

PROJECT DESCRIPTION

TOWER SCOPE OF WORK:

- REMOVE (3) RRHs PER SECTOR
- REMOVE (1) ANTENNA PER SECTOR
- REMOVE (E) PENTHOUSE STRUCTURE
- REPLACE (6) 7/8" COAX, (6) DC TRUNKS & (3) FIBER TRUNKS FOR RELOCATED SECTORS
- RELOCATE (6) ANTENNAS TOTAL
- RELOCATE (6) RRHs TOTAL
- RELOCATE (2) WCS FILTERS TOTAL (1 PER ALPHA, (1) PER BETA)
- RELOCATE (1) TMA PER SECTOR
- RELOCATE (1) SURGE SUPPRESSORS PER SECTOR
- INSTALL NEW (2) ANTENNAS PER SECTOR
- INSTALL NEW (3) RRHs PER SECTOR
- INSTALL NEW (3) CABLE TRAYS
- INSTALL NEW ROOF TOP MOUNT AND FRP SCREENING BY CALIBER ENGINEERING SOLUTIONS DATED 04/22/2020

GROUND SCOPE OF WORK:

- INSTALL NEW (2) RECTIFIERS IN (E) POWER PLANT.
- INSTALL NEW (1) FSM4 w/ (1) AMIA (1) ABIL & (1) ASIK
- INSTALL NEW (15) VERTIV POWER EXTEND CONVERTERS [NEQ. 44717] IN (E) POWER PLANT

SCOPE OF WORK

1C 3C 5C 5G NR 4TXRX
 2C 4C 6C 2ND RRH ADD

PROJECT INFORMATION

SITE ADDRESS: 1501 SOUTH POTOMAC AURORA, CO 80045 ZONING DISTRICT: PD EXISTING USE: UNMANNED TELECOMMUNICATIONS FACILITY
 LATITUDE: 39° 41' 22.6602" (39.6896278) NEW USE: UNMANNED TELECOMMUNICATIONS FACILITY
 LONGITUDE: -104° 49' 57.4788" (-104.832633) CONSTRUCTION TYPE: II-B
 JURISDICTION: CITY OF AURORA A.P.N.: 1973-24-1-23-001

RF DATA SHEET

DATE ISSUED: 03/29/2019 VERSION: 2.00 RFDS ID :2983896

DRAWING INDEX	REV
10093833-COL01176-T-1	G
10093833-COL01176-GN-1	G
10093833-COL01176-A-1	G
10093833-COL01176-A-1.1	G
10093833-COL01176-A-2	G
10093833-COL01176-A-3	G
10093833-COL01176-A-4	G
10093833-COL01176-A-4.1	G
10093833-COL01176-RF-1	G
10093833-COL01176-RF-2	G
10093833-COL01176-G-1	G

FRP SCREENING DESIGN AND MOUNT DETAILS ADDED AS ADDENDUM TO DRAWING

SITE PROJECT PARTICIPANTS

NAME	COMPANY	NUMBER	
A/E	CHRISTIAN MUELLER	TELTCYTE INFRASTRUCTURE SERVICES	720-244-6013
SAC	NATHAN MARTONE	SMARTLINK, LLC	817-287-9725
RF	ROEL SIGUE	AT&T WIRELESS	703-599-6115
LANDLORD	T.B.D	500 EAST 84TH LLC	T.B.D



SITE NAME: HUMANA
SITE NUMBER: COL01176
PROJECT: LTE 6C: MRUTH034610/5G NR: MRUTH034541/4T4RX: MRUTH034640
CONSTRUCTION DRAWINGS



AT&T MOBILITY
188 INVERNESS DR WEST, SUITE 400
ENGLEWOOD, CO 80112



8502 E VIA DE VENTURA, SUITE 220
SCOTTSDALE, AZ 85258



2227 W. PECOS ROAD, SUITE 4,
CHANDLER AZ 85224

ADDRESS
1501 SOUTH POTOMAC
AURORA, CO 80045

SITE NUMBER
COL01176

SITE NAME
HUMANA

SEAL

VICINITY MAP

DIRECTIONS: (161 INVERNESS DR WEST, 2ND FLOOR ENGLEWOOD, CO 80112):
161 INVERNESS DR W 2ND FLOOR ENGLEWOOD, CO 80112, USA GET ON I-25 N IN CENTENNIAL FROM INVERNESS BLVD (0.7 MI) CONTINUE ON I-25 N TO DENVER. TAKE EXIT 200 FROM I-25 N (4.8 MI) USE THE LEFT 2 LANES TO TURN LEFT ONTO SYOSEMITE ST (1.0 MI) USE THE RIGHT 2 LANES TO TURN RIGHT ONTO CO-30 E/E HAMPDEN AVE CONTINUE TO FOLLOW CO-30 E PASS BY DISCOUNT TIRE (ON THE RIGHT IN 2.4 MI) (2.9 MI) CONTINUE ON E JEWELL AVE. DRIVE TO S WHEELING WAY (2.2 MI) 1501 S POTOMAC ST AURORA, CO 80045, USA

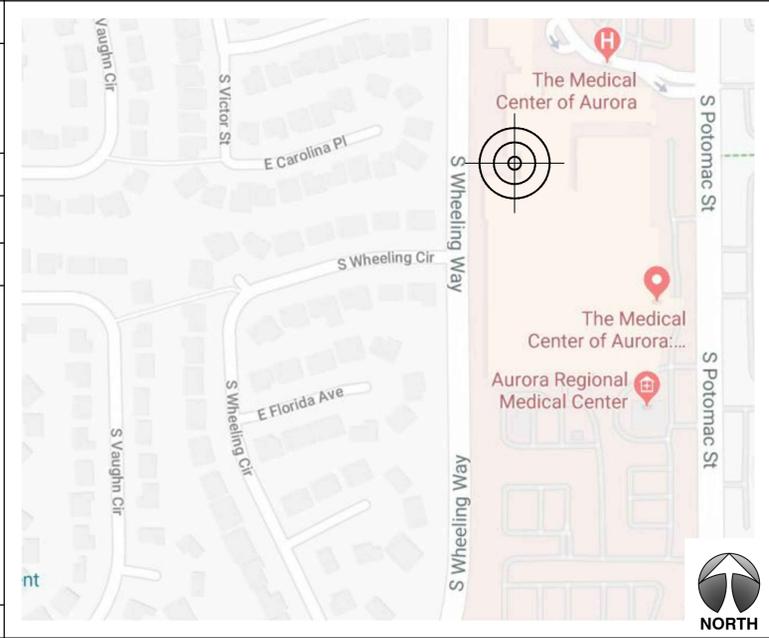
APPLICABLE BLDG. CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
[INTERNATIONAL BUILDING CODE (IBC), 2015 AS ADOPTED BY THE LOCAL JURISDICTION]

ELECTRICAL CODE:
[NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2007, NATIONAL ELECTRICAL CODE, 2009 AS ADOPTED BY THE LOCAL JURISDICTION]

LIGHTNING PROTECTION CODE:
[NFPA 780 - 2002, LIGHTNING PROTECTION CODE]



SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS. AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, THIRTEENTH EDITION ANSI/TIA 222-G, STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C2 NATIONAL ELECTRIC SAFETY CODE, LATEST VERSION

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

STRUCTURAL ANALYSIS OF TOWER BY AMMTEC CONSULTANTS, PLLC AND ANTENNA MOUNT ANALYSIS IS BY AMMTEC CONSULTANTS, PLLC. BOTH THE GC AND BUILDING OFFICIAL MUST ENSURE THE STRUCTURAL ANALYSIS DOCUMENTS HAVE BEEN PROVIDED BY AT&T. GC TO ENSURE THAT ANY TOWER OR MOUNT MODIFICATIONS ARE MADE PRIOR TO INSTALLATION.

DIG INFO

CALL COLORADO ONE CALL
(800) 922-1987
CALL 3 WORKING DAYS BEFORE YOU DIG!



SCALING DRAWINGS

SUBCONTRACTOR 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 THE SAME.

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

DRAWN BY: AK CHECKED BY: CW APPROVED BY: CW

FA #: 10093833

REV	DATE	DESCRIPTION
A	10/25/19	PRELIMINARY ZONING DRAWINGS
B	01/28/20	SCREENING APPROVAL
C	02/03/20	CLIENT COMMENTS
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SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 - 1.1. CONTRACTOR – T.B.D.
 - 1.2. SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 - 1.3. OWNER – AT&T MOBILITY
 - 1.4. OEM – ORIGINAL EQUIPMENT MANUFACTURE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
5. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
6. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
7. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR.
8. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR’S EXPENSE TO THE SATISFACTION OF OWNER.
9. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER’S DESIGNATED LOCATION.
10. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
11. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
12. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.
13. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, GENERAL CONSTRUCTION SERVICES.
14. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
15. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
16. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
17. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
18. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
19. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
20. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
21. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
22. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PLANELOAD AND CIRCUIT ID’S).
23. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
24. ALL TIE WRAPS WHERE PERMITTED SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. USE LOW PROFILES TIE WRAPS.
25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



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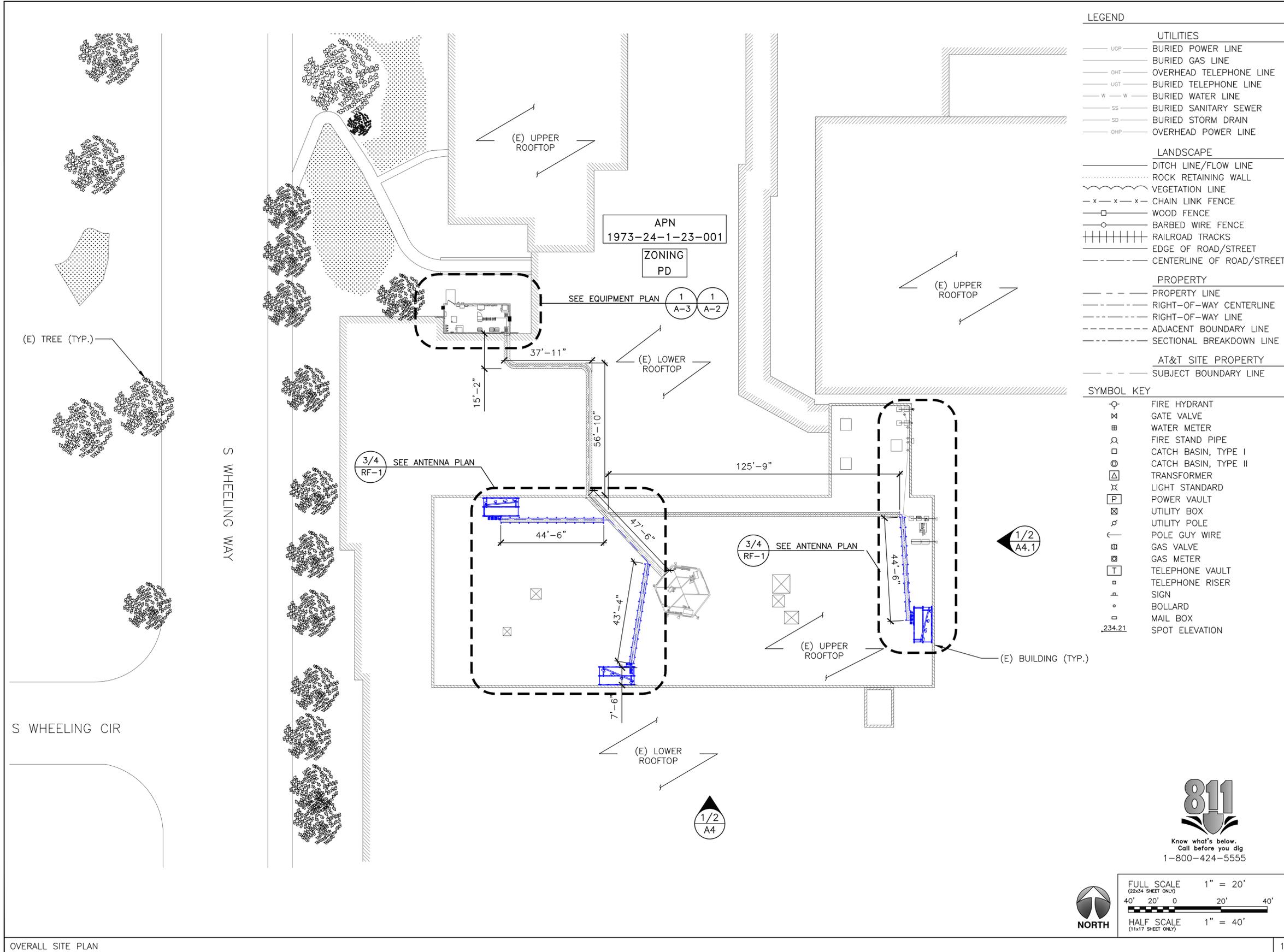
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SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1



- LEGEND**
- UTILITIES**
- UGP BURIED POWER LINE
 - BURIED GAS LINE
 - OHT OVERHEAD TELEPHONE LINE
 - UGT BURIED TELEPHONE LINE
 - W-W BURIED WATER LINE
 - SS BURIED SANITARY SEWER
 - SD BURIED STORM DRAIN
 - OHP OVERHEAD POWER LINE
- LANDSCAPE**
- DITCH LINE/FLOW LINE
 - ROCK RETAINING WALL
 - VEGETATION LINE
 - x - x - x - CHAIN LINK FENCE
 - WOOD FENCE
 - BARBED WIRE FENCE
 - RAILROAD TRACKS
 - EDGE OF ROAD/STREET
 - CENTERLINE OF ROAD/STREET
- PROPERTY**
- PROPERTY LINE
 - RIGHT-OF-WAY CENTERLINE
 - RIGHT-OF-WAY LINE
 - ADJACENT BOUNDARY LINE
 - SECTIONAL BREAKDOWN LINE
- AT&T SITE PROPERTY**
- SUBJECT BOUNDARY LINE

- SYMBOL KEY**
- ⊕ FIRE HYDRANT
 - ⊗ GATE VALVE
 - ⊞ WATER METER
 - ⊙ FIRE STAND PIPE
 - ⊠ CATCH BASIN, TYPE I
 - ⊡ CATCH BASIN, TYPE II
 - ⊞ TRANSFORMER
 - ⊗ LIGHT STANDARD
 - ⊞ POWER VAULT
 - ⊞ UTILITY BOX
 - ⊞ UTILITY POLE
 - ⊞ POLE GUY WIRE
 - ⊞ GAS VALVE
 - ⊞ GAS METER
 - ⊞ TELEPHONE VAULT
 - ⊞ TELEPHONE RISER
 - ⊞ SIGN
 - ⊞ BOLLARD
 - ⊞ MAIL BOX
 - ⊞ SPOT ELEVATION

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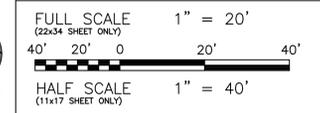
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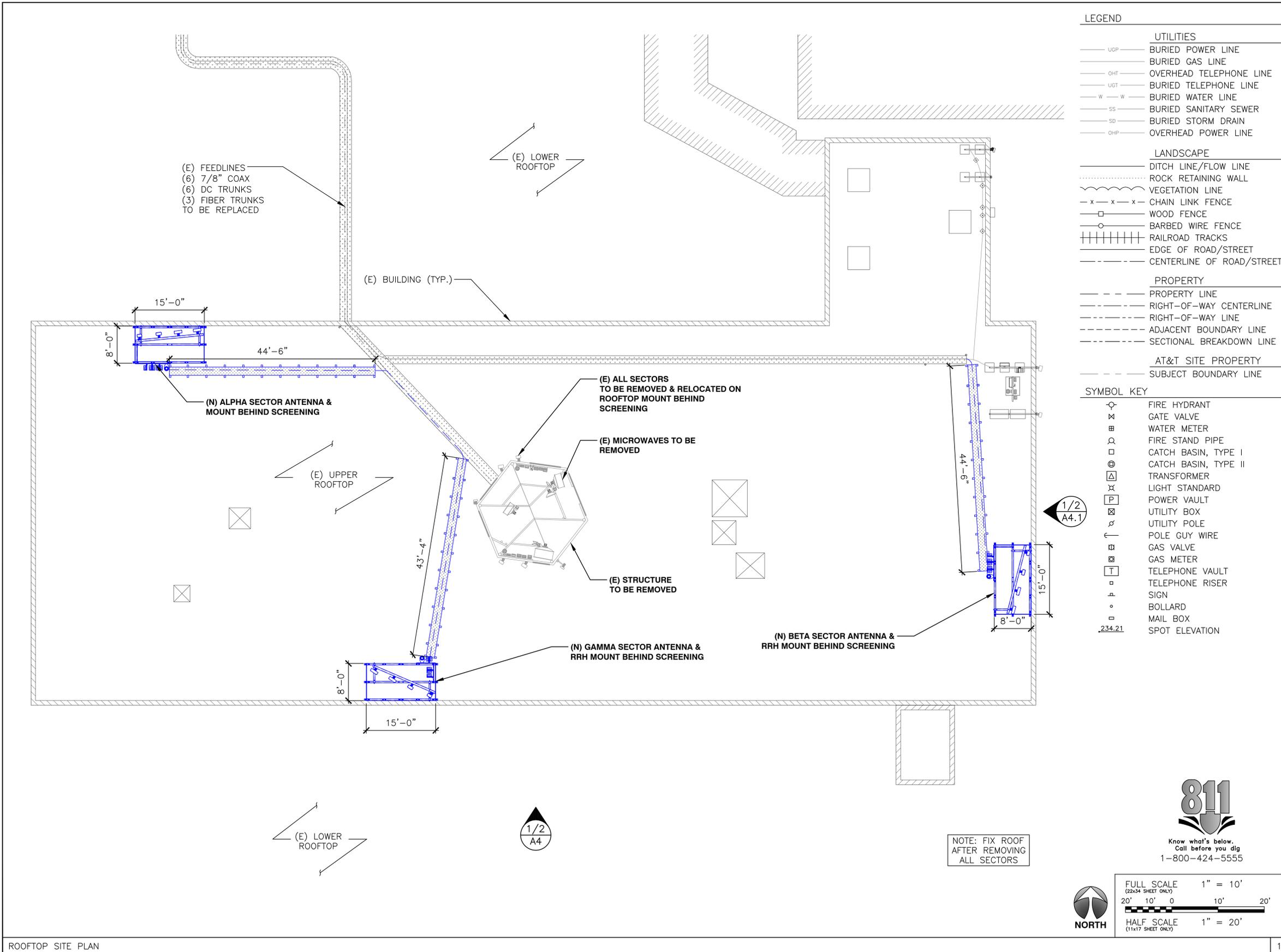
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SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
A-1



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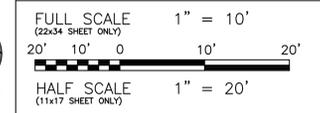
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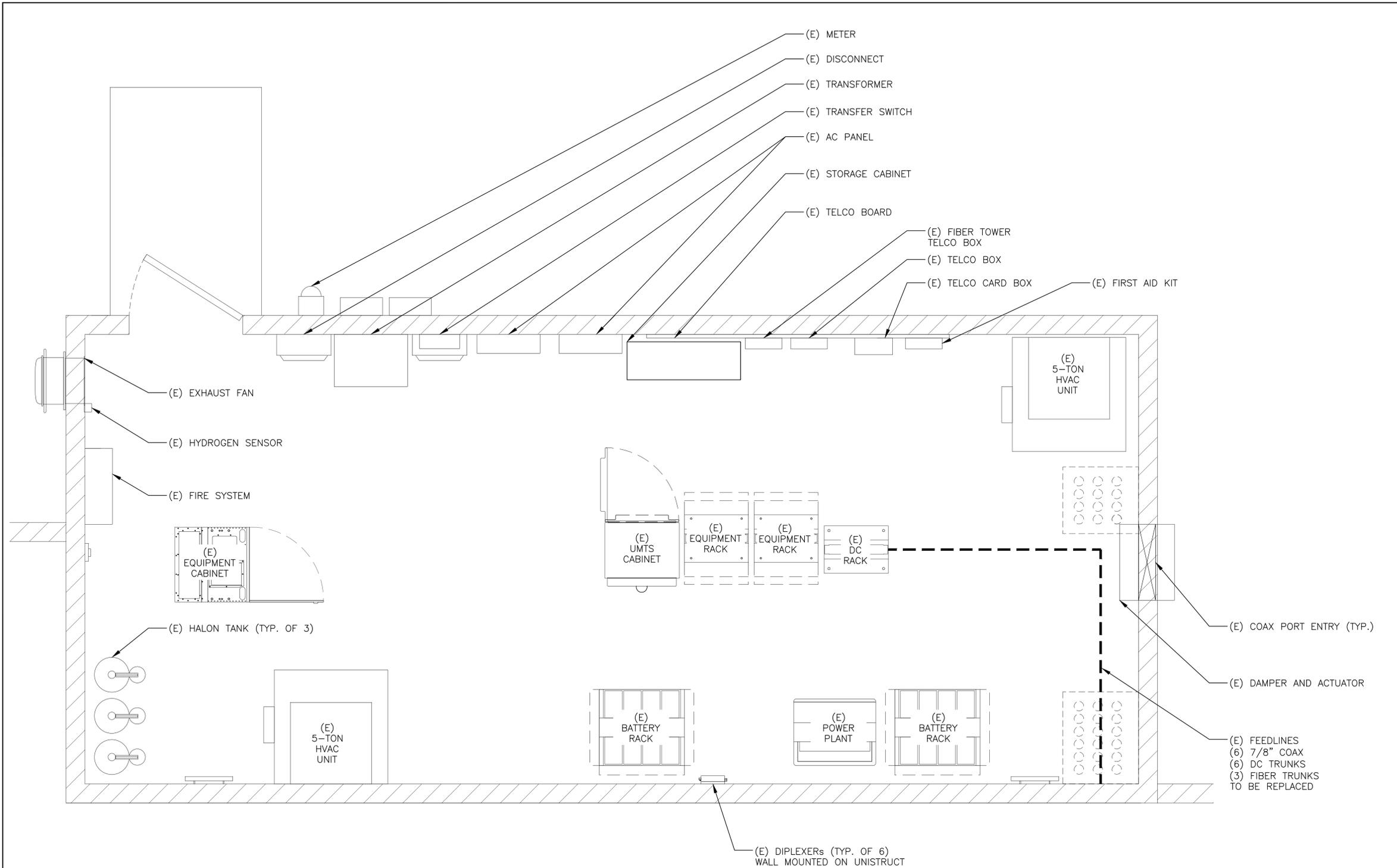
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SHEET TITLE
ROOFTOP PLAN

SHEET NUMBER
A-1.1



NOTE: FIX ROOF AFTER REMOVING ALL SECTORS



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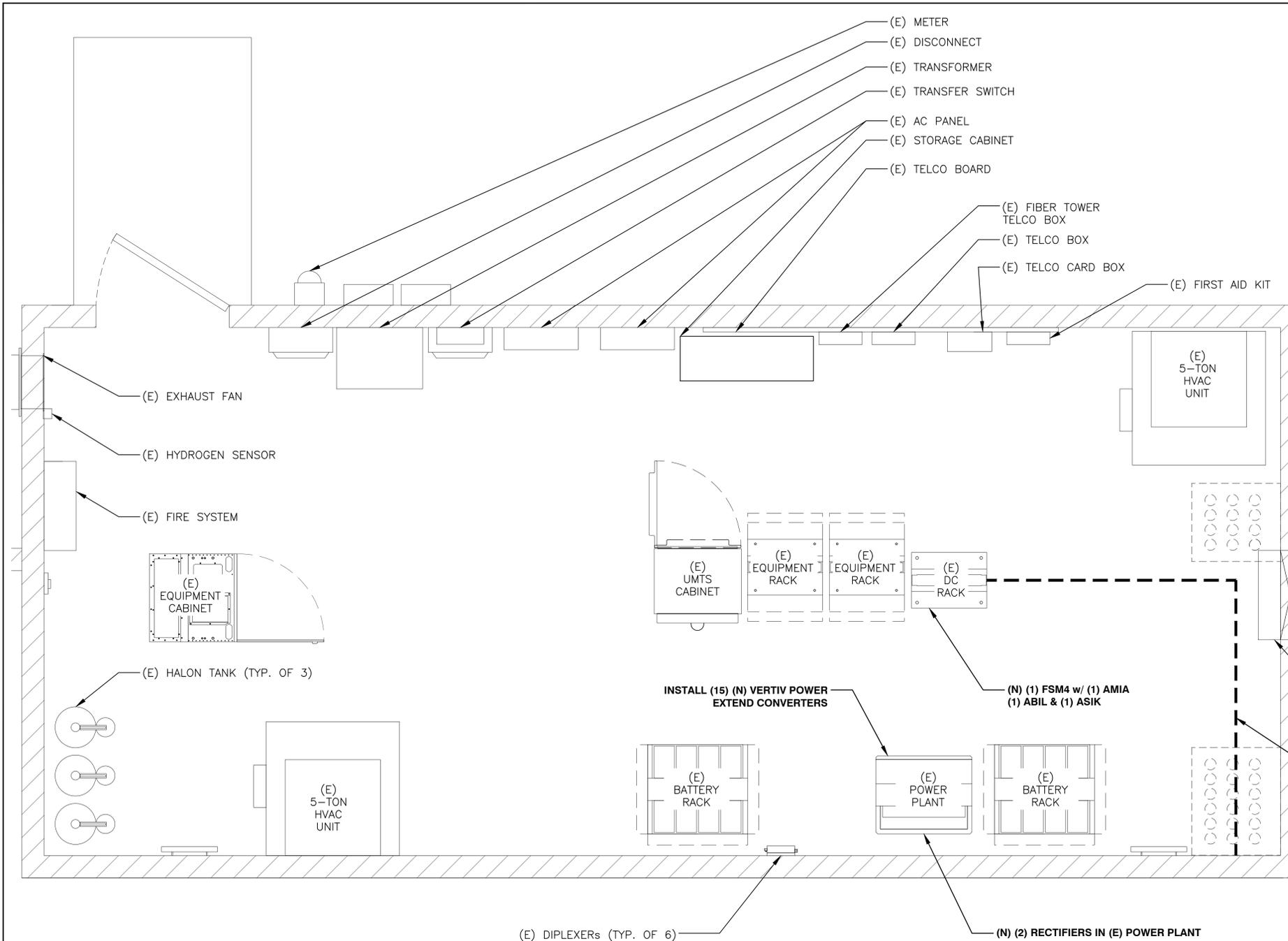
SHEET TITLE
EXISTING ENLARGED EQUIPMENT PLAN

SHEET NUMBER
A-2



FULL SCALE 3/8" = 1'-0"
 (22x34 SHEET ONLY)
 4' 2' 0' 1' 2' 3' 6'

HALF SCALE 3/16" = 1'-0"
 (11x17 SHEET ONLY)



ELECTRICAL SOW SUMMARY (RESULTS BASED ON POWER AUDIT TOOL PROVIDED BY AT&T):

- FAILS RECTIFIER; EXISTING NETSURE 721 -48VDC POWER PLANT IS EQUIPPED WITH (14) ENERGIZED MODEL R48 2000e3 2KW -48VDC 37A RECTIFIERS. INSTALL (2) RECTIFIERS FOR A TOTAL OF (16) TO SATISFY N+1.
- PASSES CONVERTER; EXISTING NETSURE 721 -48VDC POWER PLANT IS EQUIPPED WITH (8) ENERGIZED MODEL C48/24-1500 1.5KW -48/+24VDC 63A DC CONVERTERS.
- BATTERY RESERVE CAPACITY @ 4.89 HRS, THERE ARE (40) MARATHON M12V155FT BATTERIES i.e. (10) STRING CONFIGURED @ 48VDC NOMINAL.
- PASSES HVAC TONNAGE CAPACITY; THERE ARE (2) EXISTING 5-TON HVAC UNITS.
- NOTE:
- SITE FAILS 200 AMP PANEL @ 249.33 AMPS RECOMEND LOAD STUDY OR UPGRADE TO 400 AMP

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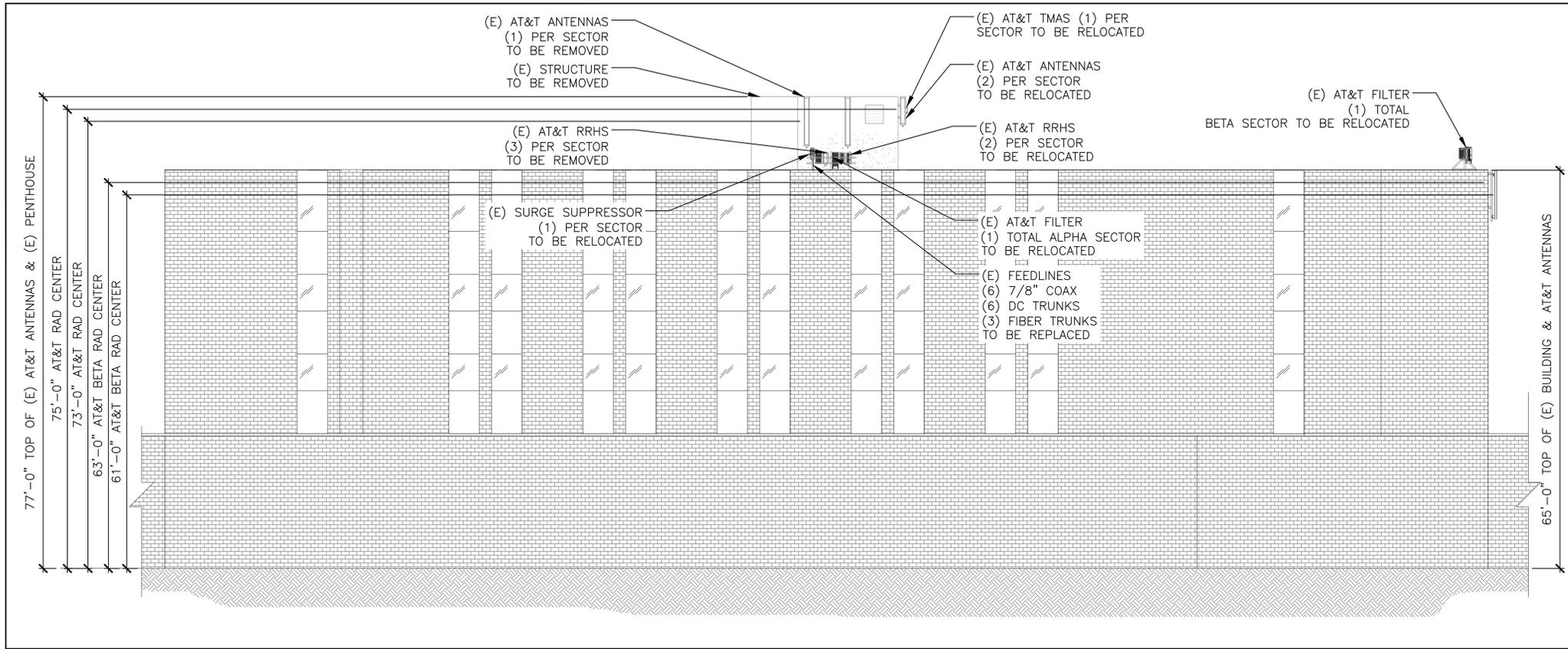
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SHEET TITLE
NEW ENLARGED EQUIPMENT PLAN

SHEET NUMBER
A-3

FULL SCALE (22x34 SHEET ONLY) 3/8" = 1'-0"
4' 2' 0' 1' 2' 3' 6'

HALF SCALE (11x17 SHEET ONLY) 3/16" = 1'-0"



EXISTING SOUTH BUILDING ELEVATION

AT&T MOBILITY
 188 INVERNESS DR WEST, SUITE 400
 ENGLEWOOD, CO 80112

8502 E VIA DE VENTURA, SUITE 220
 SCOTTSDALE, AZ 85258

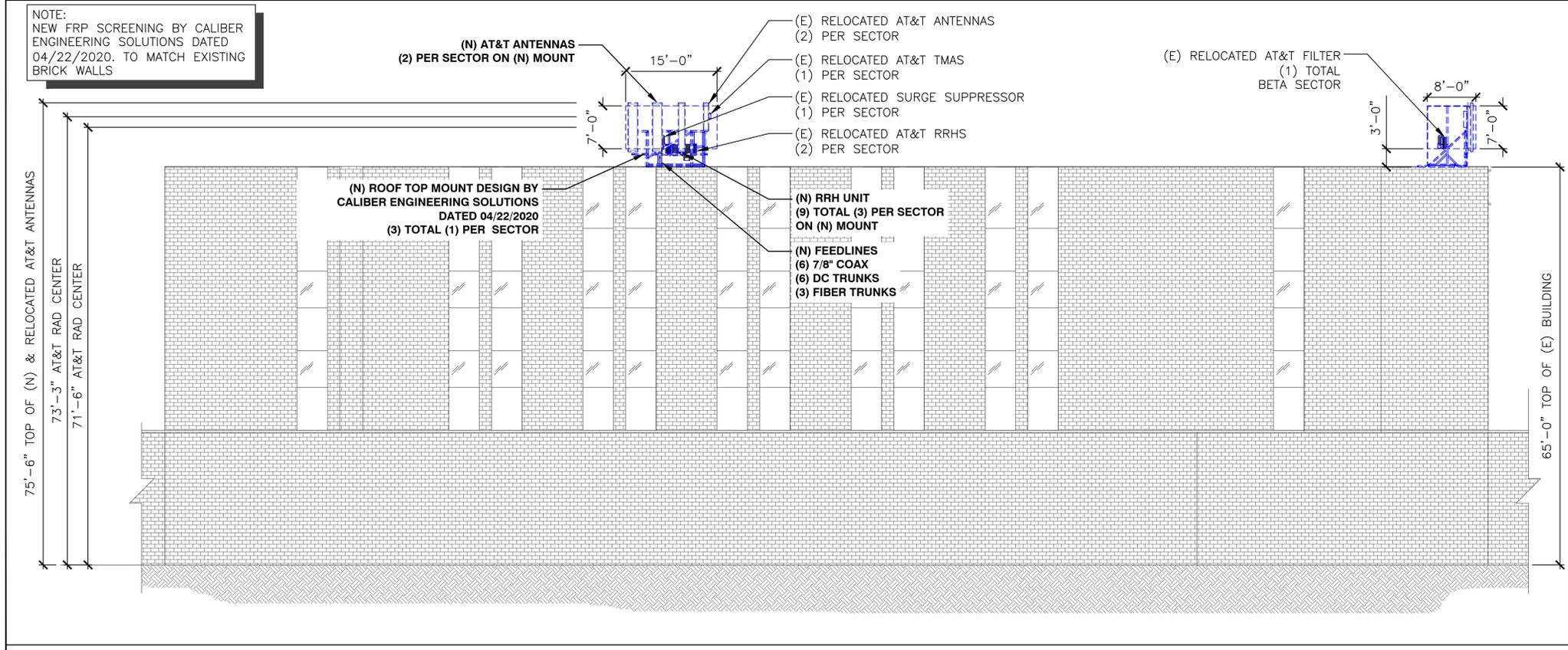
2227 W. PECOS ROAD, SUITE 4.
 CHANDLER, AZ 85224

ADDRESS
 1501 SOUTH POTOMAC
 AURORA, CO 80045

SITE NUMBER
 COL01176

SITE NAME
 HUMANA

SEAL



NEW SOUTH BUILDING ELEVATION

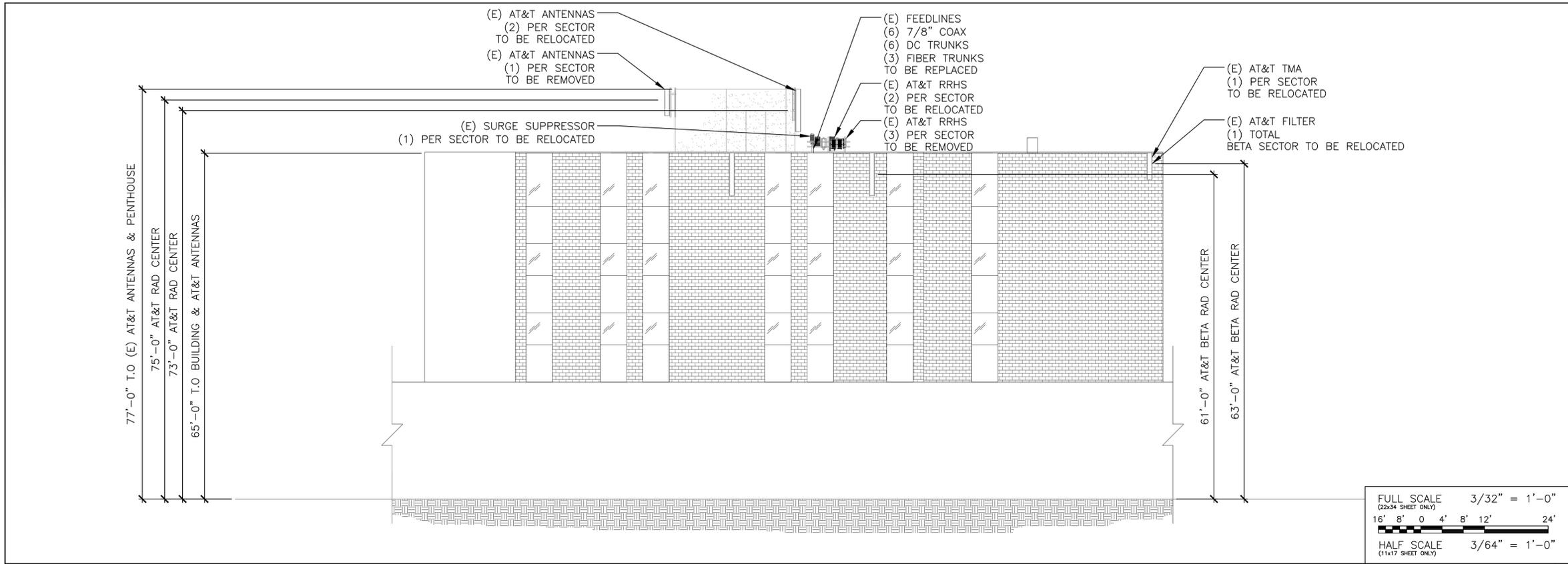
DRAWN BY: AK CHECKED BY: CW APPROVED BY: CW

FA #: 10093833

REV	DATE	DESCRIPTION
A	10/25/19	PRELIMINARY ZONING DRAWINGS
B	01/28/20	SCREENING APPROVAL
C	02/03/20	CLIENT COMMENTS
D	04/27/20	SCREENING REVISION
E	05/21/20	CLIENT REVISIONS
F	07/02/20	CLIENT CORRECTIONS
G	07/09/20	SCREENING REVISION

SHEET TITLE
EXISTING & NEW BUILDING ELEVATION

SHEET NUMBER
A-4



at&t Mobility
 AT&T MOBILITY
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 ENGLEWOOD, CO 80112

smartlink
 8502 E VIA DE VENTURA, SUITE 220
 SCOTTSDALE, AZ 85258

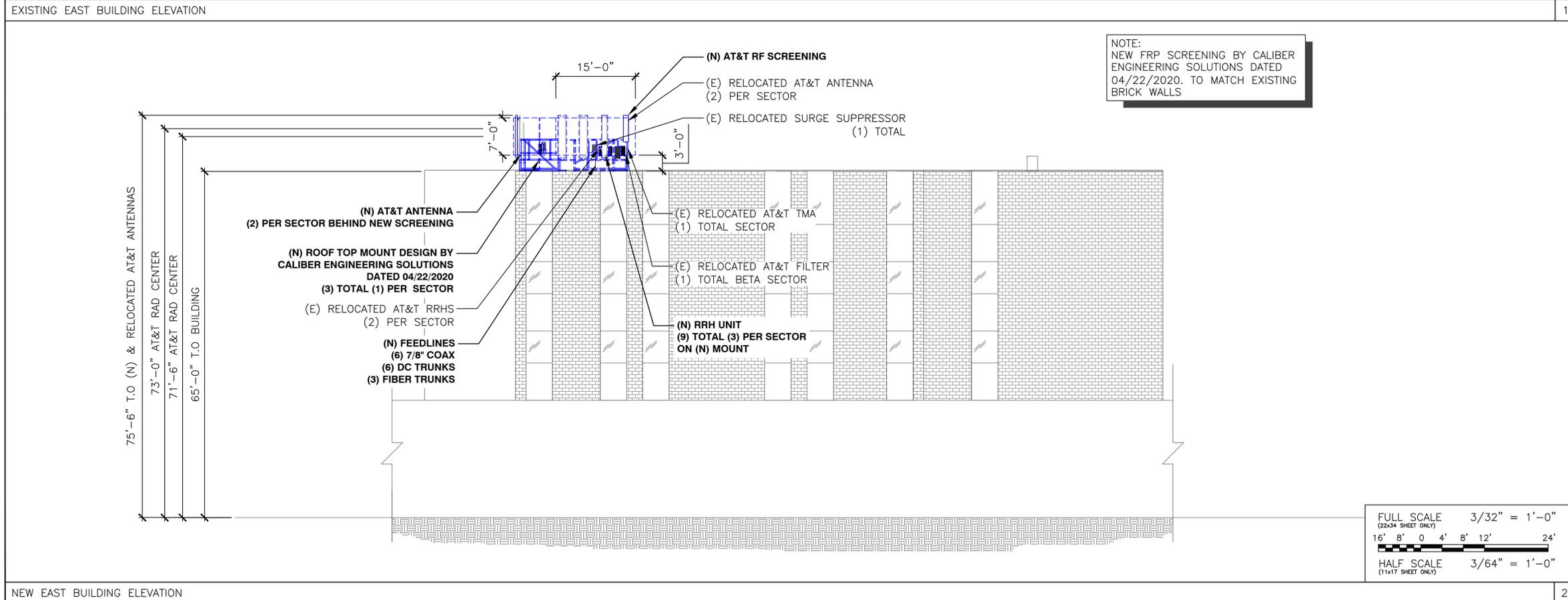
TEL CYTE
 INFRASTRUCTURE SERVICES
 2227 W. PECOS ROAD, SUITE 4,
 CHANDLER AZ 85224

ADDRESS
 1501 SOUTH POTOMAC
 AURORA, CO 80045

SITE NUMBER
 COL01176

SITE NAME
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SEAL



DRAWN BY: AK CHECKED BY: CW APPROVED BY: CW

FA #: 10093833

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SHEET TITLE
EXISTING & NEW BUILDING ELEVATION

SHEET NUMBER
A-4.1

EXISTING ANTENNA SCHEDULE					
SECTOR	POSITION	TECH	ANTENNA	RRH	FEED LINE TYPE
ALPHA	1	UMTS	55" PANEL	-	(2) (E) COAX CABLES
ALPHA	2	----	-	-	-
ALPHA	3	LTE	96" PANEL	(3) LTE	EXISTING FIBER TRUNK
ALPHA	4	LTE	96.7" PANEL	(2) LTE	EXISTING FIBER TRUNK
BETA	1	UMTS	55" PANEL	-	(2) (E) COAX CABLES
BETA	2	----	-	-	-
BETA	3	LTE	96.7" PANEL	(2) LTE	EXISTING FIBER TRUNK
BETA	4	LTE	96" PANEL	(3) LTE	EXISTING FIBER TRUNK
GAMMA	1	UMTS	55" PANEL	-	(2) (E) COAX CABLES
GAMMA	2	----	-	-	-
GAMMA	3	LTE	96" PANEL	(3) LTE	EXISTING FIBER TRUNK
GAMMA	4	LTE	96.7" PANEL	(2) LTE	EXISTING FIBER TRUNK

NEW ANTENNA SCHEDULE						
SECTOR	POSITION	TECH	ANTENNA	RRH	FEED LINE TYPE	CABLE LENGTH
ALPHA	1	UMTS	55" PANEL	-	(2) NEW COAX CABLES	±280.8'
ALPHA	2	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	
ALPHA	3	LTE	96" PANEL	(1) LTE	NEW FIBER TRUNK	
ALPHA	4	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	
BETA	1	UMTS	55" PANEL	-	(2) NEW COAX CABLES	±422.4'
BETA	2	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	
BETA	3	LTE	96" PANEL	(1) LTE	NEW FIBER TRUNK	
BETA	4	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	
GAMMA	1	UMTS	55" PANEL	-	(2) NEW COAX CABLES	±315.6'
GAMMA	2	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	
GAMMA	3	LTE	96" PANEL	(1) LTE	NEW FIBER TRUNK	
GAMMA	4	LTE	96" PANEL	(2) LTE	NEW FIBER TRUNK	

- NOTES:
 1. DO NOT USE COAX LENGTHS FOR CUT LENGTHS: ESTIMATES ONLY
 2. CONFIRM THAT GENERAL CONTRACTOR IS USING LATEST VERSION OF RFDS.
 * OR SIMILAR



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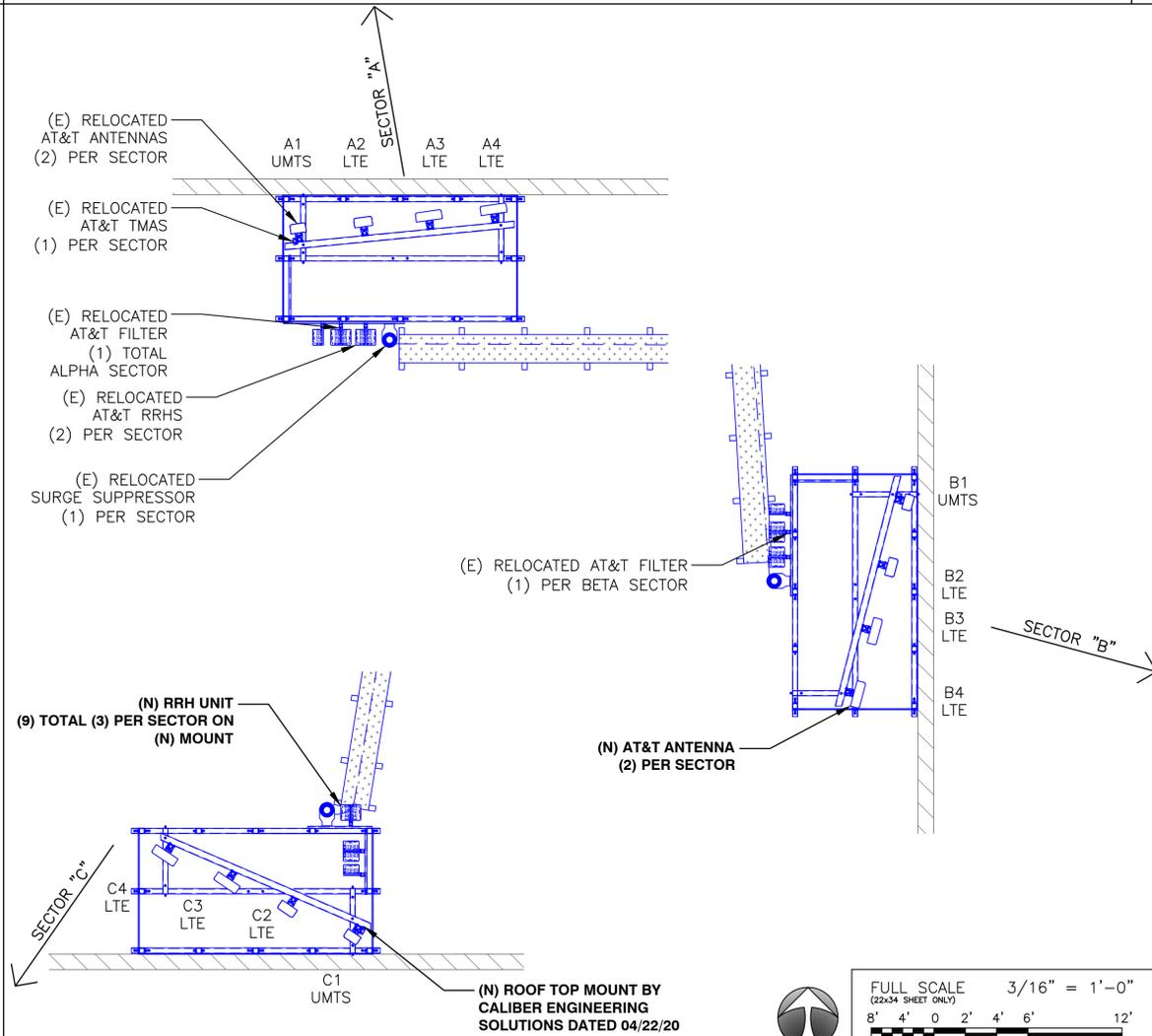
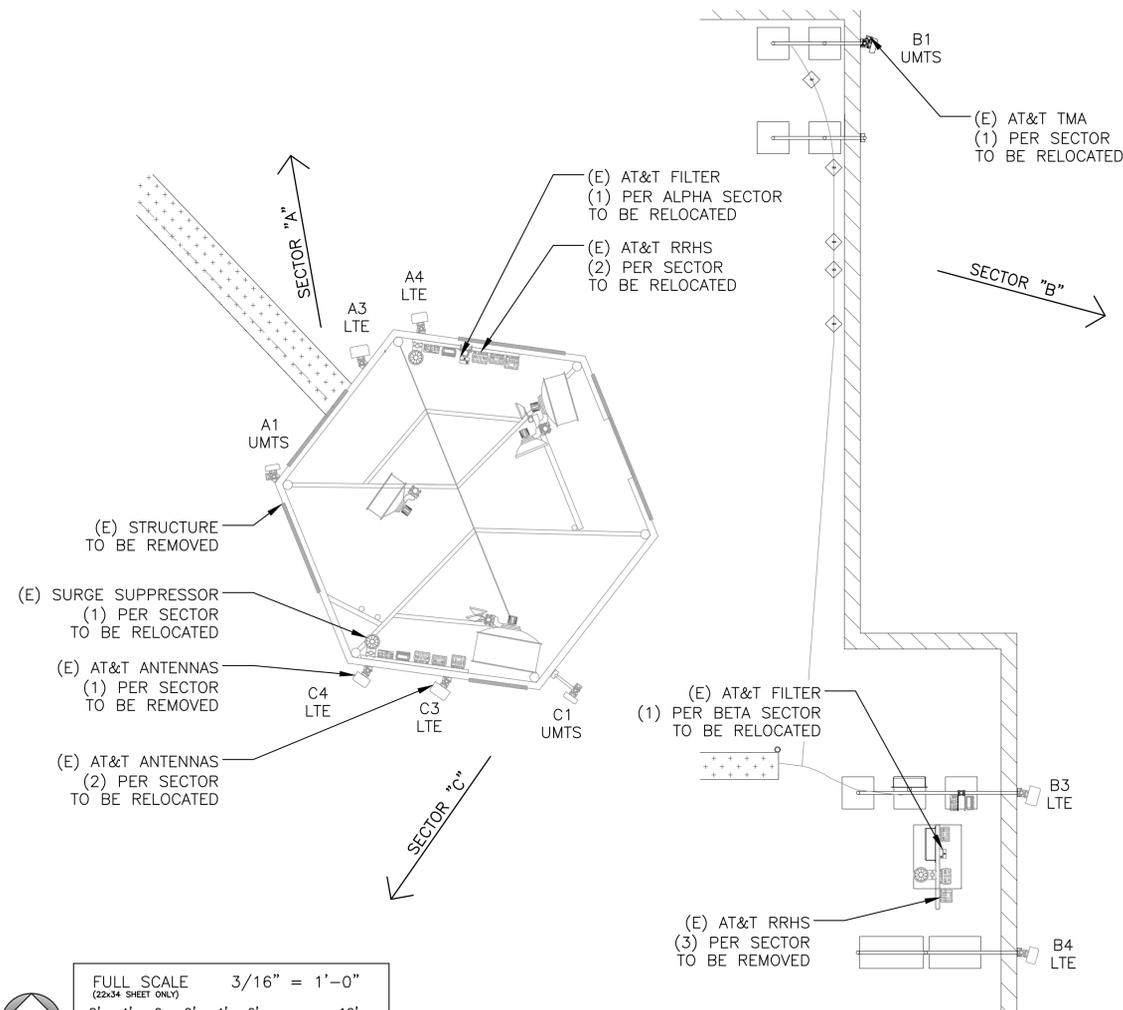
SITE NUMBER
 COL01176

SITE NAME
 HUMANA

SEAL

EXISTING ANTENNAS AND COAX CONFIGURATION AND SCHEDULE

NEW ANTENNA AND COAX CONFIGURATION AND SCHEDULE



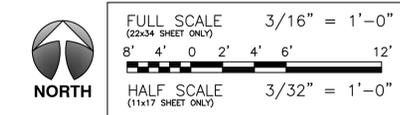
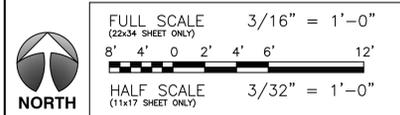
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APPROVED BY: CW
 CHECKED BY: CW
 DRAWN BY: AK

SHEET TITLE
EXISTING & NEW ANTENNA CONFIGURATION

SHEET NUMBER
RF-1

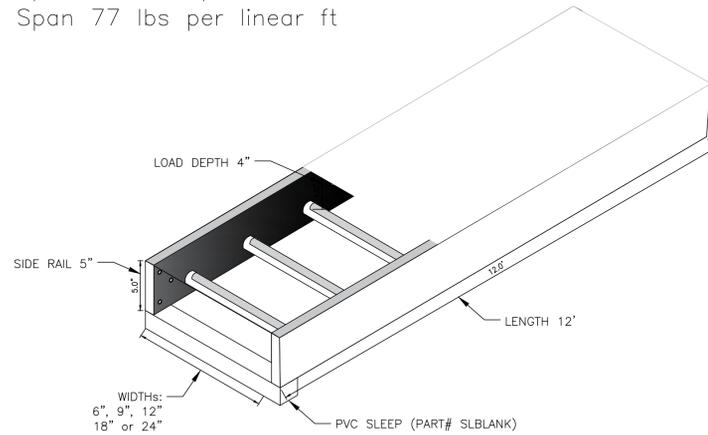


EXISTING ANTENNA CONFIGURATION

NEW ANTENNA CONFIGURATION

Weight:	
6"x12'	15 lbs
9"x12'	17 lbs
12" x12'	19 lbs
18" x12'	22 lbs
24" x12'	23 lbs

Load:	
6'	Span 324 lbs per linear ft
8'	Span 125 lbs per linear ft
10'	Span 117 lbs per linear ft
12'	Span 77 lbs per linear ft

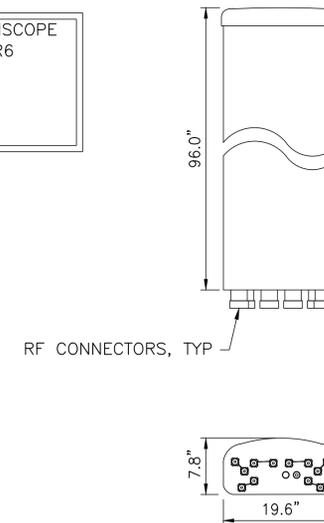


Features: Aluminum cable tray with press fit rungs. Covers and bends also available.
Construction: Constructed from extruded T-6061 aluminum.



DC INPUT	
VOLTAGE RANGE	-42 VDC TO -58 VDC
MAXIMUM CURRENT	24.35 A
DC OUTPUT	
VOLTAGE	-58 VDC
MAXIMUM POWER	1000 W
MAXIMUM CURRENT	17.2 A @ -58 VDC
PEAK EFFICIENCY	98.6%
MECHANICS	
DIMENSIONS (H X W X D)	107.2 X 18.5 X 109.7 MM 4.22 X 0.73 X 4.32 INCHES
WEIGHT	0.45 KG / 1.0 LBS

MANUFACTURER: COMMSCOPE
PART #: NNH4-65C-R6
LENGTH: 96.0"
WIDTH: 19.6"
DEPTH: 7.8"
WEIGHT: 99.2 lbs.



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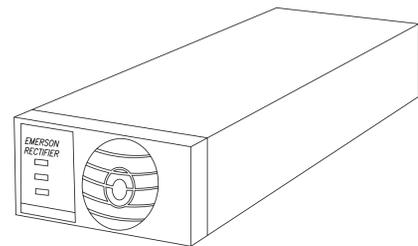
SEAL

ALUMINUM COVERED CABLE TRAY

1 VERTIV CONVERTERS

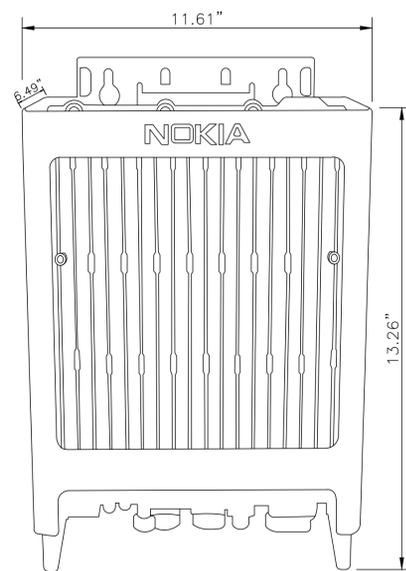
2 COMMSCOPE NNH4-65C-R6

3

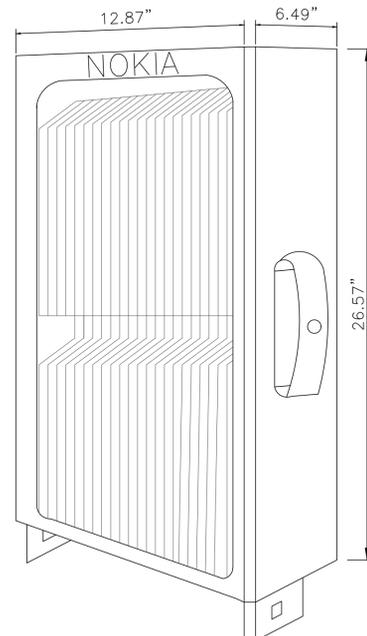


NEQ.15930 1R482000E3
RECTIFIER, NETSURE™ 512 & 721, HIGH
EFFICIENCY,
-48 VDC, 40 A/2000 W, 120/208/240 VAC,
SINGLE-PHASE INPUT, 4.4 LBS.

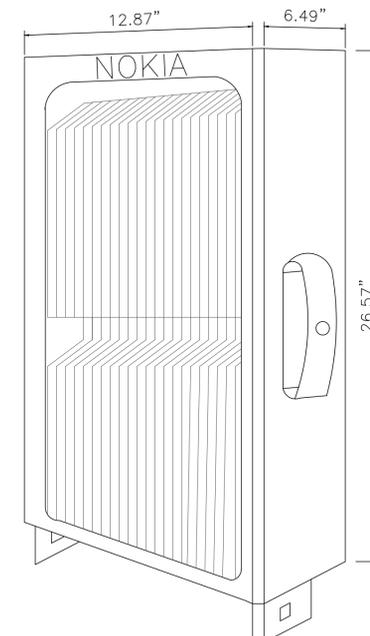
MANUFACTURER: NOKIA
MODEL: AIRSCALE RRH 4T4R B5 160W
HEIGHT: 13.26" (337mm)
WIDTH: 11.61" (295mm)
DEPTH: 6.49" (165mm)
WEIGHT: 36.82 LBS (16.7KG)



MANUFACTURER: NOKIA
MODEL: AIRSCALE RRH 4T4R B25/B66 320W
HEIGHT: 26.57" (675mm)
WIDTH: 12.87" (327mm)
DEPTH: 6.49" (165mm)
WEIGHT: <88.18 LBS (40.0KG)



MANUFACTURER: NOKIA
MODEL: AIRSCALE RRH 4T4R B12/B14 320W
HEIGHT: 26.57" (675mm)
WIDTH: 12.87" (327mm)
DEPTH: 6.49" (165mm)
WEIGHT: <101.41 LBS (46.0KG)



RECTIFIER DETAIL

4 NEW AIRSCALE RRH 4T4R B5 160W AHCA

5 NEW AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB

6 NEW AIRSCALE DUAL RRH 4T4R B12/14 320W AHLBA

7

DRAWN BY: AK CHECKED BY: CW APPROVED BY: CW

FA #: 10093833

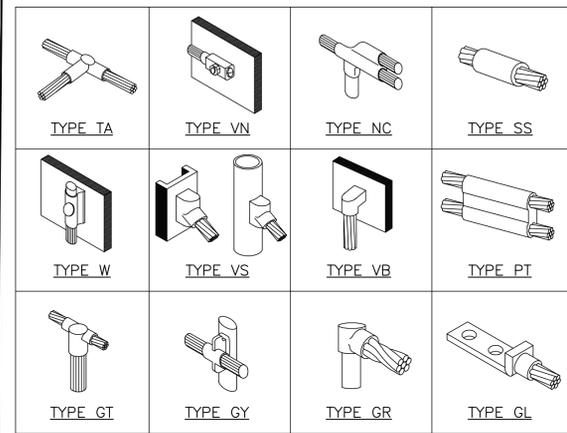
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SHEET TITLE

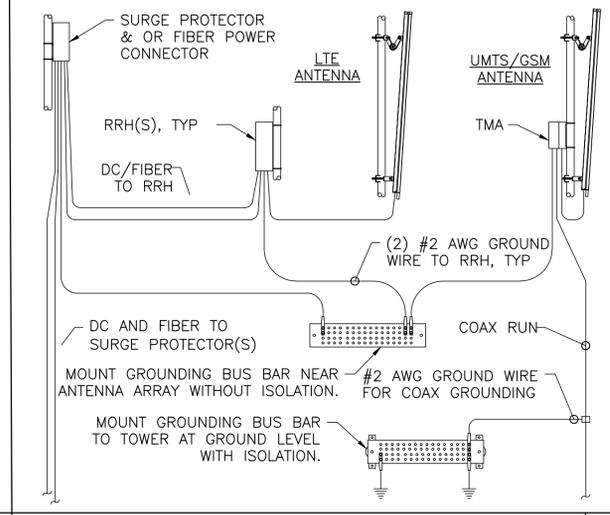
RF & EQUIPMENT DETAILS

SHEET NUMBER

RF-2



NOTE: CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES - CONSULT WITH PROJECT MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED.



- GENERAL GROUNDING NOTES:**
1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
 2. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING GROUND WIRES AND CONNECT TO SURFACE MOUNTED BUS BARS. FOLLOW ANTENNA AND BTS MANUFACTURERS PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS AND EXIT FROM TOWER OR POLE USING MFR'S PRACTICES.
 3. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE GREEN INSULATED WIRE ABOVE GROUND.
 4. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE. GROUNDING AND OTHER OPERATIONAL TESTING WILL BE WITNESSED BY AT&T REPRESENTATIVE.
 5. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

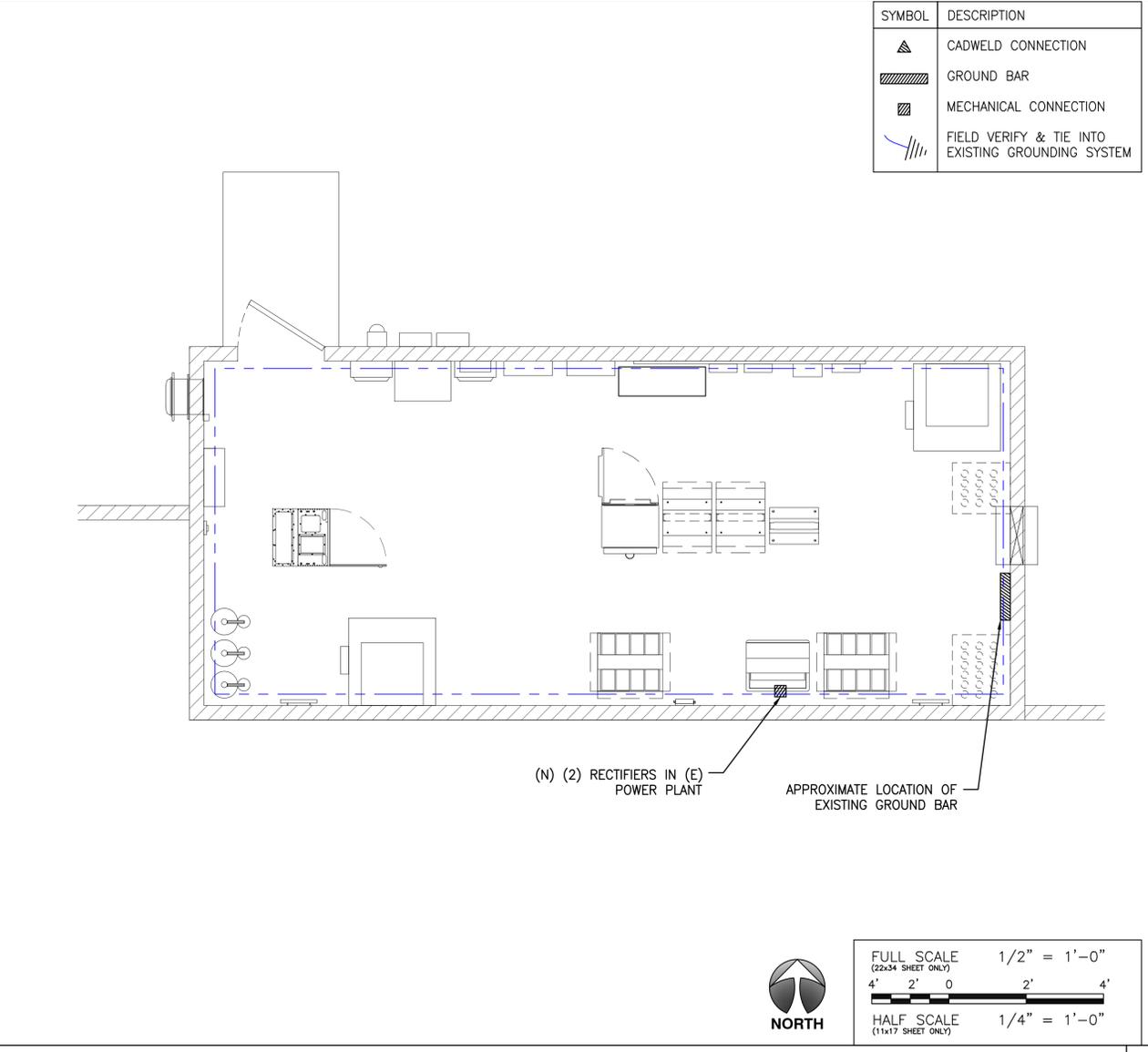
CAD WELD EXAMPLES

1 ANTENNA GROUNDING DIAGRAM

2 GROUNDING NOTES

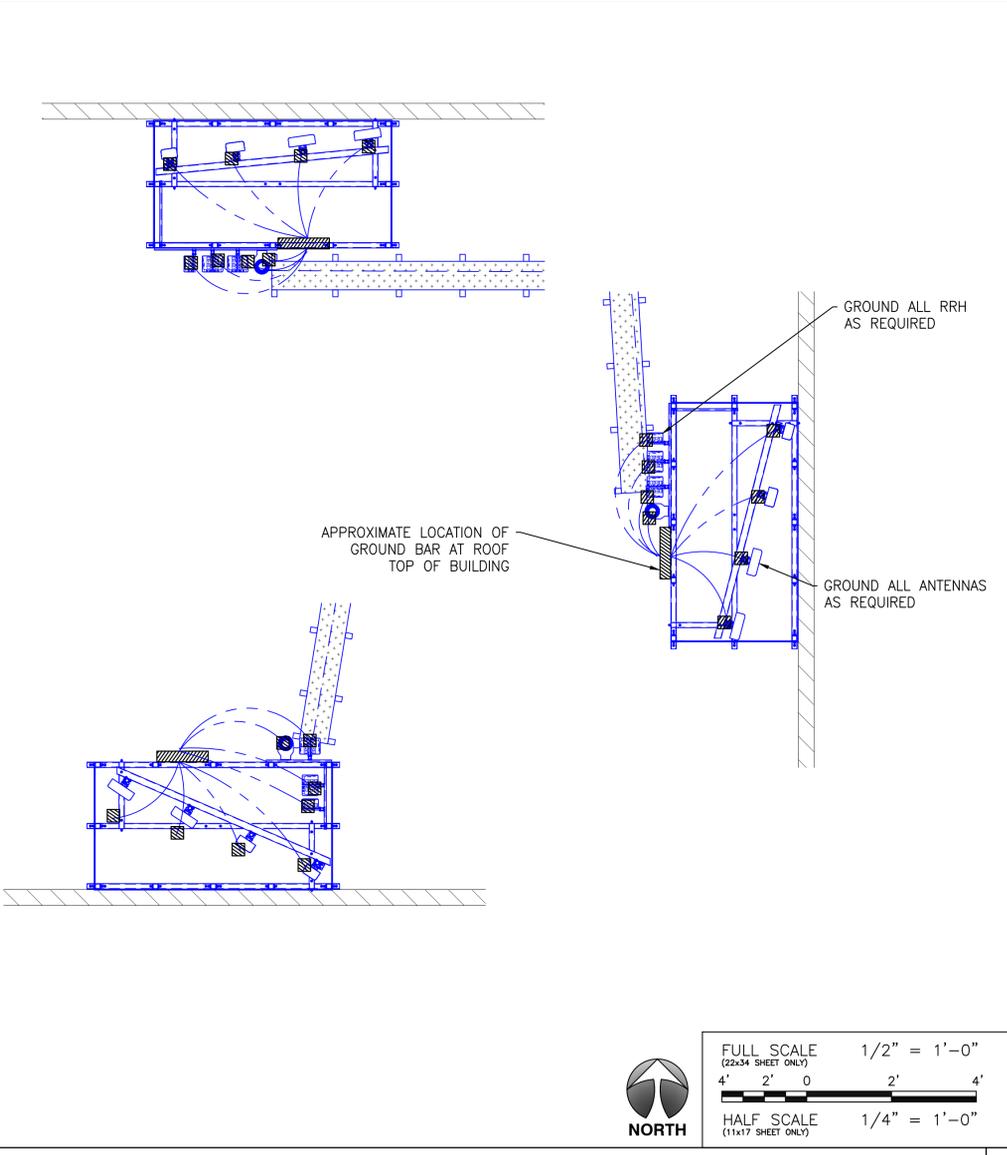
3 NOT USED

4



GROUNDING PLAN

5 ANTENNA PLAN



5 ANTENNA PLAN

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SHEET TITLE
**SCHEMATIC GROUNDING
PLAN & DETAILS**

SHEET NUMBER
G-1

