



Village of Hanover Park Administration

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JULIANA A. MALLER

VILLAGE OF HANOVER PARK DEVELOPMENT COMMISSION

Municipal Building, Room 214

Hanover Park, IL

Thursday, October 9, 2014

7:00 p.m.

AGENDA

1. **CALL TO ORDER: ROLL CALL**
2. **PLEDGE OF ALLEGIANCE:**
3. **ACCEPTANCE OF AGENDA:**
4. **PRESENTATIONS/REPORTS:** None.
5. **APPROVAL OF MINUTES:**
5-a. Regular meeting Minutes of August 14, 2014.
6. **ACTION ITEMS:**
6-a. **Public Hearing:** to consider a request by Tony Phillips – SAC Wireless for T-Mobile Wireless (applicant) on behalf of SBC Tower Holdings LLC (property owner) for a Special Use to allow installation of an additional wireless communications facility (non-village-owned facility) in the form of additional antennas and associated equipment on and around the existing tower structure, at 7460 Jensen Boulevard, Hanover Park, Illinois.
7. **TOWNHALL SESSION:**
Persons wishing to address the public body must register prior to Call to Order. Please note that public comment is limited to 5 minutes per speaker.
8. **OLD BUSINESS (NON-ACTION ITEMS):** None.
9. **NEW BUSINESS (NON-ACTION ITEMS):**
9-a. Community Development Update.
10. **ADJOURNMENT:**



**Village of Hanover Park
Community Development Department**

INTEROFFICE MEMORANDUM

TO: Chairman Wachsmuth and members of the Development Commission

FROM: Katie Bowman, Village Planner

SUBJECT: **Public Hearing: Special Use for the installation of antennas and equipment by T-Mobile Wireless at the Jensen Cell Tower, 7460 Jensen Boulevard**

ACTION REQUESTED: Approval Disapproval Information

MEETING DATE: October 9, 2014

REQUEST SUMMARY

The following request is scheduled for Development Commission review at 7:00 p.m. on October 9, 2014 in Room 214 of the Municipal Building, 2121 Lake Street:

A request by Tony Phillips – SAC Wireless for T-Mobile Wireless (applicant) on behalf of SBC Tower Holdings LLC (property owner) for a Special Use from the Village of Hanover Park Zoning Ordinance to allow installation of an additional wireless communications facility (non-village-owned facility) in the form of additional antennas and associated equipment on and around the existing tower structure, at 7460 Jensen Boulevard, Hanover Park, Illinois. Specifically, the following must be approved:

- Special Use from Section 110-5.12.3.j to permit a non-village-owned utility or facility

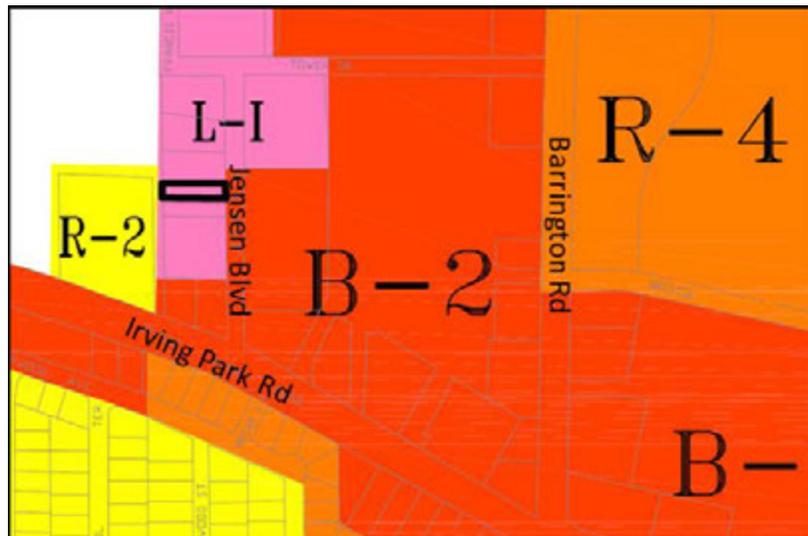
BACKGROUND

The subject property is located at the northwest of the intersection of Jensen Boulevard and Irving Park Road. An existing cell tower, accessory service building, fenced enclosure, and associated equipment and driveway access are currently on the property. The property is zoned L-I Limited Industrial and surrounded by L-I Limited Industrial to the north and south, B-2 Local Business to the east and R-2 Single Family Residential to the west. Surrounding uses include apartment buildings to the north, Jensen Auto Body to the south, Carniceria Jimenez to the east, and St. Columba Church to the west.

Aerial photo of subject property with boundary outlined



Zoning map with subject property outlined



DISCUSSION

T-Mobile proposes to install six antennas at a height of 90 feet on the existing cellular telecommunications tower (‘monopole’) at the property. Service equipment is to be installed on a concrete pad at the base of the pole. The equipment area is surrounded by an existing chain link fence and landscaping, as shown in Exhibit 2, Sheet A-0 and A-1. The equipment will be accessed by an existing asphalt driveway off of Jensen Boulevard.

The proposal requires a Special Use to permit an additional non-village-owned facility on the site (wireless telecommunications facility). Per Section 110-5.12.3.j of the Zoning Ordinance, non-village-owned utilities and facilities are permitted in the L-I district with a special use permit.

STAFF COMMENT

The proposed equipment and use are compatible with uses currently existing onsite and with permitted special uses within the L-I Limited Industrial District. The proposed development generally meets development regulations of the district. Antennas will be installed on an existing monopole and proposed equipment setbacks meet the requirements of accessory uses and structures. Proposed setbacks are approximately 175 feet to the front (east), 16 feet to the rear (west), 8.5 feet to the side (south), and 50 feet to the side (north), which meet the required 5 foot side and 10 foot rear setbacks for accessory structures. Staff from the Engineering and Public Works Department have reviewed the application and have no concerns or comments.

The proposed use is in keeping with existing uses onsite and with the future use of the site and overall goals of the Village. The Comprehensive Plan identifies the subject property as a commercial use. Objective 3.3.2 of the Community Facilities and Public Infrastructure Plan in the Comprehensive Plan states that the Village should “monitor the capacity and demands of municipal services and facilities (e.g. water, sewer, stormwater, police, fire, telecommunications, and general government) and improve or expand upon them as necessary.”

As outlined in the attached findings, Staff finds that the request meets the required findings of a special use. The proposed special use is in keeping with existing uses onsite and will not bring negative impact to surrounding properties or general health and welfare. The use will require no new traffic access or utilities to the site and the structures have sufficient setback.

To mitigate the impact upon surrounding residential properties, Staff recommends that several conditions of approval in keeping with those for similar projects be included. Landscaping currently provides screening, particularly from the residential units to the north and church to the west. A condition that such landscaping be maintained is included. Additionally, conditions to limit the impact of lighting and noise are recommended.

PUBLIC COMMENT

To date, staff has received no public comments related to the application.

RECOMMENDATION

Staff recommends a positive recommendation of the Special Use, subject to the following:

1. Uses are to be as generally depicted on the plans and elevations prepared on September 8, 2014, by Concordia Wireless, Inc.
2. Existing landscaping onsite shall be continuously maintained and dead or dying plants shall be immediately replaced so as to provide continuous screening from adjacent residential units.
3. Security lighting for on-ground facilities and equipment shall be down-shielded, to not exceed 0.5 foot candles at the property line.

4. Maintenance of the property and equipment, including the testing of generators, shall be limited to the working hours of 7:00 a.m. and 9:00 p.m., except in the event of an emergency.
5. No signs are approved as part of this request.
6. No outdoor display, sales, or storage of materials is permitted on this site.

ATTACHMENTS

Exhibit 1: Photos of Site

Exhibit 2: Site Plan and Elevations

Exhibit 3: Draft Findings of Fact

Exhibit 1 – Site Photos

Site from the front (east)



Site from front (east)



Site from the northeast



Site from the north (solid fence along property line)



Exhibit 2

	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 symbol"/>	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

- 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 SFOFICIENCY 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 OUPS AT (800) - 362-2764 FOR UTILITY LOCATIONS 48 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.

2 GENERAL NOTES

SCALE: NTS

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

3 PROJECT ABBREVIATIONS

SCALE: NTS

- 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 JULIE & 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

T-Mobile

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

CONCORDIA, LTD
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

DRAWN BY: BG	CHECKED BY: GMS
CHECKED BY: RH	APPROVED BY: GMS

LICENSED ARCHITECT

THADDEUS A. PACYNIAK
8109

STATE OF ILLINOIS

CH44316C
ATC (304016)
7460 JENSEN BLVD.
HANOVER PARK, IL 60133

SITE NOTES

SP-1

Exhibit 2

GENERAL NOTES:

1. 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

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

9. 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 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 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 (CONTD):

10. 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.

11. CONTRACTORS SHALL CLEAN ENTIRE SITE 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.

12. 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.

13. 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.

14. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION.

15. CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS BUILT DRAWINGS TO T-MOBILE'S PROJECT ENGINEER.

16. 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:

1. 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

2. 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.

3. 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.

4. 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

5. 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 AFOREMENTIONED EASEMENTS ARE SFOICIENT 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:

1. 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.

2. 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.

3. 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.

4. 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.

5. DETAILING SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES (ACI STD-315 LATEST EDITION).

6. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

7. 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"

8. 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.

A. 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.

B. ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

C. ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.

9. PLACING CONCRETE

A. 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.

B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.

10. PROTECTION

A. 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.

B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

C. 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:

1. 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.

2. 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.

3. 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:

1. 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.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.

3. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T-MOBILE PROJECT MANAGER IN WRITING

4. 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.

5. WELDING

A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.

B. 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.

C. FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS VISUAL INSPECTION IS ACCEPTABLE.

6. PROTECTION

A. 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

1. WORK INCLUDED:

A. 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

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.

E. 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.

F. 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.

G. ANTENNA AND COAXIAL CABLE GROUNDING:

1. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTOR/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

2. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

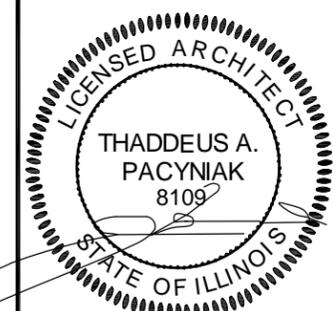
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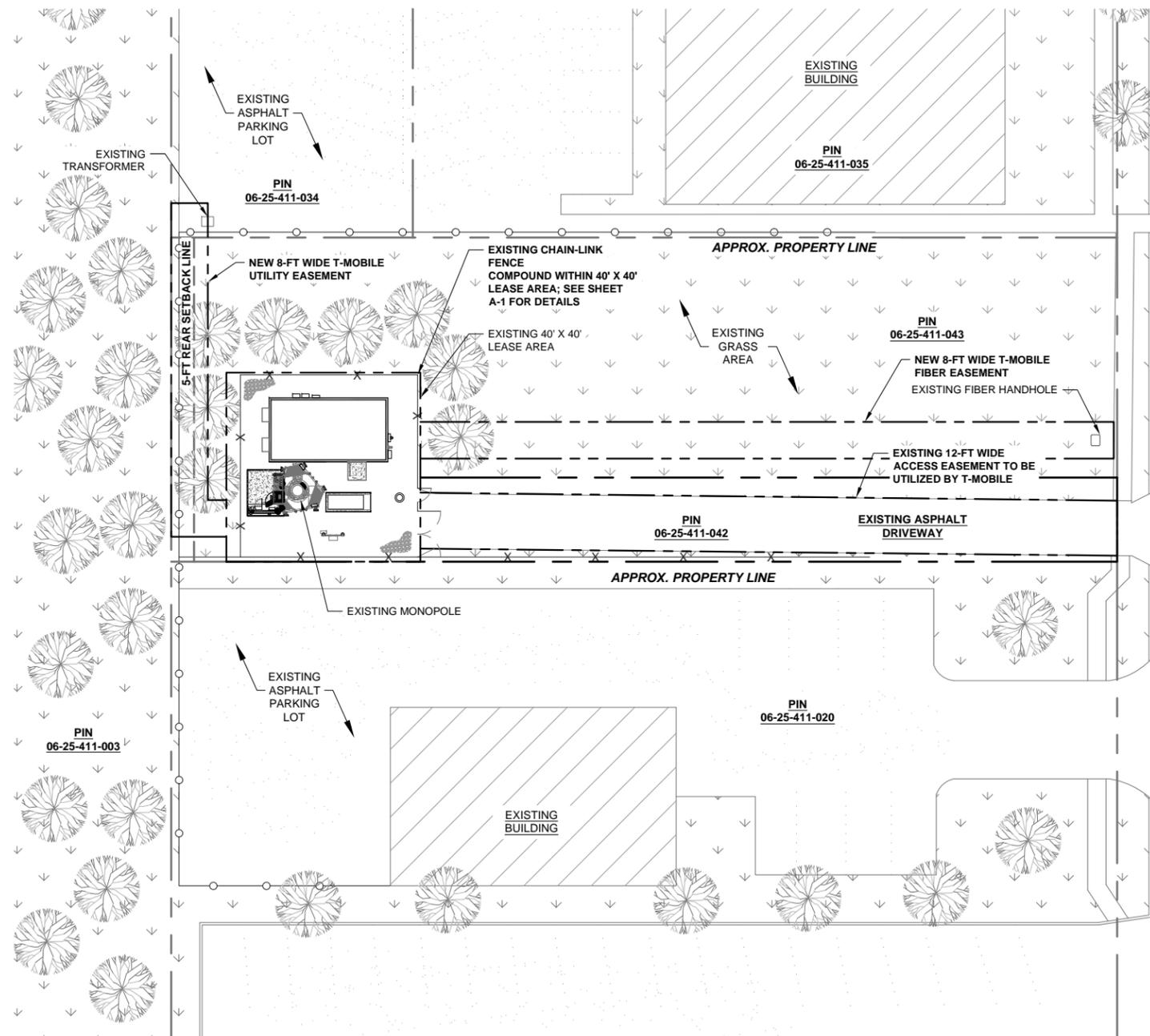
GENERAL NOTES
& SPECIFICATIONS

SP-2

Exhibit 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
- DT100 DECIDUOUS TREE W/SIZE
- CT100 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
- CENTER LINE
- E UNDERGROUND ELECTRIC LINE
- G UNDERGROUND GAS LINE
- T UNDERGROUND TELECOMM. LINE
- SS/SA UNDERGROUND STORM/SANITARY SEWER LINE
- CONCRETE
- ASPHALT
- GRAVEL
- CULTIVATED FIELD
- GRASS AREA
- ICE BRIDGE

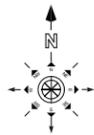


JENSEN BLVD

FIBER SOURCE AND ROUTE TO BE DETERMINED UPON COORDINATION W/ FIBER PROVIDER

- IMPORTANT NOTES:**
1. GC TO HIRE PUBLIC & 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.
 2. THESE PLANS MAY NOT CONTAIN OR REVEAL ALL SUBSURFACE UTILITIES; GC IS RESPONSIBLE OF LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION
 3. GC WILL NOT START CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE PM.

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



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THADDEUS A. PACYNIAK
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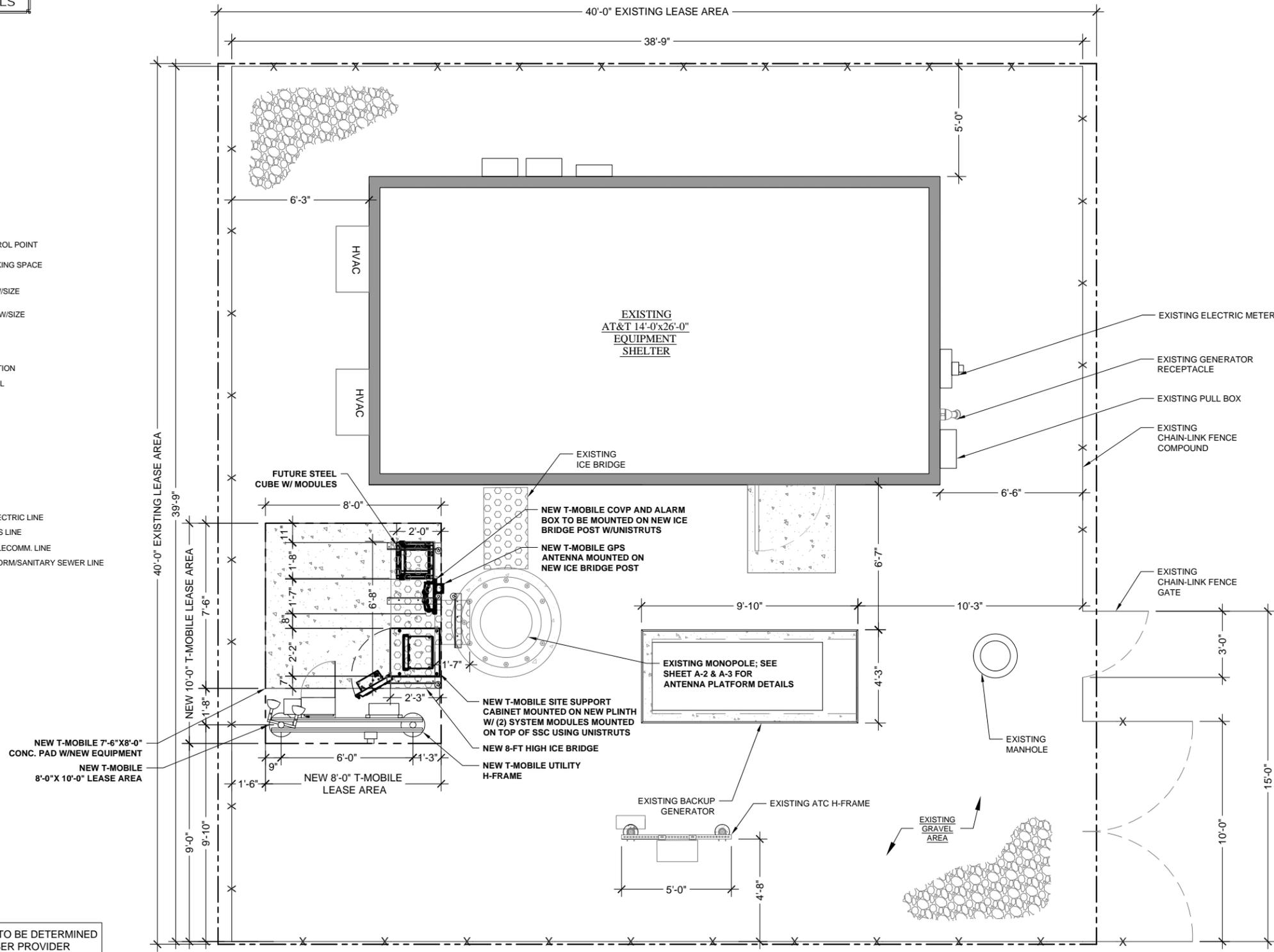
OVERALL SITE PLAN

A-0

Exhibit 2

LEGEND & SYMBOLS

- UTILITY POLE
- SIGN
- TELCO PEDESTAL
- FIRE HYDRANT
- LIGHT STANDARD
- INLET
- CATCH BASIN
- MANHOLE
- TRAFFIC SIGNAL
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COMPOUND PLAN

A-1

1 COMPOUND PLAN
SCALE: 3/8"=1'-0" (3/8"=2'-0" IF 11 X 17 SHEET SIZE)

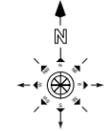
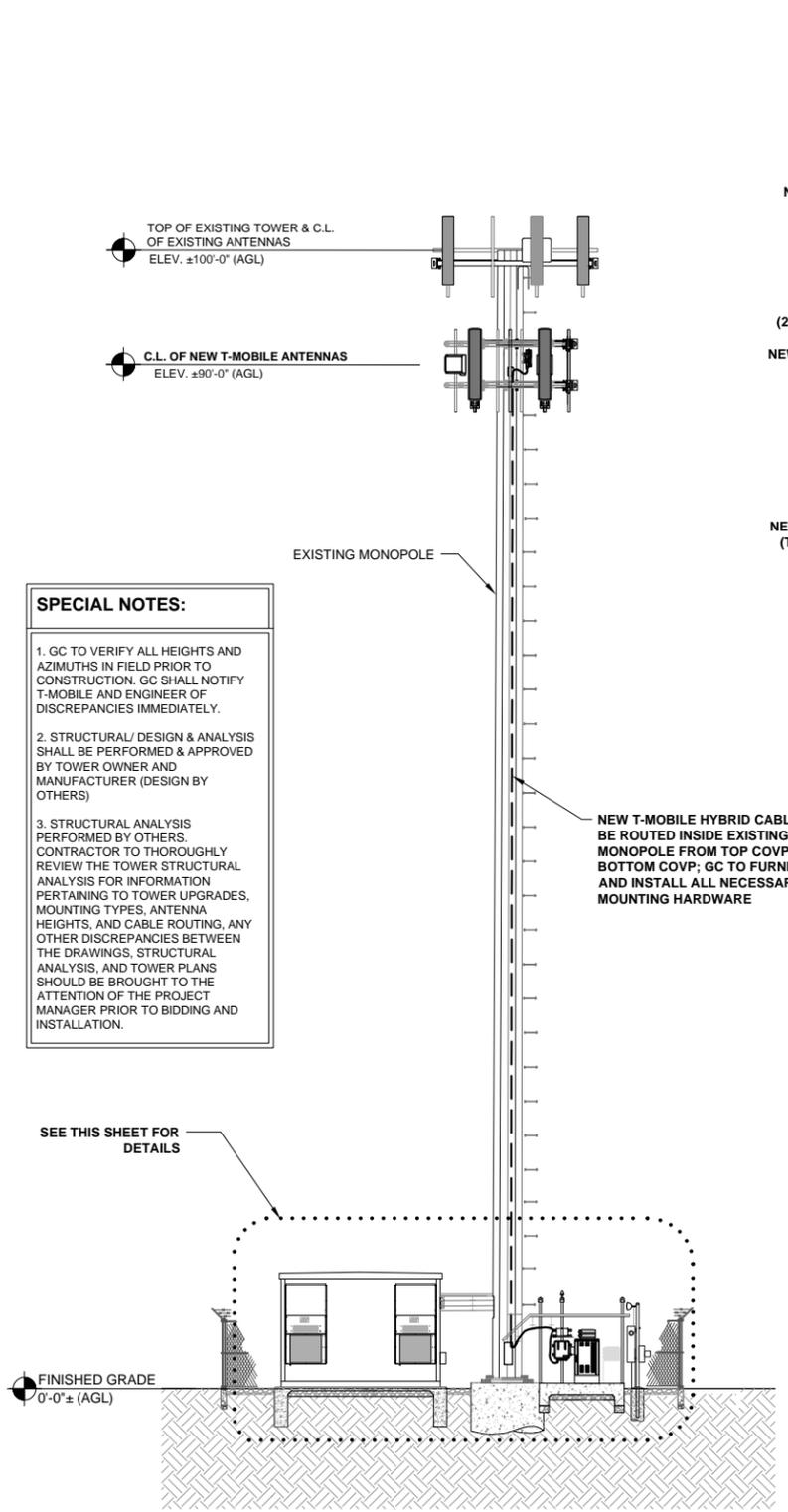
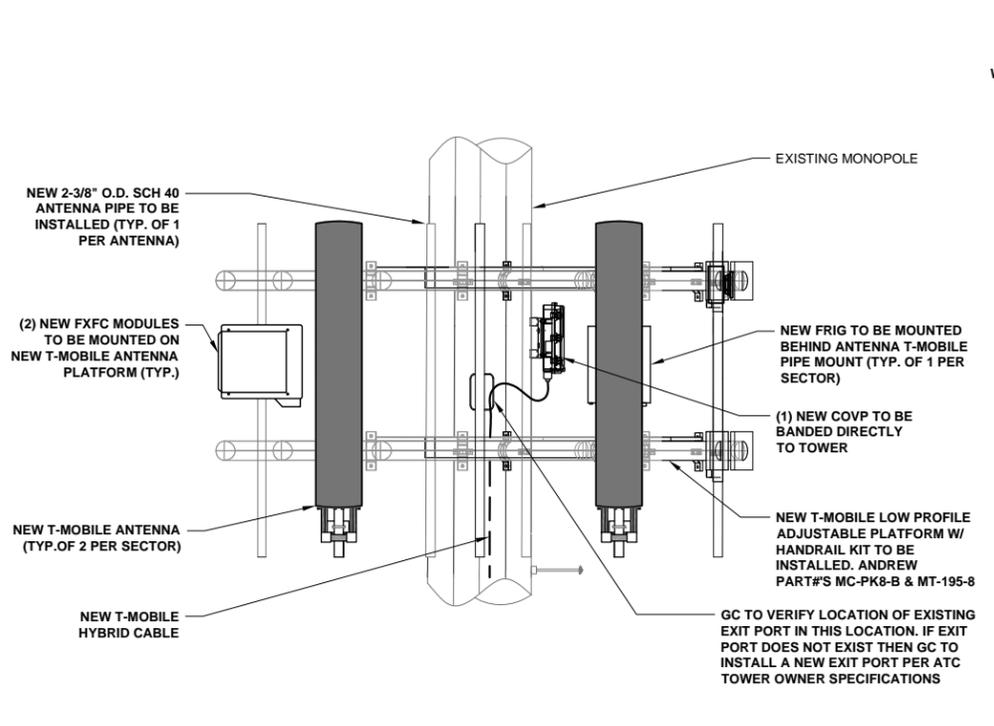


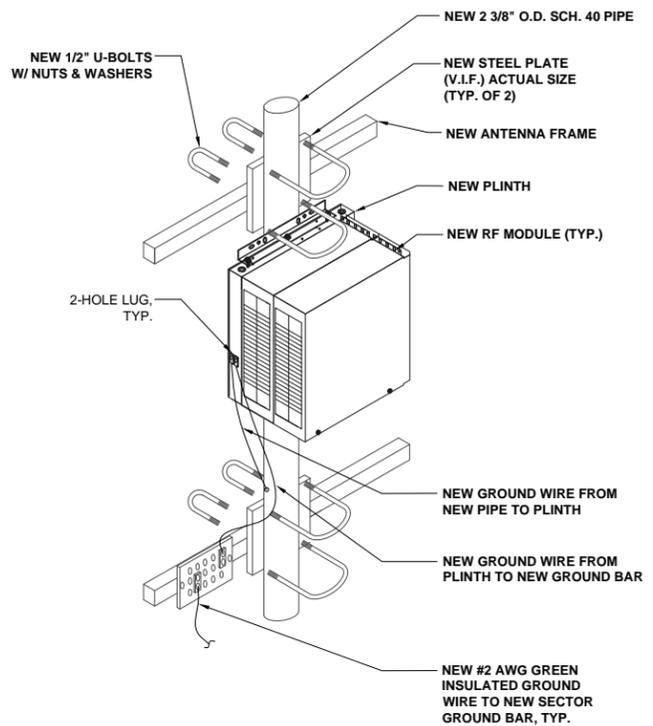
Exhibit 2



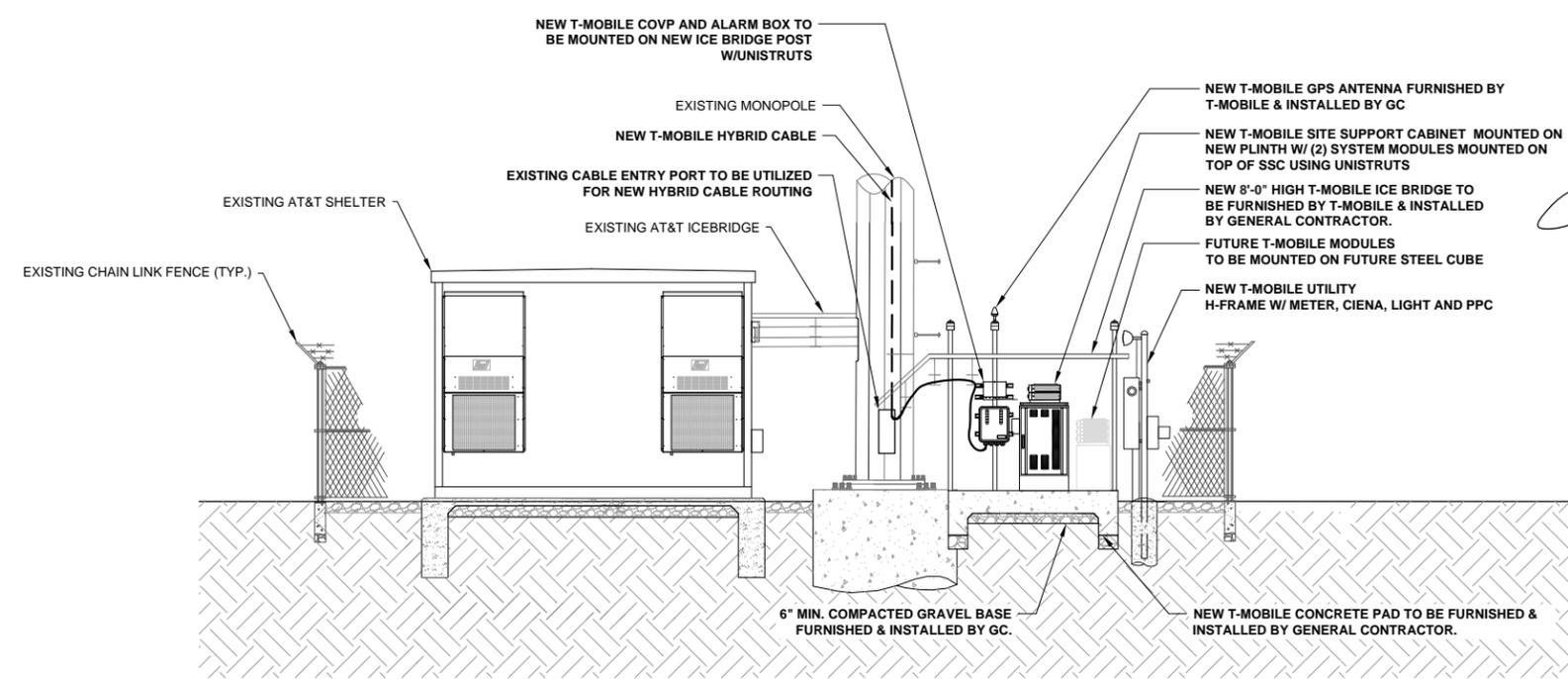
1 SITE ELEVATION
SCALE: 1/8" = 1' (1/8" = 2'-0" IF 11X17 SHEET SIZE)



2 ENLARGED ANTENNA ELEVATION DETAIL
SCALE: 1/2" = 1'-0" (1/2" = 2'-0" IF 11 X 17 SHEET SIZE)



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



4 ENLARGED SITE ELEVATION
SCALE: 1/4" = 1'-0" (1/4" = 2'-0" IF 11X17 SHEET SIZE)

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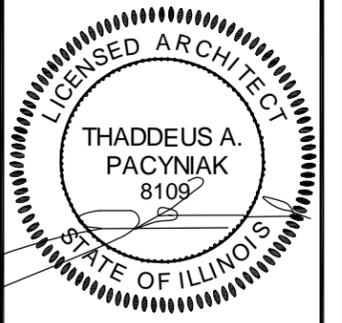
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SITE ELEVATION

A-2

ANTENNA AND CABLE SCHEDULE

SECTOR	ALPHA				BETA				GAMMA			
LOCATION	A-4	A-3	A-2	A-1	B-4	B-3	B-2	B-1	C-4	C-3	C-2	C-1
TECHNOLOGY	LTE	-	-	UMTS/PCS	LTE	-	-	UMTS	LTE	-	-	UMTS/PCS
AZIMUTH	60°				180°				270°			
RAD CENTER	±90'-0"				±90'-0"				±90'-0"			
COLOR CODING	RED (5-8)	-	-	RED (1-4)	GREEN (5-8)	-	-	GREEN (1-4)	BLUE (5-8)	-	-	BLUE (1-4)
MODEL #	ANDREW TMBXX-6516-A2M	-	-	ANDREW TMBXX-6516-A2M	ANDREW TMBXX-6516-A2M	-	-	ANDREW TMBXX-6516-A2M	ANDREW TMBXX-6516-A2M	-	-	ANDREW TMBXX-6516-A2M
MECHANICAL DOWNTILT	1	-	-	1	1	-	-	1	1	-	-	1
ELECTRICAL DOWNTILT	2	-	-	2	2	-	-	2	2	-	-	2
RRU TYPE	FRIG	-	-	FXFC	FRIG	-	-	FXFC	FRIG	-	-	(**)
HCS DIA. & TYPE	1.584" HIGH CAPACITY	-	-	-	-	-	-	-	-	-	-	-
HCS ACTUAL LENGTH	±127'	-	-	-	-	-	-	-	-	-	-	-
HCS FACTORY LENGTH	N/A	-	-	-	-	-	-	-	-	-	-	-
BUNDLE DIA. & TYPE	1.584" HIGH CAPACITY	-	-	-	-	-	-	-	-	-	-	-
BUNDLE FACTORY LENGTH	-	-	-	-	-	-	-	-	-	-	-	-
JUMPER TYPE FROM COVP TO RRU	HYBRID JUMPER	-	-	HYBRID JUMPER	HYBRID JUMPER	-	-	HYBRID JUMPER	HYBRID JUMPER	-	-	HYBRID JUMPER
JUMPER LENGTH	7'	-	-	13'	13'	-	-	13'	13'	-	-	13'
JUMPER TYPE FROM RRU TO ANTENNA	RF JUMPER	-	-	RF JUMPER	RF JUMPER	-	-	RF JUMPER	RF JUMPER	-	-	RF JUMPER
JUMPER LENGTH	7'	-	-	16'	7'	-	-	9'	7'	-	-	13'

RET JUMPER DAISY-CHAIN FROM ALPHA SECTOR TO BETA & GAMMA SECTORS
 (**) - UTILIZE FXFC FROM BETA SECTOR

LEGEND

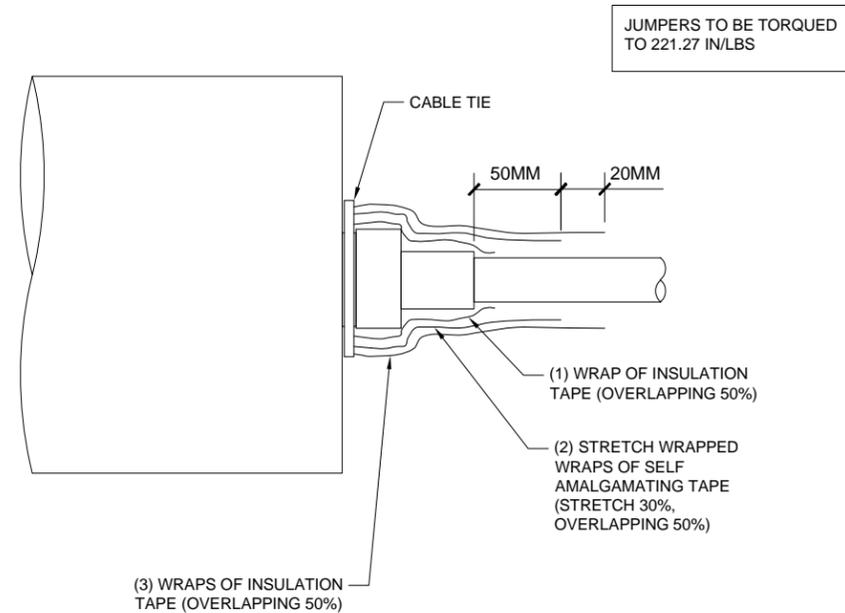
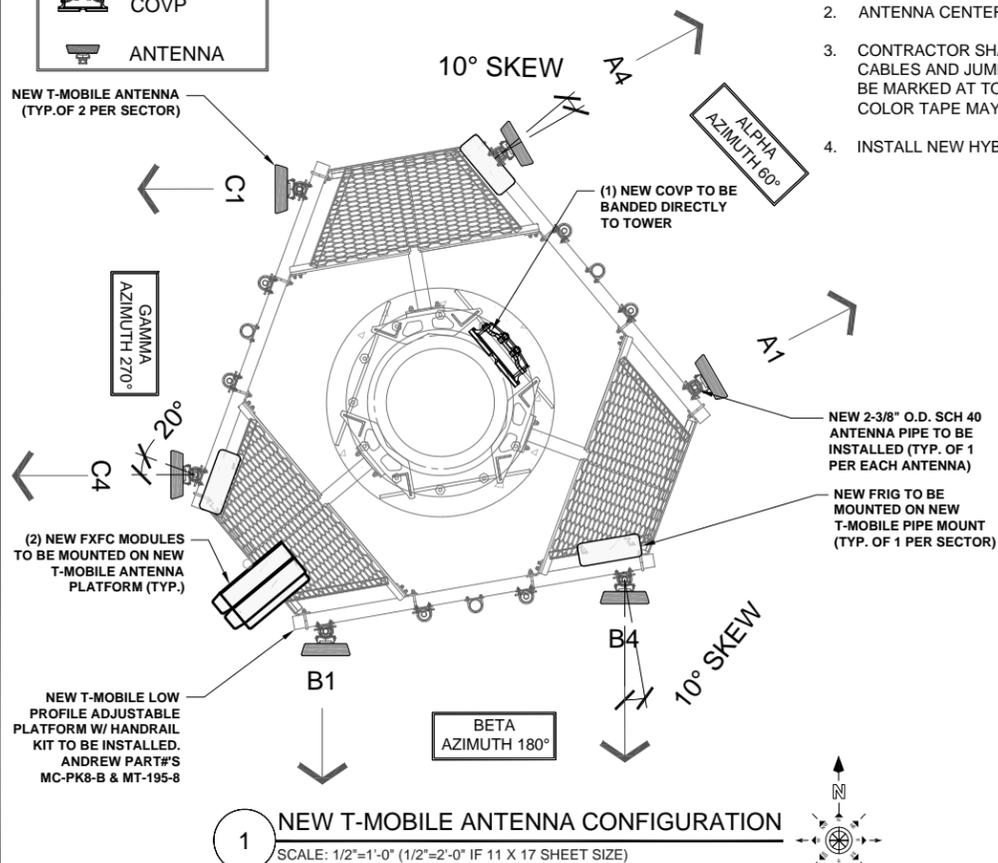
- TMA
- FRIG
- FXFC
- COVP
- ANTENNA

ANTENNA AND COAXIAL CABLE SCHEDULE

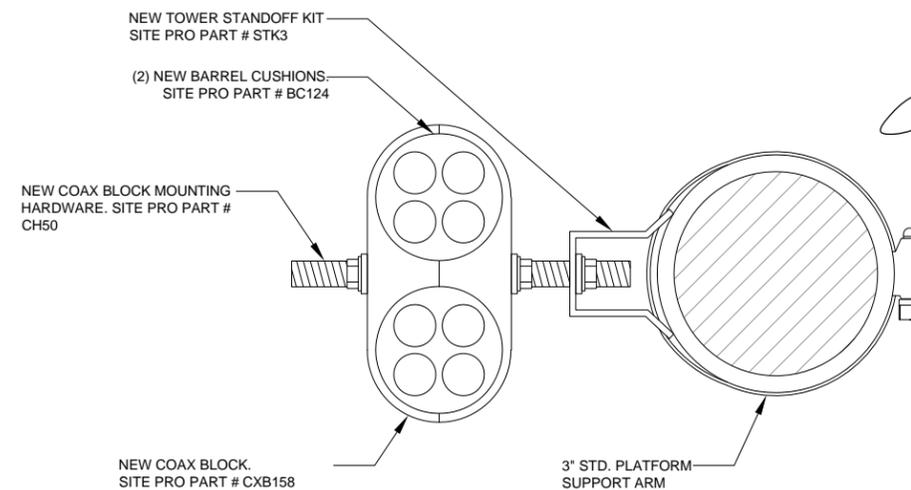
- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0'-0"
- CONTRACTOR SHALL INSTALL 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.
- INSTALL NEW HYBRID THRU THE EXISTING CABLE ENTRY PORTS

NOTES :

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



2 RF JUMPER CONNECTION DETAIL
SCALE: N.T.S.



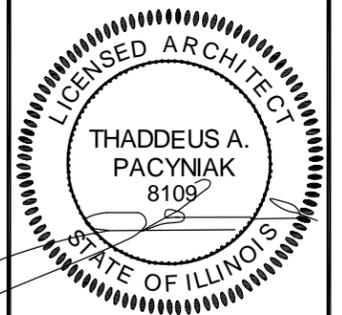
3 RF JUMPER MOUNTING DETAIL
SCALE: N.T.S.

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CABLE SCHEDULE & ANTENNA DETAILS

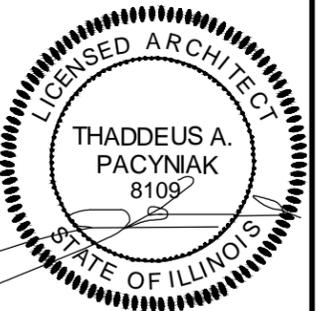
A-3



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RFDS

A-3A

Site Information:

Market:	CH	Radio Vendor:	NSN	Plan Year:	NLP Desc:	NLP1
Site Id:	CH44316C	Site Name:	ATC (304016)	Structural Owner:		
Type/Class:	Structure (Non-Building) / Monopoles					
Address:	7460 Jensen Blvd	City:	Hanover Park	State:	IL	Zip: 60133
Latitude:	42.00833	Longitude:	-88.1493	Created Date:	Aug 13 2014	
RF Manager:	Alex Lefler	RF Engineer:	Bilal Khan	Last Save Date:	Aug 13 2014 11:28AM	Last Modified By: BKHAN2

Cell Site Configuration

Configuration Type:	Configuration 1G	Final Configuration (Antenna/Line/TMA/RRU):	6/0/0/5	Solution Type:	Tower Top	RFDS Status:	Preliminary
Final Sector Count:	3	Design Type:	Final				

Sector Information

PCS UMTS Design	A	B	C	D	E	F
Antenna RAD Center:	90	90	90			
Antenna Azimuth:	60	180	270			
Mechanical Tilt:	1	1	1			
Electrical Tilt:	2	2	2			
L2100 Design	A	B	C	D	E	F
Antenna RAD Center:	90	90	90			
Antenna Azimuth:	60	180	270			
Mechanical Tilt:	1	1	1			
Electrical Tilt:	2	2	2			

Antenna Configuration (Site Level)	Antenna ReUse Existing?/Qty	Antenna Model	Antenna Qty	Antenna and (or) Ports Shared
PCS UMTS	/	Andrew - TMBXX-6516-A2M	3	No
L2100	/	Andrew - TMBXX-6516-A2M	3	No

TMA Configuration (Site Level)	TMA (ReUse existing TMA/New/Not Needed)	TMA Model	TMA Qty	TMA Location
PCS UMTS			0	
L2100			0	

Diplexer/Combiner Configuration	A	B	C	D	E	F
Diplexer Model (1):						
Diplexer Qty (1):						
Diplexer Model (2):						
Diplexer Qty (2):						
Combiner/Duplexer Model:						
Combiner/Duplexer Qty:						

Antenna Fiber/ Coax Solution (Site Level)	
Use HCS (Yes/No)?	Yes
Use NSN Fiber & OVP for Rooftop (Yes/No)?	No
Use Coax Cable (Yes/No)?	No

Hybrid Cable Configuration (Site Level)

Hybrid Cable Type:	High Capacity HCS - 1.584*					
Hybrid Cable Length:	150					
Hybrid Cable Qty:	1					
Hybrid Cable Config(Sector Level)	A	B	C	D	E	F
HCS run between Sectors (e.g. Rooftop/ Watertank etc.)						
Hybrid Cable Length (ft):						

COVP Configuration (Site Level)

COVP Type (1):	Large COVP	COVP Qty (1):	2
COVP Type (2):		COVP Qty (2):	

Coax Configuration	A	B	C	D	E	F
Existing Coax Qty:						
Existing Coax Size:						
Re-use existing coax for TDOA (Yes/No)?						
Qty. of excess coax lines to remove?						
New Coax Type:						
New Coax Length/Line:						
New Coax Qty:						
RET Home-Run Cable:						
RET Home-Run Cable Length(ft):						

System Modules (Site Level)	System Module Type(1)	System Module Qty(1)	System Module Type(2)	System Module Qty(2)
PCS UMTS	FSMF	1		
LTE	FSMF	1		
RF Modules (Site Level)	RF Module Type(1)	RF Module Qty(1)	RF Module Type(2)	RF Module Qty(2)
PCS UMTS	FXFC	2		
L2100	FRIG	3		
Sector/BTS/Node-B (Site Level)	Sector Count:	BTS/Node-B Count:		
PCS UMTS	3	1		
L2100	3	1		

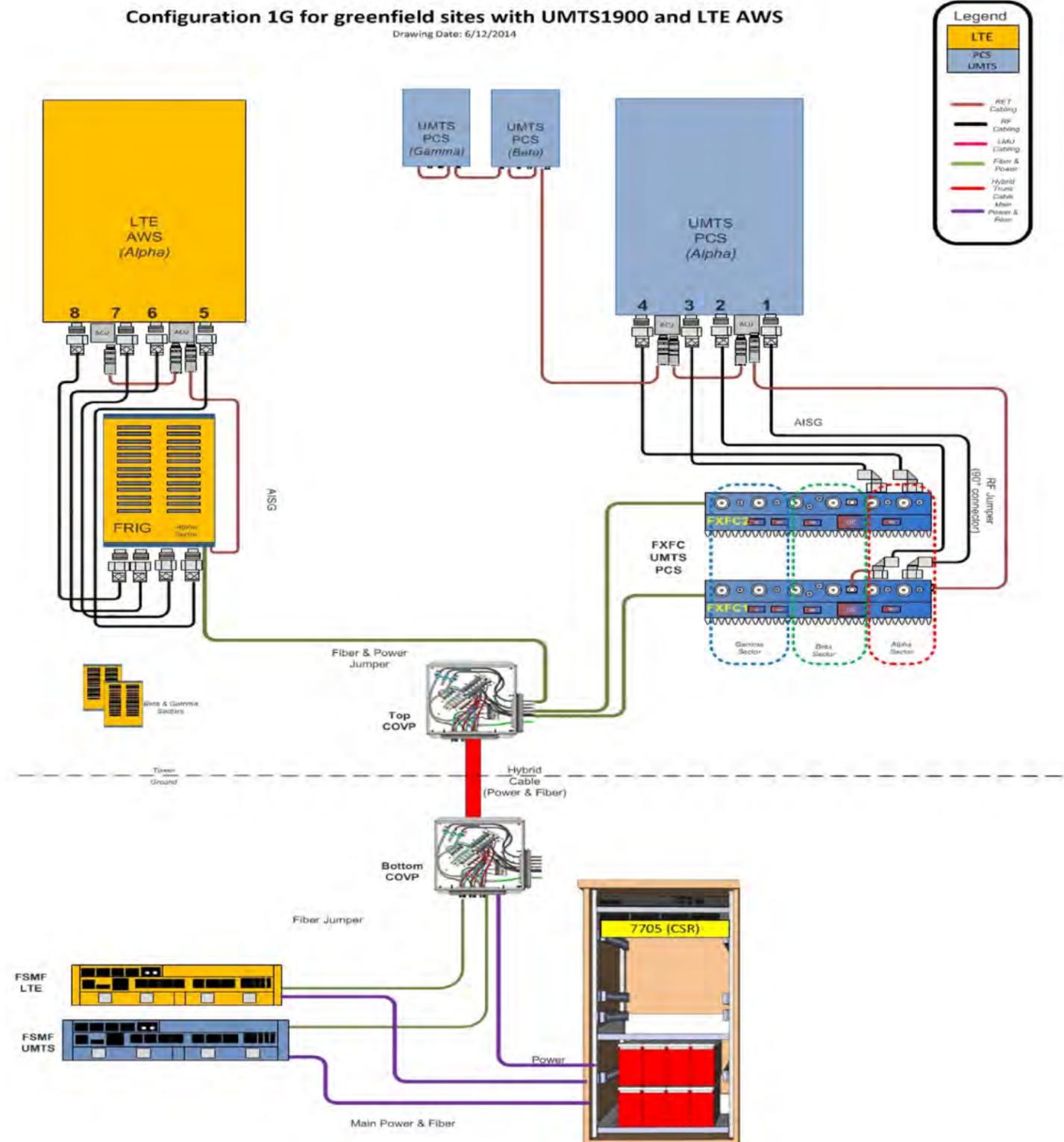
System Modules (Site Level)	System Module Type(1)	System Module Qty(1)	System Module Type(2)	System Module Qty(2)
PCS UMTS	FSMF	1		
LTE	FSMF	1		
RF Modules (Site Level)	RF Module Type(1)	RF Module Qty(1)	RF Module Type(2)	RF Module Qty(2)
PCS UMTS	FXFC	2		
L2100	FRIG	3		
Sector/BTS/Node-B (Site Level)	Sector Count:	BTS/Node-B Count:		
PCS UMTS	3	1		
L2100	3	1		

Comments

Site: CH44316C - Configuration Drawing 1

Drawing (1) Comments:

Exhibit 2

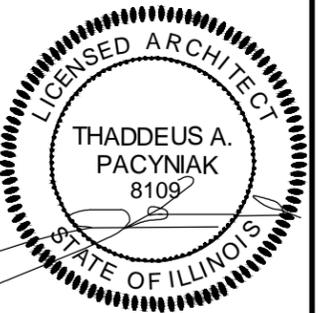


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NSM CONFIGURATION
DIAGRAM

A-3B

1 NSM CONFIGURATION DIAGRAM

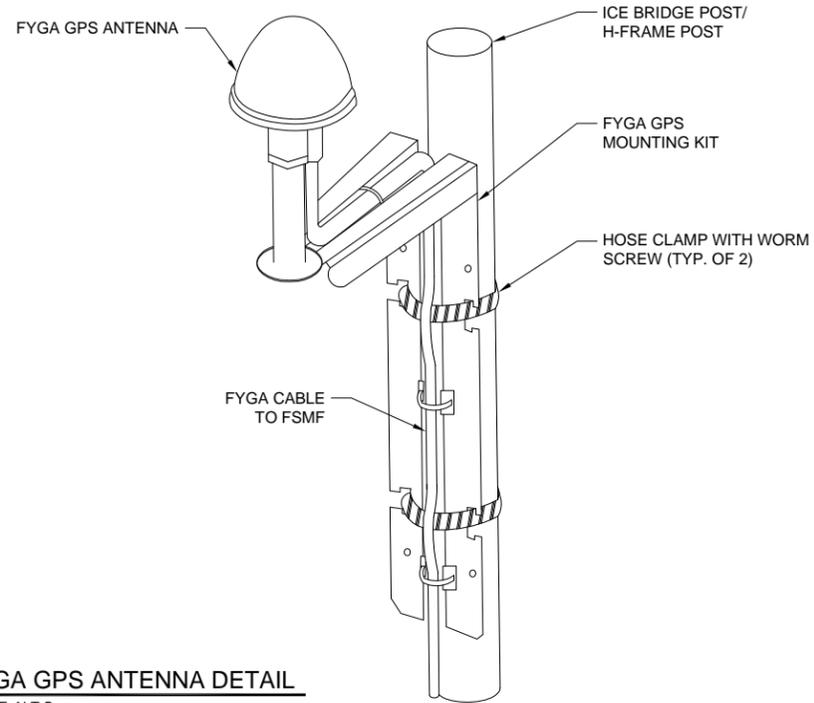
NOTES:

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.

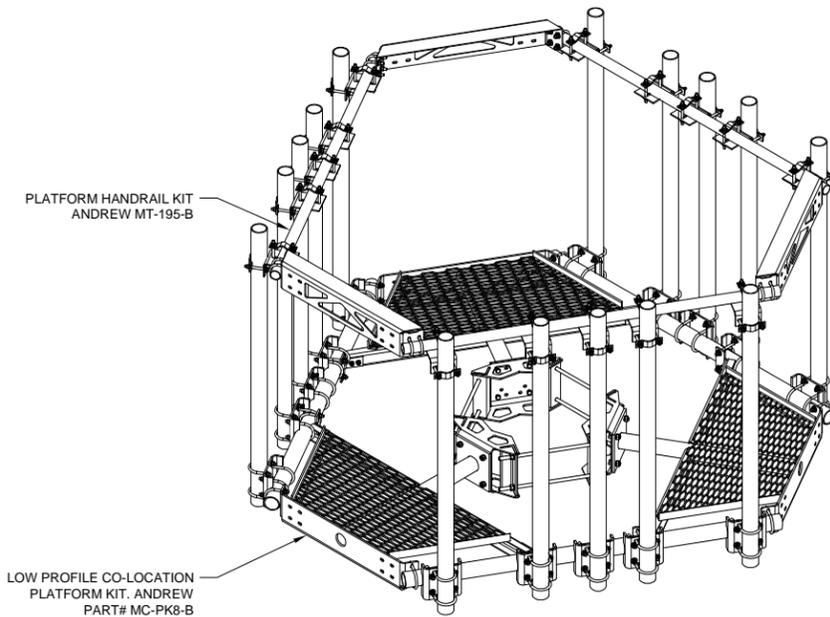
2. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE FOR THE GPS SHALL BE MOUNTED USING OVERSIZED U-BOLTS TO ALLOW ADJUSTMENT. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED WITHIN 2" OF VERTICAL AND THE BASE OF THE ANTENNA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

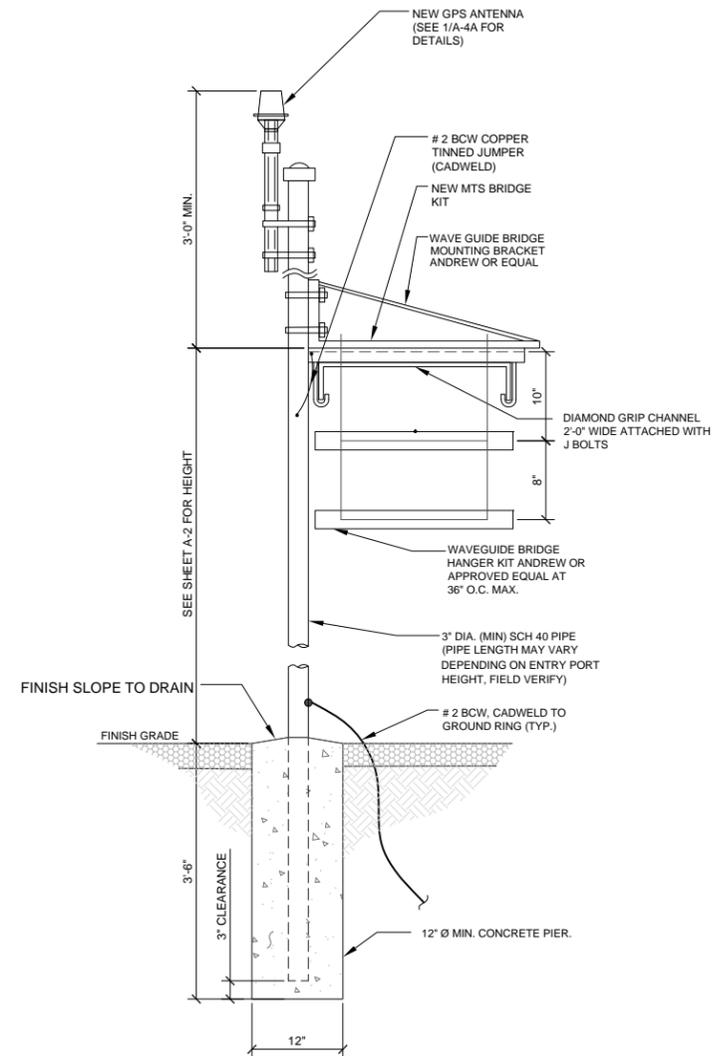
4. GENERAL CONTRACTOR SHALL ENSURE THE GPS ANTENNA HAS THE REQUIRED FULL EXPOSURE TO THE SOUTHERN HEMISPHERE/HORIZON.



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



3 NEW ANTENNA PLATFORM W/ HANDRAIL KIT
SCALE: N.T.S.



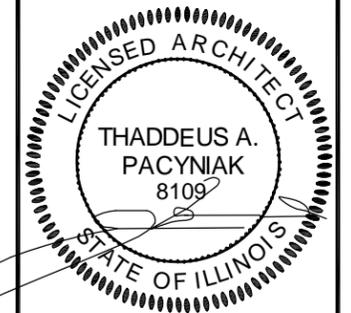
2 GPS ANTENNA DETAIL & ICE BRIDGE SECTION
SCALE: N.T.S.

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EQUIPMENT DETAILS

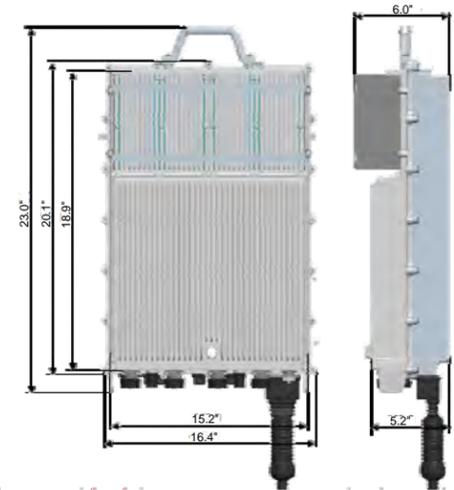
A-4

Exhibit 2

Sub-section	Width (mm)	Height (mm)			Depth (mm)			Qty	Volume (L)
		Filter	PA	Total	Filter	PA	Qty		
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 Base & Connectors. Stopping fin height was used separately for Volume calculate.

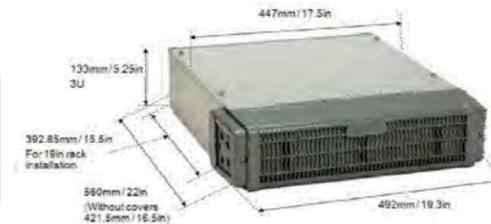
- 26 liters
- 26 Kg
- IP65
- -35 to +55 °C*
- 4*30W or 2*60W



PROPOSED FRIG

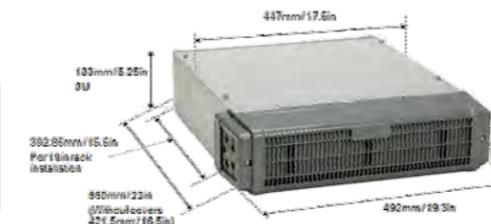
Flexi Multiradio BTS System Module FXFC

- < 25 liters
- < 25 kg
- 3 height units
- IP65
- -35 to +55 °C



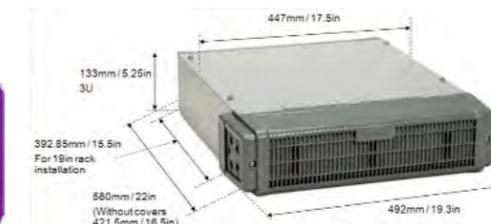
Flexi Multiradio BTS System Module ESMB

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



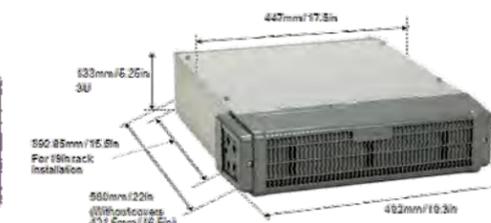
Flexi Multiradio BTS System Module FSME

- < 23 liters
- < 23 kg
- 3 height units
- IP65
- -35 to +55 °C

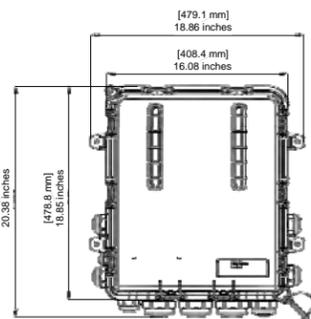


Flexi Multiradio BTS System Module FSMF

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

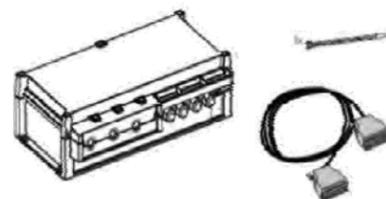


PROPOSED RF/SYSTEM MODULES
ESMB/FSME/FSMF/
SCALE: N.T.S.



Weight 7.71 kg | 19.0 lb

LARGE COVP (RAYCAP ASU9338TYP01)
SCALE: N.T.S.



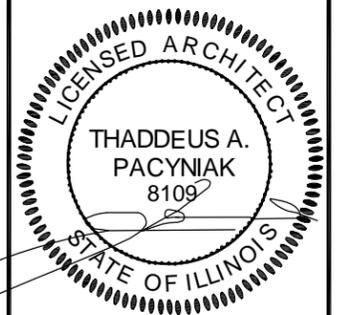
FSEB (ALARM BOX)
SCALE: N.T.S.

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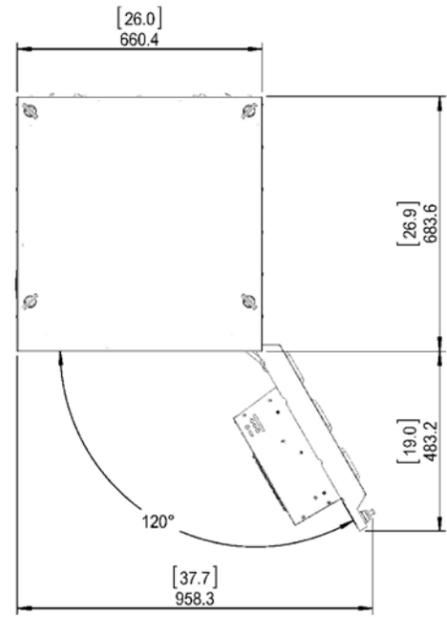


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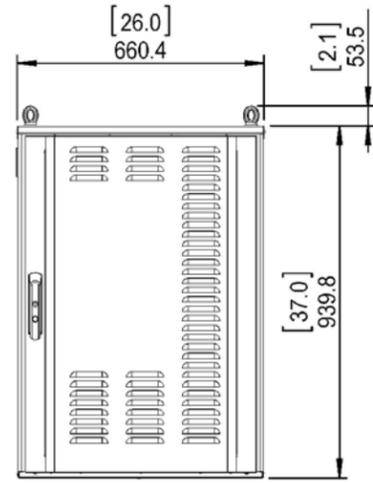
EQUIPMENT
SPECIFICATIONS

A-4A

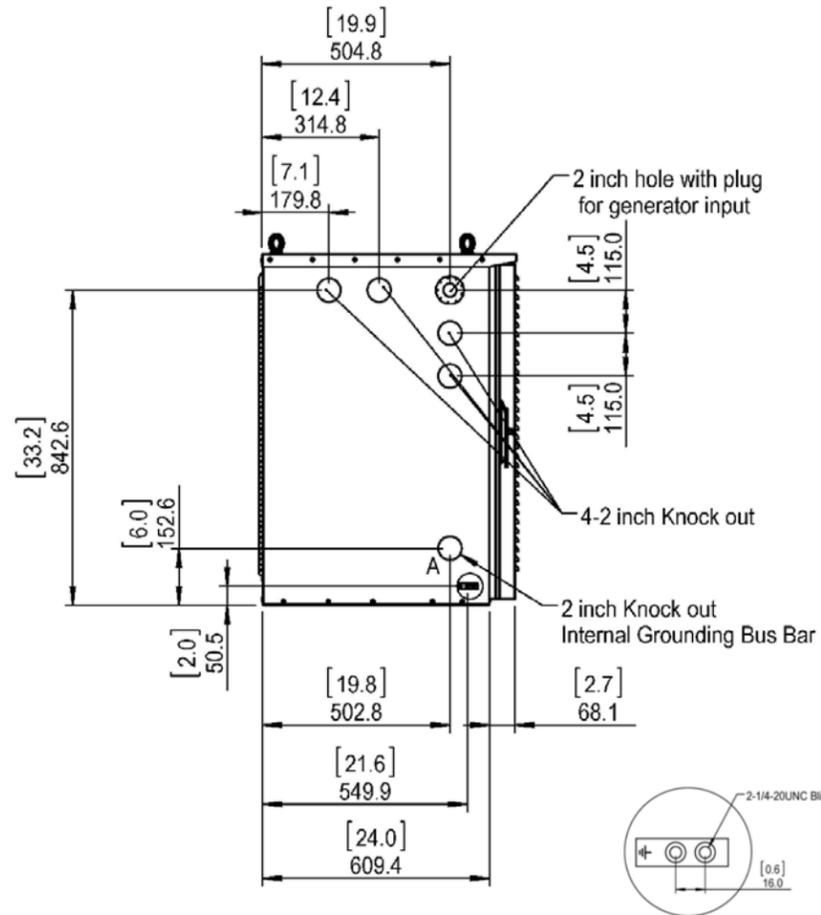
Exhibit 2



TOP VIEW
SCALE: N.T.S.

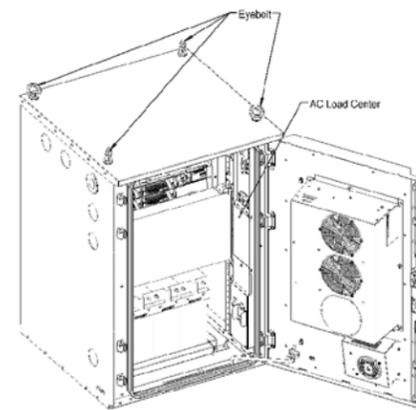


FRONT VIEW
SCALE: N.T.S.



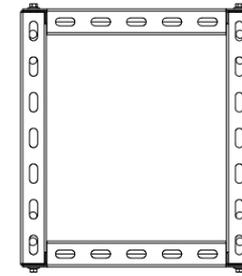
SIDE VIEW
SCALE: N.T.S.

DETAIL A

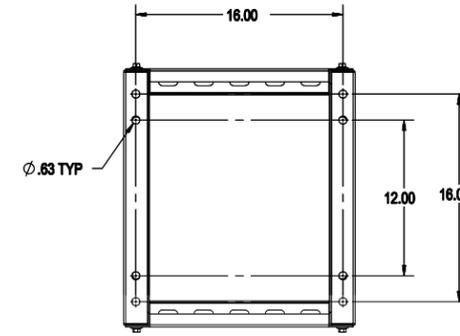


ISOMETRIC VIEW
SCALE: N.T.S.

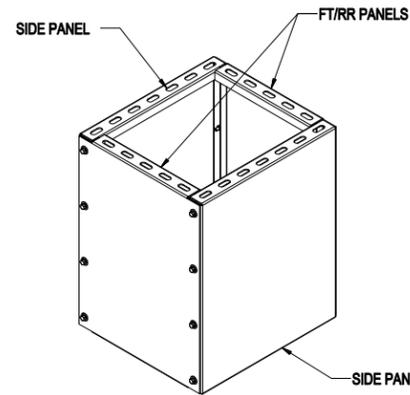
1 SITE SUPPORT CABINET SPECIFICATIONS
SCALE: N.T.S.



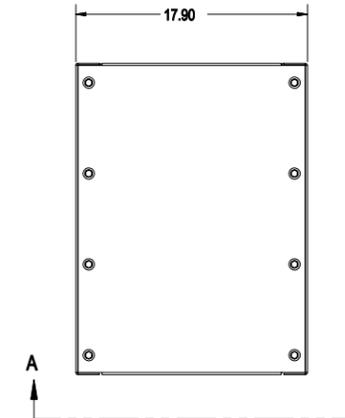
TOP VIEW
SCALE: N.T.S.



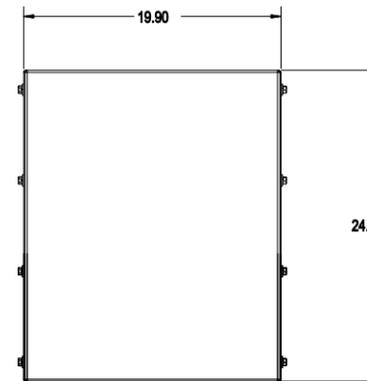
**SECTION A-A
BOTTOM VIEW**
SCALE: N.T.S.



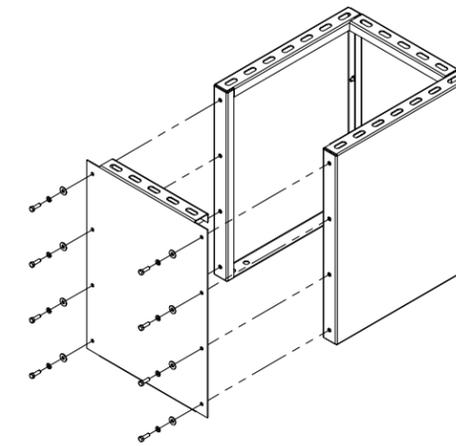
ISOMETRIC
SCALE: N.T.S.



FRONT VIEW
SCALE: N.T.S.



SIDE VIEW
SCALE: N.T.S.



BOLT LAYOUT ISOMETRIC
SCALE: N.T.S.

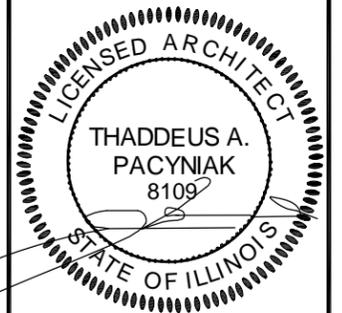
2 CUBE SPECIFICATIONS
SCALE: N.T.S.

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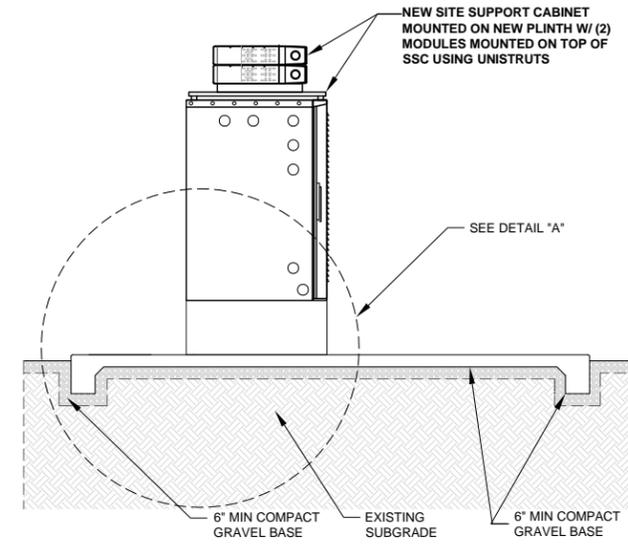
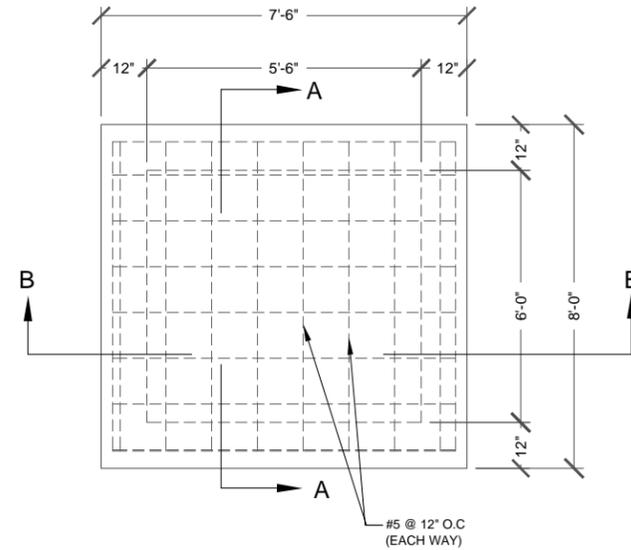
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**SITE SUPPORT CABINET
& CUBE SPECIFICATIONS**

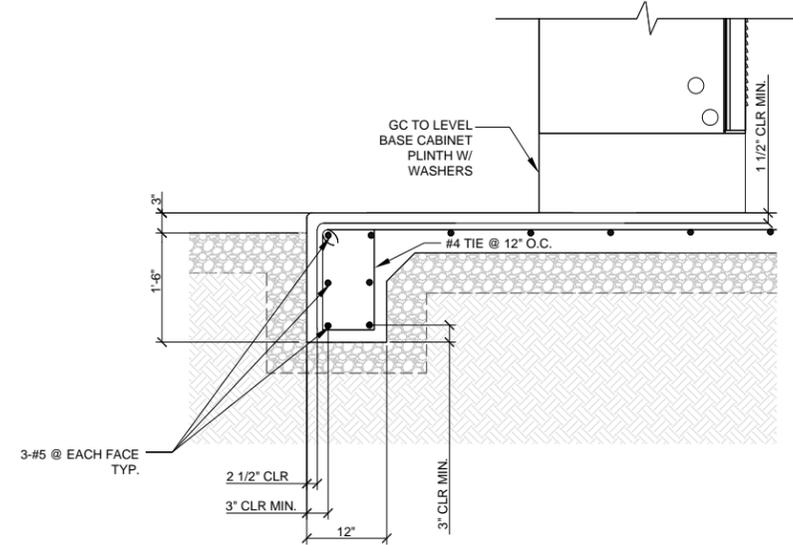
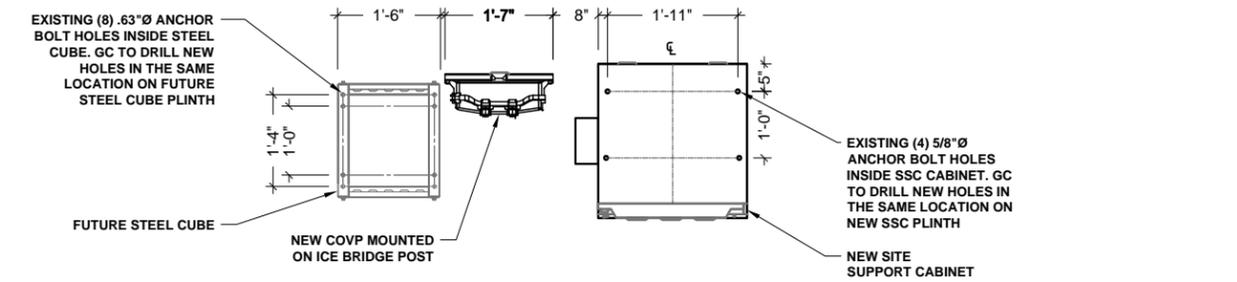
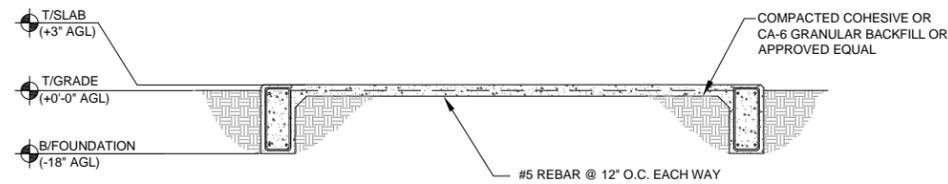
A-4B

STRUCTURAL NOTES:

- A. EQUIPMENT CABINET FOUNDATION**
- REFER TO CIVIL DRAWINGS FOR ORIENTATION OF THE FOUNDATIONS.
 - EQUIPMENT CABINET FOUNDATION IS DESIGNED FOR THE FOLLOWING LOADS:
ENCLOSURE DEAD LOAD: 12,000 LBS.
LIVE LOAD: 50 PSF.
 - FOOTINGS SHALL BEAR ON VIRGIN SOIL PRESURE OF 2,000 PSF.
 - SLAB TO BE LEVEL $\pm 1/4"$.
 - A MINIMUM OF 18" EMBEDMENT.
 - FINAL SITE DESIGN IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.
 - SLAB FOUNDATION DESIGNED ASSUMING MAXIMUM SOIL PLASTICITY INDEX OF 27.
 - SUBGRADE PREPARATION:
 - REMOVE ALL SOILS CONTAINING TOPSOIL: ORGANIC MATERIALS, AND/OR FILL MATERIALS FROM WITHIN AREA OF ENCLOSURE FOUNDATION.
 - PROOF ROLL RESULTING SUBGRADE WITH A HEAVILY LOADED SINGLE AXLE ROLLER OR SIMILAR VEHICLE (20 TON LOAD). CONTRACTOR SHALL UNDERCUT AND REPLACE WITH ENGINEERED FILL (COMPACTED IDOT CA-6 MATERIAL) OR APPROVED EQUAL ALL LOOSE SOFT OR UNSTABLE AREAS REVEALED DURING PROOFROLLING AS DIRECTED.
 - BACKFILL AND COMPACT THE AREA WITHIN THE BUILDING FOUNDATION. BETWEEN RESULTANT SUBGRADE AND FOUNDATION WALL WITH CA-6 GRANULAR MATERIAL OR APPROVED EQUAL.
 - FOUNDATION WALL SHALL BE BACKFILLED EVENLY ON EACH SIDE OF THE WALL OR WALLS SHALL BE ADEQUATELY BRACED BY THE CONTRACTOR UNTIL FLOOR SLAB HAS PLACED AND CURED FOR 72 HOURS MINIMUM.
 - NEW FOUNDATION DESIGN HEREIN IS BASED ON SOILS HAVING A MINIMUM CAPACITY OF 2,000 POUNDS PER SQUARE FOOT (PSF).
 - GC SHALL HAVE A GEOTECHNICAL ENGINEER PRESENT AT THE TIME OF CAISSON INSTALLATION TO VERIFY SOILS.
 - GC SHALL PRESENT AN ENGINEERING REPORT DOCUMENTING THAT CAISSON WAS INSTALLED PER THE ENGINEERING SPECIFICATIONS.
 - NO GEOTECHNICAL ENGINEERING REPORT HAS BEEN SUPPLIED TO CONCORDIA. THESE PLANS ARE BASED ON SOILS AT THE BASE HAVING A CAPACITY OF 2000 PSF. GC SHALL NOTIFY ENGINEER OF DISCREPANCIES IMMEDIATELY.
 - 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 CARRYOUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFIRM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.



- NOTE:**
- USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
 - FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE EQUIPMENT VENDOR DRAWINGS.



T-Mobile

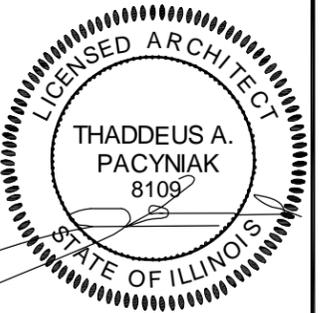
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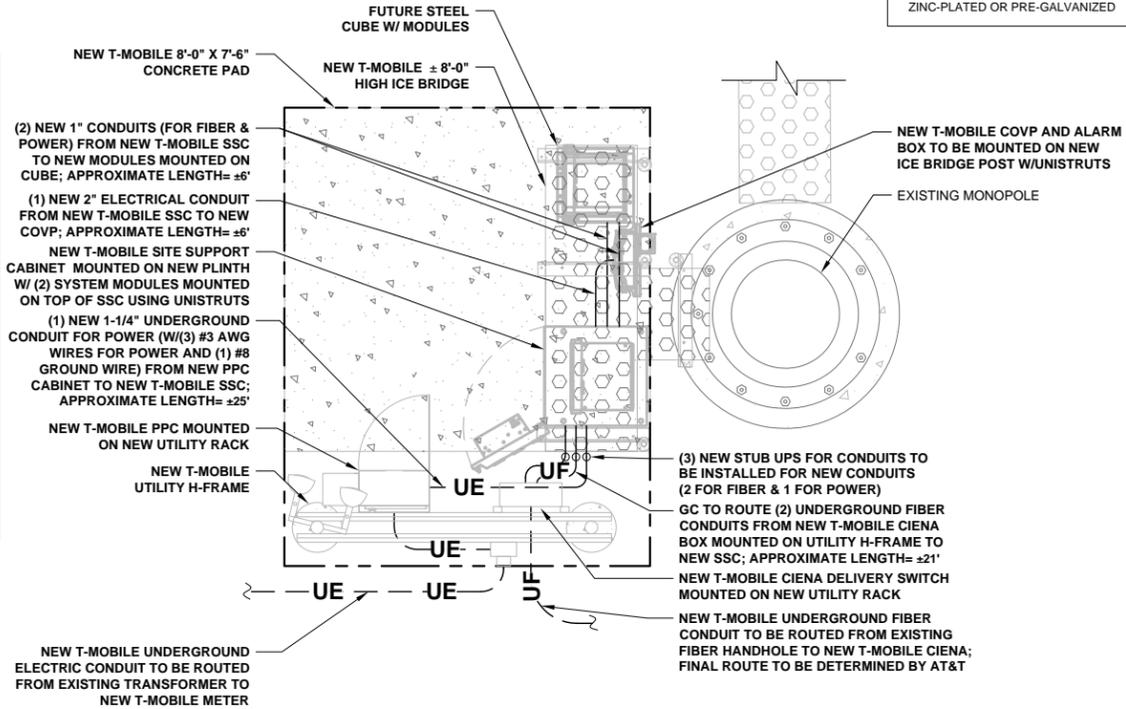
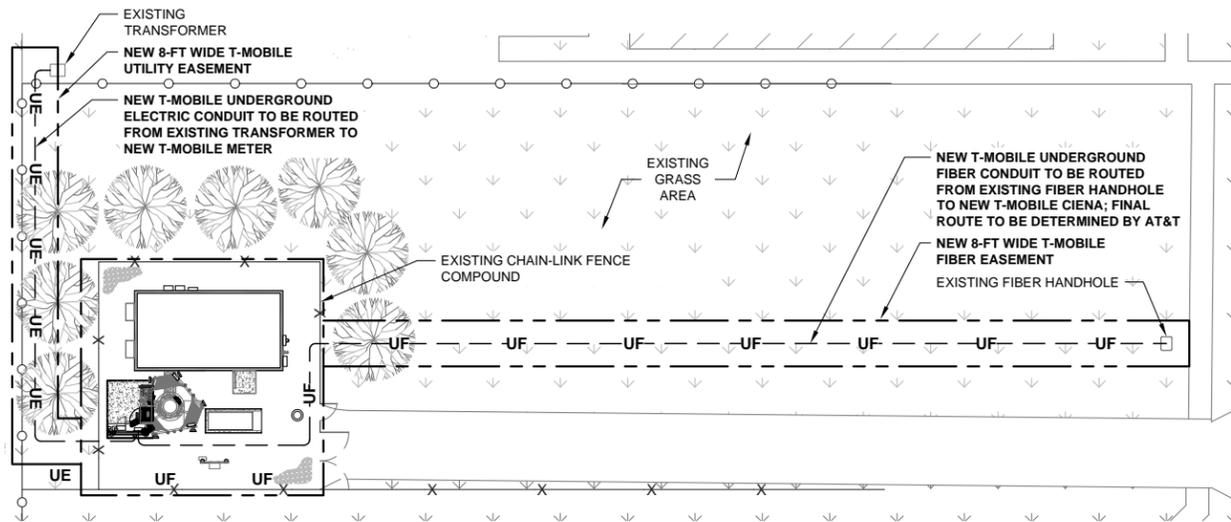
**SSC MOUNTING DETAILS
& STRUCTURAL NOTES**

S-1

Exhibit 2

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

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

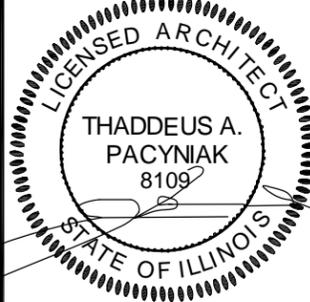


SERVICE CONDUIT LENGTH (TO PPC CABINET ONLY- EXCLUDING LENGTH FOR CONDUITS TO SSC CABINET)		NOTE: * THE CONDUIT LENGTH GIVEN IS BASED ON THE DRAWING +15%. THE EXACT LENGTH TO BE VERIFIED IN FIELD. GC TO VERIFY LENGTHS AFTER COORDINATING W/ SERVICE UTILITY COMPANIES.
FIBER	±250'	
ELECTRIC	±130'	

ALL CONDUITS INCLUDE 15% EXTRA

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



1 UTILITY SITE PLAN
 SCALE: 1/16"=1'-0" (1/16"=2'-0" IF 11x17 SHEET SIZE)

2 ENLARGED ELECTRIC & FIBER PLAN
 SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11x17 SHEET SIZE)

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

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

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	OH	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

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.

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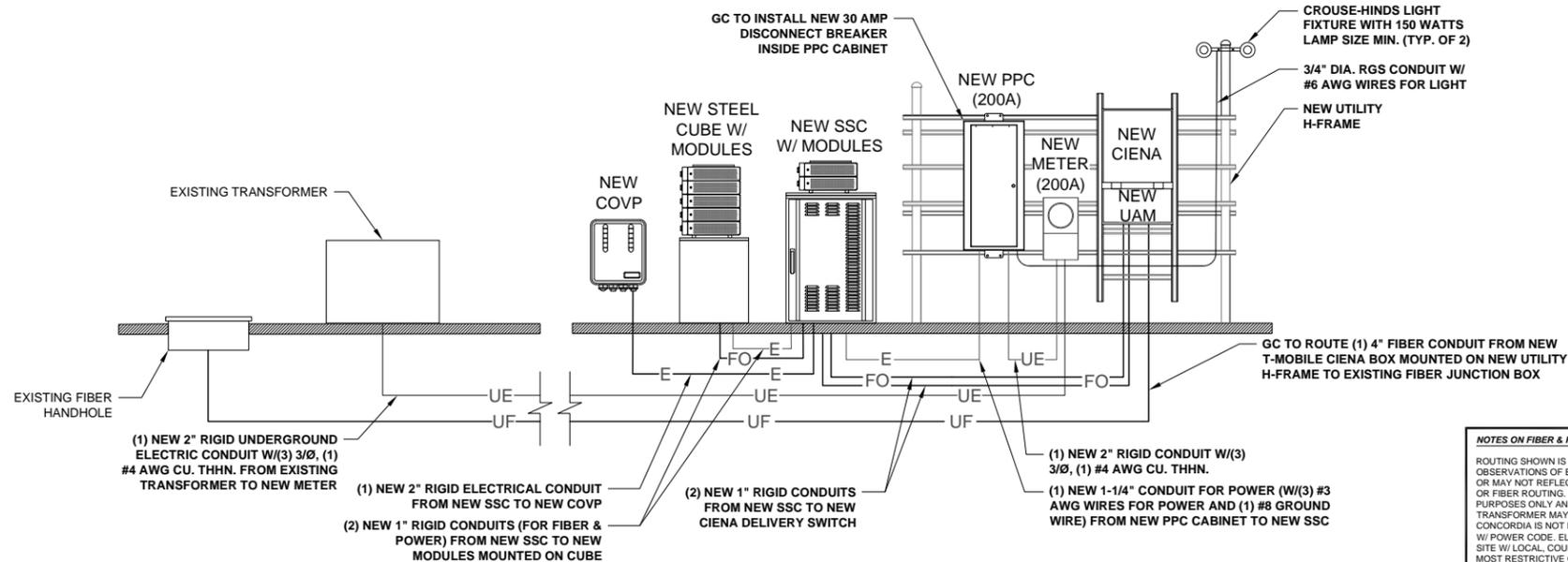
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ELECTRICAL SITE PLAN AND DETAILS

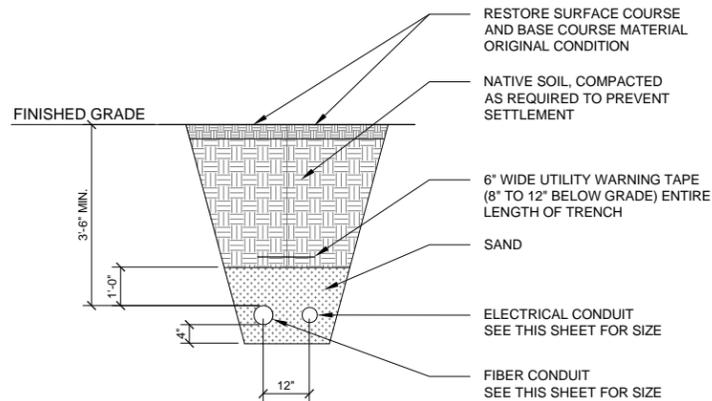
E-1

Exhibit 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:
1.) 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.
2.) CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, TYPE, SIZE & SEPARATION OF CONDUIT PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES
3.) 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.
4.) ALL EXTERIOR CONDUITS SHALL BE RGS
5.) ALL INTERIOR CONDUITS SHALL BE EMT
6.) GC TO FIREPROOF ALL PENETRATIONS
7.) GC TO WEATHERPROOF ALL EXTERIOR PENETRATIONS
8.) GC SHALL MAINTAIN A MAXIMUM VOLTAGE DROP OF 3%
9.) GC SHALL COMPLY W/ ALL REQUIREMENTS OF BUILDING CODE, VOLUMES 1 & 2, INCLUDING ELECTRICAL CODE.
10.) 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.



PANEL BOARD SCHEDULE															
T-MOBILE PROJECT NAME:				PANEL STATUS:				N TO GROUND BOND:							
NSD				NEW				YES							
240V/120				MODEL NUMBER:				T.B.D.				INTERNAL TVSS:			
200 AMP				PHASE:				1				WIRE:			
H-FRAME				BUSS RATING				200 AMPS				AIC:			
ENCLOSURE TYPE:				NEUTRAL BAR:				YES				GROUND BAR:			
NEMA 3R												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	CKT
1	SITE SUPPORT CABINET	100	2	ON	4200	1.25	5250	0.00	0	N/A	---	---	---	---	2
3	---	---	---	ON	4200	1.25	5250	0.00	0	N/A	---	---	---	---	4
5	SERVICE LIGHT	20	1	ON	500	1.00	500	0.00	0	N/A	---	---	---	---	6
7	---	---	---	N/A	0	0.00	0	0.00	0	N/A	---	---	---	---	8
9	---	---	---	N/A	0	0.00	0	0.00	0	N/A	---	---	---	---	10
11	---	---	---	N/A	0	0.00	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	0.00	0	N/A	---	---	---	---	16
17	---	---	---	N/A	0	0.00	0	0.00	0	N/A	---	---	---	---	18
19	---	---	---	N/A	0	0.00	0	0.00	0	N/A	---	---	---	---	20
21	---	---	---	N/A	0	0.00	0	0.00	0	N/A	---	---	---	---	22
23	GFCI OUTLET	20	1	ON	180	1.00	180	0.00	0	N/A	---	---	---	---	24
						5750		5430		VA		TOTAL KVA		11.18	

(DOOR REMOVED) AC CABINET

CONDUIT MATERIAL SCHEDULE:

- UNLESS NOTED OTHERWISE, ALL CONDUIT RUNS SHALL CONFORM TO THE FOLLOWING:
- 1.) ALL ABOVE GRADE, EXTERIOR CONDUITS SHALL BE RGS.
 - 2.) ALL BELOW GRADE HORIZONTAL CONDUITS SHALL BE PVC
 - 3.) ALL BELOW GRADE 3" Ø & 45° BENDS SHALL BE STEEL W/THREADED CONNECTIONS.
 - 4.) ALL BELOW GRADE TO ABOVE GRADE RISERS SHALL BE STEEL W/THREADED CONNECTIONS.
 - 5.) SEAL TIGHT FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS.

SERVICE EQUIPMENT NOTES:

1. 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.
2. ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND 80 M.P.H. WIND SPEED, EXPOSURE C.
3. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
4. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF ELECTRICAL WORK.

CONDUCTOR NOTES:

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

UTILITY COORDINATION NOTES:

1. 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.
2. 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.
3. PROVIDE DAILY UPDATES TO PM UNTIL FINAL ELECTRICAL SERVICE IS EFFECTED.

CONDUIT NOTES:

1. HW/C SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE.
2. EMT SHALL BE USED ONLY FOR INTERIORS RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS.
3. SEAL TIGHT, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
4. PVC SHALL BE SCH 40
5. 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.
6. SERVICE CONDUIT SHALL BE AT A MINIMUM DEPTH OF 42".
7. 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.
8. 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
9. 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:

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

NOTES:

- 1.) 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.
- 2.) 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.
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- 4.) 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.

CONDUIT MATERIAL SCHEDULE:

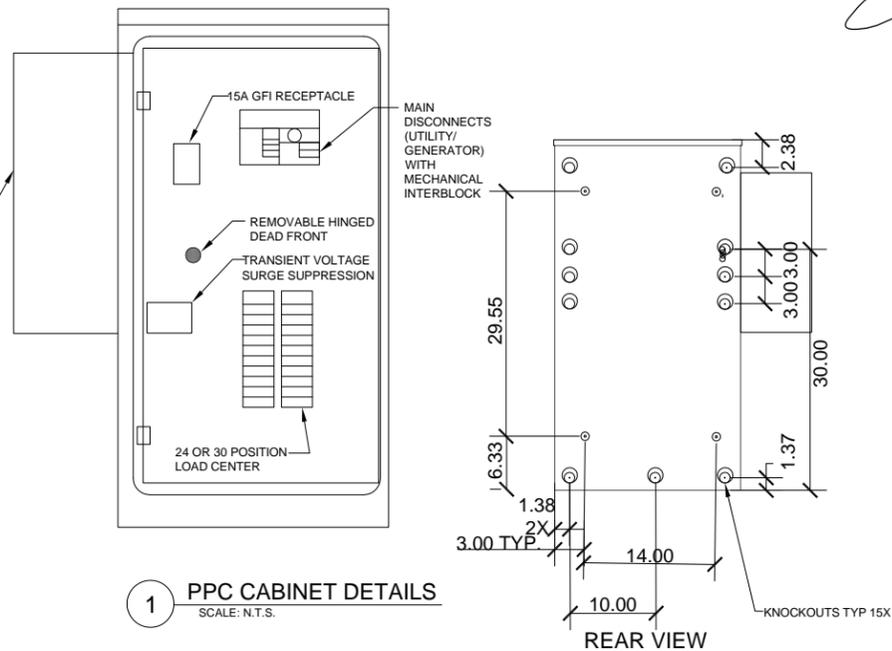
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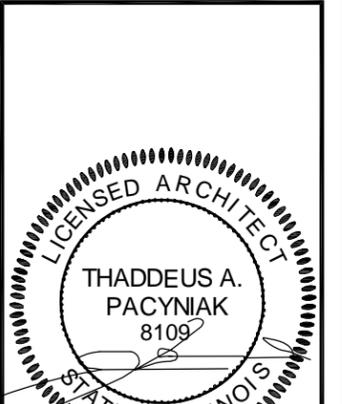
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UTILITY DETAILS

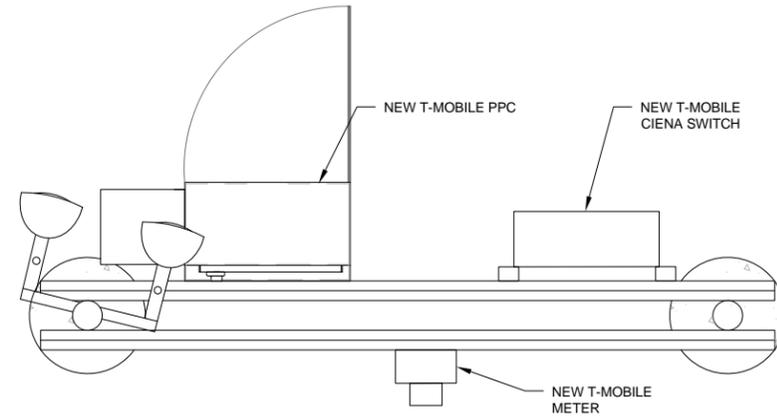
E-2

Exhibit 2

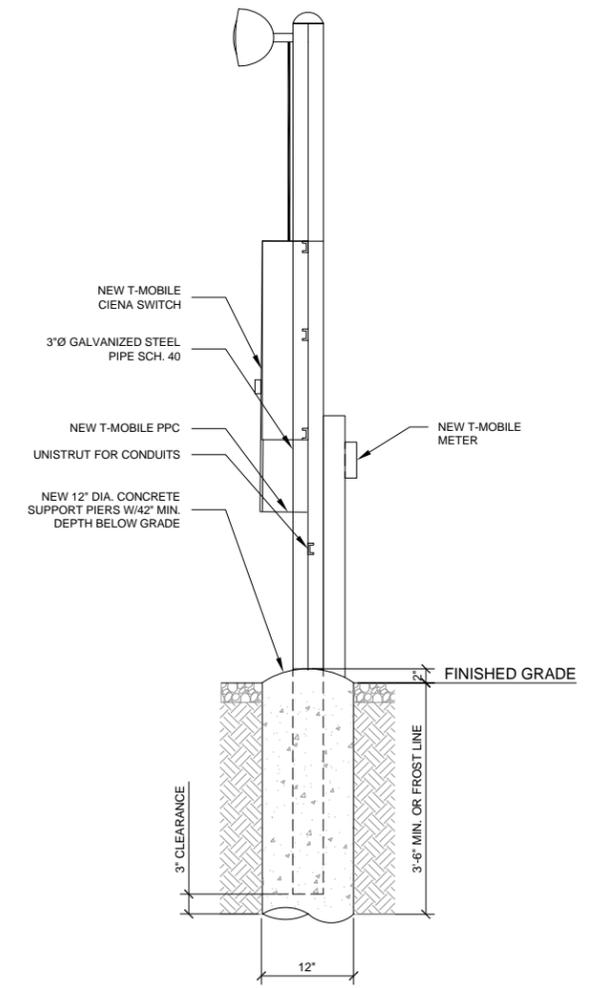
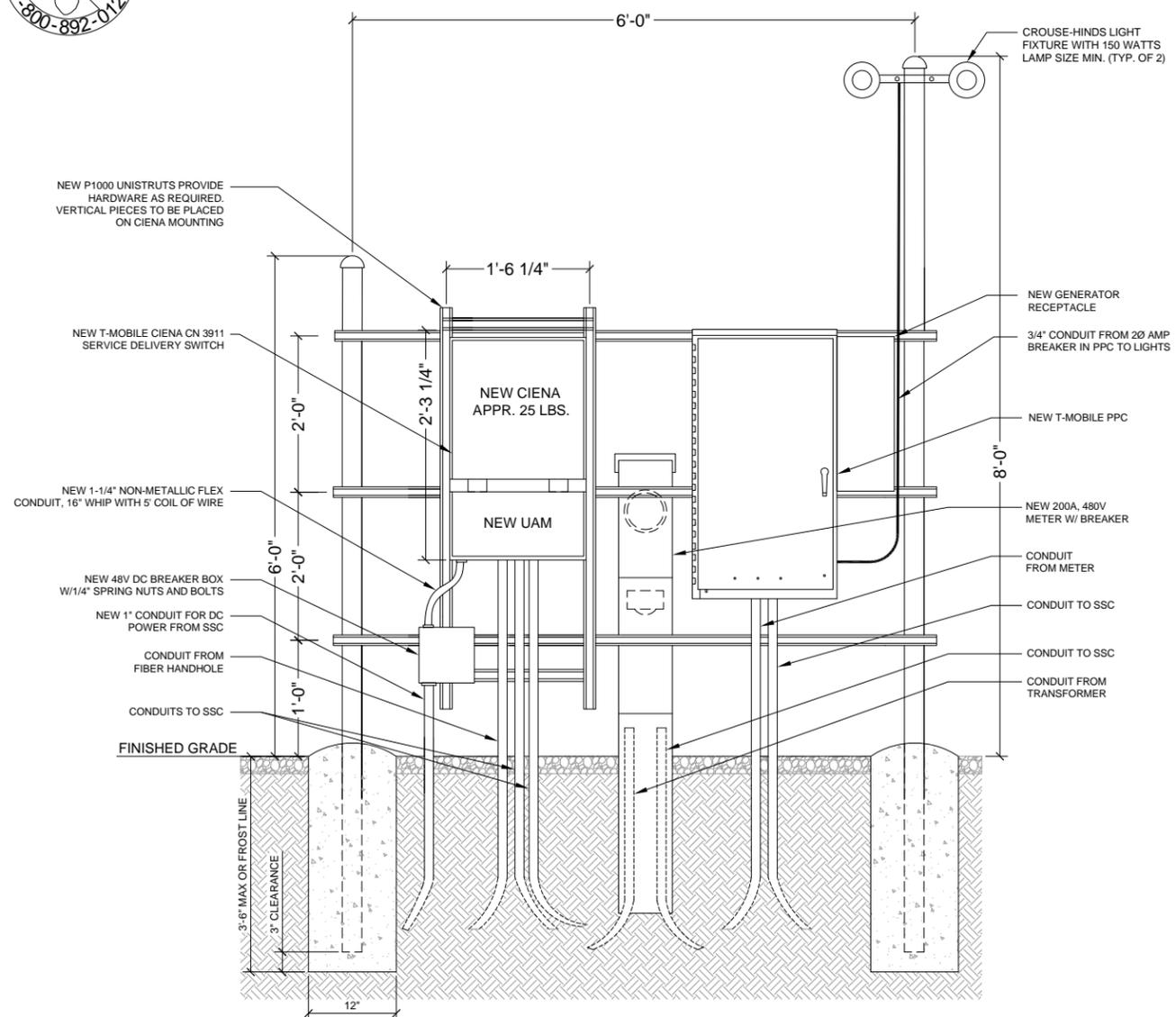


NOTE:
 1.) CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, SIZE & SEPARATION OF CONDUITS PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
 2.) CONTRACTOR TO CALL UTILITY LOCATES 48 HRS PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. LOCATION SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NON-PUBLIC UTILITIES.

NOTE:
 ALL ABOVE GRADE CONDUIT SHALL BE RIGID STEEL. CONSULT WITH LOCAL ELECTRICAL CODE.



1 UTILITY RACK PLAN VIEW DETAIL
 SCALE: N.T.S.

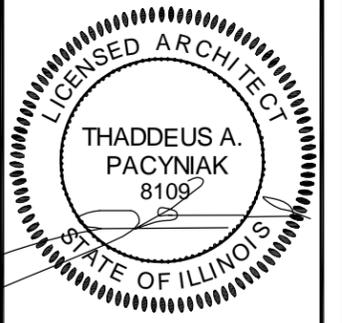


3 UTILITY RACK ELEVATION DETAIL
 SCALE: N.T.S.

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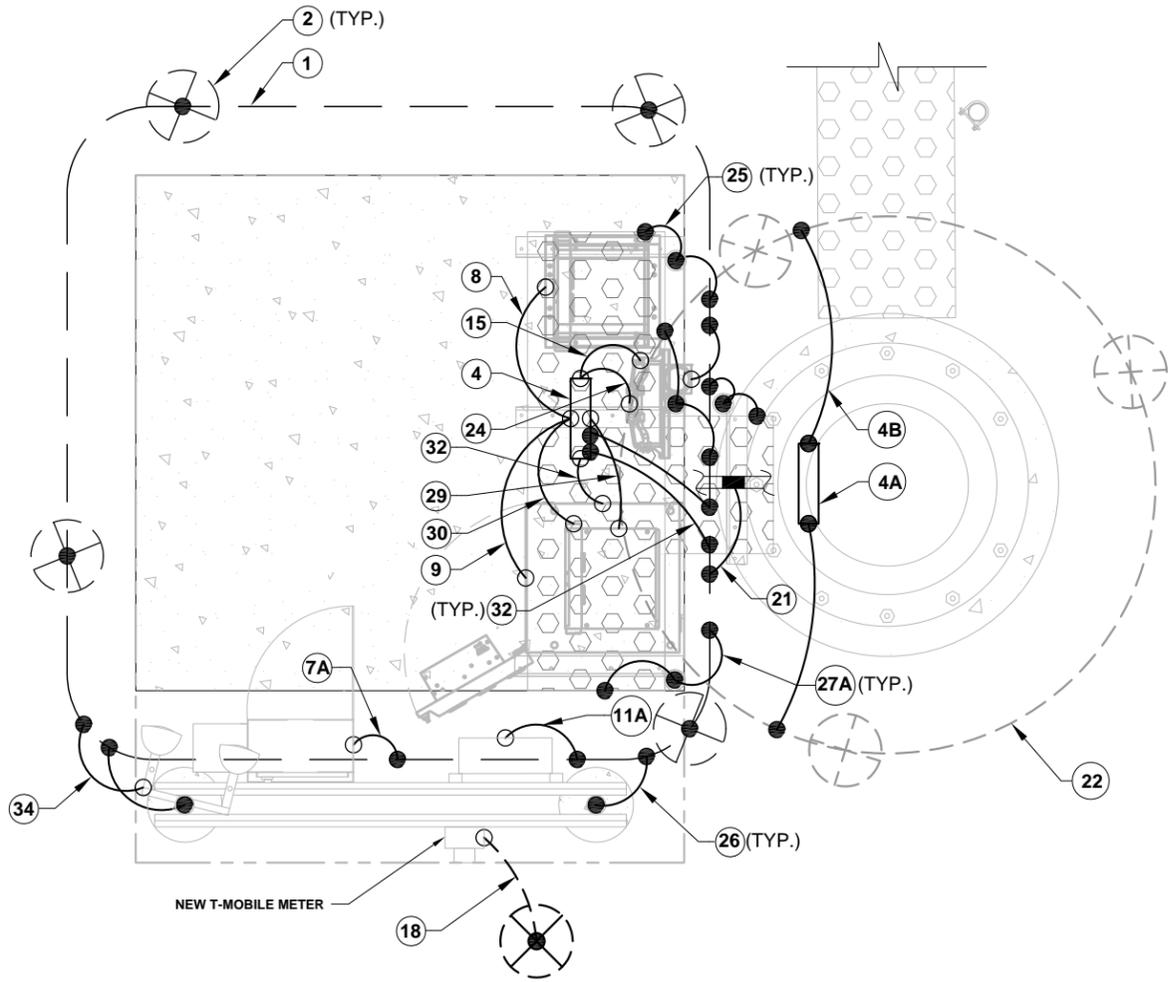
UTILITY DETAILS

E-3

Exhibit 2

NOTE:
 GROUND BUSS BAR:
 GC TO INSTALL COPPER GROUND BUSS BAR AT THE END OF THE ICE BRIDGE AT A LOCATION ADJACENT TO THE SSC CABINET. BUSS BAR SHALL BE CONNECTED TO GROUND RING WITH TW #2 AWG SOLID TINNED COPPER LEADS. ALL EXPOSED GROUND LEADS SHALL BE ENCASED IN 1/2" FLEXIBLE SEAL TIGHT CONDUIT AND SEALED W/ SILICONE AT EACH END.

ANTENNA PLATFORM NOT SHOWN FOR CLARITY. FOR COVP, RF MODULES AND ANTENNA GROUNDING; SEE SHEET EG-1A



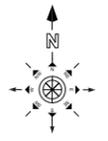
KEY NOTES:

- 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 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 WIRE FROM NEW MICROWAVE DISH TO NEW SECTOR GROUND BAR
- 7 #2 GREEN STRANDED GROUND CU WIRE FROM PPC CABINET TO NEW MASTER GROUND BAR
- 7A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM PPC CABINET TO GROUND RING
- 8 #6 AWG GREEN STRANDED GROUND CU WIRE FROM FUTURE STEEL CUBE W/MODULES TO NEW MASTER GROUND BAR
- 8A #2 AWG SOLID, TINNED BARE CU WIRE FROM FUTURE STEEL CUBE W/MODULES TO GROUND RING
- 9 #6 AWG GREEN STRANDED 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 SUB-METER TO NEW MASTER GROUND BAR
- 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
- 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 #6 AWG GREEN STRANDED GROUND CU 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 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
- 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
- 29 #2 AWG GREEN STRANDED CU GROUND WIRE FROM NEW SYSTEM MODULE PLINTH TO NEW MASTER GROUND BAR
- 30 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SYSTEM MODULE TO NEW MASTER GROUND BAR
- 31 #2 AWG GREEN STRANDED GROUND CU WIRE FROM UPPER TOWER GROUND BAR TO LOWER TOWER GROUND BAR
- 32 #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SSC PLINTH TO MASTER GROUND BAR
- 33 #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM MASTER GROUND BAR TO GROUND RING
- 34 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM NEW LIGHT TO GROUND RING
- 35 #2 AWG SOLID, TINNED BARE COPPER GROUND WIRE FROM STEEL PLATFORM TO GROUND RING
- 35A #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW STEEL PLATFORM TO MASTER GROUND BAR
- 36 #2 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SUB-METER TO EXISTING SITE WATER MAIN

SYMBOLS LEGEND:

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	

1 **SITE GROUNDING PLAN**
 SCALE: 3/4" = 1'-0" (3/4" = 2'-0" IF 11 X 17 SHEET SIZE)



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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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 UNIT 101
 CAROL STREAM, IL 60188
 MAIN: (847) 981-0801

DRAWN BY: BG	CHECKED BY: GMS
CHECKED BY: RH	APPROVED BY: GMS

LICENSED ARCHITECT

THADDEUS A. PACYNIAK
 8109

STATE OF ILLINOIS

CH44316C
 ATC (304016)
 7460 JENSEN BLVD.
 HANOVER PARK, IL 60133

SITE GROUNDING PLAN

EG-1

Exhibit 2

GROUNDING NOTES

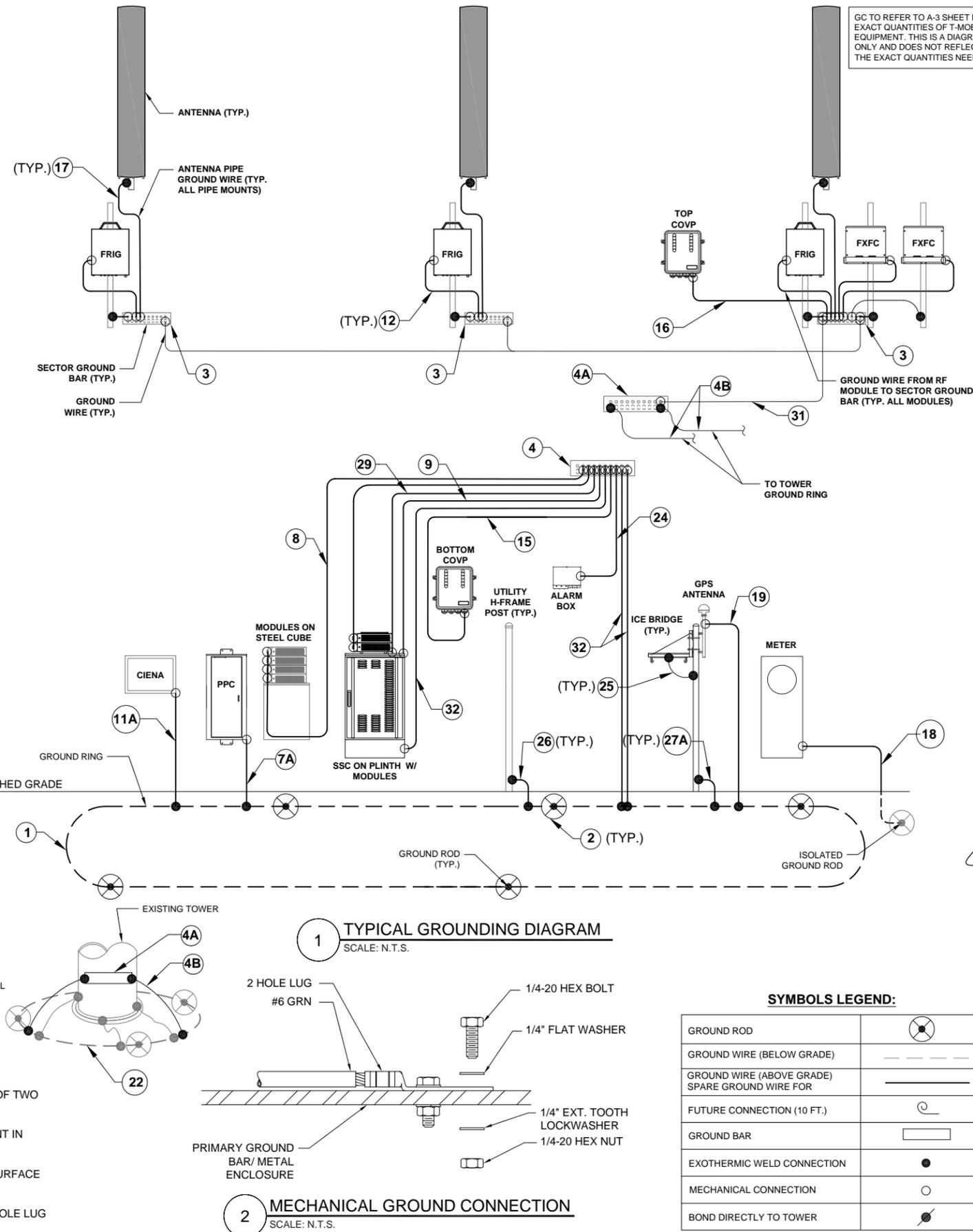
- 1.) UNDERGROUND AND OVERHEAD UTILITY LENGTHS TO BE DETERMINED FROM SITE PLAN.
- 2.) SEE ELECTRICAL SPECIFICATIONS SECTION 16000 FOR ALL ELECTRICAL AND GROUNDING INSTALLATION REQUIREMENTS.
- 3.) FOR ORIENTATION OF SITE LAYOUT SEE SITE PLAN, DRAWING.
- 4.) UDA CABINET FURNISHED BY OWNER AND INSTALLED 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" Ø 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:

- | | |
|--|--|
| <ul style="list-style-type: none"> 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 CABINET TO NEW MASTER GROUND BAR 7A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM PPC CABINET TO GROUND RING 8 #6 AWG GREEN STRANDED GROUND CU WIRE FROM FUTURE STEEL CUBE W/MODULES TO NEW MASTER GROUND BAR 8A #2 AWG SOLID, TINNED BARE CU GROUND WIRE FROM FUTURE STEEL CUBE W/MODULES TO GROUND RING 9 #6 AWG GREEN STRANDED GROUND CU 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 SUB-METER TO NEW MASTER GROUND BAR 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 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 #6 AWG GREEN STRANDED GROUND CU 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 | <ul style="list-style-type: none"> 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 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 29 #2 AWG GREEN STRANDED CU GROUND WIRE FROM NEW 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 31 #6 AWG GREEN STRANDED GROUND CU WIRE FROM NEW SSC PLINTH TO MASTER GROUND BAR 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 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 SUB-METER 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.
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.



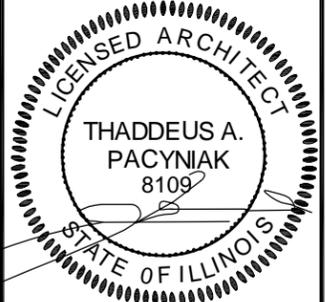
GC TO REFER TO A-3 SHEET FOR EXACT QUANTITIES OF T-MOBILE EQUIPMENT. THIS IS A DIAGRAM ONLY AND DOES NOT REFLECT THE EXACT QUANTITIES NEEDED.

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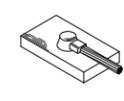
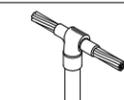
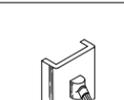
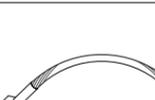


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**GROUNDING RISER
DIAGRAM**

EG-1A

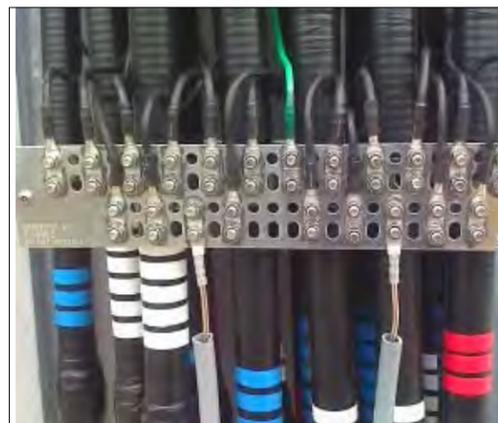
Exhibit 2

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

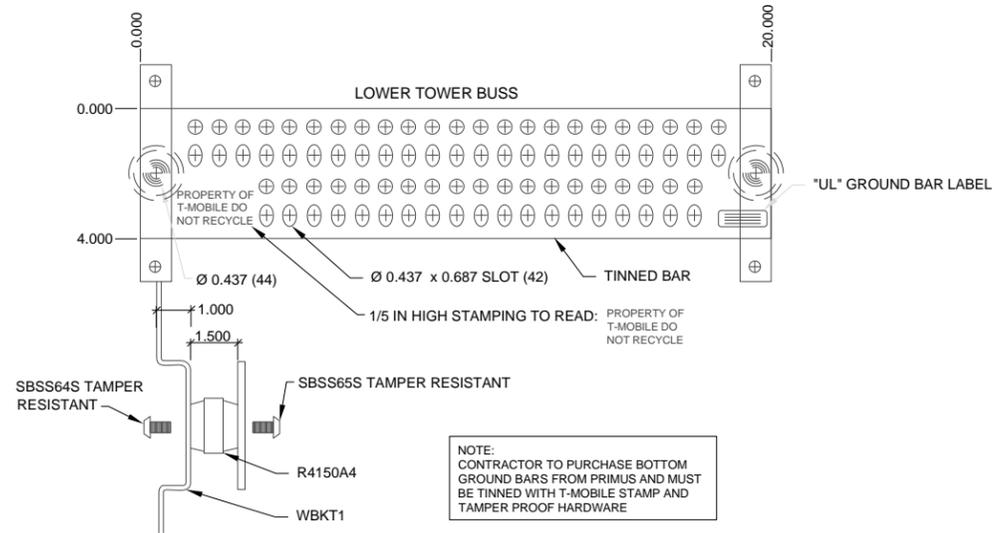
1 CADWELD DETAILS
SCALE: NTS



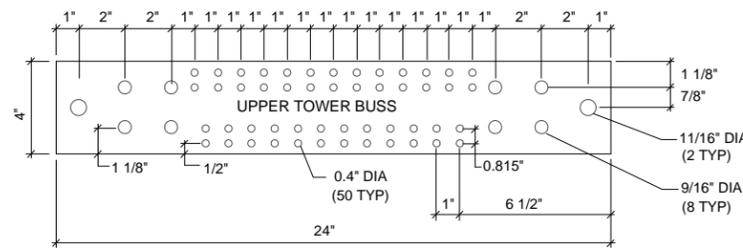
3A LOWER TOWER GROUND BAR
SCALE: NTS



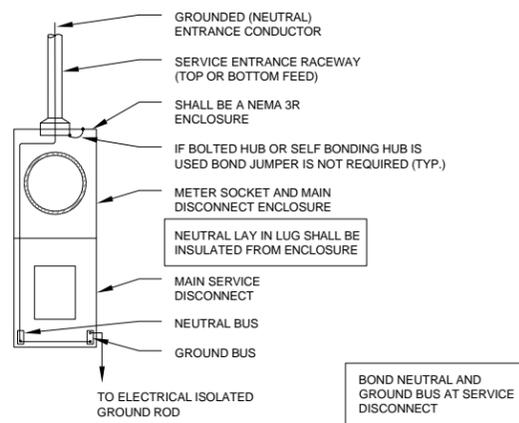
3B PRIMARY BUSS BAR
SCALE: NTS



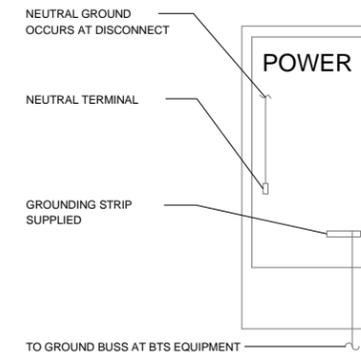
2 GROUND BAR ASSEMBLY
SCALE: NTS



3 GROUND BAR DETAIL
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.

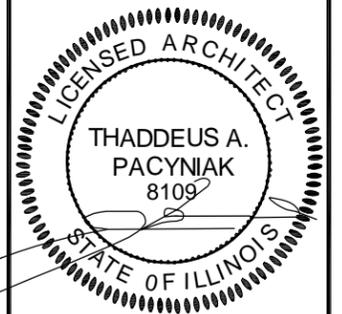
5 POWER DISTRIBUTION PANEL GROUNDING
SCALE: NTS

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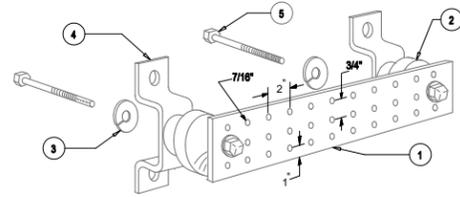


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GROUNDING DETAILS

EG-2

Exhibit 2

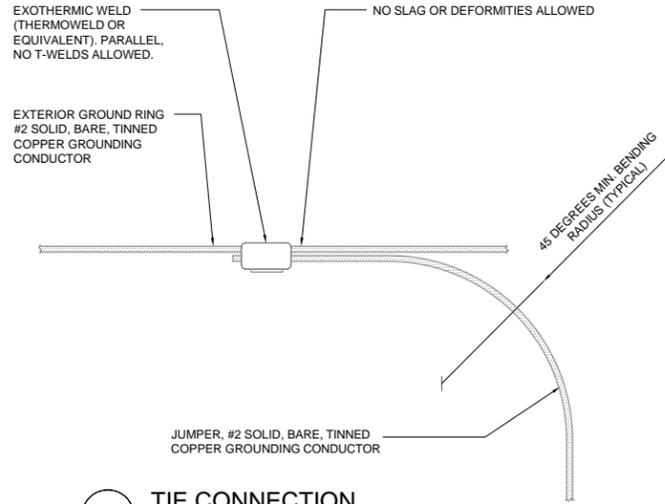


LEGEND

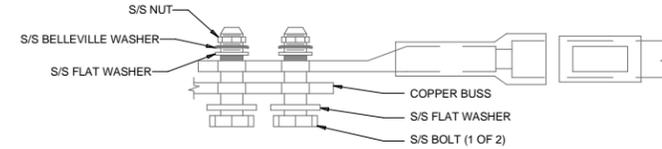
- 1- GROUND BUSS BAR, 1/4" X 4" X 24", CONFIRM w/T-MOBILE PROJECT MANAGER THE APPROVED BUSS MFR. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2- INSULATORS, CONFIRM THE APPROVED BUSS MFR. w/T-MOBILE
- 3- 5/8" LOCKWASHERS, CONFIRM w/T-MOBILE THE APPROVED BUSS MFR. (NEWTON INSTRUMENT CO. CAT. 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-#GB0414T (CONFIRM w/T-MOBILE THE APPROVED BUSS MFR.)

1 GROUNDING - STANDARD GROUND BAR DETAIL
SCALE: NTS



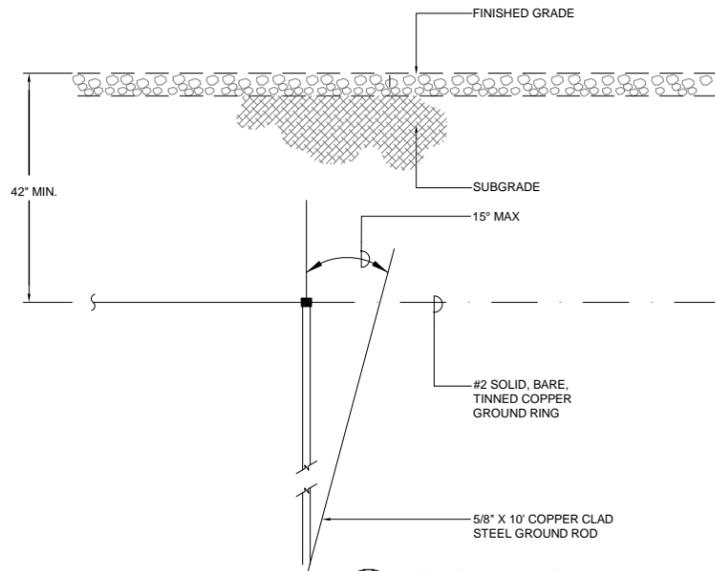
2 TIE CONNECTION
SCALE: NTS



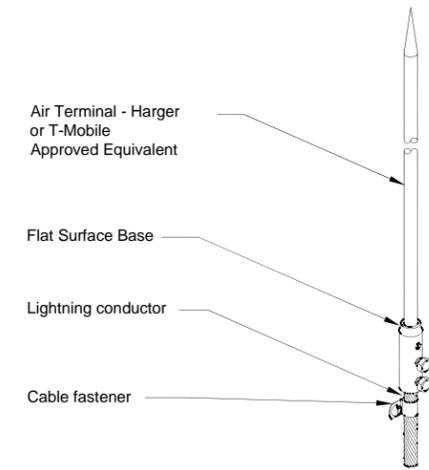
NOTES:

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

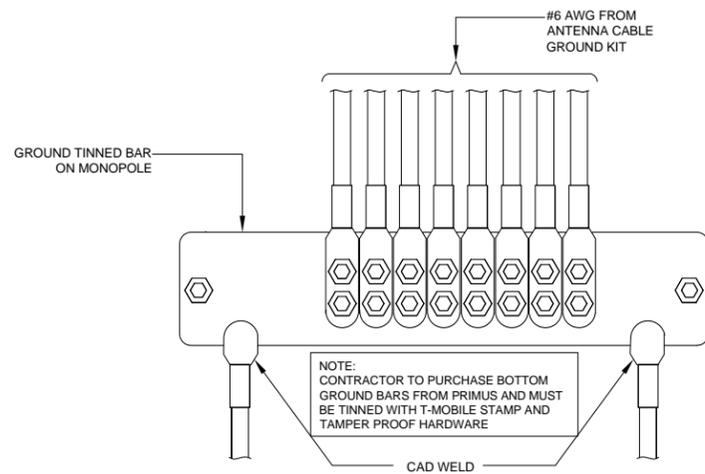
3 STANDARD LUG CONNECTION OF GROUND LEADS TO GROUND BAR DETAIL
SCALE: NTS



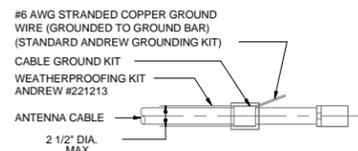
4 GROUND ROD DETAIL
SCALE: NTS



5 LIGHTNING ROD DETAIL
SCALE: NTS

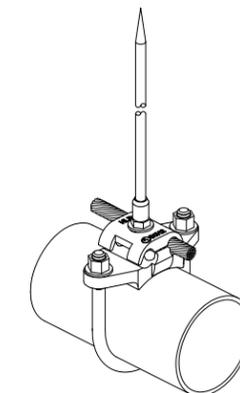


6 GROUND BAR DETAIL
SCALE: NTS



NOTE: DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

7 STANDARD CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE
SCALE: NTS



8 LIGHTNING ROD CONNECTION
SCALE: NTS

T-Mobile

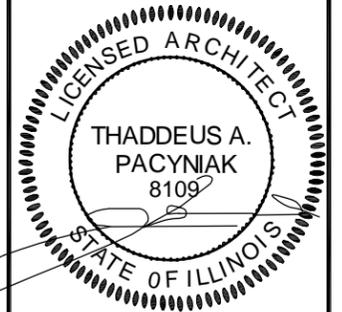
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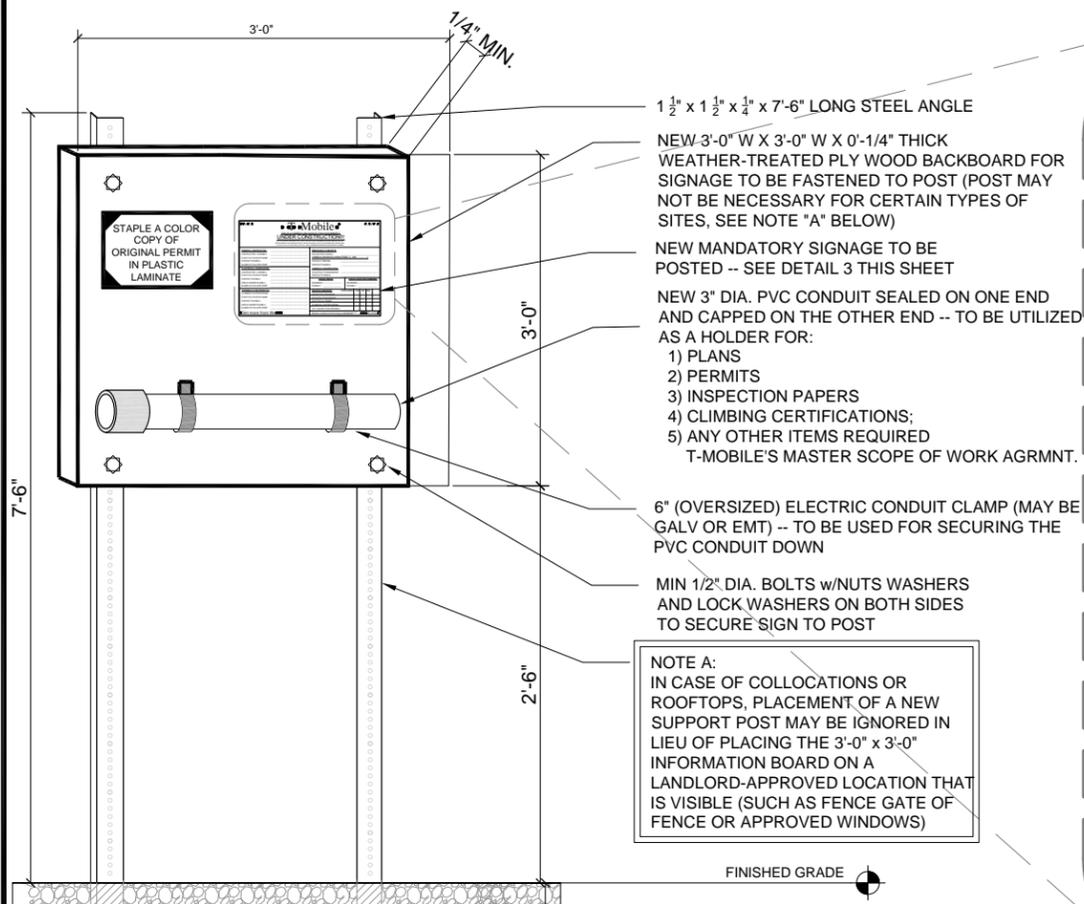


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GROUNDING DETAILS

EG-3

Exhibit 2

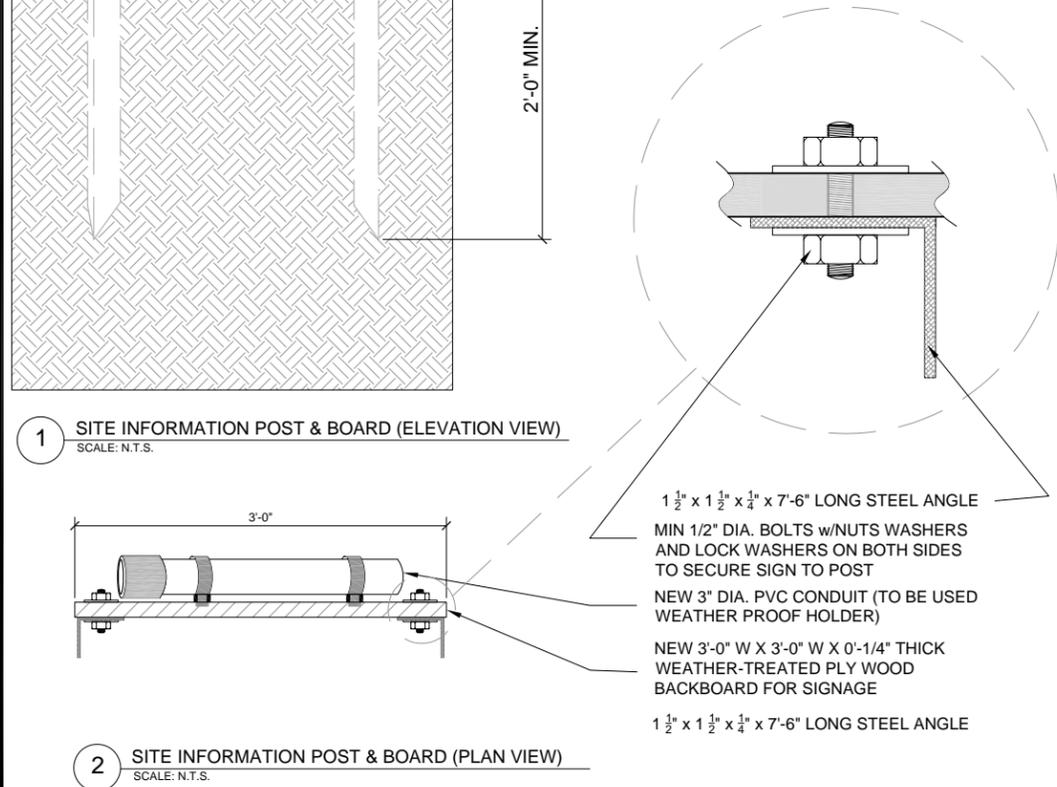


T-Mobile

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

THE FOLLOWING INFORMATION IS SHALL 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 _____		PHONE # _____	
CONTACT PHONE # _____		LOCAL ELECTRIC COMPANY	
CREW LEADER PHONE # _____		ENGINEER: _____	
NAMES OF ON-SITE STAFF _____		PHONE # _____	
Get more from life		ON-SITE CHECKLIST	
		AVAILABLE: YES NO N/A DATE	
		PERMITTED DRAWINGS	
		CONSTRUCTION PERMIT	
		ELECTRICAL PERMIT	
		CLIMBING CERTIFICATIONS	
		CITY INSPECTION STICKERS	
		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	



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.



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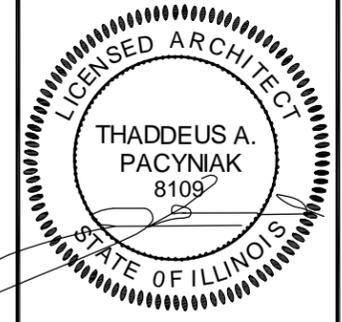
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HANOVER PARK, IL 60133

MANDATORY SIGNAGE & POSTING

MISC-1

DEVELOPMENT COMMISSION
DRAFT FINDINGS OF FACT
7460 JENEN BOULEVARD
SPECIAL USE

I. Subject

Consideration of a request by Tony Phillips – SAC Wireless for T-Mobile Wireless (applicant) on behalf of SBC Tower Holdings LLC (property owner) for a Special Use from the Village of Hanover Park Zoning Ordinance to allow installation of an additional wireless communications facility (non-village-owned facility) in the form of additional antennas and associated equipment on and around the existing tower structure, at 7460 Jensen Boulevard, specifically:

- Special Use from Section 110-5.12.3.j to permit a non-village-owned utility or facility

II. Findings

On October 9, 2014 after due notice as required by law, the Hanover Park Development Commission held a public hearing on the subject request concerning the special use amendment. ___ objectors appeared and ___ written objections were filed.

The Development Commission has made the following findings regarding the Special Use request:

A. Public Health, Safety, and Welfare

The proposed use will not negatively impact the public health, safety or welfare of the community.

B. Surrounding Property Use and Value

The proposed development will not negatively impact the use or value of other property in the immediate vicinity. A majority of the surrounding properties are developed and have compatible residential or commercial uses.

C. Conformance with Comprehensive Plan

The proposed development is in conformance with the goals and objectives set forth in the Comprehensive Plan. The Comprehensive Plan designates this parcel for commercial uses and calls for Village support of telecommunications facilities.

D. Development and Improvement of Surrounding Property

The proposed development will not impede the normal and orderly development and improvement of surrounding property. No alterations to access to the property are proposed. All adjacent parcels have been developed.

E. Utilities, Access Roads, and Drainage

All utilities are to be installed in accordance with subdivision and engineering regulations. Existing access roads will be utilized. Access roads have been designed to provide safe and efficient on-site traffic flow.

F. Ingress and Egress to Public Streets

Ingress and egress to the site is provided from a curb cut along Jensen Boulevard, allowing full access.

G. Conformance with Zoning Restrictions

The property is zoned L-I Limited Industrial. The petitioner is requesting approval of a special use to allow for a non-village-owned facility (wireless telecommunications facility), as permitted by Section 110-5.12.3.j. The proposed use complies with all other applicable zoning regulations.

H. Minimization of Adverse Effects

The site plan has been designed to minimize potential adverse impacts to surrounding properties. Surrounding residential and commercial uses are compatible with the proposed non-village-owned facility special use and will not experience any adverse impact.

III. Recommendations

Accordingly, by a vote of __ to __, the Development Commission recommends approval of the request, subject to the following conditions:

1. Uses are to be as generally depicted on the plans and elevations prepared on September 8, 2014, by Concordia Wireless, Inc.
2. Existing landscaping onsite shall be continuously maintained and dead or dying plants shall be immediately replaced so as to provide continuous screening from adjacent residential units.
3. Security lighting for on-ground facilities and equipment shall be down-shielded, to not exceed 0.5 foot candles at the property line.
4. Maintenance of the property and equipment, including the testing of generators, shall be limited to the working hours of 7:00 a.m. and 9:00 p.m., except in the event of an emergency.
5. No signs are approved as part of this request.
6. No outdoor display, sales, or storage of materials is permitted on this site.