

ENGINEERING
 2015 INTERNATIONAL BUILDING CODE NEW YORK EDITION
 2014 NATIONAL ELECTRIC CODE
 TIA/EIA-222-G OR LATEST EDITION

GENERAL NOTES
 THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

PROJECT DESCRIPTION
 COLLOCATION OF EXISTING TELECOMMUNICATIONS FACILITY INCLUDING INSTALLATION OF (12) NEW ANTENNAS (4 PER SECTOR), (12) RADIO HEAD UNITS (4 PER SECTOR), ASSOCIATED SURGE SUPPRESSION AND APPURTENANCES ON PROPOSED ANTENNA PLATFORM ON EXISTING 140' MONOPOLE, AS WELL AS THE INSTALLATION OF A NATURAL GAS GENERATOR AND NEW EQUIPMENT IN NEW EQUIPMENT SHELTER WITHIN EXISTING FENCED COMPOUND.

SITE INFORMATION

PROPERTY OWNER: CORTLANDT TOWN CENTER, LLC
 3121 E. MAIN STREET
 MOHEGAN LAKE, NY 10547

SITE ADDRESS: 3105 E. MAIN STREET
 MOHEGAN LAKE, NY 10547

APPLICANT: NEW CINGULAR WIRELESS PCS, LLC (AT&T)
 ONE AT&T WAY
 BEDMINSTER, NJ 07921

TOWER OWNER: CROWN CASTLE
 TOWER OWNER SITE ID: BU# 822188

JURISDICTION: TOWN OF CORTLANDT
 LATITUDE (NAD 83): 41° 18' 28.53" N
 LONGITUDE (NAD 83): 73° 52' 15.8124" W

ZONING: CD (DESIGNED COMMERCIAL)
 SECTION: 24.10
 BLOCK: 1
 LOTS: 1 & 1.2

PROJECT CONTACTS

A/E: COM-EX ENGINEERING OF NY, PLLC
 862-209-4300

RF: DANIEL PANESSO
 BLACK & VEATCH
 PHONE: 913-458-1821

CONSTRUCTION: ROBIN NEGRON
 BLACK & VEATCH
 913-458-1808

SITE ACQUISITION: RAY HARRIS
 BLACK & VEATCH
 913-458-1847

RF DATA NOTE
 DESIGN BASED ON RF DATA SHEET, VERSION 01, DATED 03/06/18 & UPDATED ON 03/12/18. CONTRACTOR SHALL OBTAIN LATEST RF DATA SHEET AND CONFIRM SAME WITH BLACK & VEATCH RF AND CONSTRUCTION MANAGER PRIOR TO START OF CONSTRUCTION.

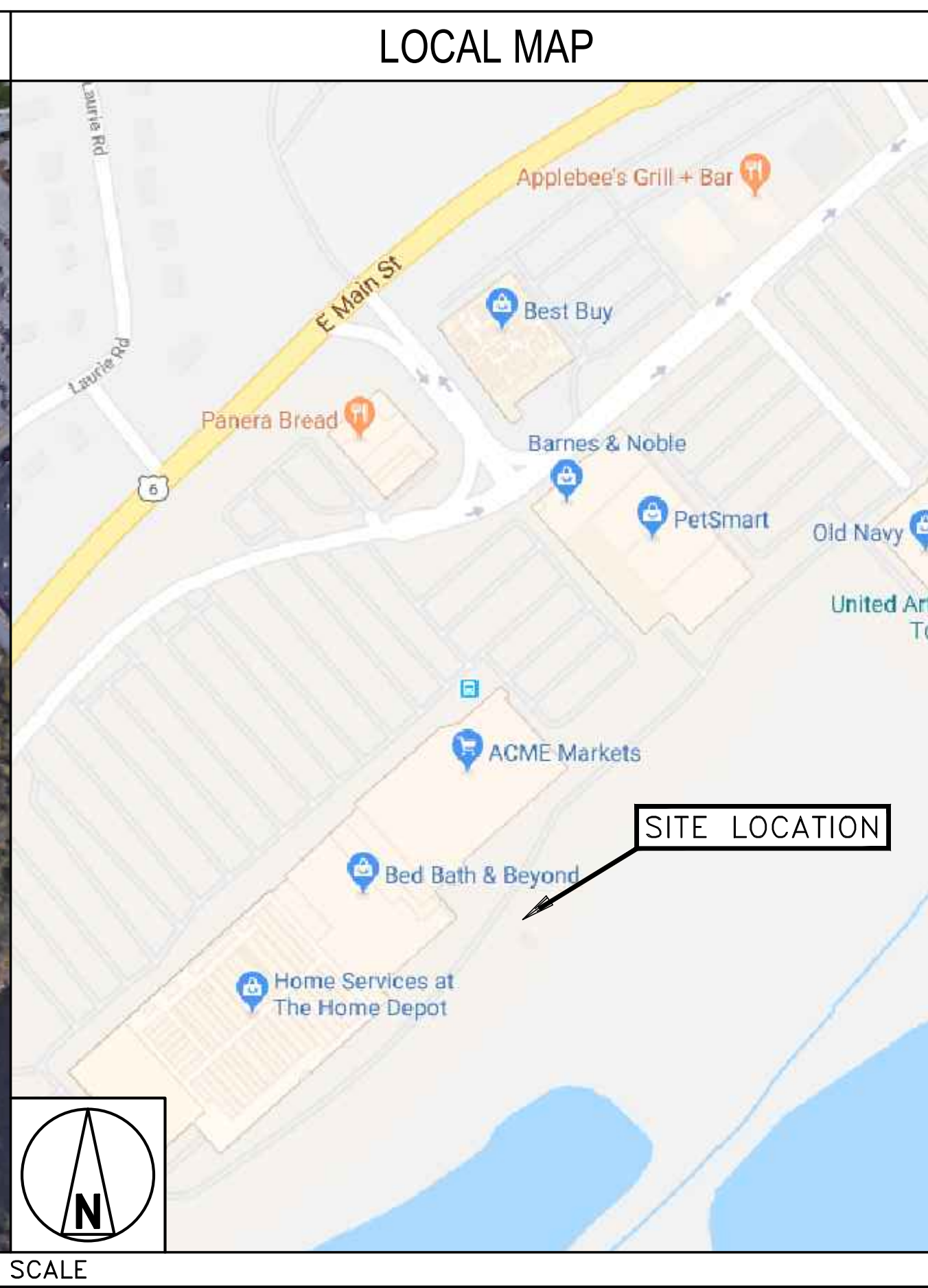
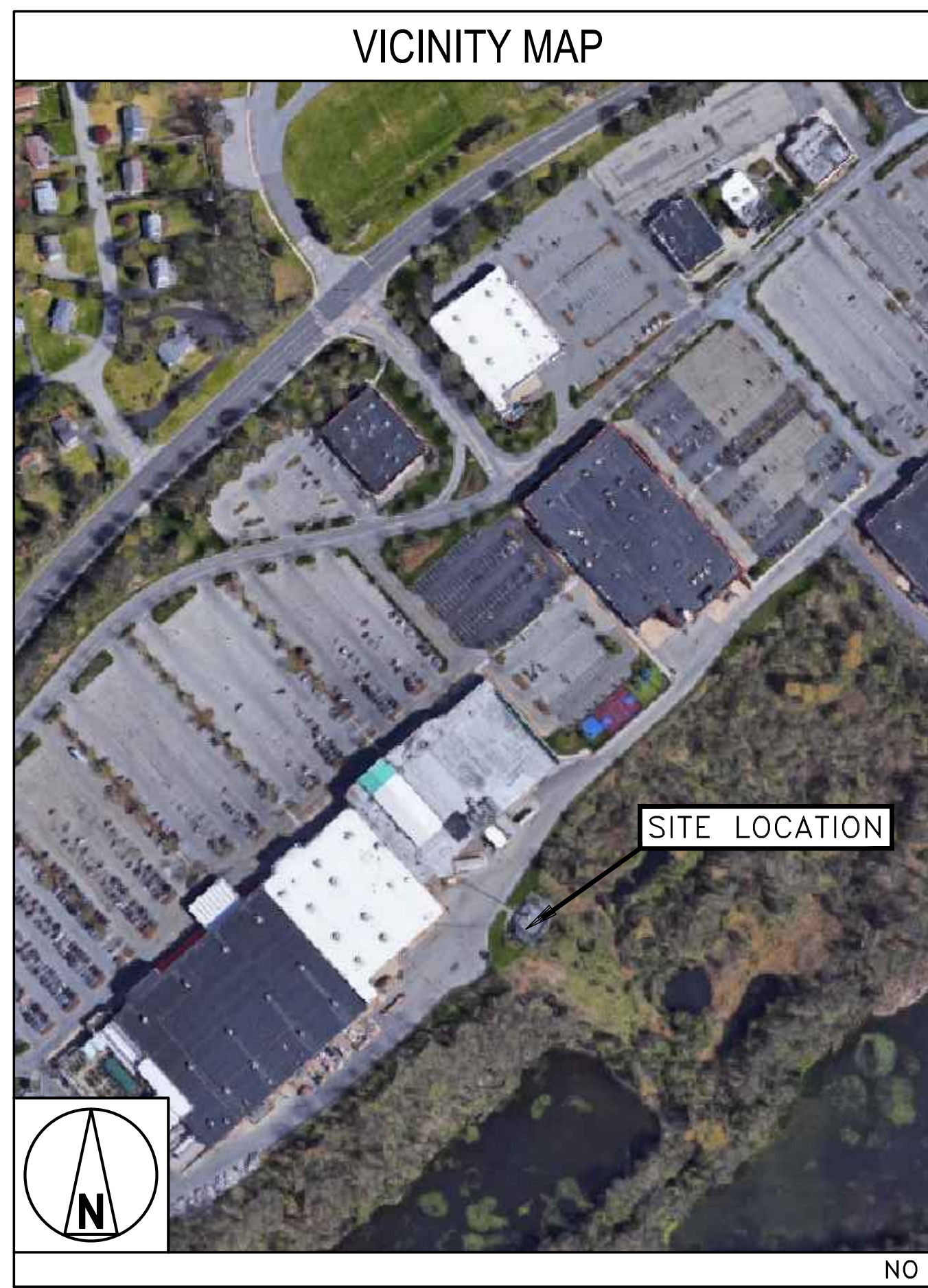
IF USING 11"x17" PLOT, DRAWINGS WILL BE HALF SCALE

CONTACT INFORMATION

ENGINEER: COM-EX ENGINEERING OF NY, PLLC
 309 BAILEY ROAD
 PURLING, NY 12470

CONTACT: NICHOLAS D. BARILE

PHONE: 862-209-4300



DRIVING DIRECTIONS
 DIRECTIONS FROM NEAREST AT&T OFFICE:
 1. HEAD SOUTH 2. SLIGHT RIGHT ONTO AT&T WAY 3. MERGE ONTO US-202 S/US-206 S. 4. TURN LEFT ONTO SCHLEY MOUNTAIN RD. 5. USE LEFT LANE TO TAKE I-287 N. 6. USE THE RIGHT LANE TO CONTINUE ON I-87 S. 7. TAKE EXIT 8A FOR NY-119/SAW MILL PKWY N TOWARD ELMSFORD. 8. KEEP LEFT, FOLLOW SIGNS FOR KATONAH, SAW MILL PKWY N/SAW MILL RIVER PKWY N. 9. USE THE RIGHT 2 LANES TO TAKE RAMP TO TACONIC PKWY/ALBANY. 10. TAKE THE BEAR MTN PKWY EXIT TOWARD US-202/NY-35/PEESKIL. 11. CONTINUE ONTO BEAR MOUNTAIN STATE PKWY. 12. TURN RIGHT ONTO US-202 W. 13. TURN RIGHT ONTO BEAR MOUNTAIN ST PKWY. 14. TURN RIGHT ONTO LOCUST AVE. 15. TURN RIGHT ONTO US-6 E. 16. TURN RIGHT ONTO CANAL, FOLLOW TO SITE.



NSB
NATIONAL SITE-ID #: N-622
FA#: 10594698
CASPR#: 2191642168
PACE ID#: MRNYC006056

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR SITE MODIFICATIONS.

AT&T COMPLIANCE: _____ DATE: _____

AT&T RF ENGINEER: _____ DATE: _____

B&V CONSTRUCTION: _____ DATE: _____

B&V SITE ACQ: _____ DATE: _____

DRAWING INDEX

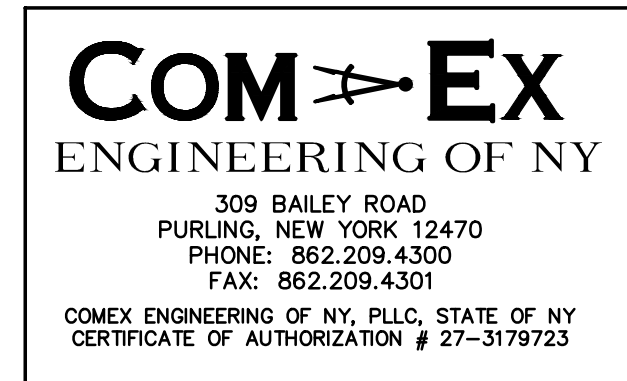
| SHEET NO: | SHEET TITLE |
|-----------|---------------------------------|
| T-1 | TITLE SHEET |
| SP-1 | PARTIAL SITE MAP |
| C-1 | COMPOUND MAP & GENERAL NOTES |
| C-2 | FINAL ELEVATION |
| C-3 | ANTENNA LAYOUTS |
| C-4 | EQUIPMENT DETAILS |
| C-5 | EQUIPMENT DETAILS |
| S-1 | SHELTER DETAILS |
| S-2 | SHELTER FOUNDATION DETAILS |
| RF-1 | LTE CONFIGURATION |
| E-1 | ELECTRICAL NOTES & DETAILS |
| E-2 | ELECTRICAL DC ONE-LINE DIAGRAMS |
| G-1 | GROUNDING DETAILS |
| G-1.1 | GROUNDING DETAILS |
| G-1.2 | EQUIPMENT GROUNDING PLAN |
| GN-1 | GENERAL CONSTRUCTION NOTES |

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

UNDERGROUND SERVICE ALERT
DIG SAFELY NY
 811 or (800) 962-7962
 WWW.DIGSAFELYNEWYORK.COM

3 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION



SCHEDULE OF REVISIONS

| REV. NO. | DATE | DESCRIPTION OF CHANGES |
|----------|----------|------------------------|
| 7 | | |
| 6 | | |
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | | |
| 1 | | |
| 0 | 09/17/18 | ISSUED FOR PERMIT |

DRAWN BY: JW
CHECKED BY: NDB
SCALE: AS NOTED
JOB NO: 18024-BLV

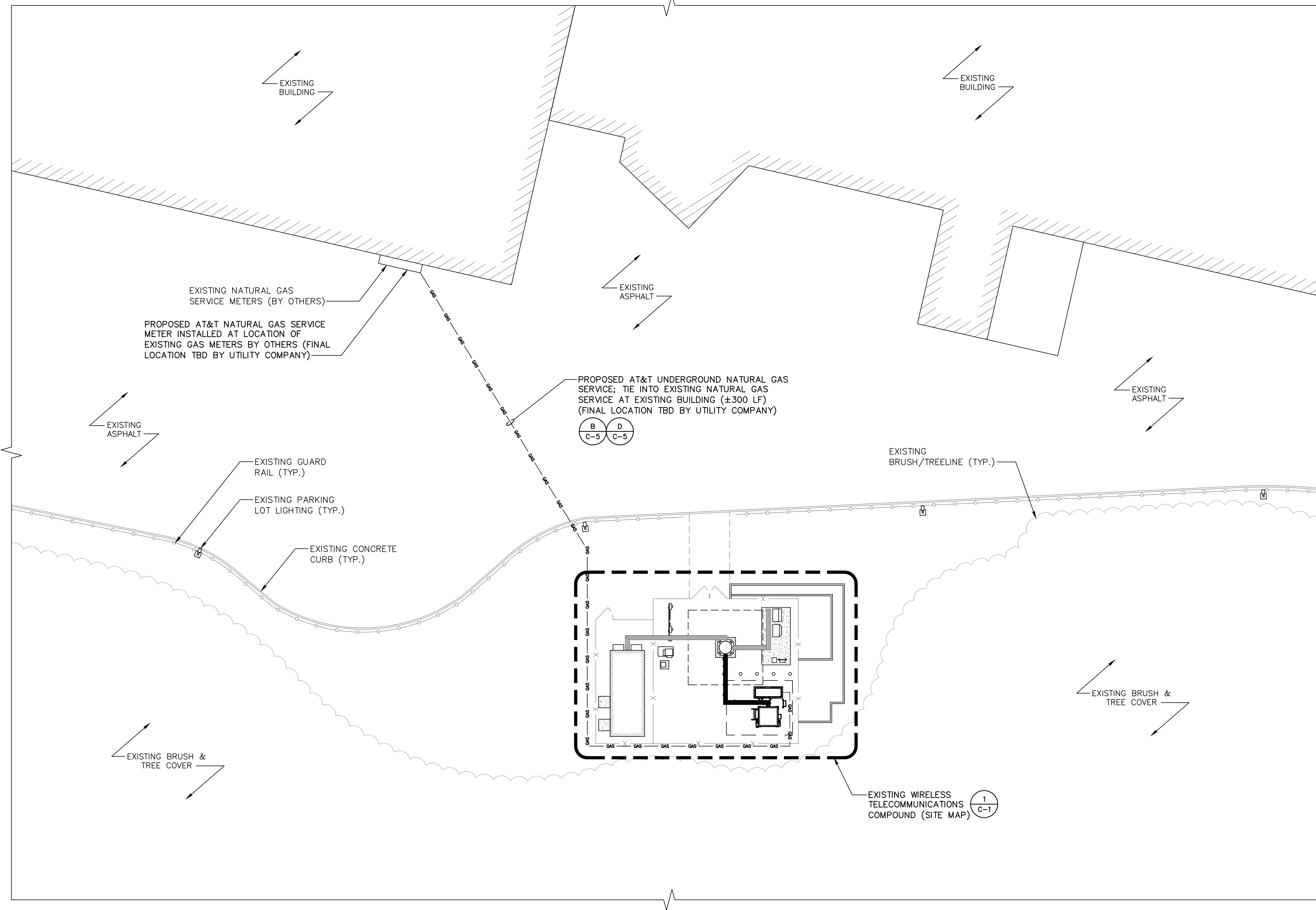
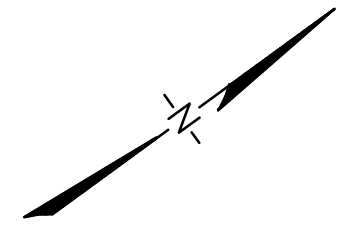
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Nicholas D. Barile
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 PROFESSIONAL ENGINEER, N.Y. LIC. No. 90133
 COMEX ENGINEERING OF NY
 STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

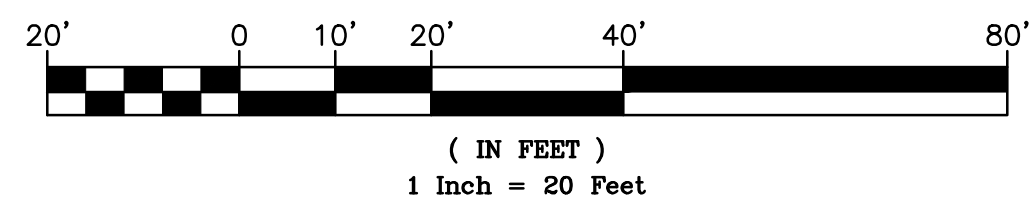
CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:
TITLE SHEET

DRAWING SHEET:
T-1



1 PARTIAL SITE MAP
 SP-1 SCALE: 1"=20'-0" (22"x34" SHEET)
 SCALE: 1"=40'-0" (11"x17" SHEET)



 **at&t**
 NEW CINGULAR WIRELESS PCS, LLC
 ONE AT&T WAY
 BEDMINSTER, NJ 07921


 **BLACK & VEATCH**
 10950 GRANDVIEW DRIVE
 OVERLAND PARK, KANSAS 66210
 (913) 458-2000

COM-EX
 ENGINEERING OF NY
 309 BAILEY ROAD
 PURLING, NEW YORK 12470
 PHONE: 862.209.4300
 FAX: 862.209.4301
 COMEX ENGINEERING OF NY, PLLC, STATE OF NY
 CERTIFICATE OF AUTHORIZATION # 27-3179723

| REVISIONS | |
|-----------|----------------------------|
| REV. NO. | DESCRIPTION OF CHANGES |
| 7 | |
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| 0 | 09/17/18 ISSUED FOR PERMIT |

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N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:

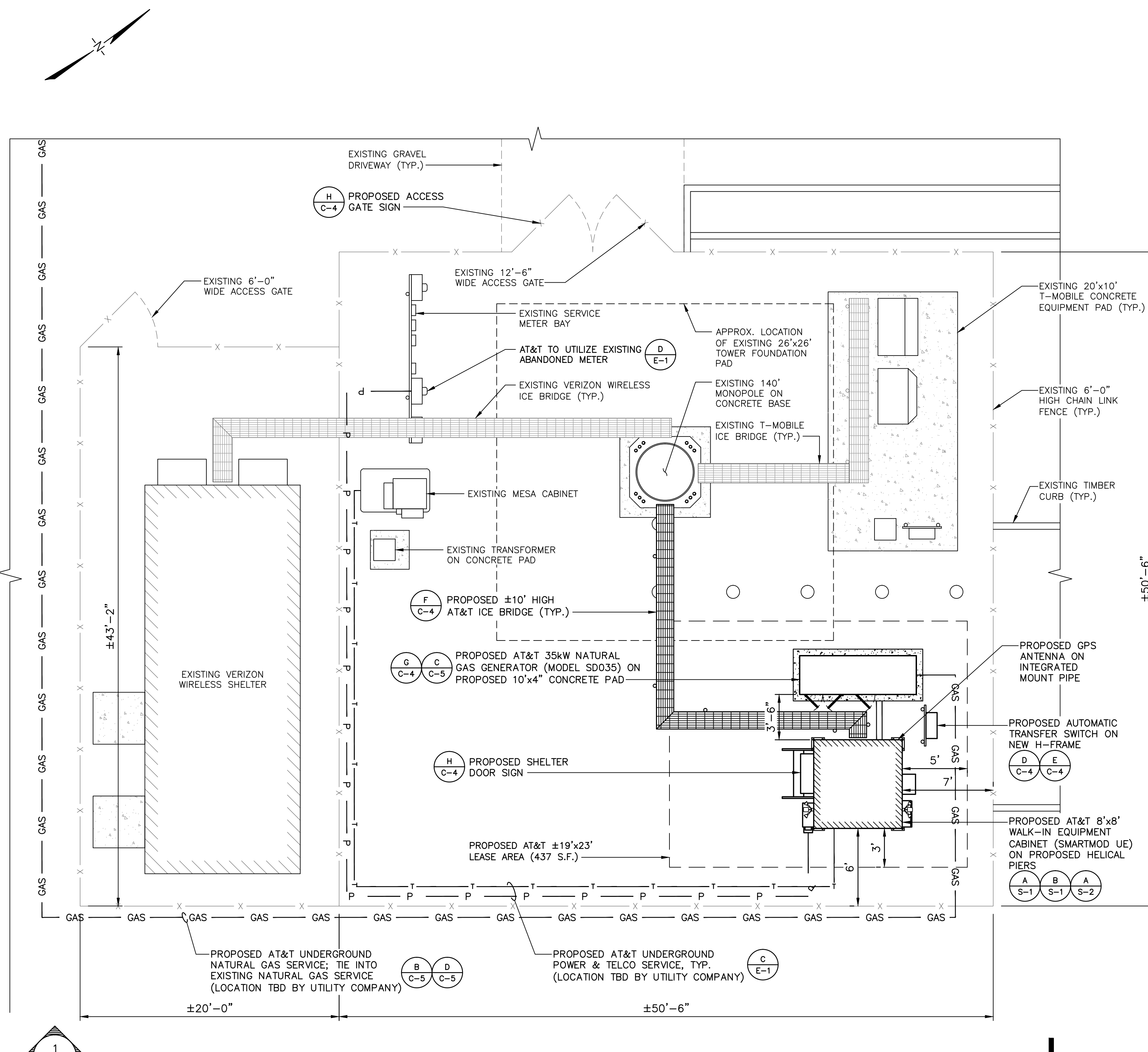
PARTIAL SITE MAP

DRAWING SHEET:

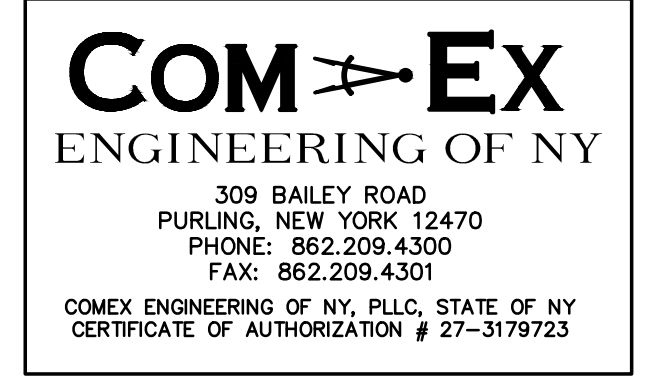
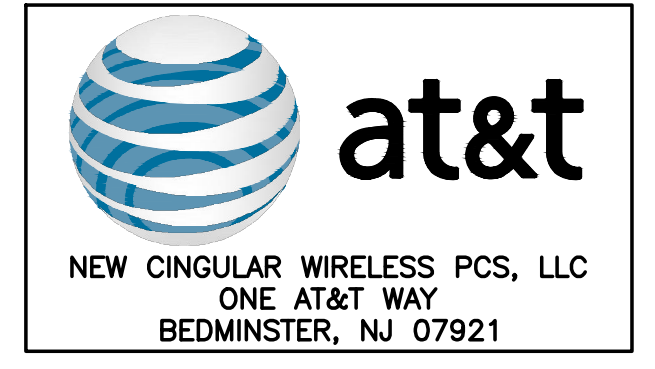
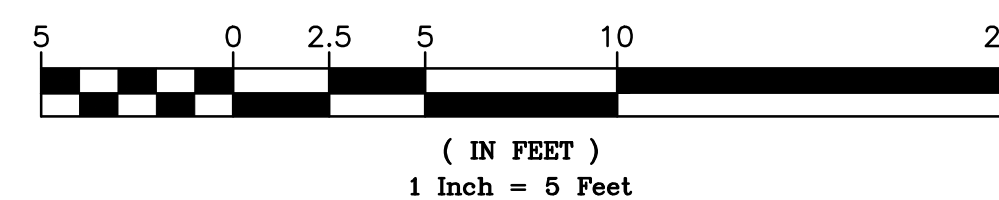
SP-1

GENERAL NOTES:

- SUBJECT PROPERTY IS KNOWN AS SECTION 24.10, BLOCK 1, LOTS 1 & 1.2 AS SHOWN ON THE OFFICIAL TOWN OF CORTLANDT TAX MAPS.
- CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY NEW CINGULAR WIRELESS, PCS, LLC (AT&T), THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
- THE PROPOSED WIRELESS IMPROVEMENTS ARE NOT INTENDED FOR PERMANENT EMPLOYEE OCCUPANCY AND THEREFORE POTABLE WATER, SANITARY SEWERS, ADDITIONAL SITE PARKING AND HANDICAP ACCESS ARE NOT REQUIRED.
- THIS FACILITY SHALL BE VISITED ON AN AVERAGE OF ONCE EVERY SIX (6) WEEKS FOR MAINTENANCE AND SHALL BE MONITORED FROM A REMOTE FACILITY.
- FINAL CONNECTION TO ELECTRICAL AND TELEPHONE TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
- THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND EACH OF THE DRAWINGS HAVE BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".
- SITE INFORMATION SHOWN OBTAINED FROM A LIMITED SITE VISIT BY COM-EX CONSULTANTS ON 03/12/18. ADDITIONAL SITE INFORMATION OBTAINED FROM "LEASE EXHIBIT, SITE # N-622", PREPARED BY COM-EX CONSULTANTS, DATED 03/21/18.
- THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
- THE PROPOSED IMPROVEMENTS WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORMWATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
- NO NOISE, VIBRATIONS, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
- THE PROPOSED DEVELOPMENT DOES NOT INCLUDE STREET SIGNS OF ANY TYPE.
- THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES OR OTHER PUBLIC AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THIS PROJECT IN ACCORDANCE WITH THE OVERALL INTENT OF THESE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
- CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
- DESIGN REQUIREMENTS PER INTERNATIONAL BUILDING CODE 2015 NJ EDITION AND THE EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
- CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" (800-272-1000) TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
- IF ANY PIPING EXISTS BENEATH THE SITE AREA, CONTRACTOR MUST LOCATE IT AND CONTACT OWNERS REPRESENTATIVE.
- THE CONSTRUCTION CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL CONSTRUCTION MEANS AND METHODS. THE CONSTRUCTION CONTRACTOR IS ALSO RESPONSIBLE FOR ALL JOB SITE SAFETY.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.
- THE CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. THE CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND RELATED PARTIES. THE SUB-CONTRACTOR SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON THE SITE AT ALL TIMES AND INSURE THE DISTRIBUTION OF NEW DRAWINGS TO SUB-CONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH 1 SET OF REDLINE "AS-BUILT" DRAWINGS TO THE CLIENT UPON COMPLETION OF THE WORK.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- ALL MATERIAL PROVIDED BY THE CLIENT IS TO BE REVIEWED BY THE CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDE MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGER'S ATTENTION IMMEDIATELY.
- THE MATERIALS INSTALLED SHALL MEET REQUIREMENTS OF CONTRACTORS DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.
- THE CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATIONS OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC..
- THE CONTRACTOR SHALL RECEIVE CLARIFICATION AND AUTHORIZATION IN WRITING TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONSTRUCTION DOCUMENTS.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAND PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.
- THE CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
- THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- BEFORE FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.
- TECHNICIAN TO PARK IN ANY AVAILABLE PARKING SPOT. NO NEW PARKING IS PROPOSED.
- NO LANDSCAPING IS PROPOSED UNDER THIS APPLICATION.



1
C-1
COMPOUND MAP
SCALE: 1"=5'-0" (22"x34" SHEET)
SCALE: 1"=10'-0" (11"x17" SHEET)



| SCHEDULE OF REVISIONS | | |
|-----------------------|----------|-------------------|
| 7 | | |
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| 4 | | |
| 3 | | |
| 2 | | |
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| 0 | 09/17/18 | ISSUED FOR PERMIT |

REV. NO. **DATE** **DESCRIPTION OF CHANGES**

DRAWN BY: JW
CHECKED BY: NDB
SCALE: AS NOTED
JOB NO: 18024-BLV

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CONSTRUCTION DRAWINGS
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BLOCK: 1, LOT: 1.2

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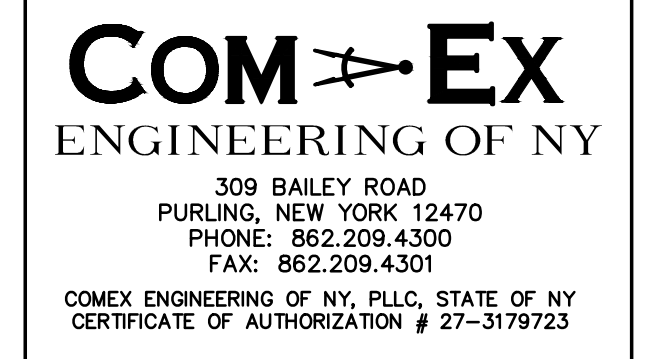
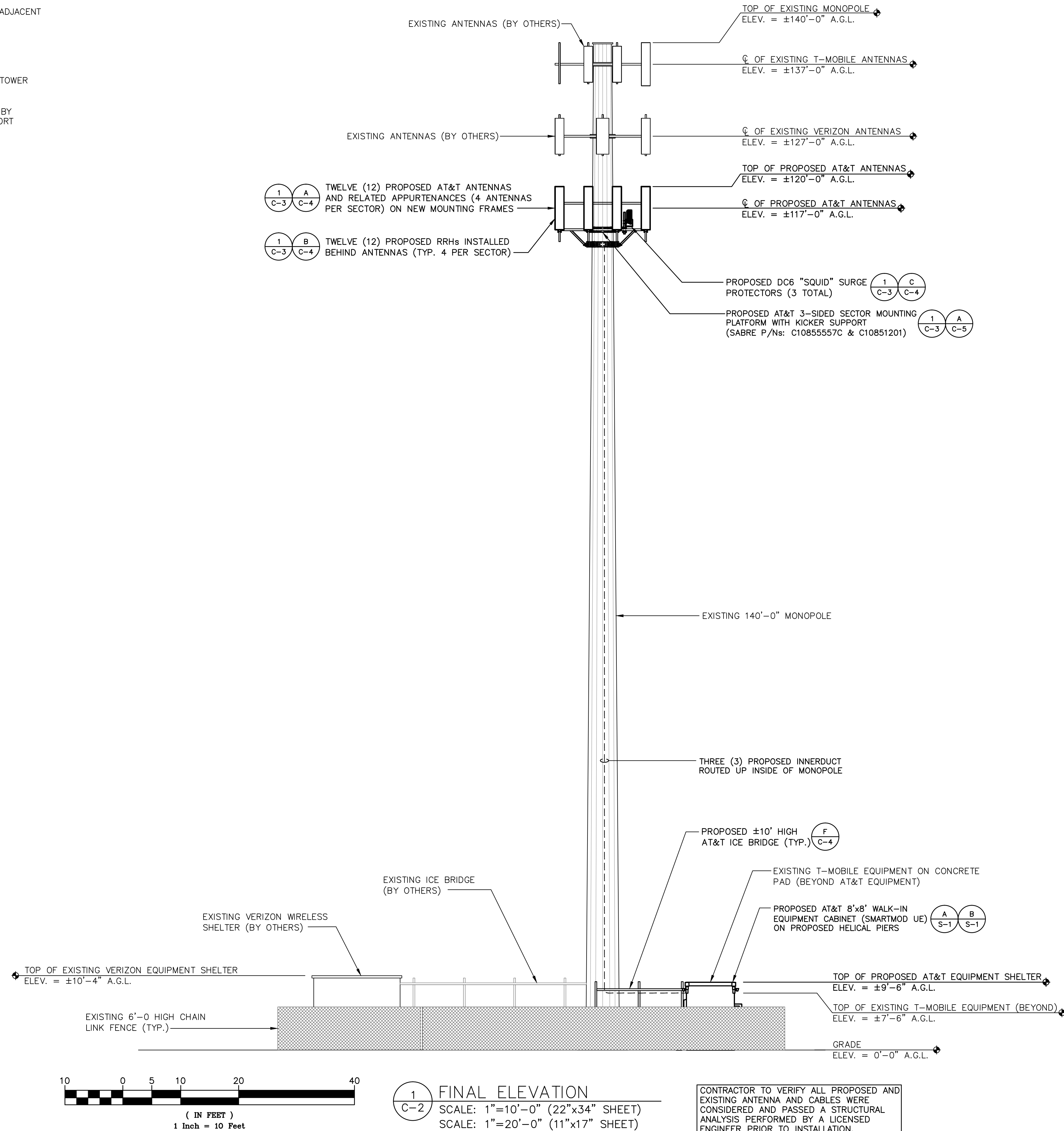
COMPOUND MAP & GENERAL NOTES

DRAWING SHEET:

C-1

ELEVATION GENERAL NOTES

1. ALL PROPOSED GROUNDING BAR DOWNLOADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR. DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION IS THE CORRECT MAKE AND MODELS, PRIOR TO INSTALLATION.
3. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.
4. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS REPORT (PREPARED BY TOWER ENGINEERING PROFESSIONALS, DATED JUNE 14, 2017, FOR AT&T SITE M0109-FORT MONMOUTH RELO.) FOR DIRECTIONS ON CABLE DISTRIBUTION, ROUTING, AND ANTENNA CONFIGURATION.
5. DISTANCE FROM RRHs TO SURGE ARRESTOR TO BE A MAXIMUM OF 16 FEET.



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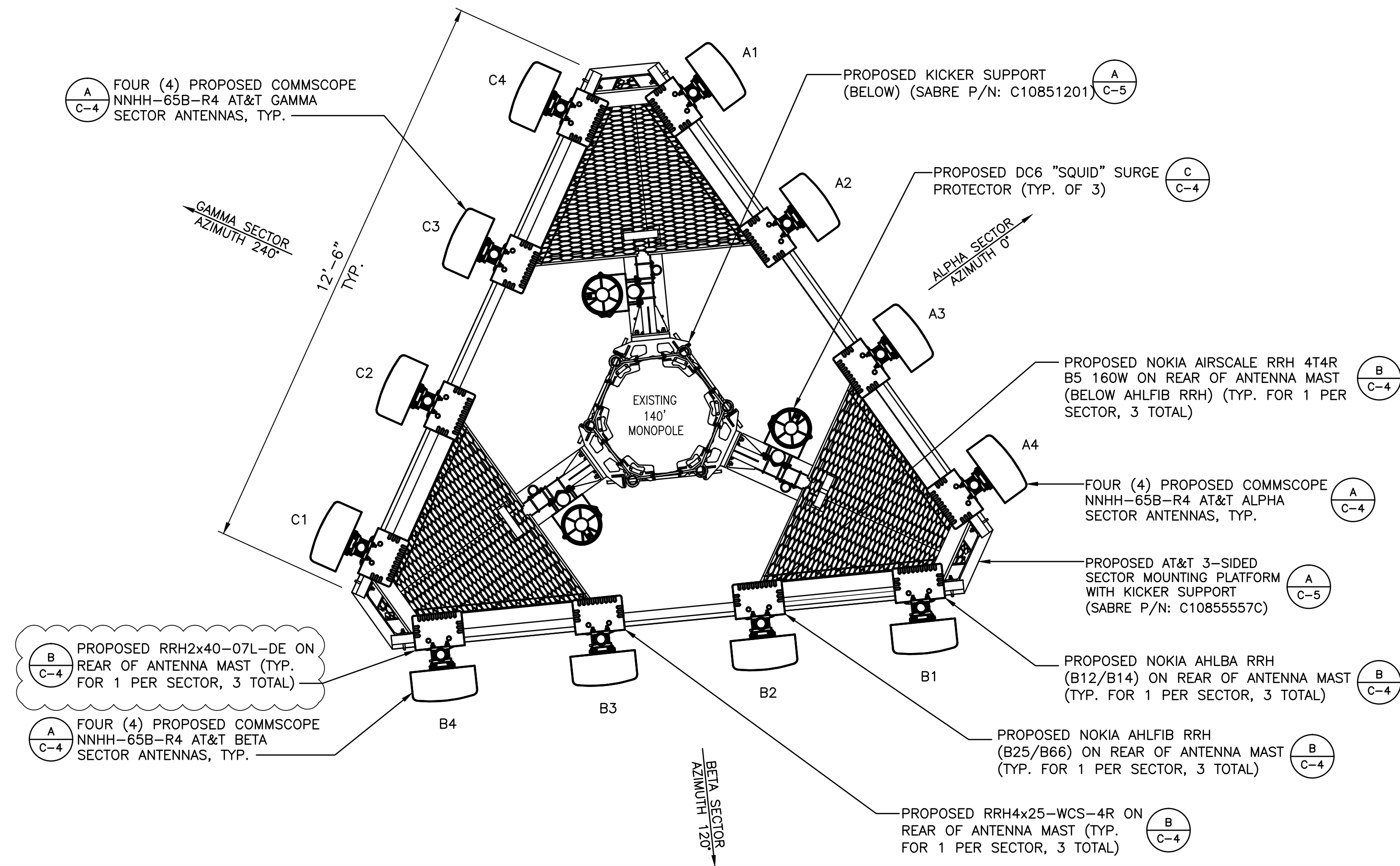
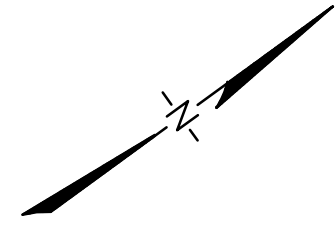
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STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:
FINAL ELEVATION

DRAWING SHEET:
C-2



1 ANTENNA ORIENTATION
 SCALE: 1"=2'-0" (22"x34" SHEET)
 SCALE: 1"=4'-0" (11"x17" SHEET)

STRUCTURAL NOTE:
 CONTRACTOR TO VERIFY ALL PROPOSED AND EXISTING ANTENNA AND CABLES WERE CONSIDERED AND PASSED A STRUCTURAL ANALYSIS PERFORMED BY A LICENSED ENGINEER PRIOR TO INSTALLATION.

PROPOSED ANTENNA AND TRANSMISSION CABLES REQUIREMENT

| SECTOR | ANTENNA TYPE | TECHNOLOGY | ANTENNA AZIMUTH | TRANSMISSION CABLE | |
|--------|--------------|------------------|-----------------|--------------------|---|
| | | | | LENGTH | TYPE |
| A1 | NNHH-65B-R4 | LTE 700/1900/AWS | 0' | ±185' | (1) 2" INNERDUCT WITH (1) FIBER TRUNK & (2) DC TRUNKS |
| A2 | NNHH-65B-R4 | LTE | 0' | ±185' | |
| A3 | NNHH-65B-R4 | LTE | 0' | ±185' | |
| A4 | NNHH-65B-R4 | LTE 700/WCS | 0' | ±185' | |
| B1 | NNHH-65B-R4 | LTE 700/1900/AWS | 120' | ±185' | (1) 2" INNERDUCT WITH (1) FIBER TRUNK & (2) DC TRUNKS |
| B2 | NNHH-65B-R4 | LTE | 120' | ±185' | |
| B3 | NNHH-65B-R4 | LTE | 120' | ±185' | |
| B4 | NNHH-65B-R4 | LTE 700/WCS | 120' | ±185' | |
| C1 | NNHH-65B-R4 | LTE 700/1900/AWS | 240' | ±185' | (1) 2" INNERDUCT WITH (1) FIBER TRUNK & (2) DC TRUNKS |
| C2 | NNHH-65B-R4 | LTE | 240' | ±185' | |
| C3 | NNHH-65B-R4 | LTE | 240' | ±185' | |
| C4 | NNHH-65B-R4 | LTE 700/WCS | 240' | ±185' | |
| GPS | TBD | TBD | N/A | 15' | ½" CABLE |

ANTENNA MOUNTING NOTES:

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
- PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.
- JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
- CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
- TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.
- ANTENNAS SHALL HAVE A 4'-0" MIN CENTER TO CENTER HORIZONTAL SEPARATION.

TORQUE REQUIREMENTS:

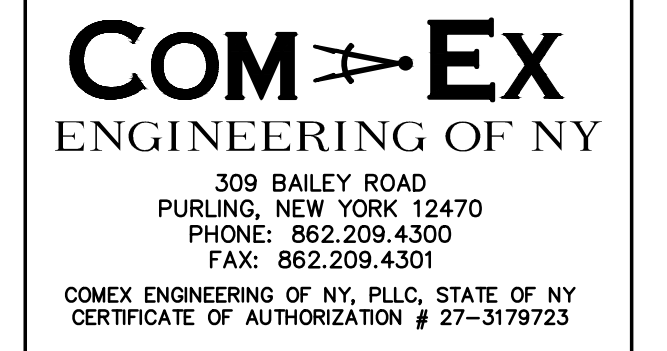
- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
 - RF CONNECTION BOTH SIDES OF THE CONNECTOR.
 - GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
- ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
- ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
- ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
- ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
- ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

FIBER & POWER CABLE MOUNTING NOTES:

- THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
- THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
- WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

GENERAL ANTENNA NOTES:

- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
- IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
 - TEMPERATURE SHALL BE ABOVE 50° F.
 - PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
 - FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
 - DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.



SCHEDULE OF REVISIONS

| REV. NO. | DATE | DESCRIPTION OF CHANGES |
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| 7 | | |
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| 5 | | |
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| 1 | | |
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 STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

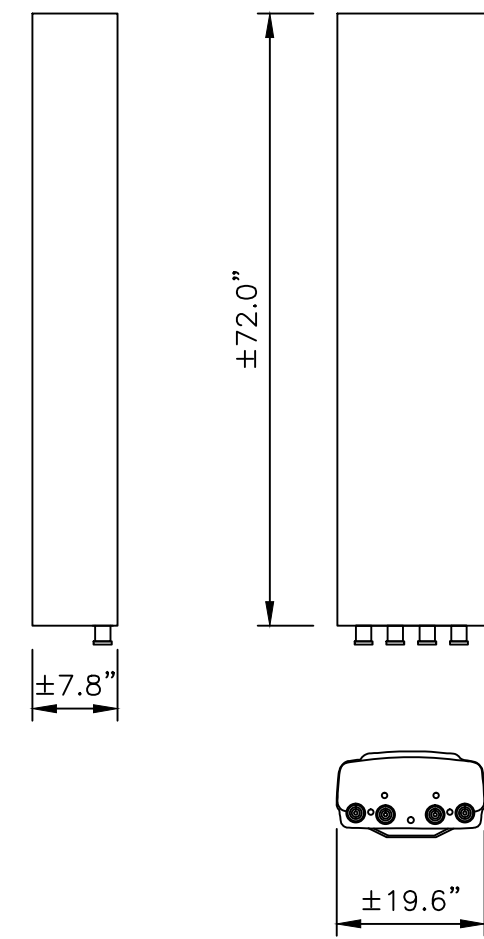
CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:
ANTENNA LAYOUT

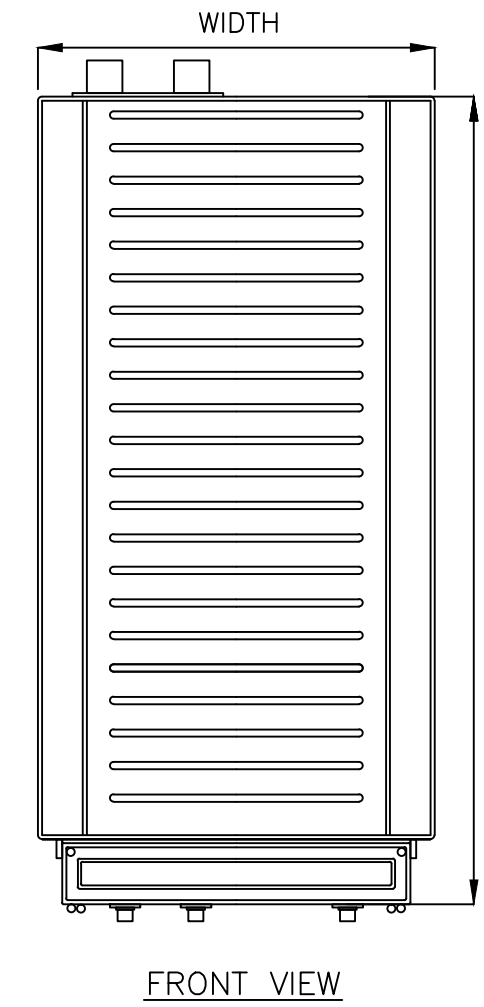
DRAWING SHEET:
C-3

COMMSCOPE PANEL ANTENNA: NNHH-65B-R4

RADOME MATERIAL: GRP
 RADOME COLOR: LIGHT GRAY
 ANTENNA WEIGHT: 66.1 LBS.



RRH (SEE TABLE FOR MODELS)

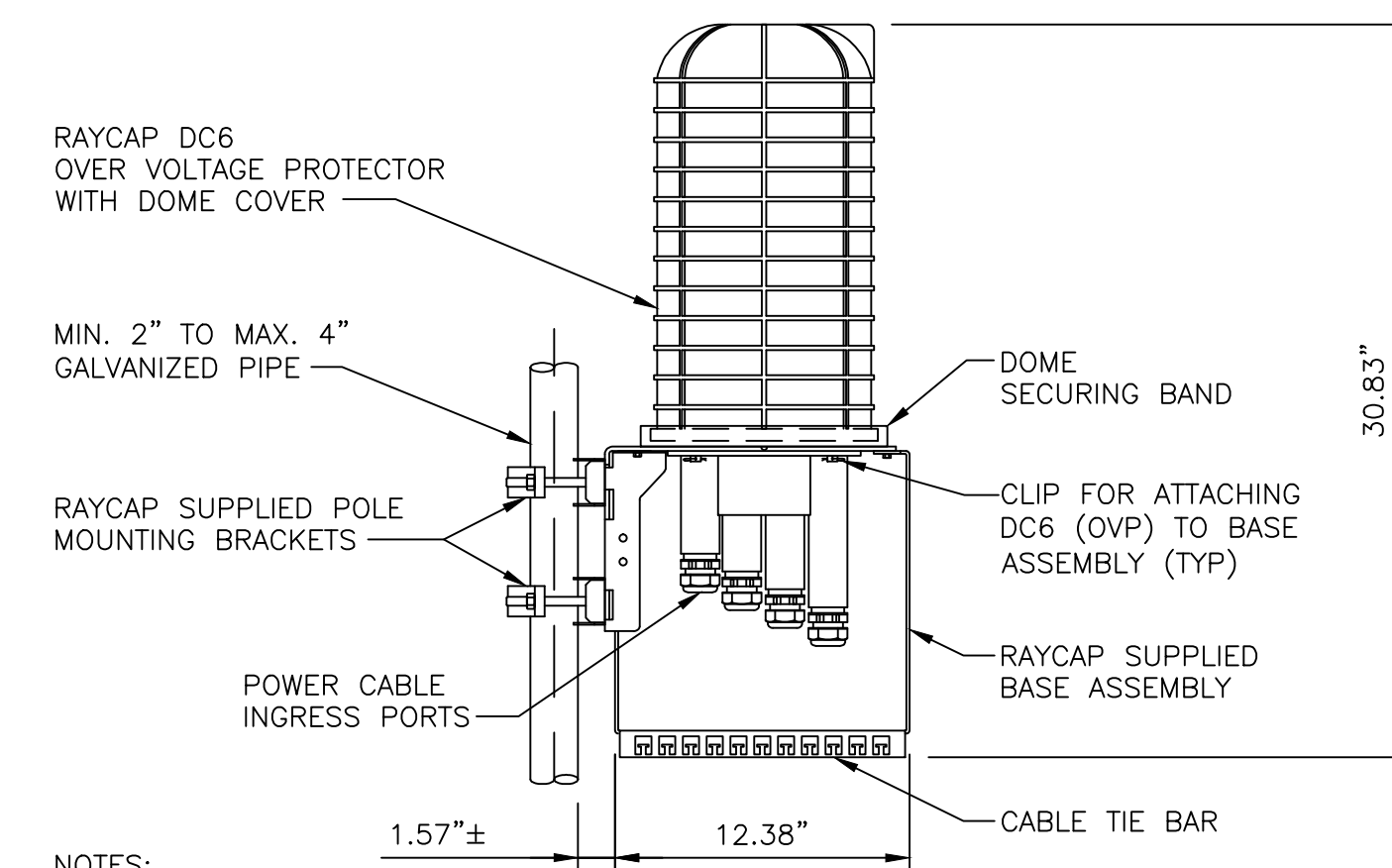


SIZE AND WEIGHT TABLE

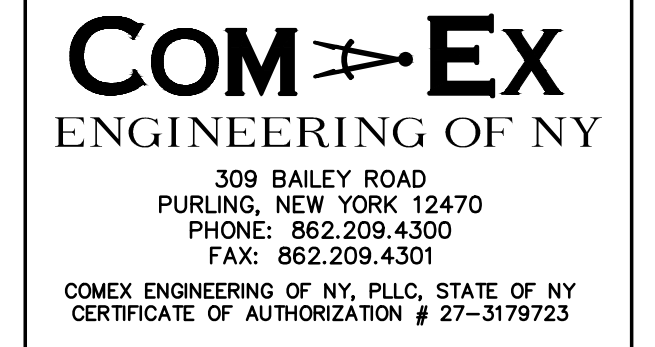
| MANUFACTURER | RRH | HEIGHT | WIDTH | DEPTH | WEIGHT |
|----------------|-------------------------------------|--------|--------|-------|-----------|
| NOKIA | AIRSCALE 4T4R B12/B14 320W (AHLBA) | 22.04" | 12.08" | 6.96" | 77.2 lbs. |
| NOKIA | AIRSCALE 4T4R B25/B66 320W (AHLFIB) | 22.04" | 12.12" | 5.86" | 66.1 lbs. |
| NOKIA | AIRSCALE 4T4R B5 160W | 13.26" | 11.61" | 6.49" | 36.8 lbs. |
| ALCATEL-LUCENT | RRH2x40-07L-DE | 25.2" | 12.2" | 6.5" | 55 lbs. |
| ALCATEL-LUCENT | RRH4x25-WCS-4R | 31.5" | 12" | 8.7" | 70 lbs. |

NOTE:
 1. DIMENSIONS INCLUDE MOUNTING BRACKET, SOLAR SHIELD AND CONNECTORS
 2. LEGEND
 (*) WITHOUT CABLE MANAGEMENT COVER
 (**) WITHOUT BRACKET
 (***) WITHOUT BRACKET AND SOLAR SHIELD

RAYCAP SURGE SUPPRESSOR



NOTES:
 1. RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.



TYPICAL ANTENNA SPECIFICATIONS

NO SCALE

A

TYPICAL RRH SPECIFICATIONS

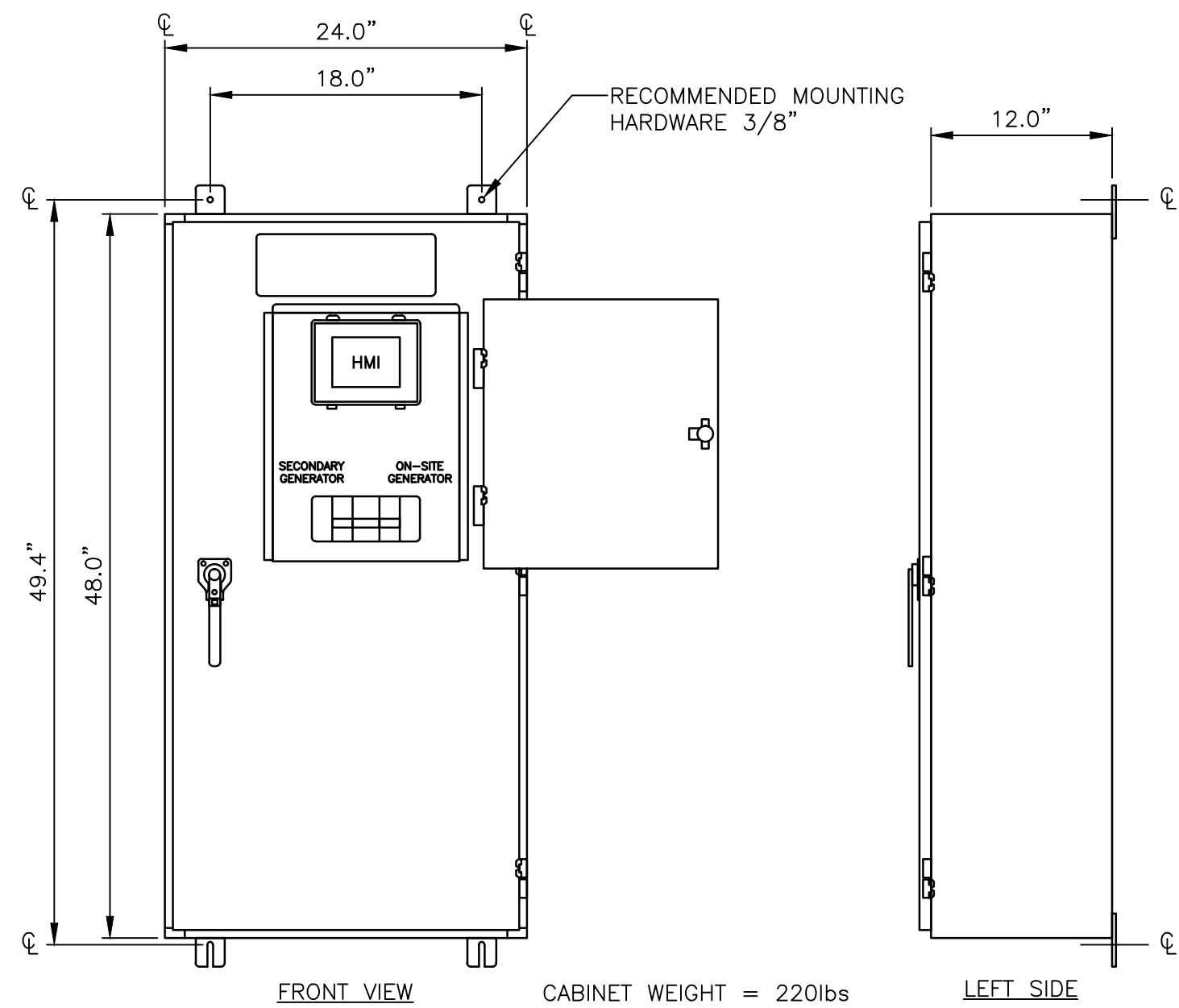
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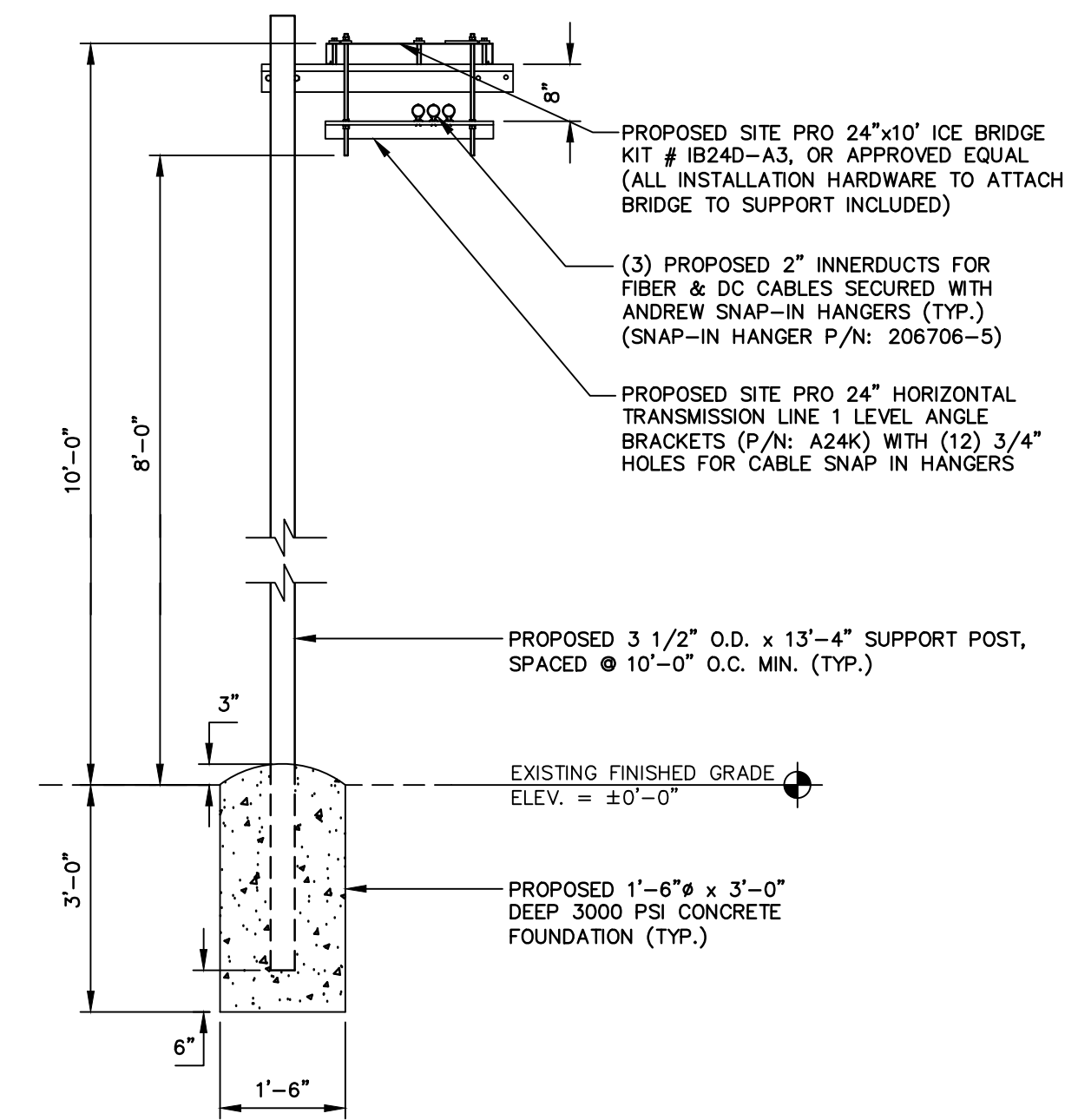
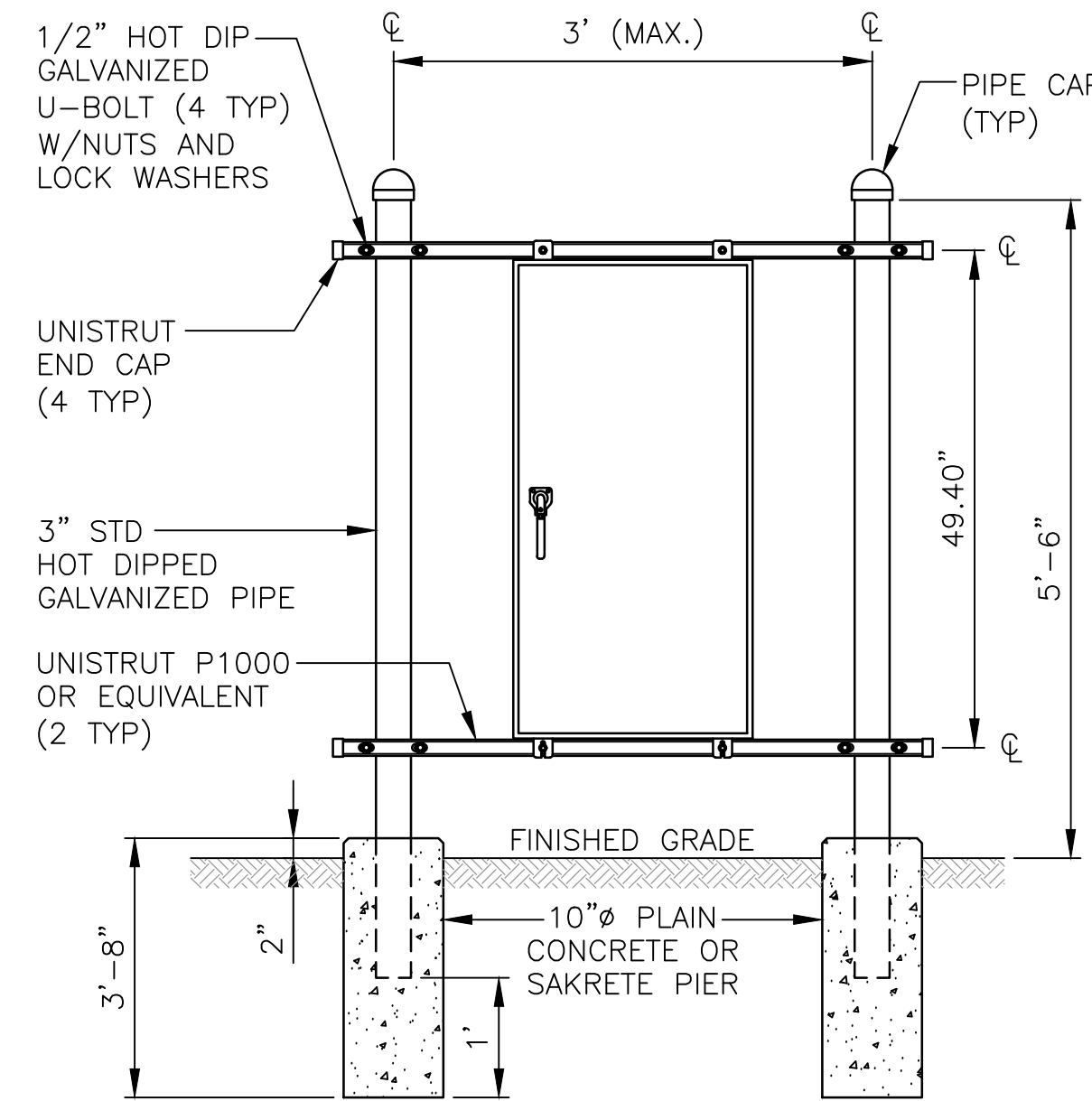
TYPICAL SURGE SUPPRESSION DETAIL

NO SCALE

C



NOTE:
 A MOBILE GENERATOR INTERFACE CONNECTION PANEL MAY BE FIELD INSTALLED ON EITHER THE LEFT OR RIGHT SIDE. MANUFACTURER INSTRUCTIONS SHALL BE FOLLOWED.



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 STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

AUTOMATIC TRANSFER SWITCH (GENERAC TAS 200A)

NO SCALE

D

AUTOMATIC TRANSFER SWITCH MOUNTING

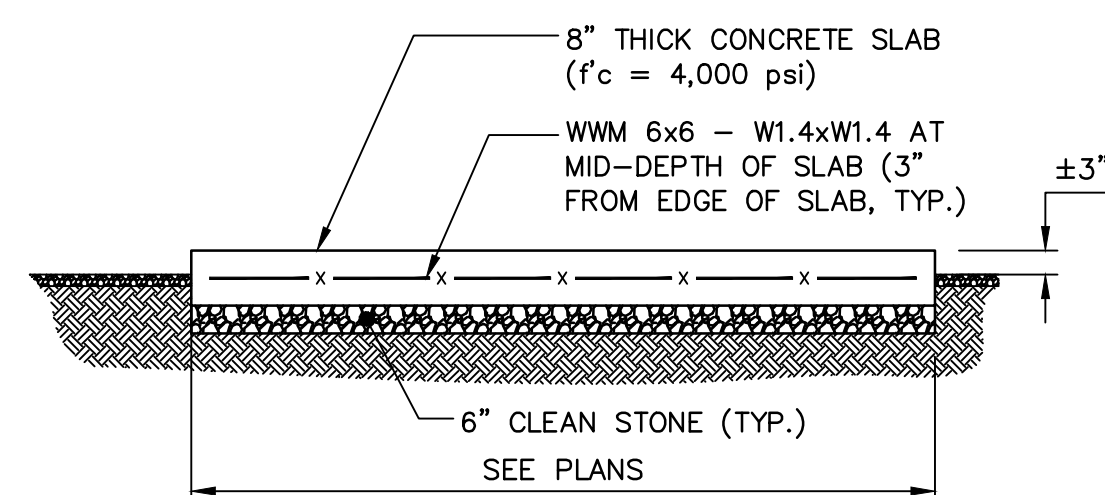
NO SCALE

E

TYPICAL CABLE BRIDGE DETAIL

NO SCALE

F



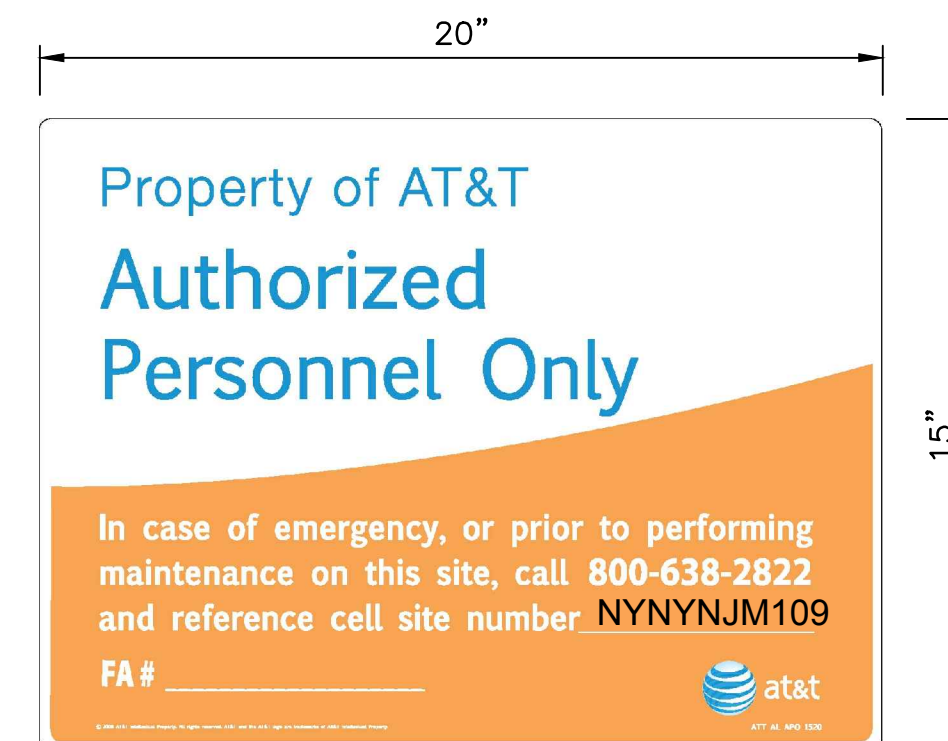
TYPICAL CONCRETE PAD DETAIL

NO SCALE

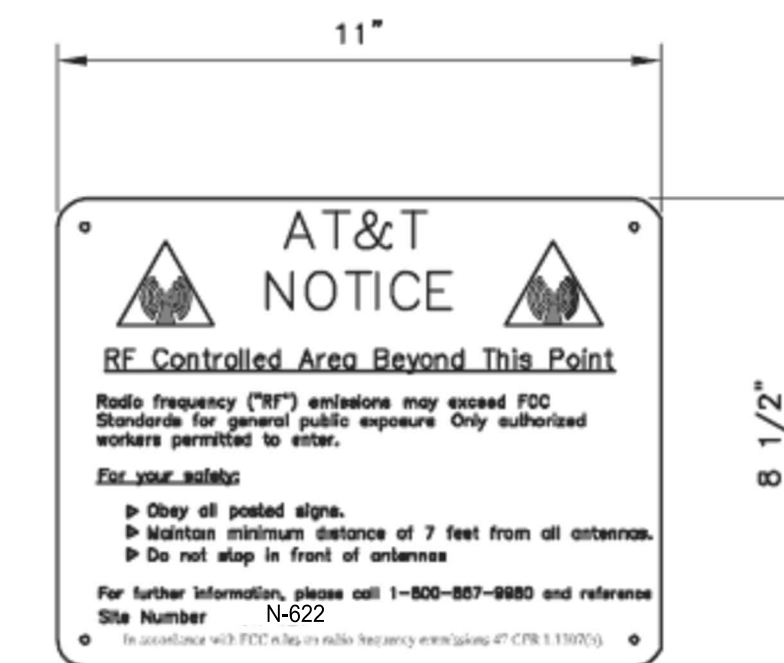
G



ACCESS GATE SIGN



SHELTER DOOR SIGN



(WHITE METAL SIGN W/BLACK LETTERING)

RF WARNING SIGN

TYPICAL CONCRETE PAD DETAIL

NO SCALE

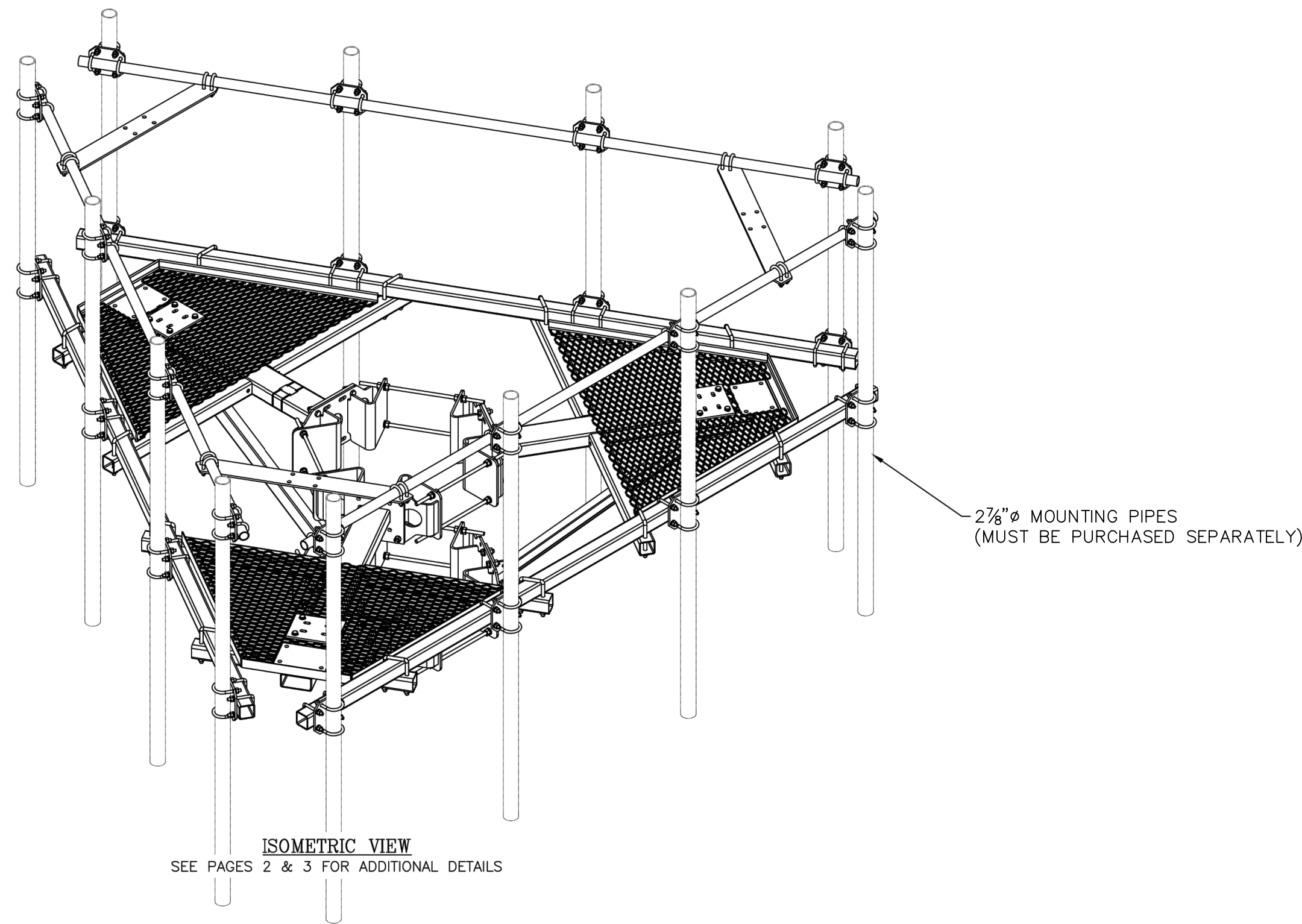
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CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

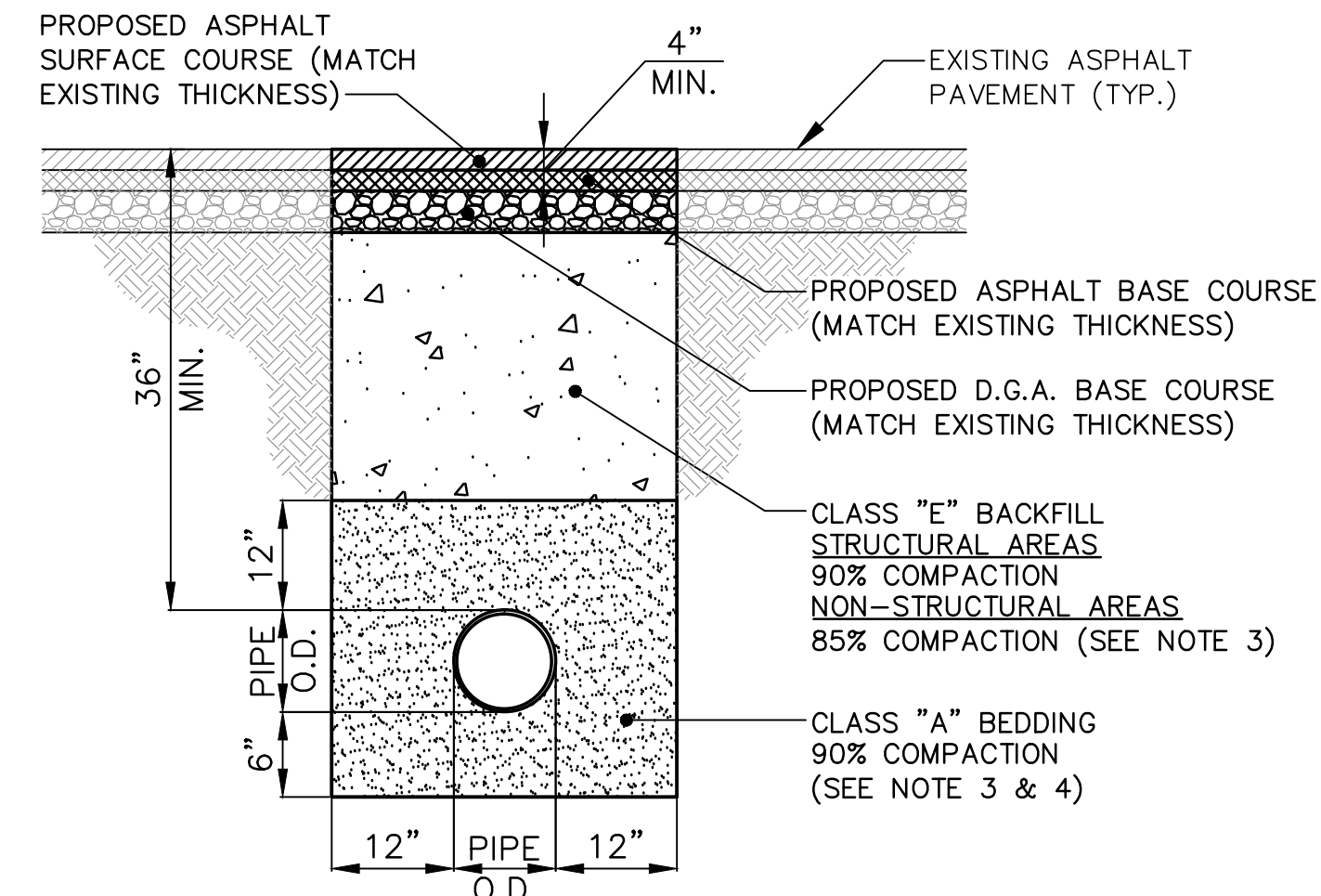
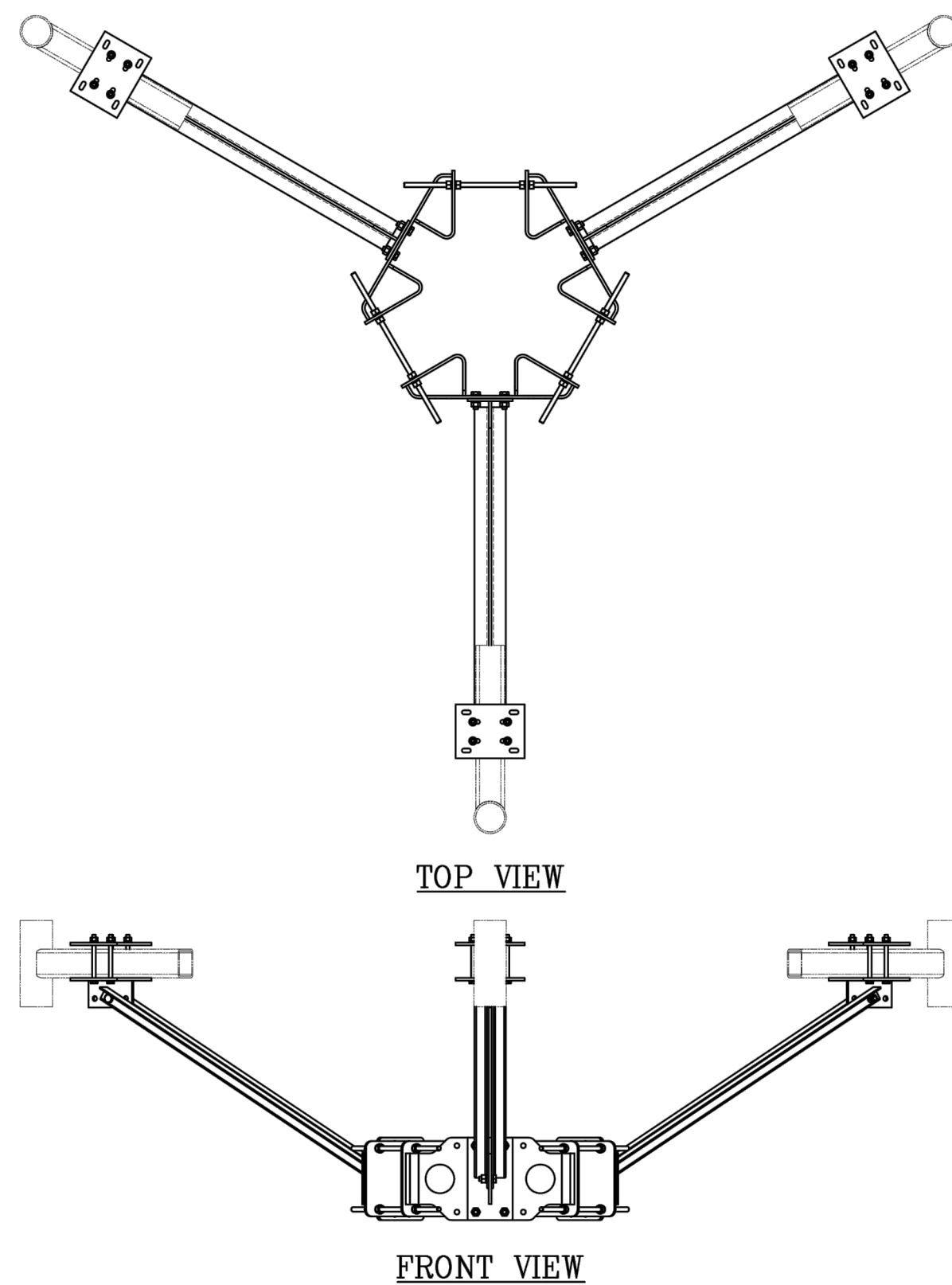
DRAWING TITLE:
EQUIPMENT DETAILS

DRAWING SHEET:
C-4

SABRE ANTENNA PLATFORM (C1085557C)



SABRE KICKER SUPPORT (C10851201)



- NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC) LATEST ADDITION.
 2. ALL TRENCHING ACTIVITIES SHALL CONFORM TO O.S.H.A. REGULATIONS.
 3. ALL TRENCHING ACTIVITIES SHALL CONFORM TO O.S.H.A. REGULATIONS AS DETERMINED BY ASTM D1557 AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
 4. IN HIGH GROUND WATER CLASS "C" BEDDING TO HIGH GROUNDWATER MARK TOPPED FILTER FABRIC (OR APPROVED EQUAL) MAY BE USED IN LIEU OF CLASS "A", WITH THE APPROVAL OF THE ENGINEER.

TYPICAL ANTENNA PLATFORM & KICKER SUPPORT

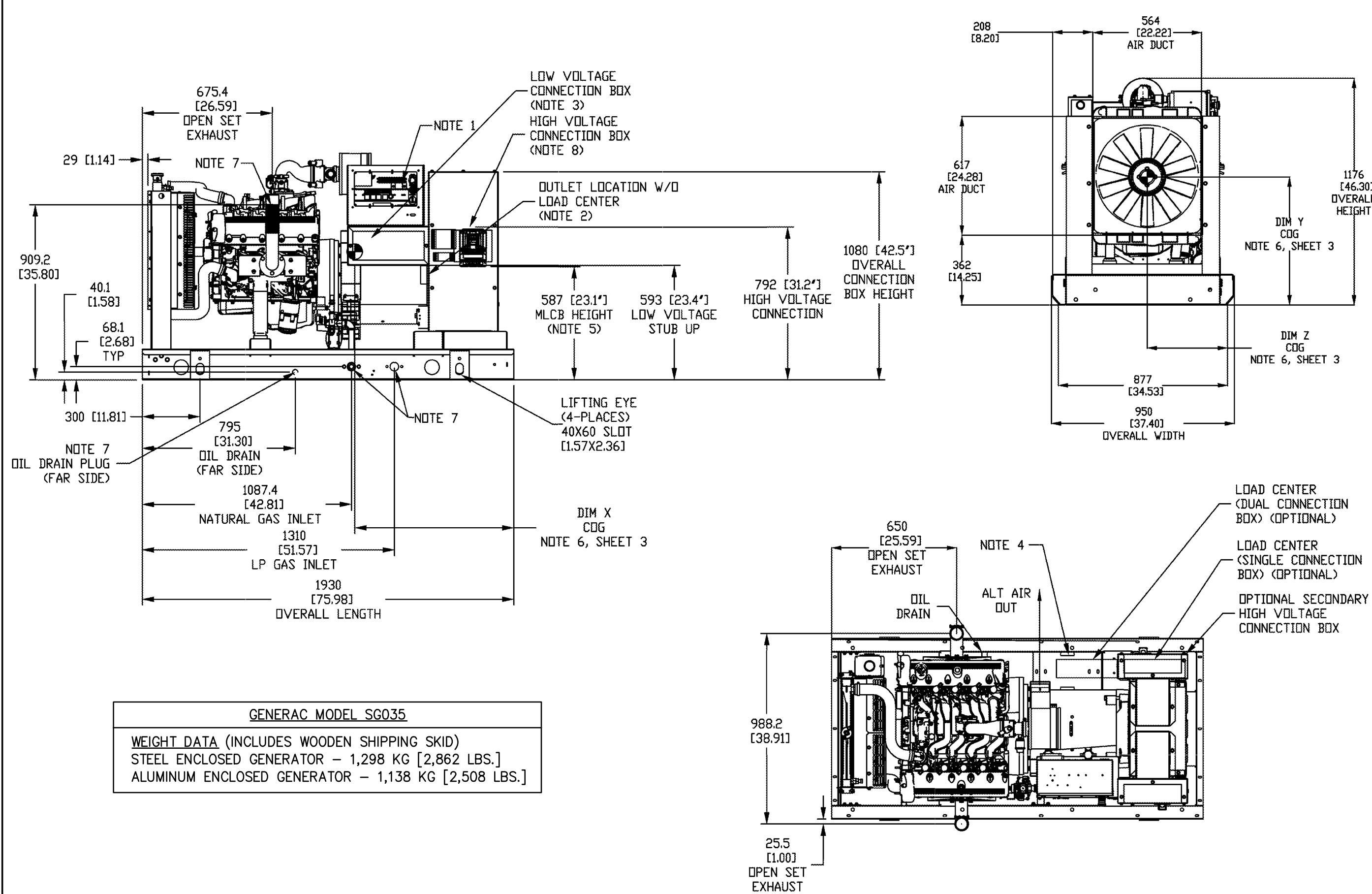
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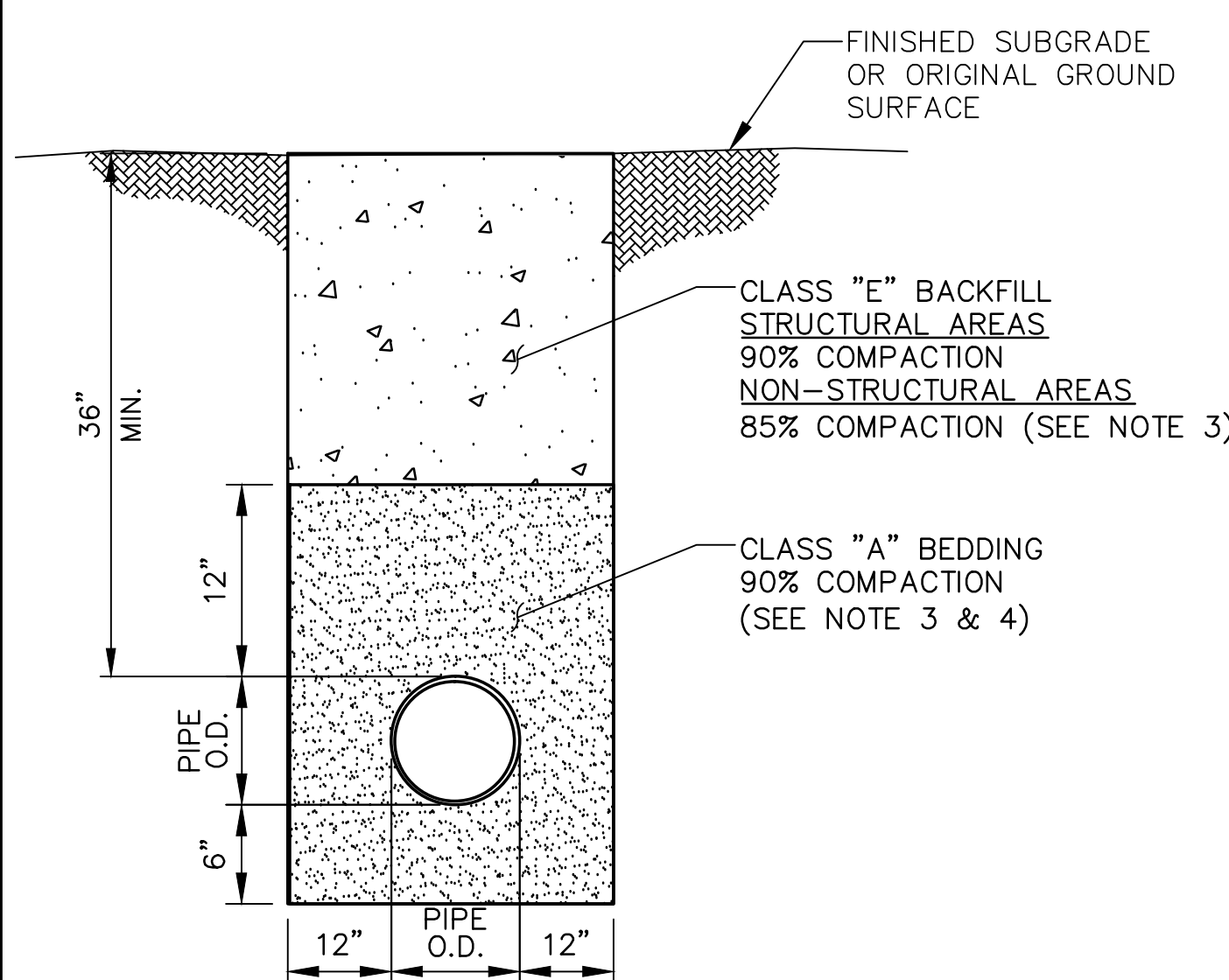
TYPICAL GAS TRENCH (BELOW PAVEMENT)

NO SCALE

B



- Notes:
1. CONTROL PANEL (OPTIONAL BATTERY CHARGER INSIDE).
 2. 120V, 20A GFCI & 250V, 15A OUTLET (OPTIONAL).
 3. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (USE LOW VOLTAGE STUB-UP AREA).
 4. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
 5. MAIN LINE CIRCUIT BREAKER (MLCB), AC LOAD LEADS. (DIMENSIONS MAY VARY DUE TO UNIT CONFIGURATION)
 6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 7. ENGINE SERVICE CONNECTIONS:
 INLET NATURAL GAS = 1-1/4" NPT FEMALE COUPLING
 INLET DIESEL = N/A
 RETURN DIESEL = N/A
 OIL DRAIN = 1/2" NPT COUPLING
 RADIATOR DRAIN = N/A
 FLEX PIPE OUTLET = 2.5" I.D.
 EXHAUST OUTLET = N/A
 ***** SEE GENERATOR SIZING GUIDE FOR FUEL PIPE SIZING TO SUIT APPLICATION *****
 8. AUXILIARY AC CONNECTION FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
 9. EXHAUST PIPES MAY BE ROTATED TO ALLOW MUFFLER TO POINT OUT TO THE RIGHT OR LEFT SIDE OF GENERATOR. (MAY NOT APPLY TO ALL UNITS)
 10. GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND DISCHARGE AIR FROM THE RADIATOR IS NOT RECIRCULATED.
 11. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 12. EXHAUST SYSTEM MAXIMUM BACK PRESSURE = 20" H2O.
 13. INSTALL EXHAUST BLANKETS ALONG THIS LINE.
 14. CONNECT THE OPEN SET EXHAUST PER NFPA 37
 15. BLANKETS SHOULD NOT COVER OXYGEN SENSOR
 16. OXYGEN SENSOR MUST BE MOUNTED BETWEEN ENGINE OUTLET AND SILENCER INLET AS SHOWN. IF ELBOW IS REQUIRED, ONLY SINGLE ELBOW MAY BE USED.
 17. CATALYZED SILENCER (FOR EPA UNITS) MUST BE MOUNTED IN DESCRIBED POSITION. FAILING TO FOLLOW THESE INSTRUCTIONS WHEN INSTALLING A CERTIFIED ENGINE IN A PIECE OF STATIONARY EQUIPMENT VIOLATES FEDERAL LAW 40 CFR 1068.105(b), SUBJECT TO FINES OR PENALTIES AS DESCRIBED IN THE CLEAN AIR ACT.
 18. BOLTS OR STUDS USED TO MOUNT UNIT TO PAD SHALL BE 5/8 - 11 GRADE 5.



- NOTES:
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35kW NATURAL GAS DC GENERATOR DETAILS (SG305)

NO SCALE

C

TYPICAL GAS TRENCH

NO SCALE

D

at&t
NEW CINGULAR WIRELESS PCS, LLC
ONE AT&T WAY
BEDMINSTER, NJ 07921

BLACK & VEATCH
10950 GRANDVIEW DRIVE
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FAX: 862.209.4301
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CERTIFICATE OF AUTHORIZATION # 27-3179723

| SCHEDULE OF REVISIONS | | |
|-----------------------|----------------------------|------------------------|
| 7 | | |
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| 3 | | |
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| 0 | 09/17/18 ISSUED FOR PERMIT | |
| REV. NO. | DATE | DESCRIPTION OF CHANGES |
| DRAWN BY: JW | | |
| CHECKED BY: NDB | | |
| SCALE: AS NOTED | | |
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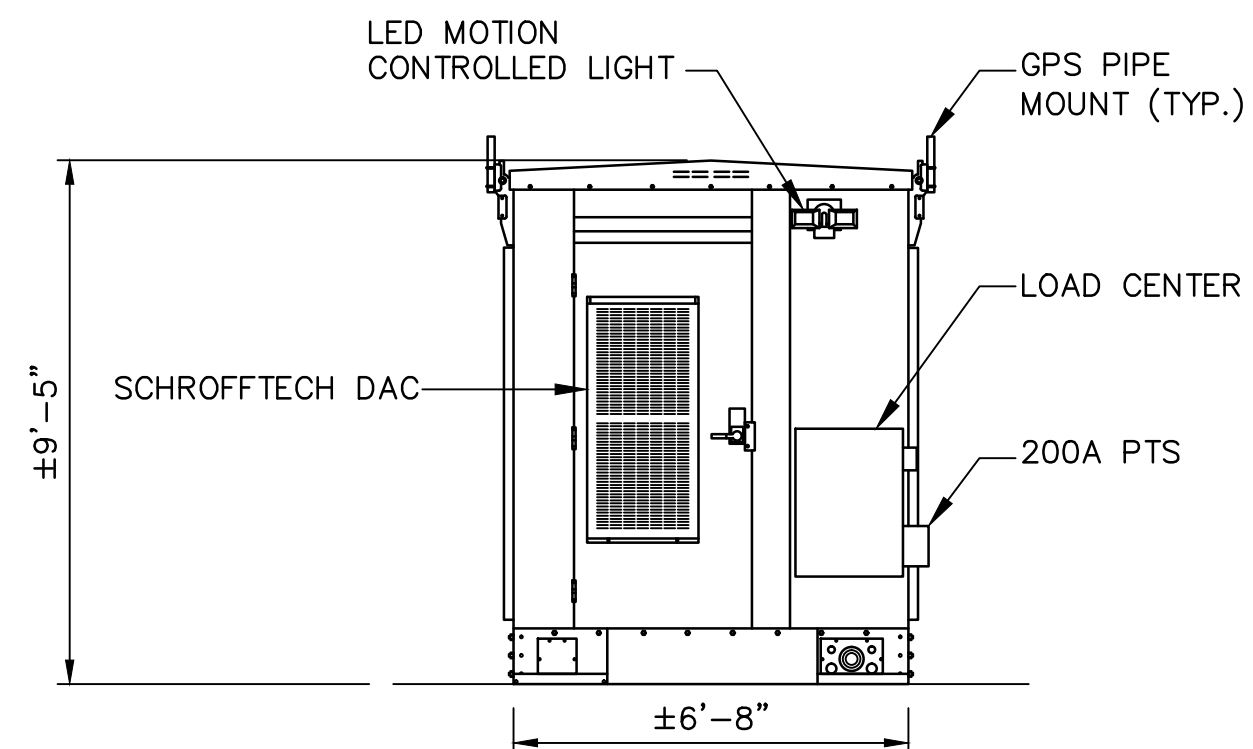
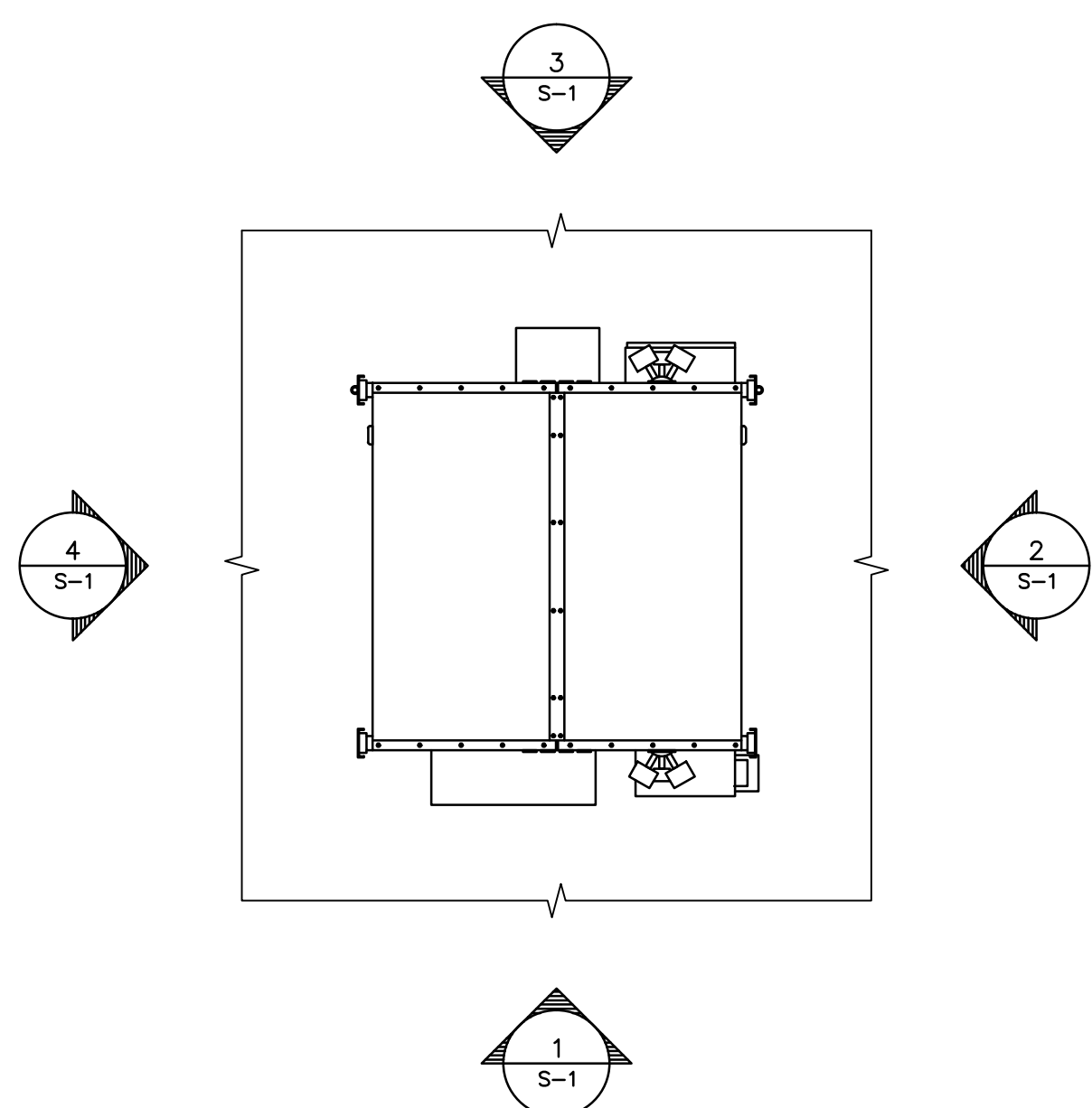
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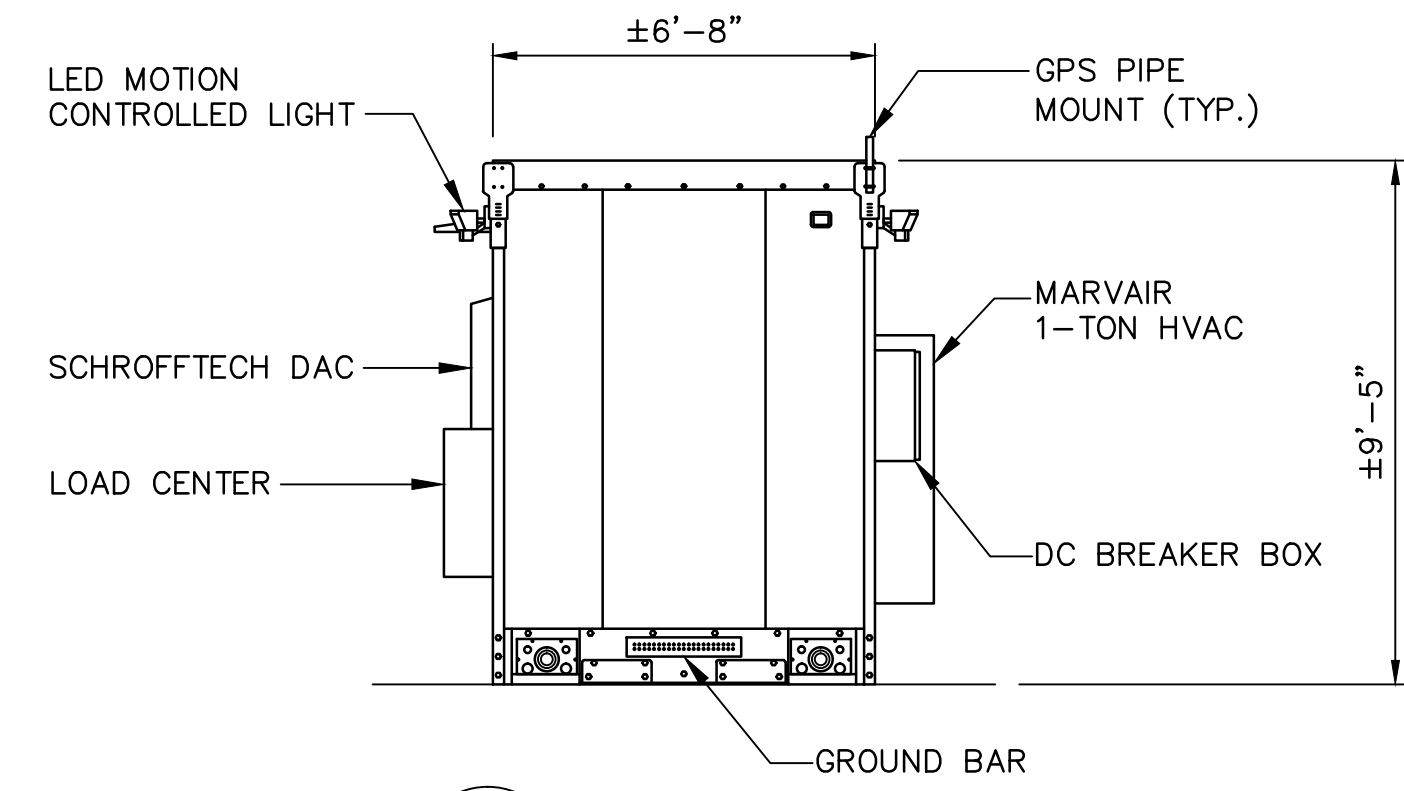
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N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

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EQUIPMENT DETAILS

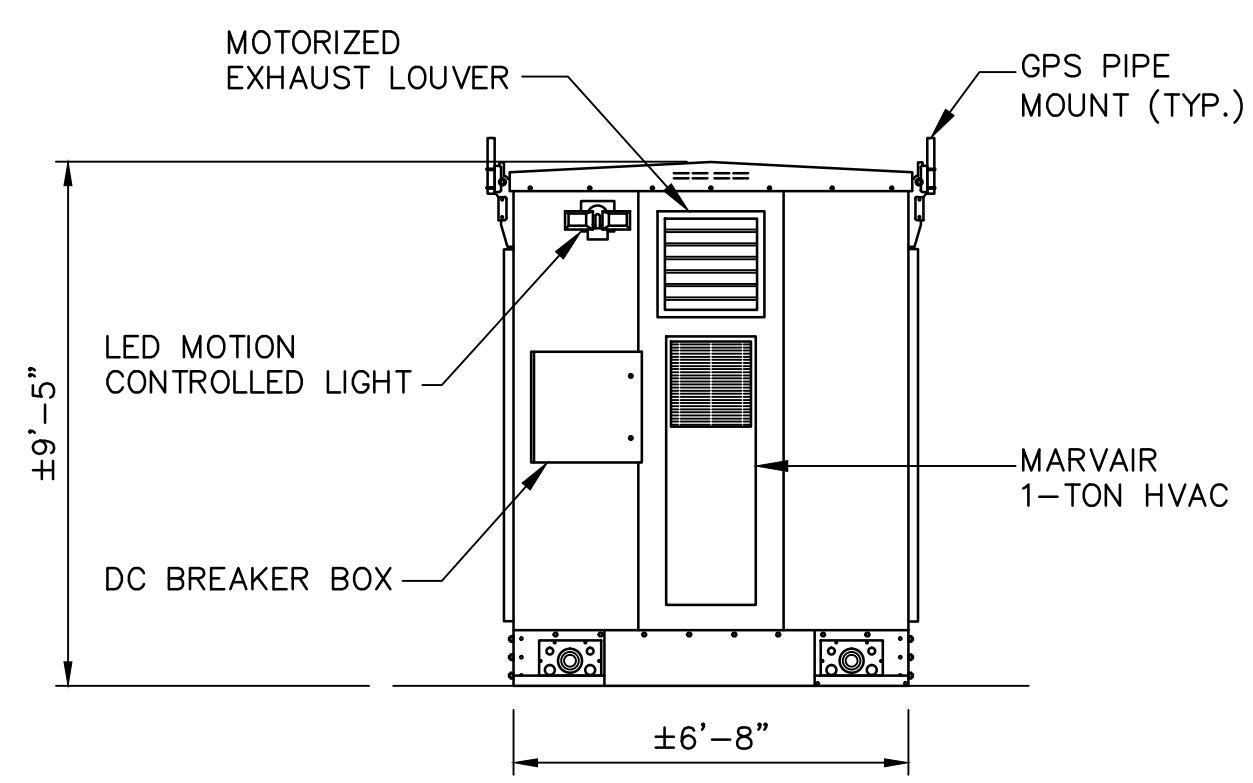
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C-5



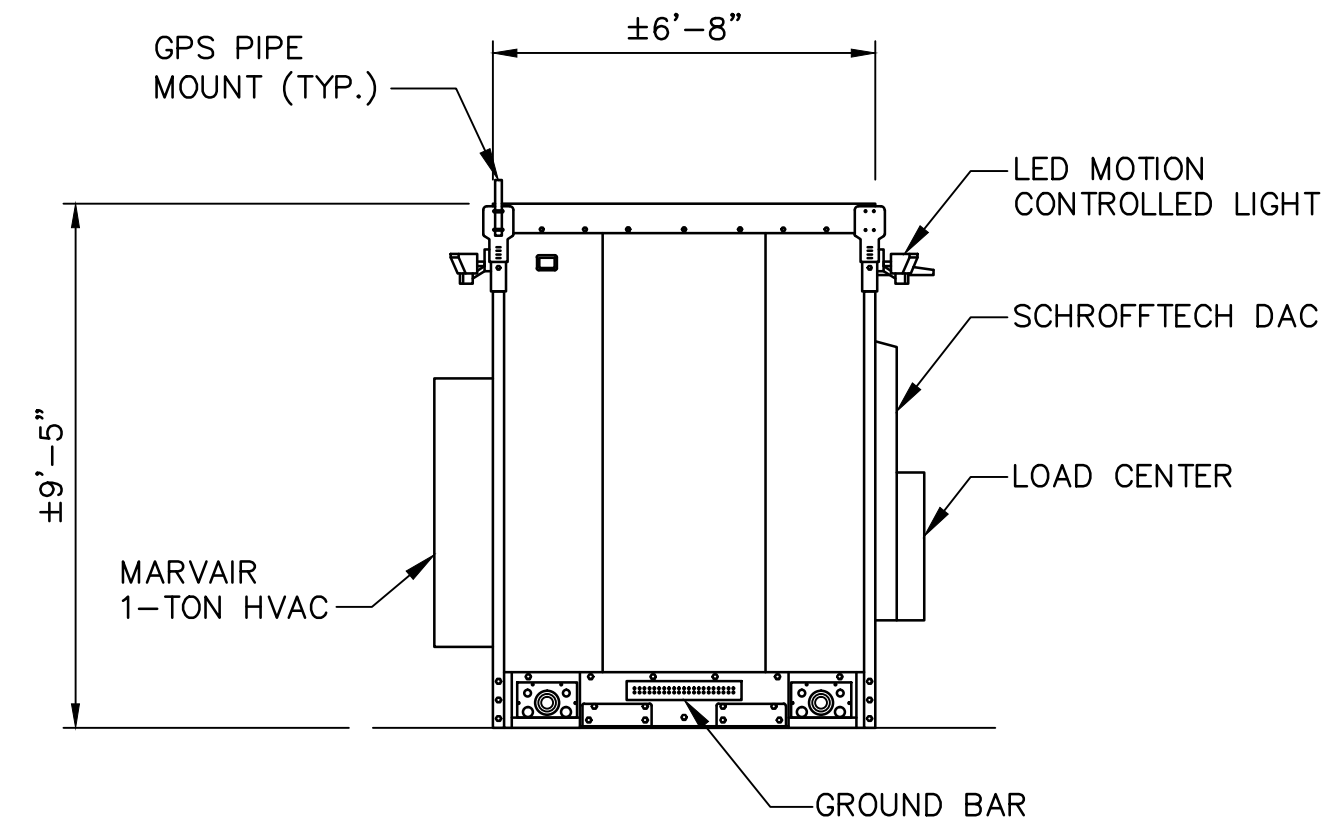
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2 ELEVATION
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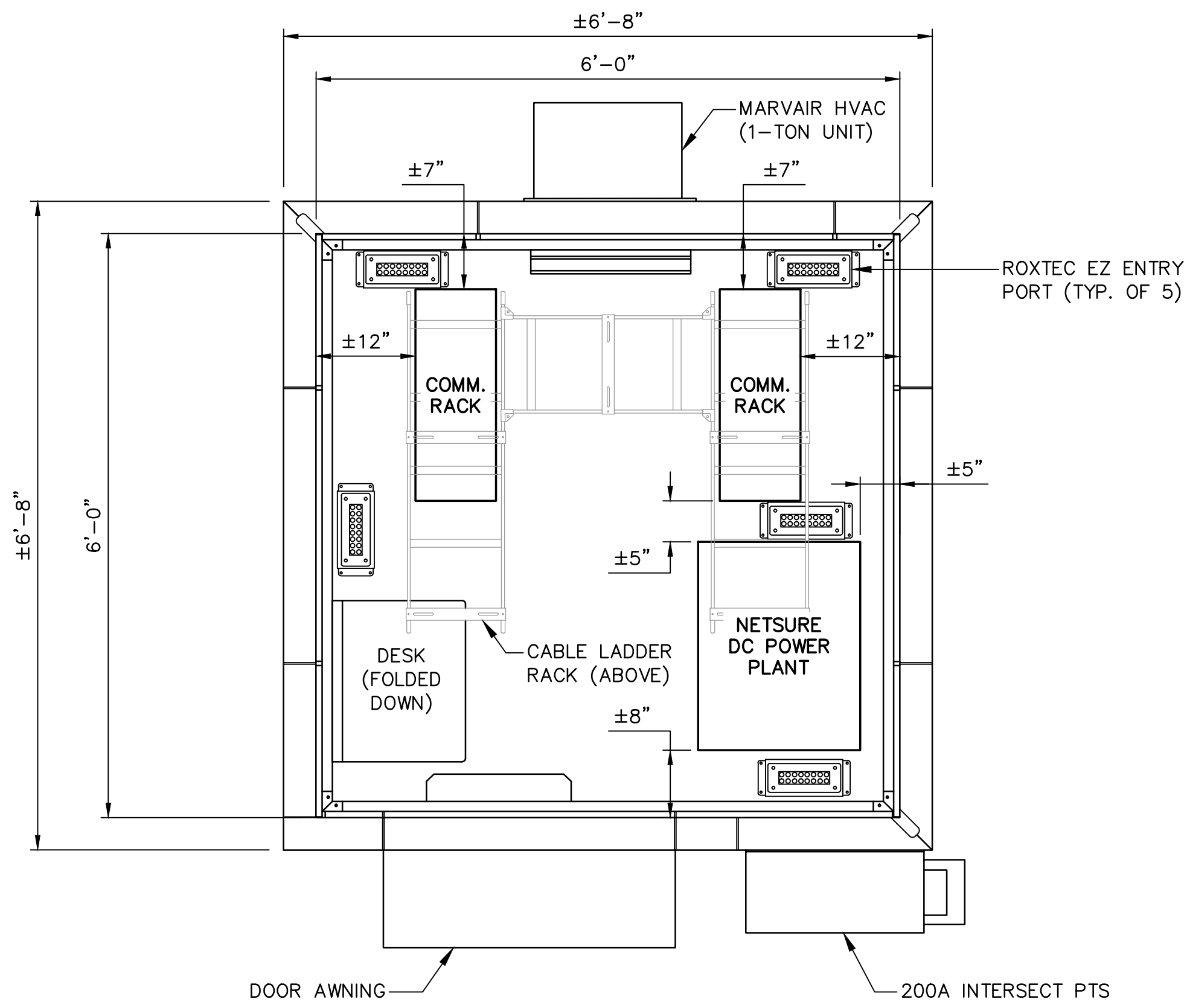
3 ELEVATION
S-1 SCALE: N.T.S.



4 ELEVATION
S-1 SCALE: N.T.S.

SHELTER ELEVATION DETAIL – WIC (SMARTMOD UE)

NO SCALE A



SHELTER LAYOUT – WIC (SMARTMOD UE)

NO SCALE B

NEW CINGULAR WIRELESS PCS, LLC
ONE AT&T WAY
BEDMINSTER, NJ 07921

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DRAWING TITLE:
SHELTER DETAILS


DRAWING SHEET:
S-1

SCHEDULE OF REVISIONS

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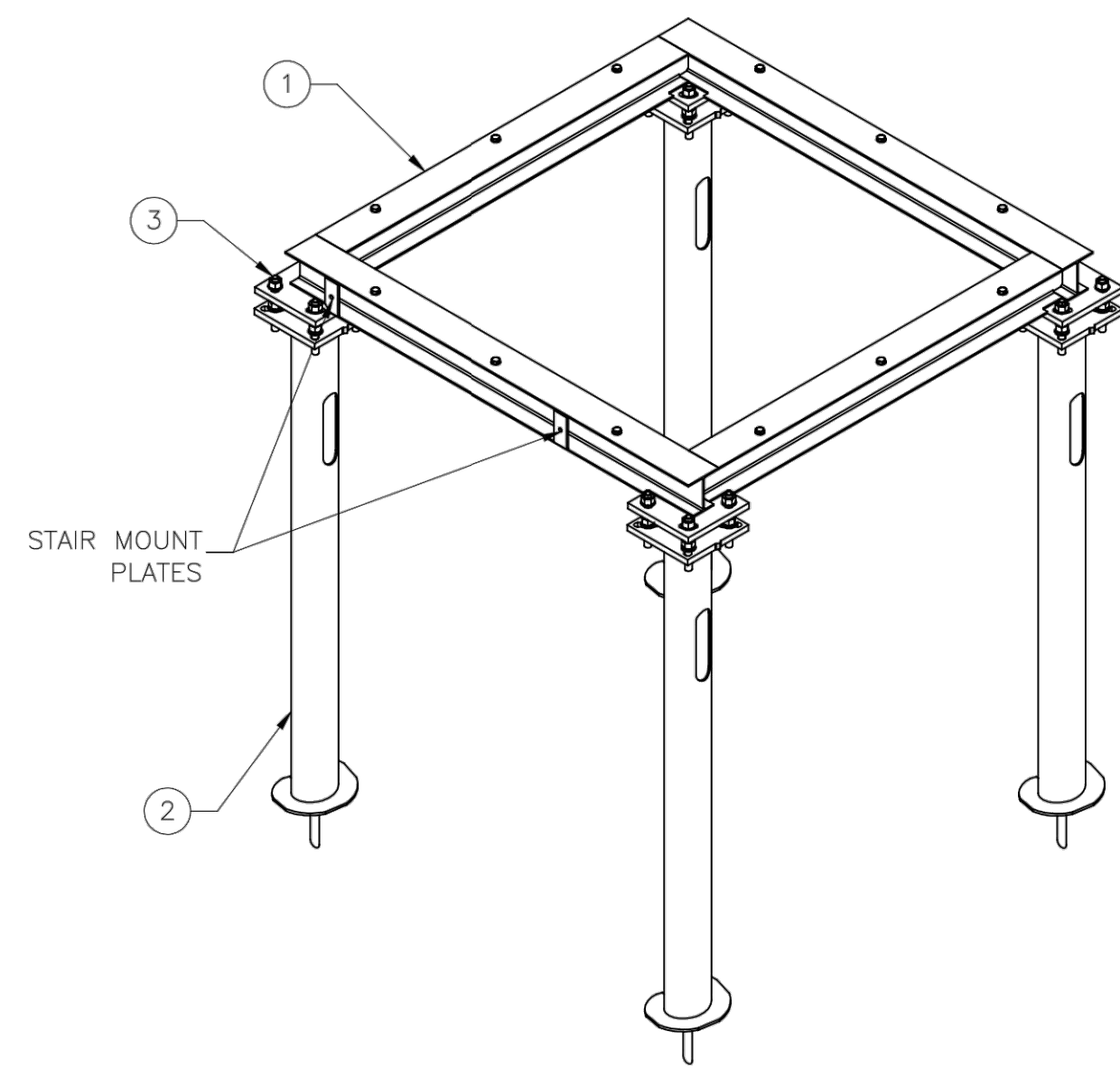
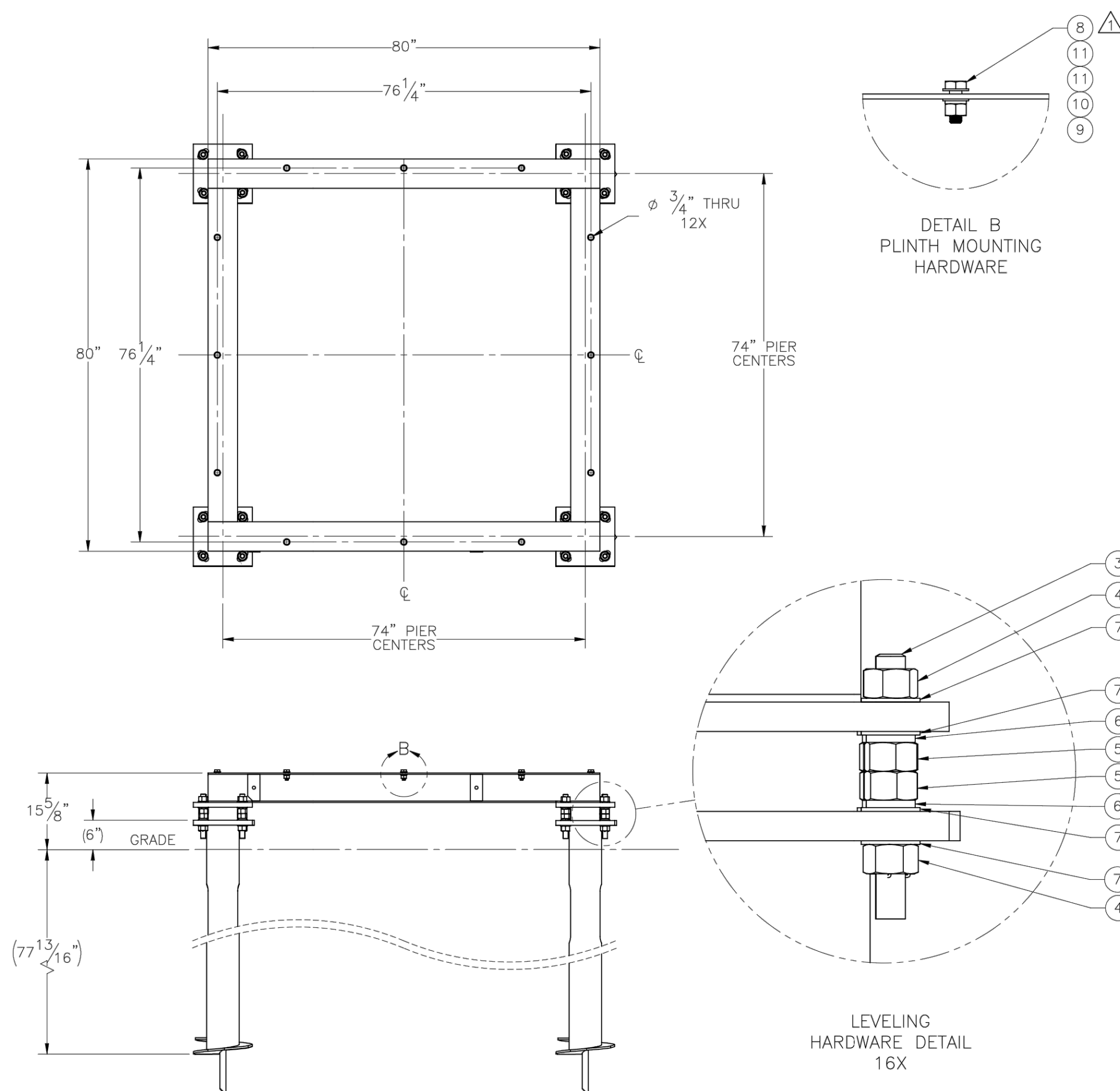
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BLOCK: 1, LOT: 1.2

DRAWING TITLE:

SHELTER FOUNDATION DETAILS

DRAWING SHEET:

S-2



| ITEM NO. | QTY REQD | PART NUMBER | DESCRIPTION | LENGTH | WEIGHT |
|----------|----------|--------------|---|--------|--------|
| 1 | 1 | W-000-357 | WIC PLATFORM | | 523.38 |
| 2 | 4 | 400-000-1017 | 6" X 7", 1" BASE, 1" HDW - HEL. PIER | | 168.1 |
| 3 | 16 | 002-OAT-H000 | ROD, THREADED, 1.00"-8 X 9.00" LG, ASTM A193 B7, GALV | | 2.01 |
| 4 | 32 | 002-ONG-0000 | NUT, HX, ANCO LOCK, 1.00"-8UNC, GR 2H, GALV | | 0.43 |
| 5 | 32 | 002-ONG-0008 | NUT, HX, 1.00"-8UNC, GR 2H, GALV | | 0.42 |
| 6 | 32 | 002-OLW-G008 | WASHER, SPLIT LOCK, 1.00", GALV | | 0.09 |
| 7 | 64 | 002-OFW-G009 | WASHER, FLAT, 1.00", F436, GALV | | 0.08 |
| 8 | 12 | COMMON | BOLT, HX HD, .625-11UNC X 1.75" LG, ASTM A325, GALV | | 0.03 |
| 9 | 12 | COMMON | NUT, HX, .625-11UNC, GR DH, GALV | | 0.12 |
| 10 | 13 | 002-OLW-G004 | WASHER, SPLIT LOCK, .625 INCH, GALV | | 0.03 |
| 11 | 24 | 002-OFW-G004 | WASHER, FLAT, .625", ASTM F436, GALV | | 0.03 |

NOTES:

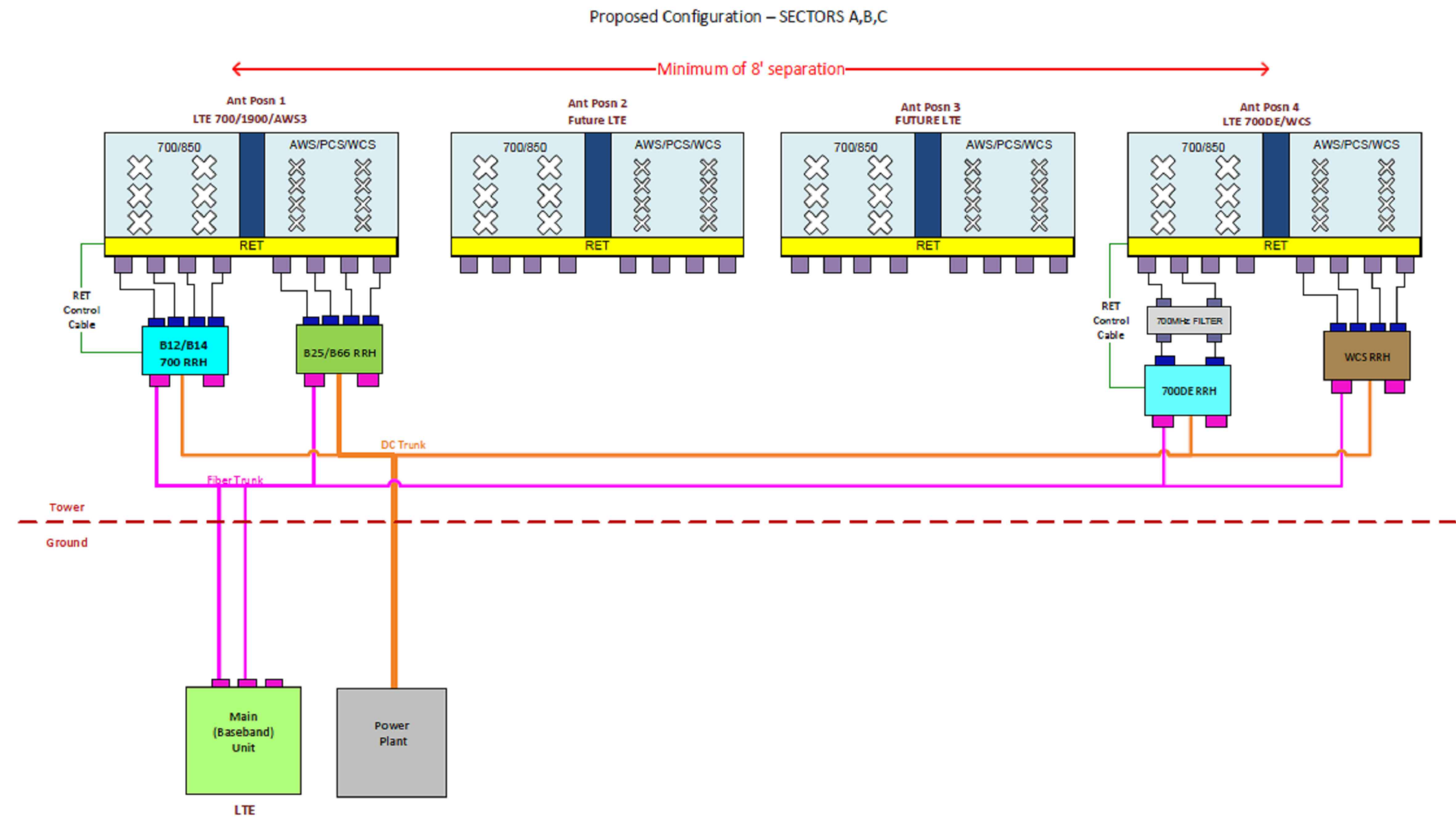
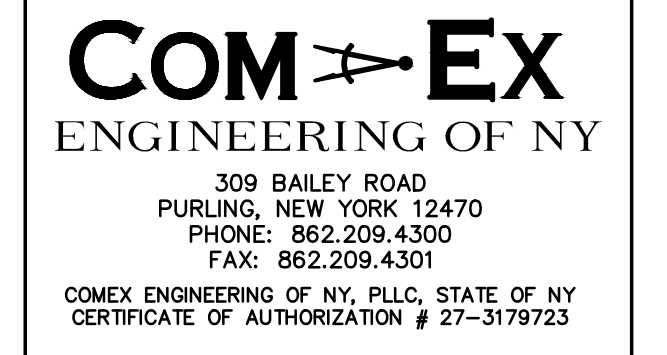
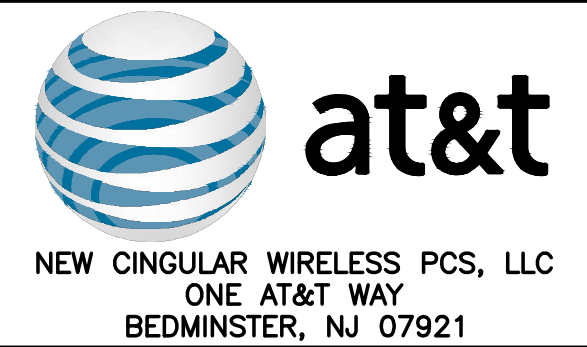
- HELICAL PIERS & SHELTER BASE ASSEMBLY SHALL BE MANUFACTURED BY ELECTRO MECHANICAL INDUSTRIES, INC.
- CONTRACTOR SHALL INSTALL HELICAL PIERS TO THE TORQUE REQUIREMENTS SPECIFIED BY THE MANUFACTURER.
- DEPTH OF HELICAL PIERS SHALL BE AS REQUIRED TO MEET THE MANUFACTURER'S SPECIFIED TORQUE REQUIREMENTS.

NOTES:

- GRAY (Gr) TAPING SHALL BE USED FOR 700 MHZ AND PURPLE TAPING SHALL BE USED FOR AWS. TAPING SHALL FOLLOW AT&T STANDARD N00027 REV.1.7.
- SCHEMATIC SHOWN TYPICAL FOR EACH DC-6 SURGE SUPPRESSOR.

ABBREVIATIONS:

- R RED
- B BLUE
- G GREEN
- GR GRAY



* Lines showing connections between RRH and Antenna are for block diagram purposes only. For actual connections refer to Nokia field guides and notices.

**ANTENNAS, CONNECTORS, &
CABLE CONFIGURATION**
NO SCALE

SCHEDULE OF REVISIONS

| | | |
|---|----------|-------------------|
| 7 | | |
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| REV. NO. | DATE | DESCRIPTION OF CHANGES |
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DRAWN BY: JW
CHECKED BY: NDB
SCALE: AS NOTED
JOB NO: 18024-BLV

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 STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

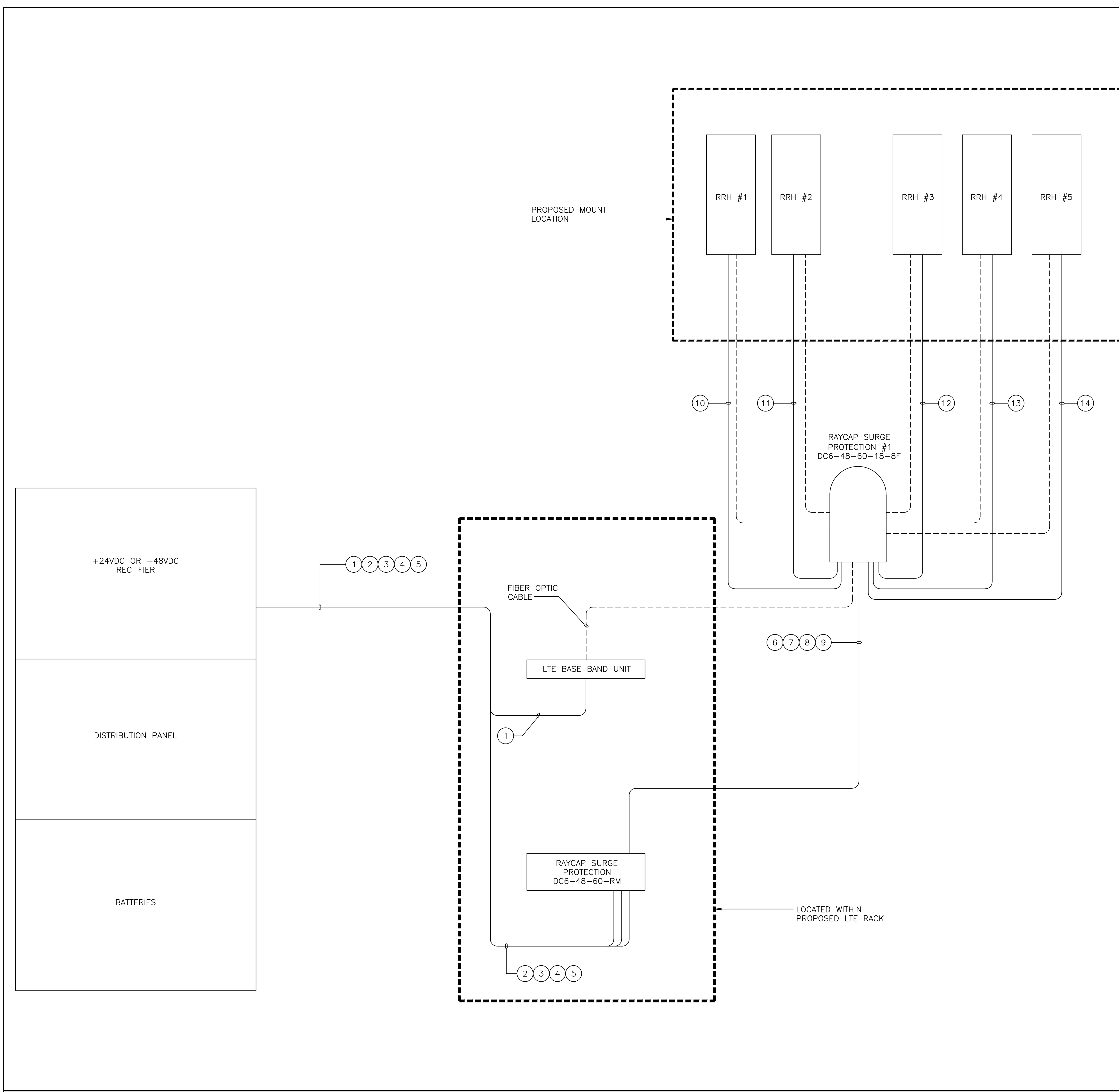
CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:

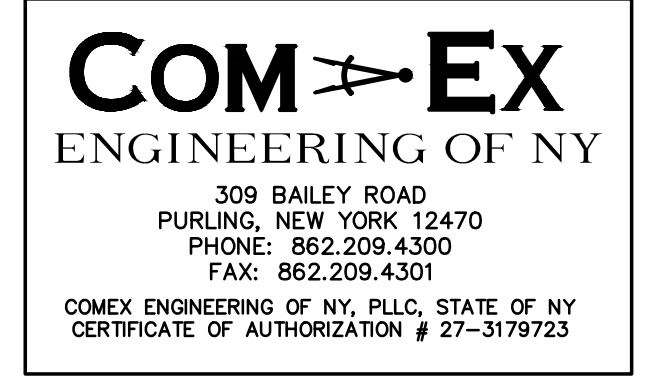
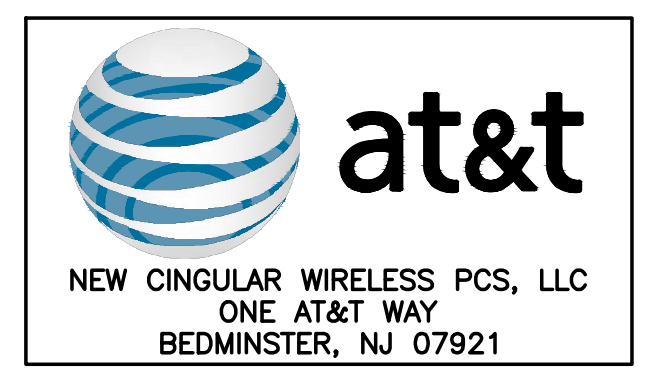
**LTE
CONFIGURATION**

DRAWING SHEET:

RF-1



| DC CIRCUIT SCHEDULE | | | |
|---------------------|---|---|--|
| | FROM | TO | CONFIGURATION |
| ① | -48VDC DISTRIBUTION PANEL | LTE BASE BAND UNIT | (1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ② | -48VDC DISTRIBUTION PANEL | RAYCAP SURGE PROTECTION DC6-48-60-RM | (1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ③ | -48VDC DISTRIBUTION PANEL | RAYCAP SURGE PROTECTION DC6-48-60-RM | (1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ④ | -48VDC DISTRIBUTION PANEL | RAYCAP SURGE PROTECTION DC6-48-60-RM | (1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑤ | -48VDC DISTRIBUTION PANEL | RAYCAP SURGE PROTECTION DC6-48-60-RM | (1) 2-#10 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑥ | RAYCAP SURGE PROTECTION DC6-48-60-RM | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | (1) 6-#8 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑦ | RAYCAP SURGE PROTECTION DC6-48-60-RM | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | (1) 6-#8 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑧ | RAYCAP SURGE PROTECTION DC6-48-60-RM | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | (1) 6-#8 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑨ | RAYCAP SURGE PROTECTION DC6-48-60-RM | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | (1) 6-#8 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑩ | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | RRH REMOTE RADIO HEAD #1 | (1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑪ | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | RRH REMOTE RADIO HEAD #2 | (1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑫ | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | RRH REMOTE RADIO HEAD #3 | (1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑬ | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | RRH REMOTE RADIO HEAD #4 | (1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |
| ⑭ | RAYCAP SURGE PROTECTION DC6-48-60-18-8F | RRH REMOTE RADIO HEAD #5 | (1) 2-#12 THHN/THWN/VW-1 TYPE TC-ER DC CABLE |



| SCHEDULE OF REVISIONS | |
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| 7 | |
| 6 | |
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| 0 | 09/17/18 ISSUED FOR PERMIT |

REV. NO. **DATE** **DESCRIPTION OF CHANGES**
DRAWN BY: JW
CHECKED BY: NDB
SCALE: AS NOTED
JOB NO: 18024-BLV

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CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:
ELECTRICAL DC ONE-LINE DIAGRAM

DRAWING SHEET:
E-2

DC ONE-LINE DIAGRAM - (TYP. PER EACH SECTOR)

NO SCALE A

| NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C. | | | |
|---|----------|-------------|-----------------------|
| NO | REQUIRED | PART NUMBER | DESCRIPTION |
| 1 | 1 | 1/4"x4"x48" | SOLID GROUNDING BAR |
| 2 | 2 | A-6056 | WALL MOUNTING BRACKET |
| 3 | 2 | 3061-4 | INSULATORS |
| 4 | 4 | 3012-1 | 5/8"-11x1" H.H.C.S. |
| 5 | 4 | 3015-8 | 5/8" LOCKWASHER |

EACH GROUNDING CONDUCTOR TERMINATING ON ANY GROUNDING BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" - SURGE PROTECTORS

- (EC) CELL REFERENCE GROUNDING BAR (IF COLLOCATED)
- (EC) GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- (EC) TELCO GROUNDING BAR (#2 AWG)
- (EC) COMMERCIAL POWER COMMON NEUTRAL/GROUNDING BOND (3/0)
- (EC) FIBER GROUNDING BAR (#2 AWG)
- (EC) POWER ROOM REFERENCE GROUNDING BAR (#2 AWG)
- (AT&T) RECTIFIER FRAMES

SECTION "A" - SURGE ABSORBERS

- (EC) INTERIOR GROUNDING RING (#2 AWG)
- (EC) EXTERNAL EARTH GROUNDING FIELD (BURIED GROUNDING RING) (#2 AWG)
- (EC) METALLIC COLD WATER PIPE (IF AVAILABLE) (1/0 AWG)
- (EC) BUILDING STEEL (IF AVAILABLE) (1/0 AWG)

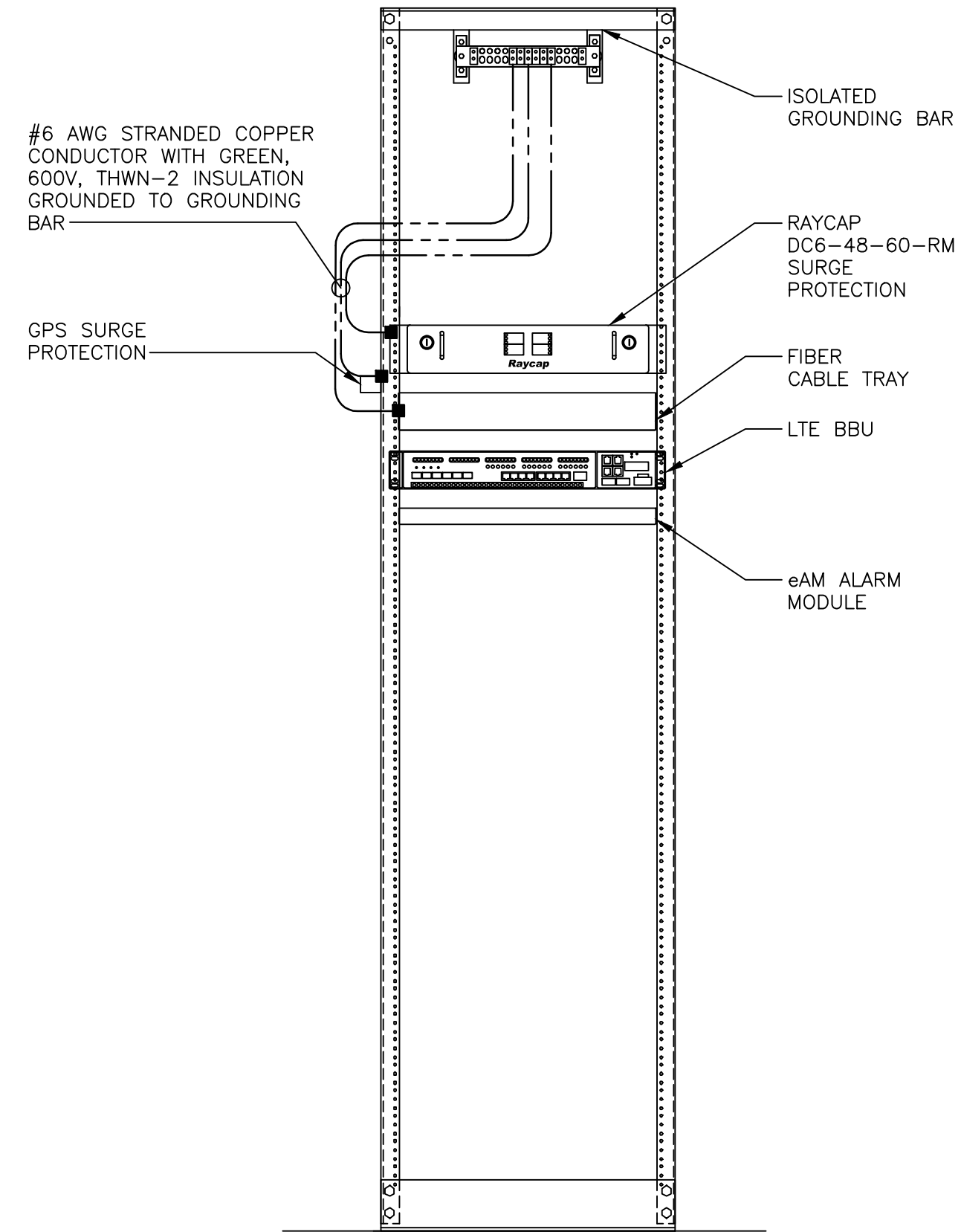
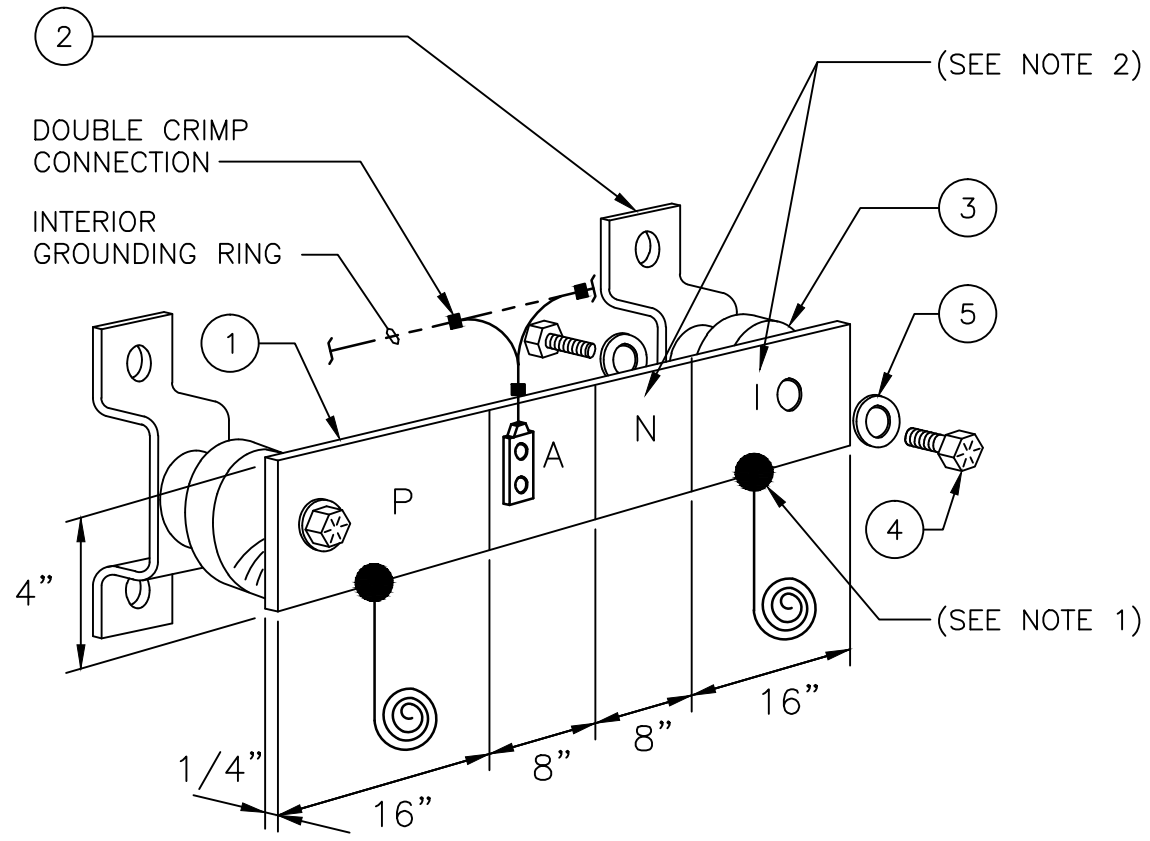
SECTION "N" - NON-ISOLATED GROUNDING ZONE EQUIPMENT

- (EC) MISC. NON-ISOLATED GROUNDING ZONE EQUIPMENT (AT&T)-48V POWER SUPPLY RETURN BARE

SECTION "I" - ISOLATED GROUNDING ZONE

- (AT&T) ALL ISOLATED GROUNDING REFERENCE
- (AT&T) GROUNDING WINDOW BAR

INSTALL NEW GROUND BARS AS NEEDED TO ACCOMMODATE NEW EQUIPMENT



GENERAL GROUNDING NOTES:

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL GROUNDING BARS SHALL BE STAMPED IN TO THE METAL "IF STOLEN DO NOT RECYCLE." THE CONTRACTOR SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
3. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUNDING CONDUCTOR DOWN TO GROUNDING BUS.
6. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
7. SUPPLIED AND INSTALLED BY CONTRACTOR.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUNDING BAR AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.
9. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).
10. ALL PROPOSED GROUNDING BAR DOWNLOADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR DOWNLOADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

(MGB) REFERENCE GROUNDING BAR

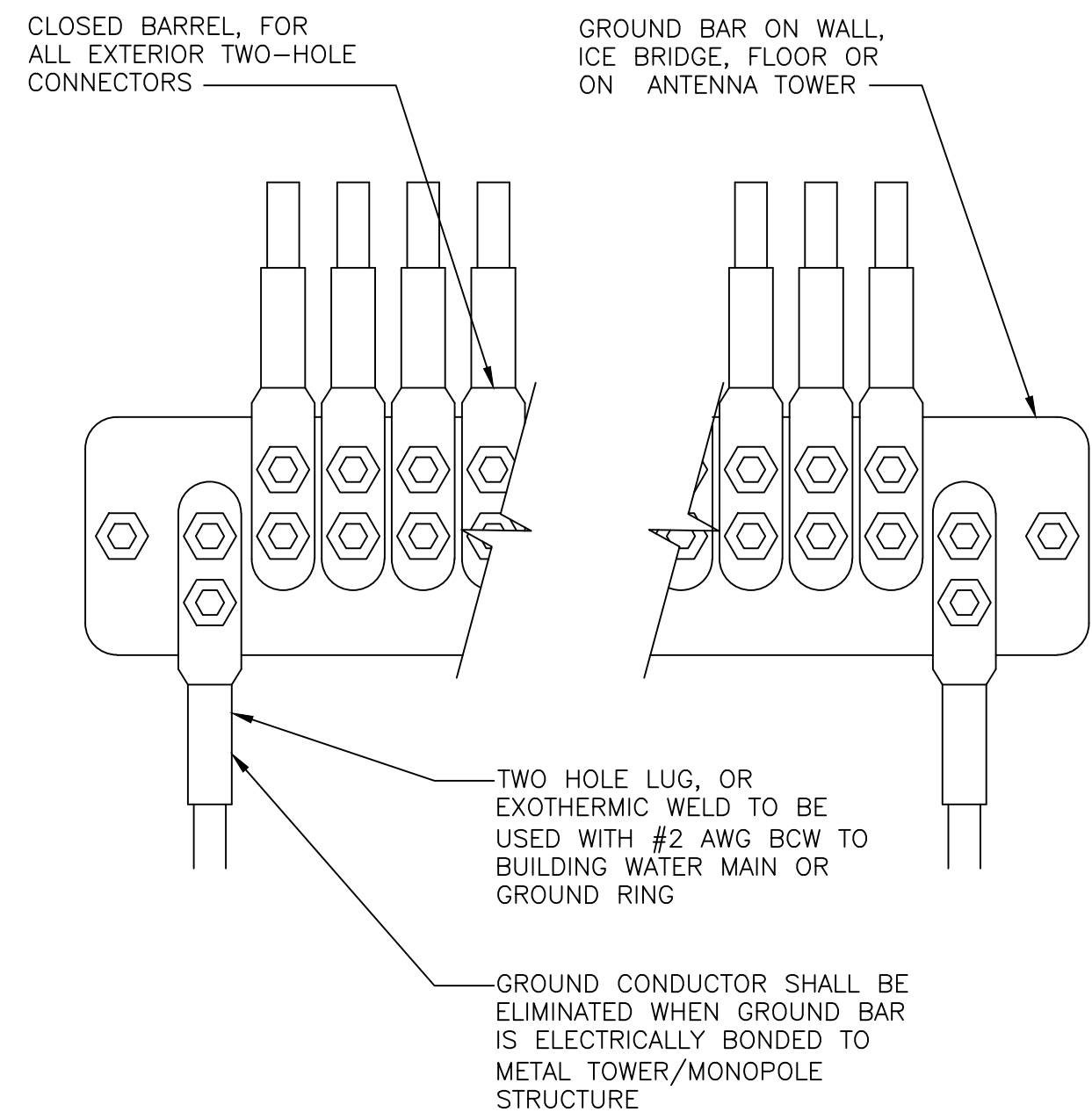
NO SCALE

A

LTE RACK GROUNDING

NO SCALE

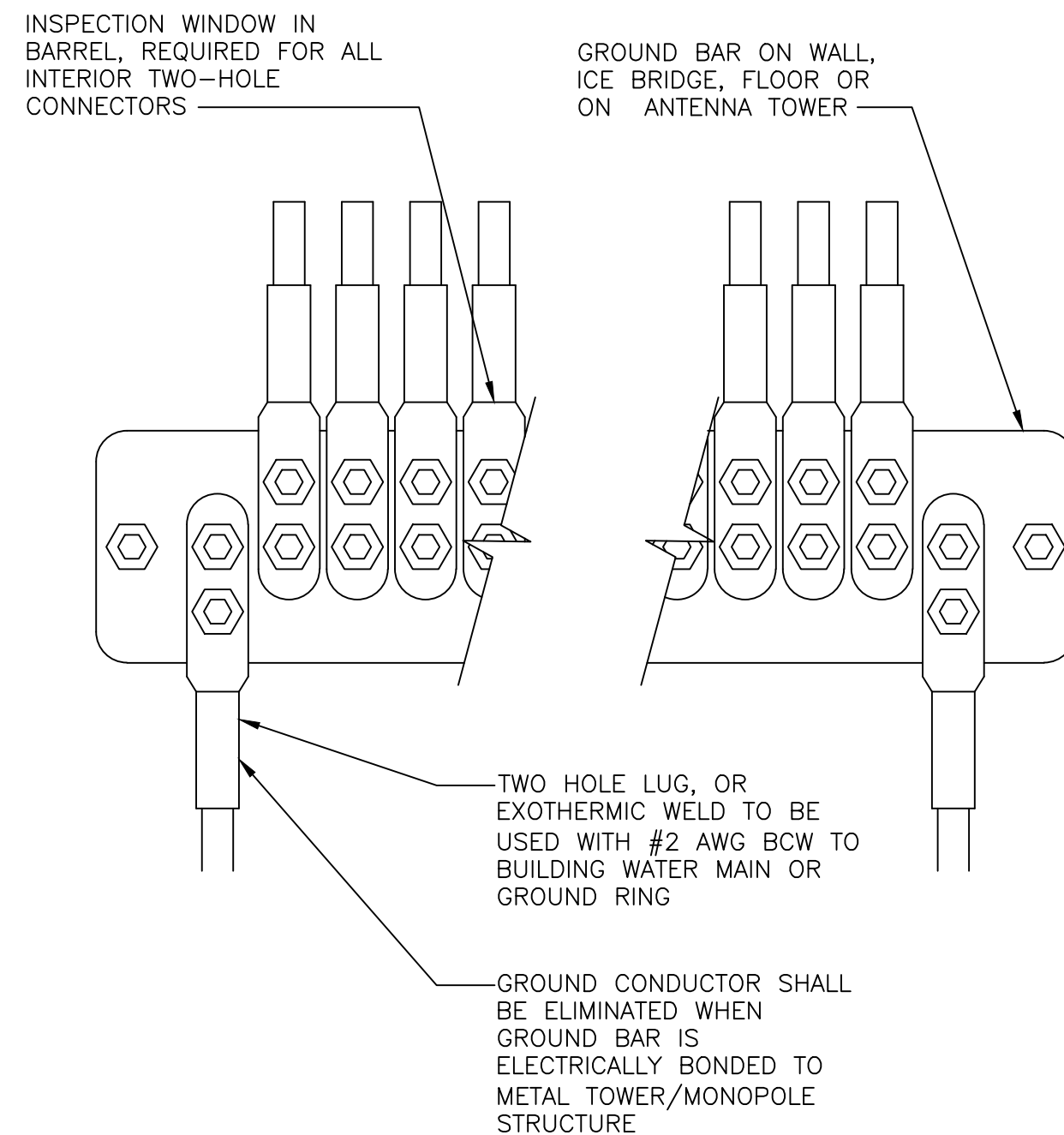
B



EXTERIOR TWO HOLE LUG DETAIL

NO SCALE

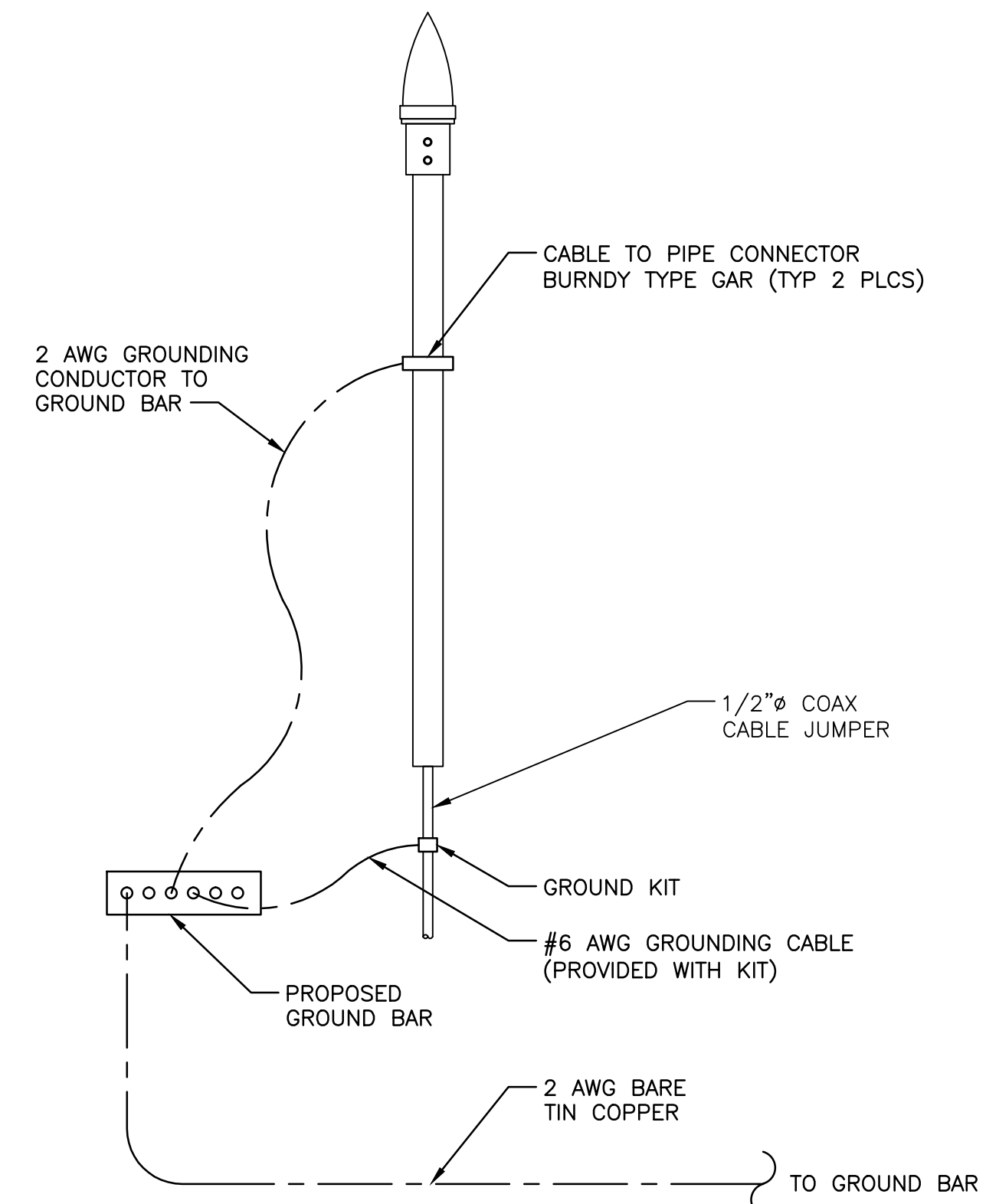
C



INTERIOR TWO HOLE LUG DETAIL

NO SCALE

D



GPS GROUNDING DETAIL

NO SCALE

E

NEW CINGULAR WIRELESS PCS, LLC
ONE AT&T WAY
BEDMINSTER, NJ 07921

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

309 BAILEY ROAD
PURLING, NEW YORK 12470
PHONE: 862.209.4300
FAX: 862.209.4301
COMEX ENGINEERING OF NY, PLLC, STATE OF NY
CERTIFICATE OF AUTHORIZATION # 27-3179723

SCHEDULE OF REVISIONS

| REV. NO. | DATE | DESCRIPTION OF CHANGES |
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SCALE: AS NOTED

JOB NO: 18024-BLV

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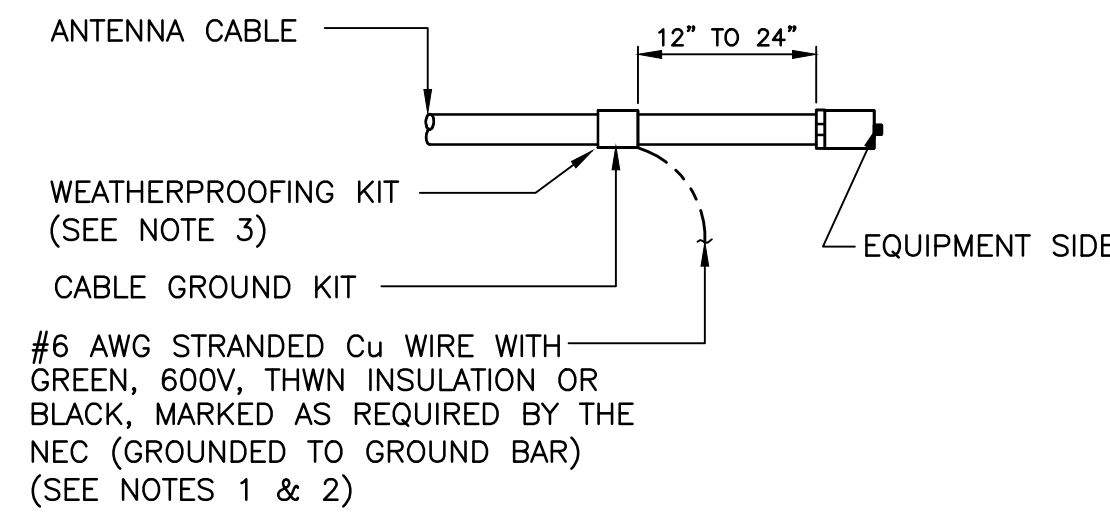
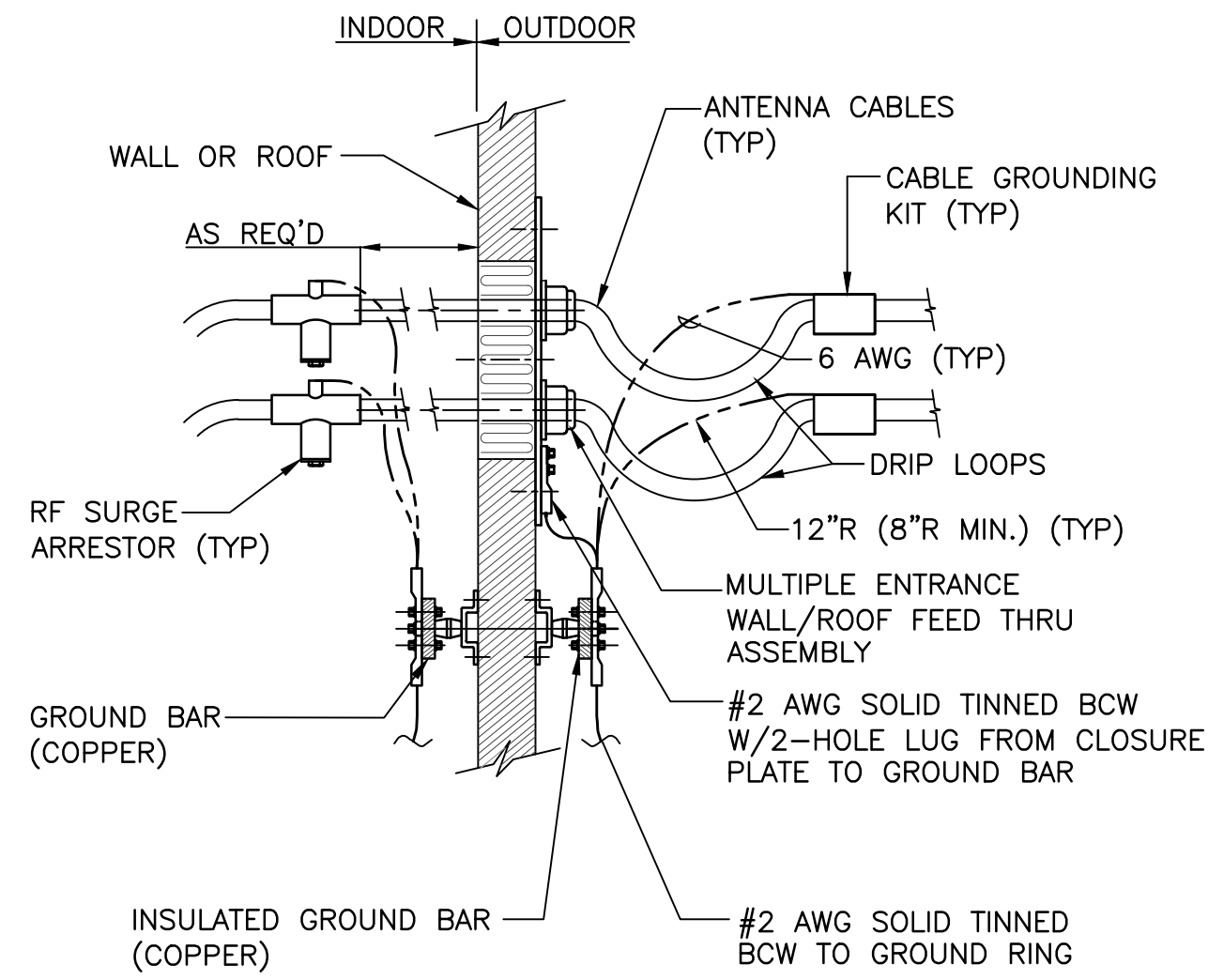
CONSTRUCTION DRAWINGS
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MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:

GROUNDING DETAILS

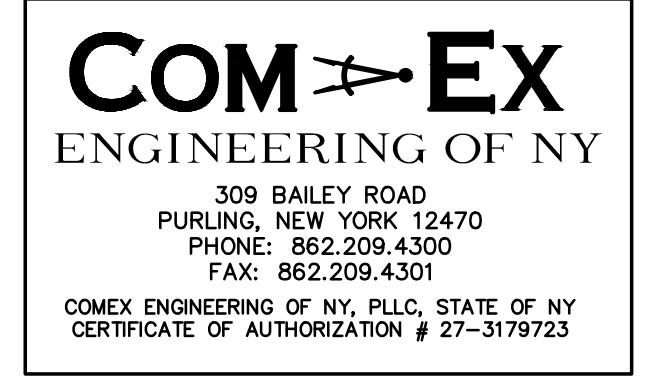
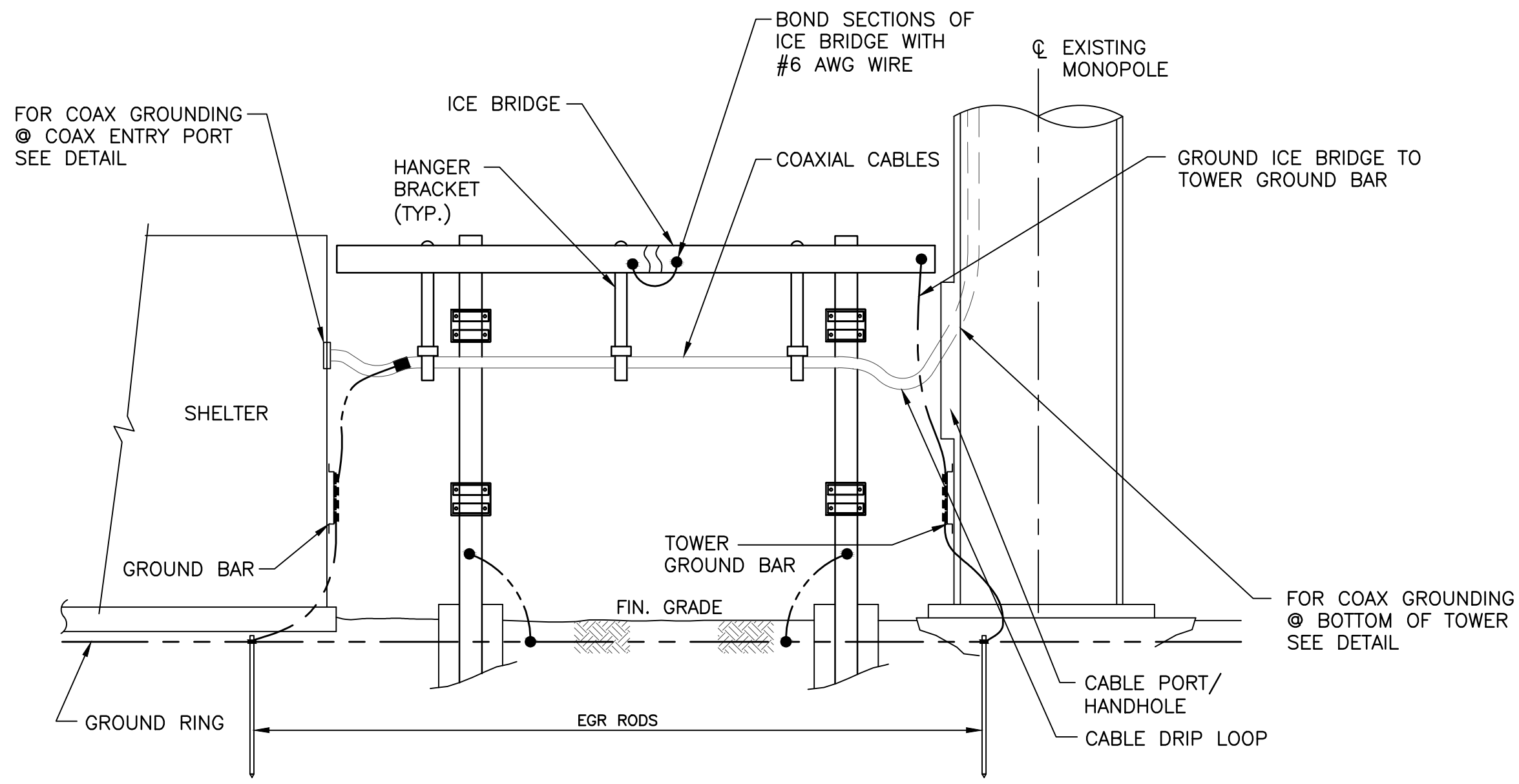
DRAWING SHEET:

G-1



NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHERPROOFING SHALL BE (TYPE AND PART NUMBER) AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER AND APPROVED BY CONTRACTOR.



| SCHEDULE OF REVISIONS | |
|-----------------------|----------------------------|
| 7 | |
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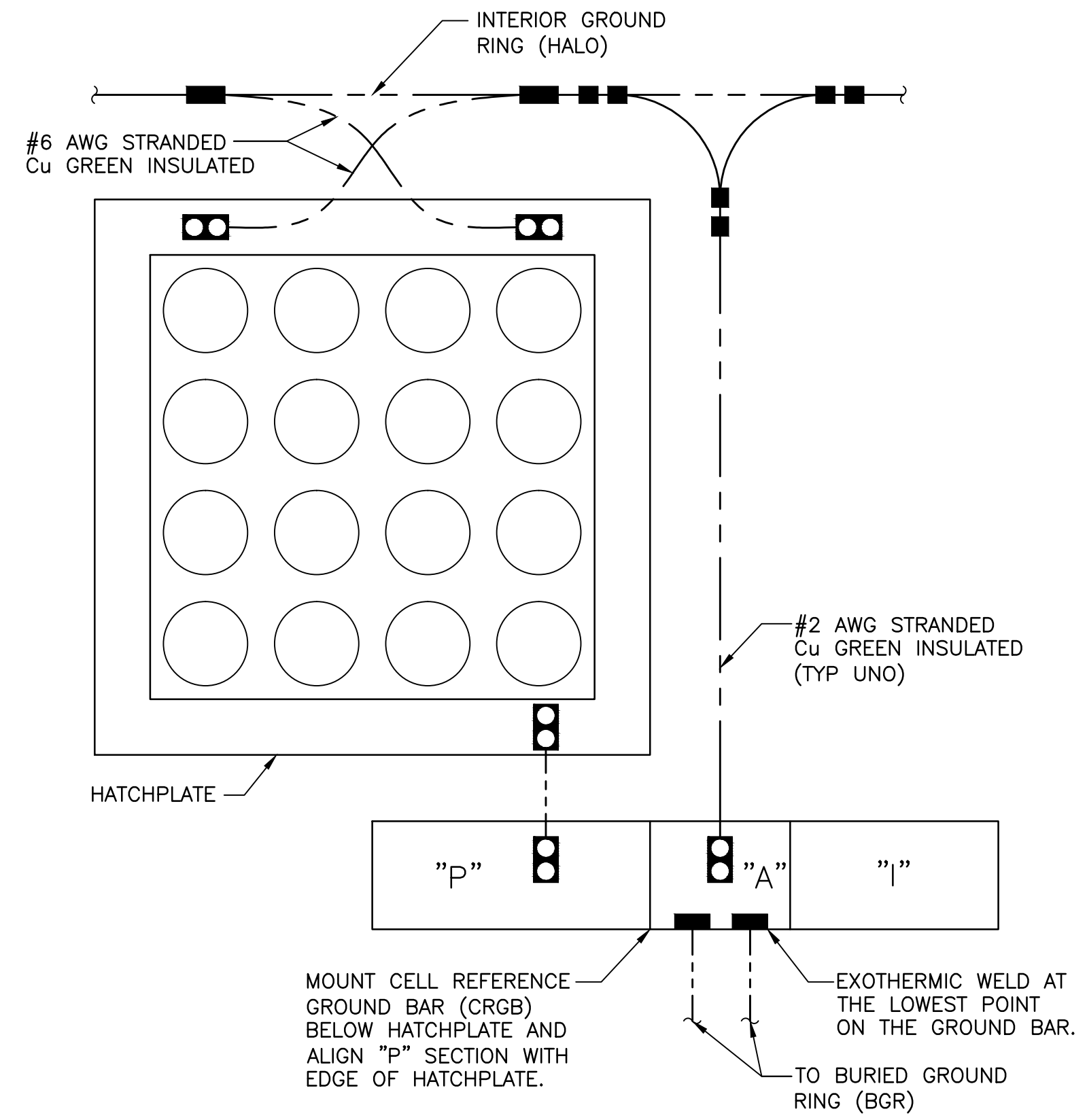
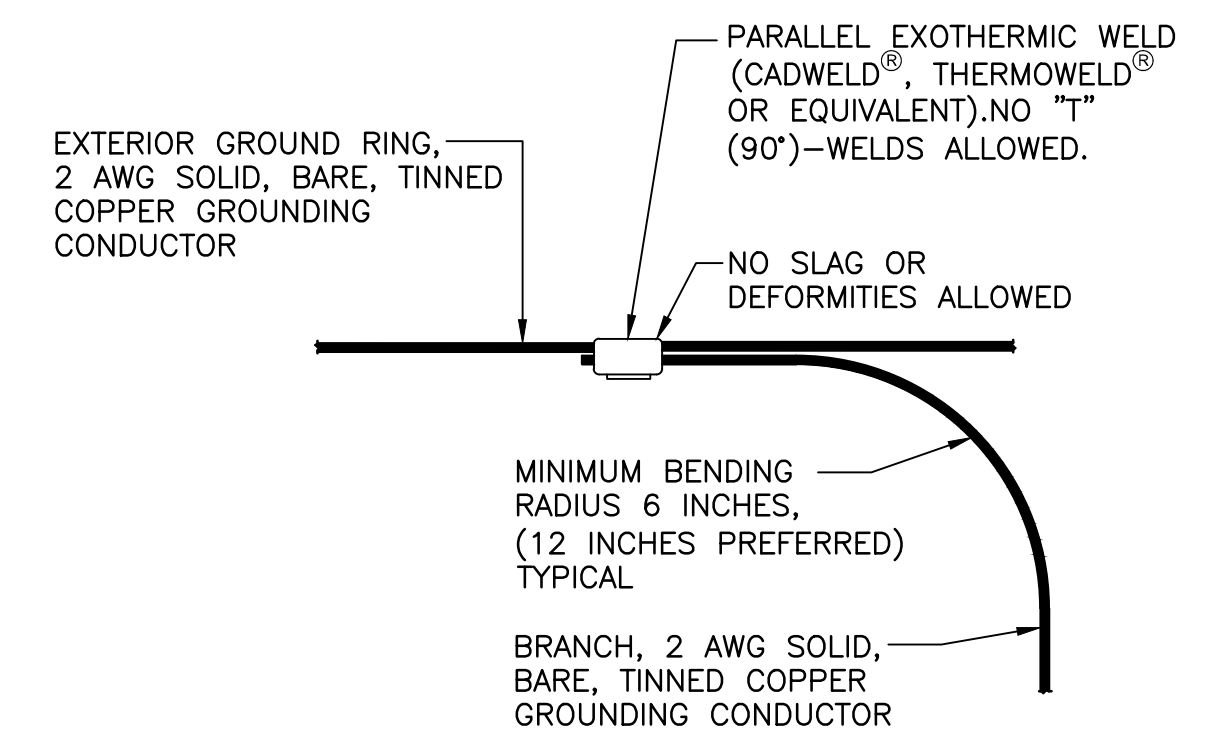
DRAWING SHEET:

G-1.1

EXTERIOR CABLE GROUNDING DETAIL NO SCALE A

CABLE TO GROUND KIT CONNECTION NO SCALE B

ICE BRIDGE GROUNDING DETAIL NO SCALE C

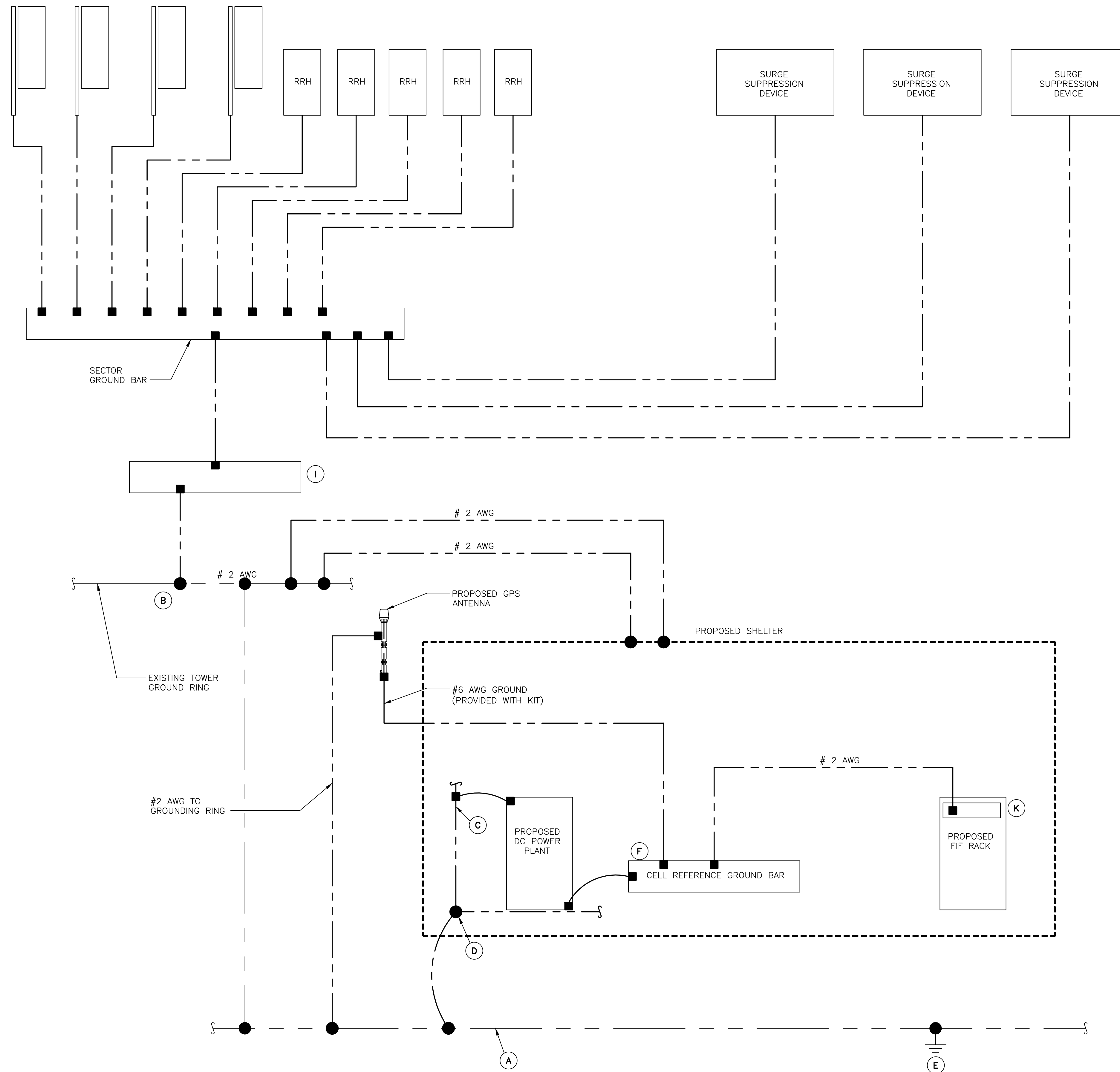


NOTE:
 IF THERE IS LIMITED SPACE ON THE RIGHT SIDE OF THE HATCHPLATE, THE ABOVE SETUP MAY BE MIRRORED AS LONG AS THE "P" SECTION IS BELOW THE HATCHPLATE.

EXT. GROUND RING CONNECTION NO SCALE D

CELL REFERENCE GROUND BAR DETAIL NO SCALE E

(TYPICAL PER SECTOR)

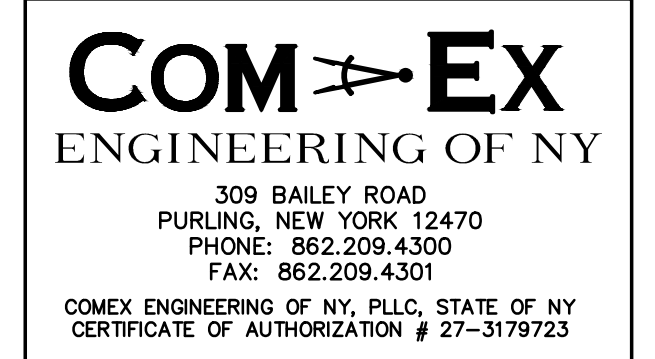


SHELTER/ANTENNA SITE:

- NOTES:**
- GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
 - CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND AT&T GROUNDING AND BONDING REQUIREMENTS (ATT-TP-76416) AND MANUFACTURER'S SPECIFICATIONS.
 - ALL GROUNDING CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES:

- EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 36 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING. (ATT-TP-76416 2.2.3.5/7.5.1)
- EXISTING TOWER GROUND RING: AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS. (ATT-TP-76416 7.5.1)
- INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUND TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR. (ATT-TP-76416 7.6.4)
- BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING. (ATT-TP-76416 7.5.2.2)
- GROUND ROD: UL LISTED COPPER CLAD STEEL, MINIMUM 5/8" DIAMETER BY EIGHT FEET LONG. ALL GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR. (ATT-TP-76416 1.4 / 7.5.1)
- CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS. (ATT-76416 7.6.5)
- HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS.
- EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AND EXOTHERMIC WELD AND INSPECTION SLEEVE. (ATT-TP-76416 7.6.7.2)
- TOWER EXIT GROUND BAR: #2 AWG SOLID TINNED COPPER BOND TO THE TOWER GROUND RING. (ATT-TP-76416 7.5.5)
- TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR AND EXTERIOR GROUND RING. (ATT-TP-76416 7.6.8)
- FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENT'S METAL FRAMEWORK. BOND THE FRAME GROUND BUS TO THE "I" SECTION OF THE CELL REFERENCE GROUND BAR. (ATT-TP-76416 7.8)
- INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING. (ATT-TP-76416 7.12.3.1)
- EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. (ATT-TP-76416 7.4.2.6)
- ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING. (ATT-TP-76416 7.4.2.6)



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SCALE: AS NOTED
JOB NO: 18024-BLV

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Nicholas D. Barile
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STATE OF NY CERTIFICATE OF AUTHORIZATION # 27-3179723

CONSTRUCTION DRAWINGS
N-622
CROWN CASTLE TOWER
3105 E. MAIN ST. RT. 6
MOHEGAN LAKE, NY 10574
BLOCK: 1, LOT: 1.2

DRAWING TITLE:
EQUIPMENT GROUNDING PLAN

DRAWING SHEET:
G-1.2

GENERAL CONSTRUCTION NOTES:

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY: GENERAL CONTRACTOR - OVERLAND CONTRACTING INC. (B&V) CONTRACTOR: (CONSTRUCTION) OWNER - AT&T
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS...

- 27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.

Color Code for Hard-Line Coax to TMAs/Diplexers or Antennas. Table with columns for Sector, Coax Line, A1, A2, A3, A5 (A4).

* Note: Pipe 1 is to the left if you are standing behind the antennas in this sector. *Note: Coax to A5 antenna is not typical but shown here in case required.

Integrators will mark diversity lines with a single BROWN

Color code table for Beta sector (1st Line, 2nd Line, Antenna) with columns A1-A4.

* Note: Pipe 1 is to the left if you are standing behind the antennas in this sector. *Note: Coax to B5 antenna is not typical but shown here in case required.

Integrators will mark diversity lines with a single BROWN

Color code table for Gamma sector (1st Line, 2nd Line, Antenna) with columns A1-A4.

* Note: Pipe 1 is to the left if you are standing behind the antennas in this sector. *Note: Coax to G5 antenna is not typical but shown here in case required.

Integrators will mark diversity lines with a single BROWN

Color code table for Delta sector (1st Line, 2nd Line, Antenna) with columns A1-A4.

* Note: Pipe 1 is to the left if you are standing behind the antennas in this sector. *Note: Coax to D5 antenna is not typical but shown here in case required.

Integrators will mark diversity lines with a single BROWN

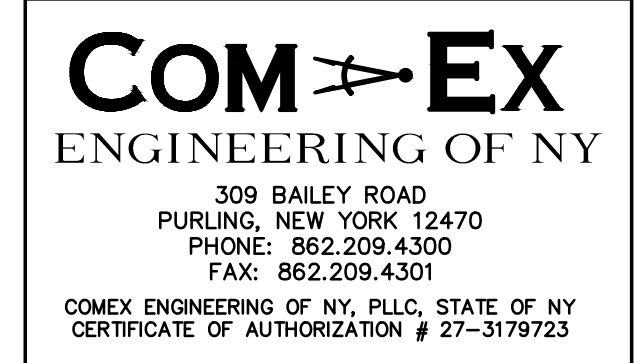
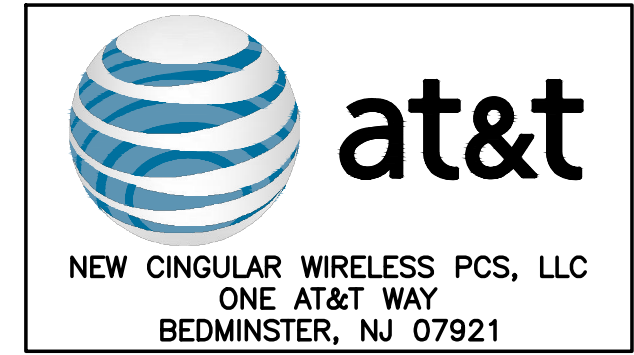
Color code table for Epsilon sector (1st Line, 2nd Line, Antenna) with columns A1-A4.

* Note: Pipe 1 is to the left if you are standing behind the antennas in this sector. *Note: Coax to E5 antenna is not typical but shown here in case required.

Integrators will mark diversity lines with a single BROWN

Color Code for Jumpers to TMAs & Diplexers - AND - to Hard-Line Coax to Single-Port Antennas. Large table with columns for Sector, Technology, Frequency, TX/RX, and bands 1st through 10th.

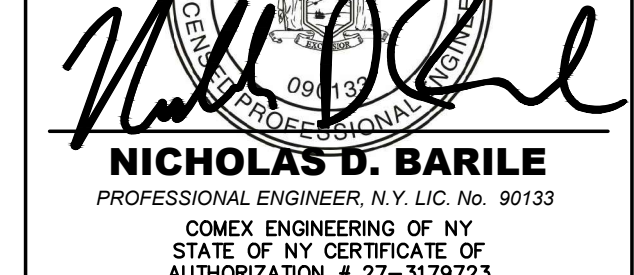
Main table for jumpers to TMAs & Diplexers, continuing from the previous table with rows for sectors Alpha, Beta, Gamma, Delta, Epsilon.



SCHEDULE OF REVISIONS table with columns REV. NO., DATE, DESCRIPTION OF CHANGES. Includes revision 0 dated 09/17/18 with description ISSUED FOR PERMIT.

DRAWN BY: JW CHECKED BY: NDB SCALE: AS NOTED JOB NO: 18024-BLV

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CONSTRUCTION DRAWINGS N-622 CROWN CASTLE TOWER 3105 E. MAIN ST. RT. 6 MOHEGAN LAKE, NY 10574 BLOCK: 1, LOT: 1.2

DRAWING TITLE: GENERAL CONSTRUCTION NOTES

DRAWING SHEET: GN-1