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DRIVING DIRECTIONS

DRIVING DIRECTIONS FROM T-MOBILE OFFICE AT:
8550 W BRYN MAWR AVE, CHICAGO IL 60631

- GET ON I-90 W FROM W BRYN MAWR AVE AND N CUMBERLAND AVE 0.9 MI
- HEAD SOUTH TOWARD W BRYN MAWR AVE 259 FT
- TURN LEFT ONTO W BRYN MAWR AVE 0.3 MI
- USE THE LEFT 2 LANES TO TURN LEFT ONTO N CUMBERLAND AVE 0.4 MI
- USE THE RIGHT LANE TO MERGE ONTO I-90 W VIA THE RAMP TO ROCKFORD/I-294 0.2 MI
- MERGE ONTO I-90 W 0.6 MI
- USE THE RIGHT 2 LANES TO TAKE EXIT 78 FOR I-190 W/I-294 S/TOLLWAY TOWARD O'HARE/INDIANA 0.9 MI
- CONTINUE ONTO I-190 W 0.3 MI
- USE THE LEFT LANE TO TAKE EXIT 1D TO MERGE ONTO I-294 S TOWARD INDIANA 9.2 MI
- USE THE RIGHT 2 LANES TO TAKE THE INTERSTATE 88 WEST E-W TOLLWAY EXIT TOWARD AURORA 0.4 MI
- MERGE ONTO I-88 W 20.6 MI
- TAKE THE FARNSWORTH AVENUE S EXIT 0.2 MI
- MERGE ONTO N FARNSWORTH AVE 3.0 MI
- TURN RIGHT ONTO E NEW YORK ST 0.7 MI
- TURN LEFT ONTO N SMITH ST 0.3 MI
- TURN RIGHT ONTO NORTH AVE 0.4 MI
- TURN LEFT ONTO S UNION ST 135 FT

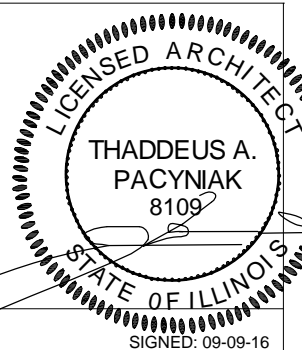
DESTINATION WILL BE ON THE RIGHT

TOTAL TRAVEL ESTIMATE: 37.5 MILES, ABOUT 46 MINUTES.

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PROFESSIONAL LICENSURE

I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF THE GOVERNING LOCAL BUILDING CODE.

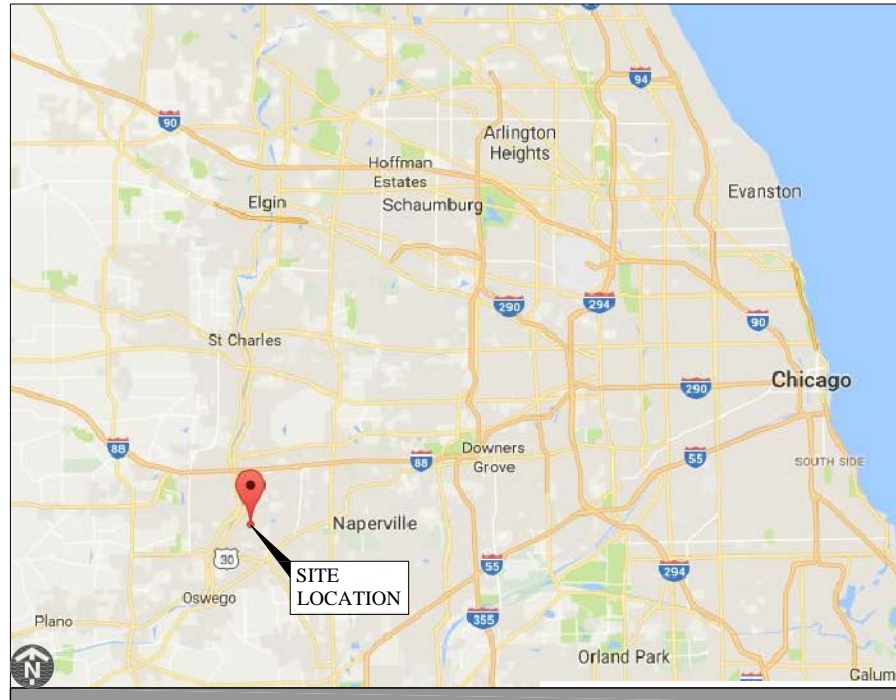


LICENSED PROFESSIONAL - STATE OF ILLINOIS

EXPIRES: 11-30-16

SIGNED: 09-09-16

REGIONAL MAP



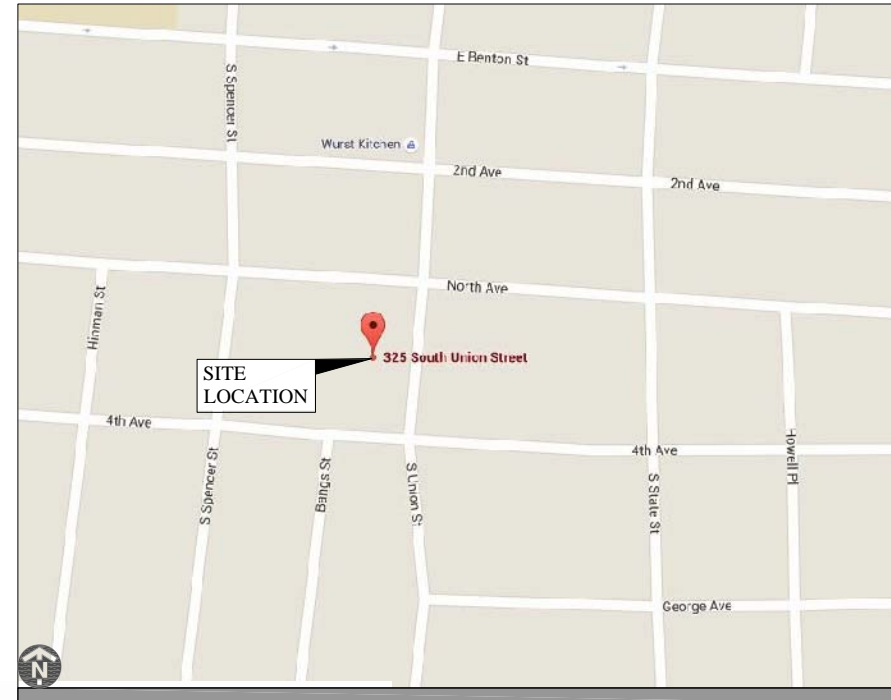
CONTRACTOR SHALL HAVE THE SITE MANNED WITH A SUPERVISOR AND CREW FOR EVERY DAY OF THE BUILD. GC SHALL CONTACT THE A&E FIRM PRIOR TO BIDWALK AND CONSTRUCTION START TO CONFIRM THAT DRAWINGS ARE THE MOST RECENT SET.

Scope of Work

THE SCOPE OF WORK CONSISTS OF INSTALLATION OF NEW WIRELESS EQUIPMENT:

- INSTALLATION OF (3) NEW ANTENNAS
- INSTALLATION OF (1) GPS ANTENNA
- INSTALLATION OF (1) MICROWAVE DISH ANTENNA
- INSTALLATION OF (2) SYSTEM MODULES
- INSTALLATION OF (3) RF MODULES
- INSTALLATION OF (3) COVP'S
- INSTALLATION OF (2) HYBRID CABLES, (1) MICROWAVE CABLE & (1) COAX CABLE FOR GPS
- INSTALLATION OF (1) HP LARGE SITE SUPPORT CABINET
- INSTALLATION OF (1) BATTERY CABINET
- INSTALLATION OF (1) STEEL CUBE W/ MODULES

VICINITY MAP



Site Number

CH97282A

Site Name

AURORA CORD & CABLE

Site Address

**325 S UNION ST
AURORA, IL 60505**



APPROVALS

T-MOBILE OPS _____
R.F. OPS _____
R.F. ENGINEER _____
SITE ACQUISITION _____
CONSTRUCTION _____
SITE OWNER _____

PROJECT INFORMATION

LATITUDE: N 41° 44' 56.80" (NAD83)
LONGITUDE: W 88° 18' 08.30" (NAD83)
GROUND ELEVATION: 677.34' (AMSL)
FAA INFORMATION OBTAINED FROM 1A FAA CERTIFICATE PREPARED BY CONCORDIA WIRELESS, INC. DATED: 8/20/16
SITE TYPE: ROOFTOP
JURISDICTION: CITY OF AURORA
COUNTY: KANE
UTILITIES:
POWER: AMEREN
PHONE: (800) 755-5000
FIBER: AT&T
PHONE: (800) 257-0902

APPLICANT: T- MOBILE
8550 W BRYN MAWR AVE,
SUITE 100
CHICAGO IL 60631
PHONE: (773) 444-5400
SITE ACQUISITION: INSITE-RE, INC.
CONTACT: JOANNA ZAIMES
PHONE: (630) 797-8830
ENGINEERING CONTACT: CONCORDIA WIRELESS, INC.
CONTACT: GM SADAT, PE
PHONE: (847) 981-0801
FAX: (847) 589-0643

- CODES:**
- INTERNATIONAL BUILDING CODE 2012
 - NATIONAL ELECTRIC CODE (NEC)
 - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL TOWER AND ANTENNA SUPPORTING STRUCTURES
 - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS



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CHECKED BY: RH	APPROVED BY: GMS

No.	Revision/Issue	Date	Initial
A	LEASE EXHIBIT	06/08/16	MS
B	REVISED LEASE EXHIBIT	06/10/16	MS
C	90% REVIEW	08/09/16	KC
D	REV B	09/07/16	AA
E	FINAL	09/09/16	AA

CH97282A
AURORA CORD & CABLE
325 S UNION ST
AURORA, IL 60505

TITLE SHEET

T-1

	NEW ANTENNA		GROUT OR PLASTER
	EXISTING ANTENNA		(E) BRICK
	GROUND ROD		(E) MASONRY
	GROUND BUS BAR		CONCRETE
	MECHANICAL GRND. CONN.		EARTH
	CAD WELD		GRAVEL
	GROUND ACCESS WELL		PLYWOOD
	ELECTRIC BOX		SAND
	TELEPHONE BOX		WOOD CONT.
	LIGHT POLE		WOOD BLOCKING
	FND. MONUMENT		STEEL
	SPOT ELEVATION		CENTERLINE
	SET POINT		PROPERTY/LEASE LINE
	REVISION		MATCH LINE
	GRID REFERENCE		WORK POINT
	DETAIL REFERENCE		GROUND CONDUCTOR
	ELEVATION REFERENCE		BELOW GRADE TELEPHONE CONDUIT
			BELOW GRADE ELECTRICAL CONDUIT
			COAXIAL CABLE
			OVERHEAD ELECTRIC/TELEPHONE CONDUCTORS
			CHAIN LINK FENCING

1 PROJECT SYMBOLS
SCALE: NTS

ABV.	ABOVE	ICGB.	ISOLATED COPPER GROUND BUS
ADDL.	ADDITIONAL	IN.(")	INCH(ES)
A.F.F.	ABOVE FINISHED FLOOR	INT.	INTERIOR
A.F.G.	ABOVE FINISHED GRADE	LB.(#)	POUND(S)
ALUM.	ALUMINUM	L.F.	LINEAR FEET (FOOT)
ALT.	ALTERNATE	L.	LONG(ITUDINAL)
ANT.	ANTENNA	MAS.	MASONRY
APPRX.	APPROXIMATE(LY)	MAX.	MAXIMUM
ARCH.	ARCHITECT(URAL)	MDCMC	METRICOM DESIGNATED CONSTRUCTION MANAGEMENT & CONTRACTING
AWG.	AMERICAN WIRE GAUGE		
BLDG.	BUILDING		
BLK.	BLOCK	MECH.	MECHANICAL
BLKG.	BLOCKING	MFR.	MANUFACTURER
BM.	BEAM	MIN.	MINIMUM
BTCW.	BARE TINNED COPPER WIRE	MISC.	MISCELLANEOUS
B.O.F.	BOTTOM OF FOOTING	MTL.	METAL
BU	BACK-UP CABINET	(N)	NEW
CAB.	CABINET	NO.(#)	NUMBER
CANT.	CANTILEVER(ED)	N.T.S.	NOT TO SCALE
C.I.P.	CAST IN PLACE	O.C.	ON CENTER
CLG.	CEILING	OPNG.	OPENING
CLR.	CLEAR	PCS	PERSONAL COMMUNICATION SERVICES
COL.	COLUMN	PLY.	PLYWOOD
CONC.	CONCRETE	PRC	PRIMARY RADIO CABINET
CONN.	CONNECTION(OR)	P.S.F.	POUNDS PER SQUARE FOOT
CONST.	CONSTRUCTION	P.S.I.	POUNDS PER SQUARE INCH
CONT.	CONTINUOUS	P.T.	PRESSURE TREATED
DBL.	DOUBLE	PWR.	POWER (CABINET)
DEPT.	DEPARTMENT	QTY.	QUANTITY
DIA.	DIAMETER	RAD.(R)	RADIUS
DIAG.	DIAGONAL	REF.	REFERENCE
DIM.	DIMENSION	REIN.F.	REINFORCEMENT(ING)
DWG.	DRAWING(S)	REQD.	REQUIRED
DWL.	DOWEL(S)	RGS.	RIGID GALVANIZED STEEL
EA.	EACH	SCH.	SCHEDULE
EL.	ELEVATION	SHT.	SHEET
ELEC.	ELECTRICAL	SIM.	SIMILAR
ELEV.	ELEVATOR	SPEC.	SPECIFICATION(S)
EMT.	ELECTRICAL METALLIC TUBING	SQ.	SQUARE
ENG.	ENGINEER	S.S.	STAINLESS STEEL
EQ.	EQUAL	STD.	STANDARD
EXP.	EXPANSION	STL.	STEEL
EXIST.(E)	EXISTING	STRUC.	STRUCTURAL
EXT.	EXTERIOR	TEMP.	TEMPORARY
FAB.	FABRICATION(OR)	THK.	THICK(NESS)
F.F.	FINISH FLOOR	T.O.A.	TOP OF ANTENNA
F.G.	FINISH GRADE	T.O.C.	TOP OF CURB
FIN.	FINISH(ED)	T.O.F.	TOP OF FOUNDATION
FLR.	FLOOR	T.O.P.	TOP OF PLATE (PARAPET)
FDN.	FOUNDATION	T.O.S.	TOP OF STEEL
F.O.C.	FACE OF CONCRETE	T.O.W.	TOP OF WALL
F.O.M.	FACE OF MASONRY	TYP.	TYPICAL
F.O.S.	FACE OF STUD	U.G.	UNDER GROUND
F.O.W.	FACE OF WALL	U.L.	UNDERWRITERS LABORATORY
F.S.	FINISH SURFACE	U.N.O.	UNLESS NOTED OTHERWISE
FT.(.)	FOOT(FEET)	V.I.F.	VERIFY IN FIELD
FTG.	FOOTING	W	WIDE(WIDTH)
G.	GROWTH (CABINET)	W/	WITH
GA.	GAUGE	WAP.	WIRED ACCESSED POINT
GI.	GALVANIZE(D)	WCS	WIRELESS COMMUNICATION SERVICE
G.F.I.	GROUND FAULT CIRCUIT INTERRUPTER	WT.	WEIGHT
GPS.	GLOBAL POSITIONING SYSTEM	€	CENTERLINE
GND.	GROUND	Ⓔ	PLATE
HGR.	HANGER		
HT.	HEIGHT		

3 PROJECT ABBREVIATIONS
SCALE: NTS

- REPRESENTATIVES OF THE OWNER MUST BE NOTIFIED AT LEAST TWO FULL DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
- DO NOT SCALE BUILDING DIMENSIONS FROM DRAWINGS.
- ANY DRAIN AND/OR FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-CONSTRUCTED DRAWINGS AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
- ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SFOCIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL PUBLIC UTILITY LOCATE FOR UTILITY LOCATIONS 72 HOURS PRIOR TO START OF CONSTRUCTION.
- ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
- THE BUILDING DEPARTMENT ISSUING THE BUILDING PERMIT SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK OR AS STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
- GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO EXISTING GRADES AT THE GRADING LIMITS.
- ALL EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
- STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 100% OF MAXIMUM STANDARD PROCTOR DRY DENSITY.
- NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
- ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
- ANY FILLS PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE EXISTING SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
- THE GRADES WITHIN THE FENCED-IN AREA ARE TO BE ACHIEVED BY COMPACTING CLEAN FILL TO A DENSITY OF 90% OF STANDARD PROCTOR COVERING THE AREA WITH 6 MIL. VISQUENE (1' OVERLAP AT SEAMS) FOR WEED SUPPRESSION, THEN ACHIEVING FINISH GRADE BY ADDING 6" OF 3/4" CRUSHED STONE-NO FINES.
- CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SO THAT NO PAPERS, TRASH, WEEDS, BRUSH OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE.
- ALL TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH THE IMPROVEMENTS SHALL BE PROTECTED.
- GC TO HIRE PUBLIC LOCATE & PRIVATE LOCATE SERVICE IN ORDER TO LOCATE AND PROTECT ANY AND ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES.
- THESE PLANS MAY NOT CONTAIN OR REVEAL ALL SUBSURFACE UTILITIES; GC IS RESPONSIBLE OF LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION

2 GENERAL NOTES
SCALE: NTS

T-Mobile

T-MOBILE
8550 WEST BRYN MAWR AVE.
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MAIN: (773) 444-5400

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LICENSED ARCHITECT

THADDEUS A. PACYNIAK
8109

STATE OF ILLINOIS

CH97282A
AURORA CORD & CABLE
325 S UNION ST
AURORA, IL 60505

SITE NOTES

SP-1

GENERAL NOTES:

- OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL:
 - BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - AC/TELCO INTERFACE BOX(PPC)
 - ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - TOWERS, MONOPOLE
 - TOWER LIGHTING
 - GENERATORS & LIQUID PROPANE TANK
 - ANTENNA STANDARD BRACKETS, FRAMES, AND PIPES FOR MOUNTING.
 - ANTENNAS (INSTALLED BY OTHERS)
 - TRANSMISSION LINE
 - TRANSMISSION LINE JUMPERS
 - TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - TRANSMISSION LINE GROUND KITS
 - HANGERS
 - HOISTING GRIPS
 - BTS EQUIPMENT

- CONTRACTOR TO FURNISH AND INSTALL THE FOLLOWING:

THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.

IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.

- T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATED, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING UP.
- ALL EQUIPMENT FURNISHED AND WORK PERFORMED UNDER THE CONTRACT DOCUMENTS SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS NOTED OTHERWISE. ANY FAILURE OF EQUIPMENT OR WORK DUE TO DEFECTS IN MATERIALS OR WORKMANSHIP SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- ALL WORK, MATERIAL, AND EQUIPMENT SHALL COMPLY WITH ALL REQUIREMENTS OF THE LATEST EDITIONS AND INTERIM AMENDMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, OSHA, AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES. ALL ELECTRICAL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE NEW (EXCEPT WHERE OTHERWISE NOTED) AND SHALL COMPLY WITH THE REQUIREMENTS OF THE UNDERWRITERS' LABORATORIES (U.L.) AND BEAR THE U.L. LABEL.
- T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO THE OWNER OR HIS ARCHITECT/ENGINEER.
- THE CONTRACTOR SHALL SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING STRUCTURES DURING CONSTRUCTION. FIELD VERIFY ALL EXISTING DIMENSIONS WHICH AFFECT THE NEW CONSTRUCTION.
- THE CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF THE WORK TO BE COVERED UP OR ENCLOSED UNTIL IT HAS BEEN INSPECTED BY THE GOVERNING AUTHORITIES. ANY WORK THAT IS ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE; AFTER IT HAS BEEN INSPECTED, THE CONTRACTOR SHALL RESTORE THE WORK TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.
- ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER (T-MOBILE) ASSUME NO RESPONSIBILITY WHATEVER AS TO THE SFOCIFICENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL SAID UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING AFFECTED UTILITIES.

GENERAL NOTES (CONT'D):

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSE.
- CONTRACTORS SHALL CLEAN ENTIRE SITE EACH DAY AFTER CONSTRUCTION SUCH THAT NO PAPERS, TRASH, DEBRIS, WEEDS, BRUSH, OR ANY OTHER DEPOSITS REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE PROPERLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
- ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY THE CONTRACTOR WITH LOCAL GAS, ELECTRIC, TELEPHONE, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN THE UTILITIES OF THE BUILDING/SITE WITHOUT INTERRUPTION. SHOULD IT BE NECESSARY TO INTERRUPT ANY SERVICE OR UTILITY, THE CONTRACTOR SHALL SECURE PERMISSION IN WRITING FROM THE BUILDING/PROPERTY OWNER FOR SUCH INTERRUPTION, AT LEAST 72 HOURS IN ADVANCE. ANY INTERRUPTION SHALL BE MADE WITH A MINIMUM AMOUNT OF INCONVENIENCE TO THE BUILDING/PROPERTY OWNER AND ANY SUCH SHUTDOWN TIME SHALL BE COORDINATED WITH THE BUILDING/PROPERTY OWNER.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION.
- CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS BUILT DRAWINGS TO T-MOBILE'S PROJECT ENGINEER.
- GC WILL NOT START THE CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE PROJECT MANAGER.

DIVISION 2 - SITE WORK:

- THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE PROJECT MANAGER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT LIMITED TO:
 - FALL PROTECTION
 - CONFINED SPACE
 - ELECTRICAL SAFETY
 - TRENCHING AND EXCAVATION
- REMOVE FROM SITE/OWNER'S PROPERTY ALL WASTE MATERIALS, UNUSED EXCAVATED MATERIAL INCLUDING MATERIAL CLASSIFIED UNSATISFACTORY, CONTAMINATED OR DANGEROUS TRASH AND DEBRIS, AND DISPOSE OF IN A LEGAL MANNER.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED, AND COVERED WITH MULCH
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, AS REQUIRED DURING CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING. CONTRACTOR SHALL ESTABLISH GRADE AND LINE STAKES PRIOR TO CONSTRUCTION.

CONCORDIA DOES NOT GUARANTEE OR WARRANT THAT THE FOREMENTIONED EASEMENTS ARE SFOCIENT FOR CONSTRUCTION TRAFFIC. GC SHALL CONSULT WITH A T-MOBILE REPRESENTATIVE AND LANDLORD WITH EXACT LOGISTICS TO FACILITATE CONTRACTIBILITY OF THE SITE AND DELIVERY OF CRITICAL MATERIALS SUCH AS THE TOWER, STEEL, CONCRETE AND CRANES TO THE PROPOSED LEASE AREA. GC SHALL RESTORE SITE TO ORIGINAL CONDITIONS AND REPLACE ANY AND ALL DISTURBED TREES OR LANDSCAPING.

CONCORDIA IS NOT RESPONSIBLE FOR THE MAINTENANCE AND/OR OPERATIONAL FEASIBILITY.

SCOPE OF WORK FOR THESE PLANS DOES NOT INVOLVE VALUE ENGINEERING AS WELL AS MAINTAINABILITY OPERATIONS OF THE SITE, ACCESS OR UTILITIES.

DIVISION 3 - CONCRETE:

- MINIMUM ALLOWABLE CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS METHODS STANDARDS ASTM C172, ASTM C31 AND ASTM C39 UNLESS OTHERWISE NOTED.
- CONCRETE FOR ALL FOUNDATIONS: 540 LBS PER CUBIC YARD OF CONCRETE MINIMUM CEMENT CONTENT FOR 1-INCH MAXIMUM SIZE AGGREGATE, SLUMP RANGE 3 INCHES TO 5 INCHES, TOTAL AIR CONTENT 4 PERCENT TO 7 PERCENT BY VOLUME. AIR ENTRAINING ADMIXTURE REQUIRED TO CONTROL TOTAL AIR CONTENT, WATER REDUCING ADMIXTURE PERMITTED TO OBTAIN SLUMP OVER 3-INCHES.
- ALL CONCRETE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI 318) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND (ACI 301) STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE.
- REBARS SHALL BE ASTM A-615 DEFORMED TYPE WITH MINIMUM YIELD STRENGTH OF 60,000 PSI (40,000 PSI GRADE MAY BE USED FOR TIES & STIRRUPS).

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
- DETAILING SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES (ACI STD-315 LATEST EDITION).
- CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4". UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN POSITION. LOCATION OF REINFORCEMENT SHALL BE INDICATED ON THE DRAWINGS. THE FOLLOWING MINIMUM COVER (INCHES) FOR REINFORCEMENT SHALL BE PROVIDED, EXCEPT AS NOTED ON DRAWINGS.

MINIMUM COVER (INCHES)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ... 3"
EXPOSED TO EARTH OR WEATHER:
#6 THROUGH #18 ... 2"
#5 BAR AND SMALLER ... 1-1/2"
- TESTS
CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.
 - FIVE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER PIER FOUNDATION. TWO SHALL BE TESTED @ THREE DAYS, TWO @ TWENTY-EIGHT DAYS. THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, IF REQUIRED TO BE USED IN THE FUTURE.
 - ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
 - ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
- PLACING CONCRETE
 - THE ENGINEER SHALL BE NOTIFIED NOT LESS THAT 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT, UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMWORK, EMBEDDED PARTS, STEEL REINFORCEMENT, FOUNDATION SURFACES AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED, AND UNTIL FACILITIES ACCEPTABLE TO THE T-MOBILE REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND T-MOBILE HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT IN WRITING.
 - PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.
- PROTECTION
 - IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.
 - CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
 - ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS (NOT PERIODIC) FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES. WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL SEDIMENT, AND ORGANIC MATTER. SUCCESSFUL CURING SHALL BE OBTAINED BY USE OF AN AMPLE WATER SUPPLY UNDER PRESSURE IN PIPES, WITH ALL NECESSARY APPLIANCES OF SPRINKLERS, AND SPRAYING DEVICES.

ELECTRICAL NOTES:

- ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
- ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

DIVISION 5 - STRUCTURAL STEEL:

- DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE LATEST AISC MANUAL OF STEEL CONSTRUCTION (ASD), AWS D1.1, AND THE BASIC BUILDING CODE. STRUCTURAL STEEL SHALL BE AS FOLLOWS:
 - ASTM A36, GRADE 36; ROLLED STEEL, RODS, PLATES, U-BOLTS AND ANCHOR BOLTS.
 - ASTM A325 BOLTS, BEARING TYPE
 - ALL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
- ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T-MOBILE PROJECT MANAGER IN WRITING
- TIGHTEN HIGH STRENGTH BOLTS TO A SNUG TIGHT CONDITION WHERE ALL PLIES IN A JOINT ARE IN FIRM CONTACT BY EITHER
 - A FEW IMPACTS OF A IMPACT WRENCH
 - THE FULL EFFORT OF A PERSON USING A SPUD WRENCH.
- WELDING
 - ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.
 - WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM A-233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.
 - FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS VISUAL INSPECTION IS ACCEPTABLE.
- PROTECTION
 - UPON COMPLETION OF ERECTION INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS, OR GALVANIZED BREAKS WITH ZINC BASED PAINT. COLOR TO MATCH THE GALVANIZING PROCESS.

DIVISION 13 - SPECIAL CONSTRUCTION ANTENNA INSTALLATION

- WORK INCLUDED:
 - ANTENNAS AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
 - INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
 - INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
 - INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST PROPERTY.
 - CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
 - INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANFOACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANFOACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
 - ANTENNA AND COAXIAL CABLE GROUNDING:
 - ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTOR/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
 - ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

ROOF PROTECTION NOTES:

- THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF SEVEN (7) DAYS PRIOR TO THE BEGINNING OF WORK THAT INVOLVES ACTIVITY ON THE ROOF.
- THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL INSPECT THE EXPOSED ROOFING MEMBRANE SYSTEM PRIOR TO THE START OF CONSTRUCTION. ANY PREVIOUS DAMAGE OR DEFECTS OF THE ROOFING SYSTEM SHALL BE DOCUMENTED BY WRITING AND/OR PHOTOGRAPHS.
- THE CONTRACTOR SHALL PLACE MINIMUM OF 48" WIDE, 1/2" THICK APPROVED PROTECTION BOARDS (1 LAYER) MADE OF CONSTRUCTION GRADE PLYWOOD (ORIENTED STRAND BOARD WILL BE ACCEPTABLE) OVER ALL MEMBRANE ROOFING THAT WILL HAVE CONSTRUCTION TRAFFIC. THIS ROOF PROTECTION SHALL BE PROVIDED FOR THE ENTIRE AREA WITHIN LIMITS OF THE WORK. SUCH PROTECTION SHALL ALSO BE PROVIDED IN THE FORM OF A WALKWAY FROM THE ROOF ACCESS DOOR TO THE PROTECTED CONSTRUCTION AREA.
- STORAGE OF MATERIALS ON EXISTING ROOF WILL NOT BE ALLOWED.
- THE CONTRACTOR SHALL REMOVE DAILY ALL PROJECT DEBRIS FROM ALL ROOFING SURFACES.
- THE CONTRACTOR SHALL ADVISE THE OWNER'S REPRESENTATIVE WHEN WORK ON THE ROOF IS COMPLETE AND THE PROTECTION BOARDS HAVE BEEN REMOVED. THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL EXAMINE ALL ROOF SURFACES WHERE WORK HAS OCCURRED AND WILL REPAIR ALL DEFECTS NOT PREVIOUSLY DOCUMENTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE BUILDING, ROOF, STRUCTURAL FRAMING, ETC. INCURRED DURING CONSTRUCTION.
- CONTRACTOR SHALL UTILIZE A LICENSED APPLICATOR OF THE EXISTING ROOFING SYSTEM TO REPAIR ANY AND ALL DAMAGE INCURRED THE COURSE OF CONSTRUCTION
- THE CONTRACTOR TO VERIFY WARRANTY ON THE EXISTING MEMBRANE ROOFING SYSTEM. THE CONTRACTOR SHALL UTILIZE A LICENSED APPLICATOR OF THE EXISTING ROOFING SYSTEM TO PERFORM ALL ROOFING WORK AND TO THE REPAIR ANY AND ALL DAMAGE. UPON COMPLETION, THE CONTRACTOR SHALL OBTAIN A LETTER FROM THE ROOFING MFR. STATING THAT ANY EXISTING WARRANTY REMAINS IN FULL FORCE AND EFFECT.

T-Mobile

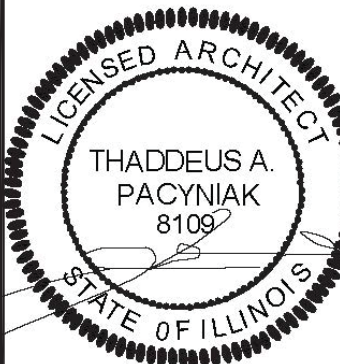
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SUITE 100
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MAIN: (773) 444-5400

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CONCORDIA WIRELESS, INC.

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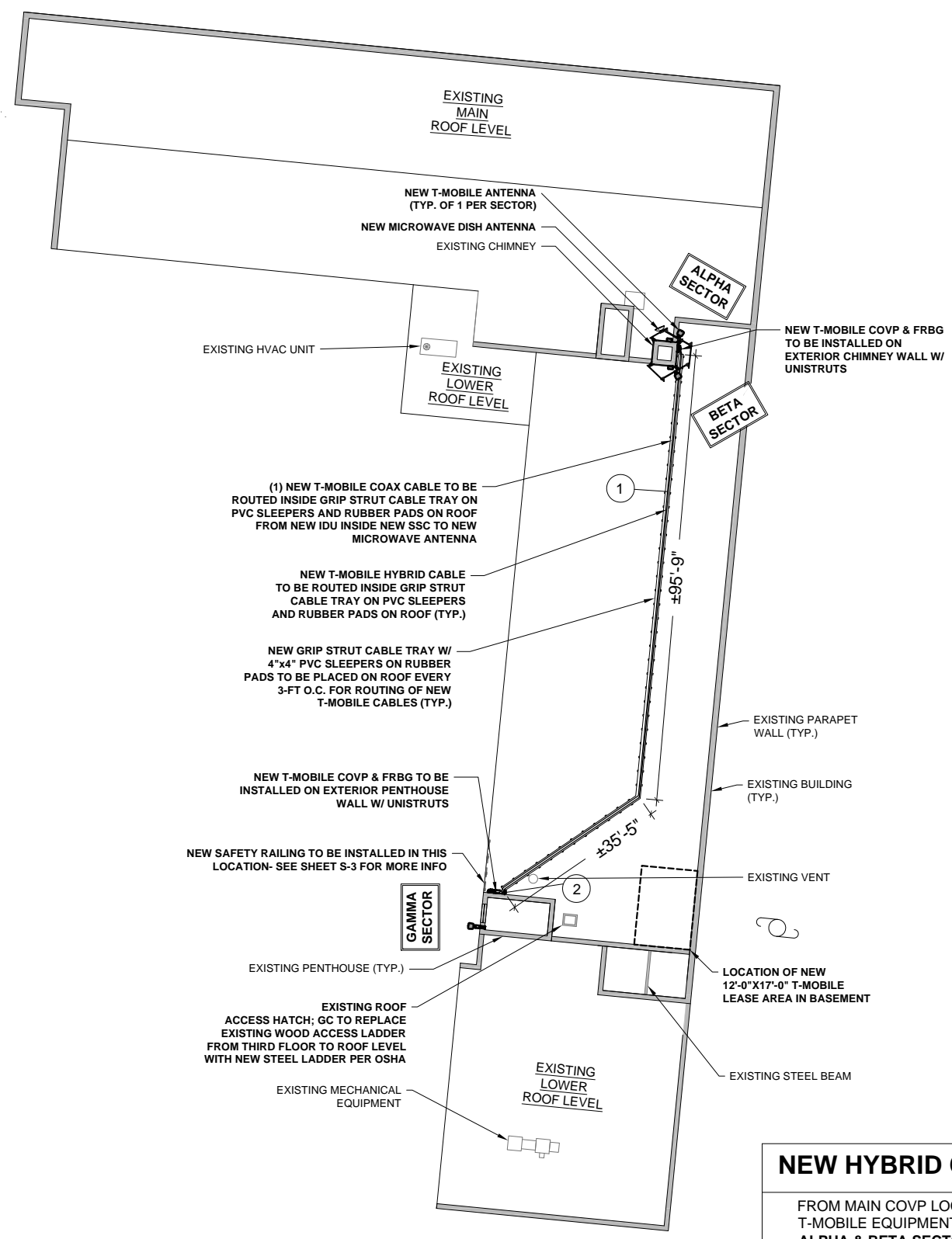
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325 S UNION ST
AURORA, IL 60505

GENERAL NOTES
& SPECIFICATIONS

SP-2

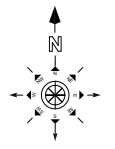
LEGEND & SYMBOLS

- UTILITY POLE
- SIGN
- TELCO PEDESTAL
- FIRE HYDRANT
- LIGHT STANDARD
- INLET
- CATCH BASIN
- MANHOLE
- TRAFFIC SIGNAL
- ROW MARKER
- IRON PIPE SET
- IRON PIPE FOUND
- BUFFALO BOX
- VALVE BOX
- HORIZONTAL CONTROL POINT
- HANDICAPPED PARKING SPACE
- DT10: DECIDUOUS TREE W/SIZE
- CT10: CONIFEROUS TREE W/SIZE
- BRUSH
- TREE LINE
- 666: CONTOUR W/ELEVATION
- EXISTING GUARDRAIL
- CHAIN LINK FENCE
- IRON FENCE
- WOOD FENCE
- OE/OT: OVERHEAD WIRES
- LOT LINE
- PROPERTY LINE
- LEASE AREA LINE
- UTILITY EASEMENT LINE
- CENTER LINE
- UE: UNDERGROUND ELECTRIC LINE
- UG: UNDERGROUND GAS LINE
- FO: UNDERGROUND FIBER LINE
- UT: UNDERGROUND TELCO LINE
- SS/SA: UNDERGROUND STORM/SANITARY SEWER LINE
- W: UNDERGROUND WATER LINE
- COM: UNDERGROUND COMMUNICATION/MONITORING LINE
- CONCRETE
- ASPHALT
- GRAVEL
- CULTIVATED FIELD
- GRASS AREA
- ICE BRIDGE
- STEEL PLATFORM



NEW HYBRID CABLE LENGTH		ACTUAL LENGTH	FACTORY LENGTH
FROM MAIN COVP LOCATED ON NEW T-MOBILE EQUIPMENT TO ALPHA & BETA SECTORS COVP	①	±270'	275'
FROM MAIN COVP LOCATED ON NEW T-MOBILE EQUIPMENT TO GAMMA SECTOR COVP	②	±139'	150'

1 ROOF PLAN
SCALE: 1/16"=1'-0" (1/16"=2'-0" IF 11 X 17 SHEET SIZE)



T-Mobile

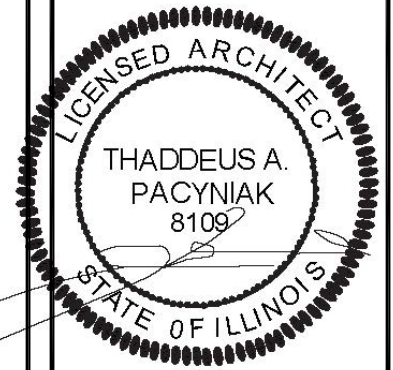
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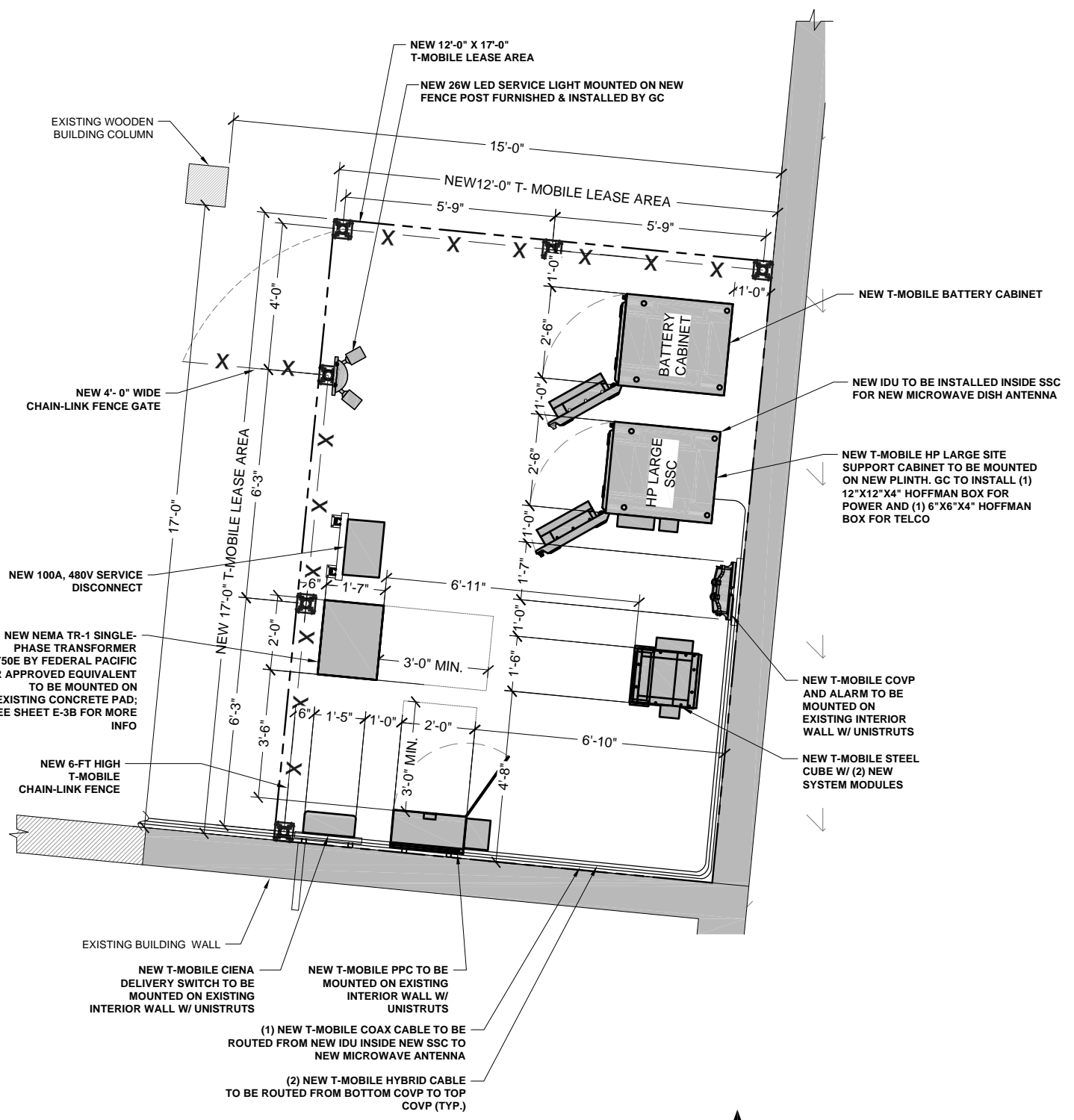
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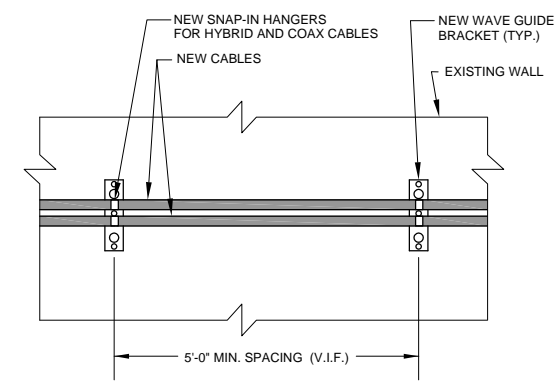
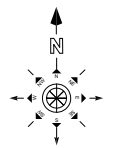
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ROOF PLAN

A-1



1 PROPOSED EQUIPMENT LAYOUT (BASEMENT)
SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



2 TYPICAL CABLE ROUTING DETAIL ON EXISTING WALL
SCALE: N.T.S.

T-Mobile

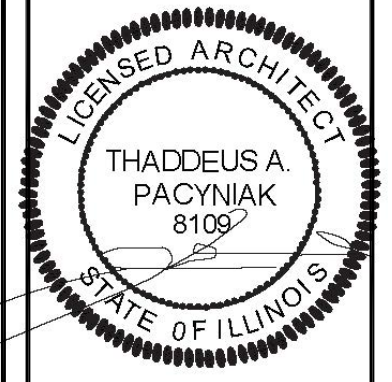
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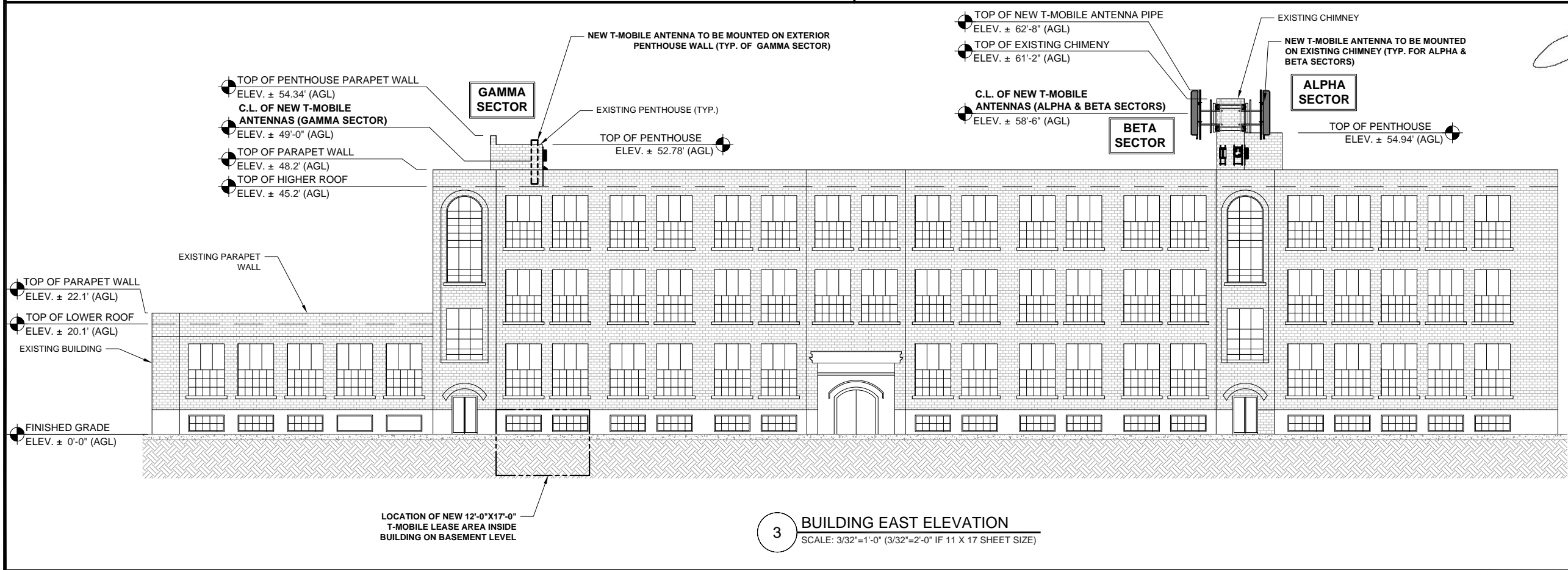
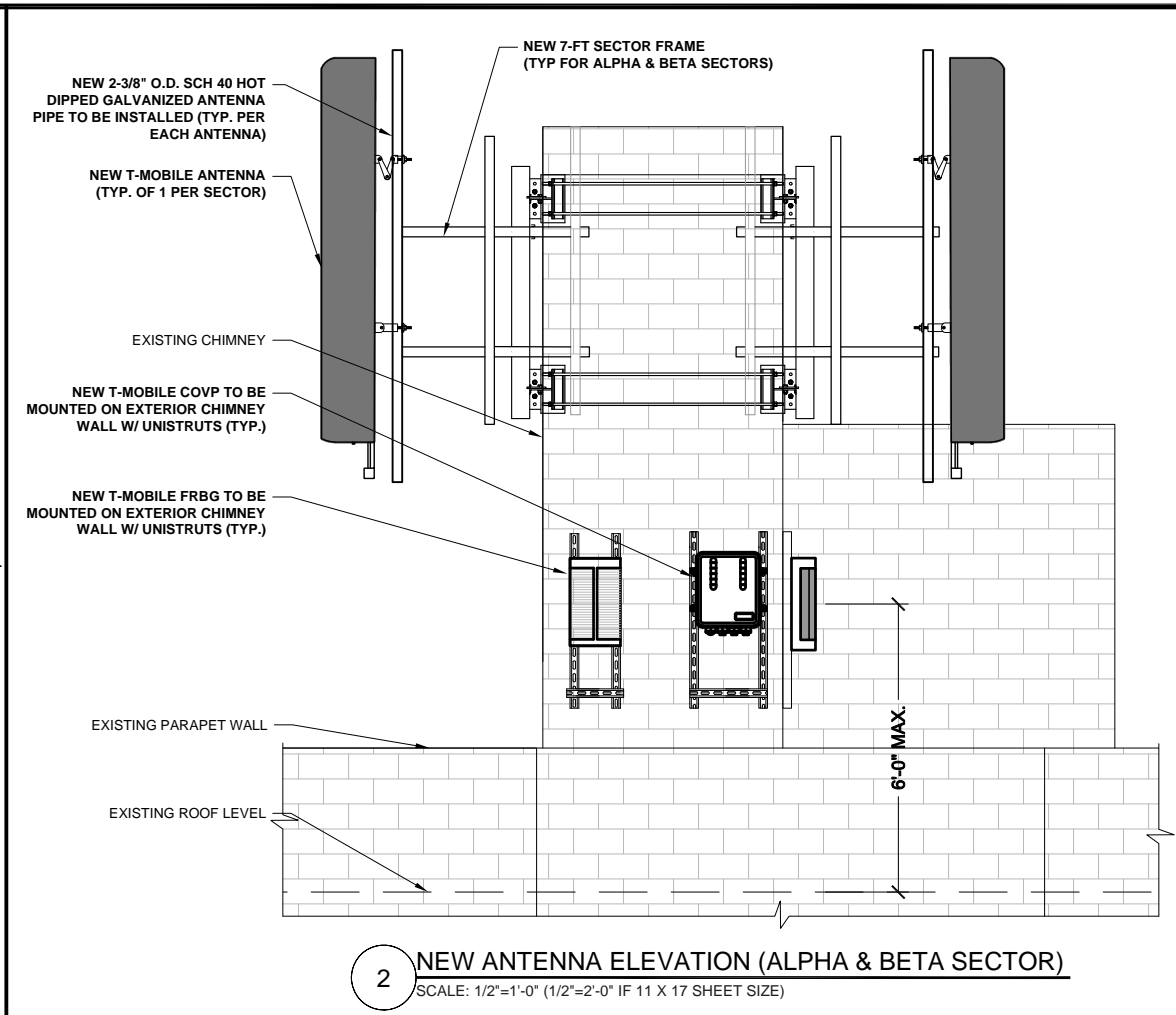
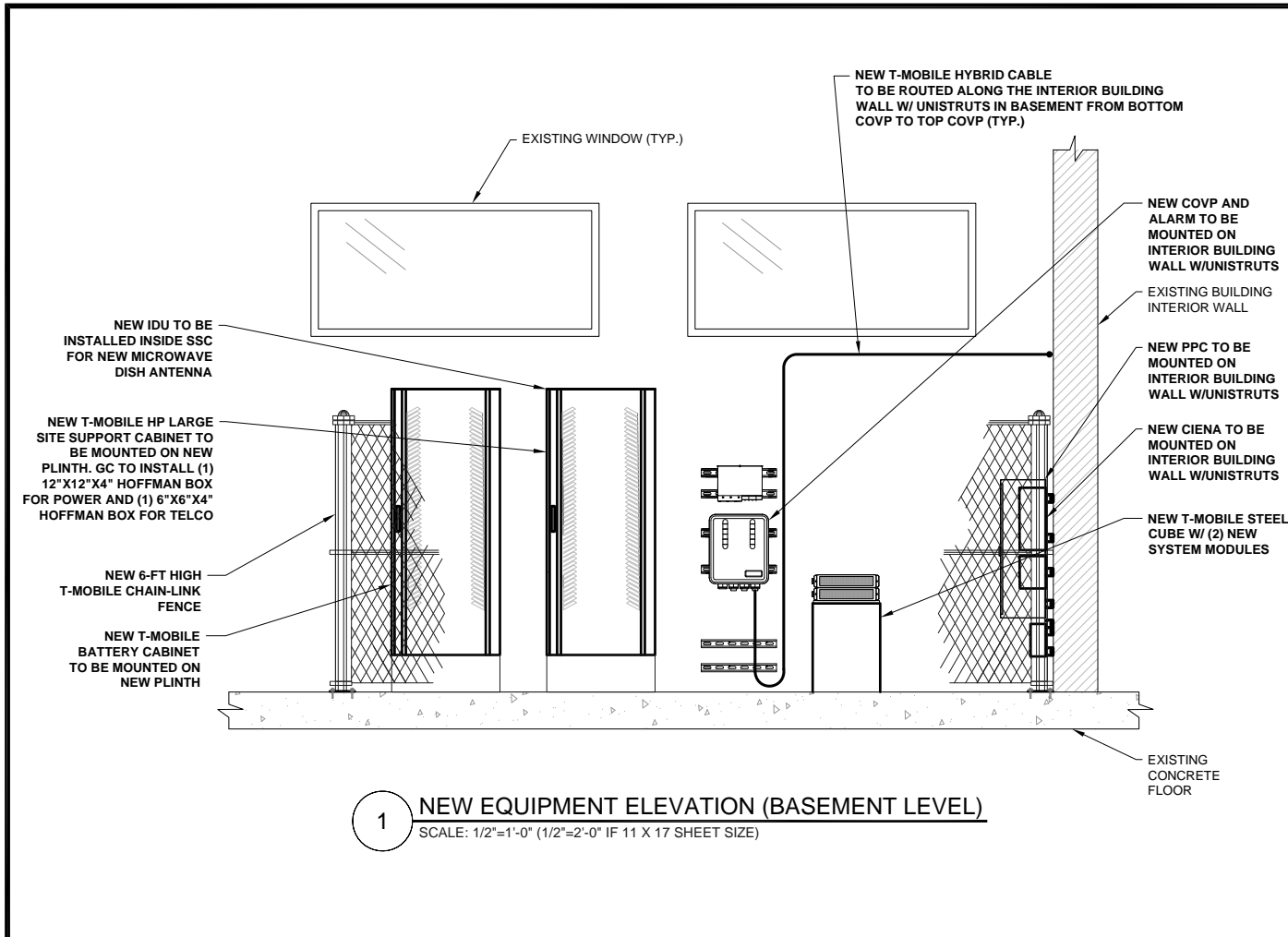
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EQUIPMENT LAYOUT

A-1A



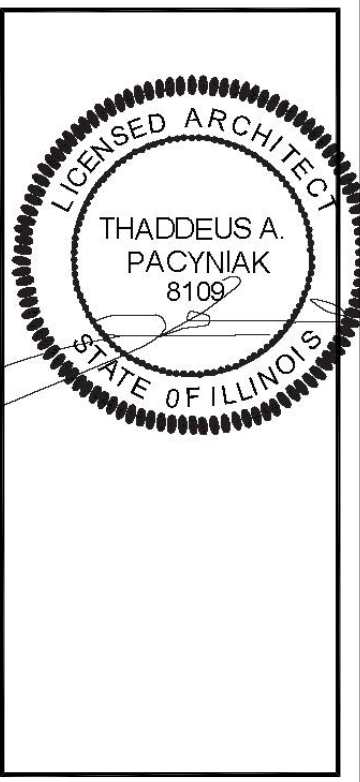
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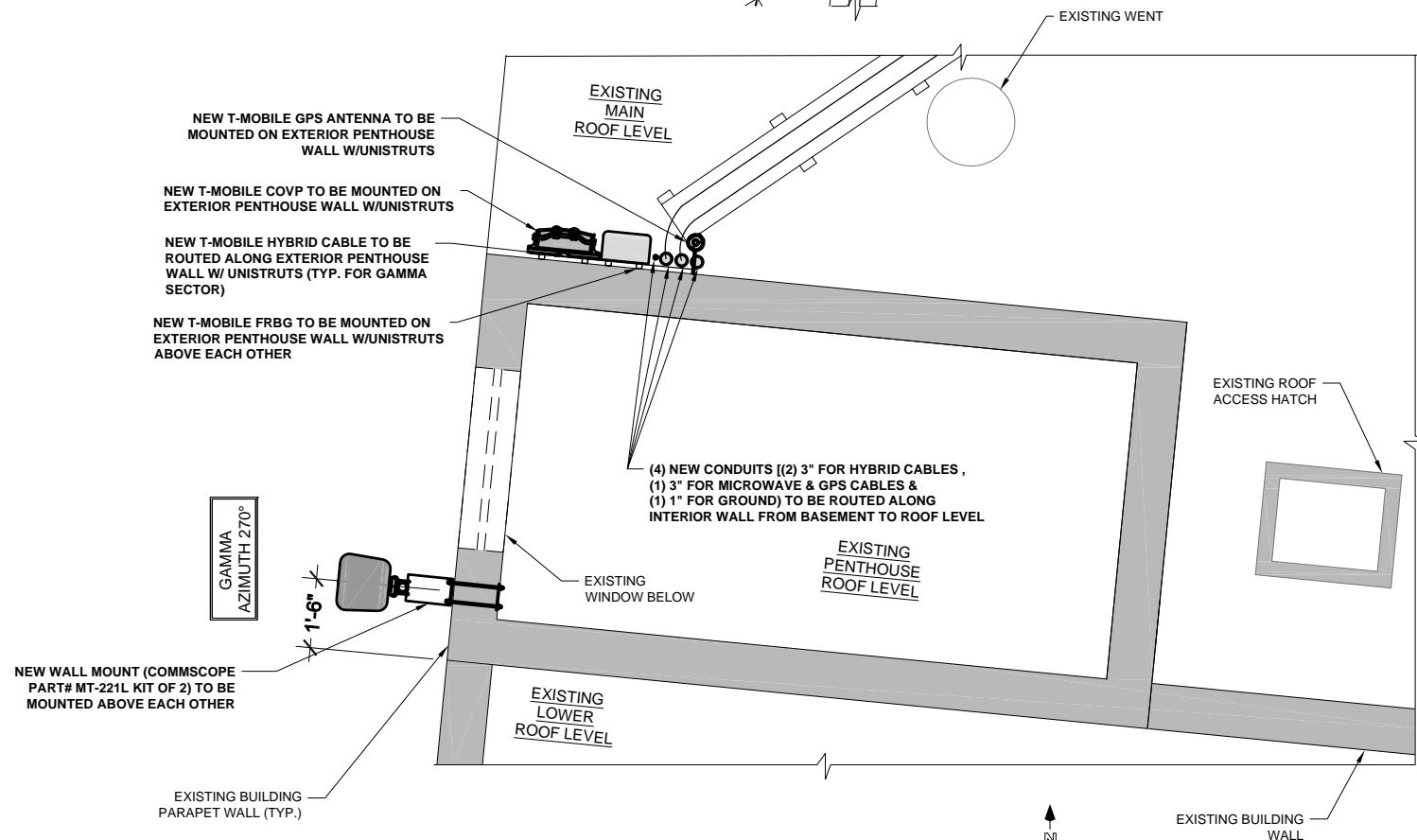
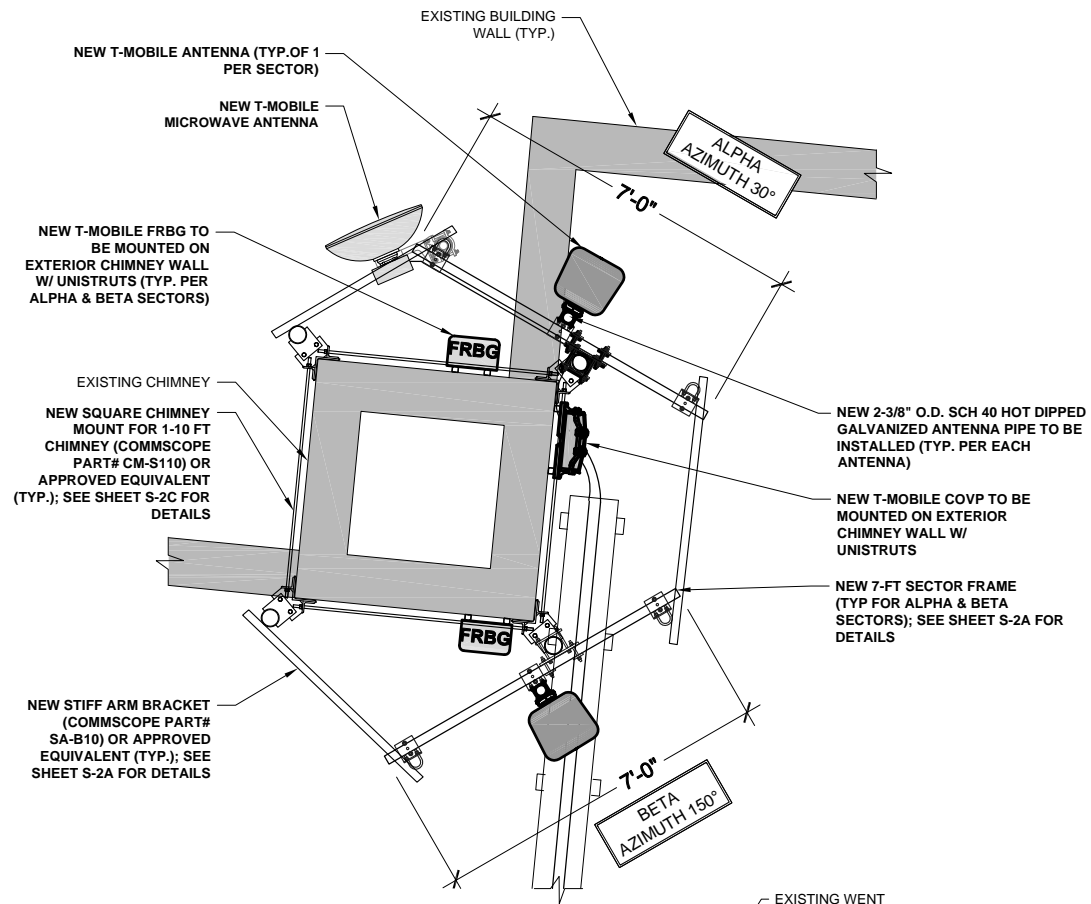


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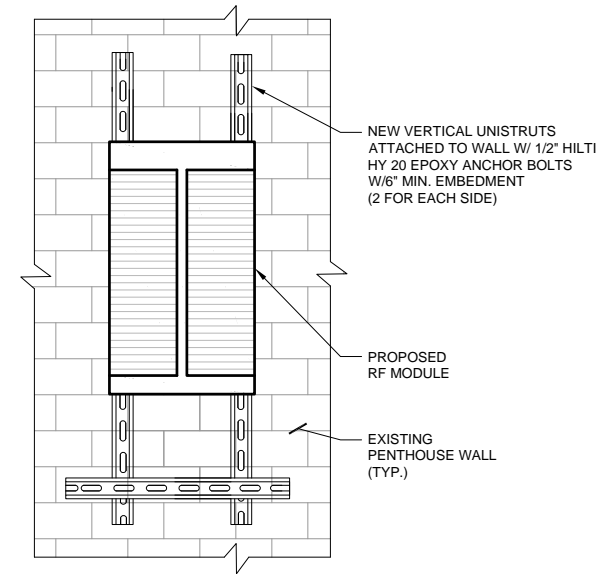
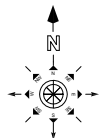
BUILDING EAST
ELEVATION

A-2

LEGEND	
	FRIG
	FHFB
	COVP
	ANTENNA



1 NEW T-MOBILE ANTENNA CONFIGURATION
SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



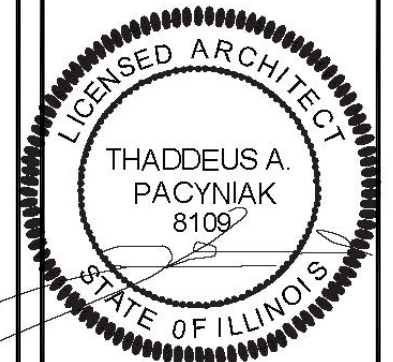
2 TYPICAL RF UNIT MOUNTING DETAIL
SCALE: N.T.S.

T-Mobile

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NEW ANTENNA
CONFIGURATION

A-2A

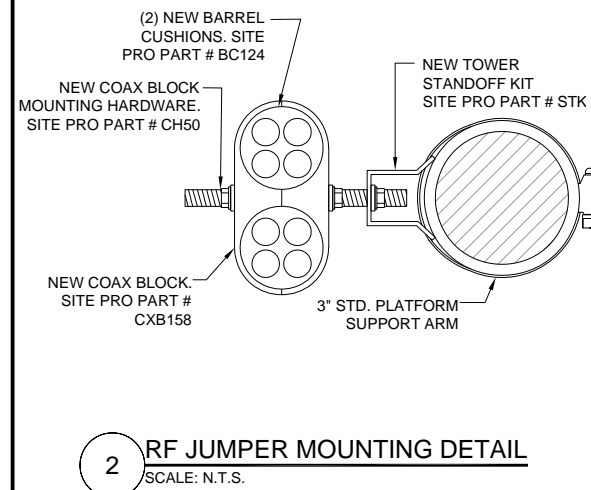
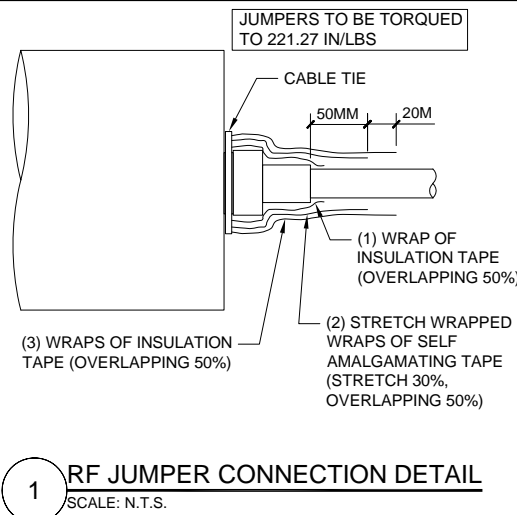
ANTENNA AND CABLE SCHEDULE

SECTOR	ALPHA			BETA			GAMMA			
	LOCATION	-	-	A-1	-	-	B-1	-	-	C-1
TECHNOLOGY	-	-	-	LTE-PCS/AWS/ L700/UMTS-PCS	-	-	LTE-PCS/AWS/ L700/UMTS-PCS	-	-	LTE-PCS/AWS/ L700/UMTS-PCS
AZIMUTH	30°			150°			270°			
RAD CENTER	±58'-6"			±58'-6"			±49'-0"			
COLOR CODING	-	-	-	RED (1-6)	-	-	GREEN (1-6)	-	-	BLUE (1-6)
MODEL #	-	-	-	FASB RAS	-	-	FASB RAS	-	-	FASB RAS
MECHANICAL DOWNTILT	-	-	-	0	-	-	0	-	-	0
ELECTRICAL DOWNTILT	-	-	-	2	-	-	2	-	-	2
RRU TYPE	-	-	-	FRBG	-	-	FRBG	-	-	FRBG
HCS DIA. & TYPE	-	-	-	1.584" HIGH CAPACITY	-	-	(*)	-	-	1.24" LOW CAPACITY
HCS ACTUAL LENGTH	-	-	-	±270'	-	-	-	-	-	±139'
HCS FACTORY LENGTH	-	-	-	275'	-	-	-	-	-	150'
BUNDLE DIA. & TYPE	-	-	-	-	-	-	-	-	-	-
BUNDLE FACTORY LENGTH	-	-	-	-	-	-	-	-	-	-
JUMPER TYPE FROM COVP TO RRU	-	-	-	HYBRID JUMPER	-	-	HYBRID JUMPER	-	-	HYBRID JUMPER
JUMPER LENGTH	-	-	-	10'	-	-	11'	-	-	12'
JUMPER TYPE FROM RRU TO ANTENNA	-	-	-	RF JUMPER	-	-	RF JUMPER	-	-	RF JUMPER
JUMPER LENGTH	-	-	-	21'	-	-	19'	-	-	19'

(*) ALPHA & BETA SECTORS SHARE (1) HYBRID & (1) COVP
1. GC TO INSTALL (1) NEW COAX CABLE FOR MICROWAVE DISH ANTENNA. APPROXIMATE LENGTH: ±275'

- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0'-0"
- CONTRACTOR SHALL INSTALL COLOR CODE RINGS ON EACH OF THE HYBRID CABLES AND JUMPER CABLES WITH UV RESISTANT TAPE. ALL CABLE SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLOR TAPE OR STENCIL TAG. COLOR TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRONICS.

NOTES :
1. GC TO VERIFY FINAL RF CONFIGURATION w/T-MOBILE RF ENGINEER PRIOR TO INSTALLATION.
2. GC TO VERIFY W/ T-MOBILE RF ENGINEER WHICH PORTS SHALL REMAIN UNUSED; GC TO INSTALL A CAP ON ALL UNUSED PORTS



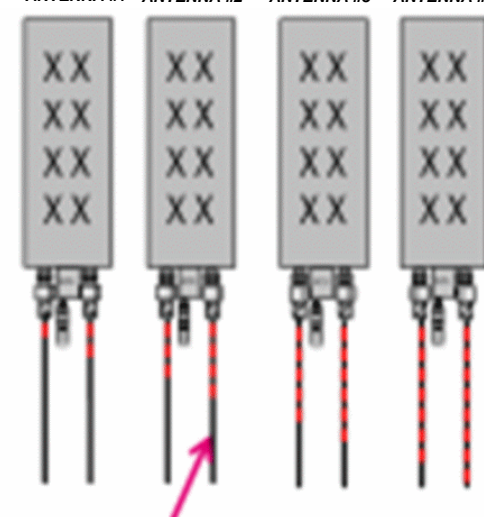
Coax Color Coding

- Antennas will be labeled (back of antenna view) Right to left 1 - X ports
- Coax/jumper lines will be identified by sector color and by number of bands around the coax/jumper

SECTOR A	RED
SECTOR B	GREEN
SECTOR C	BLUE
SECTOR D	YELLOW
SECTOR E	WHITE
SECTOR F	PURPLE
LMU	BROWN + SECTOR COLOR BANDS (1 & 2)
FIBER ID	GRAY
UNUSED COAX	PINK
MICROWAVE	ORANGE
DWE T-1'S + GPS DOWNLINK CABLE	ID W/LABEL MAKER

FRONT OF THE ANTENNA

ANTENNA #1 ANTENNA #2 ANTENNA #3 ANTENNA #4



EXAMPLE: COAX WITH FOUR BANDS OF RED TAPE WILL REPRESENT ALPHA SECTOR AND THE 4TH PORT OF ANTENNA

- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- CONTRACTOR SHALL INSTALL COLOR CODE RINGS ON EACH OF THE COAX CABLES AND JUMPER CABLES WITH UV RESISTANT TAPE. ALL CABLE SHALL BE MARKED AT TOP AND BOTTOM WITH 2" COLOR TAPE OR STENCIL TAG. COLOR TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRONICS.

COLOR CODING NOTES:

color	GSM
color	UMTS 1900
color	UMTS AWS
color	LTE
color	FIBER CABLE

METALLIC TAG NOTES:

- TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET
- CABLE LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE.
- TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER.
- STANDARDIZED METALLIC TAG KIT WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMMODATE ALL CONFIGURATIONS.



3 TAGGING COLOR AND NOTES
 SCALE: N.T.S.

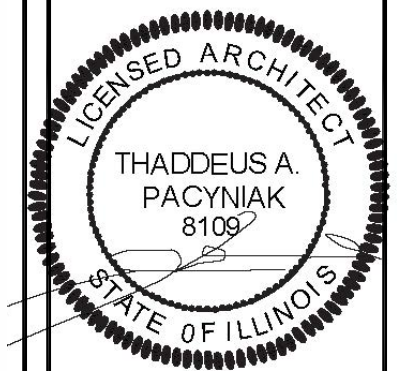


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 325 S UNION ST
 AURORA, IL 60505

CABLE SCHEDULE &
 ANTENNA DETAILS

A-3

9/8/2016

rfd.eng.t-mobile.com/DataSheet/Printout/11416800

RAN Template: Custom
A&L Template: 710R

CH97282A_0.1_Infill/ROB/Greenfield

Section 1 - Site Information

Site ID: CH97282A
Status: Final
Version: 0.1
Project Type: Infill/ROB/Greenfield
Approved: 9/8/2016 3:22:58 PM
Approved By: GSM1900/RPineda48
Last Modified: 9/8/2016 3:22:58 PM
Last Modified By: GSM1900/RPineda48

Site Name: Aurora Cord & Cable
Site Class: Roof Top Mount
Site Type: Building
Solution Type: Rooftop
Plan Year:
Market: CHICAGO
Vendor: Nokia
Landlord: Chris Court LLC

Latitude: 41.74917500
Longitude: -88.30235556
Address: 325 S Union St
City, State: Aurora, IL
Region: CENTRAL

Section 1 (Proposed) view from front (Note: the images show view from behind)

Coverage Type	A - Outdoor Macro				
Antenna	1				
Antenna Model	Nokia FASB RAS (Penta)				
Azimuth	30				
M. Tilt	0				
Height	59				
Ports	P1	P2	P3	P4	P5
Active Tech.	L700	U1900 L1900	U1900 L1900	L2100	L2100
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2	2	2
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					

Unconnected Equipment:

Section 2 (Proposed) view from front (Note: the images show view from behind)

Coverage Type	A - Outdoor Macro				
Antenna	1				
Antenna Model	Nokia FASB RAS (Penta)				
Azimuth	150				
M. Tilt	0				
Height	59				
Ports	P1	P2	P3	P4	P5
Active Tech.	L700	U1900 L1900	U1900 L1900	L2100	L2100
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2	2	2
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					

Unconnected Equipment:

Section 3 (Proposed) view from front (Note: the images show view from behind)

Coverage Type	A - Outdoor Macro				
Antenna	1				
Antenna Model	Nokia FASB RAS (Penta)				
Azimuth	270				
M. Tilt	0				
Height	49				
Ports	P1	P2	P3	P4	P5
Active Tech.	L700	U1900 L1900	U1900 L1900	L2100	L2100
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2	2	2
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					

Unconnected Equipment:

Proposed RAN Equipment

Template: Custom

Enclosure	1	2	3	4	5
Enclosure Type	Ancillary Equipment	Generic Cabinet	Generic Site Support Cabinet	RAS	Tower Top Mount
Baseband		FSMF L2100 L700 FSMF L1900 FSMF U1900			
Baseband Submodule		FBBC L2100 L700 FBBC L1900 FBBA U1900			
Hybrid Cable System	NSN High Cap HCS 275R NSN Low Cap HCS 150R				
Junction Box	Large COVP				Large COVP (x2)
Power subsystem			Batteries *Select size* Breakers *Select size* CSR 7705 *Select model* Rectifier Shelf *Select size*		
Radio			FHFB (x3) U1900 L1900	FRU (x3) L2100	FRBG (x3) L700

RAN Scope of Work:
06/28/2016: Updated to L700 FASB Config_3 Top COVP & 3 HCS run
08/12/2016: RP- Updated RAD and HSC/COVP based from CD. ALPHA & BETA share HCS.

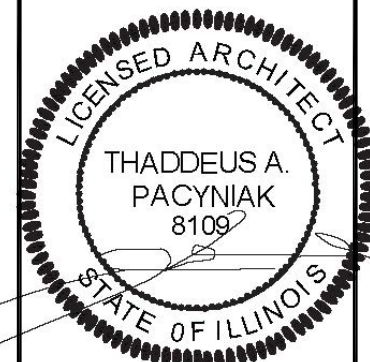


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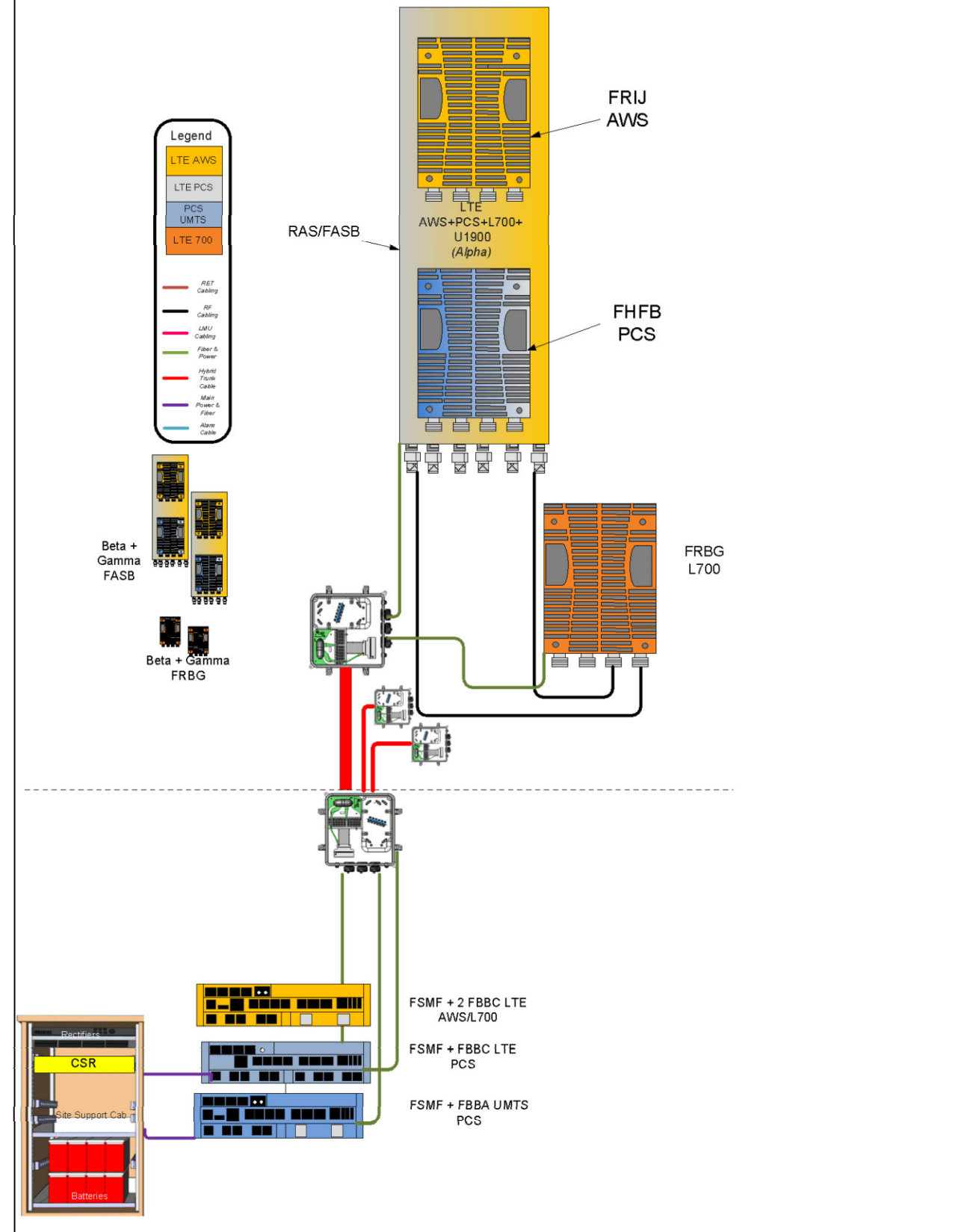


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RFDS

A-3A

NSD urban RAS configuration 716R (L2100/U1900/L1900/L700)
Custom for Roof-top/Water Tank Site



Notes:

T-Mobile

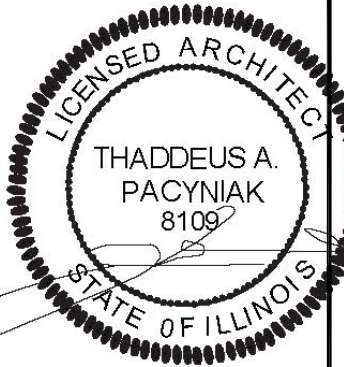
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NSN CONFIGURATION
DIAGRAM

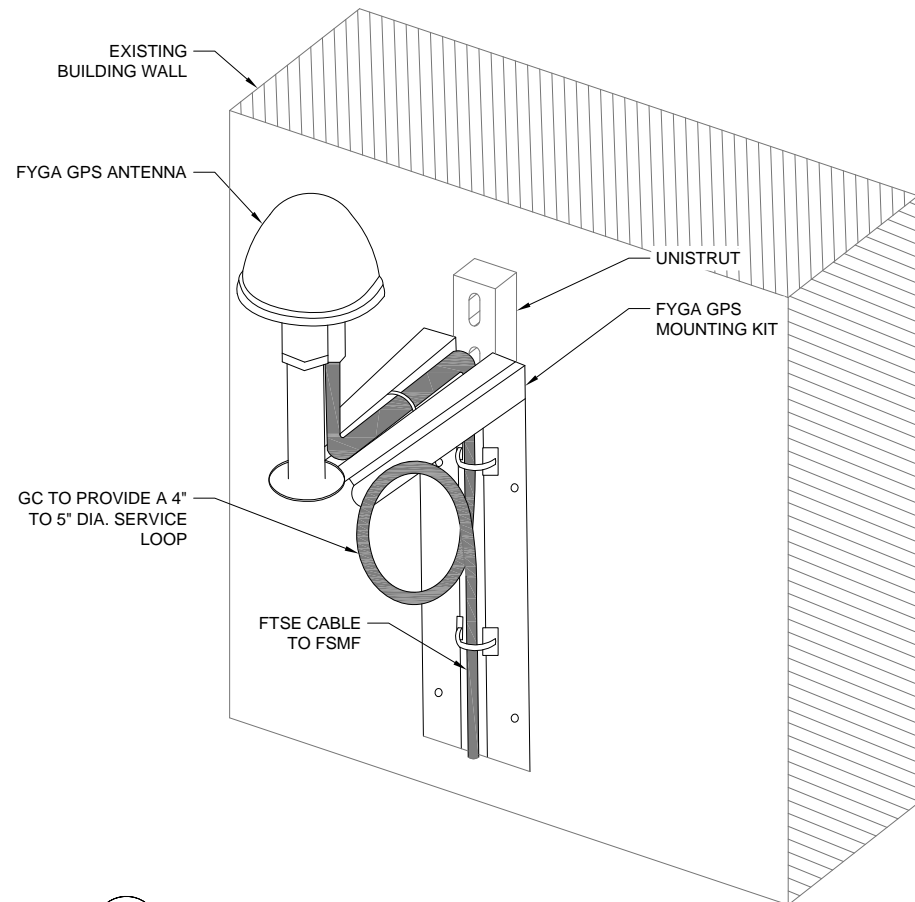
A-3B

NOTES:

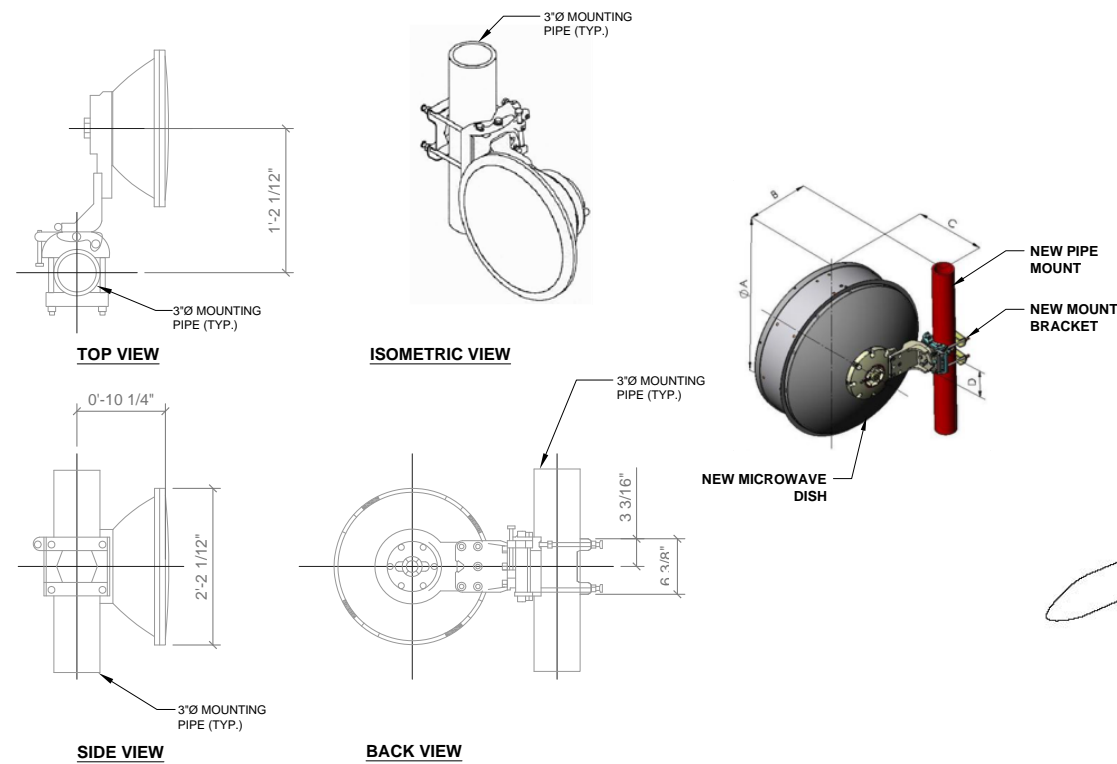
1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIA. SCH. 40 GALVANIZED OR STAINLESS STEEL PIPE. THE PIPE MUST BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MIN. OF 18') USING A WAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNAS MOUNT.

2. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE FOR THE GPS SHALL BE MOUNTED USING OVERSIZED U-BOLTS TO ALLOW ADJUSTMENT. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED WITHIN 2" OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2" LEVEL.

3. INSTALL GPS ANTENNA AS SPECIFIED ON SITE PLAN. IF INSTALLING ON ICE/CABLE BRIDGE ENSURE THAT GPS IS A MINIMUM OS 10' ABOVE GRADE, ON THE FURTHEST POST FROM THE TOWER TO ATTAIN MAXIMUM COVERAGE.



1 FYGA GPS ANTENNA DETAIL
SCALE: N.T.S.



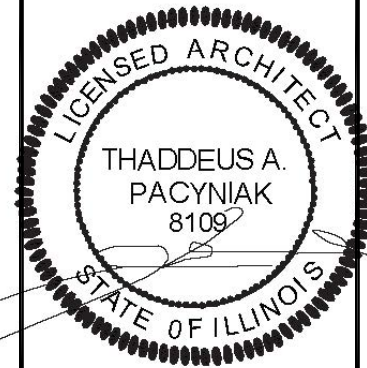
2 TYPICAL MICROWAVE DISH MOUNTING DETAIL
SCALE: N.T.S.

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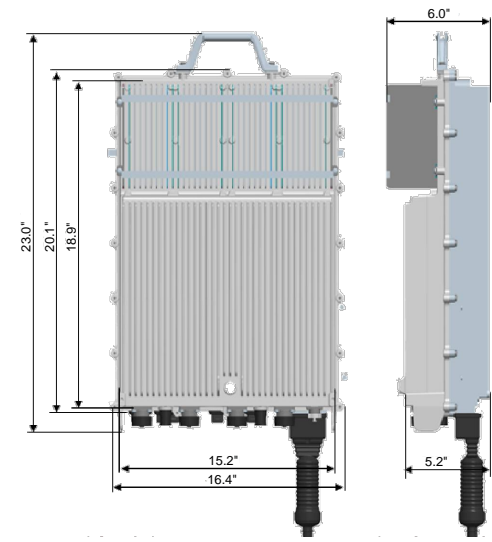
EQUIPMENT DETAILS

A-4

Sub-section	Width (mm)	Height (mm)			Depth (mm)			Qty	Volume (L)
		Filter	PA	Total	Filter	PA			
Overall w/o bosses (3-way)	387	324.5	155	479.5	132.9	151.85	1	26	

Note:
1. All the dimensions do not include Flange, Screw Boss & Connectors. Stepping fin height was used separately for Volume calculate.

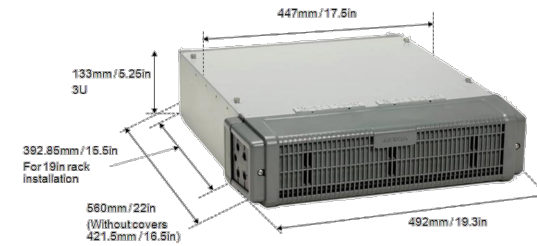
- 26 liters
- 26 Kg
- IP65
- -35 to +55 °C*
- 4*30W or 2*60W



PROPOSED FRIG

Flexi Multiradio BTS System Module FSMF

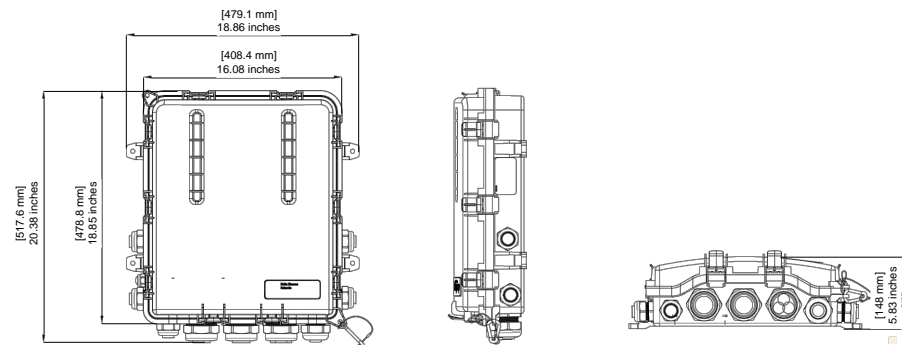
- < 15 liters
- < 15 kg
- 3 height units
- IP65
- -35 to +55 °C



PROPOSED SYSTEM MODULE ESMB FSMF

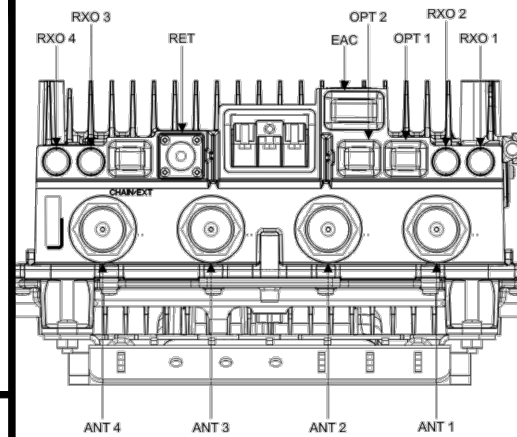
SCALE: N.T.S.

Weight 7.71 kg | 19.0 lb



LARGE COVP (RAYCAP ASU9338TYP01)

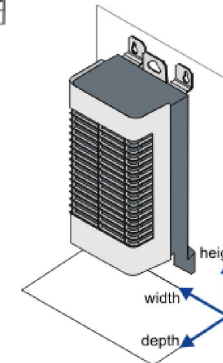
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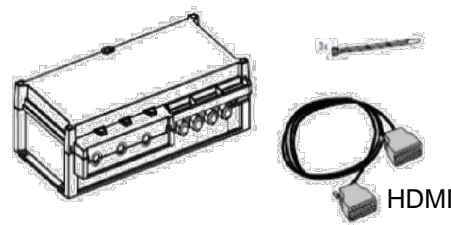
FLEXI RRH 4-PIPE 1900 160W (FHFB)

SCALE: N.T.S.

Interface	Label on the HW	Number of interfaces	Connector type
Power connector	DC IN	1	3-pole screw terminal
Antenna connector	ANT	4	7/16
RF external connector	Rx EXT	4	QMA
Remote Electrical Tilt	RET	1	8-pin circular
External Alarm Connection	EAC	1	D-sub MDR14
Optical interface	OPT	3	SFP
Local Management Port	LMP	1	2x15 pin header



Property	Value
Height	With lower bracket: 872 mm (34.3 in.) Without lower bracket: 637 mm (25.1 in.) Without brackets: 585 mm (23.0 in.)
Depth	200 mm (7.8 in.)
Width	Without solar shield: 320 mm (12.6 in.)
Weight	With lower bracket: 23 kg (51.0 lbs) Without solar shield and mounting shroud: 22 kg (48.5 lbs)



FSEB (ALARM BOX)

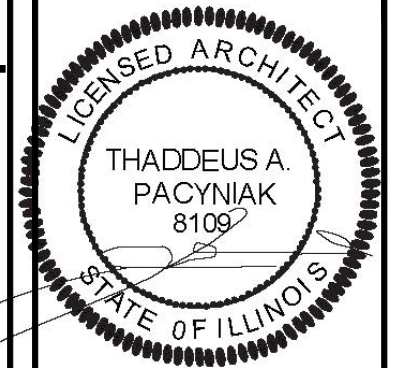
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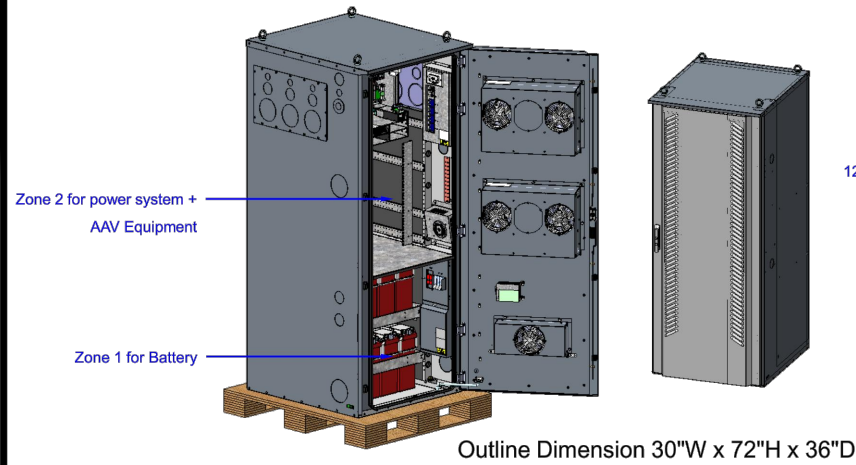
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EQUIPMENT
SPECIFICATIONS

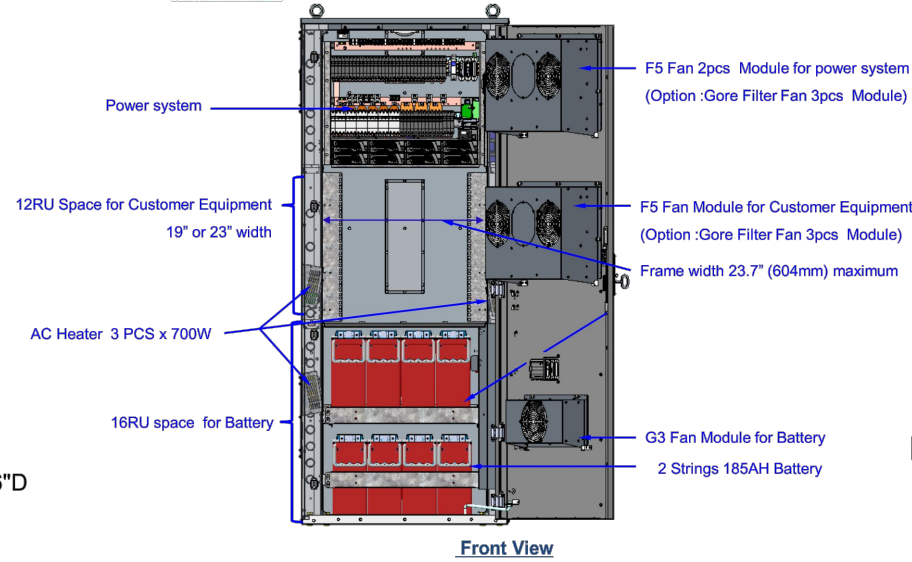
A-4A



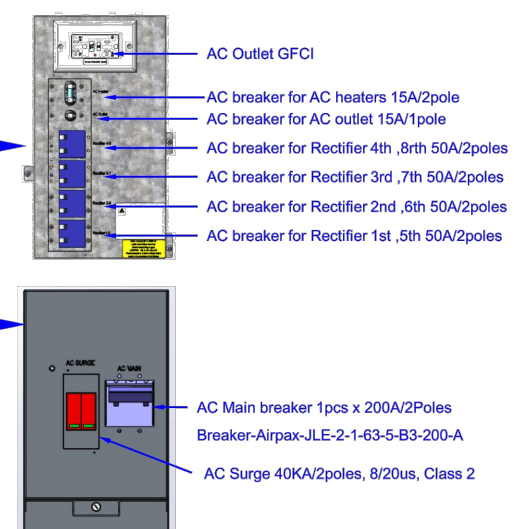
HP (High Power) Large SS



Cabinet Configuration

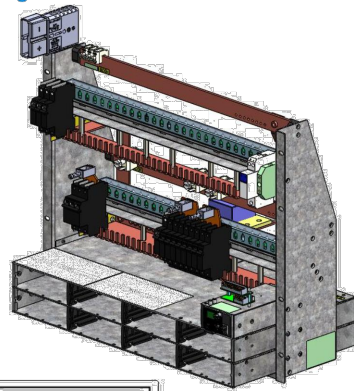


AC Configuration



23" PDU Configuration

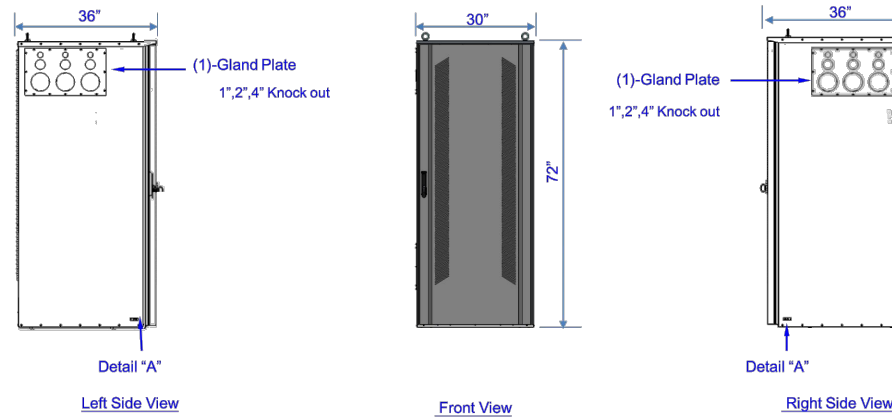
- 23" 10.5RU Power System
- (8) rectifier slots for 400A/48V
- CSU502 controller (CAN bus controller for power system)
- IP controller (Web-access for power system)
- DIN-style circuit breaker **Load** max. 52 Positions with DC SPD
 - Single-pole up to 63A breaker (Wire sizes between #14 and #6 AWG)
 - Triple-pole 150A breakers (Wire sizes between #4 and 2/0 AWG)
 - Breakers higher than 63A need to be installed on 2nd rail
- DIN-style circuit breaker **Battery** Max.16 Positions
 - 4-pole 200A breakers for 2 or 4 strings
 - 3-pole 150A breakers for 3 or 4 strings (1 or 2 in external battery cabinet)
 - 2-pole 100A breakers for 5 to 7 strings (3 to 5 in external battery cabinet)
 - Wire sizes between #4 and 2/0 AWG
- Generator Connector Anderson SB-350 Gray



Load Breaker																	Load Breaker																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	15A	
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	150A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A	200A



Cable Access Ports



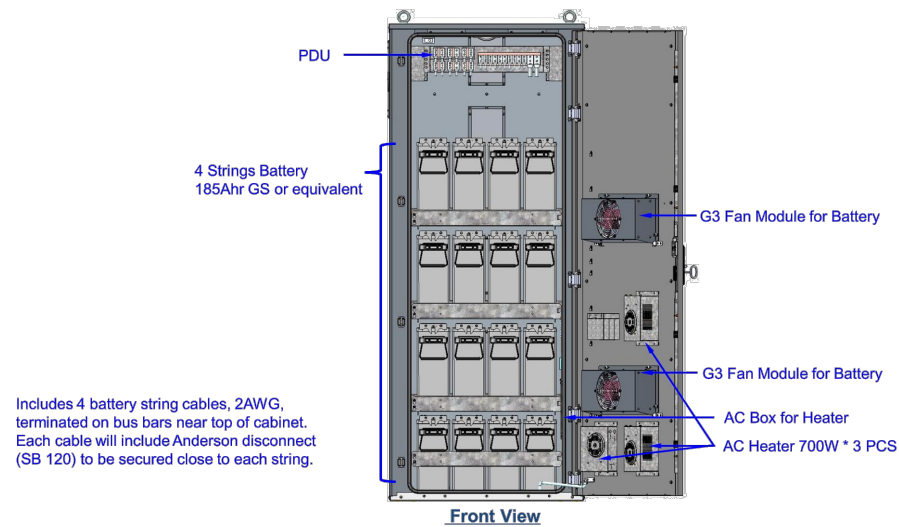
1 DELTA HIGH POWER LARGE SS CABINET
N.T.S.



Battery Cabinet



Battery Cabinet Configuration

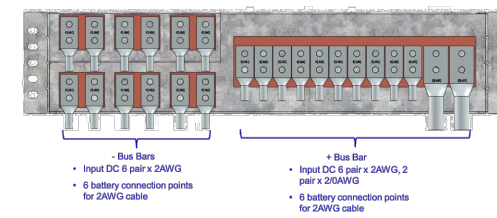


Includes 4 battery string cables, 2AWG, terminated on bus bars near top of cabinet. Each cable will include Anderson disconnect (SB 120) to be secured close to each string.

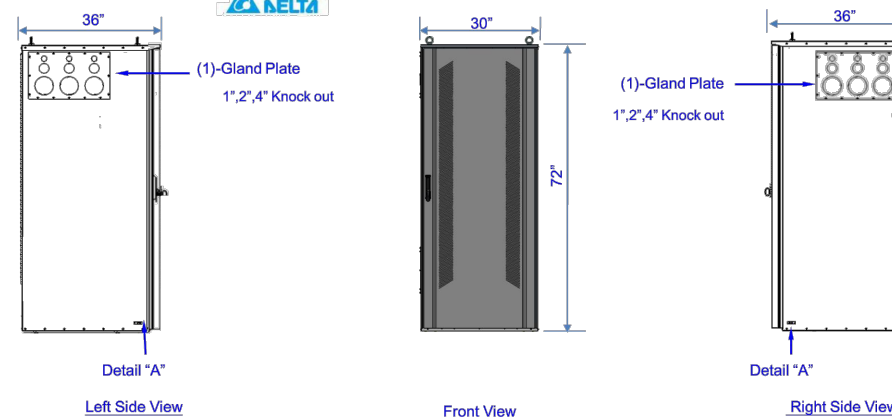
2 DELTA BATTERY CABINET
N.T.S.



Battery Cabinet Configuration



Outline Dimension 30"W x 72"H x 36"D



T-Mobile

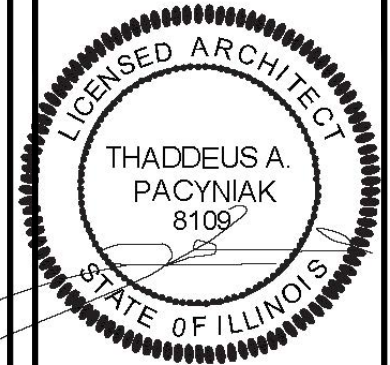
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SSC & BATTERY CABINET
SPECIFICATIONS

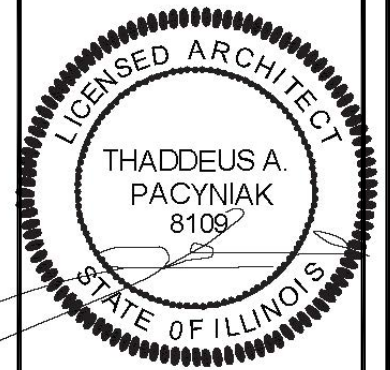
A-4B

T-Mobile

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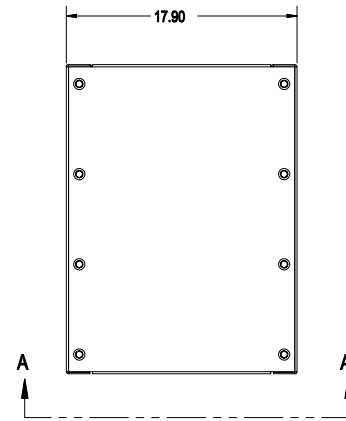
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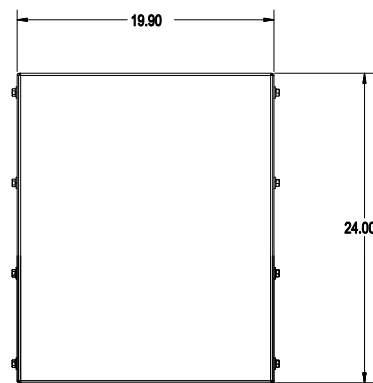
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CUBE SPECIFICATIONS

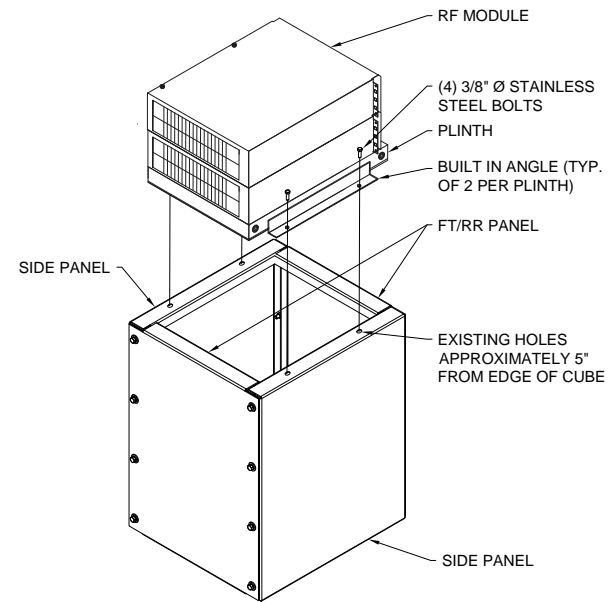
A-4C



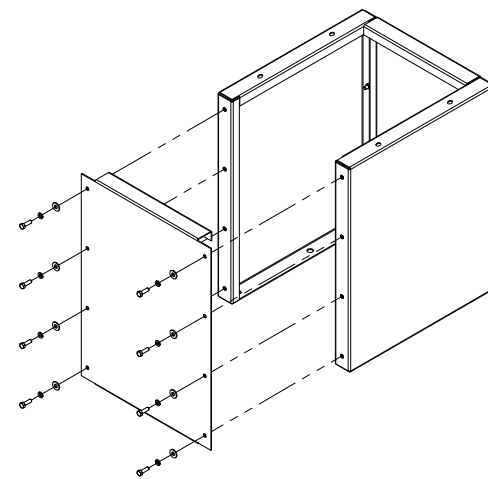
FRONT VIEW
SCALE: N.T.S.



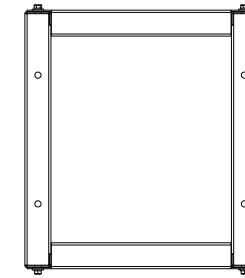
SIDE VIEW
SCALE: N.T.S.



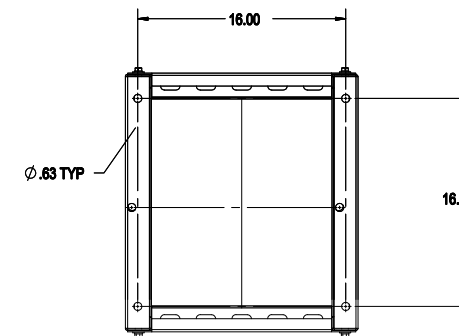
**ISOMETRIC
(MODULE PLINTH MOUNING DETAIL TO CUBE)**
SCALE: N.T.S.



BOLT LAYOUT ISOMETRIC
SCALE: N.T.S.

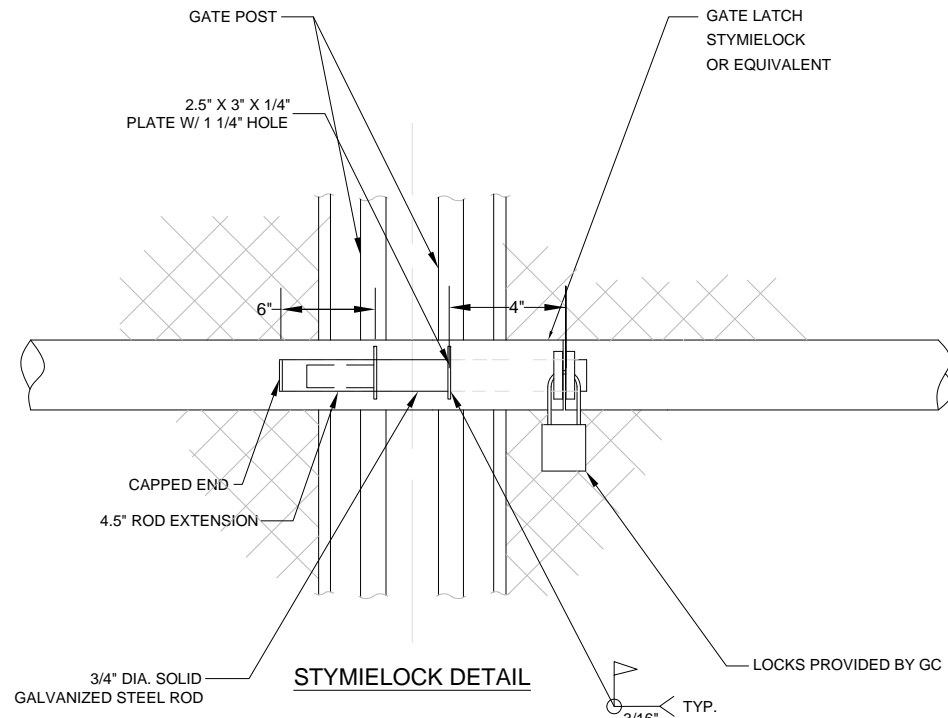


TOP VIEW
SCALE: N.T.S.

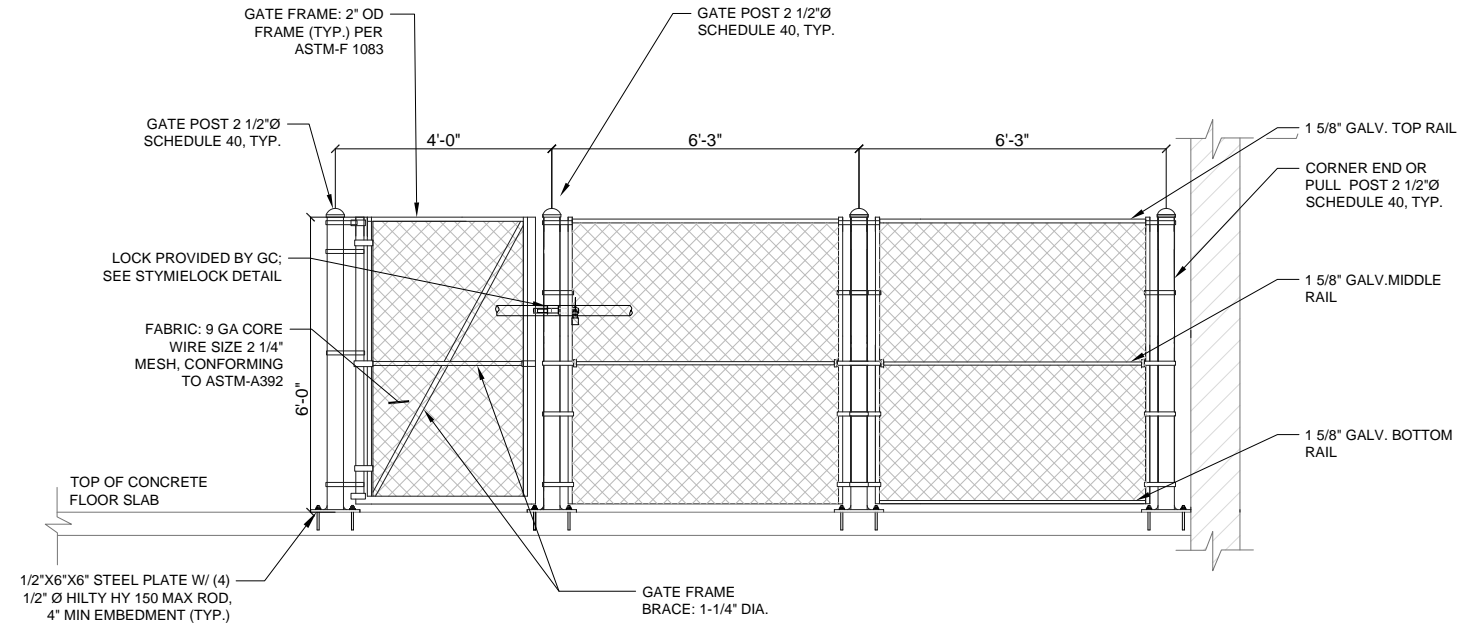


**SECTION A-A
BOTTOM VIEW**
SCALE: N.T.S.

1 CUBE SPECIFICATIONS
SCALE: N.T.S.



NEW GATE / FENCE	FOOTINGS
CORNER POST: 2 1/2"	1/2" x 6" x 6" PLATE
GATE POST: 2 1/2"	1/2" x 6" x 6" PLATE
NOTES:	
1. ALL MATERIAL TO BE HOT DIP GALVANIZED, ESPECIALLY GATE FRAME.	



1 NEW CHAIN-LINK FENCE GATE ELEVATION
SCALE: 1/2"=1' (1/2"=2' IF 11X17 SHEET SIZE)

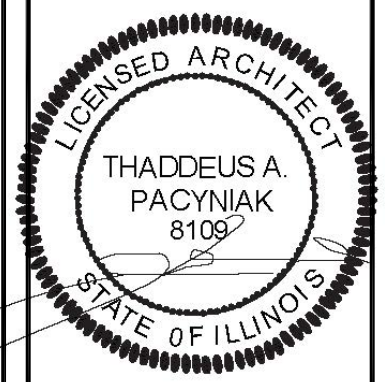
GENERAL NOTES	TYPICAL FENCING NOTES
<ol style="list-style-type: none"> ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL) ALL OPEN POSTS SHALL HAVE END-CAPS. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC. 	<p>(INSTALL FENCING PER ASTM F-567, SWING GATES PER ASTM F- 900)</p> <ol style="list-style-type: none"> GATE POST, CORNER, TERMINAL OR PULL POST FOR GATE WIDTHS UP THROUGH 6 FEET OR 14 FEET FOR DOUBLE SWING GATE PER ASTM-F 1083. GATE FRAME: 2"Ø SCHEDULE 40 PIPE PER ASTM-F1083. TOP RAIL & BRACE RAIL: 1-1/4" OD SCHEDULE 40 PIPE PER ASTM-F1083. FABRIC: 9 GA. CORE WIRE SIZE 2 1/4" MESH, CONFORMING TO ASTM-A392. TIE WIRE: MINIMUM 9 GA. GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX 24" INTERVALS. TENSION WIRE: 7 GA. GALVANIZED STEEL. GATE LATCH: 1-3/8" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH AND LOCK, KEYED ALIKE FOR ALL SITES IN A GIVEN MTA. ALL HARDWARE TO BE HOT DIP GALVANIZED.

T-Mobile

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UNIT 101
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MAIN: (847) 981-0801

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CHECKED BY: RH APPROVED BY: GMS



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CHAIN-LINK FENCE
DETAILS

A-5

STRUCTURAL GENERAL NOTES

1.0 GENERAL NOTES

- DESIGN AND CONSTRUCTION OF WORK SHALL CONFORM WITH APPLICABLE CODES LISTED ON SHEET T-1.
- 1.1 STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS OF ALL DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW.
- 1.2 NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
- 1.3 THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR SHALL FURNISH ALL TEMPORARY BRACING AND/OR SUPPORTS REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
- 1.4 DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
- 1.5 THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
- 1.5.1 IT IS THE EXPRESS INTENT OF THE PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THEIR RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, THE CONSTRUCTION MANAGER, THE OWNER AND THEIR AGENTS, FROM ANY LIABILITY WHATSOEVER AND HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.
- 1.6 ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS AND AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR A WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.

2.0 DESIGN LOAD

- 2.1 WIND PRESSURE
WIND PRESSURE ON ANTENNAS & MOUNTING MEMBERS ASCE 7-05
- 2.2 ROOF SNOW LOAD (FOR BUILDING) 25 PSF

3.0 STRUCTURAL STEEL NOTES

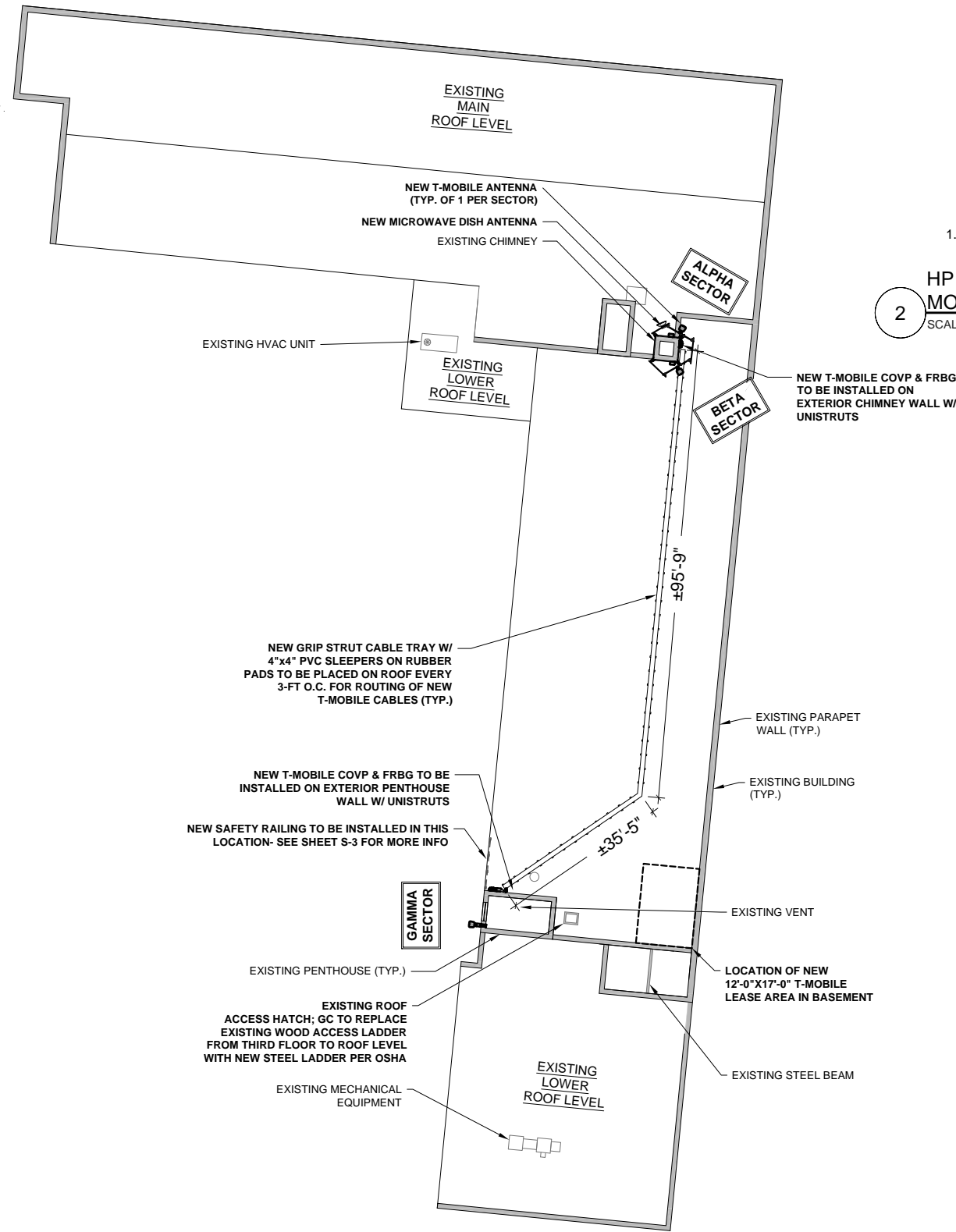
- 3.1 ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION, THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION.
- 3.2 ALL STRUCTURAL STEEL PLATES, SHAPES AND BARS SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE. COLD FORMED TUBING SHALL CONFORM TO ASTM A500 GRADE B. PIPES SHALL CONFORM TO ASTM A53 GRADE B. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 OR ASTM A36.
- 3.3 ALL BOLTS (OTHER THAN ANCHOR BOLTS), NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. ALL BOLTS SHALL BE 3/4 INCH DIAMETER, MINIMUM. BOLTS USED IN LATERAL LOAD RESISTING CONNECTIONS SHALL BE FRICTION TYPE, DESIGNED FOR INDICATED FORCES WITHOUT STRESS INCREASES.
- 3.4 ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO LAWS D1.1 "STRUCTURAL WELDING CODE", LATEST EDITION. ALL WELDING ELECTRODES SHALL BE E70XX.
- 3.5 ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP.
- 3.6 THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
- 3.7 STEEL BAR GRATING SHALL BE STANDARD BEARING BAR GRATE TYPE GW-125 WITH 1 1/4"x3/16" @ 1 3/16" O.C. BEARING BARS AS MANUFACTURED BY McNICHOLS (1-800-237-3820) OR EQUAL. USE STANDARD J-BOLTS AND CLIPS FOR ATTACHMENT. GRATING SADDLE CLIP FASTENERS SHALL BE ASTM A570 GRADE 36 WITH MIN. THICKNESS OF 14 GA. SELF TAPPING GRATING FASTENERS BOLTS MIN. THICKNESS OF 14 GA. SELF TAPPING GRATING FASTENERS BOLTS SHALL BE STAINLESS STEEL PER ASTM A240, TYPE 410.
- 3.9 ALL STEEL SHALL BE HOT DIPPED GALVANIZED. FIELD TOUCH UP ALL DISTURBED SURFACES WITH ZINC REACH PAINT. GRIND ALL WELDS ON HANDRAILS TO A SMOOTH FINISH.
- 3.10 MINIMUM SHEAR CAPACITIES: PROVIDE AT LEAST ONE HALF OF THE UNIFORM LOAD CARRYING CAPACITY OF THE BEAM WITH THE ASSUMPTION OF FULLY BRACED COMPRESSION FLANGE.
- 3.11 THE DEPTH OF A SIMPLE SHEAR CONNECTION SHALL NOT BE LESS THAN ONE HALF OF THE NOMINAL DEPTH OF THE BEAM. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2).
- 3.1.2 STAIR TREADS SHALL BE ABLE TO SAFELY SUSTAIN 100 PSF LIVE LOAD OR A CONCENTRATED LOAD OF 300 LBS, APPLIED ON A 4 SQUARE INCHES AREA, WHICHEVER PRODUCES THE GREATER STRESSES.

4.0 SHOP DRAWINGS

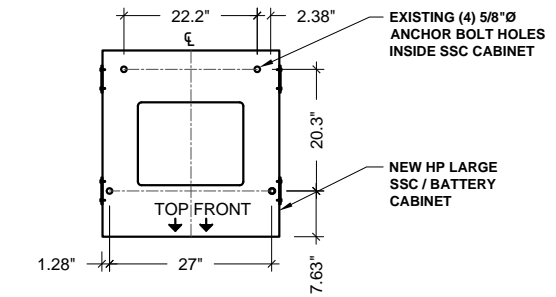
- 4.1 SHOP DRAWINGS, UNLESS OTHERWISE NOTED, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATIONS.
- 4.2 PRIOR TO SUBMITTAL, THE CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS AND MAKE ANY CORRECTIONS REQUIRED. THE CONTRACTOR SHALL STAMP AND SIGN THE DRAWINGS THAT HE HAS REVIEWED THEM.

NOTES:

1. ALL EXISTING DIMENSIONS AND CONDITIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION
2. USE MASONRY BITS FOR DRILLING & NO CUTTING/DAMAGING OF REBARS IS ALLOWED
3. ATTACH CABINETS DIRECTLY TO STRUCTURAL STEEL OR CONCRETE PER MANUFACTURER RECOMMENDATIONS BUT NOT LESS THAN ONE 1/2" BOLT AT EACH CORNER.
4. REPAIR CRACKS IN ELEVATOR SHAFT MASONRY WALL. REFER TO REPAIR PROCEDURE INSIDE STRUCTURAL CALCULATIONS



1 ROOF PLAN
SCALE: 1/16"=1'-0" (1/16"=2'-0" IF 11X17 SHEET SIZE)



2 HP LARGE SSC / BATTERY CABINET MOUNTING DETAIL ON PLINTH-TOP VIEW
SCALE: 3/4"=1'-0" (3/4"=2'-0" IF 11 X 17 SHEET SIZE)

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LICENSED STRUCTURAL ENGINEER

CHI S. LEE
081-006033

STATE OF ILLINOIS

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SSC MOUNTING DETAILS AND STRUCTURAL STEEL NOTES

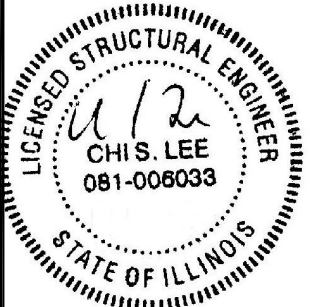
S-1

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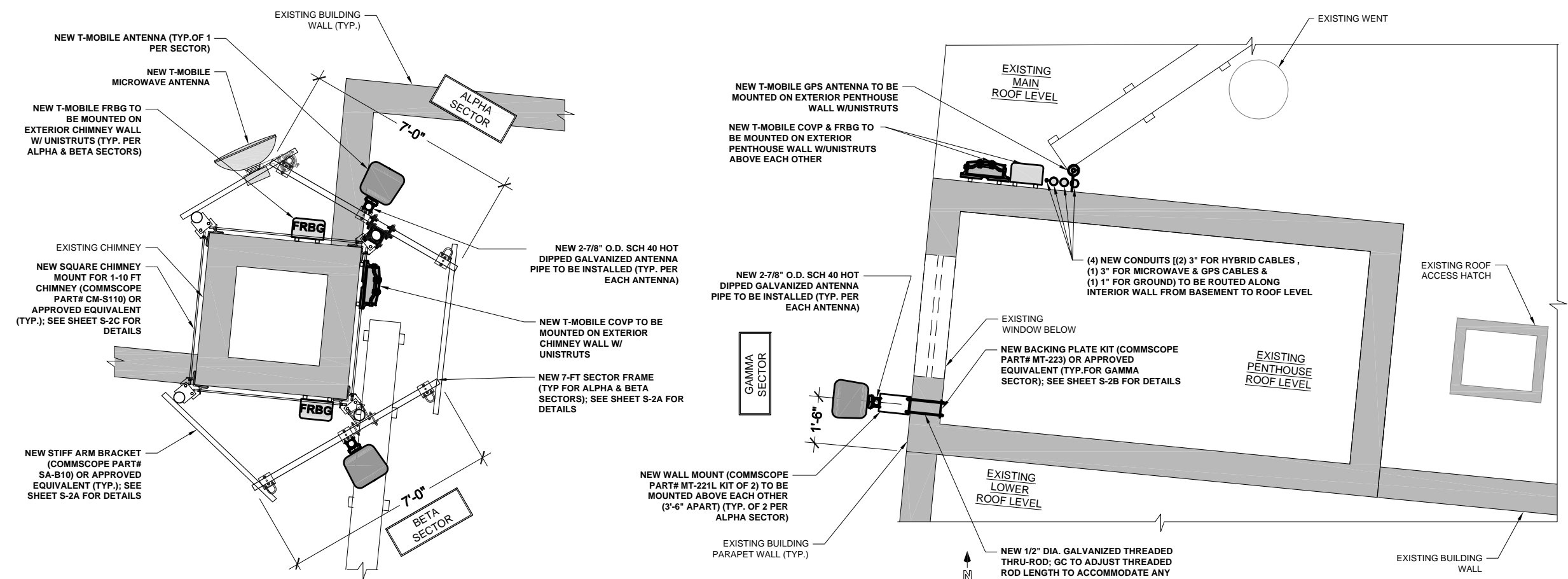
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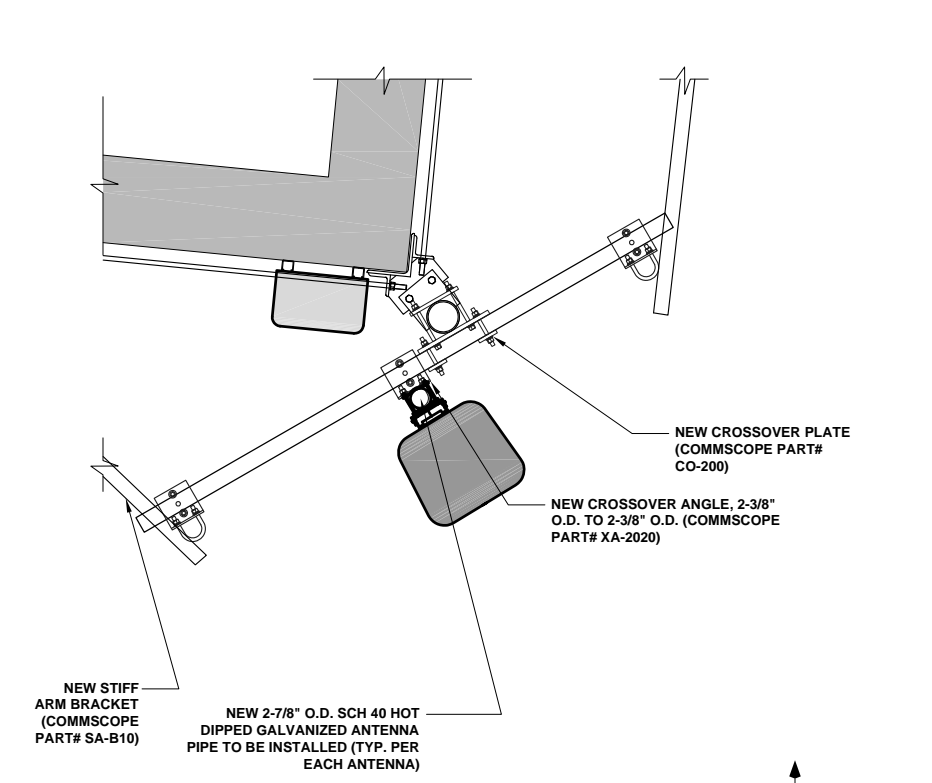
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ANTENNA MOUNTING
DETAILS

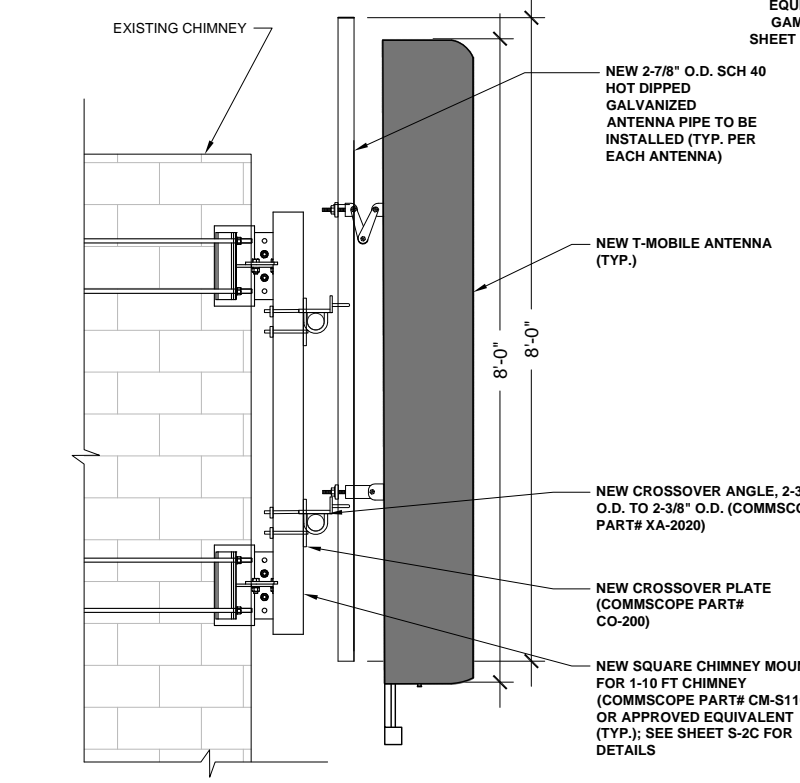
S-2



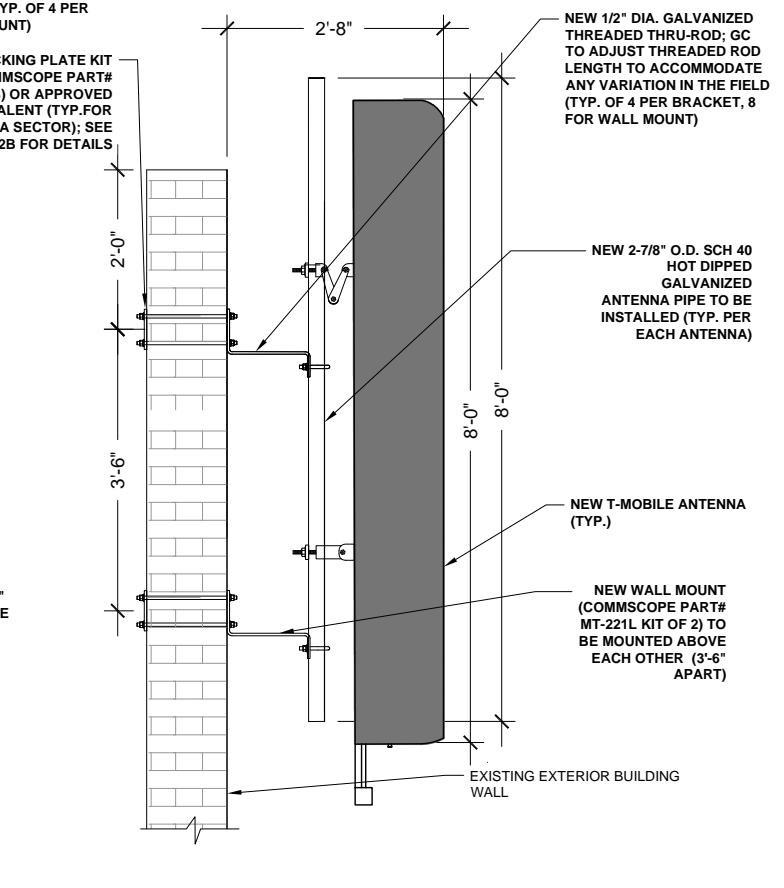
1 NEW T-MOBILE ANTENNA CONFIGURATION
SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



2 NEW 7-FT SECTOR FRAME DETAILS
SCALE: N.T.S.



3 NEW T-MOBILE ANTENNA MOUNTING DETAILS (ALPHA & BETA SECTORS)
SCALE: N.T.S.



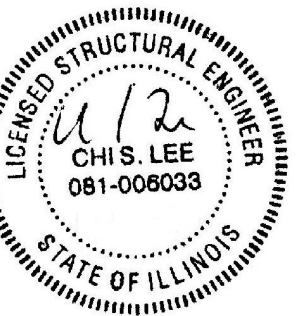
4 NEW T-MOBILE ANTENNA MOUNTING DETAILS (GAMMA SECTOR)
SCALE: N.T.S.

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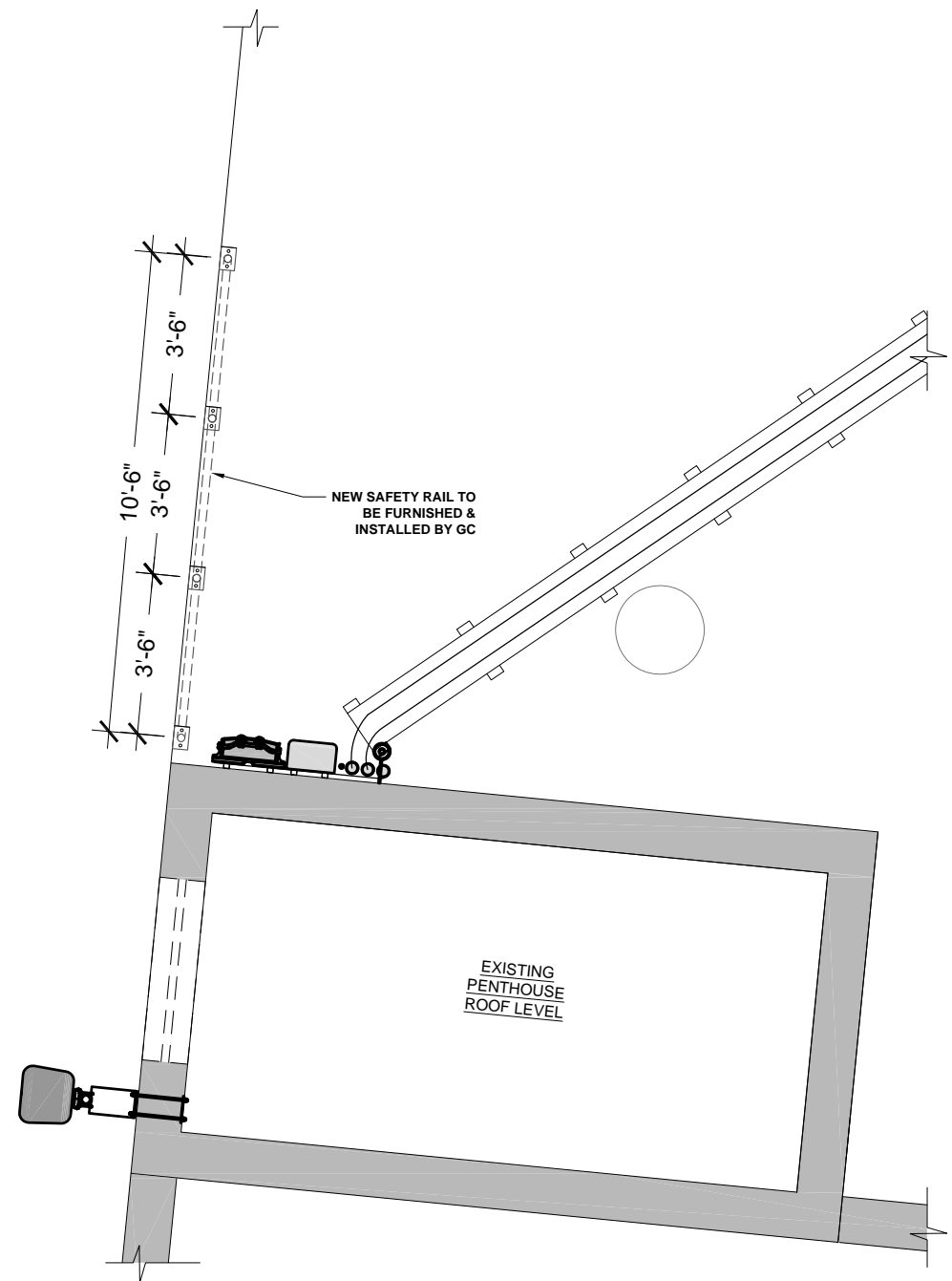


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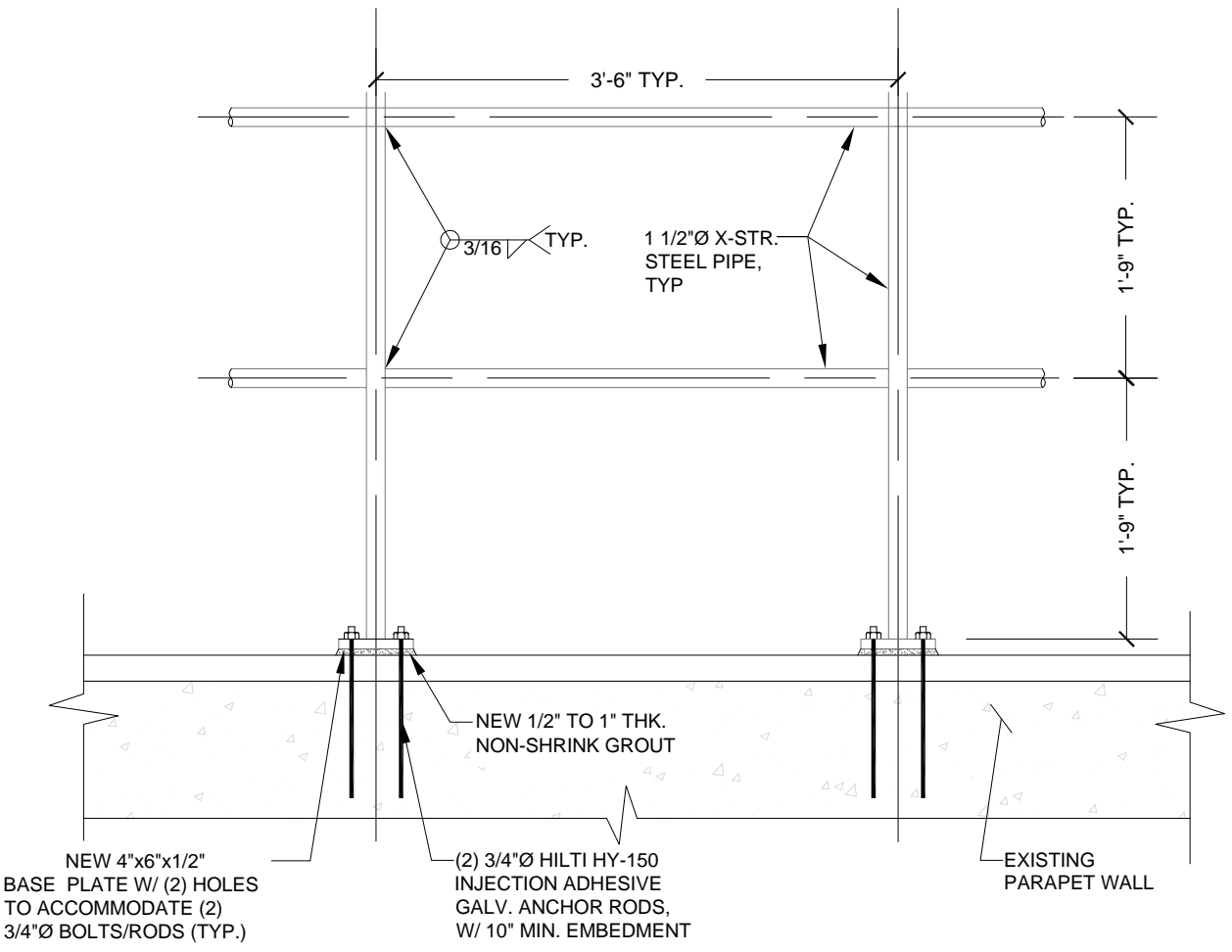
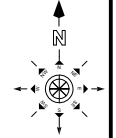
SAFETY RAILING
DETAILS

S-3

GAMMA
AZIMUTH 270°



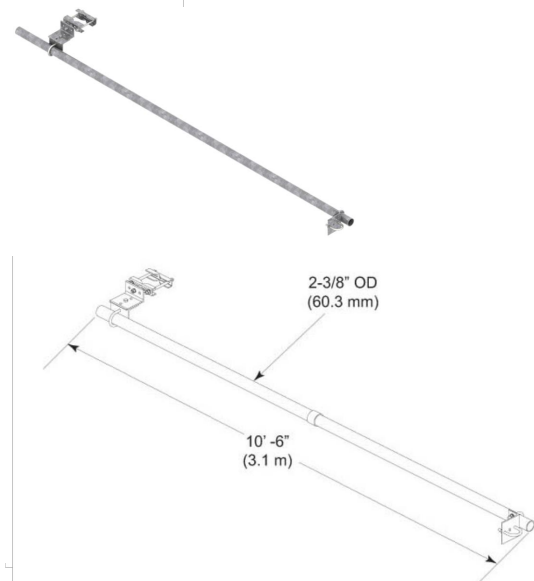
1 ENLARGED SAFETY RAILING PLAN (NEAR GAMMA SECTOR)
SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11 X 17 SHEET SIZE)



NOTE:
ALL WELDING TO BE PERFORMED OFF SITE

2 SECTION (SAFETY RAILING DETAIL)
SCALE: N.T.S.

SA-B10
Stiff Arm Bracket, includes pipe



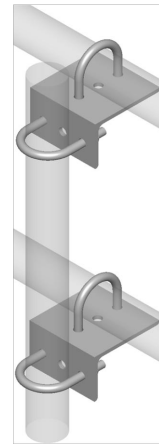
Dimensions

Pipe Outer Diameter	60.3 mm 2 3/8 in
Height	3200.4 mm 126.0 in
Length	203.2 mm 8.0 in
Weight	24.1 kg 53.1 lb
Width	203.2 mm 8.0 in

STIFF ARM BRACKET
(COMMSCOPE PART# SA-B10)

1

XA-2020
Crossover Angle, 2-3/8 in to 2-3/8 in OD



Dimensions

Mounting Diameter, maximum	60.3 mm 2 3/8 in
Mounting Diameter, minimum	60.3 mm 2 3/8 in
Height	152.4 mm 6.0 in
Length	152.4 mm 6.0 in
Weight	1.8 kg 4.0 lb
Width	152.4 mm 6.0 in

CROSSOVER ANGLE
(COMMSCOPE PART# XA-2020)

SCALE: N.T.S.

2

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	XA2020.01	CROSS OVER ANGLE	2	2.66 LBS
2	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	4	0.56 LBS

REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	AW	07/16/04
B		UPDATE VIEWS	ACG	03/30/06

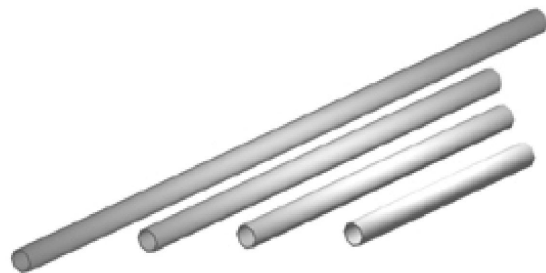
NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.

REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	AW	07/16/04
B		UPDATE VIEWS	ACG	03/30/06

KIT OF 2

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	ADM	CROSSOVER PLATE 12" X 8"	1	9.83 LBS
2	DCP10	SMALL CLAMP HALF	4	2.21 LBS
3	MT-381-8	5/8" X 8" GALV THREADED ROD	8	0.64 LBS
4	HB5816	HARDWARE KIT (ITEMS 5-7)	1	
5	GWFO5A	5/8" GALV FLAT WASHER (A325)	16	0.03 LBS
6	GN05A	5/8" GALV HEX NUT (A325)	16	0.08 LBS
7	GWL-05	5/8" GALV LOCK WASHER	16	0.09 LBS

MT-651-84
Plain End Pipe, 2-3/8 in OD x 84 in



Dimensions

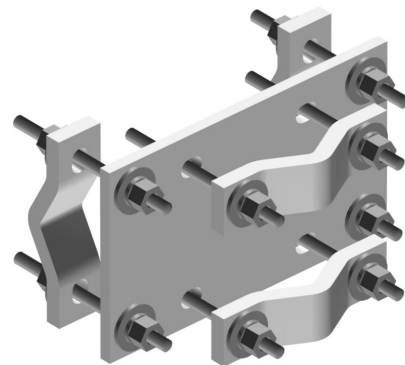
Pipe Outer Diameter	60.3 mm 2 3/8 in
Height	60.3 mm 2.4 in
Length	2133.6 mm 84.0 in
Weight	11.8 kg 26.0 lb
Width	60.3 mm 2.4 in

PLAIN END PIPE, 2-3/8 IN OD X 84 IN
(COMMSCOPE PART# MT-651-84)

3

SCALE: N.T.S.

CO-200
Crossover Plate, joins 2 in to 5 in OD round members



Dimensions

Mounting Diameter, maximum	127.0 mm 5 in
Mounting Diameter, minimum	50.8 mm 2 in
Height	254.0 mm 10.0 in
Length	203.2 mm 8.0 in
Weight	13.2 kg 29.0 lb
Width	304.8 mm 12.0 in

CROSSOVER PLATE FOR 2"-5" OD
(COMMSCOPE PART# CO-200)

4

SCALE: N.T.S.

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	ADM	CROSSOVER PLATE 12" X 8"	1	9.83 LBS
2	DCP10	SMALL CLAMP HALF	4	2.21 LBS
3	MT-381-8	5/8" X 8" GALV THREADED ROD	8	0.64 LBS
4	HB5816	HARDWARE KIT (ITEMS 5-7)	1	
5	GWFO5A	5/8" GALV FLAT WASHER (A325)	16	0.03 LBS
6	GN05A	5/8" GALV HEX NUT (A325)	16	0.08 LBS
7	GWL-05	5/8" GALV LOCK WASHER	16	0.09 LBS

REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	TDM	01/11/00
B		REVISED & REDAWN	JIS	03/01/01

NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.

REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	TDM	01/11/00
B		REVISED & REDAWN	JIS	03/01/01

KIT OF 2

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	ADM	CROSSOVER PLATE 12" X 8"	1	9.83 LBS
2	DCP10	SMALL CLAMP HALF	4	2.21 LBS
3	MT-381-8	5/8" X 8" GALV THREADED ROD	8	0.64 LBS
4	HB5816	HARDWARE KIT (ITEMS 5-7)	1	
5	GWFO5A	5/8" GALV FLAT WASHER (A325)	16	0.03 LBS
6	GN05A	5/8" GALV HEX NUT (A325)	16	0.08 LBS
7	GWL-05	5/8" GALV LOCK WASHER	16	0.09 LBS



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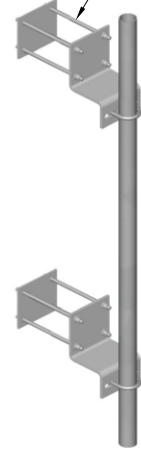


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AURORA, IL 60505

ANTENNA MOUNTING
SPECIFICATIONS

S-2A

NEW 1/2" DIA. GALVANIZED THREADED THRU-ROD; GC TO ADJUST THREADED ROD LENGTH TO ACCOMMODATE ANY VARIATION IN THE FIELD (TYP. OF 4 PER BRACKET, 8 FOR WALL MOUNT)

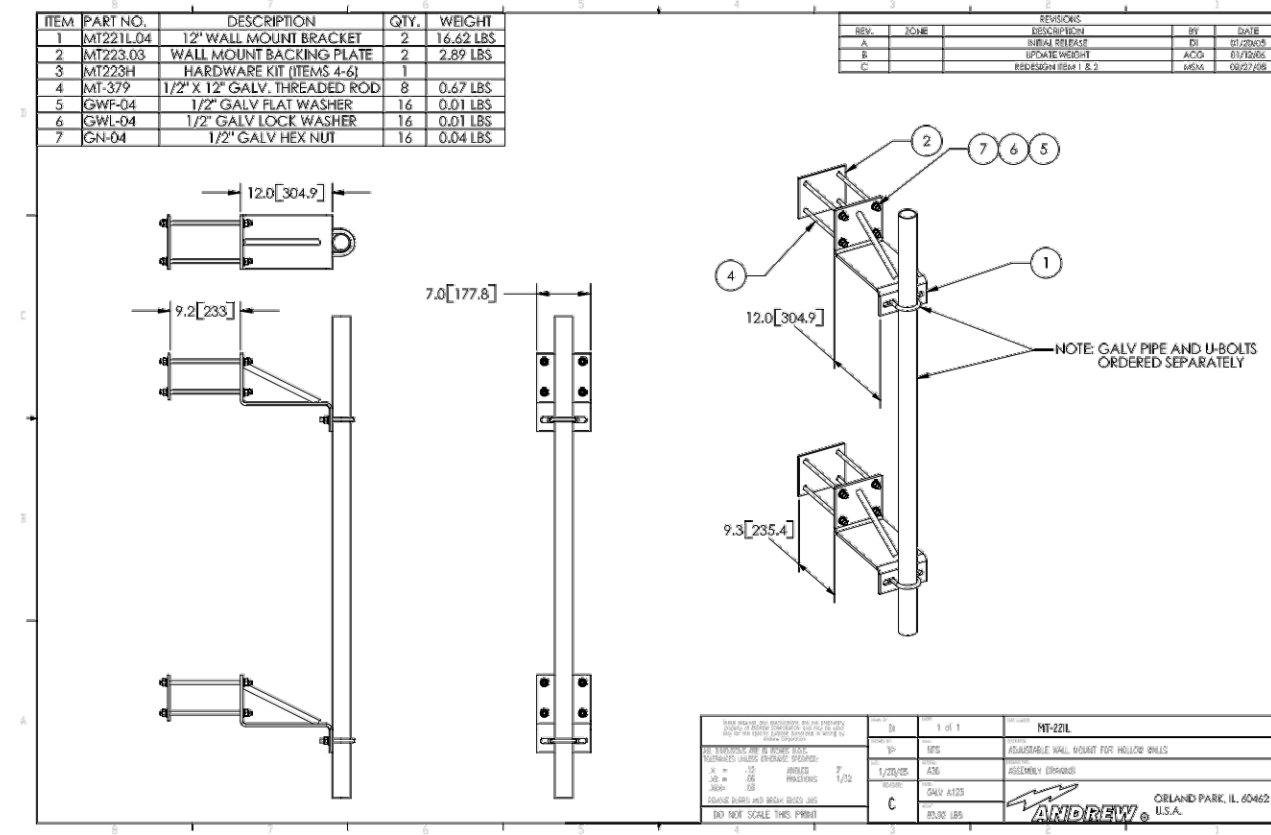


MT-221L
Adjustable Wall Mount for hollow walls, 12 in stand-off

Dimensions

Height	203.2 mm 8.0 in
Length	304.8 mm 12.0 in
Pipe Outer Diameter	2 3/8 in 2 7/8 in 3 1/2 in 4 1/2 in
Width	203.2 mm 8.0 in
Weight	34.2 kg 75.3 lb

1 12" ADJUSTABLE HOLLOW WALL MOUNT (COMMSCOPE PART# MT-221L)
SCALE: N.T.S.



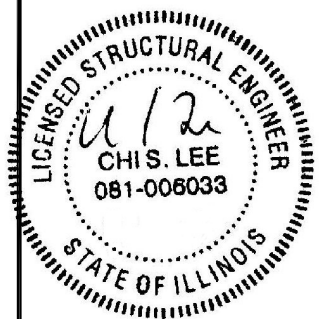
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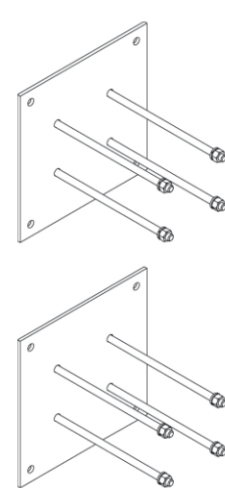
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AURORA, IL 60505

ANTENNA MOUNTING
SPECIFICATIONS

S-2B

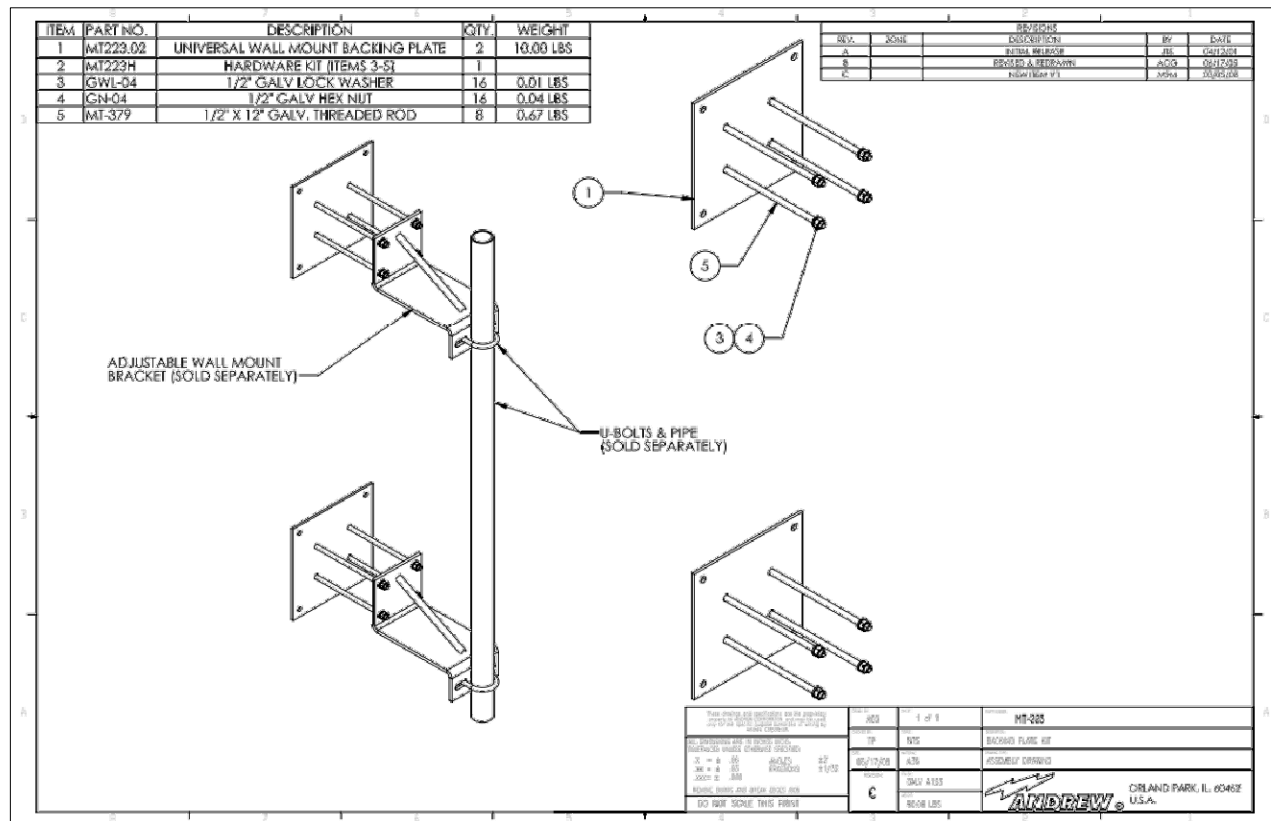


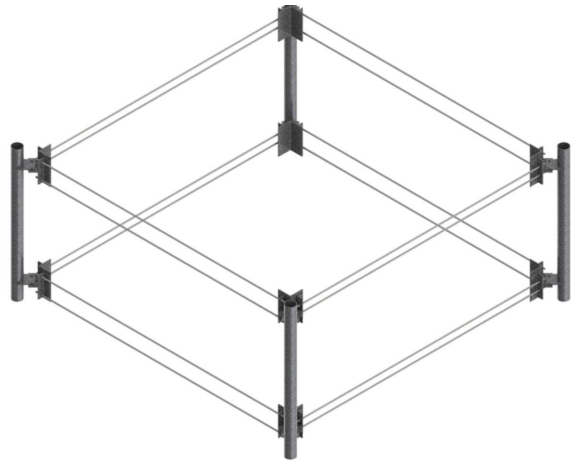
MT-223
Backing Plate Kit

Dimensions

Height	254.0 mm 10.0 in
Length	304.8 mm 12.0 in
Width	304.8 mm 12.0 in
Weight	10.5 kg 23.1 lb

2 BACKING PLATE KIT (COMMSCOPE PART# MT-223)
SCALE: N.T.S.





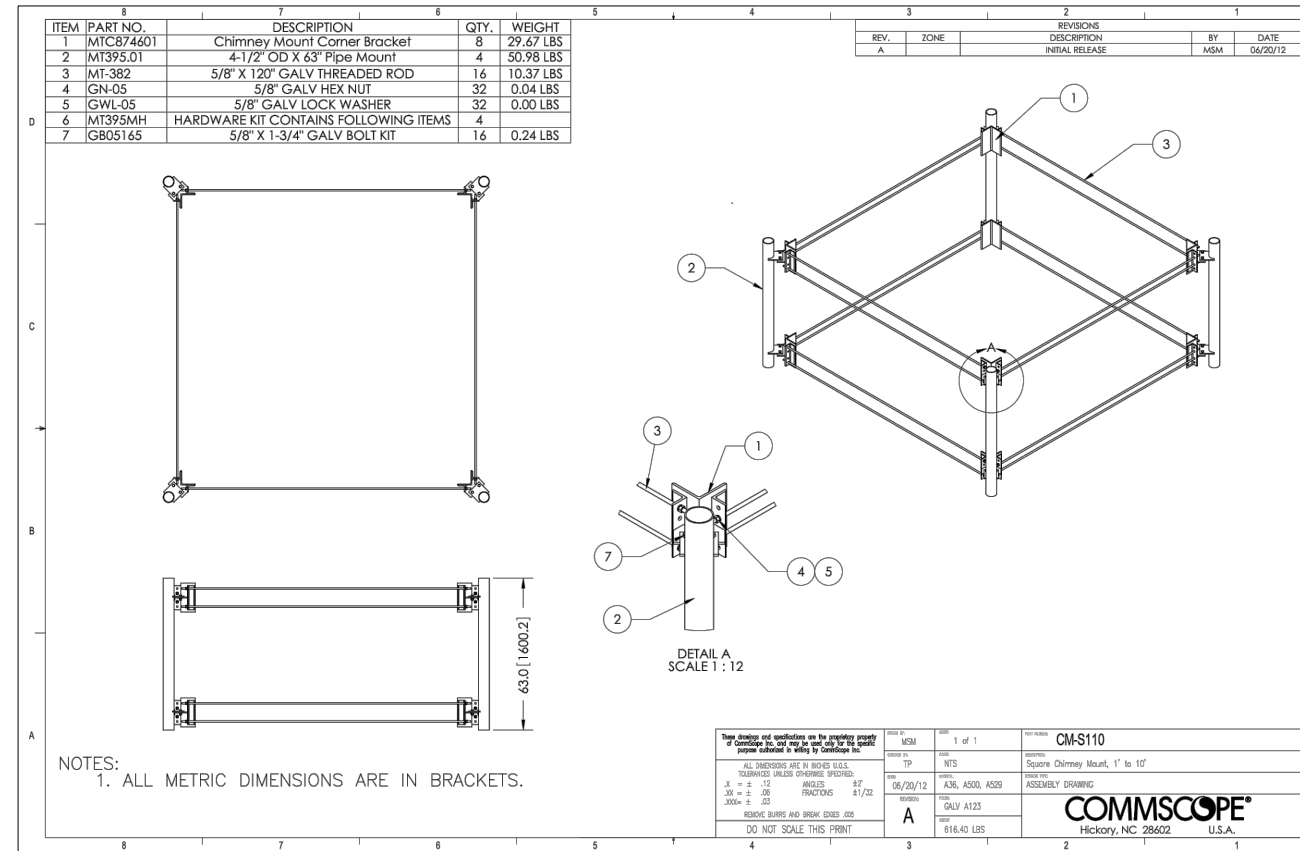
CM-S110
Square Chimney Mount for 1-10 ft chimney

Dimensions

Height	609.6 mm 24.0 in
Length	1524.0 mm 60.0 in
Width	1524.0 mm 60.0 in
Weight	279.1 kg 615.3 lb

SQUARE CHIMNEY MOUNT FOR 1-10 FT CHIMNEY
(COMMSCOPE PART# CM-S110)

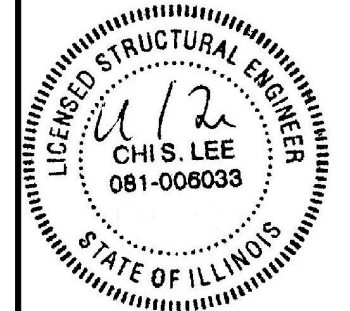
1
 SCALE: N.T.S.



T-MOBILE
 8550 WEST BRYN MAWR AVE.
 SUITE 100
 CHICAGO, IL 60631
 MAIN: (773) 444-5400

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 A PROFESSIONAL DESIGN FIRM
 LICENSE # 3323-011- D.B.A.
CONCORDIA WIRELESS, INC.
 361 RANDY ROAD
 UNIT 101
 CAROL STREAM, IL 60188
 MAIN: (847) 981-0801

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NEW CHIMNEY MOUNT
 SPECIFICATIONS

S-2C

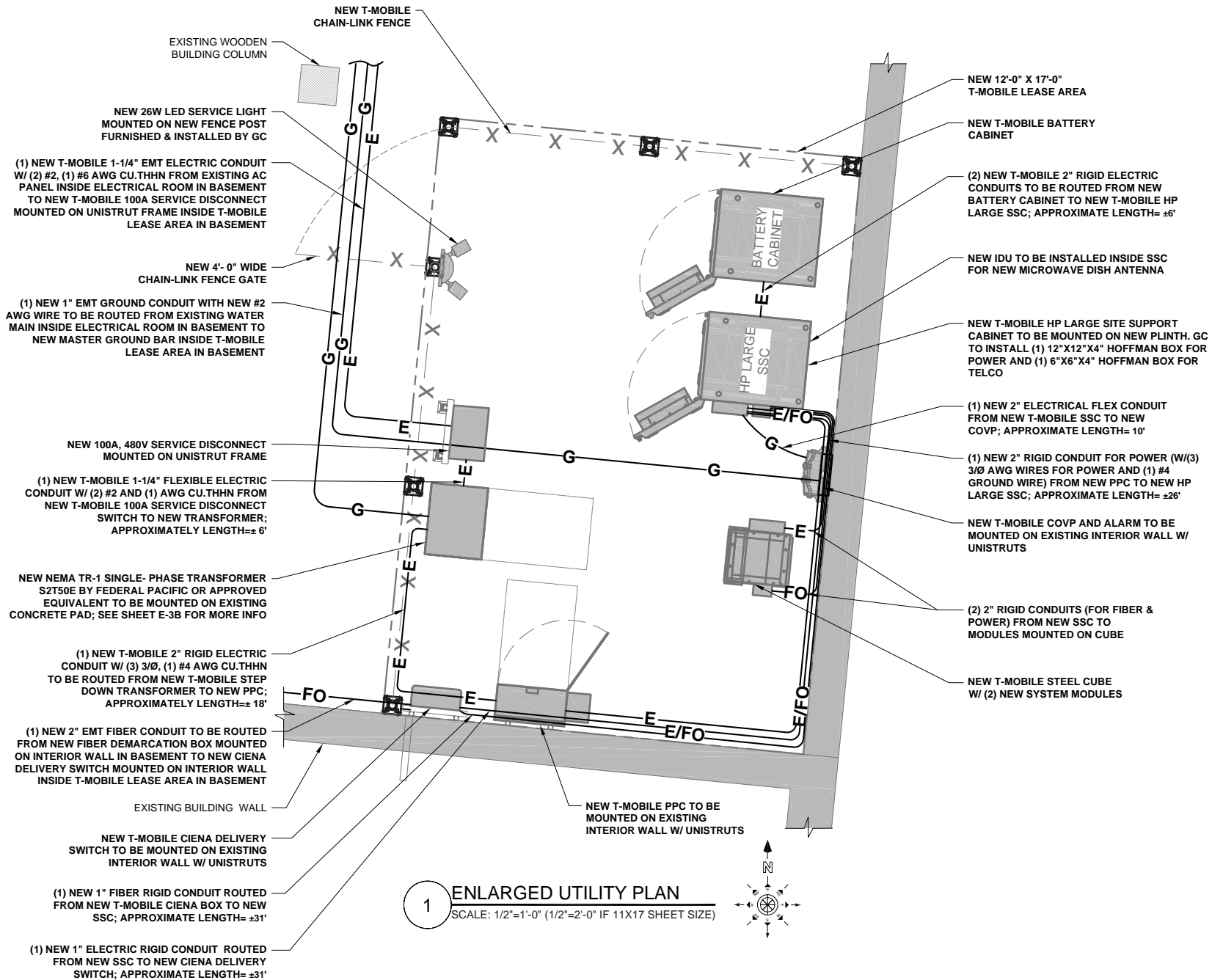
IMPORTANT NOTE:
ALL UNISTRUT, FASTENERS, HARDWARE, ETC. ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR SHALL NOT USE ZINC-PLATED OR PRE-GALVANIZED

BIDDING & CONSTRUCTION NOTE:
WIRE SIZES SHOWN ARE ESTIMATED MINIMUMS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND COMPLY WITH THE APPLICABLE LOCAL ELECTRICAL AND BUILDING CODES IN ADDITION TO NEC 2008 AND FOLLOW WHICHEVER IS MORE CONSERVATIVE. CONTRACTOR SHALL ESTIMATE PHASE CONDUCTOR SIZE & UTILIZE THE APPROPRIATE WIRE SIZE AND TYPE ASSUMING A 2% VOLTAGE DROP. CONTRACTOR TO CONFIRM WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO CONSTRUCTION START.

FIBER & POWER ROUTES TO BE CONFIRMED WITH T-MOBILE PRIOR TO CONSTRUCTION START

SERVICE CONDUIT LENGTH (TO PPC ONLY- EXCLUDING LENGTH FOR CONDUITS TO SSC)	NOTE: * THE CONDUIT LENGTH GIVEN IS BASED ON THE DRAWING +15%. THE EXACT LENGTH TO BE VERIFIED IN FIELD. GC TO VERIFY LENGTHS AFTER COORDINATING W/ SERVICE UTILITY COMPANIES.
FIBER (FROM FIBER BOX TO CIENA)	±64'
ELECTRIC (FROM AC PANEL TO SUB-METER)	±16'
ELECTRIC (FROM AC PANEL TO DISCONNECT SWITCH)	±145'
ELECTRIC (FROM DISCONNECT SWITCH TO TRANSFORMER)	±6'
ELECTRIC (FROM TRANSFORMER TO PPC)	±18'
GROUND (FROM WATER MAIN TO GROUND BAR)	±156'
GROUND (FROM WATER MAIN TO SUB-METER)	±36'
GROUND (FROM WATER MAIN TO TRANSFORMER)	±138'

ALL CONDUITS INCLUDE 15% EXTRA



GENERAL ELECTRICAL NOTES

- NATIONAL ELECTRIC CODE, LATEST EDITION.
- ALL ELECTRICAL MATERIALS, EQUIPMENT AND INSTALLATION PROCEDURES TO CONFORM WITH LOCAL JURISDICTION REQUIREMENTS.
- CONTRACTOR SHALL PERFORM ALL VERIFICATION TESTS AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT & DISCREPANCIES.
- ELECTRICAL PLANS, DETAILS, AND DIAGRAMS ARE DIAGRAMMATIC ONLY. FIELD CONDITIONS DICTATE THE AMOUNT AND LOCATION OF EQUIPMENT.
- ALL MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NFPA, AND "UL" LISTED.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC, T-MOBILE, AND ALL APPLICABLE LOCAL CODES.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE A MINIMUM INTERRUPTING RATING OF 20,000 AIC WHERE APPLICABLE.
- PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
- PROVIDE T-MOBILE WITH ONE SET OF COMPLETE ELECTRICAL "AS-BUILT" DRAWINGS AT THE COMPLETION OF THE JOB SHOWING ACTUAL ROUTINGS AND WIRING CONNECTIONS.
- LABEL ALL ELECTRICAL EQUIPMENT PER T-MOBILE SPECIFICATIONS.
- ALL SINGLE-PHASE SELF-CONTAINED METER CONNECTION DEVICES MUST INCLUDE HORN TYPE BY-PASS PROVISION SO THAT SERVICE WILL NOT BE INTERRUPTED WHEN A METER IS REMOVED FROM THE SOCKET.
- ALL ABOVE GROUND CONDUITS AND BUSHING SHALL BE RGS.

- ALL WORK IS TO COMPLY W/THE NATIONAL ELECTRICAL CODE (NEC) & ANY ORDINANCES, CODES & ALL OTHER ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL FURNISH & PAY FOR ALL PERMITS & RELATED FEES.
- ALL EQUIPMENT & MATERIALS FURNISHED & INSTALLED UNDER THIS CONTRACT SHALL BE UNDERWRITERS LABORATORIES (U.L.) LISTED, NEW, FREE FROM DEFECTS, & SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER OR HIS REPRESENTATIVE. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIALS OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS & LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
- ALL WORK SHALL BE EXECUTED IN A WORKMAN LIKE MANNER & SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING & PATCHING RELATED TO ELECTRICAL WORK, & SHALL RESTORE ALL EXISTING LANDSCAPING, SPRINKLER SYSTEMS, CONDUITS, WIRING, PIPING, ETC. DAMAGED BY THE ELECTRICAL WORK TO MATCH EXISTING CONDITIONS.
- ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL LABOR, MATERIALS & EQUIPMENT REQUIRED TO COMPLETE ELECTRICAL POWER & LIGHTING SYSTEMS, TELEPHONE & COMMUNICATIONS SYSTEMS, PANEL BOARDS, CONDUIT, CONTROL WIRING, GROUNDING, ETC. AS INDICATED ON ELECTRICAL DRAWINGS &/OR AS REQUIRED BY GOVERNING CODES.
- GC TO HIRE PUBLIC UNCC & PRIVATE LOCATE SERVICE IN ORDER TO LOCATE AND PROTECT ANY AND ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES.
- THESE PLANS MAY NOT CONTAIN OR REVEAL ALL SUBSURFACE UTILITIES; GC IS RESPONSIBLE OF LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION.
- GC WILL NOT START CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE PM.
- GC TO PROTECT ALL UNDERGROUND UTILITIES DURING CONSTRUCTION

LEGEND

-- UF --	UNDERGROUND FIBER OPTIC CABLE
— FO —	FIBER OPTIC CABLE
-- UE --	UNDERGROUND ELECTRIC CONDUIT
— E —	ELECTRIC CONDUIT

CODES AND STANDARDS

NEC	NATIONAL ELECTRICAL CODE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
UL	UNDERWRITERS LABORATORIES, INC.
IBC	INTERNATIONAL BUILDING CODE BUILDING OFFICIAL AND CODE ADMINISTRATORS

ABBREVIATIONS

AIC	AMPS INTERRUPTING CAPACITY	GEN	GENERATOR
AWG	AMERICAN WIRE GAUGE	GND	GROUND
BCW	BARE COPPER WIRE	GPS	GLOBAL POSITIONING SYSTEM
BTS	BASE TRANSMISSION SYSTEM	O/H	OVERHEAD
C	CONDUIT	PCS	PERSONAL COMMUNICATION SYSTEM
CAB	CABINET	PPC	POWER PROTECTION CABINET
DISC	DISCONNECT SWITCH	RGS	RIGID GALVANIZED STEEL
DWG	DRAWING	TYP	TYPICAL
ELEC	ELECTRICAL	UG	UNDERGROUND GAS
EMT	ELECTRICAL METALLIC TUBING	UW	UNDERGROUND WATER
		SS	STORM SEWER

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LICENSED ARCHITECT

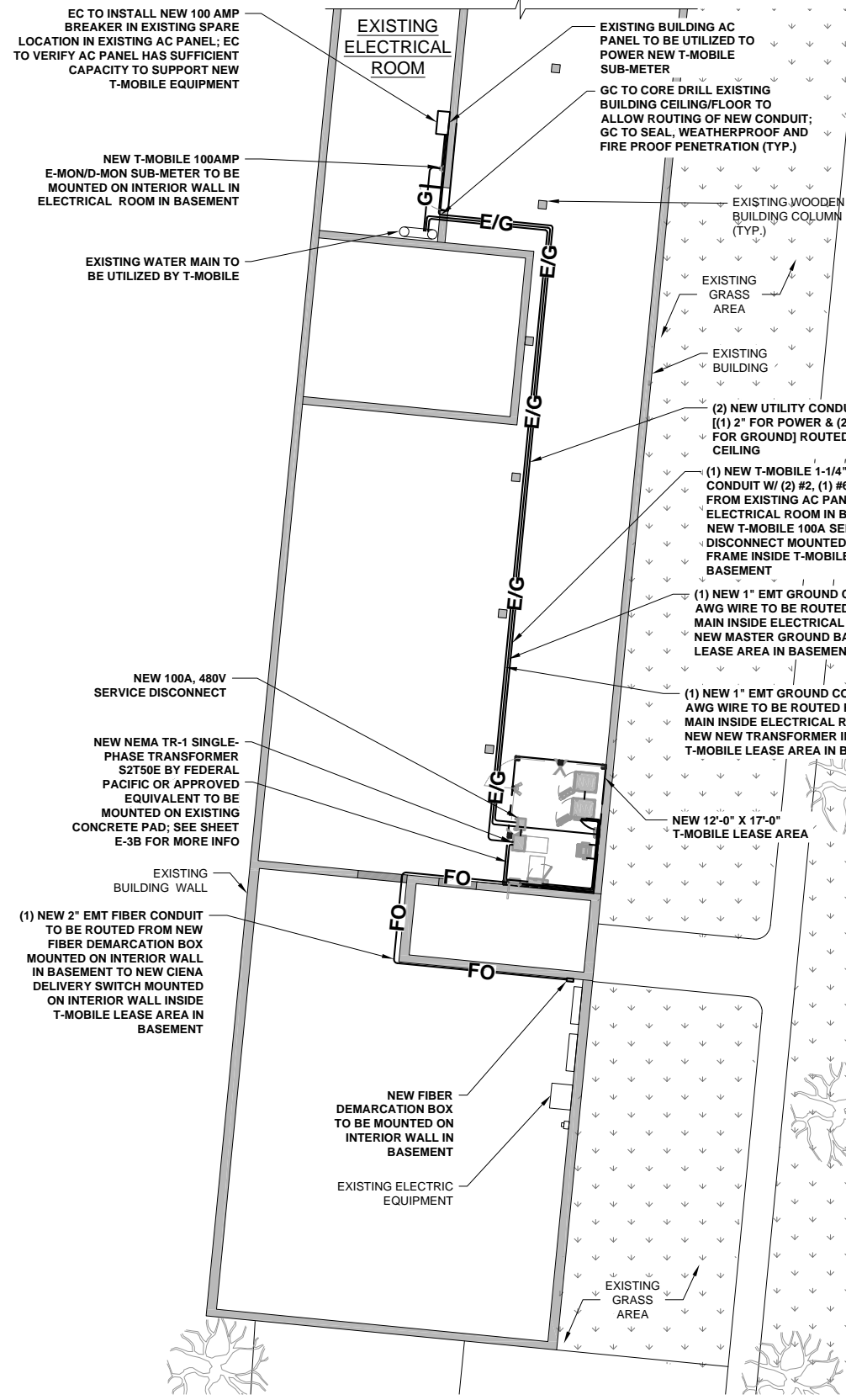
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8109

STATE OF ILLINOIS

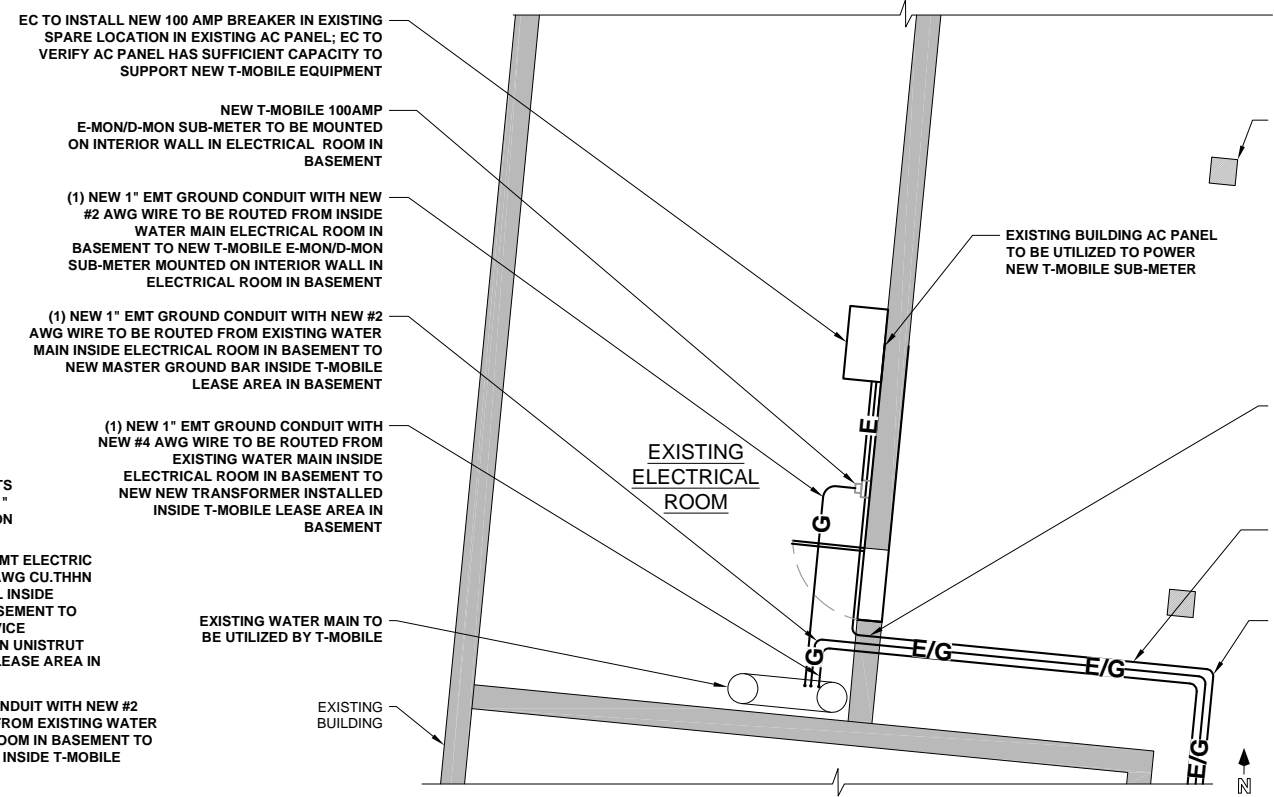
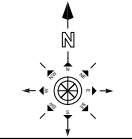
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UTILITY SITE PLAN AND DETAILS

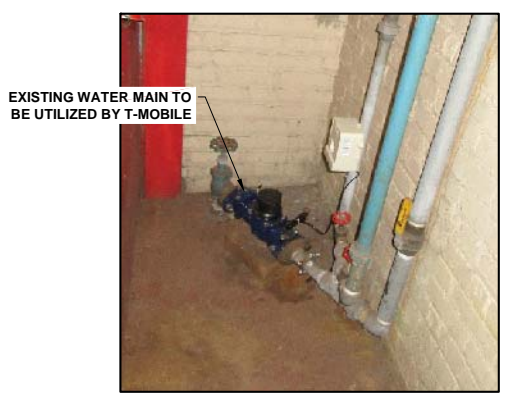
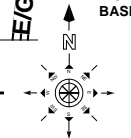
E-1



1 NEW UTILITY ROUTING PLAN (BASEMENT)
SCALE: 1/8"=1'-0" (1/8"=2'-0" IF 11X17 SHEET SIZE)



2 NEW UTILITY ROUTING PLAN (BASEMENT)
SCALE: 1/4"=1'-0" (1/4"=2'-0" IF 11X17 SHEET SIZE)



3 NEW UTILITY ROUTING (BASEMENT)
N.T.S.



4 NEW UTILITY ROUTING (BASEMENT)
N.T.S.

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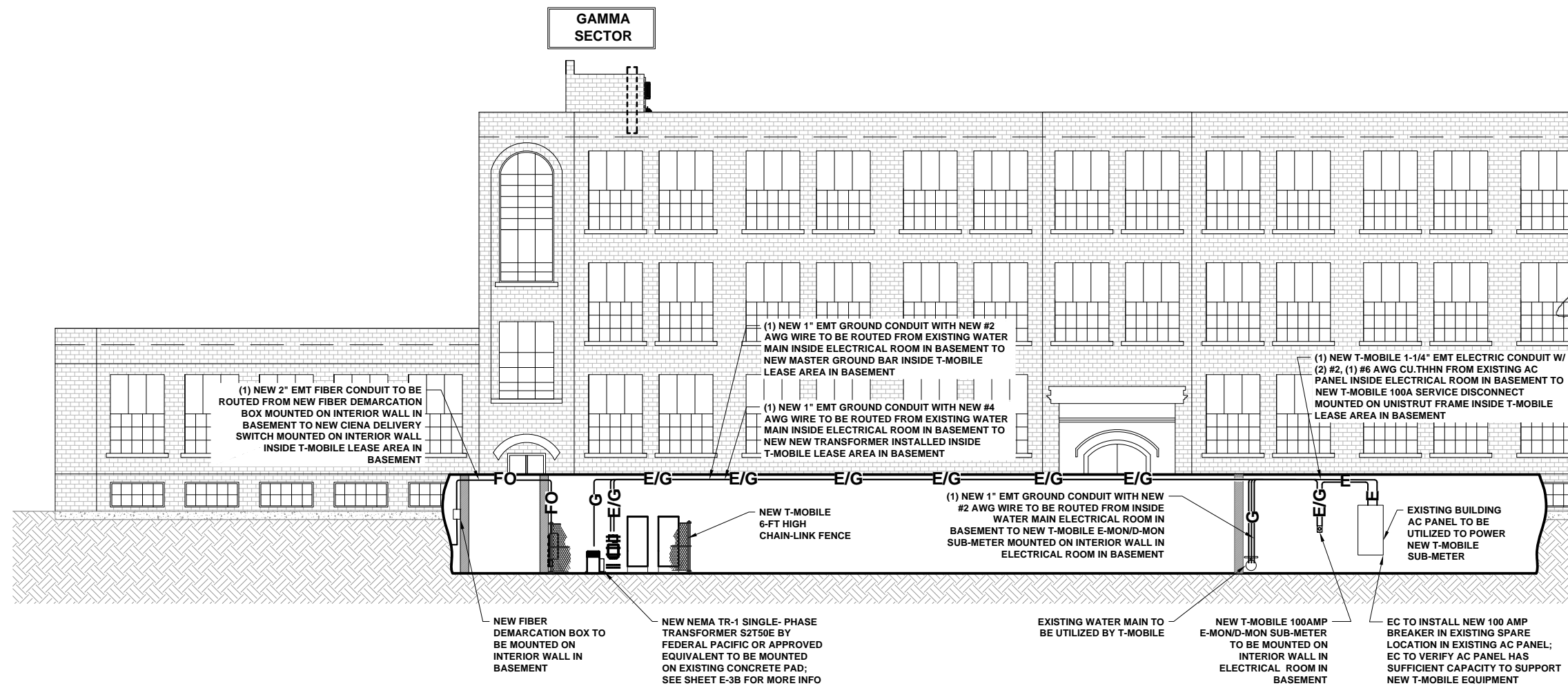
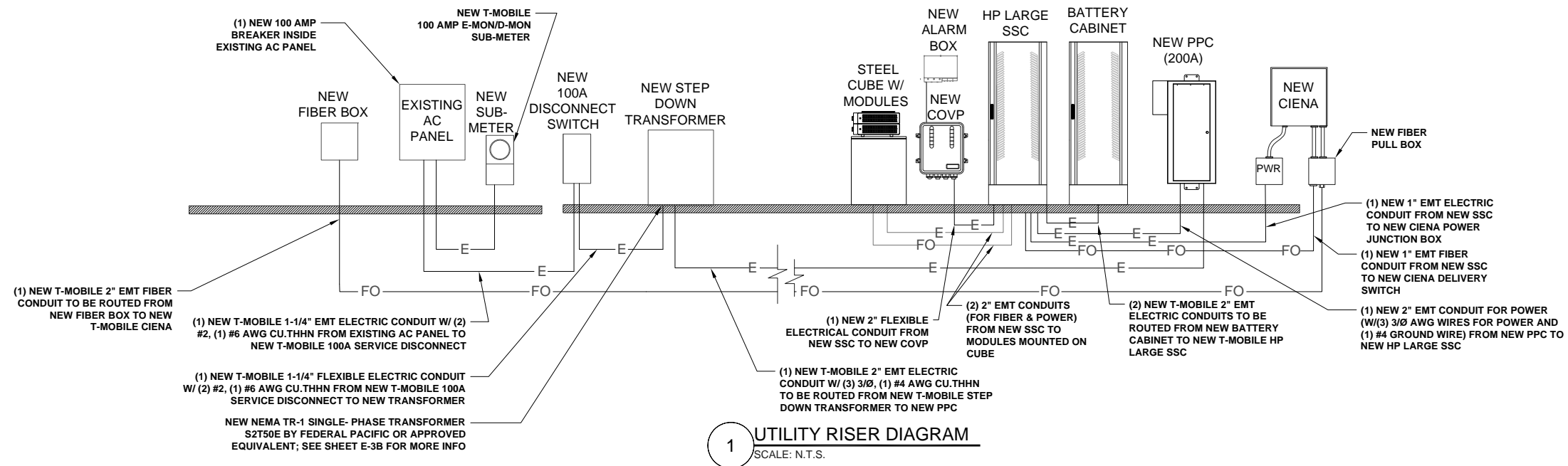
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NEW UTILITY ROUTING

E-1A



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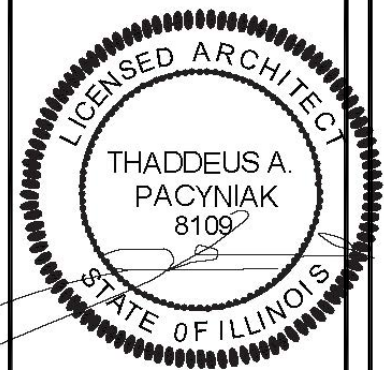
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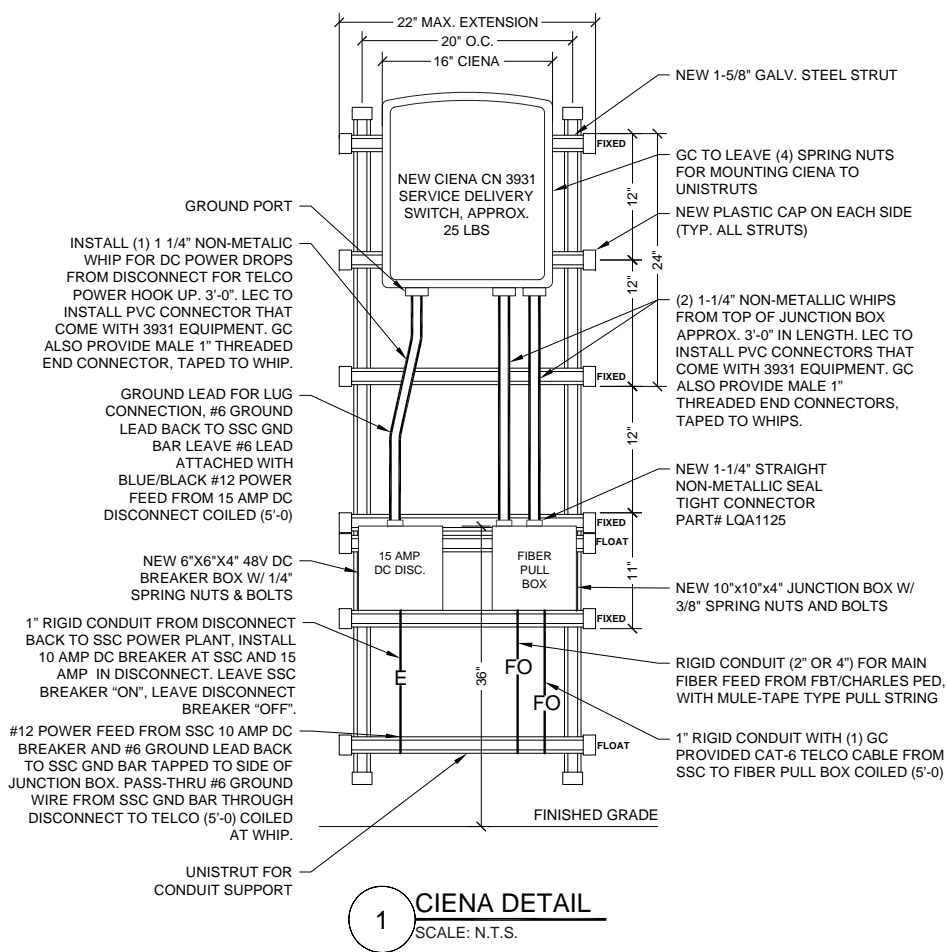
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UTILITY RISER
DIAGRAM

E-2

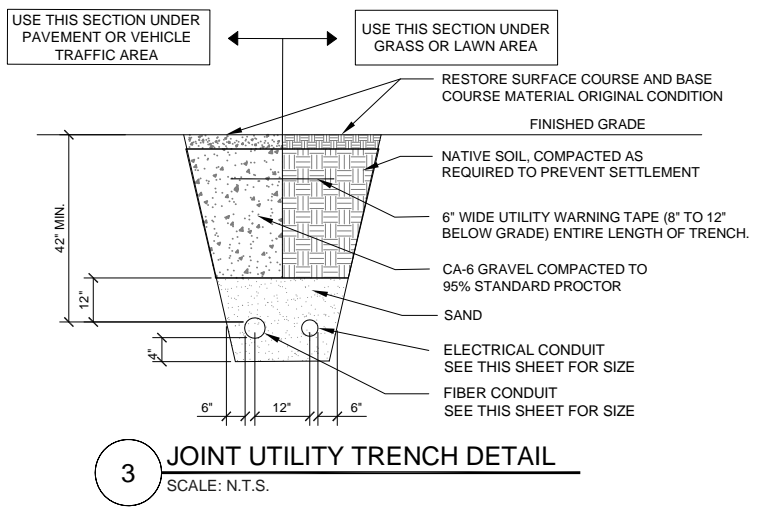
NOTES ON FIBER & POWER COORDINATION

ROUTING SHOWN IS BASED ON ASSUMPTIONS FROM VISUAL FIELD OBSERVATIONS OF EXISTING POLES & TRANSFORMERS. THESE PLANS MAY OR MAY NOT REFLECT AND/OR CONTAIN THE FINAL SCENARIO FOR POWER OR FIBER ROUTING. THE ELECTRICAL DESIGN SHOWN IS FOR PERMITTING PURPOSES ONLY AND IS NOT FOR CONSTRUCTION. ADDITIONAL TRANSFORMER MAY BE REQUIRED. LONGER LEAD TIMES MAY BE POSSIBLE. CONCORDIA IS NOT RESPONSIBLE FOR CODE COMPLIANCE OR COMPLIANCE W/ POWER CODE. ELECTRICIAN IS REQUIRED TO CONFIRM COMPLIANCE OF SITE W/ LOCAL, COUNTY, STATE AND/OR NATIONAL ELECTRICAL CODES. THE MOST RESTRICTIVE OF SUCH CODES SHALL GOVERN AND BE APPLICABLE. THE DESIGN SHOWN ON THESE PLANS IS SUBJECT TO VERIFICATION AND APPROVAL BY T-MOBILE & GC. GC SHALL BE RESPONSIBLE FOR VERIFYING FINAL SCENARIO & CODE COMPLIANCE & IS RESPONSIBLE FOR COORDINATING WITH T-MOBILE POWER COORDINATOR. GC SHALL BID ON THESE PLANS USING THE WORST CASE SCENARIO.



ATTENTION GC:

- CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE IN CASE POWER OUTAGE IS NECESSARY. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, TYPE, SIZE & SEPARATION OF CONDUIT PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES
- CONTRACTOR TO CALL UTILITY LOCATE HOTLINE 48 HRS. PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NONPUBLIC UTILITIES.
- ALL EXTERIOR CONDUITS SHALL BE RGS
- ALL INTERIOR CONDUITS SHALL BE EMT
- GC TO FIREPROOF ALL PENETRATIONS
- GC TO WEATHERPROOF ALL EXTERIOR PENETRATIONS
- GC SHALL MAINTAIN A MAXIMUM VOLTAGE DROP OF 3%
- GC SHALL COMPLY W/ ALL REQUIREMENTS OF BUILDING CODE, VOLUMES 1 & 2, INCLUDING ELECTRICAL CODE.
- GC SHALL FURNISH & INSTALL ALL NECESSARY HARDWARE/ JUNCTION BOXES / STRAIN RELIEF EQUIPMENT AS NECESSARY PER BUILDING CODE & INSPECTOR. GC TO PROTECT ALL EXISTING UTILITY CONDUITS, ENCLOSURES & WIRES DURING CONSTRUCTION.



SERVICE EQUIPMENT NOTES:

- SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT TO WITHSTAND RATING THAT IS EQUAL TO OR EXCEEDS THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. THE INSTALLATION SHALL BE FREE FROM ANY SHORT CIRCUITS AND GROUNDS.
- ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND 80 M.P.H. WIND SPEED, EXPOSURE C.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF ELECTRICAL WORK.

CONDUCTOR NOTES:

- ALL CONDUCTORS SHALL BE COPPER
- ALL WIRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600 VOLTS INSULATION.
- CONDUCTORS SHALL BE 12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.

UTILITY COORDINATION NOTES:

- PROVIDE POWER AND TELEPHONE TO SERVICE POINTS PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL CONTACT UTILITY SERVICE PLANNERS AND OBTAIN ALL SERVICE REQUIREMENTS AND INCLUDE COSTS FOR SUCH IN HIS BID.
- CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO HE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- PROVIDE DAILY UPDATES TO PM UNTIL FINAL ELECTRICAL SERVICE IS EFFECTED.

CONDUIT MATERIAL SCHEDULE:

UNLESS NOTED OTHERWISE, ALL CONDUIT RUNS SHALL CONFORM TO THE FOLLOWING :

- ALL ABOVE GRADE, EXTERIOR CONDUITS SHALL BE RGS.
- ALL BELOW GRADE HORIZONTAL CONDUITS SHALL BE PVC
- ALL BELOW GRADE 3" Ø & 45° BENDS SHALL BE STEEL W/THREADED CONNECTIONS.
- ALL BELOW GRADE TO ABOVE GRADE RISERS SHALL BE STEEL W/THREADED CONNECTIONS.
- SEAL TIGHT FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS.

CONDUIT NOTES:

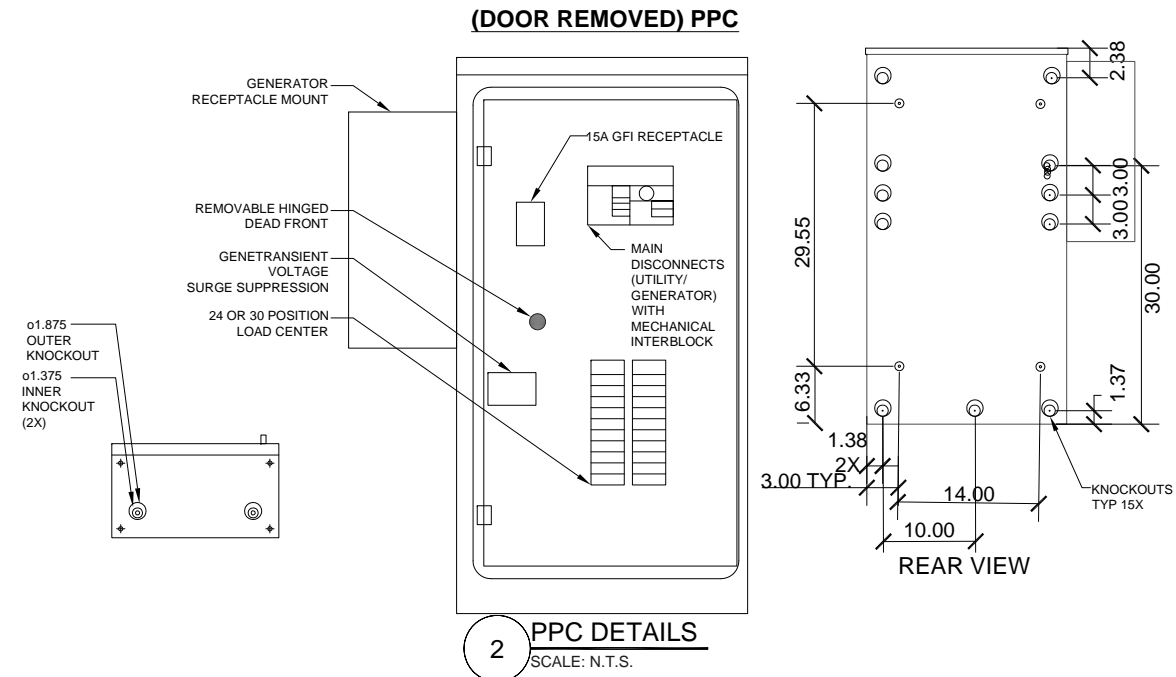
- HWGC SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE.
- EMT SHALL BE USED ONLY FOR INTERIORS RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS.
- SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
- PVC SHALL BE SCH 40
- SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) -90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS.
- SERVICE CONDUIT SHALL BE AT A MINIMUM DEPTH OF 42".
- ALL COAX, POWER AND TELEPHONE SYSTEM CONDUIT SHALL HAVE A MINIMUM 36" RADIUS SWEEPS TO EQUIPMENT, PULL BOXES, MONOPOLE, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.
- ELECTRICAL CONDUITS SHALL TRANSITION TO SEALTIGHT AT SSC BASE ENTRY TO PREVENT WIRING CONTACT WITH CONCRETE AND SHARP CABINET EDGES. GC TO CAP & SEAL ALL FUTURE CONDUITS. ALL MATERIALS FURNISHED & INSTALLED BY GC
- ROUTE RGS SCH. 40 CONDUIT BELOW GRADE FROM THE PPC TO THE TO THE DISCONNECT -- ALL CONDUITS BELOW PAVED SURFACED SHALL BE SCH. 80. ALL EXPOSED EXTERIOR CONDUITS SHALL BE RGS SCH. 40 AND INTERIOR CONDUITS (I.E. ROOFTOPS) MAY BE SUBSTITUTED BY EMT.

NOTES:

- ALL CONDUITS & CONDUCTORS FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.
- SEE SINGLE-LINE DIAGRAM FOR UTILITY CONDUITS & CONDUCTOR SIZES.
- ALL UTILITY LOCATIONS AND CONNECTIONS TO BE VERIFIED WITH T-MOBILE REPRESENTATIVE.
- BELLOW GRADE CONDUITS FROM PPC-CABINET TO BE RGS FROM ELBOW TO STUB-UP.

NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROPERTY OWNER & NECESSARY UTILITY COMPANIES FOR THE LOCATION OF ALL EXISTING BELOW GRADE UTILITIES PRIOR TO BEGINNING CONSTRUCTION SHALL BE RESPONSIBLE FOR ANY DAMAGE COSTS ASSOCIATED WITH EXISTING BELOW GRADE UTILITIES.
- CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, SIZE & SEPARATION OF CONDUIT PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES
- CONTRACTOR TO CALL J.U.L.I.E. (800) 892-0123 48 HRS. PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NONPUBLIC UTILITIES.



PANEL BOARD SCHEDULE															
T-MOBILE PROJECT NAME: NSD				PANEL STATUS: NEW				N TO GROUND BOND: YES							
VOLTAGE: 240V/120				MODEL NUMBER: T.B.D.				INTERNAL TVSS: YES							
MAIN BREAKER: 200 AMP				PHASE: 1				WIRE: 3							
MOUNT: H-FRAME				BUSS RATING: 200 AMPS				AIC: 22,000							
ENCLOSURE TYPE: NEMA 3R				NEUTRAL BAR: YES				GROUND BAR: YES							
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CK
1	SURGE ARRESTOR	30	2	ON	0	1.00	5250		1.25	4200	ON	4	200	SSC	2
3								5250	1.25	4200	ON				4
5				N/A	0	0.00	0		1.25	4200	ON				6
7				N/A	0	0.00	0	0	1.25	4200	ON				8
9				N/A	0	0.00	0		0.00	0	N/A				10
11				N/A	0	0.00	0	0	0.00	0	N/A				12
13				N/A	0	0.00	0		0.00	0	N/A				14
15				N/A	0	0.00	0	0	0.00	0	N/A				16
17				N/A	0	0.00	0		0.00	0	N/A				18
19				N/A	0	0.00	0	0	0.00	0	N/A				20
21				N/A	0	0.00	0		0.00	0	N/A				22
23				N/A	0	0.00		180	1.00	180	ON	1	20	GFI OUTLET	24
											TOTAL KVA	11.18			
											AMPS	46.58			

T-Mobile

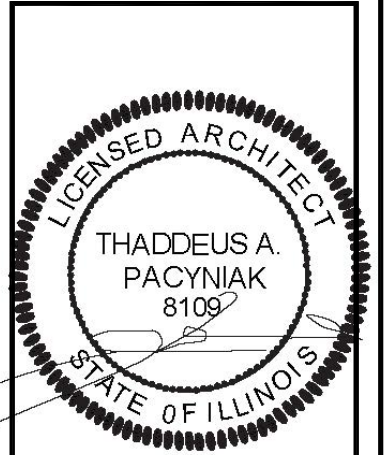
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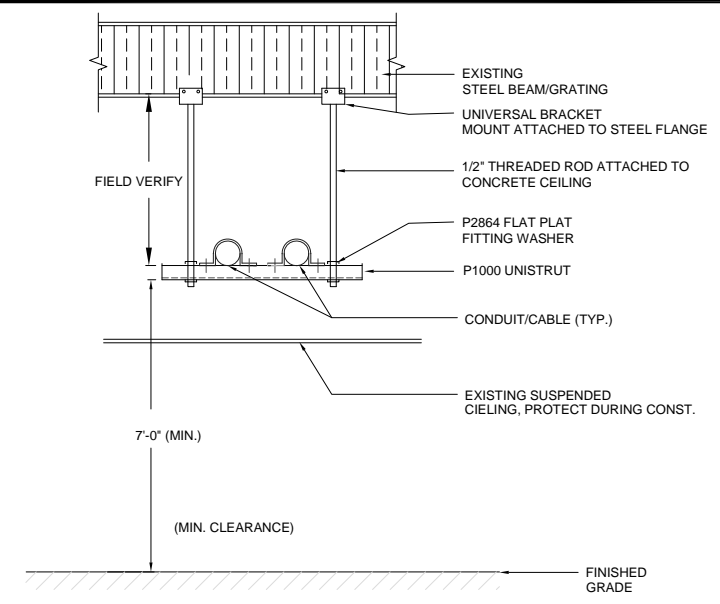
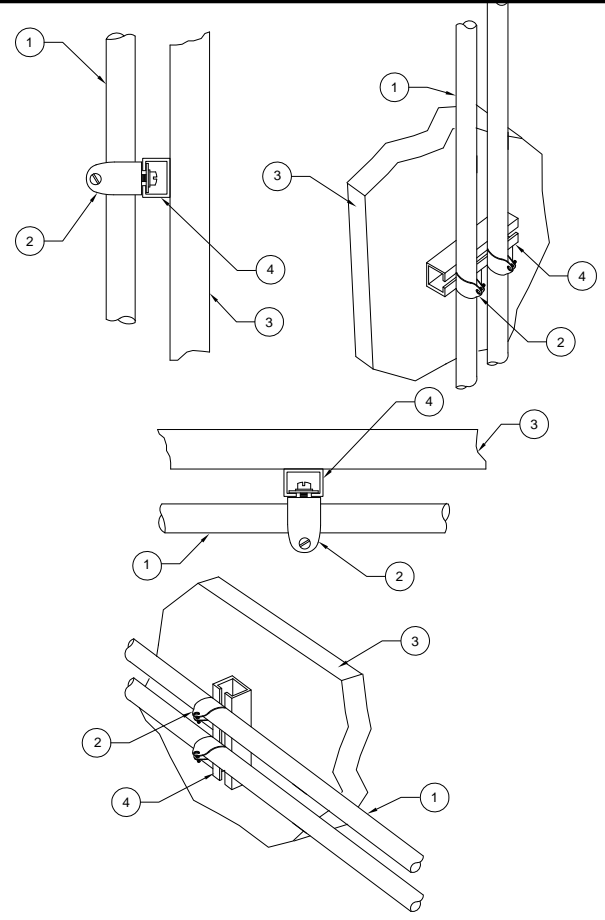
UTILITY DETAILS

E-2A

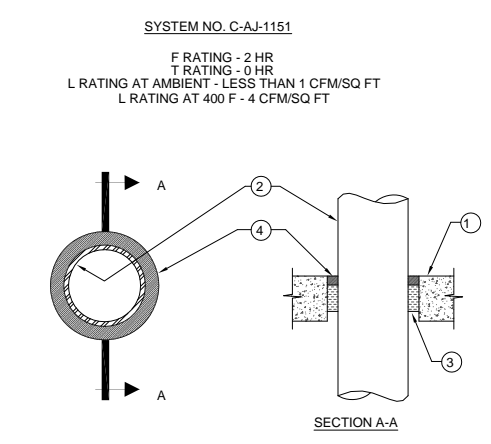
VERTICAL UNISTRUT MOUNTING CHART	
WALL CONSTRUCTION TYPE	USE
HOLLOW, AT STUD	3/8" Ø TOGGLE BOLT
HOLLOW, AT STUD	3/8" Ø LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" Ø HILTI HY-20 WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"
CONCRETE (SOLID)	3/8" Ø HILTI HY-150 WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"

- 1 CONDUIT
- 2 FIMO OR BUTTERFLY CLAMP AS REQUIRED
- 3 EXISTING WALL ASSEMBLY
- 4 VERTICAL "UNISTRUT" P1000 "T" SERIES LENGTH BASED ON NUMBER OF CONDUIT TO BE MOUNTED

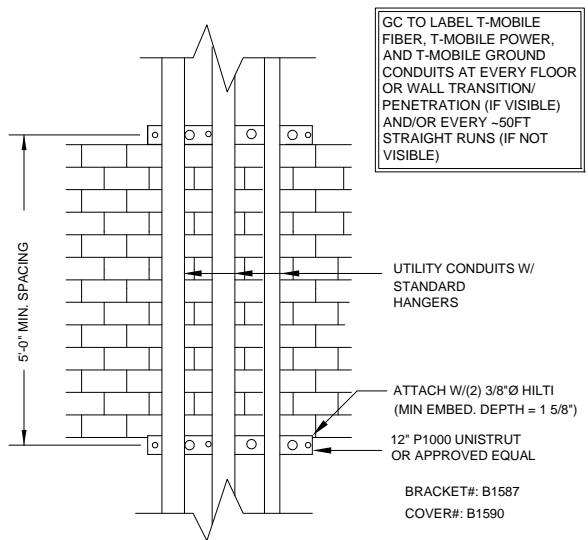
NOTE:
USE STANDARD STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS
SPACE UNITS @ 6'-0" ON CENTER



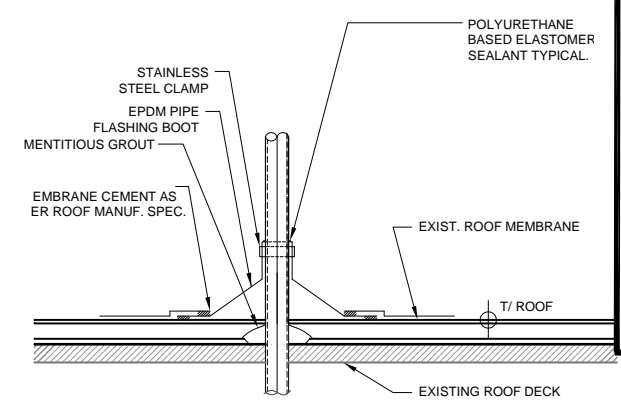
1 TYPICAL OVERHEAD ROUTING OF CONDUIT
SCALE: NTS



2 TYPICAL U.L. FIRE RATED CONDUIT PENETRATION
SCALE: NTS

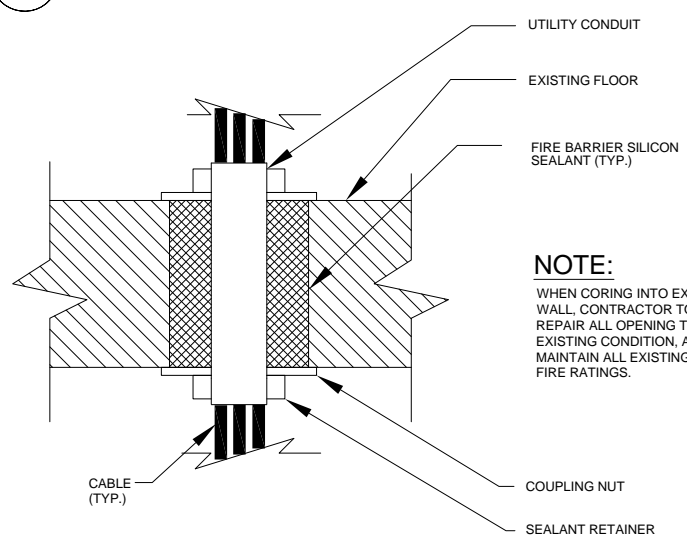


3 DETAIL OF UTILITY CONDUIT ROUTING
SCALE: NTS

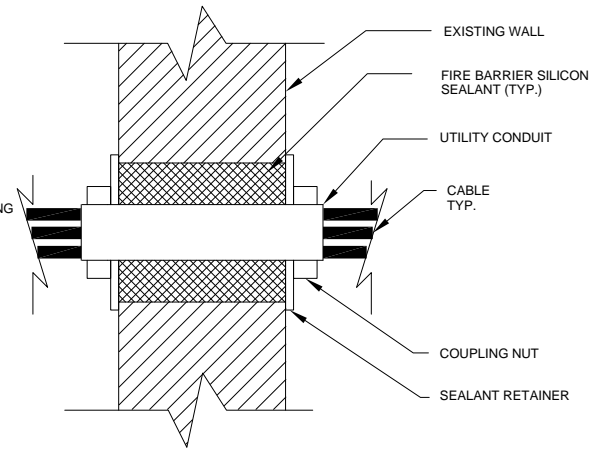


4 ROOF PENETRATION FLASHING INSTALLATION DETAIL
SCALE: NTS

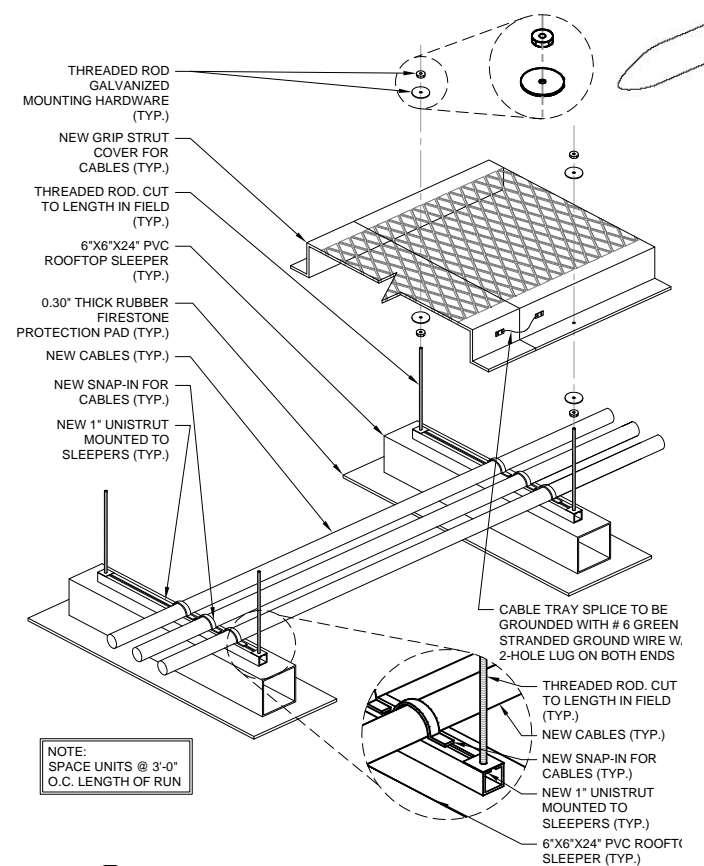
5 TYPICAL UTILITY CONDUITS ROUTING DETAILS
SCALE: N.T.S.



6 CONDUIT FLOOR PENETRATION DETAIL
SCALE: NTS



7 CONDUIT WALL PENETRATION DETAIL
SCALE: NTS



NOTE:
SPACE UNITS @ 3'-0" O.C. LENGTH OF RUN

8 GRIP STRUT CABLE TRAY DETAIL
SCALE: N.T.S.

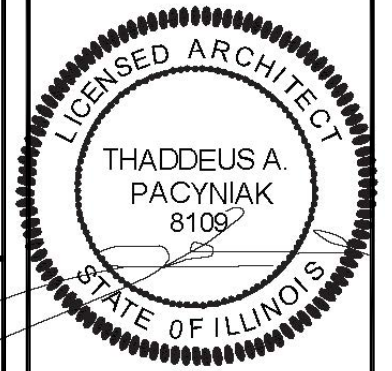
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MAIN: (773) 444-5400

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CONCORDIA WIRELESS, INC.

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AURORA, IL 60505

UTILITY DETAILS

E-3

1. **Wall Assembly** — Min 5 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 6 in. See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Through Penetrants** — One metallic pipe or conduit to be centered within the firestop system. Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipe or conduit may be used:

A. **Steel Pipe** — Nom 4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe. A nom annular space of 3/4 in. is required within the firestop system.

B. **Conduit** — Rigid 4 in. diam (or smaller) electrical metallic tubing or steel conduit. A nom annular space of 3/4 in. is required within the firestop system.

3. **Firestop System** — The firestop system shall consist of the following:

A. **Metallic Sleeve** — (Optional) — Nom 6 in. diam (or smaller) steel sleeve to retain putty (Item 3C) in position. Sleeve fabricated from 0.016 in. thick galv sheet steel available from putty manufacturer. Length of steel sleeve to be equal to thickness of wall. Sleeve installed by coding the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the wall assembly. As an alternate, the steel sleeve may be field fabricated from 0.016 in. thick galv sheet steel in accordance with instruction sheet supplied by putty manufacturer.

B. **Packing Material** — Min 3 in. thickness of min 6 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

C. **Fill, Void or Cavity Material*** — **Putty** — Min 1 in. thickness of fill material applied within the annulus, on both surfaces of wall. Additional fill material to be installed such that a min 1/8 in. crown is formed around the penetrating item.

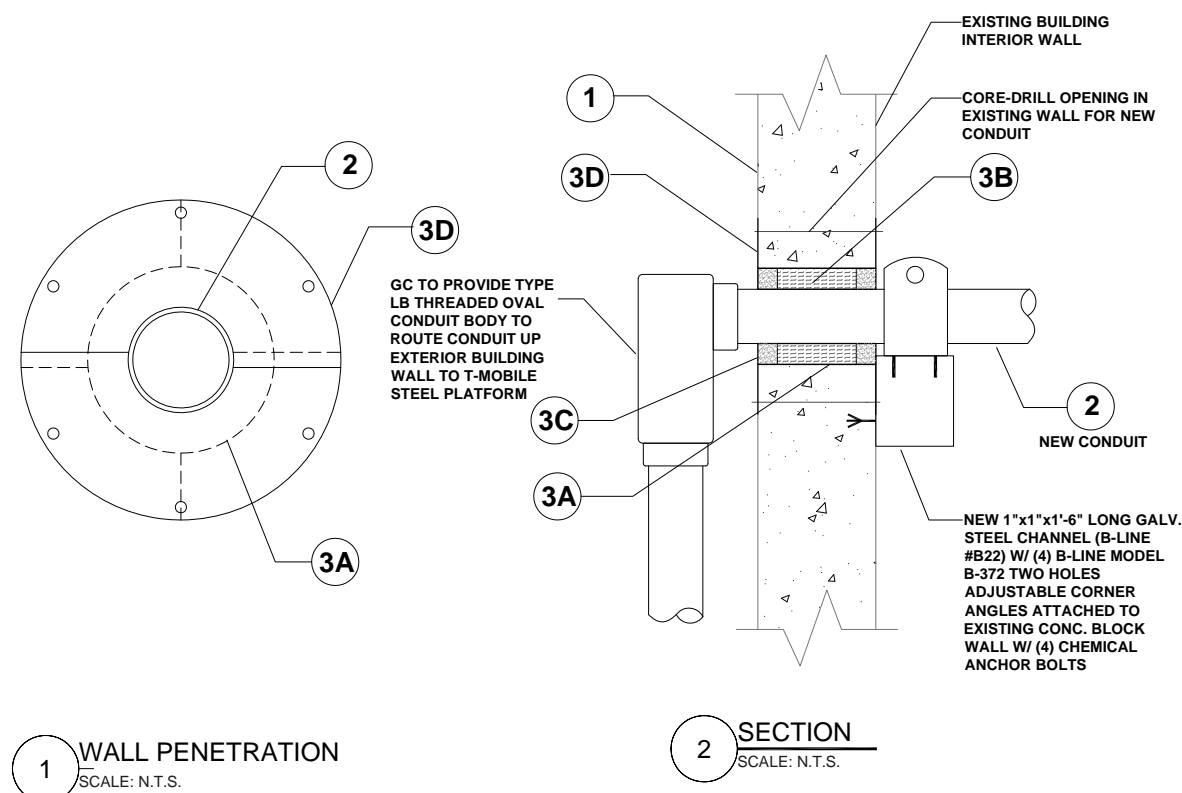
EGS NELSON FIRESTOP — Type FSP Putty

D. **Trim Ring** — Nom 8 in. diam by 0.016 in. (No. 30 gauge) thick galv sheet steel ring available from putty manufacturer. Ring supplied in two section and positioned together with a min 1/2 in. overlap. Ring secured to surface of wall assembly by six steel wall anchors, equally spaced.

*Bearing the UL Classification Mark

THROUGH PENETRATION FIRESTOP SYSTEM

UL SYSTEM No. W-J-1005 (F-RATING-2 HR)



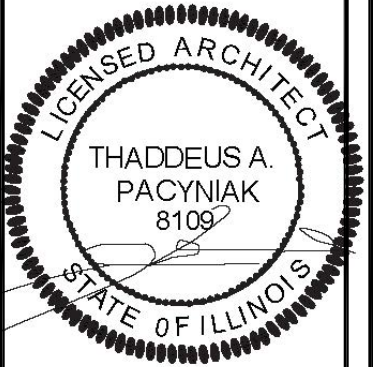
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UTILITY ROUTING DETAILS

E-3A

NEMA TP-1 SINGLE-PHASE TRANSFORMERS

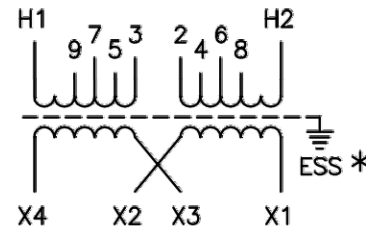
S2T50E

Single-Phase 60 Hz

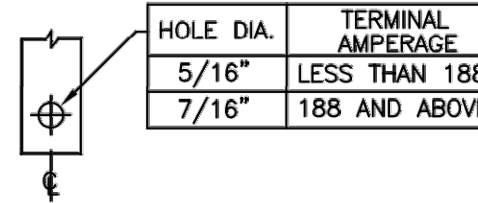
Type	FH
kVA	50
Primary	240 x 480
Secondary	120/240
Taps	+2, -4 x 2.5%
ESS	No
Phase	Single
Windings	Aluminum
Temp Rise	150° C
Lighting Taps	No
Ins Sys	220° C
Weather Shields	WS-4
Wiring Diagram	9
In/Out	Indoor
HxWxD	37 x 22.375 x 19.875
Weight	300

UNIT WEIGHT REF. (B)

NET WT. IN LBS.	A	B	C	D	E	F
ALUMINUM	300	335	315	270	350	430
COPPER	328	390	345	300	390	



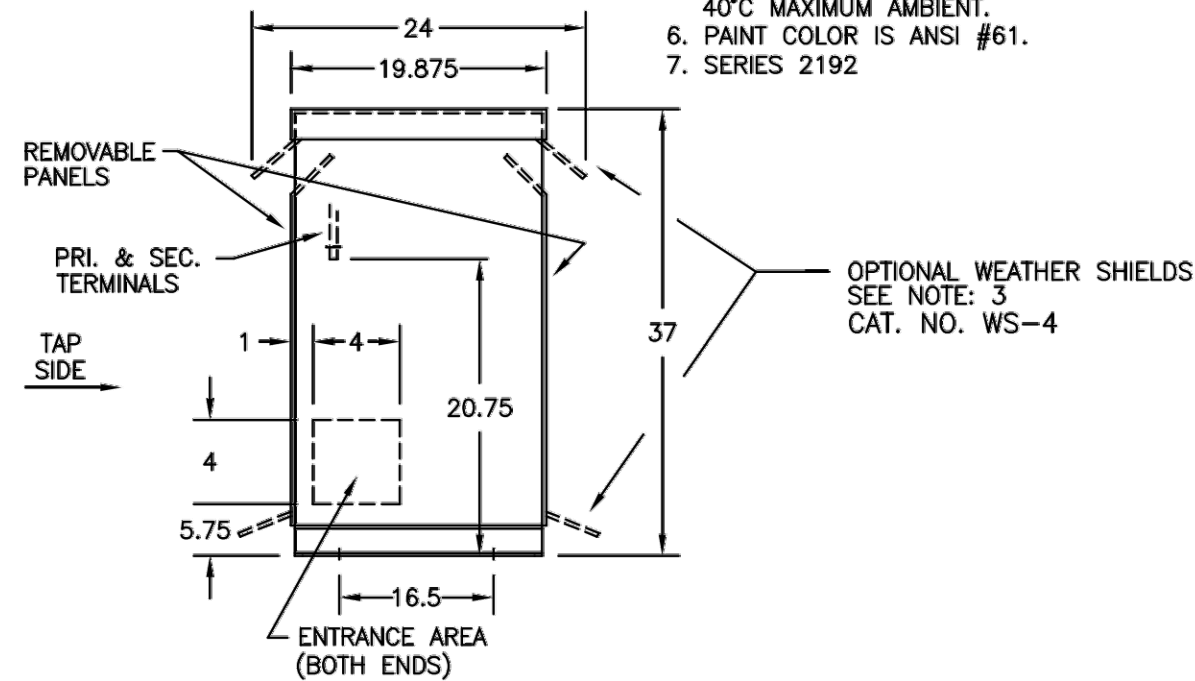
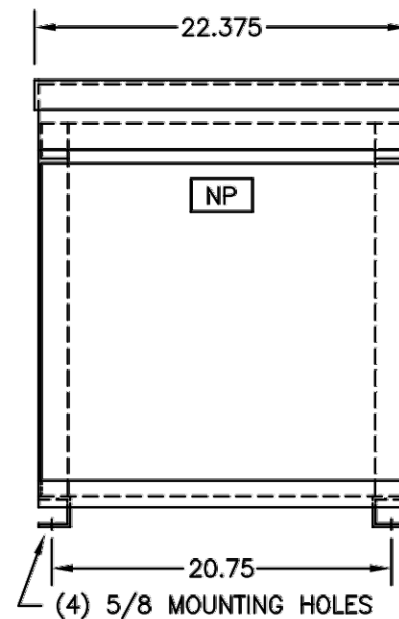
TYPICAL WIRING DIAGRAM



PRI & SEC TERMINAL

NOTES:

1. ALL UNITS ARE UL LISTED AND ARE DESIGNED IN ACCORDANCE WITH APPLICABLE NEMA, ANSI, AND IEEE STANDARDS.
2. TRANSFORMERS ARE DRY-TYPE, CLASS AA, VENTILATED NEMA 2 ENCLOSURE FOR INDOOR USE.
3. WITH INSTALLATION OF OPTIONAL WEATHER SHIELDS, TRANSFORMER BECOMES NEMA 3R FOR OUTDOOR USE.
4. TRANSFORMERS ARE FLOOR MOUNTED. WALL MOUNTING BRACKETS ARE OPTIONAL AND ARE SUPPLIED AS SEPARATE ACCESSORIES.
5. TRANSFORMERS HAVE 220°C CLASS INSULATION SYSTEM WITH THE AVERAGE WINDING TEMPERATURE RISE BASED ON 40°C MAXIMUM AMBIENT.
6. PAINT COLOR IS ANSI #61.
7. SERIES 2192



* ELECTROSTATIC SHIELD GROUNDED TO TRANSFORMER CASE AT FACTORY IF APPLICABLE

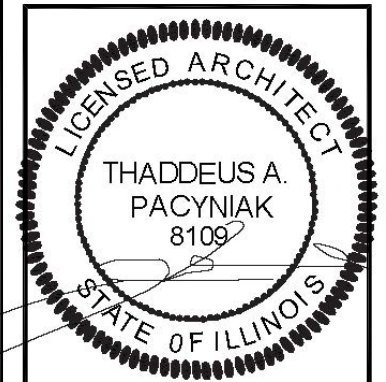
NEW NEMA TR-1 SINGLE-PHASE TRANSFORMER
S2T50E BY FEDERAL PACIFIC
1 SCALE: N.T.S.

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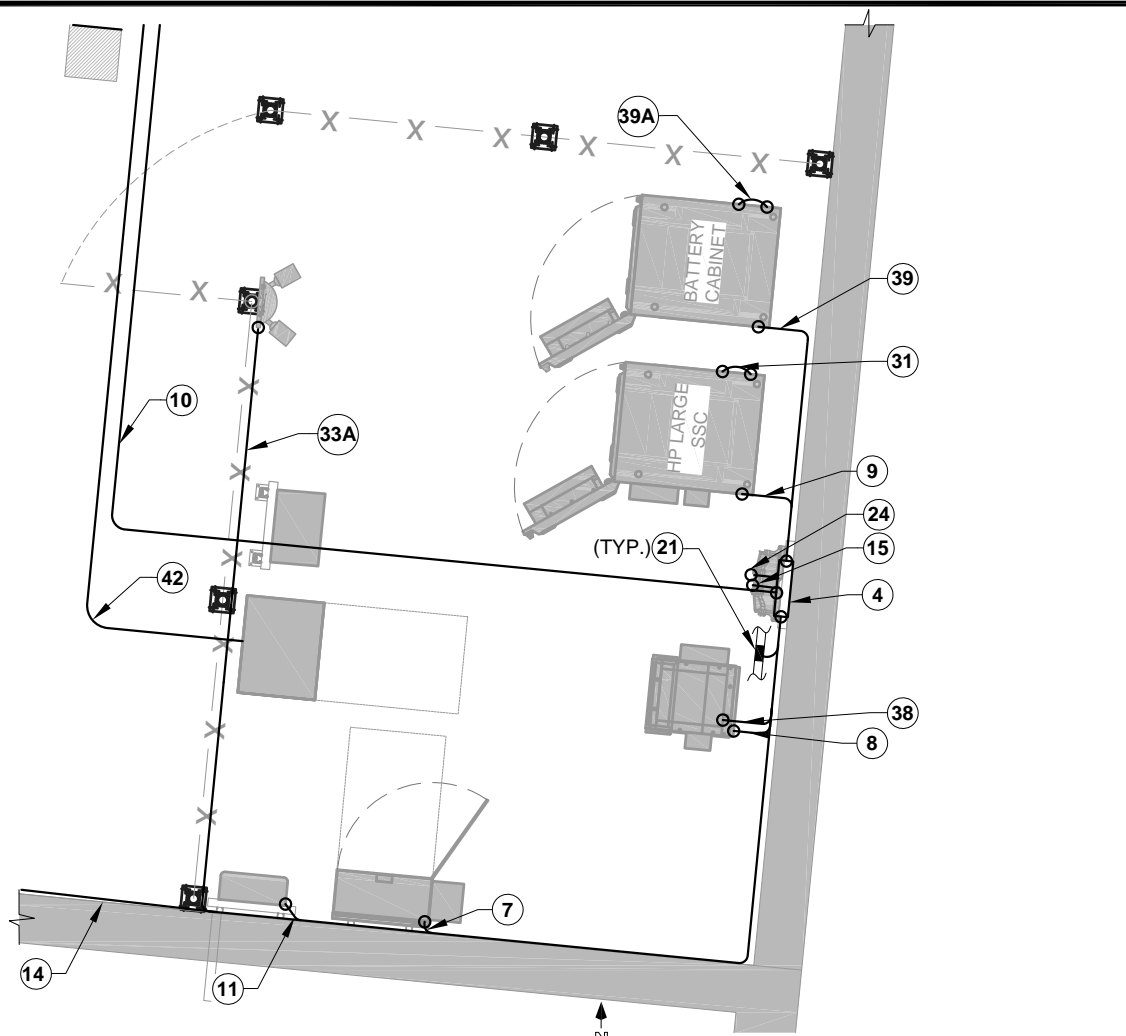
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CHECKED BY: RH APPROVED BY: GMS



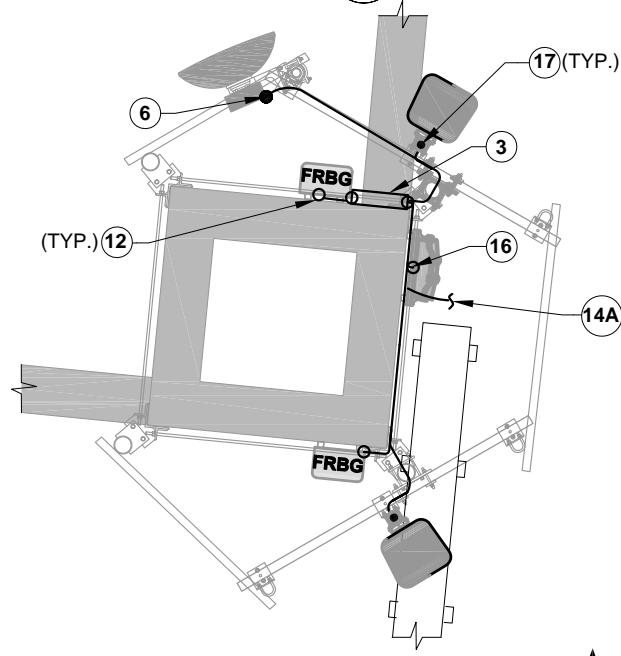
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AURORA, IL 60505

NEW TRANSFORMER
SPECIFICATION

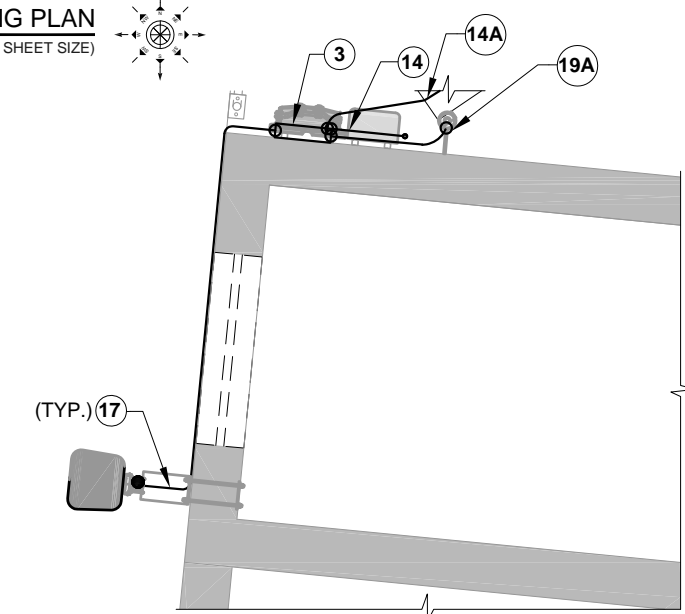
E-3B



1 EQUIPMENT GROUNDING PLAN
SCALE: 1/2" = 1'-0" (1/2" = 2'-0" IF 11 X 17 SHEET SIZE)



2 ANTENNA SECTOR GROUNDING PLAN (ALPHA & GAMMA SECTORS)
SCALE: 1/2" = 1'-0" (1/2" = 2'-0" IF 11 X 17 SHEET SIZE)



3 ANTENNA SECTOR GROUNDING PLAN (BETA SECTOR)
SCALE: 1/2" = 1'-0" (1/2" = 2'-0" IF 11 X 17 SHEET SIZE)

KEY NOTES:

- ① GROUND RING, #2 SOLID, TINNED BARE COPPER WIRE CONSTRUCT RING FROM ONE CONTINUOUS PIECE.
- ② 5/8" Ø X 10' COPPER CLAD GROUND ROD
- ③ SECTOR GROUND BAR (TYP. OF 1 PER SECTOR)
- ④ MASTER GROUND BAR
- ④A LOWER TOWER COPPER GROUND BAR
- ④B #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM LOWER TOWER GROUND BAR TO GROUND RING (2 REQUIRED)
- ⑤ #2 AWG GREEN STRANDED GROUND CU WIRE BOND DIRECTLY TO TOWER
- ⑥ #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MICROWAVE DISH TO NEW SECTOR GROUND BAR
- ⑦ #6 AWG GREEN STRANDED GROUND CU WIRE FROM PPC TO NEW MASTER GROUND BAR
- ⑦A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM PPC TO GROUND RING
- ⑧ #6 AWG GREEN STRANDED GROUND CU WIRE FROM STEEL CUBE W/MODULES TO NEW MASTER GROUND BAR
- ⑧A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM STEEL CUBE W/MODULES TO GROUND RING
- ⑨ #6 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW SSC TO NEW MASTER GROUND BAR
- ⑨A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW SSC TO GROUND RING
- ⑩ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW METER TO EXISTING SITE WATER MAIN
- ⑪ #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW CIENA TO NEW MASTER GROUND BAR
- ⑪A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW CIENA TO NEW GROUND RING
- ⑫ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MODULE PLINTH TO NEW SECTOR GROUND BAR
- ⑬ #2 AWG GREEN JACKETED GROUND CU WIRE FROM NEW MASTER GROUND BAR TO EXISTING SITE WATER MAIN
- ⑭ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SECTOR GROUND BAR TO NEW MASTER GROUND BAR
- ⑭A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW SECTOR GROUND BAR TO NEW SECTOR GROUND BAR
- ⑮ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW BOTTOM COVP TO NEW MASTER GROUND BAR
- ⑮A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW BOTTOM COVP TO GROUND RING
- ⑯ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TOP COVP TO NEW SECTOR GROUND BAR
- ⑰ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ANTENNA PIPE TO NEW SECTOR GROUND BAR
- ⑱ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM METER SOCKET TO ISOLATED GROUND ROD
- ⑲ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW GPS ANTENNA TO GROUND RING
- ⑲A #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW GPS ANTENNA TO MASTER GROUND BAR
- ⑳ EXISTING GROUND RING
- ㉑ #6 AWG GREEN STRANDED GROUND CU WIRE FROM HYBRID CABLE & MICROWAVE COAX CABLE TO MASTER GROUND BAR
- ㉑A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM HYBRID CABLE TO GROUND RING
- ㉒ EXISTING TOWER GROUND RING
- ㉓ #6 AWG GREEN STRANDED CU GROUND WIRE FROM NEW CABLE LADDER TO MASTER GROUND BAR
- ㉔ #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM NEW ALARM BOX TO MASTER GROUND BAR

- ㉔A #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ALARM BOX TO GROUND RING
- ㉕ #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM ICE BRIDGE TO ICE BRIDGE POST
- ㉕A #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM FENCE TO FENCE POST
- ㉖ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM UTILITY POST TO GROUND RING
- ㉗ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM GROUND RING TO FENCE POST
- ㉗A #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM GROUND RING TO ICE BRIDGE POST
- ㉘ #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM JUNCTION BOX TO GROUND RING
- ㉘A #2 AWG GREEN STRANDED CU GROUND WIRE FROM JUNCTION BOX TO NEW MASTER GROUND BAR
- ㉙ #2 AWG GREEN STRANDED GROUND CU WIRE FROM SYSTEM MODULE PLINTH TO NEW MASTER GROUND BAR
- ㉚ #2 AWG GREEN STRANDED GROUND CU WIRE FROM UPPER TOWER GROUND BAR TO LOWER TOWER GROUND BAR
- ㉚A #2 AWG GREEN STRANDED GROUND CU WIRE FROM GROUND BAR TO GROUND BAR
- ㉛ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SSC TO SSC PLINTH
- ㉛A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM MASTER GROUND BAR TO GROUND RING
- ㉜ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW LIGHT TO GROUND RING
- ㉜A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW LIGHT TO MASTER GROUND BAR
- ㉝ #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM STEEL PLATFORM TO GROUND RING
- ㉝A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW STEEL PLATFORM TO MASTER GROUND BAR
- ㉞ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TMA TO MASTER GROUND BAR
- ㉞A GROUND TEST WELL
- ㉟ #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM UNISTRUT TO GROUND RING
- ㉟A #2 AWG GREEN STRANDED GROUND CU WIRE FROM UNISTRUT TO MASTER GROUND BAR
- ㊱ #6 AWG GREEN STRANDED CU GROUND WIRE FROM NEW SYSTEM MODULE PLINTH TO NEW SYSTEM MODULE
- ㊱A #6 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW BATTERY CABINET TO NEW MASTER GROUND BAR
- ㊲ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW BATTERY CABINET TO BATTERY CABINET PLINTH
- ㊲A #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW GROUND RING TO NEW TOWER GROUND RING
- ㊳ #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MASTER GROUND BAR TO NEW LADDER
- ㊳A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TRANSFORMER TO EXISTING SITE WATER MAIN

SYMBOLS LEGEND:

GROUND TEST WELL	
GROUND ROD	
GROUND WIRE (BELOW GRADE)	
GROUND WIRE (ABOVE GRADE)	
SPARE GROUND WIRE FOR FUTURE CONNECTION (10 FT.)	
GROUND BAR	
EXOTHERMIC WELD CONNECTION	
MECHANICAL CONNECTION	
BOND DIRECTLY TO TOWER	

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LICENSED ARCHITECT

THADDEUS A. PACYNIAK
8109

STATE OF ILLINOIS

CH97282A
AURORA CORD & CABLE
325 S UNION ST
AURORA, IL 60505

SITE GROUNDING PLAN

EG-1

GROUNDING NOTES

- 1.) UNDERGROUND AND OVERHEAD UTILITY LENGTHS TO BE DETERMINED FROM SITE PLAN.
- 2.) SEE ELECTRICAL SPECIFICATIONS SECTION 16000 FOR ALL ELECTRICAL AND GROUNDING INSTALLATION REQUIREMENTS.
- 3.) FOR ORIENTATION OF SITE LAYOUT SEE SITE PLAN, DRAWING.
- 4.) UDA CABINET FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- 5.) GROUND KITS PROVIDED BY OWNER SHALL BE RETROFITTED TO ACCOMMODATE 2 HOLE LUG CONNECTION AND APPROPRIATE LENGTH.
- 6.) CONTRACTOR RESPONSIBLE TO PROVIDE OWNER CERTIFICATION OF RESISTIVITY TESTING.
- 7.) GROUND RODS TO BE INSTALLED AT 10' CENTERS.
- 8.) ALL GROUND LEADS TO BE SLEEVED IN 3/4" SCHEDULE 40 PVC CONDUIT AND SEALED W/ SILICON.
- 9.) GROUND BARS SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR.
- 10.) ALL BENDS IN GROUNDING SYSTEM MUST BE SMOOTH AND WELL ROUNDED AND MAINTAIN BENDING RADIUS.
- 11.) SEE SITE PLAN FOR COAXIAL ROUTING THIS SHEET IS INTENDED FOR GROUNDING CLARITY ONLY AND IS SCHEMATIC IN DETAIL.
- 12.) GROUND KITS SHALL BE INSTALLED BETWEEN 8"-18" OF ALL CONNECTORS.
- 13.) TOWER FOUNDATION DESIGN BY OWNER, INSTALLED BY CONTRACTOR.
- 14.) ADDITIONAL GROUND KITS TO BE PLACED AT 100' WHEN ANTENNA CENTERLINE IS 200' OR ABOVE.
- 15.) ALL CONDUITS TO BE SEALED W/ SILICONE TO PROVIDE A WATER TIGHT SEAL.

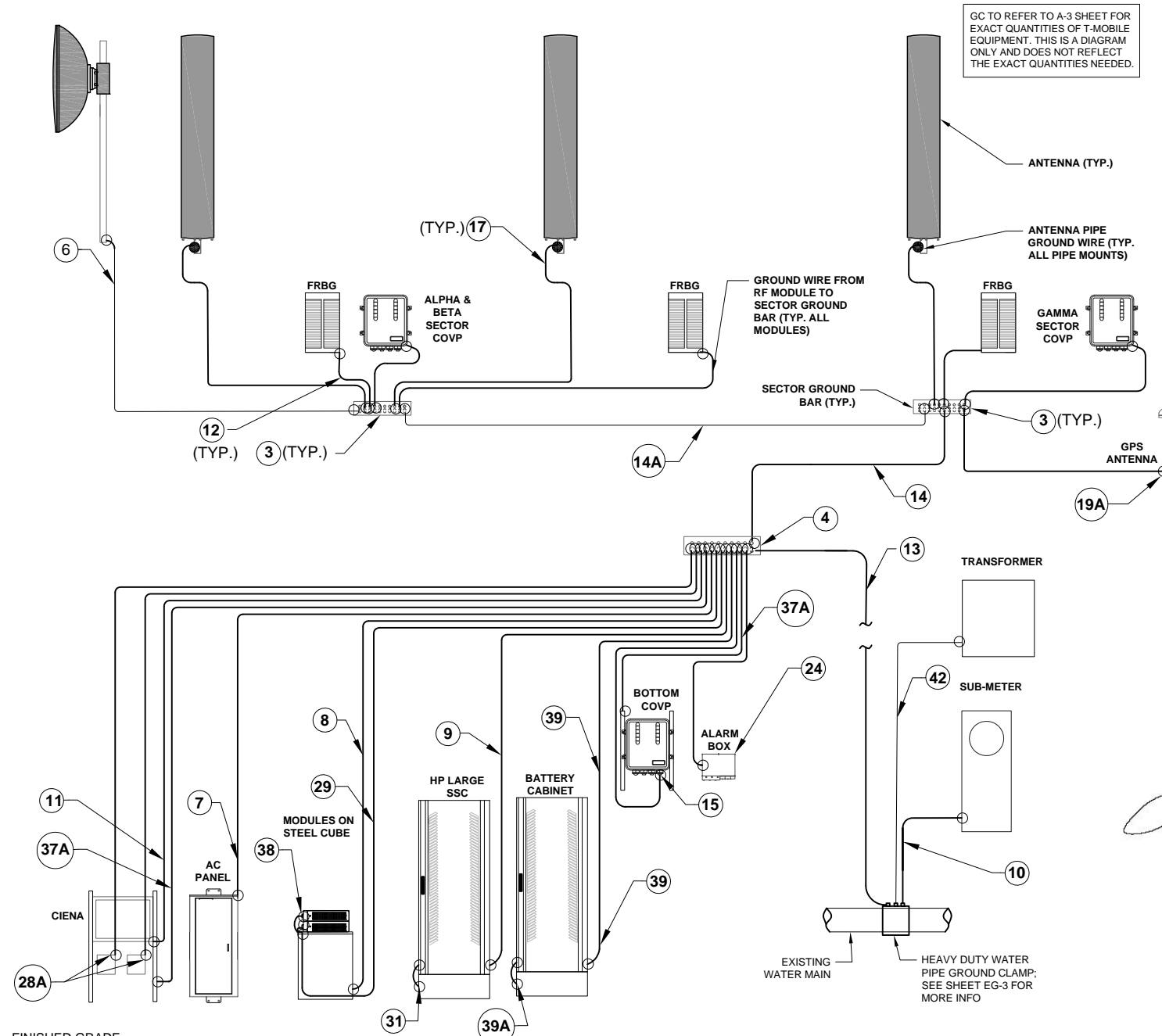
KEY NOTES:

- 1 GROUND RING, #2 SOLID, TINNED BARE COPPER WIRE CONSTRUCT RING FROM ONE CONTINUOUS PIECE.
- 2 5/8" Ø X 10' COPPER CLAD GROUND ROD
- 3 SECTOR GROUND BAR (TYP. OF 1 PER SECTOR)
- 4 MASTER GROUND BAR
- 4A LOWER TOWER COPPER GROUND BAR
- 4B #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM LOWER TOWER GROUND BAR TO GROUND RING (2 REQUIRED)
- 5 #2 AWG GREEN STRANDED GROUND CU WIRE BOND DIRECTLY TO TOWER
- 6 #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MICROWAVE DISH TO NEW SECTOR GROUND BAR
- 7 #6 AWG GREEN STRANDED GROUND CU WIRE FROM PPC TO NEW MASTER GROUND BAR
- 7A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM PPC TO GROUND RING
- 8 #6 AWG GREEN STRANDED GROUND CU WIRE FROM STEEL CUBE W/MODULES TO NEW MASTER GROUND BAR
- 8A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM STEEL CUBE W/MODULES TO GROUND RING
- 9 #6 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW SSC TO NEW MASTER GROUND BAR
- 9A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW SSC TO GROUND RING
- 10 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW METER TO EXISTING SITE WATER MAIN
- 11 #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW CIENA TO NEW MASTER GROUND BAR
- 11A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW CIENA TO NEW GROUND RING
- 12 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MODULE PLINTH TO NEW SECTOR GROUND BAR
- 13 #2 AWG GREEN JACKETED GROUND CU WIRE FROM NEW MASTER GROUND BAR TO EXISTING SITE WATER MAIN
- 14 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SECTOR GROUND BAR TO NEW MASTER GROUND BAR
- 14A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW SECTOR GROUND BAR TO NEW SECTOR GROUND BAR
- 15 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW BOTTOM COVP TO NEW MASTER GROUND BAR
- 15A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM NEW BOTTOM COVP TO GROUND RING
- 16 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TOP COVP TO NEW SECTOR GROUND BAR
- 17 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ANTENNA PIPE TO NEW SECTOR GROUND BAR
- 18 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM METER SOCKET TO ISOLATED GROUND ROD
- 19 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW GPS ANTENNA TO GROUND RING
- 19A #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW GPS ANTENNA TO MASTER GROUND BAR
- 20 EXISTING GROUND RING
- 21 #6 AWG GREEN STRANDED GROUND CU WIRE FROM HYBRID CABLE & MICROWAVE COAX CABLE TO MASTER GROUND BAR
- 21A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM HYBRID CABLE TO GROUND RING
- 22 EXISTING TOWER GROUND RING
- 23 #6 AWG GREEN STRANDED CU GROUND WIRE FROM NEW CABLE LADDER TO MASTER GROUND BAR
- 24 #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM NEW ALARM BOX TO MASTER GROUND BAR

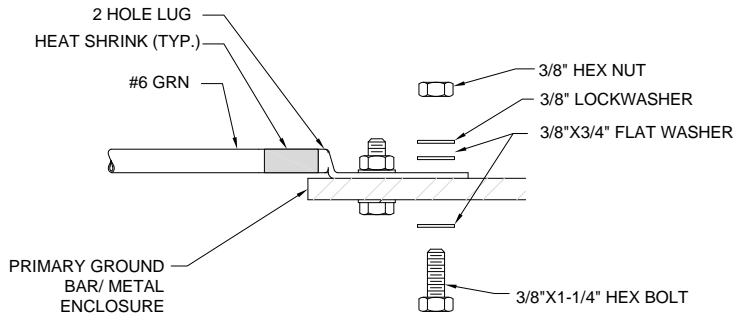
- 24A #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW ALARM BOX TO GROUND RING
- 25 #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM ICE BRIDGE TO ICE BRIDGE POST
- 25A #2 AWG GREEN STRANDED COPPER GROUND WIRE FROM FENCE TO FENCE POST
- 26 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM UTILITY POST TO GROUND RING
- 27 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM GROUND RING TO FENCE POST
- 27A #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM GROUND RING TO ICE BRIDGE POST
- 28 #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM JUNCTION BOX TO GROUND RING
- 28A #2 AWG GREEN STRANDED CU GROUND WIRE FROM JUNCTION BOX TO NEW MASTER GROUND BAR
- 29 #2 AWG GREEN STRANDED CU GROUND WIRE FROM SYSTEM MODULE PLINTH TO NEW MASTER GROUND BAR
- 30 #2 AWG GREEN STRANDED GROUND CU WIRE FROM UPPER TOWER GROUND BAR TO LOWER TOWER GROUND BAR
- 30A #2 AWG GREEN STRANDED GROUND CU WIRE FROM GROUND BAR TO GROUND BAR
- 31 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SSC TO SSC PLINTH
- 32 #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM MASTER GROUND BAR TO GROUND RING
- 33 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW LIGHT TO GROUND RING
- 33A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW LIGHT TO MASTER GROUND BAR
- 34 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM STEEL PLATFORM TO GROUND RING
- 34A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW STEEL PLATFORM TO MASTER GROUND BAR
- 35 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TMA TO MASTER GROUND BAR
- 36 GROUND TEST WELL
- 37 #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM UNISTRUT TO GROUND RING
- 37A #2 AWG GREEN STRANDED GROUND CU WIRE FROM UNISTRUT TO MASTER GROUND BAR
- 38 #6 AWG GREEN STRANDED CU GROUND WIRE FROM NEW SYSTEM MODULE PLINTH TO NEW SYSTEM MODULE
- 39 #6 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW BATTERY CABINET TO NEW MASTER GROUND BAR
- 39A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW BATTERY CABINET TO BATTERY CABINET PLINTH
- 40 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW GROUND RING TO NEW TOWER GROUND RING
- 41 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW MASTER GROUND BAR TO NEW LADDER
- 42 #4 AWG GREEN STRANDED GROUND CU WIRE FROM NEW TRANSFORMER TO EXISTING SITE WATER MAIN

INSTALLATION NOTES:

1. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
2. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT AND REMOVE OXIDATION FROM OUTDOOR WEATHERED BARS.
3. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.
4. USE SOLID COPPER WIRE AND MECHANICAL 2-HOLE LUG FOR ALL EXTERIOR GROUNDING.



1 TYPICAL GROUNDING DIAGRAM
SCALE: N.T.S.



2 MECHANICAL GROUND CONNECTION
SCALE: N.T.S.

GC TO REFER TO A-3 SHEET FOR EXACT QUANTITIES OF T-MOBILE EQUIPMENT. THIS IS A DIAGRAM ONLY AND DOES NOT REFLECT THE EXACT QUANTITIES NEEDED.

T-Mobile

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UNIT 101
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MAIN: (847) 981-0801

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LICENSED ARCHITECT

THADDEUS A. PACYNIAK
8109

STATE OF ILLINOIS

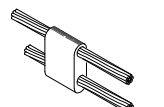
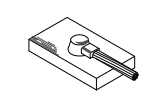
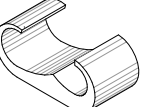
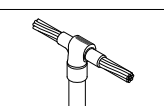
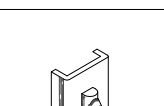
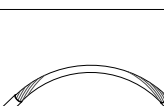

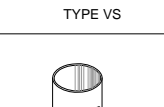

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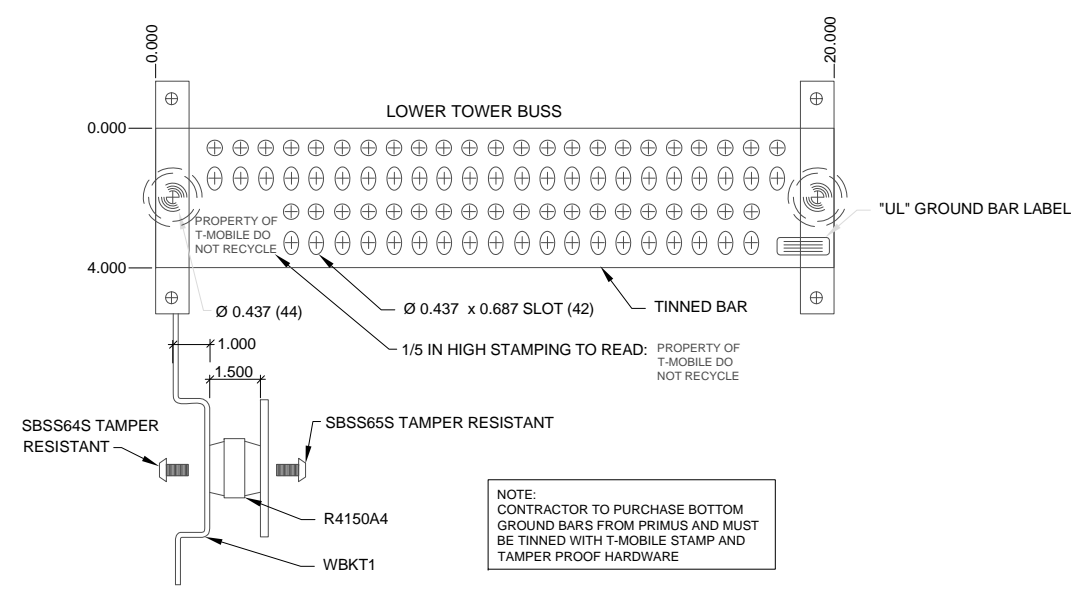
GROUNDING RISER
DIAGRAM

EG-1A

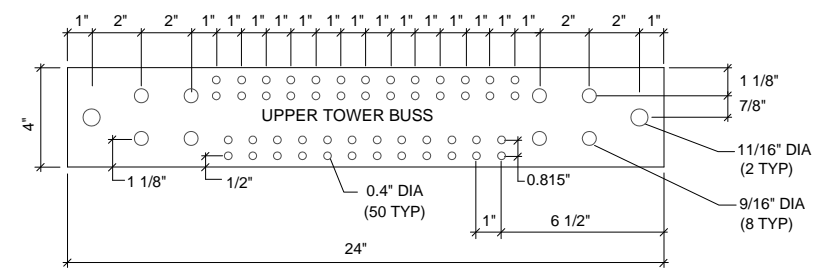
SYMBOLS LEGEND:

GROUND TEST WELL	
GROUND ROD	
GROUND WIRE (BELOW GRADE)	
GROUND WIRE (ABOVE GRADE) SPARE GROUND WIRE FOR	
FUTURE CONNECTION (10 FT.)	
GROUND BAR	
EXOTHERMIC WELD CONNECTION	
MECHANICAL CONNECTION	
BOND DIRECTLY TO TOWER	

CADWELD CONNECTIONS OR APPROVED EQUAL		BURNDY CONNECTIONS OR APPROVED EQUAL
 PARALLEL HORIZONTAL CONDUCTORS PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT	 HORIZONTAL STEEL SURFACE TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	 "C" CONNECTOR HYPRESS TYPE YGHC
 THROUGH CABLE TO GROUND ROD THROUGH CABLE TO TOP OF GROUND ROD TYPE GT	 VERTICAL STEEL SURFACE CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS	 BOND JUMPER FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2
 HORIZONTAL SPLICE SPLICE OF HORIZONTAL CABLES	 VERTICAL PIPE CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	 COPPER LUGS TWO HOLE - LONG BARREL LENGTH TYPE YA-2

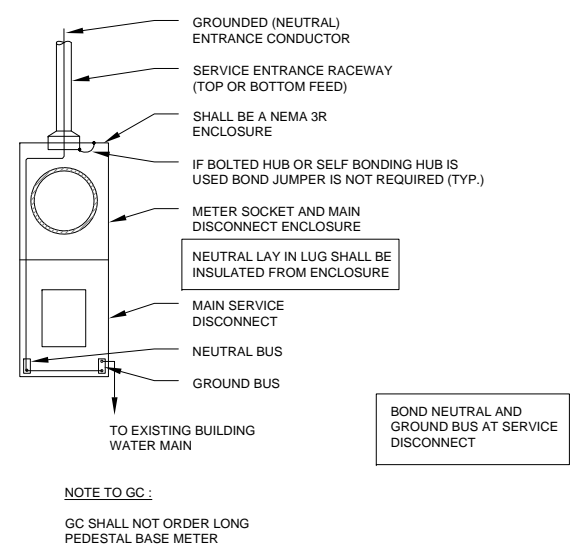


2 GROUND BAR ASSEMBLY
SCALE: NTS

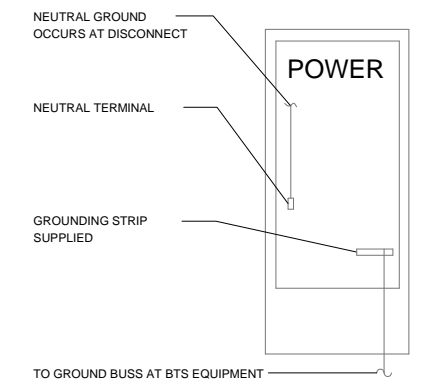


3 GROUND BAR DETAIL
SCALE: NTS

1 CADWELD DETAILS
SCALE: NTS



4 SERVICE ENTRANCE GROUNDING
SCALE: NTS



- POWER DISTRIBUTION CENTER NOTES**
- CONTRACTOR SHALL LABEL CIRCUIT BREAKERS W/ PERMANENT ENGRAVED PLASTIC LABELS NOTING FUNCTION OF BREAKER.
 - CONTRACTOR SHALL REPLACE MISSING COMPARTMENT ACCESS COVER SCREWS LOST DURING INSTALLATION.
 - CONTRACTOR SHALL ENSURE ENCLOSURE IS RODENT-PROOF AFTER INSTALLATION OF CABINET & CONDUITS.

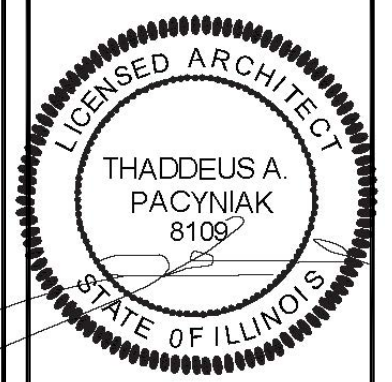
5 POWER DISTRIBUTION PANEL GROUNDING
SCALE: NTS

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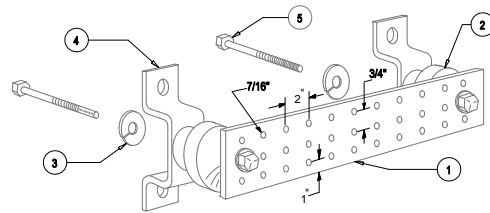
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GROUNDING DETAILS

EG-2

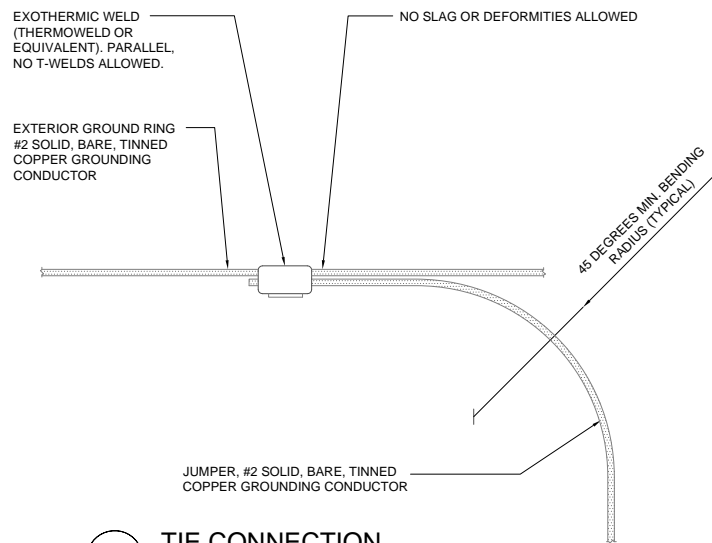


LEGEND

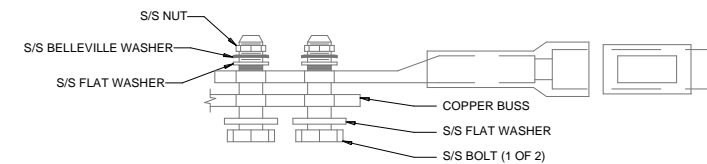
- 1- GROUND BUSS BAR, 1/4"X 4"X 24", CONFIRM w/T-MOBILE PROJECT MANAGER THE APPROVED BUSS MFR. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2- INSULATORS, CONFIRM THE APPROVED BUSS MFR. w/T-MOBILE
- 3- 5/8" LOCKWASHERS, CONFIRM w/T-MOBILE THE APPROVED BUSS MFR. (NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT)
- 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056 OR APPROVED EQUIVALENT (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)
- 5- 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1 OR APPROVED EQUIVALENT (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)

ALTERNATE EQUALS-COMSCOPE, 1/4"X 4"X 14" BUS BAR W/INSULATED HARDWARE-#GB0414IT (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)

1 GROUNDING - STANDARD GROUND BAR DETAIL
SCALE: NTS



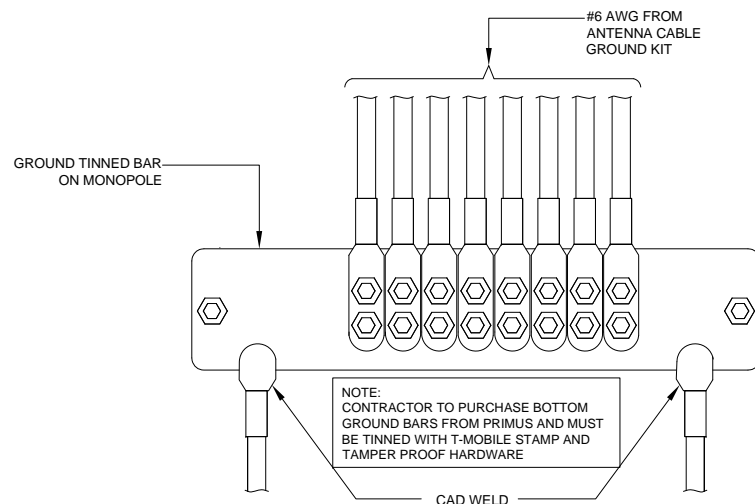
2 TIE CONNECTION
SCALE: NTS



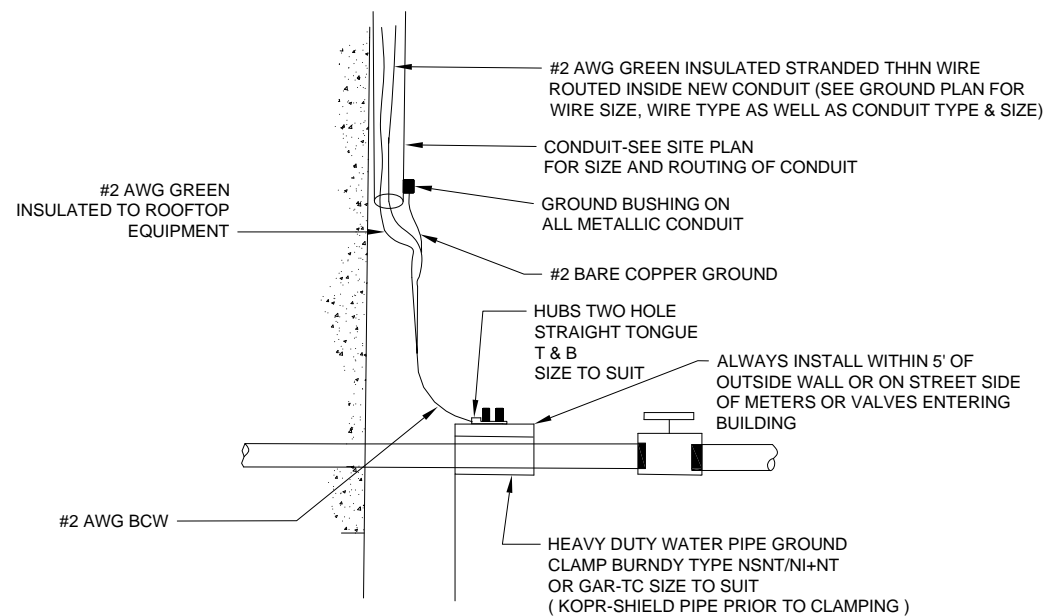
NOTES:

- 1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH KOPR-SHEILD BEFORE MATING.
- 2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHEILD.

3 STANDARD LUG CONNECTION OF GROUND LEADS TO GROUND BAR DETAIL
SCALE: NTS



4 GROUND BAR DETAIL
SCALE: NTS



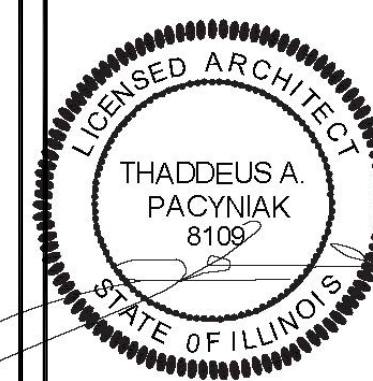
5 CONNECTION TO WATERMAIN & BUILDING STEEL
SCALE: NTS

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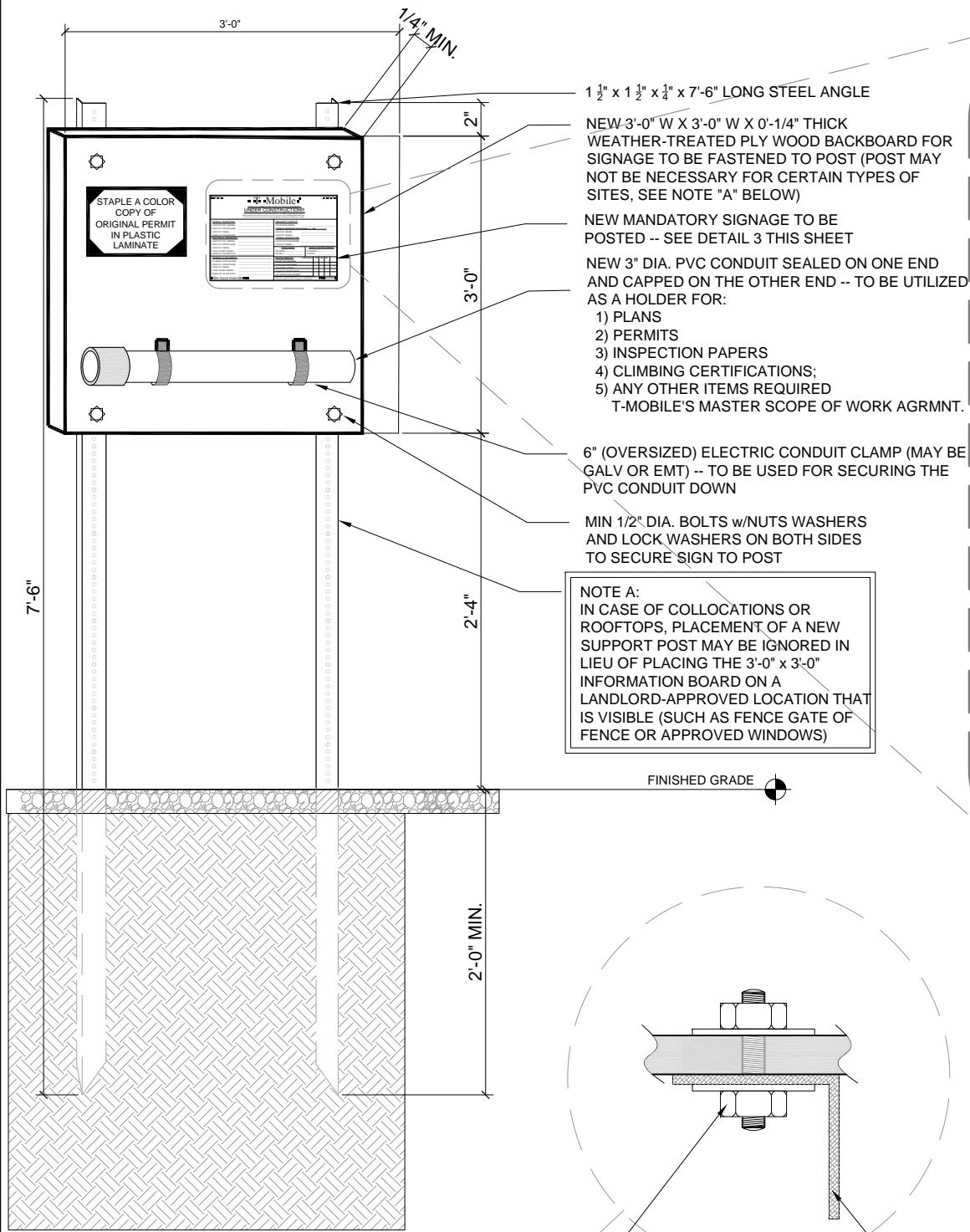
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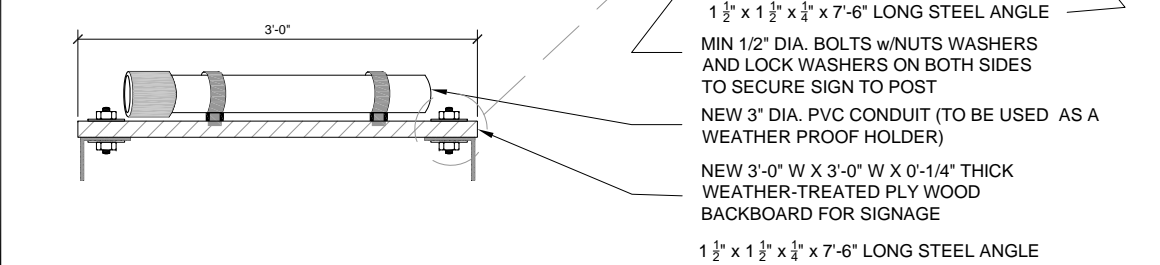
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GROUNDING DETAILS

EG-3



1 SITE INFORMATION POST & BOARD (ELEVATION VIEW)
SCALE: N.T.S.



2 SITE INFORMATION POST & BOARD (PLAN VIEW)
SCALE: N.T.S.

1 1/2" x 1 1/2" x 1/4" x 7'-6" LONG STEEL ANGLE
NEW 3'-0" W X 3'-0" W X 0'-1/4" THICK WEATHER-TREATED PLY WOOD BACKBOARD FOR SIGNAGE TO BE FASTENED TO POST (POST MAY NOT BE NECESSARY FOR CERTAIN TYPES OF SITES, SEE NOTE "A" BELOW)
NEW MANDATORY SIGNAGE TO BE POSTED -- SEE DETAIL 3 THIS SHEET
NEW 3" DIA. PVC CONDUIT SEALED ON ONE END AND CAPPED ON THE OTHER END -- TO BE UTILIZED AS A HOLDER FOR:
1) PLANS
2) PERMITS
3) INSPECTION PAPERS
4) CLIMBING CERTIFICATIONS;
5) ANY OTHER ITEMS REQUIRED
T-MOBILE'S MASTER SCOPE OF WORK AGRMNT.
6" (OVERSIZED) ELECTRIC CONDUIT CLAMP (MAY BE GALV OR EMT) -- TO BE USED FOR SECURING THE PVC CONDUIT DOWN
MIN 1/2" DIA. BOLTS w/NUTS WASHERS AND LOCK WASHERS ON BOTH SIDES TO SECURE SIGN TO POST
NOTE A:
IN CASE OF COLLOCATIONS OR ROOFTOPS, PLACEMENT OF A NEW SUPPORT POST MAY BE IGNORED IN LIEU OF PLACING THE 3'-0" x 3'-0" INFORMATION BOARD ON A LANDLORD-APPROVED LOCATION THAT IS VISIBLE (SUCH AS FENCE GATE OF FENCE OR APPROVED WINDOWS)

THIS IS A T-MOBILE USA FACILITY THAT IS CURRENTLY UNDER CONSTRUCTION!!!

THE FOLLOWING INFORMATION IS TO BE POSTED BY THE GENERAL CONTRACTING FIRM THAT HAS BEEN AWARDED THE CONSTRUCTION OF THIS SITE FAILURE TO POST THIS INFORMATION CONSTITUTES A VIOLATION OF THE MASTER SCOPE OF WORK AGREEMENT BETWEEN THE CONTRACTOR & T-MOBILE

SITE NUMBER: _____		SITE NAME: _____	
GENERAL CONTRACTOR: _____		EMERGENCY CONTACTS	
CONTRACTOR LICENSE # _____		FIRE _____	
POINT OF CONTACT NAME _____		POLICE _____	
CONTACT PHONE # _____		BOU _____	
NAMES OF ON-SITE STAFF _____		T-MOBILE CONSTRUCTION	
ELECTRICAL CONTRACTOR: _____		CONSTRUCTION MANAGER _____	
CONTRACTOR LICENSE # _____		CONTACT PHONE # _____	
POINT OF CONTACT NAME _____		PROJECT MANAGER _____	
CONTACT PHONE # _____		CONTACT PHONE # _____	
CREW LEADER PHONE # _____		T-MOBILE NETWORK OPERATIONS (1 - 800 - - -)	
ANTENNA & LINE CREW CO: _____		LOCAL TELCO	
CLIMBING CERTIFICATION# _____		ENGINEER: _____	
POINT OF CONTACT NAME _____		LOCAL ELECTRIC COMPANY	
CONTACT PHONE # _____		ENGINEER: _____	
CREW LEADER PHONE # _____		PHONE # _____	
NAMES OF ON-SITE STAFF _____		ON-SITE CHECKLIST	
Get more from life		AVAILABLE: YES NO N/A DATE	
		PERMITTED DRAWINGS	
		CONSTRUCTION PERMIT	
		ELECTRICAL PERMIT	
		CLIMBING CERTIFICATIONS	
		CITY INSPECTION STICKERS	
		<small>IMPORTANT!!! GC Shall Post this Mandatory Sign on the SITE INFORMATION BOARD along with the materials from the above noted checklist in a Visible Area On-Site</small>	

3 ON-SITE MANDATORY INFORMATION SIGN / BOARD
SCALE: N.T.S.

ATTENTION GC!
THIS IS A TEMPORARY INSTALLATION THAT MAY REQUIRE USE OF A HOLE AUGER -- AT NO CIRCUMSTANCE WHATSOEVER WILL THE GC BE ALLOWED TO POUR/PLACE CONCRETE AROUND THE POST -- THIS IS A TEMPORARY INSTALLATION AND WILL BE REMOVED AT THE END OF THE PROJECT LIFE AT THE CONCLUSION OF THE QA WALK

OSHA CFR 1910 SPECIFIES THAT IF YOU HAVE EMPLOYEES OR CONTRACTORS WHO CLIMB HIGHER THAN SIX FEET THEY MUST BE TRAINED AND CERTIFIED IN FALL PROTECTION. IF THEY ARE NOT CERTIFIED, THEY MUST BE UNDER DIRECT ON-SITE SUPERVISION OF A CERTIFIED INDIVIDUAL, AND CLIMB 100% ATTACHED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSULT WITH ALL APPLICABLE OSHA RULES AND GUIDELINES PRIOR TO CONSTRUCTION START

UTILITY NOTES:

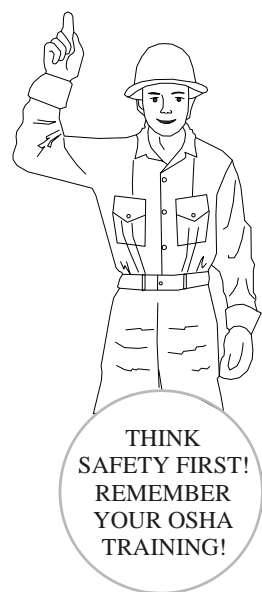
1.) CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, SIZE & SEPARATION OF CONDUITS PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.

2.) CONTRACTOR TO CALL UTILITY LOCATES 48 HRS PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. LOCATION SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NON-PUBLIC UTILITIES.

ATTENTION GC!
1- APPROVE LOCATION OF SIGN WITH T-MOBILE PROJECT MANAGER AND LANDLORD REP. SIGN SHALL NOT BE POSE A TRIPPING HAZARD. GC SHALL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF THE SIGN BOARD UNTIL THE CONCLUSION OF THE QA WALK

2- MATERIAL SAFETY DATA SHEETS FOR ALL MATERIALS THAT ARE FURNISHED BY GC SHALL BE PLACED ON SITE.

4 ADDITIONAL NOTES AND GUIDELINES
SCALE: N.T.S.



T-Mobile

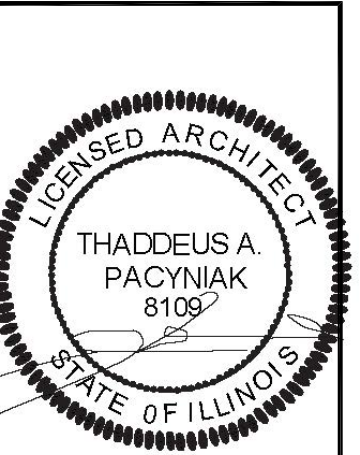
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MANDATORY SIGNAGE & POSTING

MISC-1