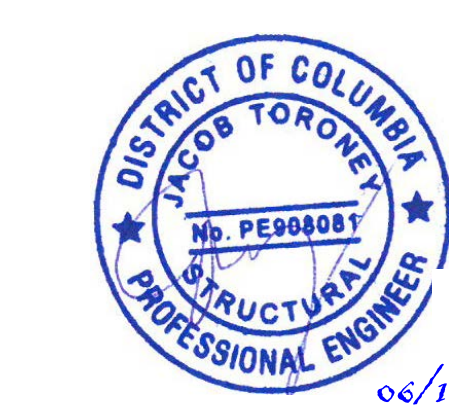
Know what's below.
Call before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.



MIN. NUMBER OF BOLTS, "N"	
W12	3
W10, C10	2
W8	2

NOTES:
1. THE SHEAR CONNECTION MUST BE DESIGNED FOR THE GREATEST OF THE FOLLOWING:
A. REACTIONS FROM AISC UNIFORM BEAM LOAD TABLES x 1.5 FACTOR
B. MINIMUM NUMBER OF BOLTS, SEE TABLE.
2. BOLTS SHALL BE 3/4" A325-8C BOLTS, UNLESS OTHERWISE NOTED.
3. PROVIDE WEB REINFORCING WHERE REQUIRED DUE TO WEB CUT FOR CONNECTIONS.



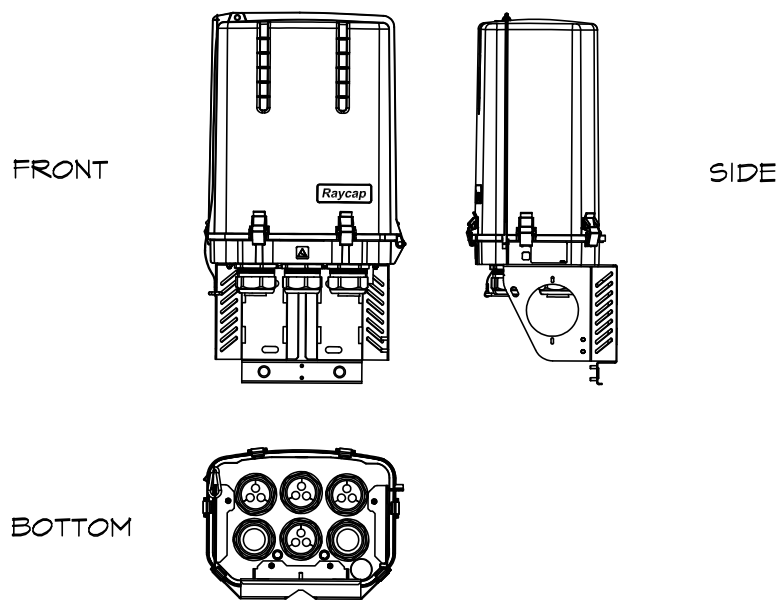
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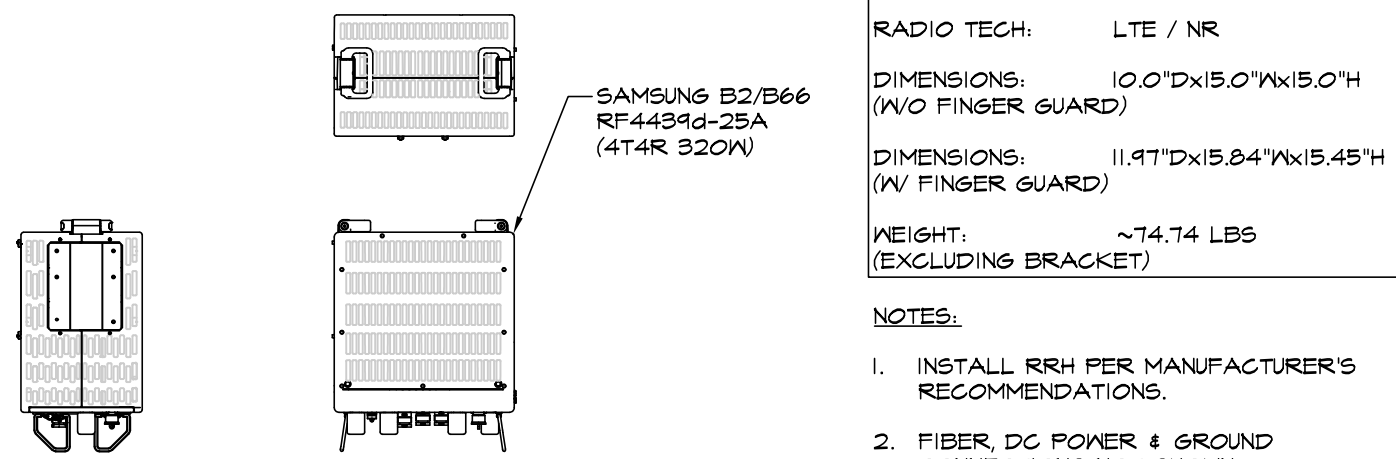
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Structural Details
SHEET:
S-3
S003



MANUFACTURER: RAYCAP
MODEL #: RVZDC-6627-PF-48 (12 OVP)
DIMENSIONS: 12.6"D x 16.5"W x 24.5"H
WEIGHT: 32 LBS (SYSTEM)

RAYCAP RVZDC-6627-PF-48 DISTRIBUTION BOX DETAIL

NOT TO SCALE

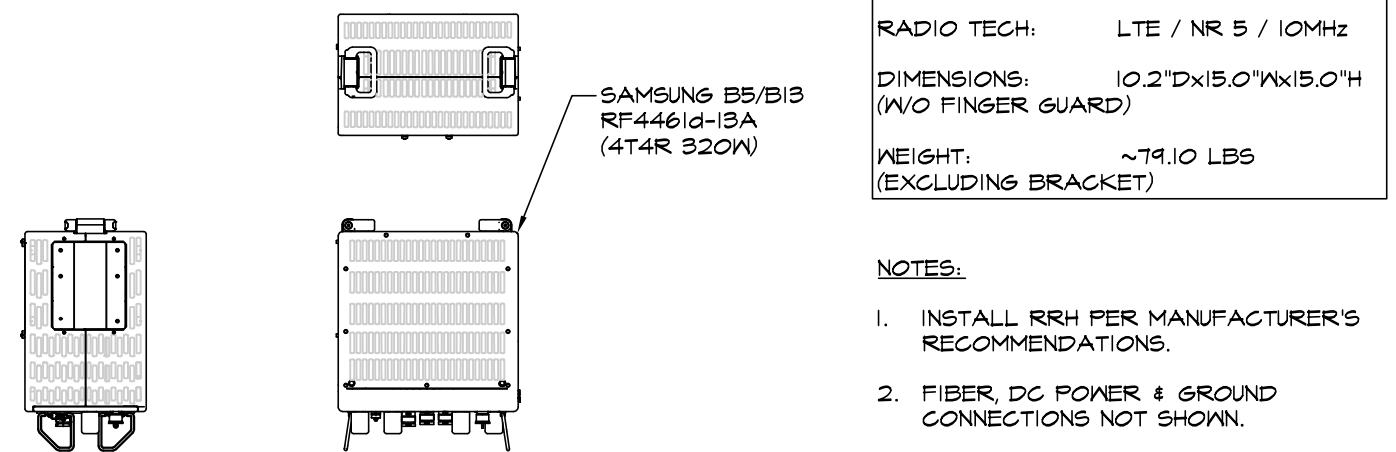


SAMSUNG RF4439d-25A (4T4R 320W) RRU
MANUFACTURER: SAMSUNG
ANTENNA TECH: AMS / PCS
RADIO TECH: LTE / NR
DIMENSIONS: 10.0"Dx15.0"Wx15.0"H (W/O FINGER GUARD)
DIMENSIONS: 11.97"Dx15.84"Wx15.45"H (W/ FINGER GUARD)
WEIGHT: ~74.74 LBS (EXCLUDING BRACKET)

- NOTES:
1. INSTALL RRR PER MANUFACTURER'S RECOMMENDATIONS.
 2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

SAMSUNG B2/B66 RF4439d-25A (4T4R 320W) RRU - DETAIL

NOT TO SCALE

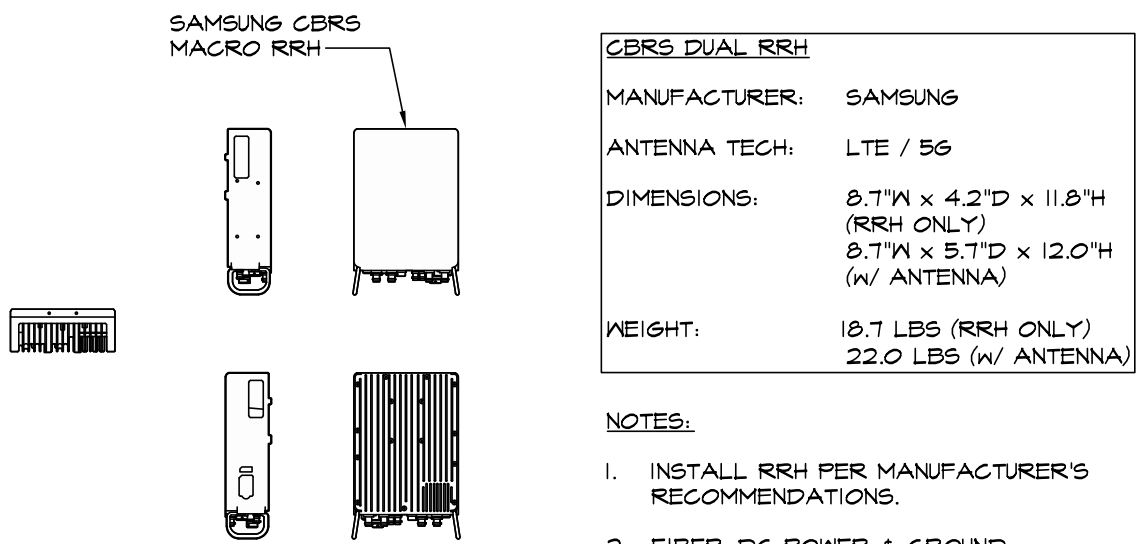


SAMSUNG RF4461d-13A (4T4R 320W) RRU
MANUFACTURER: SAMSUNG
ANTENNA TECH: 700 / 850 MHz
RADIO TECH: LTE / NR 5 / 10MHz
DIMENSIONS: 10.2"Dx15.0"Wx15.0"H (W/O FINGER GUARD)
WEIGHT: ~74.10 LBS (EXCLUDING BRACKET)

- NOTES:
1. INSTALL RRR PER MANUFACTURER'S RECOMMENDATIONS.
 2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

SAMSUNG B5/B13 RF4461d-13A (4T4R 320W) RRU - DETAIL

NOT TO SCALE



CBRS DUAL RRU
MANUFACTURER: SAMSUNG
ANTENNA TECH: LTE / 5G
DIMENSIONS: 8.1"W x 4.2"D x 11.8"H (RRH ONLY)
8.1"W x 5.1"D x 12.0"H (W/ ANTENNA)
WEIGHT: 18.7 LBS (RRH ONLY)
22.0 LBS (W/ ANTENNA)

- NOTES:
1. INSTALL RRR PER MANUFACTURER'S RECOMMENDATIONS.
 2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

SAMSUNG CBRS DUAL RRU RT4423-48A - DETAIL

NOT TO SCALE

GENERAL STRUCTURAL NOTES

BUILDING CODES

- ALL CONSTRUCTION SHALL CONFORM WITH THE 2017 DC CONSTRUCTION CODES (INTERNATIONAL BUILDING CODE (IBC 2015)) AND ALL SUBSEQUENT SUPPLEMENTS.
- ANSI/TIA-222-H-2017 "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS", AND ALL SUBSEQUENT SUPPLEMENTS.
- IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH ANY LOCAL CODES AND REQUIREMENTS.

DESIGN LOADS

- THE DESIGN DEAD LOADS FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS. ALL FRAMING IS DESIGNED AS FOLLOWS:

SELF-WEIGHT OF STRUCTURAL STEEL	10 PSF
GRATING EQUIPMENT:	2,000 LBS (CHARLES CABINET) 3,500 LBS (BATTERY CABINET) 3,244 LBS (DIESEL GENERATOR)
- THE MINIMUM DESIGN UNIFORMLY DISTRIBUTED LIVE LOADINGS FOR ALL NEW FRAMING HAS BEEN DESIGNED AS FOLLOWS:

PLATFORM	30 PSF
----------	--------
- SNOW LOAD DESIGN DATA

GROUND SNOW LOAD:	PS = 25 PSF
SNOW EXPOSURE FACTOR:	CE = 1.0
THERMAL FACTOR:	CT = 1.0
SNOW LOAD IMPORTANCE FACTOR:	IS = 1.0
FLAT ROOF SNOW LOAD:	RF = 20 PSF (DC MINIMUM)
- WIND LOAD DESIGN DATA

ULTIMATE WIND SPEED (NO ICE):	VULT = 115 MPH
BASIC WIND SPEED (WITH ICE):	V1 = 40 MPH
DESIGN RADIAL ICE THICKNESS:	1" (ICE THICKNESS INCREASES W/ HEIGHT)
RISK CATEGORY:	II
EXPOSURE CATEGORY:	C
TOPOGRAPHIC CATEGORY:	I
- EARTHQUAKE LOAD DESIGN DATA

SHORT PERIOD ACCELERATION, SS:	0.192 G
ONE SECOND PERIOD ACCELERATION, S1:	0.049 G
SITE CLASS:	D (BY DEFAULT)
DAMPED SHORT PERIOD ACCELERATION, SDS:	0.141 G
RESPONSE MODIFICATION FACTOR, R:	2.0 (MOUNTS)
SEISMIC RESPONSE COEFFICIENT, CS:	0.071 G
- THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.
- THE FRAMING HAS BEEN DESIGNED FOR THE WEIGHT OF EQUIPMENT SHOWN ON THE STRUCTURAL DRAWINGS. IF ACTUAL WEIGHT OF EQUIPMENT EXCEEDS THAT SHOWN OR IF EQUIPMENT NOT SHOWN EXCEEDS 500 POUNDS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS.

EXISTING STRUCTURE

- ALL EXISTING PLANS, DETAILS, DIMENSIONS, AND ELEVATIONS INDICATE EXISTING CONDITIONS AS KNOWN. THE EXISTING INFORMATION SHOWN IS NOT INTENDED TO BE "AS BUILT" AND THE ACTUAL CONSTRUCTION MAY DIFFER FROM THAT SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MINOR VARIATIONS CAN BE EXPECTED AND ANY REQUIRED DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR ALL EXISTING APPURTENANCES, AS NEEDED, DURING CONSTRUCTION.
- CONTRACTOR SHALL PROTECT ALL EXISTING APPURTENANCES FROM DAMAGE DURING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY STRUCTURAL ELEMENTS WHICH ARE TO REMAIN AND THAT HAVE BEEN DAMAGED TO THE COMPLETE SATISFACTION OF THE OWNER. THE REPAIRS SHALL BE AT NO EXPENSE TO THE OWNER. ALL REPAIR WORK SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE THAT THE PROJECT IS LOCATED AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO COMMENCING REPAIR WORK.
- DO NOT PERMIT PORTIONS OF THE STRUCTURE TO FALL NOR DEBRIS TO DROP EXCEPT BY METHODS WHICH WILL ENSURE INTEGRITY OF THE STRUCTURE.
- F. THE CONTRACTOR SHALL MONITOR THE EXISTING STRUCTURE DURING CONSTRUCTION. IMMEDIATELY NOTIFY THE ENGINEER OF AREAS EXHIBITING DISTRESS OR FAILURE.

MISCELLANEOUS

- ALL WORK SHALL BE PERFORMED IN CALM WEATHER, WITH WIND GUSTS LESS THAN 20 MPH.
- SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL NOT DEVIATE OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
- SEE ARCHITECTURAL, CIVIL AND MEP CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS.
- THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS. THE STRUCTURAL CONSTRUCTION DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR CRITERIA INDICATED THE STRUCTURAL DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
- IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
- THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.

STRUCTURAL AND MISCELLANEOUS STEEL

- ALL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (ANSI/AISC 360) AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
- ALL MISCELLANEOUS STEEL (ANGLES, PLATES, ETC.) SHALL CONFORM TO ASTM A 36 HAVING A MINIMUM YIELD STRENGTH OF FY = 36,000 PSI.
- ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A 53 GRADE "B", HAVING A MINIMUM YIELD STRENGTH OF FY = 35,000 PSI.
- ALL STRUCTURAL BOLTS SHALL CONFORM TO ASTM F3125 GRADE A325 (FU = 120 KSI).
- ALL U-BOLTS SHALL CONFORM TO SAE J429, GRADE 2 (FU = 74 KSI), WITH SAE J949 NUTS AND WASHERS.
- ALL NUTS SHALL CONFORM TO ASTM A563.
- ALL WASHERS SHALL CONFORM TO ASTM F436.

- ALL SHOP AND FIELD WELDS REQUIRED BY THE SCOPE OF THIS PROJECT SHALL BE PERFORMED BY CERTIFIED WELDERS AND CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS D1.1. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.
- ALL EXPOSED STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL".
- THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.
- AN INDEPENDENT INSPECTION AGENCY SHALL INSPECT ALL STRUCTURAL STEEL AND VERIFY THAT IT CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FIELD INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ALL PHASES OF STEEL CONSTRUCTION AND WELDING.
- STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED TO BE GALVANIZED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123 AFTER FABRICATION. ALL EXPOSED STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED. ALL BOLTS, WASHERS & NUTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM F2329.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A478.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

CAST IN PLACE CONCRETE

- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)"; AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
- IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:

RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS (ACI 117).
CHEMICAL ADMIXTURES FOR CONCRETE (ACI 212.3).
STANDARD SPECIFICATION FOR CURING CONCRETE (ACI 308.1).
- ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.
- ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 68 +/- 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1" AND MAXIMUM SLUMP SHALL BE 4". MAXIMUM WATER / CEMENT (W/C) RATIO = 0.45. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C88.
- ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
- ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE. TESTING SHALL BE IN ACCORDANCE WITH ASTM C112.
- THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RE-SHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RE-SHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.
- GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C684.
- ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60 (FY = 60 KSI).
- LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS, UNLESS OTHERWISE INDICATED.
- ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 318I "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".
- MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

SLAB-ON-GRADE	3 INCHES (TOP, BOTTOM, & SIDES)
---------------	---------------------------------
- ALL CAST-IN-PLACE CONCRETE WILL EXPERIENCE DIFFERING VARIATIONS OF CRACKING. ANY ELEMENT EXPOSED TO DIRECT WEATHER AND/OR TEMPERATURE VARIATIONS DURING CONSTRUCTION OR IN THE FINAL CONDITION IS TO BE TREATED AND REGULARLY MAINTAINED TO PREVENT PROPAGATION OF CRACKS AND WATER INFILTRATION. THE CONTRACTOR SHALL DEVELOP A REGULAR MAINTENANCE PROGRAM AND SUBMIT IT TO THE OWNER.
- ALL CONCRETE CONSTRUCTION SHALL BE INSPECTED IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

POST-MODIFICATION INSPECTION

- A POST-MODIFICATION INSPECTION REPORT IS REQUIRED AND SHALL BE INCLUDED IN THE CONTRACTOR'S BID. A POST-MODIFICATION INSPECTION IS A VISUAL INSPECTION OF THE APPURTENANCE CONFIGURATION AND A REVIEW OF MATERIAL SUBMITTALS OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE CONSTRUCTION DRAWINGS.
- THE POST-MODIFICATION INSPECTION REPORT SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER LICENSED IN THE JURISDICTION IN WHICH THE PROJECT IS LOCATED.
- THE INTENT OF THE POST-MODIFICATION INSPECTION REPORT IS TO CONFIRM INSTALLATION AND CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE CONSTRUCTION DESIGN ITSELF.
- TO ENSURE THAT THE REQUIREMENTS OF THE POST-MODIFICATION INSPECTION REPORT ARE MET, IT IS VITAL THAT THE CONTRACTOR AND POST-MODIFICATION INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A P.O. IS RECEIVED.
- DETAILS.



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06/10/25

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REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VERIZON COMMENTS	04/14/25
	VERIZON COMMENTS	04/07/25
	PERMIT DWGS	04/02/25
	ZONING SUBMISSION	11/13/24

DESIGNED BY:

JT

DRAWN BY:

DNT

REVIEWED BY:

JT

PROJECT NO:

10427.1761

FUZE PROJECT NO:

17324607

DATE:

11/07/2024






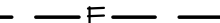
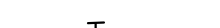


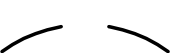





TITLE:

Structural
Details & Notes

SHEET:

S-4
S004

ELECTRICAL SYMBOLS LIST

	ENCLOSED CIRCUIT BREAKER
	DISCONNECTION SWITCH - FUSED/NON FUSED
	120/240V, 1Ø, INTERSECT PANEL
	EQUIPMENT MOUNTING BACKBOARD
	DRAWING NOTE
	BURIED ELECTRIC FEEDERS
	BURIED TELEPHONE SERVICE
	BURIED BRANCH CIRCUIT
	METER
	GROUND CONDUCTOR BELOW GRADE
	BURIED GROUND ROD
	DESIGNATES FRONT
	DRY TYPE TRANSFORMER
	LIGHT FIXTURE - SURFACE MOUNT
	SWITCH - 120V, SINGLE POLE, 20A - TIME

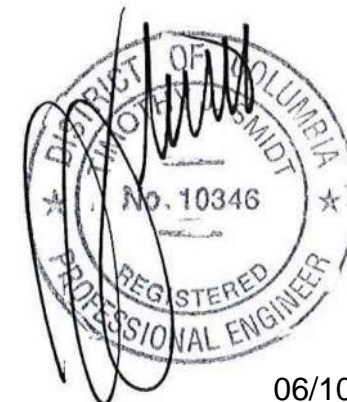
120/240 VOLTS 1 ϕ 3 WIRE 200 AMP MAIN C.B.

DESCRIPTION	B R K R	C K T	C K T	B R K R	DESCRIPTION
EQUIPMENT LIGHTING	20	1	2	20	BATTERY CHARGER
CHARLES CABINET RECTIF.	20	3	4	20	BLOCK HEATER
CHARLES CABINET RECTIFIER 1	30	5	6	30	CHARLES CABINET RECTIFIER 1
CHARLES CABINET RECTIFIER 2	30	9	10	30	CHARLES CABINET RECTIFIER 2
CHARLES CABINET RECTIFIER 3	30	13	14	30	CHARLES CABINET RECTIFIER 3
CHARLES CABINET RECTIFIER 4	30	17	18	30	CHARLES CABINET RECTIFIER 4
CHARLES CABINET RECTIFIER 5	30	21	22	30	CHARLES CABINET RECTIFIER 5
CHARLES CABINET RECTIFIER 6	30	25	26	30	CHARLES CABINET RECTIFIER 6
SPACE	-	29	30	20	GFCI RECEPTACLE
SPACE	-	31	32	-	SPACE
SPACE	-	33	34	-	SPACE
SPACE	-	35	36	-	SPACE
SPACE	-	37	38	-	SPACE
SPACE	-	39	40	-	SPACE
SPACE	-	41	42	-	SPACE
LIGHTING LOAD: RECEPTACLE LOAD: MISC. LOAD: CHARLES CABINET LOAD: TOTAL LOAD:			0.10 KVA		$0.125 \times = 0.13 \text{ KVA}$ 0.36 KVA 1.69 KVA 1.52 KVA $13.70 \text{ KVA} = 57.09 \text{ A @}$ $120/240\text{V}, 1\phi, 3\text{W}$

PANEL SCHEDULE SHALL NOT BE HAND-WRITTEN.

TYPE	LAMPS	MOUNTING	DESCRIPTION/VOLTAGE	CATALOG NO.
A	LUMEN SETTING MEDIUM POWER 4620 LUMENS 32 WATT LED 4000K	SURFACE	UL CERTIFIED WET LOCATION LED SURFACE MOUNT WITH RUGGED, WATERPROOF AND IMPACT-RESISTANCE HOUSING, UV STABILIZED HIGH IMPACT ACRYLIC LENS, AND INTEGRATED METAL GEAR TRAY. WHITE (120/2TTV)	METALUX LED VAPORITE 4FT. CATALOG NUMBER: 4APVTL-D-SL3C3

1
—2
—3
—4
—5
—6
—7
—8
—9
—1
—1



verizon

2600 BENNING RD
AKA: 2500 BENNING RD NE)
WASHINGTON, DC 20002
DISTRICT OF COLUMBIA)

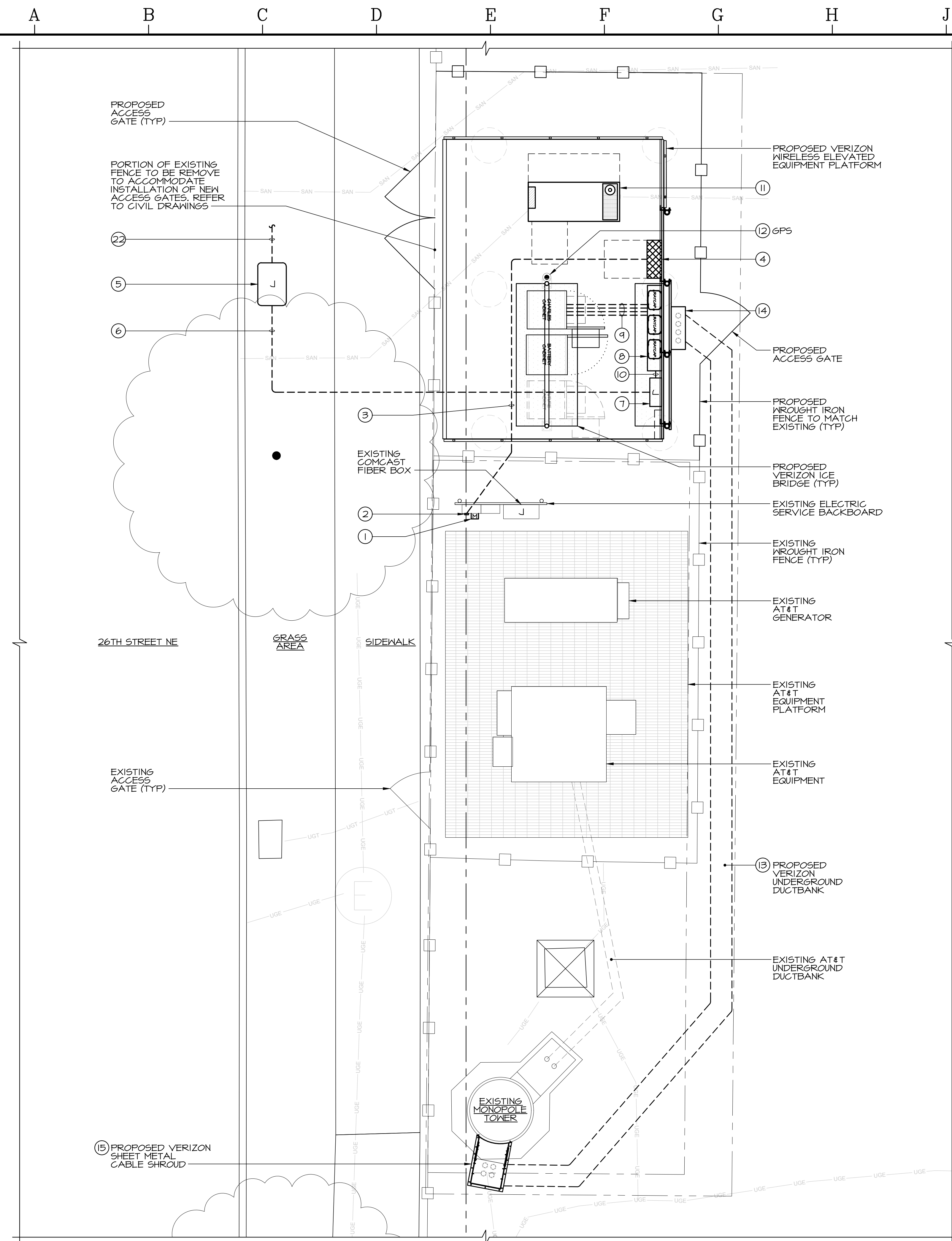
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VzW COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

PROJECT NO: 240870

SCALE: AS NOTED

ELECTRICAL SPECIFICATIONS, SYMBOLS LIST, AND SCHEDULES

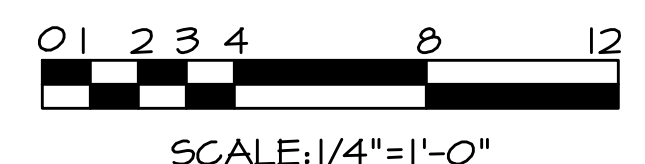
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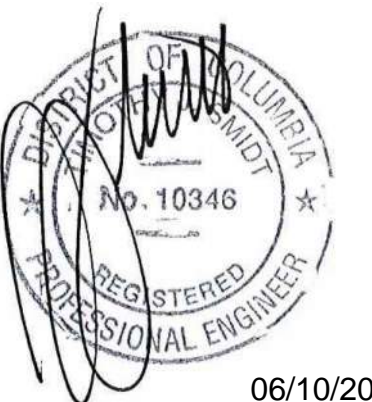
DRAWING NOTES

- (1) EXISTING 20/240V, 19, 2, 600A MLO, FOUR (4) POSITION METER STACK WITH PROVISIONS FOR FOUR (4) 2P 200A CIRCUIT BREAKERS TO REMAIN, PROVIDE PHENOLIC NAMEPLATE READING "VERIZON" BELOW POSITION OF METER. METER GLOBE PROVIDED AND INSTALLED BY UTILITY COMPANY.
- (2) PROVIDE AND INSTALL ONE (1) 240 VOLT SERVICE ENTRANCE RATED, 2P 200A CIRCUIT BREAKER IN POSITION CONNECTED TO NEW VERIZON METER. PROVIDE PHENOLIC NAMEPLATE BELOW CIRCUIT BREAKER READING "VERIZON". COORDINATE A.I.C. RATING WITH UTILITY COMPANY PRIOR TO ORDERING. PROVIDE CAUTION TWO SOURCES OF SUPPLY STICKER ON CIRCUIT BREAKER. BACKGROUND SHALL BE YELLOW WITH BLACK BLOCK STYLE LETTERING. REFER TO DETAIL, SHEET E-3.
- (3) EXTEND 3#3/0 + #6 GRD - 2" CONDUIT BELOW GRADE. COORDINATE EXACT ROUTING WITH VERIZON REPRESENTATIVE IN THE FIELD.
- (4) VERIZON PROVIDED, CONTRACTOR INSTALLED WEATHERPROOF 20/240 VOLT, 10 3W, 200 AMP MCB INTEGRATED LOAD CENTER PANEL WITH INTEGRATED AUTOMATIC TRANSFER SWITCH AND SURGE PROTECTION. MOUNT PANEL ON PROPOSED VERIZON EQUIPMENT BACKBOARD. REFER TO PANEL SCHEDULE AND SPECIFICATIONS, SHEET E-1 FOR ADDITIONAL INFORMATION. COORDINATE ALL REQUIREMENTS WITH VERIZON REPRESENTATIVE PRIOR TO ORDERING. ALL CONDUITS FROM INTERSECT PANEL MUST ENTER/EXIT THROUGH SIDE, REAR OR BOTTOM. CONDUIT INSTALLATION MUST UTILIZE HYBRIFLEX OR EQUIVALENT. ALL NECESSARY FITTINGS, SEALANTS, ETC. TO MAINTAIN NEMA RATING OF ENCLOSURE. WHEN DRILLING INTO INTERSECT PANELS MUST BE COVERED TO AVOID METALLIC SHAVINGS DROPPING INTO ATS CONTACTS. PANELBOARD SHALL BE EQUIPPED WITH A COVER THAT HAS A CLASP THAT ALLOWS FOR THE INSTALLATION OF A PAD LOCK. PANELBOARD SHALL NOT BE EQUIPPED WITH KEY LOCK COVER. CONTRACTOR SHALL PROVIDE AND INSTALL VERIZON COMBINATION PADLOCK ON INTERSECT PANEL CLASP. PAD LOCK SHALL BE 2 1/4" SESAMEE K47 COMBINATION PADLOCK, OR 1" SESAMEE KCR0436 CHROME PLATED COMBINATION PAD LOCK IN AREAS SUBJECT TO HIGH CORROSION.
- (5) PROPOSED FIBER HANDHOLE FOR EXTENSION OF FIBER. COORDINATE EXACT LOCATION, SIZE, COVER RATING, AND REQUIREMENTS WITH VERIZON REPRESENTATIVE AND UTILITY COMPANY PRIOR TO START OF WORK.
- (6) EXTEND ONE (1) - 3" CONDUIT BELOW GRADE FROM PROPOSED FIBER HANDHOLE TO PROPOSED HOFFMAN BOX OR CHARLES CUBE MOUNTED ON EQUIPMENT BACKBOARD FOR EXTENSION OF FIBER. REFER TO DETAIL, SHEET E-6. COORDINATE EXACT ROUTING WITH VERIZON REPRESENTATIVE IN THE FIELD.
- (7) PROPOSED LOCATION OF WEATHERPROOF, 24"H x 24"W x 10" DEEP HINGED FIBER HOFFMAN BOX OR CHARLES CUBE MOUNTED ON EQUIPMENT BACKBOARD ADJACENT TO RAYCAP TROUGH. HOFFMAN BOX SHALL BE FURNISHED WITH PLYWOOD BACKBOARD AND BE EQUIPPED WITH A COVER THAT HAS A CLASP THAT ALLOWS FOR THE INSTALLATION OF A FIBER HOFFMAN BOX SHOWN ASSUMES A DARK FIBER CIRCUIT. IN THE EVENT AN E-LINE CIRCUIT IS DELIVERED, CONTRACTOR SHALL PROVIDE AND INSTALL A CHARLES CUBE CABINET IN PLACE OF THE FIBER HOFFMAN BOX SHOWN AND EXTEND DC WIRING FROM CHARLES CABINET POWER PLANT TO CHARLES CUBE FUZE BLOCK. COORDINATE FINAL FIBER CIRCUIT PRIOR TO START OF WORK. AND NOTIFY ENGINEER OF ANY REQUIRED CHANGES. PROVIDE PHENOLIC NAMEPLATE ON FRONT OF HOFFMAN BOX LABELLED "VERIZON FIBER". CONTRACTOR SHALL PROVIDE AND INSTALL VERIZON COMBINATION PADLOCK ON HOFFMAN BOX HINGED COVER LATCH. PADLOCK SHALL BE 2 1/4" SESAMEE K47 COMBINATION PADLOCK, OR 1" SESAMEE KCR0436 CHROME PLATED COMBINATION PAD LOCK IN AREAS SUBJECT TO HIGH CORROSION.
- (8) PROPOSED LOCATION OF WEATHERPROOF, 12"H x 12"D x 6"-0" LONG TROUGH MOUNTED ON EQUIPMENT BACKBOARD BELOW RAYCAP OVP BOXES. REFER TO DETAIL, SHEET E-7 FOR ADDITIONAL INFORMATION AND DETAILS.
- (9) PROPOSED ROUTE OF CONDUITS FROM CHARLES CABINET, SECURED TO UNDERSIDE OF EQUIPMENT PLATFORM TO RAYCAP TROUGH. EXISTING OF CONDUIT FIBER (VERIZON) ALARMS. REFER TO SHEET E-3 FOR ADDITIONAL INFORMATION. NO SEALTIGHT OR PVC CONDUIT ABOVE GRADE SHALL BE PERMITTED.
- (10) PROPOSED CONDUITS FROM SIDE OF RAYCAP TROUGH TO FIBER HOFFMAN BOX FOR EXTENSION OF DC POWER AND FIBER. REFER TO SHEET E-3 FOR ADDITIONAL INFORMATION. NO SEALTIGHT OR PVC CONDUIT ABOVE GRADE SHALL BE PERMITTED.
- (11) VERIZON PROVIDED, CONTRACTOR INSTALLED 30 KW DIESEL GENERATOR MOUNTED ON EQUIPMENT PLATFORM. REFER TO SPECIFICATIONS, SHEET E-1 AND DETAILS, SHEET E-5 FOR ADDITIONAL INFORMATION.
- (12) VERIZON PROVIDED AND CONTRACTOR INSTALLED GPS ANTENNA (MODEL #GPS-TM6-HR26NCM) MOUNTED ABOVE ICE BRIDGE ON ICE BRIDGE SUPPORT POST. REFER TO STRUCTURAL FOR ADDITIONAL DETAILS.
- (13) PROPOSED LOCATION OF VERIZON UNDERGROUND DUCTBANK FOR EXTENSION OF HYBRIFLEX CABLES BELOW GRADE. CONTRACTOR SHALL COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK. REFER TO DETAILS, SHEET E-9, AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (14) PROPOSED LOCATION OF WEATHERPROOF, 36"H x 36"W x 12" DEEP HYBRIFLEX CABLE HOFFMAN BOX MOUNTED ON EQUIPMENT PLATFORM. RAYCAP TROUGH FOR EXTENSION OF TRANSITION OF HYBRIFLEX CABLES FROM BELOW GRADE AND INTO REAR OF RAYCAP TROUGH OF HOFFMAN BOX SHALL BE MOUNTED SAME HEIGHT AS TOP OF RAYCAP TROUGH. PROVIDE SNAP-IN SUPPORTS ON INTERIOR OF HOFFMAN BOX TO SECURE HYBRIFLEX CABLES. PROVIDE 4" WEATHERPROOF CONDUIT SLEEVES BETWEEN BACK OF HOFFMAN BOX AND BACK OF RAYCAP TROUGH.
- (15) PROPOSED LOCATION OF VERIZON SHEET METAL SHROUD FOR EXTENSION OF HYBRIFLEX CABLES UP FROM BELOW GRADE. CONTRACTOR SHALL COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK. REFER TO DETAILS, SHEET E-9, AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (16) ALL CONDUITS BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUITS EXTENDING BELOW AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE SCHEDULE 80 PVC. ALL CONDUITS ABOVE GRADE AND/OR EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL. NO SEALTIGHT OR PVC CONDUIT ABOVE GRADE SHALL BE PERMITTED. ALL CONDUITS ENTERING CABINETS, EQUIPMENT, AND GENERATOR SHALL BE PLUGGED WITH FIRESTOP PUTTY (MINIMUM OF 1" MINIMUM) AND SHALL BE PROTECTED BY RODENT GUARD, SLIDERS, OR ANOTHER MEANS TO PREVENT ENTRY WITHIN TELCO CONDUITS FOR RODENT AND PEST DETERRENT (SHALL NOT BE USED IN ELECTRICAL CONDUITS).
- (17) ALL METALLIC ITEMS (UNISTRUT, POSTS, HARDWARE, ETC) SHALL BE GALVANIZED STEEL. PROVIDE AND INSTALL METALLIC UNISTRUT AND UNISTRUT SLIDERS ON EXTENSION OF UNISTRUT. UNISTRUT SLIDERS MUST BE PROVIDED TO ENSURE END CAPS ARE SECURELY FASTENED TO UNISTRUT. WADDY SLICK NUTS SHALL BE UTILIZED FOR FASTENING ALL ITEMS TO UNISTRUT, SPRING NUTS SHALL NOT BE USED.
- (18) CONDUIT ROUTING IS DIAGRAMMATIC, EXACT CONDUIT ROUTE SHALL BE COORDINATED WITH VERIZON REPRESENTATIVE IN THE FIELD.
- (19) REFER TO DRAWING PREPARED BY MRA FOR SITE PLAN.
- (20) THE SPECIFIED OPTIONAL STAND-BY GENERATOR IS NOT A SEPARATELY DERIVED SYSTEM. THE CONTRACTOR SHALL VERIFY THAT THE AUTOMATIC TRANSFER SWITCH DOES NOT SWITCH THE NEUTRAL CONDUCTOR. IF THE MANUFACTURER INSTALLED A MAIN BONDING JUMPER IN THE GENERATOR, THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE JUMPER TO PREVENT VIOLATING NEC ARTICLE 250.6, OBJECTIONABLE CURRENT OVER GROUNDING CONDUCTORS.
- (21) CONTRACTOR SHALL OBTAIN THE LATEST ELECTRIC SERVICE DESIGN DRAWINGS FROM THE UTILITY COMPANY PRIOR TO START OF WORK. UTILITY COMPANY DRAWINGS SHALL SUPERCEDE ELECTRIC SERVICE DESIGN AS SHOWN IN CONSTRUCTION DOCUMENTS. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY AND VERIZON REPRESENTATIVE.
- (22) EXTEND TWO (2) - 4" SCHEDULE 40 PVC CONDUITS FROM PROPOSED FIBER HANDHOLE TO LOCATION DETERMINED AT TIME OF TELCO WALK WITH UTILITY COMPANY. COORDINATE EXACT ROUTING AND TERMINATION POINT WITH VERIZON REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON FULL ROPE AND ENDCAPS. VERIZON AND MRA SHALL PROVIDE THE NECESSARY UTILITY INFORMATION AS REQUIRED. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING FIBER SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.

NOTE:
THE SITE PLAN IS SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND THE EXACT LOCATION OF THE VERIZON WIRELESS EQUIPMENT PLATFORM SHALL BE COORDINATED WITH FINAL CIVIL DRAWINGS PRIOR TO START OF WORK.



TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com



10/10/2025

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

verizon
KINGMAN PARK
2600 BENNING RD
(AKA: 2500 BENNING RD NE)
WASHINGTON, DC 20002
DISTRICT OF COLUMBIA

REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VZW COMMENTS	04/10/25
	PERMIT DWGS.	04/02/25

LAST REV.:

PROJECT NO:	240870
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DATE: APRIL 02, 2025

SCALE: AS NOTED

TITLE:

POWER SITE PLAN
AND NOTES

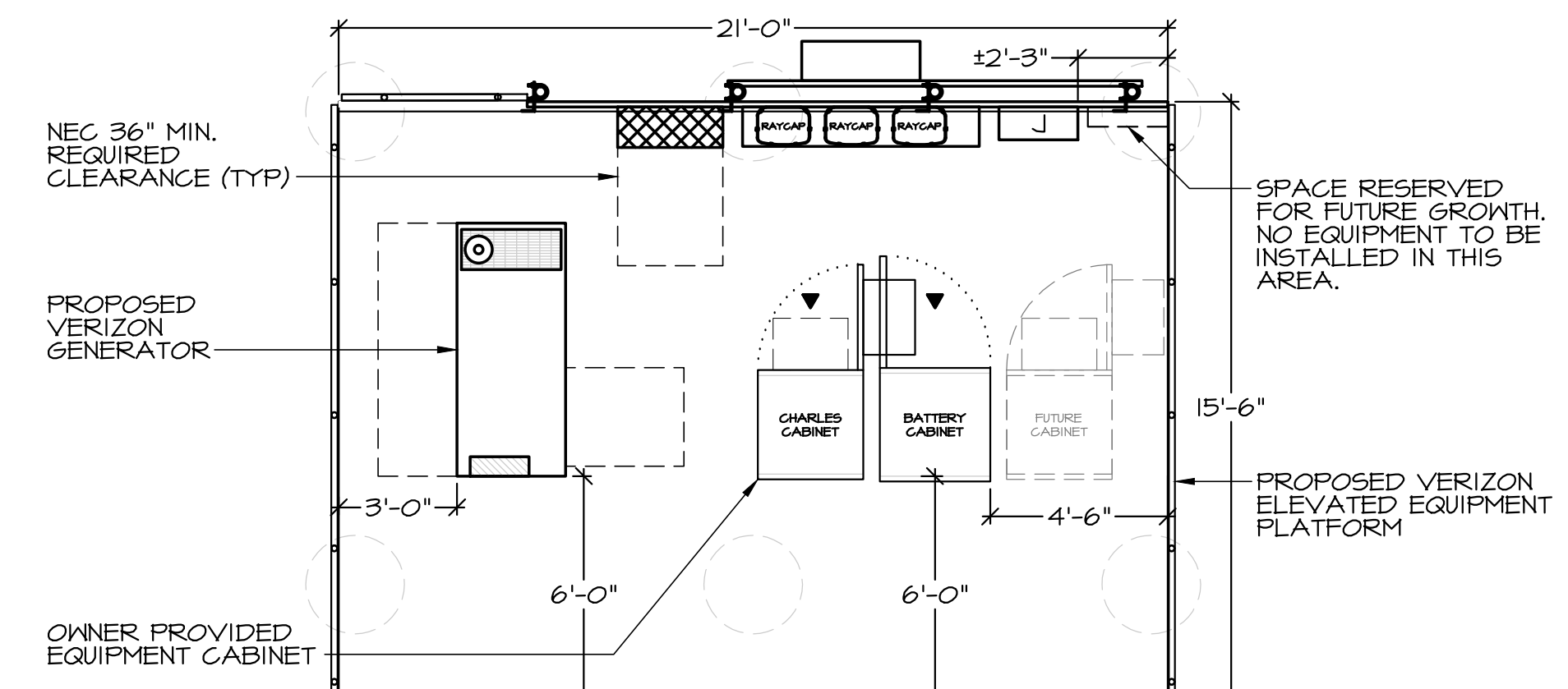
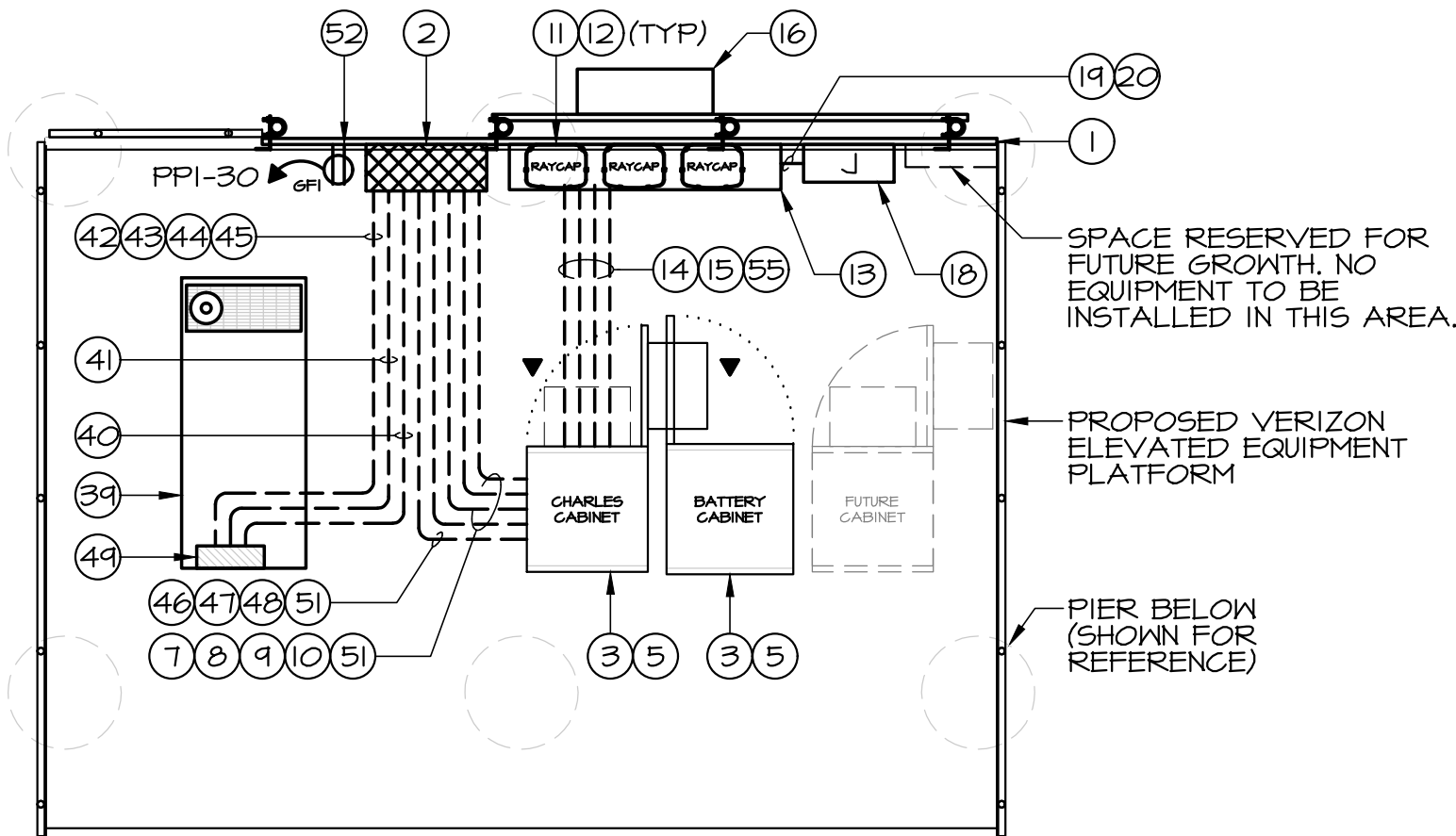
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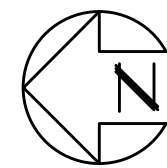
E-2
E002

FEI# 240870

- (1) PROVIDE KINDORF BACKBOARD SECURED TO PLATFORM SUPPORT POSTS FOR MOUNTING OF VERIZON EQUIPMENT. EQUIPMENT BACKBOARD SHALL UTILIZE FIVE (5) CONTINUOUS SECTIONS OF UNISTRUT (MIN) ON FRONT OF BACKBOARD. REFER TO STRUCTURAL DRAWINGS FOR DETAILS. ELECTRICAL CONTRACTOR SHALL LEAVE BACKBOARD POSTS LONG TO BE CUT BY TOWER CREW.
- (2) VERIZON PROVIDED, CONTRACTOR INSTALLED WEATHERPROOF 120/240 VOLT, 1Ø, 3W, 200 AMP MCB INTEGRATED LOAD CENTER PANEL WITH BUILT IN AUTOMATIC TRANSFER SWITCH AND SURGE PROTECTION. MOUNT PANEL ON PROPOSED VERIZON EQUIPMENT BACKBOARD. REFER TO PANEL SCHEDULE AND SPECIFICATIONS, SHEET E-1 FOR ADDITIONAL INFORMATION. COORDINATE ALL REQUIREMENTS WITH VERIZON REPRESENTATIVE PRIOR TO ORDERING. ALL CONDUITS FROM INTERSECT PANEL MUST ENTER/EXIT THROUGH SIDE, REAR OR BOTTOM. CONDUIT SHALL BE PROTECTED WITH FIBER OR GRD. REFER TO PANEL SCHEDULE SHEET E-1 FOR ADDITIONAL INFORMATION. CONDUIT SHALL ENTER THROUGH BOTTOM OF CHARLES CABINET AND WIRING SHALL BE EXTENDED IN NERDUCT INSIDE OF CABINET. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (3) CHARLES AND BATTERY CABINETS SHALL BE INSTALLED TO ALLOW FOR A MINIMUM 36" DOOR SWING CLEARANCE AT FRONT AND BACK OF CABINETS. CONSTRUCTION MANAGER AND GENERAL CONTRACTOR SHALL PROVIDE THAT THE ISOLATION PAD THAT COMES WITH CHARLES AND BATTERY CABINETS ARE INSTALLED BENEATH THE CABINETS. ALL P-TOUCH LABELS SHALL BE PRINTED ON MINIMUM 1/2" PAPER USING AERIAL BOLD FONT.
- (4) VERIZON PROVIDED, CONTRACTOR INSTALLED (4) 6" LONG CONDUIT KIT FOR INTERCONNECTING CHARLES AND BATTERY CABINETS. CONTRACTOR SHALL PROVIDE AND INSTALL VERIZON REPRESENTATIVE PRIOR TO START OF WORK.
- (5) CHARLES AND BATTERY CABINETS SHALL BE INSTALLED TO ALLOW FOR A MINIMUM 36" DOOR SWING CLEARANCE AT FRONT AND BACK OF CABINETS. CONSTRUCTION MANAGER AND GENERAL CONTRACTOR SHALL PROVIDE THAT THE ISOLATION PAD THAT COMES WITH CHARLES AND BATTERY CABINETS ARE INSTALLED BENEATH THE CABINETS. ALL P-TOUCH LABELS SHALL BE PRINTED ON MINIMUM 1/2" PAPER USING AERIAL BOLD FONT.
- (6) CONTRACTOR SHALL TERMINATE ALARMS WIRING ON ALARMS TERMINAL BLOCK PROVIDED WITH CHARLES CABINET. REFER TO ALARM LEADS DETAIL, SHEET E-6 FOR ADDITIONAL INFORMATION.
- (7) EXTEND 1 1/2" RIGID GALVANIZED STEEL CONDUIT FROM VERIZON PANEL "PP1" TO SIDE OR BOTTOM OF CHARLES RF CABINET FOR EXTENSION OF CABINET RECEPTACLE WIRING (#12 AWG + #10 GRD). REFER TO PANEL SCHEDULE SHEET E-1 FOR ADDITIONAL INFORMATION. CONDUIT SHALL ENTER THROUGH BOTTOM OF CHARLES CABINET AND WIRING SHALL BE EXTENDED IN NERDUCT INSIDE OF CABINET. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (8) EXTEND ADDITIONAL 1 1/2" RIGID GALVANIZED STEEL CONDUIT FROM VERIZON PANEL "PP1" TO SIDE OR BOTTOM OF CHARLES RF CABINET FOR EXTENSION OF RECEPTACLE WIRING (#12 AWG + #10 GRD). REFER TO PANEL SCHEDULE SHEET E-1 FOR ADDITIONAL INFORMATION. CONDUIT SHALL ENTER THROUGH BOTTOM OF CHARLES CABINET AND WIRING SHALL BE EXTENDED IN NERDUCT INSIDE OF CABINET. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (9) EXTEND ADDITIONAL 1 1/2" RIGID GALVANIZED STEEL CONDUIT FROM VERIZON PANEL "PP1" TO SIDE OR BOTTOM OF CHARLES RF CABINET FOR EXTENSION OF RECEPTACLE WIRING (#12 AWG + #10 GRD). REFER TO PANEL SCHEDULE SHEET E-1 FOR ADDITIONAL INFORMATION. CONDUIT SHALL ENTER THROUGH BOTTOM OF CHARLES CABINET AND WIRING SHALL BE EXTENDED IN NERDUCT INSIDE OF CABINET. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (10) EXTEND 3/4" RIGID GALVANIZED STEEL CONDUIT FROM VERIZON PANEL "PP1" TO SIDE OR BOTTOM OF CHARLES RF CABINET FOR EXTENSION OF CABINET RECEPTACLE WIRING (#12 AWG + #10 GRD). REFER TO PANEL SCHEDULE SHEET E-1 FOR ADDITIONAL INFORMATION. CONDUIT SHALL ENTER THROUGH BOTTOM OF CHARLES CABINET AND WIRING SHALL BE EXTENDED IN NERDUCT INSIDE OF CABINET. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (11) PROVIDE AND INSTALL RAYCAP MAIN DISTRIBUTION BOX WITH TWELVE (12) OVP MOUNTED ON VERIZON EQUIPMENT BACKBOARD ABOVE TROUGH (TYPE OF 3). CONTRACTOR SHALL PROVIDE A 4" MINIMUM CLEARANCE DISTANCE BETWEEN EACH RAYCAP MAIN DISTRIBUTION BOX. ALL P-TOUCH LABELS SHALL BE PRINTED ON MINIMUM 1/2" PAPER USING AERIAL BOLD FONT.
- (12) CONTRACTOR SHALL PROVIDE AND INSTALL SIX (6) RIGID GALVANIZED STEEL CONDUITS FROM BOTTOM OF EACH RAYCAP BOX TO TOP OF TROUGH. REFER TO DETAILS, SHEET E-4. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (13) PROVIDE AND INSTALL (NEMA 3P) 12X4 X 12D X 6-O" LONG TROUGH MOUNTED ON EQUIPMENT BACKBOARD ABOVE RAYCAP OVP BOXES. REFER TO DETAILS, SHEET E-4.
- (14) CONTRACTOR SHALL EXTEND SEVEN (7) 2" RIGID GALVANIZED STEEL CONDUITS FROM BOTTOM OF CHARLES CABINET TO BOTTOM OF RAYCAP TROUGH FOR EXTENSION OF RAYCAP ALARMS AND FIBER. REFER TO DETAILS, SHEET E-4. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (15) CONTRACTOR SHALL EXTEND SEVEN (7) 2" RIGID GALVANIZED STEEL CONDUITS FROM BOTTOM OF CHARLES CABINET TO BOTTOM OF RAYCAP TROUGH FOR EXTENSION OF RAYCAP ALARMS AND FIBER. REFER TO DETAILS, SHEET E-4. NO SEALTIGHT OR PVC CONDUIT SHALL BE PERMITTED.
- (16) PROPOSED LOCATION OF WEATHERPROOF 1/4" X 3/8" X 1/2" DEEP HYDRIFLEX CABLE HOFFMAN BOX MOUNTED ON EQUIPMENT BACKBOARD BEHIND RAYCAP TROUGH FOR EXTENSION / TRUNTING OF HYDRIFLEX CABLES FROM BELOW GRADE AND INTO REAR OF RAYCAP TROUGH. TOP OF HOFFMAN BOX SHALL BE MOUNTED AT SAME HEIGHT AS TOP OF RAYCAP TROUGH. PROVIDE SNAP-IN SUPPORTS ON INTERIOR OF HOFFMAN BOX TO SECURE HYDRIFLEX CABLES. PROVIDE 4" WEATHERPROOF CONDUIT SLEEVES BETWEEN BACK OF HOFFMAN BOX AND BACK OF RAYCAP TROUGH.
- (17) CONTRACTOR SHALL UTILIZE WEATHERPROOF CONDUIT SLEEVES BETWEEN HOFFMAN BOX AND RAYCAP TROUGH FOR EXTENSION OF HYDRIFLEX CABLES INTO REAR OF TROUGH. REFER TO DETAILS, SHEET E-4.

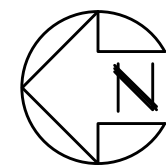


SCALE: 1/4" = 1'-0"



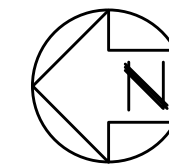
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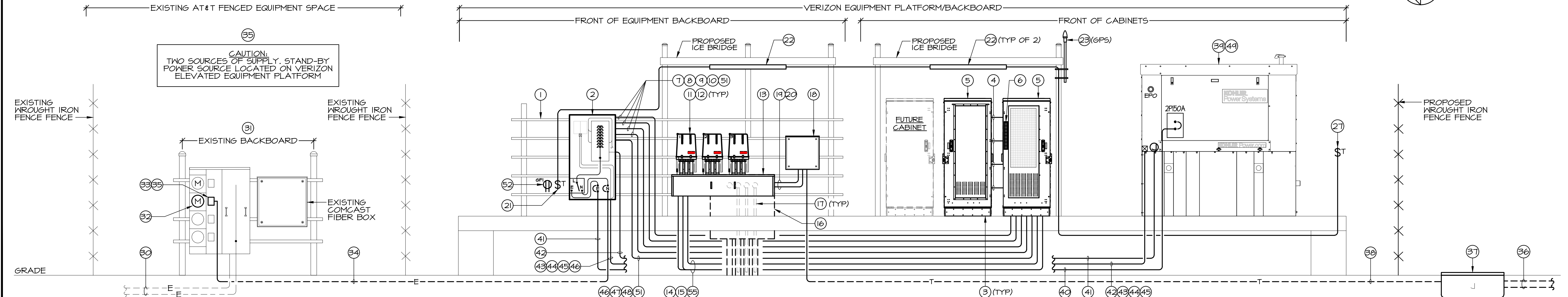
SCALE: 1/4" = 1'-0"



VERIZON EQUIPMENT PLATFORM/BACKBOARD

SCALE: 1/4" = 1'-0"





NO SCALE



SCALE: 1/4"=1'-0"

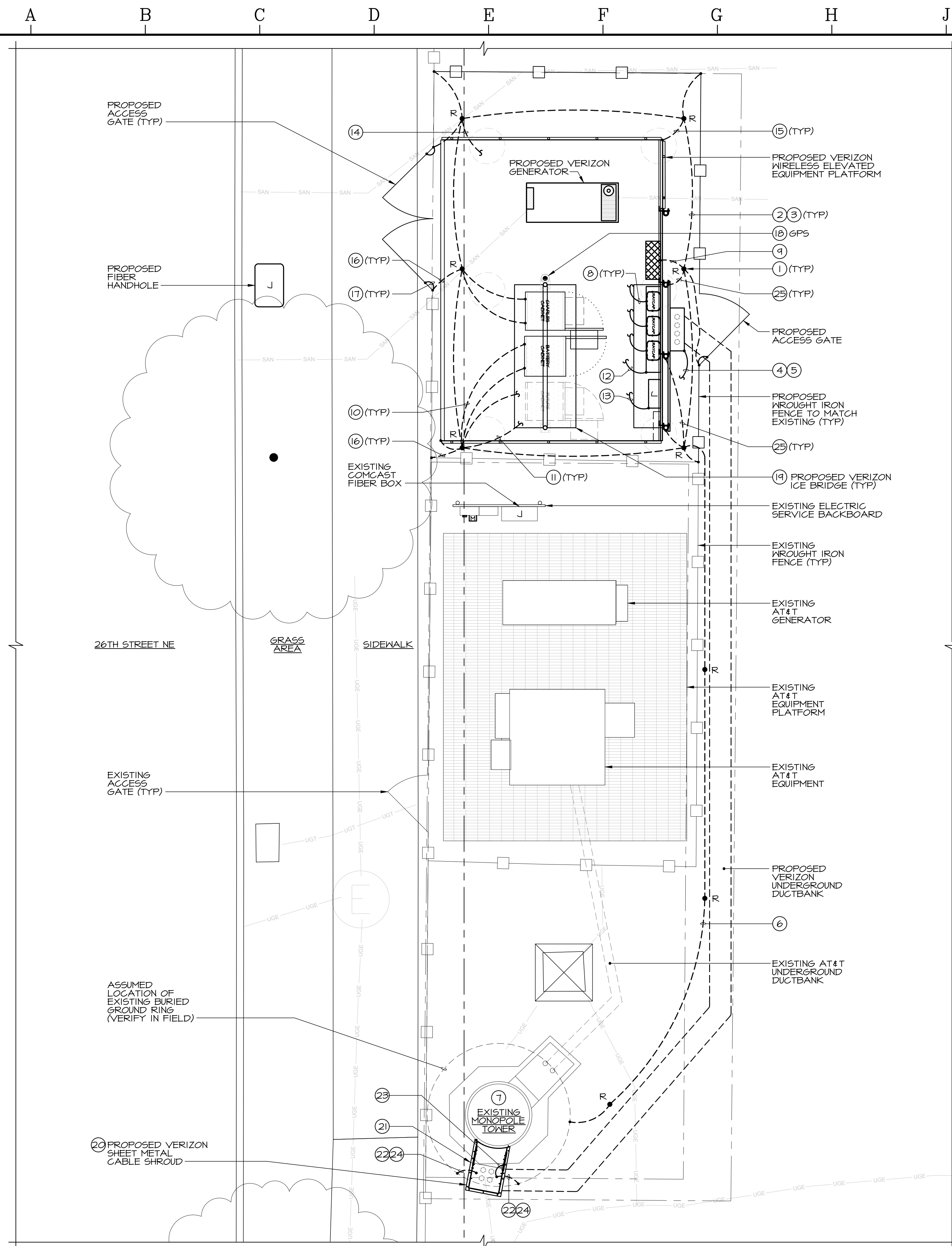
REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VzW COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:	
PROJECT NO:	240870
DATE:	APRIL 02, 2025
SCALE:	AS NOTED
TITLE:	
PART PLANS, POWER RISER, AND NOTES	

SHEET:

E-3
E003

TEI# 240870



GENERAL NOTES

1. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD) TO NEAREST GROUND ROD USING ERICO CADWELD "ONE-SHOT" CONNECTIONS.
2. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG BARE, TINNED SOLID COPPER, UNLESS NOTED OTHERWISE.
3. ALL GROUND CONNECTIONS ABOVE GRADE SHALL BE TWO-HOLE COPPER COMPRESSION TYPE WITH STANDARD LENGTH BARREL (BURNDY # YA2CL- 2TIC4EI). SINGLE HOLE LUGS ARE NOT ACCEPTABLE.
4. ALL MOUNTING HARDWARE FOR EXTERIOR LOCATIONS SHALL BE HOT-DIPPED GALVANIZED STEEL INCLUDING NUTS, BOLTS, FLAT AND LOCK WASHERS.
5. ALL EXTERIOR MECHANICAL CONNECTIONS SHALL BE MADE USING OXIDE- INHIBITING JOINT COMPOUND. THE COMPOUND SHALL BE APPLIED TO ALL SURFACES OF BOLTS, WASHERS, NUTS AND CONNECTING SURFACES OF GROUND BAR LUGS. ALL EXTERIOR SURFACES OF CONDUCTORS SHALL BE COATED PRIOR TO LUGGING. JOINT COMPOUND SHALL BE NO-OX. KOFR-SHIELD SHALL NOT BE PERMITTED.
6. ALL EXOTHERMIC WELD CONNECTIONS AND FIELD CUTS OF METALLIC OBJECTS EXPOSED TO WEATHER SHALL BE FIRST SPRAYED WITH COLD GALVANIZING (AFTER COOL DOWN) THEN BE TOPPED WITH BRUSH ON MARINE GRADE GALVANIZING.
7. ALL CONDUIT USED AS SLEEVES FOR GROUNDING OR BONDING CONDUCTORS SHALL BE PVC.
8. ALL GROUND RODS SHALL BE DRIVEN VERTICALLY USING A GROUND ROD SHIELD TO PREVENT THE ENDS FROM "MUSHROOMING".
9. THE MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS ON ANY PART OF THE SYSTEM. IF DUE TO SOIL CONDITIONS OR OTHER PARAMETERS, THIS MAXIMUM IS EXCEEDED, CONTACT LYNCOLE FOR XIT GROUNDING DESIGN.
10. PROVIDE ANDREW 36" GROUNDING CABLE REQUIRING FIELD ATTACHABLE CRIMP-ON LUGS. DO NOT USE THE LUGS PROVIDED WITH THE GROUNDING KIT; PROVIDE TWO HOLE LUGS. GROUNDING CABLE SHALL BE CUT TO SHORTEST LENGTH FROM THE BONDING CONNECTIONS TO THE EXTERIOR GROUND BAR PLATE SHALL BE MADE USING STAINLESS STEEL NUTS AND BOLTS. CORROSION INHIBITOR SHALL BE APPLIED BETWEEN NUTS AND BOLTS AND GROUND BAR PLATE.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A CLAMP ON RESISTANCE TEST TO DETERMINE THE OHMS RESISTANCE RATING OF FINAL GROUNDING SYSTEM. RESULTS OF TEST SHALL BE COMMUNICATED TO VERIZON WIRELESS CONSTRUCTION MANAGER INCLUDED IN CLOSEOUT PACKAGE.
12. ALL EXTERIOR GROUND BARS SHALL BE GALVANIZED STEEL, SIZE AS NOTED ON PLANS, AND MANUFACTURED BY ELECTRIC MOTIONS COMPANY, INC. (WWW.ELECTRICMOTIONSCOMPANY.COM).
13. ALL JOINT COMPOUND USED FOR GROUNDING SHALL BE NO-OX. KOFR-SHIELD SHALL NOT BE PERMITTED.

DRAWING NOTES

- (1) PROVIDE 8'-0" (MINIMUM) x 5/8" COPPER CLAD STEEL GROUND ROD. TOP OF GROUND ROD SHALL BE AT SAME DEPTH AS THE GROUND RING.
- (2) BURIED GROUND RING SHALL BE #2 AWG, BARE, TINNED, SOLID COPPER.
- (3) BURIED GROUND RING SHALL BE WITHIN 24" TO 36" OFF THE STRUCTURE (WHERE FEASIBLE). THE GROUND RING SHALL BE AT A DEPTH OF AT LEAST 30" BELOW FINISHED GRADE.
- (4) EXTEND #2 AWG GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM HYBRIFLEX CABLE HOFFMAN BOX AND BOND TO NEAREST PLATFORM STEEL FRAMING.
- (5) PROVIDE LONG BARREL 2 HOLE LUG FOR TERMINATION OF HYBRIFLEX CABLE GROUND. CONTRACTOR SHALL CONNECT TO BOTTOM INTERIOR OF HYBRIFLEX CABLE HOFFMAN BOX.
- (6) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM PROPOSED VERIZON GROUND RING AND BOND TO EXISTING TOWER BURIED GROUND RING. COORDINATE CONNECTION TO EXISTING GROUND RING WITH FINAL LOCATION OF GROUND RING BELOW GRADE.
- (7) PROVIDE AND INSTALL THREE (3) 12" WIDE x 4" HIGH x 1/4" THICK, GALVANIZED STEEL GROUND BARS (ONE PER SECTOR) LOCATED ON EXISTING TOWER AT ELEVATION OF VERIZON ANTENNAS. GROUND BARS(S) SHALL BE MOUNTED WITH BEAM CLIPS. DO NOT USE INSULATED STANDOFFS. EXTEND #16 AWG, GREEN, INSULATED STRANDED GROUND CONDUCTOR FROM EACH REMOTE RADIO HEAD (RRH) DISTRIBUTION BOX AND BOND TO EACH SECTOR GROUND BAR (TYP OF 3).
- (8) EXTEND #2 AWG, GREEN, INSULATED, STRANDED GROUND CONDUCTOR FROM MAIN DISTRIBUTION BOX MOUNTED ON EQUIPMENT BACKBOARD AND BOND TO NEAREST EQUIPMENT BACKBOARD SUPPORT POST.
- (9) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUNDING ELECTRODE CONDUCTOR FROM GROUND BAR IN PANEL PPI AND CADWELD TO NEAREST BURIED GROUND ROD. THE GROUND CONDUCTOR SHALL BE ELECTRICALLY ISOLATED FROM THE GROUND BAR/GROUNDING CONDUCTOR PER NEC 250-32(B). PROVIDE BONDING CONNECTION FROM ENCLOSURE OF LOAD CENTER PANEL TO EQUIPMENT BACKBOARD UNISTRUT/PLATFORM STEEL FRAMING.
- (10) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST BURIED GROUND ROD, TURN UP THROUGH PLATFORM GRATING IN SEALTIGHT CONDUIT, AND BOND TO GROUND LUG AT BOTTOM REAR OF CHARLES R-F AND BATTERY CABINETS (TYP OF 4 LOCATIONS).
- (11) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR IN SEALTIGHT CONDUIT FROM NEAREST BURIED GROUND ROD AND COIL TIGHT TO UNDERSIDE OF PLATFORM GRATING FOR FUTURE CABINET GROUNDING (TYP OF 2).
- (12) EXTEND #2 AWG, GREEN, INSULATED, STRANDED GROUND CONDUCTOR FROM UNDERSIDE OF WEATHERPROOF RAYCAP TROUGH AND BOND TO NEAREST EQUIPMENT BACKBOARD SUPPORT POST.
- (13) EXTEND #2 AWG, GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM UNDERSIDE OF FIBER HOFFMAN BOX AND BOND TO NEAREST EQUIPMENT BACKBOARD SUPPORT POST.
- (14) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM BURIED GROUND RING, TURN UP THROUGH CONDUIT STUB-UP AREA, AND BOND TO INTERIOR FRAME OF GENERATOR PER MANUFACTURER'S RECOMMENDATIONS.
- (15) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM PROPOSED PLATFORM STEEL FRAMING AND BOND TO NEAREST BURIED GROUND ROD IN TWO (2) LOCATIONS, 180 DEGREES APART. PORTIONS OF GROUND CONDUCTOR EXTENDING ABOVE GRADE SHALL BE RAN IN SEALTIGHT.
- (16) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST BURIED GROUND ROD AND BOND TO EACH NEW / EXISTING METALLIC FENCE POST. CONNECTION TO FENCE POST SHALL BE BELOW GRADE.
- (17) PROVIDE FLEXIBLE GROUND STRAP (T & B SERIES) CONNECTING METALLIC GATE FRAME TO ADJACENT METALLIC FENCE POST. REFER TO DETAIL, SHEET E-6.
- (18) VERIZON WIRELESS PROVIDED AND CONTRACTOR INSTALLED GPS ANTENNA (MODEL #GPS-TMG-HR26NCM). CONTRACTOR SHALL PROVIDE AND INSTALL 1/2" GROUND KIT ON ICE BRIDGE SUPPORT POST AT LOCATION OF GPS ANTENNA AND PROVIDE PRELIMINARY STEEL FRAMING BEHIND ENTERING CHARLES CABINET FOR BONDING OF GPS ANTENNA/COAX. REFER TO STRUCTURAL FOR MOUNTING DETAILS.
- (19) EXTEND #16 AWG GREEN, INSULATED, STRANDED COPPER BONDING JUMPER BETWEEN EACH SECTION OF ICE BRIDGE USING 2-HOLE LUG WITH STAINLESS STEEL HARDWARE. EACH SECTION OF ICE BRIDGE SHALL BE BONDED TO ICE BRIDGE SUPPORT POST VIA EXOTHERMIC WELD.
- (20) PROPOSED LOCATION OF THREE SIDED SHEET METAL SHROUD OVER HYBRIFLEX CABLES EXTENDING UP FROM BELOW GRADE AT BASE OF PROPOSED TOWER. REFER TO SHEET E-4 AND CIVIL/STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (21) PROPOSED LOCATION OF CONCRETE PAD FOR GROUNDING OF HYBRIFLEX CABLE CONDUITS FROM BELOW GRADE UP INTO SHEET METAL SHROUD. PROVIDE TWO (2) 3/4" PVC SLEEVES IN PROPOSED CONCRETE PAD FOR EXTENSION OF GROUND CONDUCTOR PIGTAILS FROM EXISTING BURIED GROUND RING SURROUNDING EXISTING TOWER UP INTO SHROUD.
- (22) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR PIGTAILS FROM EXISTING BURIED GROUND RING SURROUNDING TOWER, UP THROUGH PVC SLEEVES IN CONCRETE PAD, INTO SHEET METAL SHROUD FOR BONDING OF SHROUD AND HYBRIFLEX CABLES.
- (23) EXTEND #2 AWG, GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM GROUND PIGTAILS INSIDE SHEET METAL SHROUD AND BOND TO INSIDE OF SHROUD.
- (24) PROVIDE BONDING CONNECTION FROM GROUND PIGTAILS INSIDE SHEET METAL SHROUD TO OUTER CONDUCTOR OF HYBRIFLEX CABLE VIA COAX GROUNDING KIT.
- (25) EXTEND #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST GROUND ROD AND BOND TO EQUIPMENT BACKBOARD SUPPORT POST. PORTIONS OF GROUND CONDUCTOR EXTENDING ABOVE GRADE SHALL BE RAN IN SEALTIGHT.
- (26) ALL GROUNDING CONNECTIONS SHALL BE MADE BELOW GRADE TO MINIMIZE THE AMOUNT OF EXPOSED GROUND CONDUCTORS.
- (27) ALL EQUIPMENT GROUND LEADS TO BACKBOARD SUPPORT POSTS AND ASSOCIATED EQUIPMENT/HYBRIFLEX CABLES SHALL BE IN A DIRECT, DOWNWARD DIRECTION. AVOID UPWARD KNEEPS AT ALL POSSIBLE.



TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com



10/10/2025

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

verizon
KINGMAN PARK
16400 BENNING RD
AKA: 2500 BENNING RD (NE)
WASHINGTON, DC 20002
DISTRICT OF COLUMBIA

REVISIONS:

NO. DESCRIPTION		DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VZIN COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:

PROJECT NO:	240870
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DATE: APRIL 02, 2025

SCALE: AS NOTED

TITLE:	
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GROUNDING

SITE PLAN

AND NOTES

[illegible]

SHEET:

	H
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III-4

100

E004

TEI# 240870

TEI# 240870

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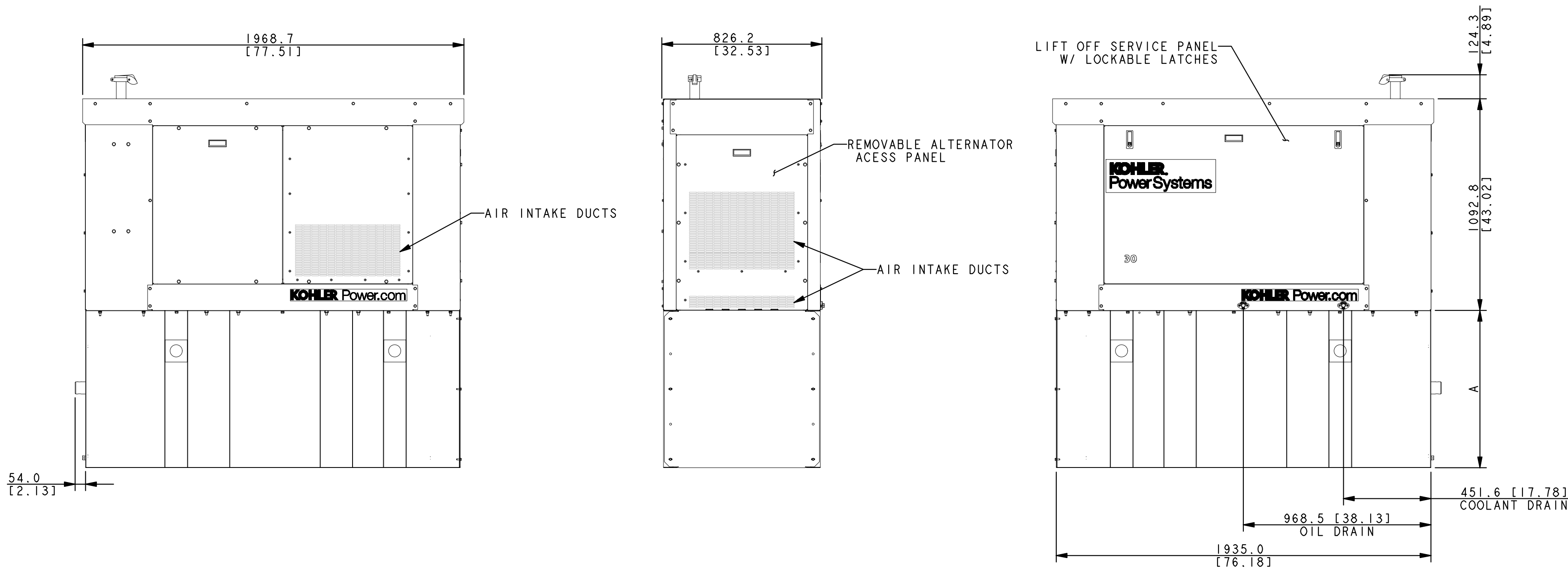
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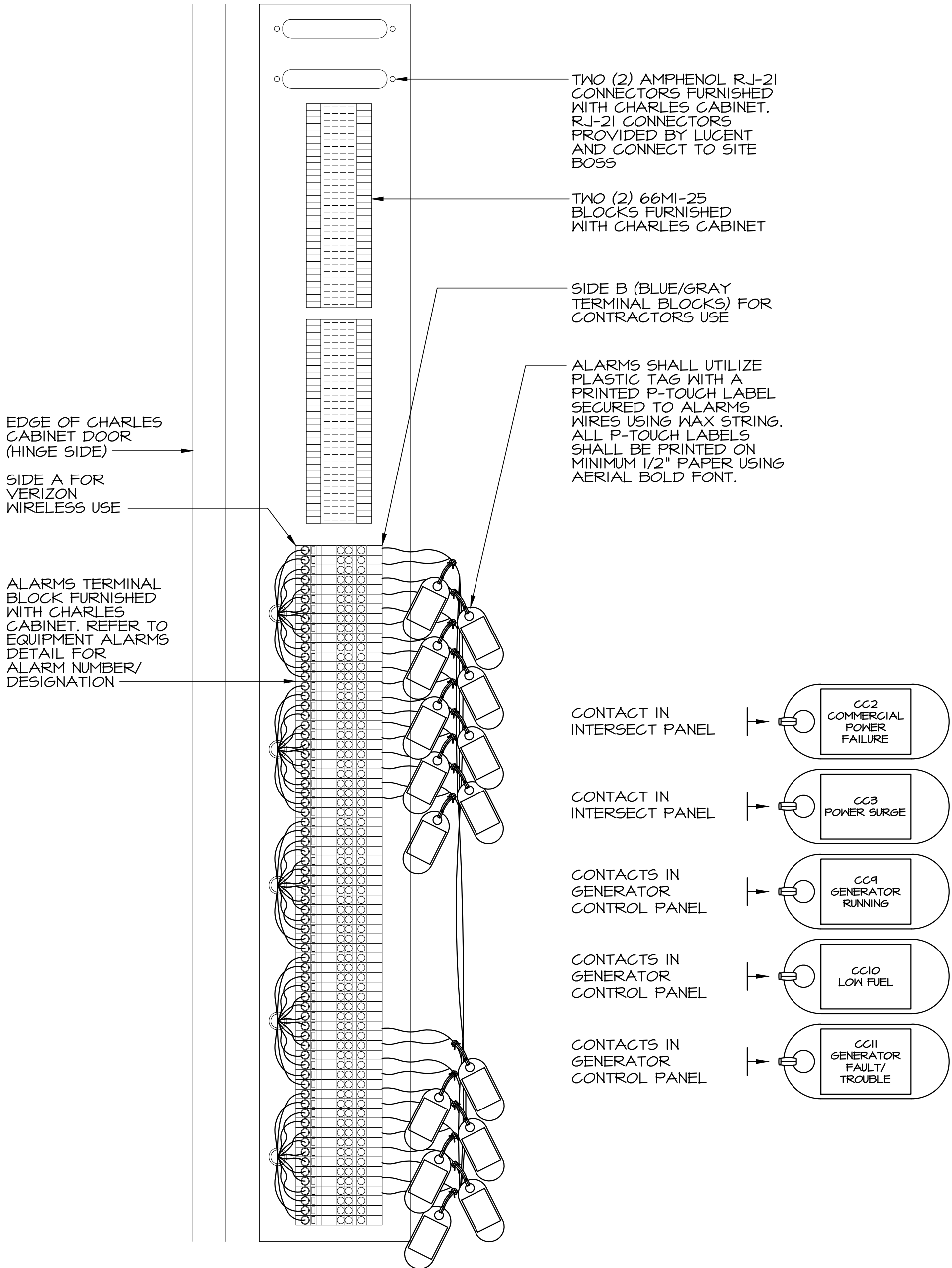
ALARM NUMBER	DESCRIPTION
CG1	DOOR INTRUSION
CG2	COMMERCIAL POWER FAILURE
CG3	SURGE SUPPRESSOR/LIGHTNING ARRESTOR
CG4	RECTIFIER FAILURE
CG5	MULTIPLE RECTIFIER FAILURE
CG6	BATTERY DISCHARGE
CG7	LOW VOLTAGE
CG8	DC POWER FAILURE
CG9	GENERATOR RUNNING
CG10	GENERATOR LOW FUEL
CG11	GENERATOR FAILURE
CG12	HVAC FAILURE
CG13	HIGH TEMP
CG14	LOW TEMP
CG15	TOWER LIGHT
CG16	TOWER LIGHT SIDE
CG17	RRH UP-CONVERTER FAILURE
CG18	RRH POWER FAILURE
CG19	RRH HIGH HUMIDITY
CG20	RRH INTRUSION
CG21	SMOKE FIRE
CG22	BUS BAR THEFT
CG23	
CG24	
CG25	MICROWAVE CRITICAL
CG26	MICROWAVE MAJOR
CG27	DEHYDRATOR ALARM
CG28	FIRE SUPPRESSION DISCHARGE
CG29	FIRE SUPPRESSION TROUBLE
CG30	SECONDARY HVAC RUNNING
CG31	EXPLOSIVE GAS
CG32	HIGH HUMIDITY

DETAIL - CHARLES CABINET ALARMS SCHEDULE
NO SCALE

- NOTES:
1. THE RIGHT SIDE OF THE GENERATOR IS SERVICE ACCESSIBLE.
 2. 6 AMP BATTERY CHARGER.
 3. 120VAC ENGINE BLOCK HEATER.
 4. GENERATOR MUST BE GROUNDED.
 5. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.
 6. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.
 7. MUST ALLOW FREE FLOW OF INTAKE AIR.
 8. EASY ACCESS SERVICE PANEL IS LOCATED ON THE RIGHT SIDE OF THE GENERATOR ONLY.
 9. BASE TANK REQUIRES ALL STUB-UPS TO BE IN THE REAR TANK STUB-UP AREA.
 10. SEE TABLE FOR SUBBASE FUEL TANK CAPACITY.
 11. TANK EQUIPPED WITH FIRE SAFETY VALVE ON FUEL SUPPLY LINE.
 12. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.
 13. GENERATOR IS INSTALLED ON A UL-142 RATE DOUBLE WALL SUBBASE FUEL TANK.



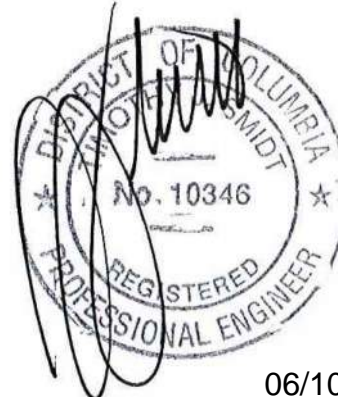
DETAIL - KOHLER 30KW DIESEL GENERATOR
NO SCALE



DETAIL - ALARM LEADS TERMINAL
NO SCALE



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verizon
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(DISTRICT OF COLUMBIA)

REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VZIN COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:

PROJECT NO: 240870

DATE: APRIL 02, 2025

SCALE: AS NOTED

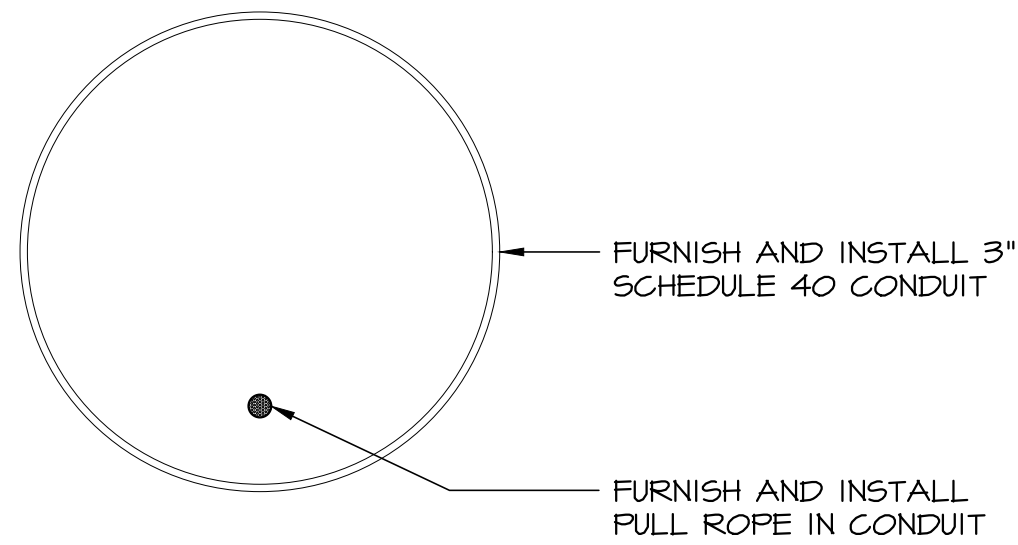
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DETAILS

SHEET:

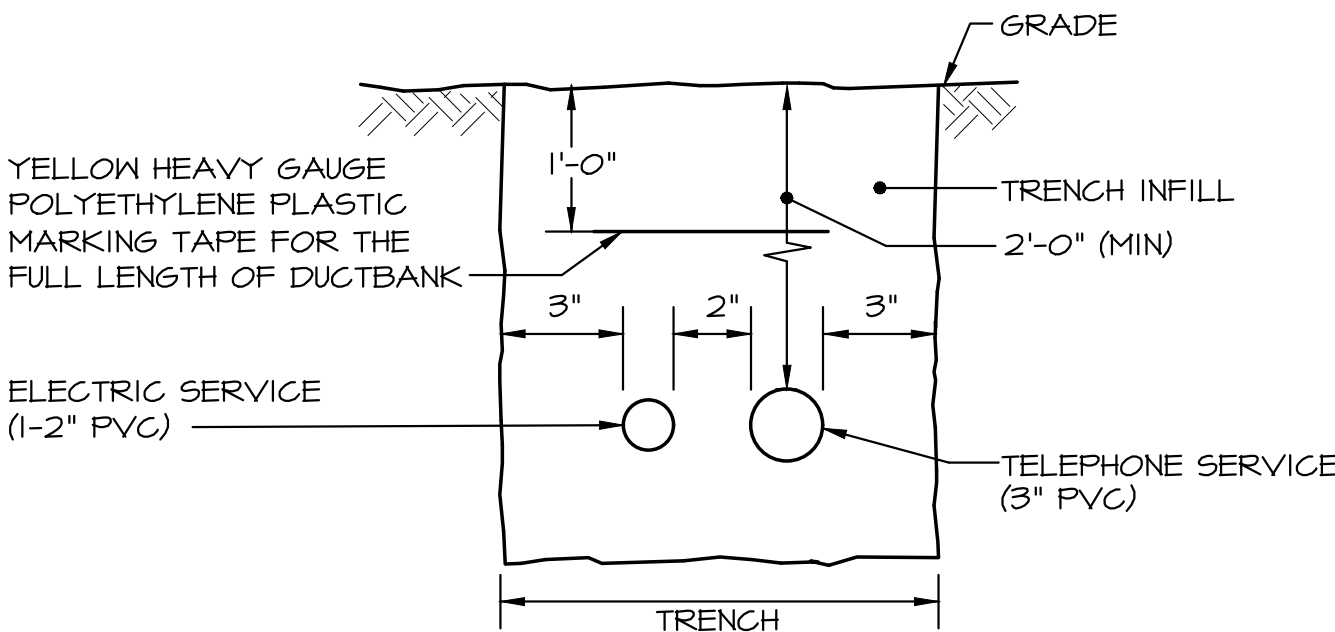
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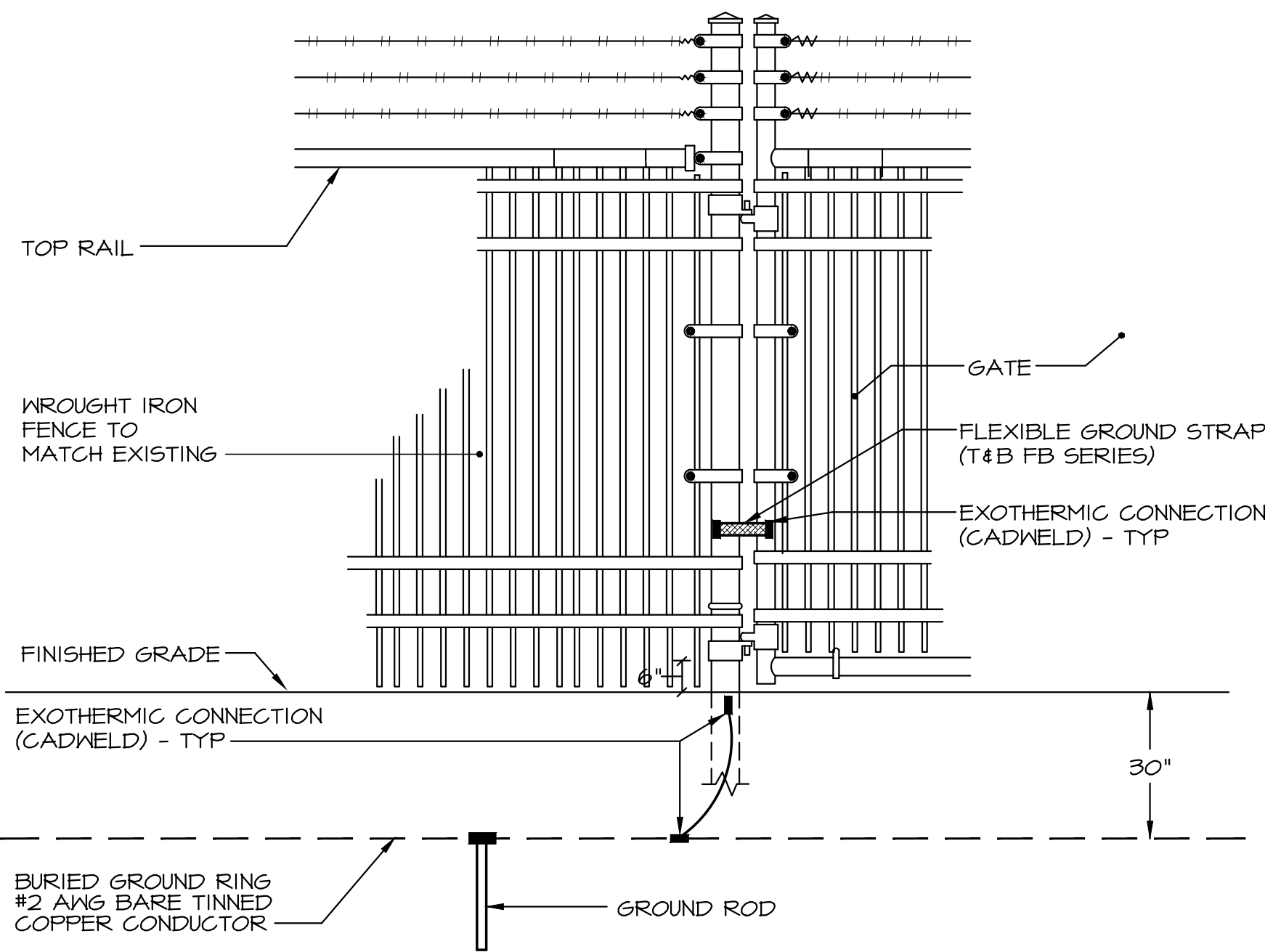


NOTES:
1. ENTIRE TELCO CONDUIT PATHWAY SHALL NOT CONTAIN ANY LB FITTINGS. ALL BENDS SHALL BE OF LONG SWEEPS OR MADE BY USING JUNCTION BOXES.

DETAIL- 3" TELCO CONDUIT
NO SCALE (FIBER CONDUIT WITHIN COMPOUND)



DETAIL - UTILITY CONDUIT SECTION
NO SCALE (WITHIN COMPOUND)

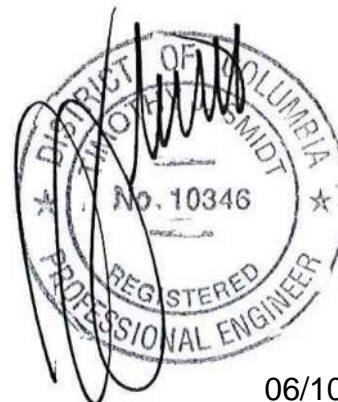


NOTE: CONTRACTOR SHALL SEAL ALL OPEN ENDS ON FENCE/GATE POST TO AVOID BEES NESTING.

DETAIL - GATE GROUNDING
NO SCALE



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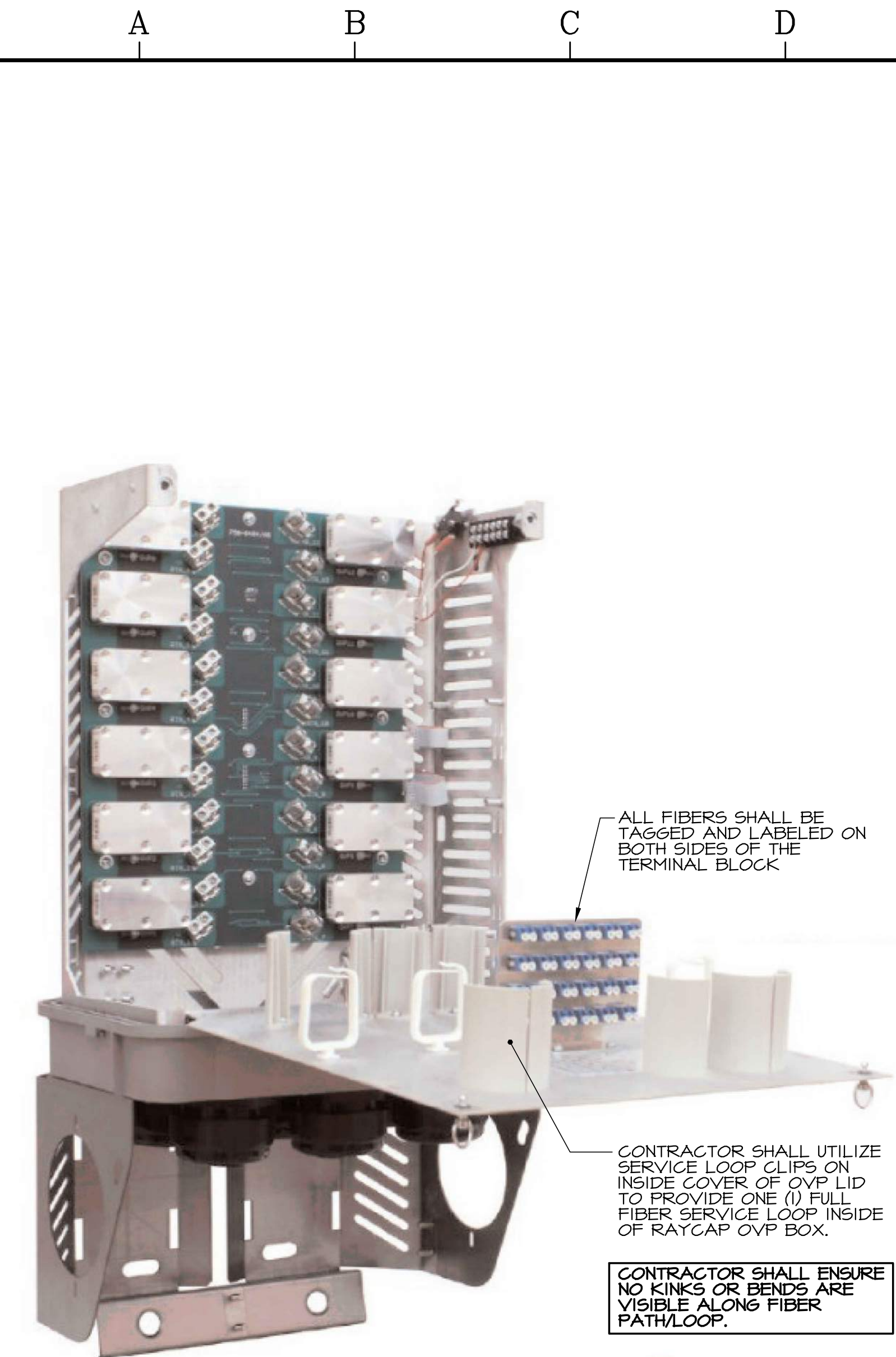
REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VZN COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:	
PROJECT NO:	240870
DATE:	APRIL 02, 2025
SCALE:	AS NOTED

TITLE:
DETAILS

SHEET:

E-6
E006



DETAIL- RAYCAP FIBER LOOP
NO SCALE

Feed Hybrid trunk through insert.

Feed enough of the cable to strip and connect to power connectors.

Connect wires according to the Verizon Wireless established color guide.

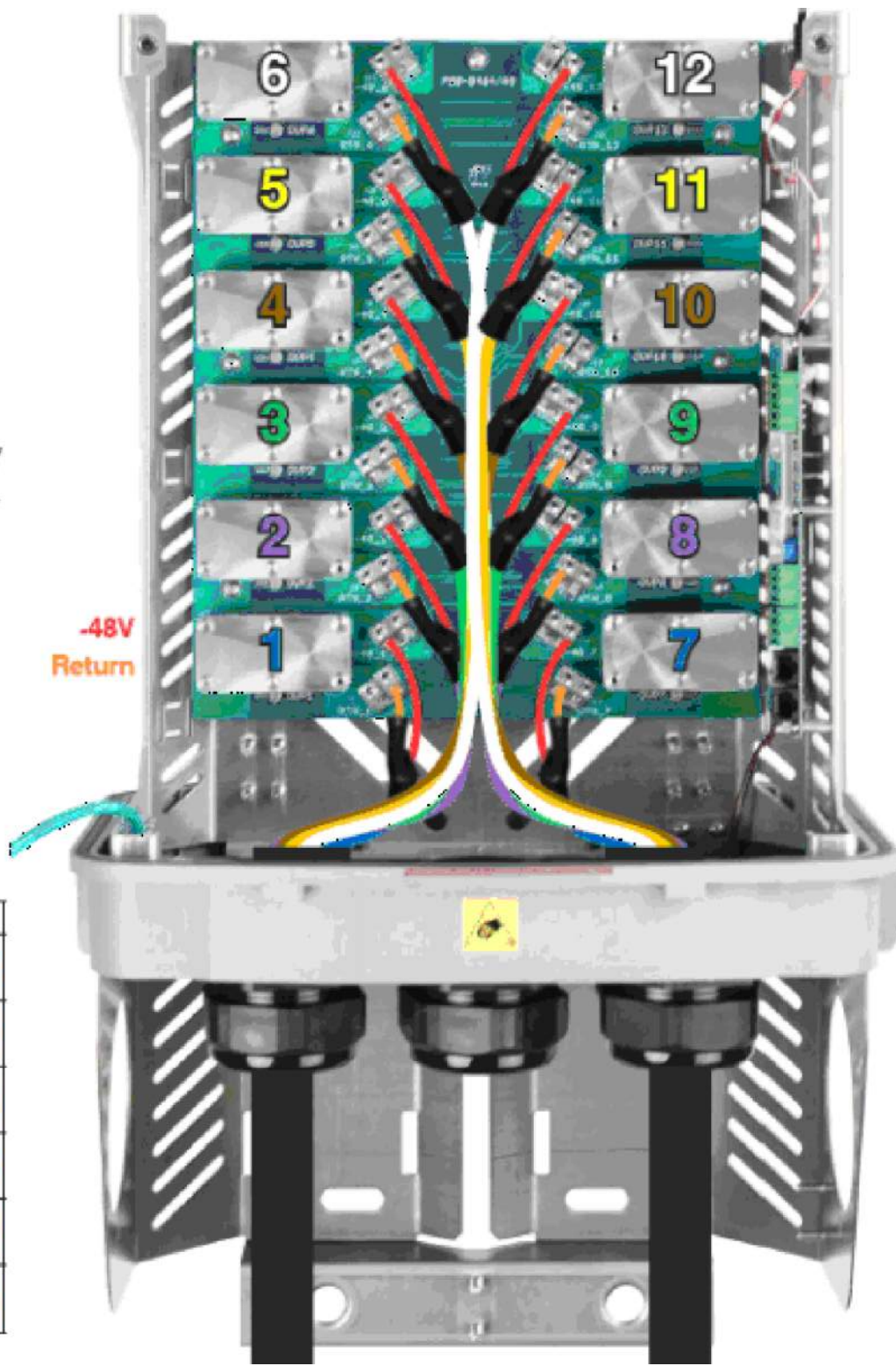
Note:
Bring all cables through cable glands. Ensure all fiber is separated and out of the way during copper wire installation.

To assist in ease of wiring, proceed by wiring in the following order:

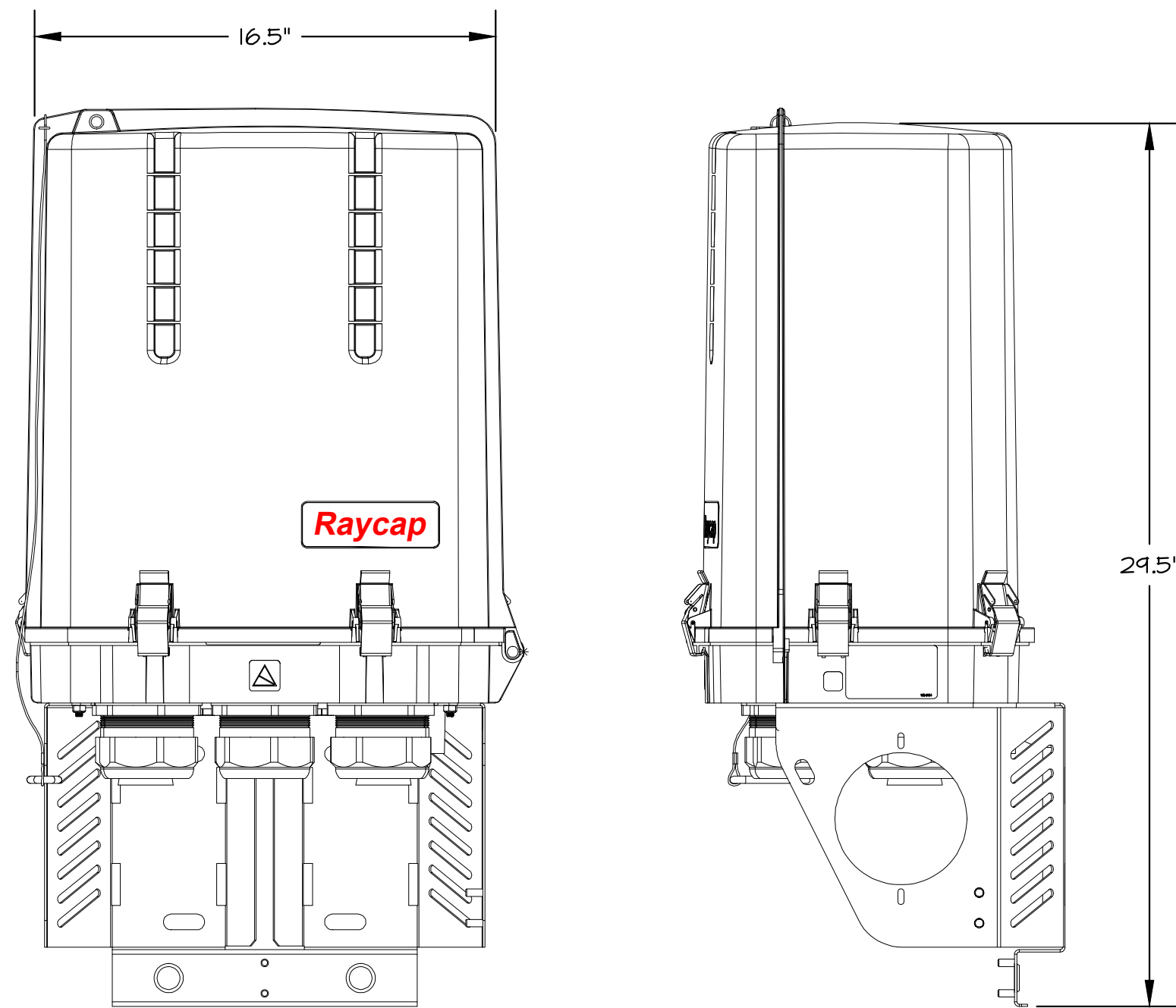
- 1st: OVP #1 and OVP #7
2nd: OVP #2 and OVP #8
3rd: OVP #3 and OVP #9
4th: OVP #4 and OVP #10
5th: OVP #5 and OVP #11
6th: OVP #6 and OVP #12

Torque: 40 in-lbs (10-6 AWG)

Circuit	Identification Color	-48V	RTN
1, 7	Blue		
2, 8	Violet		
3, 9	Green		
4, 10	Brown		
5, 11	Yellow		
6, 12	White		

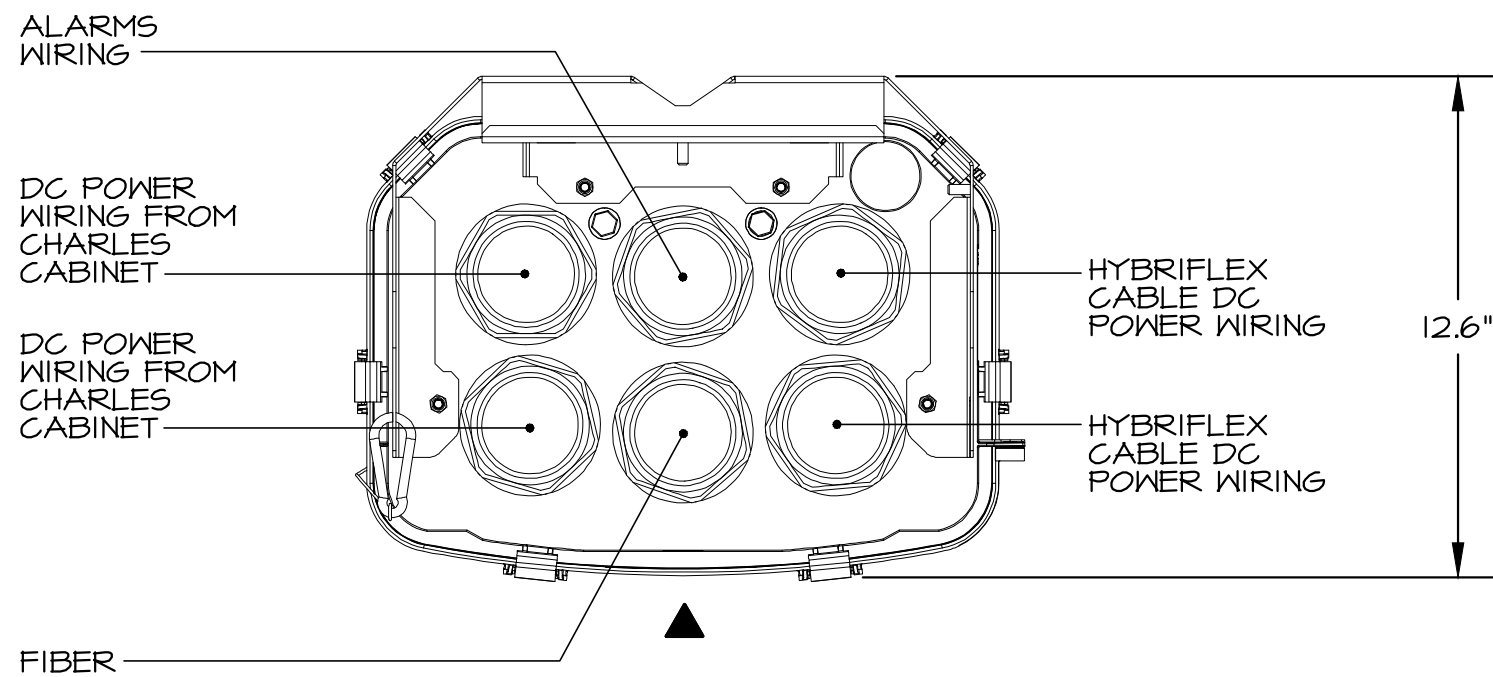


DETAIL- RAYCAP 12-OVP IDENTIFIERS
NO SCALE



FRONT VIEW

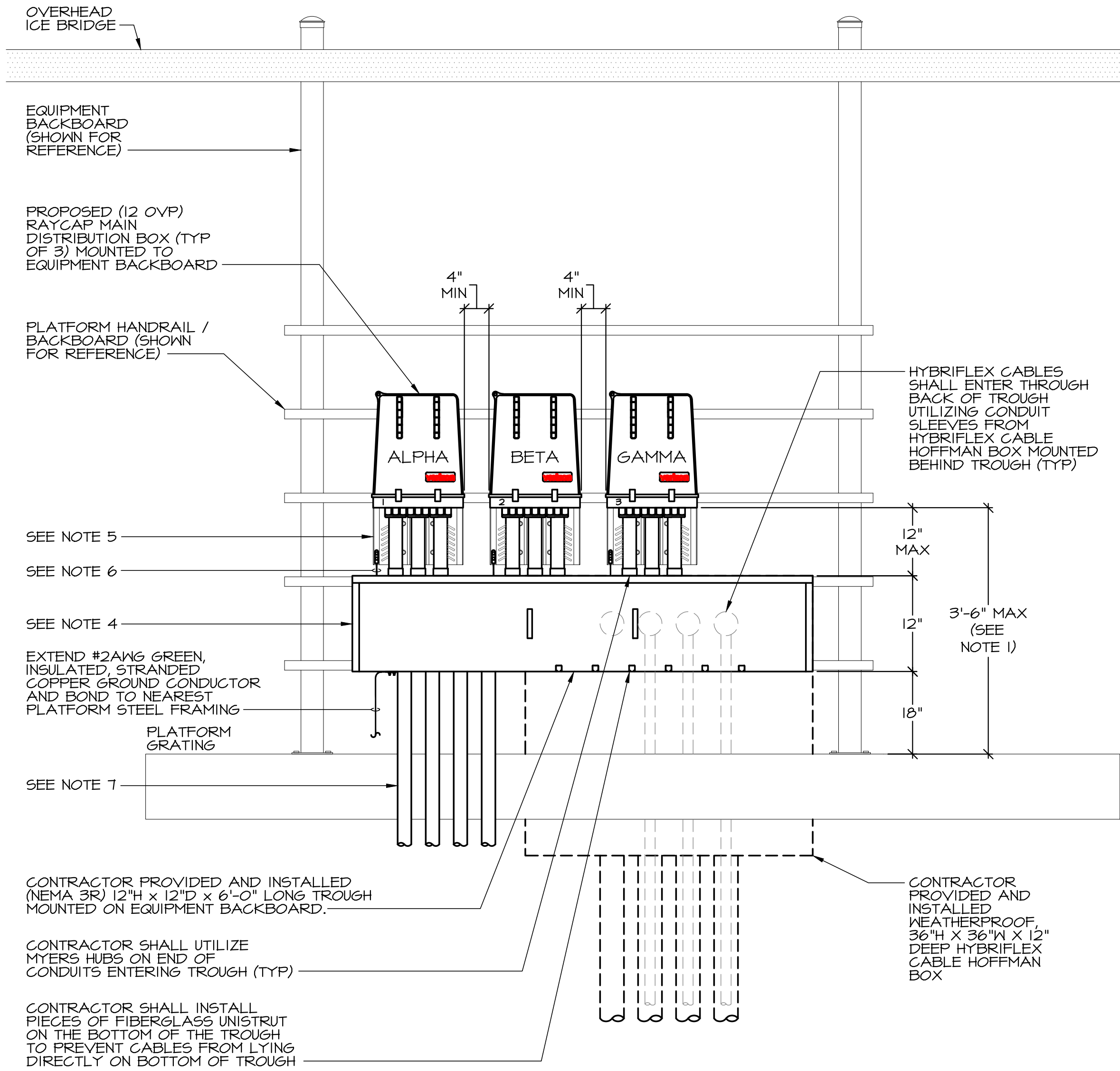
SIDE VIEW



TOP VIEW

MANUFACTURER:	RAYCAP
MODEL #:	RVZDC-662T-PF-48 (12 OVP)
DIMENSIONS:	12.6"D x 16.5"W x 29.5"H
WEIGHT:	32 LBS (SYSTEM)

DETAIL - MAIN DISTRIBUTION BOX
NO SCALE (12 OVP)

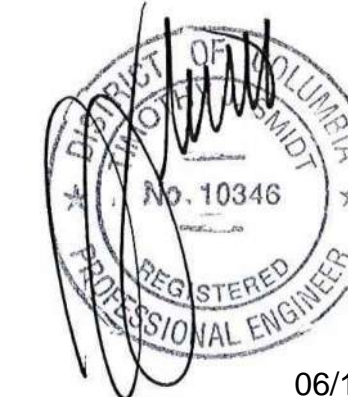


- ALL RAYCAP MAIN DISTRIBUTION BOXES SHALL BE MOUNTED AT 42" MAX ABOVE FINISHED PLATFORM GRATING MEASURED AT LID GASKET SEAM. NO OBSTRUCTIONS DIRECTLY ABOVE THE DISTRIBUTION BOX SO THAT THE COVER CAN BE REMOVED.
- ALL HARDWARE SHALL BE GALVANIZED STEEL (UNLESS OTHERWISE APPROVED).
- ALL EXTERIOR CONDUIT ENTERING CHARLES CABINET SHALL BE RIGID GALVANIZED STEEL (UNLESS OTHERWISE APPROVED).
- RAYCAP TROUGH SHALL BE 12"H x 12"D x 6'-0" LONG NEMA 3R CLASS. BOTTOM OF RAYCAP TROUGH SHALL MEASURE 18" ABOVE TOP OF FINISHED PLATFORM GRATING. TROUGH SHALL FULLY WEATHERPROOF WITH TROUGH LID HANDLES, GASKETED, AND FABRICATED BY S.A.R. METAL PRODUCTS (OR APPROVED EQUAL). PROVIDE FOUR (4) SCREENED VENT HOLES, ONE IN EACH CORNER, TO ALLOW FOR DRAINAGE.
- REMOVE ALL SIX (6) BLACK, HYBRIFLEX CABLE COMPRESSION FITTINGS SUPPLIED WITH THE 12-OVP RAYCAP BOX AND SALVAGE FOR REUSE. INSTALL SIX (6) RIGID GALVANIZED STEEL CONDUITS (SIZED TO MATCH COMPRESSION FITTINGS BEING REMOVED) WITH ZINC DIE-CAST MYERS HUBS BETWEEN THE RAYCAP BOX AND THE TOP OF THE TROUGH. LENGTH OF CONDUITS BETWEEN BOTTOM OF RAYCAP AND TOP OF TROUGH SHALL NOT EXCEED 12". THREE (3) CONDUITS SHALL BE INSTALLED SIDE BY SIDE IN THE REAR AND THREE (3) CONDUITS SHALL BE INSTALLED SIDE BY SIDE IN THE FRONT. PROVIDE AND INSTALL KOPR-SHIELD CP8-TB THREAD SEALANT ON ALL THREADS FOR ADDITIONAL WEATHERPROOF SEALING.
 - TWO (2) CONDUITS SHALL BE UTILIZED FOR EXTENSION OF DC WIRING FROM CHARLES EQUIPMENT CABINET.
 - SEVEN (7) 2" RIGID GALVANIZED STEEL CONDUITS SHALL BE UTILIZED FOR EXTENSION OF DC WIRING. TO ACCOMMODATE FOR NEC CONDUCTOR DERATING REQUIREMENTS, THE QUANTITY OF #6AWG DC CONDUCTORS CONNECTING TO A 40A CIRCUIT BREAKER SHALL NOT EXCEED (18) IN A SINGLE CONDUIT AND THE QUANTITY OF #6AWG DC CONDUCTORS CONNECTING TO A 50A CIRCUIT BREAKER SHALL NOT EXCEED (8) IN A SINGLE CONDUIT.
 - ONE (1) CONDUIT SHALL BE UTILIZED FOR EXTENSION OF FIBER.
 - ONE (1) 2" RIGID GALVANIZED STEEL CONDUIT SHALL BE UTILIZED FOR EXTENSION OF FIBER AND ALARMS.
- EXTEND #2AWG GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM BASE OF THE RAYCAP BOX AND BOND TO NEAREST PLATFORM STEEL FRAMING.
- EXTEND EIGHT (8) RIGID GALVANIZED STEEL CONDUITS FROM BOTTOM OF RAYCAP TROUGH THROUGH BOTTOM OF CHARLES EQUIPMENT CABINET.
 - SEVEN (7) 2" RIGID GALVANIZED STEEL CONDUITS SHALL BE UTILIZED FOR EXTENSION OF DC WIRING. TO ACCOMMODATE FOR NEC CONDUCTOR DERATING REQUIREMENTS, THE QUANTITY OF #6AWG DC CONDUCTORS CONNECTING TO A 40A CIRCUIT BREAKER SHALL NOT EXCEED (18) IN A SINGLE CONDUIT AND THE QUANTITY OF #6AWG DC CONDUCTORS CONNECTING TO A 50A CIRCUIT BREAKER SHALL NOT EXCEED (8) IN A SINGLE CONDUIT.
 - ONE (1) 2" RIGID GALVANIZED STEEL CONDUIT SHALL BE UTILIZED FOR EXTENSION OF FIBER AND ALARMS.
- FULL STRING SHALL BE TERMINATED INSIDE RAYCAP TROUGH FOR USE BY OTHERS.
- VERIZON SUPPLIED PEEL AND STICK LABEL READING "VERIZON" TO BE INSTALLED ON RAYCAP DISTRIBUTION BOX MOUNTED ON BACKBOARD. PROVIDE AND INSTALL APPROPRIATE SIGNAGE AT FINAL RAYCAP BOX/TROUGH LOCATION. SIGNAGE SHALL CONSIST OF SHOCK HAZARD SIGNS AND VERIZON ANTENNA SECTOR IDENTIFICATION/DESIGNATION. FROM LEFT TO RIGHT BOXES SHALL BE LABELED, "ALPHA", "BETA", AND "GAMMA".
- CONTRACTOR SHALL PROVIDE AND INSTALL MEANS AND METHODS FOR SUPPORTING THE FIBER CABLES UP OFF THE BOTTOM OF THE RAYCAP TROUGH. METHODS INCLUDE PROVIDING A J-HOOK OR UTILIZING A THREADED COUPLING WITH GROUND LUG, WHICH MAY BE USED IN CONJUNCTION WITH PIM FRIENDLY TIE-WRAPPS TO CREATE FIBER CABLE SUPPORT FROM TOP OF TROUGH. METHOD UTILIZED SHALL BE APPROVED BY VERIZON REPRESENTATIVE.

DETAIL- PLATFORM MOUNTED RAYCAP BOX
NO SCALE



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REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	VZn COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

LAST REV.:

PROJECT NO: 240870

DATE: APRIL 02, 2025

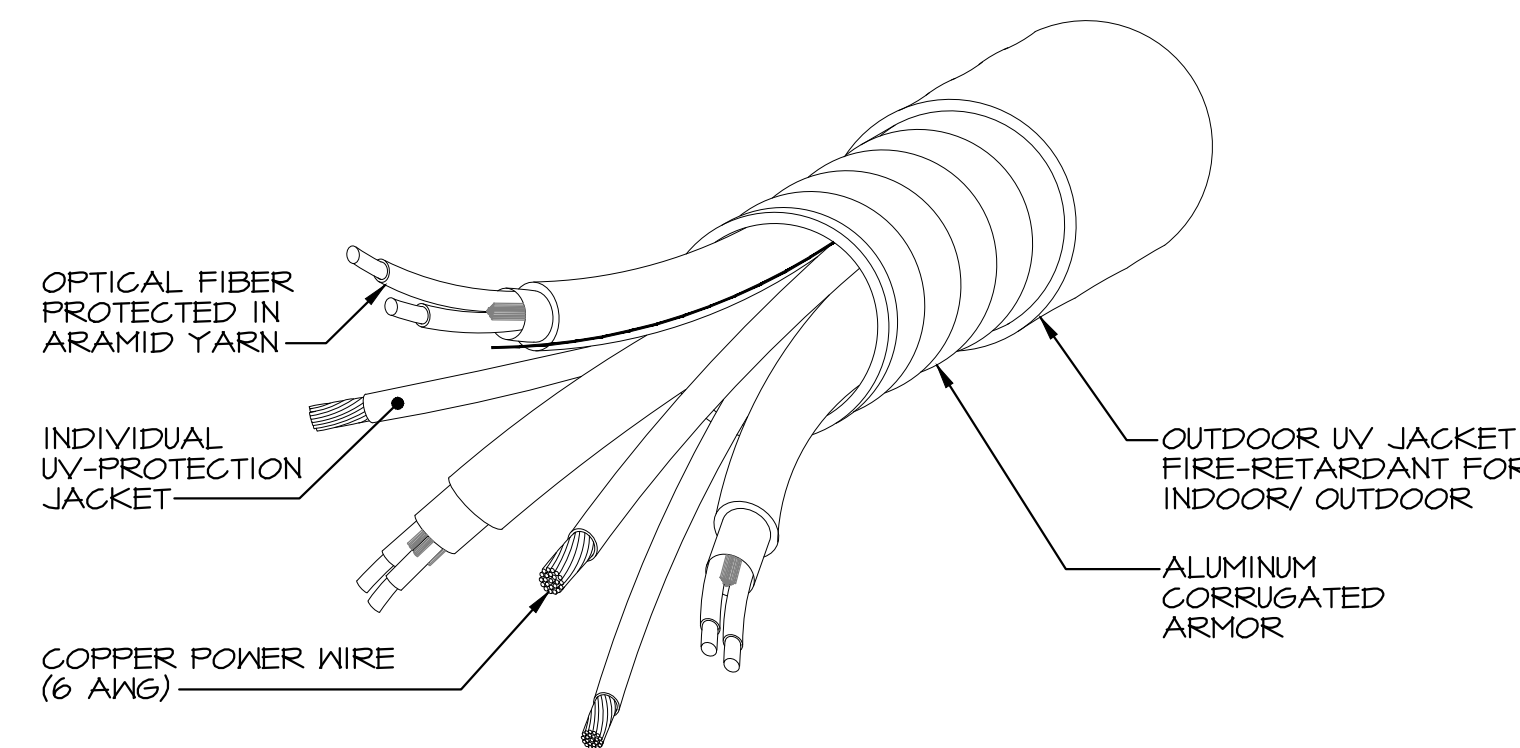
SCALE: AS NOTED

TITLE:

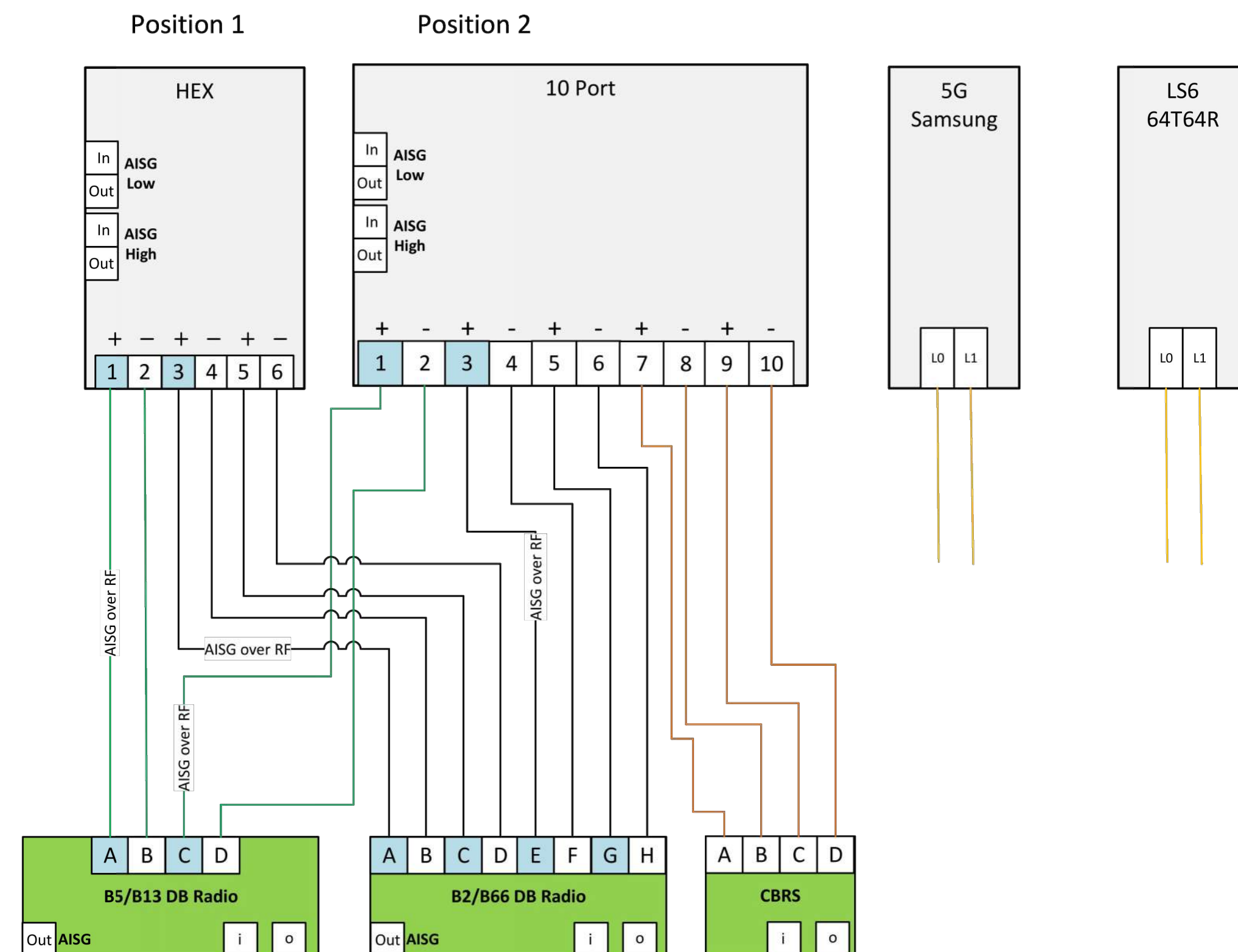
HYBRIFLEX
DETAILS AND
DIAGRAM

SHEET:

E-7
E007



JUMPER CABLE SCHEDULE	
CABLE STRUCTURE	APPLICATION
1x4	ALL REMOTE RADIO HEADS AND RADIO UNITS



Circuit Label/Name of Test	Type of Test	Launch Point	Testing Cables
5GmmW-A-0-Dmarc to RRH	Duplex Run	End of Jumper at SC connector at Demarc	150M Launch Cable-150M-15m Loop Back cable
CBRS-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBRS-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
LAA-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
HB-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
HB-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
LB-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
CBand-A-2-EQUIP to RRH NA on RT8808-77A	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMMO-A-0-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMMO-A-1-EQUIP to RRH	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMMO-A-2-EQUIP to RRH (if required)	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable
FDMMO-A-3-EQUIP to RRH (if required)	Bidi Run	End of Jumper at Equip connection	150M Launch Cable-150M Receive Cable

COLOR CODE MATRIX					
Azimuth (1) Alpha					
Cell (850 CDMA)	Red				
PCS2 (1900 LTE)	Pink	Red	Pink		
700 LTE	Lt. Green	Red	Lt. Green		
850 LTE	Purple	Red	Purple		
2100 LTE	Orange	Red	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Red	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Red	Lt. Green	Purple
5G 28GHz	Brown	Red	Brown		
5G 39GHz	Blue	Red	Blue		
LAA	Gray	Red	Gray		
CBRS	White	Red	White		
L-Sub6 (C-Band)	Red	Red	Red		


Azimuth (2) Beta					
Cell (850 CDMA)	Blue				
PCS2 (1900 LTE)	Pink	Blue	Pink		
700 LTE	lt. Green	Blue	lt. Green		
850 LTE	Purple	Blue	Purple		
2100 LTE	Orange	Blue	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Blue	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	lt. Green	Blue	lt. Green	Purple
5G 28GHz	Brown	Blue	Brown		
5G 39GHz	Blue	Blue	Blue		
LAA	Gray	Blue	Gray		
CBRS	White	Blue	White		
L-Sub6 (C-Band)	Red	Blue	Red		

Azimuth (3) Gamma					
Cell (850 CDMA)	Yellow				
PCS2 (1900 LTE)	Pink	Yellow	Pink		
700 LTE	lt. Green	Yellow	lt. Green		
850 LTE	Purple	Yellow	Purple		
2100 LTE	Orange	Yellow	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Yellow	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	lt. Green	Yellow	lt. Green	Purple
5G 28GHz	Brown	Yellow	Brown		
5G 39GHz	Blue	Yellow	Blue		
LAA	Gray	Yellow	Gray		
CBRS	White	Yellow	White		
L-Sub6 (C-Band)	Red	Yellow	Red		


Azimuth (4) Delta					
Cell (850 CDMA)	Orange				
PCS2 (1900 LTE)	Pink	Orange	Pink		
700 LTE	Lt. Green	Orange	Lt. Green		
850 LTE	Purple	Orange	Purple		
2100 LTE	Orange	Orange	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Orange	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Orange	Lt. Green	Purple
5G 28GHz	Brown	Orange	Brown		
5G 39GHz	Blue	Orange	Blue		
LAA	Gray	Orange	Gray		
CBRS	White	Orange	White		
L-Sub6 (C-Band)	Red	Orange	Red		

Azimut (5) Epsilon					
Cell (850 CDMA)	White				
PCS2 (1900 LTE)	Pink	White	Pink		
700 LTE	lt. Green	White	lt. Green		
850 LTE	Purple	White	Purple		
2100 LTE	Orange	White	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	White	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	lt. Green	White	lt. Green	Purple
5G 28GHz	Brown	White	Brown		
5G 39GHz	Blue	White	Blue		
LAA	Gray	White	Gray		
CBRS	White	White	White		
L-Sub6 (C-Band)	Red	White	Red		

Azimuth (6) Zeta					
Cell (850 CDMA)	Gray				
PCS2 (1900 LTE)	Pink	Gray	Pink		
700 LTE	lt. Green	Gray	lt. Green		
850 LTE	Purple	Gray	Purple		
2100 LTE	Orange	Gray	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Gray	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	lt. Green	Gray	lt. Green	Purple
5G 28GHz	Brown	Gray	Brown		
5G 39GHz	Blue	Gray	Blue		
LAA	Gray	Gray	Gray		
CBRS	White	Gray	White		
L-Sub6 (C-Band)	Red	Gray	Red		



TELECENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21080
410-692-5816
www.tei-eng.com



06/10/2025

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

verizon
KINGMAN PARK
2600 BENNING RD
AKA: 2500 BENNING RD NE
WASHINGTON, DC 20002
(DISTRICT OF COLUMBIA)

REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/25
	PERMIT COMMENTS	06/05/25
	V2W COMMENTS	04/14/25
	PERMIT DWGS.	04/02/25

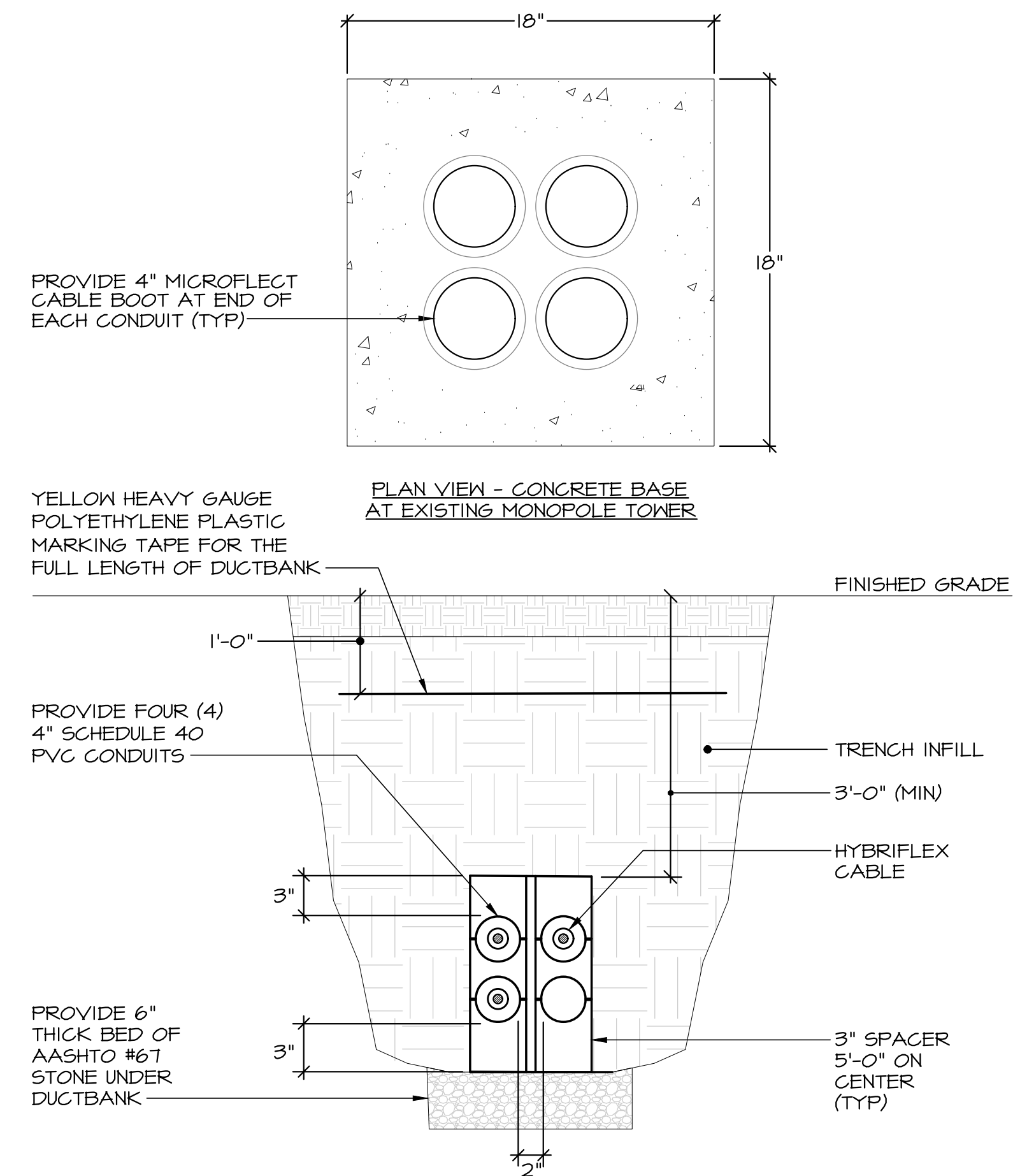
LAST REV.:	
PROJECT NO:	240870
DATE:	APRIL 02, 2025
SCALE:	AS NOTED

TITLE:
PLUMBING
DIAGRAM AND
DETAILS

SHEET:

E-8

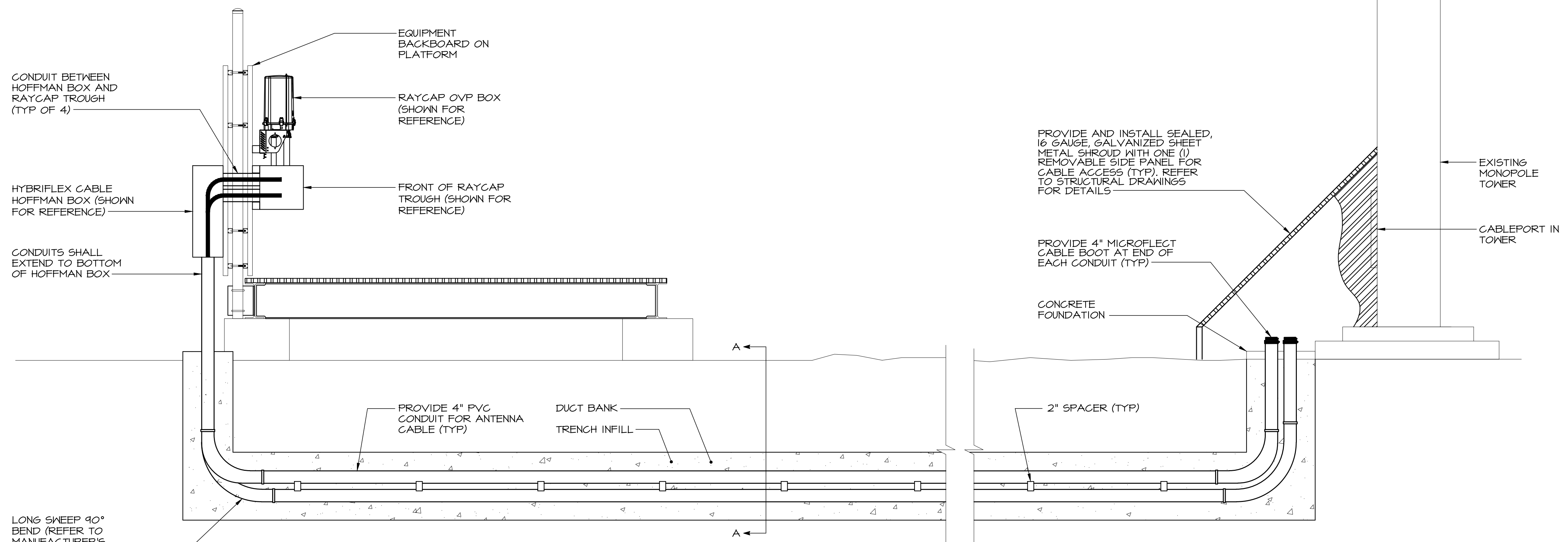
E008



SECTION A-A

DETAIL - TYPICAL ANTENNA
CONDUIT DUCTBANK SECTION

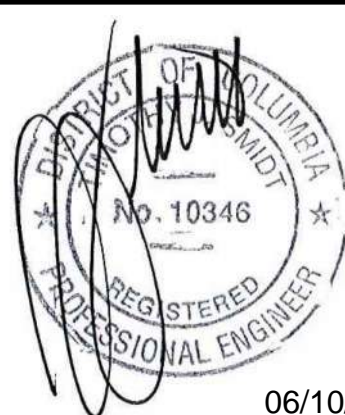
NO SCALE



DETAIL - TYPICAL HYBRIFLEX CABLE DUCTBANK
NO SCALE



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2600 BENNING RD
AKA: 2500 BENNING RD NE)
WASHINGTON, DC 20002
DISTRICT OF COLUMBIA)

REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT COMMENTS	06/10/2
	PERMIT COMMENTS	06/05/2
	VZM COMMENTS	04/14/2
	PERMIT DWGS.	04/02/2

LAST REV.:	
PROJECT NO:	240870
DATE:	APRIL 02, 2025
SCALE:	AS NOTED

TITLE:
DUCTBANK
DETAILS

SHEET:

E-9
E009