

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
 :
 :
 A PETITION OF SBA COMMUNICATIONS : PETITION NO. _____
 CORPORATION FOR A DECLARATORY :
 RULING ON THE NEED TO OBTAIN A :
 SITING COUNCIL CERTIFICATE FOR THE :
 REPLACEMENT AND RELOCATION OF A :
 TELECOMMUNICATIONS TOWER AT 130 :
 WELLES ROAD, GROTON, CONNECTICUT : AUGUST 16, 2021

**PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT**

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), SBA Communications Corporation (“SBA”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) to replace the existing 120-foot tower at 130 Welles Road, Groton, CT with a new 180-foot monopole tower. The new 180-foot tower will remain within the limits of the existing facility compound and Leased Area. The facility modifications are needed so that AT&T can satisfy its wireless service objectives in Groton. For the purposes of this Petition, SBA identifies this facility as its South Ledyard site.

II. Factual Background

SBA currently owns and maintains a 120-foot monopole tower located in a northerly portion of an approximately 8.55-acre parcel at 130 Welles Road in Groton (the “Property”). The Property is owned by the Town of Groton, and is the site of the former Town landfill, now a

part of Groton's Shady Oaks Park. The tower was originally approved by the Council on December 19, 2002 in Docket No. 230.

According to the Council's Telecommunications Database, the existing tower is shared by AT&T with three (3) 700/850/1900 MHz antennas at the 98-foot level; T-Mobile with six (6) 4G antennas at the 108-foot level; and Sprint with three (3) 2500 MHz antennas at the 117.5-foot level. Equipment associated with the AT&T, T-Mobile and Sprint antennas is located on the ground near the base of the tower and within the fenced tower compound. (See Project Plans included in Attachment 1).

A. AT&T's Need

AT&T is licensed to provide wireless telecommunications service in Groton and throughout the State of Connecticut. AT&T currently maintains three (3) 700/850/1900 MHz antennas at a centerline height of 98 feet above grade on the existing SBA tower. AT&T antennas were installed on the SBA tower in 2019 following the removal of a water tower at 35 Nantucket Drive in Mystic, Connecticut which supported AT&T's site known as CT2180. AT&T's current centerline height of 98 feet on the existing SBA tower, however, leaves significant gaps in coverage along State Route 184, at the intersection of Route 184 and Cow Hill Road, and along Shewville Road. At the proposed centerline height of 176 feet on the new 180-foot tower, AT&T will provide improved wireless service along significant portions of Route 184 as well as local roads in the area and will increase network capacity in the area by providing service to a portion of the surrounding area previously covered by CT2180. A coverage plot showing AT&T's wireless coverage in northeast Groton, and the area surrounding the Property following the establishment of the proposed 180-foot Groton facility at the Property, is included in Attachment 2.

B. Proposed Modifications to the Existing Facility

To accommodate the needs of AT&T described above, SBA proposes to replace the existing tower 120-foot monopole tower with a new 180-foot monopole. The new tower would be constructed within the existing facility compound. AT&T's radio frequency (RF) engineers have determined that in order to satisfy its wireless service objectives in the area, AT&T would need to install its antennas at 176 feet above grade on the new tower. AT&T will install nine (9) antennas on a low-profile antenna platform at the 176-foot level. The top of AT&T's antennas will extend to an overall height of 180 feet. Sprint and T-Mobile antennas will be relocated onto the new 180-foot tower at the same heights (117.5 and 108-foot levels respectively). SBA was also recently approached by Dish Network about its shared use of the new tower. Dish will also be installing three (3) antennas at a centerline height of 160 feet on the new tower. As mentioned above, all improvements will remain within the limits of the existing facility compound.

III. Discussion

A. The Proposed Facility Modifications Will Not Have A Substantial Adverse Environmental Effect

The Public Utility Environmental Standards Act (the "Act"), C.G.S. § 16-50g et seq., provides for the orderly and environmentally compatible development of telecommunications towers in the state to avoid "a significant impact on the environment and ecology of the State of Connecticut." C.G.S. § 16-50g. To achieve these goals, the Act established the Council, and requires a Certificate of Environmental Compatibility and Public Need for the construction of telecommunication towers "that may, as determined by the council, have a substantial adverse environmental effect". C.G.S. § 16-50k(a).

1. Physical Environmental Effects

SBA respectfully submits that the proposed construction of a 180-foot tower within the existing facility compound will not involve a significant alteration in the physical and environmental characteristics of the existing facility compound, the Property, or the surrounding area. The existing facility compound and leased area was previously cleared of all site vegetation by the original site developer. No additional trees will need to be removed to replace the existing tower. Vehicular access to the tower site will remain unchanged, extending from Welles Road along the existing site access driveway. Power to all new equipment on site would extend from the existing utility service at the cell site compound.

2. Visual Effects

When a height extension to an existing tower is contemplated, visual impacts associated with the tower must be re-evaluated as a part of a determination of environmental effect. As discussed in numerous previous Council filings, the visual impact of a tower is often the most significant and, in many cases, the only discernible environmental effect associated with such facilities. To assess these conditions, SBA engaged Tower Engineering Professionals (“TEP”) to review the overall visual impact of the existing 120-foot tower and the proposed 180-foot tower, with AT&T’s antennas at the 176-foot level, as described in this Petition. A copy of TEP’s Visibility Analysis is included in Attachment 3 (the “TEP Analysis”).

The TEP Analysis concludes that although the existing 120-foot tower may be visible from select locations around the property, the installation of the proposed 180-foot replacement tower within the existing compound will not result in a substantial visual intrusion. The character of some of the near views would change slightly, as the 180-foot replacement tower would rise above the tree line from these locations. The overall effect of this change is, however, minimal due to the still relatively low height of the proposed tower, combined with the dense

tree cover, sparse development and the tower's separating distances from potential visual receptors. *See* Attachment 3.

3. FCC Compliance

Radio frequency ("RF") emissions from the proposed installation will not exceed the standards adopted by the Federal Communications Commission ("FCC"). Included in Attachment 4 is a Calculated Radio Frequency Emissions calculation confirming that the existing T-Mobile, and Sprint antennas, together with the proposed AT&T, and Dish antennas, will operate well within the RF emissions standards established by the FCC. (*See* Attachment 4).

4. FAA Summary Report

Included in Attachment 5 to this Petition is the FAA's Determination of No Hazard to Air Navigation dated June 29, 2020 verifying that a 180-foot tower at the Property would not constitute an obstruction or hazard to air navigation and the structure does not require notification to the FAA.

In sum, the effect of the replacement tower on the environment would be minimal and limited, rather than significant. This stands in contrast to typical proposals for new towers that frequently must be located on properties with no other approved towers, or with no development at all. Thus, the proposed replacement tower would not present a substantial adverse environmental effect and is not a modification for which the General Assembly intended to require a Certificate under C.G.S. § 16-50k(a).

B. Notice to First Selectman, Property Owner and Abutting Landowners

On August 16, 2021, a copy of this Petition was sent to Groton's Mayor Patrice Granatosky and the Director of Planning, Jonathan J. Reiner. The Property is owned by the Town of Groton. Included in Attachment 6 is a copy of the letter sent to Mayor Granatosky and Mr. Reiner. A copy of the Petition was also sent to the owners whose land may be considered to abut

the Property. A sample abutter's notice letter and the list of those abutting landowners who were sent notice of the filing of the Petition is included in Attachment 7.

IV. Conclusion

Based on the information provided above, SBA respectfully requests that the Council issue a determination in the form of a declaratory ruling that the replacement of the existing 120-foot tower at 130 Welles Road with a 180-foot monopole tower within the same facility compound, will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

Respectfully submitted,

SBA COMMUNICATIONS
CORPORATION

By



Kenneth C. Baldwin, Esq.
Christopher Y. Eddy, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

ATTACHMENT 1

PROJECT SUMMARY

SITE NAME: SOUTH LEDYARD
SITE I.D.: CT46142A
SITE ADDRESS: 130 WELLES ROAD
 GROTON, CT 06340
JURISDICTION: TOWN OF GROTON
LAND USE: MUNICIPALITY
PROPERTY OWNER: TOWN OF GROTON
APPLICANT: SBA COMMUNICATIONS CORPORATION
 8051 CONGRESS AVENUE
 BOCA RATON, FL 33487-1307
 OFFICE: (561) 226-9457
PIN: 271014348692 L:E
ZONING CLASS: RU-80
1A CERTIFICATION:
LATITUDE: N 41° 23' 34.193" (NAD '83)
LONGITUDE: W 71° 58' 12.031" (NAD '83)
GROUND ELEVATION: 52.8± (NAVD '88)
OCCUPANCY TYPE: TELECOMMUNICATIONS FACILITY
CONSTRUCTION TYPE: PROPOSED MONOPOLE TOWER
DRIVING DIRECTIONS: FROM HARTFORD, CT: TAKE PREFERRED ROUTE TO I-84 E. TAKE EXIT 2 FOR CT-2 E TOWARDS NORWICH. TAKE EXIT 28S FOR I-395 S/CT-2A TOWARDS NEW HAVEN. TAKE EXIT 9 FOR CT-2. TURN RIGHT ONTO CT-12 S. TURN LEFT ONTO CT-214 E. TURN RIGHT ONTO CT-184 E. TURN LEFT ONTO WELLES RD. TURN LEFT. SITE WILL BE ON THE RIGHT.

HANDICAPPED REQUIREMENTS
 FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS NOT REQUIRED.
PLUMBING REQUIREMENTS
 FACILITY HAS NO PLUMBING.

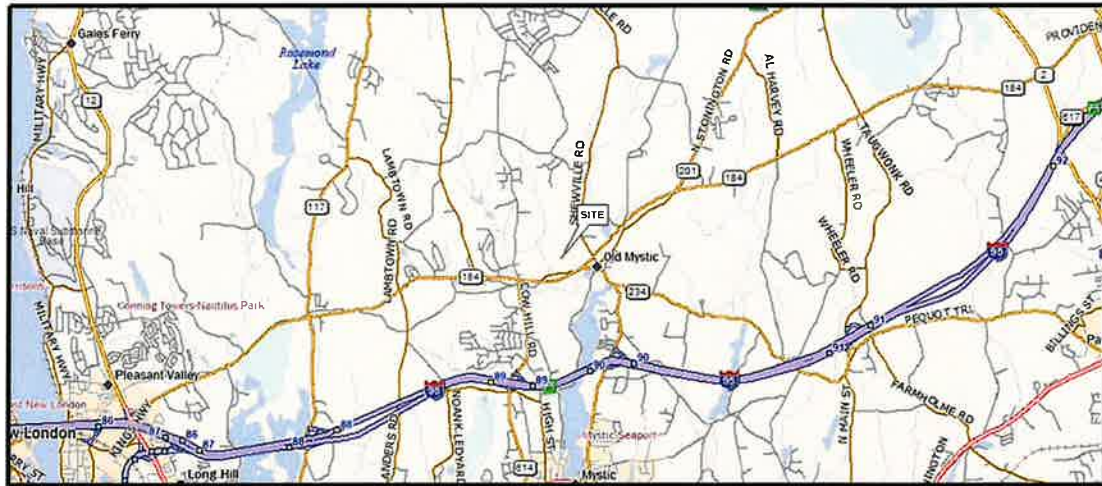
CONSULTING TEAM

ARCHITECTURAL - ENGINEERING FIRM:
 TOWER ENGINEERING PROFESSIONALS, INC.
 326 TRYON ROAD, RALEIGH, NC 27603
 CONTACT: GRAHAM M. ANDRES, P.E.
 PHONE: (919) 661-6351 FAX: (919) 661-6350
SURVEYING FIRM:
 MILLMAN SURVEYING, INC., CORPORATE HEADQUARTERS
 4111 BRADLEY CIRCLE NW, CANTON, OH 44718
 CONTACT: GENERAL OFFICE
 PHONE: (800) 520-1010
APPLICANT/LESSEE CONTACTS:
 SBA COMMUNICATIONS CORPORATION
 GREG HINES - (561) 226-9532
POWER COMPANY: TELCO COMPANY:
 EVERSOURCE AT&T
 CUSTOMER SERVICE CUSTOMER SERVICE
 1 (888) 544-4826 PHONE: 1 (800) 288-2020
CIVIL/ELECTRICAL ENGINEER:
 TOWER ENGINEERING PROFESSIONALS, INC.
 326 TRYON ROAD, RALEIGH, NC 27603
 CONTACT: GRAHAM M. ANDRES, P.E.
 PHONE: (919) 661-6351 FAX: (919) 661-6350



SITE NAME
SOUTH LEDYARD
SBA SITE I.D.
CT46142A
ADDRESS
130 WELLES ROAD
GROTON, CT 06340
PROJECT TYPE
PROPOSED 180' MONOPOLE TOWER

LOCATION & VICINITY MAPS



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APPROVALS

LANDLORD	DATE
PROPERTY	DATE
CONSTRUCTION	DATE
RSM	DATE
TENANT	DATE
ZONING	DATE



THE UTILITIES SHOWN HEREON ARE FOR THE CONTRACTORS CONVENIENCE ONLY THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

APPLICANT/LESSEE:

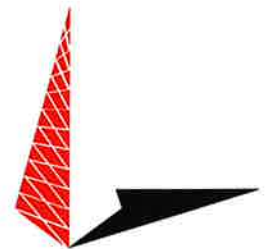


8051 CONGRESS AVENUE
 BOCA RATON, FL 33487-1307
 OFFICE: (561) 226-9457

PROJECT INFORMATION:

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PLANS PREPARED BY:



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 OFFICE: (919) 661-6351
 www.tepgroup.net

SEAL:



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0	11-24-20	PRELIMINARY

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SHEET TITLE:
TITLE SHEET

SHEET NUMBER: **T-1** REVISION: **2**
 TEP #: 255888

ABBREVIATIONS:

AB	ANCHOR BOLT	GR	GRADE	SIM	SIMILAR
AC	ASPHALTIC CONCRETE	GYP	GYP SUM	SPECS	SPECIFICATIONS
A/C	AIR CONDITIONING	GFCI	GROUND FAULT CIRCUIT	SS	STAINLESS STEEL
ADJ	ADJUSTABLE		INTERRUPT	STL	STEEL
A.F.F.	ABOVE FINISH FLOOR	GND	GROUND	STOR	STORAGE
ARCH	ARCHITECTURAL	HC	HOLLOW CORE	STRUCT	STRUCTURAL
APPROX	APPROXIMATELY	HDW	HARDWARE	SUSP	SUSPENDED
A.G.L.	ABOVE GRADE LEVEL	HTR	HEATER	SW	SWITCH
A.M.S.L.	ABOVE MEAN SEA LEVEL	HM	HOLLOW METAL	SWBO	SWITCHBOARD
BD	BOARD	HORIZ	HORIZONTAL	THK	THICK
BLDG	BUILDING	HR	HOUR	TI	TENANT IMPROVEMENT
BLKG	BLOCKING	HT	HEIGHT	TMA	TOWER MOUNTED AMPLIFIER
BOT	BOTTOM	HV	HIGH VOLTAGE	TOS	TOP OF SURFACE
BSMT	BASEMENT	ID	INSIDE DIMENSION	TS	TUBE STEEL
BTS	BASE TRANSCEIVER	INS	INSULATION	TYP	TYPICAL
	STATION	INT	INTERIOR	U	UNDERGROUND
C	COURSE(S)	JT	JOINT	UNO	UNLESS NOTED
CEM	CEMENT	LAM	LAMINATED		OTHERWISE
CL	CHAIN LINK	LBS	POUNDS	VCT	VINYL
CLG	CEILING	LT	LIGHT		COMPOSITION
CLR	CLEAR	LA	LIGHTNING ARRESTOR		TILE
COL	COLUMN	LNA	LOW NOISE AMPLIFIER	VERT	VERTICAL
CONC	CONCRETE	MFR	MANUFACTURER	V.I.F.	VERIFY IN FIELD
CONC	CONCRETE	MAT	MATERIAL	VG	VERTICAL GRAIN
CONST	CONSTRUCTION	MAX	MAXIMUM	W/	WITH
CONT	CONTINUOUS	MECH	MECHANICAL	WD	WOOD
CORR	CORRIDOR	MIN	MINIMUM	WR	WATER RESISTANT
CO	CONDUIT ONLY	MISC	MISCELLANEOUS	WT	WEIGHT
DIA	DIAMETER	ML	METAL LATH	XFMR	TRANSFORMER
DBL	DOUBLE	MO	MASONRY OPENING	⊙	AT
DEPT	DEPARTMENT	MS	MACHINE SCREW	[CHANNEL
DEMO	DEMOLITION	MTD	MOUNTED	⊥	CENTERLINE
DIM	DIMENSION	MTL	METAL	∠	ANGLE
DN	DOWN	(N)	NEW	⊥	PROPERTY LINE
DR	DOOR	NIC	NOT IN CONTRACT		
DTL	DETAIL	NO	NUMBER		
DWG	DRAWING	NTS	NOT TO SCALE		
(E)	EXISTING	O	OVERHEAD		
EA	EACH	OA	OVERALL		
ELEC	ELECTRIC	O.C.	ON CENTER		
ELEV	ELEVATION	OPNG	OPENING		
EQUIP	EQUIPMENT	OPP	OPPOSITE		
EXP	EXPANSION	PARTN	PARTITION		
EXT	EXTERIOR	PL	PLATE		
FA	FIRE ALARM	PLAS	PLASTER		
FB	FLAT BAR	PLYWD	PLYWOOD		
FF	FINISH FLOOR	POC	POINT OF CONNECTION		
FH	FLAT HEAD	PROP	PROPERTY		
FIN	FINISH(ED)	PT	PRESSURE TREATED		
FLR	FLOOR	R	RISER		
FOS	FACE OF STUDS	REQD	REQUIRED		
FS	FINISH SURFACE	RD	ROOF DRAIN		
FT	FOOT, FEET	RM	ROOM		
FTG	FOOTING	RMS	ROOMS		
FW	FINISH WALL	RO	ROUGH OPENING		
F.G.	FINISH GRADE	SC	SOLID CORE		
FUT	FUTURE	SCHED	SCHEDULE		
GA	GAUGE	SECT	SECTION		
GALV	GALVANIZED	SHT	SHEET		
GL	GLASS				

SYMBOLS:

	SECTION NUMBER		MASONRY
	SHEET NUMBER		BRICK
	BUILDING SECTION REFERENCE		CONCRETE
			EARTH
			STEEL
			GRAVEL
			CENTER LINE
			PROPERTY LINE
			LEASE LINE
			EASEMENT LINE
			RIGHT-OF-WAY
			CHAIN LINK FENCE
			WOOD FENCE
			SILT FENCE
			BELOW GRADE ELECTRIC
			BELOW GRADE TELEPHONE
			OVERHEAD ELECTRIC/TELEPHONE
			OVERHEAD TELEPHONE
			OVERHEAD ELECTRIC
			CONTOUR
			TREE PROTECTION FENCE
			TREE LINE
			TREES, SHRUBS, BUSHES
			SANITARY SEWER LINE
			WATER LINE
			NATURAL GAS LINE
	KEY NOTE REFERENCE		
	DOOR NUMBER		
	AREA AND/OR ROOM NUMBER		
	MECHANICAL UNIT		
	UTILITY POLE		
	WORK POINT		
	REVISION OR CONTROL POINT		
	(REFERENCE POINT) (ELEVATION)		ELEVATION REFERENCE

APPLICANT/LESSEE:



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ABBREVIATIONS & SYMBOLS

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GENERAL NOTES:

1. ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED SBA COMMUNICATIONS OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF CONNECTICUT.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH TIA/EIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES AND THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, PROVINCIAL, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE SBA PROJECT MANAGER.
11. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/OWNER. CONTRACTOR/OWNER SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
12. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
13. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
14. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
15. ALL BUILDING/TOWER DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
16. ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED, AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
17. TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
19. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH GLOBALIVE SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO GLOBALIVE PRIOR TO THE START OF THE WORK ON THE PROJECT.

20. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES, AND COMPLIANCE WITH PROVINCIAL AND FEDERAL REGULATIONS REGARDING SAFETY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND THIS, PER THE INTERNATIONAL CODE - REGULATORS RESPECTING OCCUPATIONAL SAFETY & HEALTH THE SUCCESSFUL CONTRACTOR WILL SUBMIT HIT SAFETY MANUAL AT THE PROJECT SITE.
21. THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING.
22. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE PRIOR TO SUBSTANTIAL COMPLETION AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL FURNISH ONE 55 GALLON BARREL, AND TRASH BAGS, AND SHALL REMOVE TRASH, DEBRIS, ETC., ON A DAILY BASIS.
23. COSTS FOR BUILDING PERMITS, LANDFILL TAXES, USE TAXES, SALES TAXES AND OTHER CHARGES RELATIVE TO CONSTRUCTION OF THIS PROJECT SHALL BE INCLUDED IN THE CONTRACT PRICE.
24. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS WITH THOSE AT THE SITE. ANY VARIATION WHICH REQUIRES PHYSICAL CHANGE SHALL BE BROUGHT TO THE ATTENTION OF THE SBA PROJECT ENGINEER FOR FACILITIES/CONSTRUCTION.
25. THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF HOLDBACK.
26. AWARDED CONTRACTOR WILL BE REQUIRED TO SIGN AND RETURN A COPY OF AN AWARD LETTER FOR SBA'S FILE.
27. CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN JURISDICTION AT TIME OF BID AWARD.
28. CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION STARTING AND WILL PROVIDE UPDATE/CHANGES (WITH EXPLANATIONS) TO THAT SCHEDULE WHEN/IF ITEMS ARE DELAYED OR PUSHED OUT.
29. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE SBA PROJECT MANAGERS WITH PHOTOS OF THE MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.
30. CONTRACTOR WILL BE RESPONSIBLE TO ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION BEFORE PROJECT COMPLETION. (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY, ETC...)
31. CONTRACTOR SHOULD BE PREPARED FOR RANDOM SBA SAFETY INSPECTIONS AT ALL TIMES.
32. CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER CONNECTICUT STANDARDS AT ALL TIMES.
33. CONTRACTOR WILL BE REQUIRED TO OBTAIN THE NECESSARY ELECTRICAL PERMITS AND INSPECTIONS AS REQUIRED BY JURISDICTION.
34. CONTRACTOR IS EXPECTED TO CLOSE-OUT THE JOB SITE AS QUICKLY AS POSSIBLE (OBTAINING A CERTIFICATE OF OCCUPANCY AS REQUIRED BY LOCAL MUNICIPALITY AND GETTING SBA'S REGIONAL SITE MANAGER'S SIGN-OFF/CHECKLIST APPROVAL ON THE SITE).
35. CONTRACTOR WILL PROVIDE A COMPLETED TOWER HEIGHT VERIFICATION FORM AND TAPE DROP WITHIN 24 HOURS OF REACHING OVERALL HEIGHT.
36. CONTRACTOR WILL UTILIZE ALL OF THE SBA PROVIDED DOCUMENTATION INCLUDING BUT NOT LIMITED TO: TOWER CONSTRUCTION ACCEPTANCE CHECKLIST, CONSTRUCTION SCHEDULE, CONSTRUCTION CLOSE-OUT LIST & TOWER HEIGHT VERIFICATION.
37. CONTRACTOR IS RESPONSIBLE FOR CONCRETE COMPRESSION TESTING.
38. CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING AND PROVIDING PROOF OF RESULT.
39. WHEN REQUESTED, PROVIDE 3 COPIES OF FABRICATION AND ERECTION DRAWINGS PRIOR TO FABRICATION. ALLOW UP TO 1 WEEK FOR REVIEW BY CONSULTANT.
40. IN ADDITION TO CONTRACTOR'S QUALITY CONTROL PROGRAM, INDEPENDENT TESTING AND INSPECTION MAY BE PERFORMED BY OWNER OR OWNER'S REPRESENTATIVE.
41. SUBMIT RED-LINES COPY OF CONSTRUCTION DRAWINGS UPON COMPLETION OF CONSTRUCTION HIGHLIGHTING CHANGES IN THE STAMPED AND SIGNED AS-BUILT CONDITION FROM SHOWN ON THE DRAWINGS.
42. CONTRACTOR WILL BE RESPONSIBLE FOR ALL GRADING AND FILL COMPACTION TESTING REQUIRED AS SET FORTH IN THE GEO TECHNOLOGICAL REPORT PROVIDED BY OWNER.

CONCRETE:

1. ALL CONCRETE AND CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF INTERNATIONAL BUILDING CODE, 2015 EDITION.
2. THE CONTRACTOR SHALL TAKE SAMPLES OF THE CONCRETE POURED UNDER THE CONDITIONS OUTLINED IN THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
3. ANY FAILURE OF A CONCRETE TEST CYLINDER TO MEET THE SPECIFIED STRENGTH REQUIREMENTS MUST BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY. CORRECTIVE ACTION MUST BE APPROVED BY THE ENGINEER AND ALL RELATED COSTS SHALL BE AT THE CONTRACTOR'S EXPENSE.

APPLICANT/LESSEE:



8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



July 27, 2021

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2	07-27-21	CONSTRUCTION
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0	11-24-20	PRELIMINARY

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

GENERAL NOTES I

SHEET NUMBER:

N-2

REVISION:

2

TEP #: 255888

CONCRETE (CONTINUED):

- THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE A MINIMUM OF 30 MPA, EXCEPT AS NOTED OR DIRECTED IN THE SOIL REPORT. THE CONCRETE, WHEN POURED, SHALL CONTAIN 7% AIR ENTRAINMENT WITH AN ALLOWABLE VARIATION OF +2%.
- CONTRACTOR MUST TAKE SLUMP TEST AT LEAST ONCE FROM EACH TRANSIT MIXER AFTER A MINIMUM OF 5% CONCRETE LOAD HAD BEEN DISCHARGED. SLUMP, UNLESS NOTED OTHERWISE ON THE DRAWINGS, SHALL BE 75 MM.
- MIXED CONCRETE ON SITE (REMOTE AREAS) WITH THE CORRECT PROPORTION OF CEMENT, SAND, GRAVEL, AND AIR-ENTRAINING AGENT ALREADY ADDED, THE DRY PREMIX IS TO BE MIXED IN A CONCRETE BATCHER IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- BEFORE POURING CONCRETE, THE TRANSPORTING EQUIPMENT AND FORMS SHALL BE CLEANED AND ALL DEBRIS AND ICE SHALL BE REMOVED FROM PLACES TO BE OCCUPIED BY THE CONCRETE. ANY WATER THAT HAS ACCUMULATED IN THE FORMS SHALL BE REMOVED.
- ALL CONCRETE SHALL BE VIBRATED AND WORKED AROUND THE REINFORCEMENTS, EMBEDDED FIXTURES AND INTO THE CORNERS OF THE FORMS. ANY EXCESS WATER THAT ACCUMULATES WHILE THE CONCRETE IS BEING POURED SHALL BE REMOVED.
- THE DESIGN ENGINEER SHALL RECEIVE A MINIMUM OF 24 HOURS NOTICE OF EVERY POUR.
- THE CONCRETE IN FOUNDATIONS MUST BE POURED IN CONTINUOUS POURS BETWEEN CONSTRUCTION JOINTS. NO CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON SITE SPECIFIC DRAWINGS WILL BE PERMITTED. THE CONTRACTOR SHALL PROVIDE EFFICIENT EQUIPMENT TO COMPLETE THE POURING OF EACH SECTION IN ONE CONTINUOUS POUR.
- ALL FRAMEWORK SHALL BE BUILT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SHALL BE THOROUGHLY BRACED AND PLUMBED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE SHAPES, LINES, GRADES, AND DIMENSIONS INDICATED ON THE SITE DRAWINGS.
- FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE IS ADEQUATELY SET. THEIR REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THE COMPLETE SAFETY OF THE STRUCTURE.
- FORMS WHICH SUPPORT THE WEIGHT OF THE CONCRETE, OR OF SUPERIMPOSED LOADS, SHALL NOT BE REMOVED UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT, AND SUCH SUPERIMPOSED LOADS AS MAY BE PLACED UPON IT.
- THE CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR AT LEAST 5 DAYS AFTER IT HAS BEEN POURED.
- ALL SURFACES WHICH ARE NOT PROTECTED BY FORMS OR A SEALED WATERPROOF COATING SHALL BE KEPT MOIST BY CONTINUOUS SPRINKLING, OR OTHER MEANS SUCH AS COVERING WITH MOIST SAND, SAWDUST, OR BURLAP.
- WHERE NECESSARY, THE CONCRETE SHALL BE PROTECTED AGAINST THE WEATHER BY A FRAMED HOUSING, TARPAULINS, OR OTHER SUITABLE COVERING.

REINFORCING STEEL (REBAR):

- REINFORCING STEEL SHALL MEET CODE AND BE PLACED ACCORDING TO THE APPLICABLE DRAWINGS. THE MINIMUM THICKNESS OF CONCRETE OVER THE STEEL SHALL BE AT LEAST 3".
- ALL REINFORCEMENTS THAT ARE REQUIRED FOR A DAYS POUR ON CONCRETE SHALL BE SECURELY FIXED IN PLACE IN SUFFICIENT TIME TO PERMIT INSPECTION BEFORE CONCRETING BEGINS.
- THE DESIGN ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE CONCRETE IS TO BE POURED. FAILURE TO COMPLY MAY NECESSITATE, BUT NOT BE LIMITED TO, THE REMOVAL OF THE POURED CONCRETE AT THE CONTRACTOR'S EXPENSE.

GROUTING:

- WHERE GROUT IS INDICATED ON THE DRAWINGS UNDER STRUCTURAL BASE PLATES, THIS SHALL BE A NON-SHRINK, NON-FERROUS TYPE. METHODS OF MIXING AND PLACING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

COLD WEATHER CONCRETING:

- THE CONTRACTOR SHALL PROVIDE AND HAVE ON THE SITE READY FOR USE, ADEQUATE EQUIPMENT FOR HEATING CONCRETE MATERIALS AND PROTECTING FRESH CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER CONDITIONS, ACCORDING TO THE KENTUCKY BUILDING CODE, 2013 EDITION.
- ALL CONCRETE MATERIALS, REBAR, FORMS, FILLERS, AND THE EARTH WITH WHICH THE CONCRETE IS TO COME INTO CONTACT WITH, SHALL BE FREE FROM FROST AND ICE.
- WHENEVER THE SURROUNDING TEMPERATURE IS BELOW 39°F, ALL CONCRETE POURED IN THE FORMS SHALL HAVE A TEMPERATURE OF 68°F FOR 4 DAYS.
- THE HOUSING, COVERING, OR OTHER PROTECTION USED FOR THE CURING SHALL REMAIN IN PLACE AND INTACT FOR AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEATING IS DISCONTINUED.

- SALT, CALCIUM CHLORIDE, OR OTHER CHEMICALS SHALL NOT BE USED IN THE CONCRETE MIX TO PREVENT THE WATER CONTENT FROM FREEZING.

UTILITIES:

- CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. LOCATION OF EXISTING SEWER, WATER LINES, GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR VERIFYING LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITS BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OF ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, OR IF THERE APPEARS TO BE A CONFLICT.
- CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS AND CONSTRUCTION MANAGER.
- DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT. FOR GRASSES AREAS, SEED AND MULCH SHALL BE ACCEPTABLE.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE.
- THE CONTRACTOR SHALL COORDINATE THE LOCATION OF NEW UNDERGROUND TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE OWNER'S REQUIREMENTS.
- ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.

GRADING:

- THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC...) ALL MATERIAL NOT SUITABLE FOR SUB GRADE IN ITS PRESENT STATE. IF THE MATERIAL, AFTER REWORKING, REMAINS UNSUITABLE THEN THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL AT HIS EXPENSE. ALL SUB GRADES SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTABLE BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

GROUNDING:

- CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 SOLID TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 2 FEET BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 15'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED PER TYPICAL GROUNDING PLAN ON SHEET E-3).
- BONDING OF THE GROUNDING CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER CSA.
- GROUND RING CONNECTION CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.
- CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN IN DETAILS AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY ALL EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.
- BOND CIGBE TO EXTERNAL GROUND RING WITH 2 RUNS OF #2 SOLID TINNED COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.
- THE PREFERRED LOCATION FOR COAX GROUNDING IS AT THE BASE OF THE TOWER PRIOR TO THE COAX BEND. BONDING IS SHOWN ON THE ICE BRIDGE DUE TO DIFFICULTY WITH WELDING OR ATTACHING TO TOWER LEGS. CONTRACTOR SHALL ADVISE CONSTRUCTION MANAGER PRIOR TO PLACING CIGBE ON ICE BRIDGE IF MOUNTING TO TOWER LEG IS POSSIBLE.
- CONTRACTOR SHALL VERIFY EXISTING GROUNDING BOND TO THE FENCE POST OR EXTERNAL GROUND RING IN AT (2) PLACES. PROVIDE AND INSTALL GROUNDING CONNECTIONS AS REQUIRED TO MEET THESE CONDITIONS.

APPLICANT/LESSEE:



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BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



July 27, 2021

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0	11-24-20	PRELIMINARY

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**GENERAL
NOTES II**

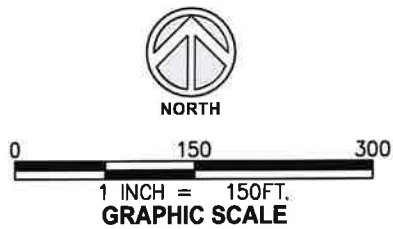
SHEET NUMBER:

N-3

REVISION:

2

TEP #: 255888



Now or Formerly:
TOWN OF GROTON
313 509
GROT M:271010354427 E

VESTED IN:
TOWN OF GROTON
137 622
GROT M:
271014348692 L:E

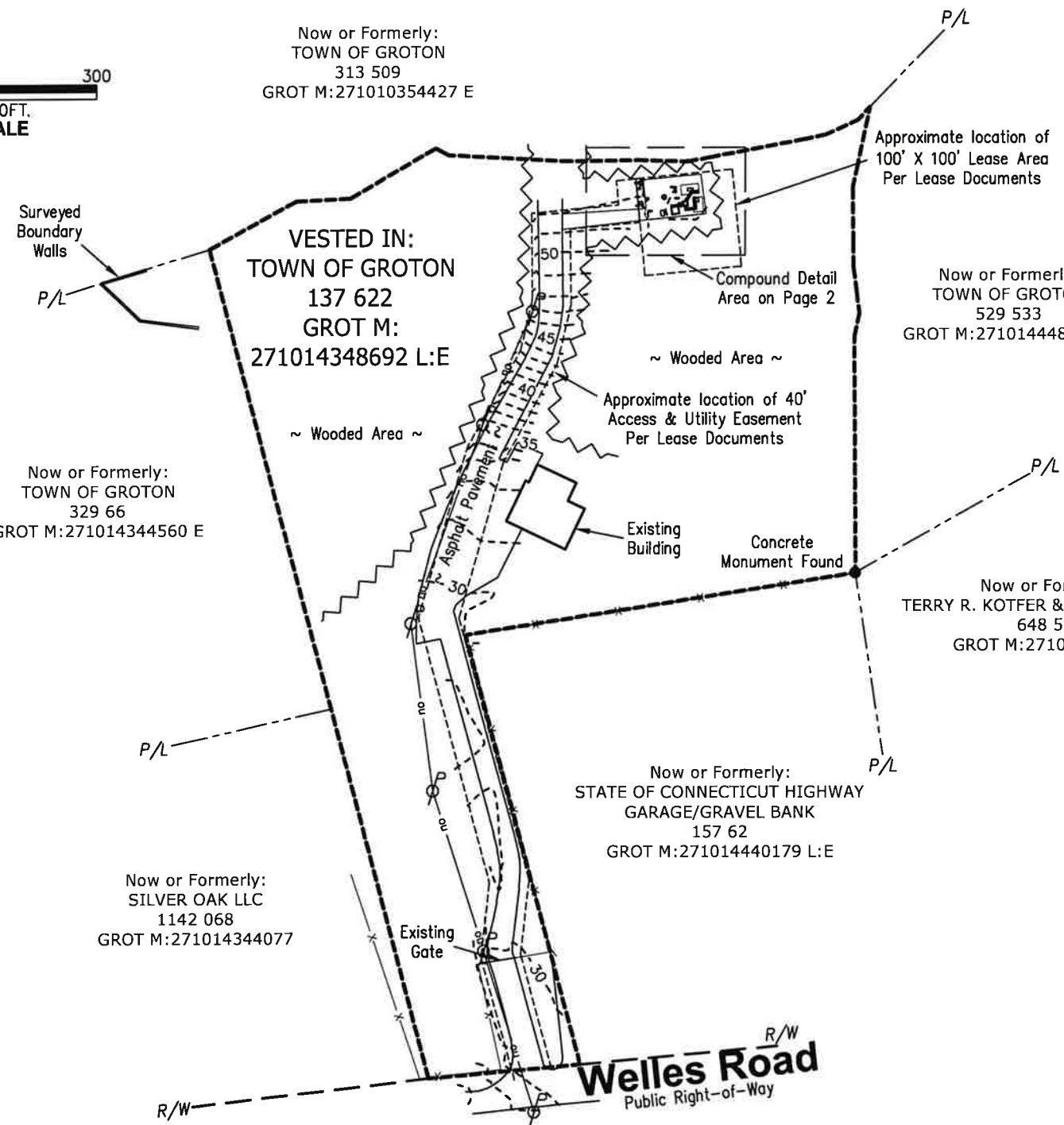
Now or Formerly:
TOWN OF GROTON
329 66
GROT M:271014344560 E

Now or Formerly:
SILVER OAK LLC
1142 068
GROT M:271014344077

Now or Formerly:
STATE OF CONNECTICUT HIGHWAY
GARAGE/GRAVEL BANK
157 62
GROT M:271014440179 L:E

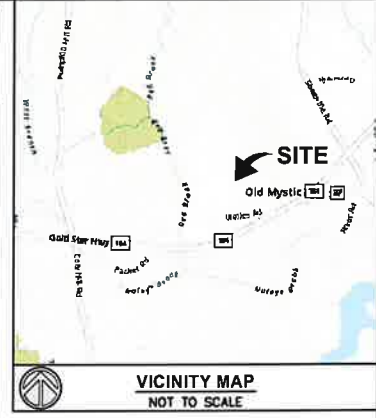
Now or Formerly:
TOWN OF GROTON
529 533
GROT M:271014448906 E

Now or Formerly:
TERRY R. KOTFER & LAURIE KOTFER
648 576
GROT M:271014445446



SYMBOL LEGEND

R/W	- Right-of-Way
P/L	- Adjoiner Property Line
●	- Monumentation Found as Noted
—ou—	- Overhead Utilities
⊕	- Utility Pole
▭	- Building Area
~~~~~	- Treeline
—X—	- Chain Link Fence



### NOTES:

1. This is a specific purpose survey for the stated purpose of surveying an existing telecommunication tower compound as requested by the client.
2. This is not a Boundary survey. Property lines are approximated due to poor deed description and lack of existing monumentation.
3. This survey was prepared without the benefit of a current title commitment.
4. The locations of all utilities shown on the survey are from visible surface evidence only.
5. No Wetlands Areas have been investigated by the Survey.
6. The bearings and geodetic coordinated shown hereon are in the North American Datum of 1983 (2011 Adjustment), based upon a GNSS static session on October 13, 2020.

### FLOOD ZONE:

By scaled map location and graphic plotting only, the subject property appears to lie entirely in Zone X (Areas of minimal flood hazard) according to the Flood Insurance Rate Map for the County of New London County, Community Panel No. 09011C0388J, Effective Date August 5, 2013.

### CERTIFICATION:

*William F. Orsine*



By: _____  
William F. Orsine, PLS  
Connecticut Professional Land Surveyor No. 10045  
For and on behalf of Millman Surveying, Inc.

### PROPOSED TOWER 1A:

Latitude: 41° 23' 34.193" North (41.392831° NAD 83)  
Longitude: 71° 58' 12.031" West (-71.970009° NAD 83)  
Ground Elevation: 52.8' A.M.S.L.

**SPECIFIC PURPOSE SURVEY**  
130 Welles Road, Groton, Connecticut  
Site Name: CT46142-A SOUTH LEDYARD



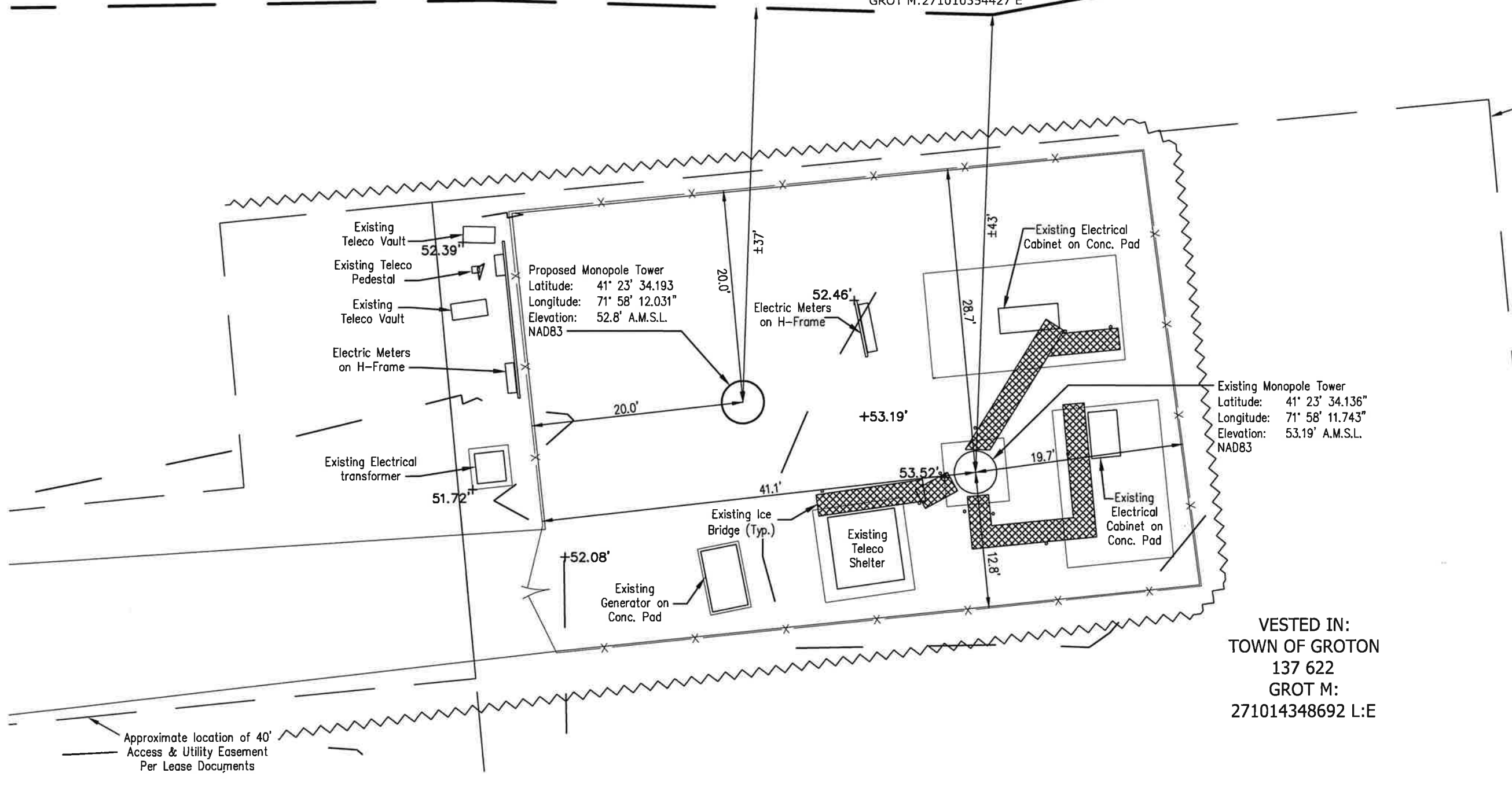
Millman Surveying, Inc.  
Corporate Headquarters  
4111 Bradley Circle NW, Suite 240  
Canton, Ohio 44718  
Phone: 800-520-1010  
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 10/21/20	Scale: 1:150
Checked: WFO	Sheet: 1 of 2
MSI Project No. 47163	

Prepared For:  
**TOWER ENGINEERING PROFESSIONALS, INC.**

Now or Formerly:  
TOWN OF GROTON  
313 509  
GROT M:271010354427 E

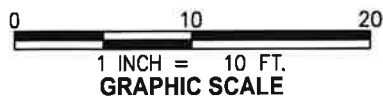
Approximate location of  
100' X 100' Lease Area  
Per Lease Documents



Existing Monopole Tower  
Latitude: 41° 23' 34.136"  
Longitude: 71° 58' 11.743"  
Elevation: 53.19' A.M.S.L.  
NAD83

VESTED IN:  
TOWN OF GROTON  
137 622  
GROT M:  
271014348692 L:E

Approximate location of 40'  
Access & Utility Easement  
Per Lease Documents



**SPECIFIC PURPOSE SURVEY**  
130 Welles Road, Groton, Connecticut  
Site Name: CT46142-A SOUTH LEDYARD



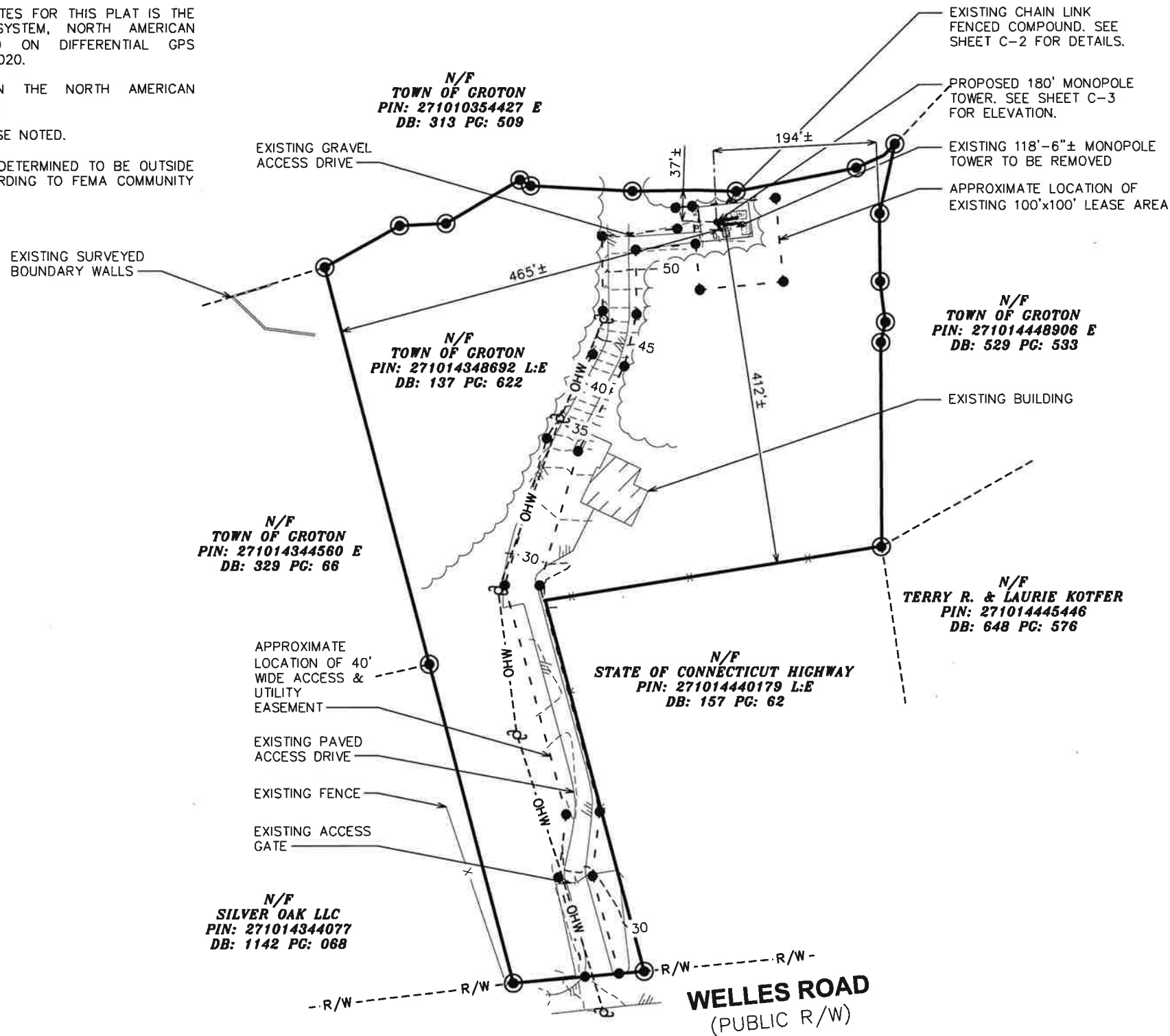
Millman Surveying, Inc.  
Corporate Headquarters  
4111 Bradley Circle NW, Suite 240  
Canton, Ohio 44718  
Phone: 800-520-1010  
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 10/21/20	Scale: 1:10
Checked: WFO	Sheet: 2 of 2
MSI Project No. 48163	

Prepared For:  
**TOWER ENGINEERING PROFESSIONALS, INC.**

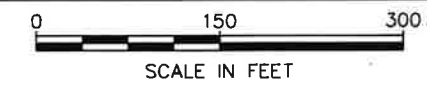
**NOTES:**

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE CONNECTICUT STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (CTSPCS NAD 83), BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON OCTOBER 13, 2020.
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN ZONE "X." AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09011C0388J, DATED AUGUST 5, 2013.



LEGEND	
	EXIST. PROPERTY LINE
	ADJ. PROPERTY LINE
	EXIST. UTILITY POLE
	EXIST. LIGHT POLE
	EXIST. HYDRANT
	EXIST. TELCO PEDESTAL
	PROPERTY CORNER
	LEASE/EASE. CORNER
	EXIST. CONTOUR LINE
	EDGE OF PAVEMENT
	OVERHEAD WIRE
	RIGHT-OF-WAY
	CHAIN LINK FENCE
	EXISTING TREE LINE

**SITE PLAN**  
SCALE: 1" = 150'



APPLICANT/LESSEE:



8051 CONGRESS AVENUE  
BOCA RATON, FL 33487-1307  
OFFICE: (561) 226-9457

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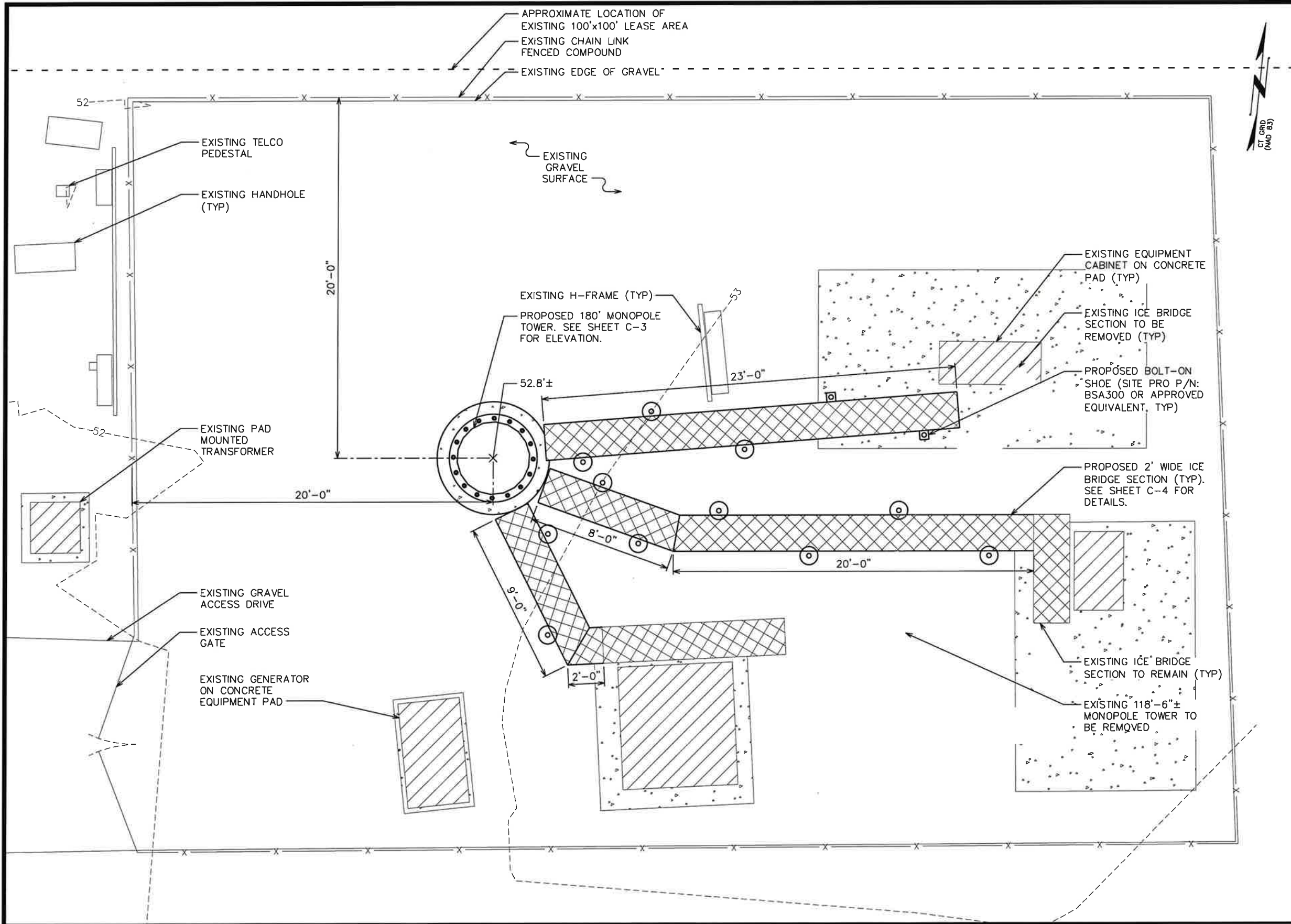
DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**SITE PLAN**

SHEET NUMBER: **C-1**

REVISION: **2**  
TEP #: 255888



APPLICANT/LESSEE:

**SBA**

8051 CONGRESS AVENUE  
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DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**COMPOUND DETAIL**

SHEET NUMBER: **C-2**

REVISION: **2**

TEP #: 255888

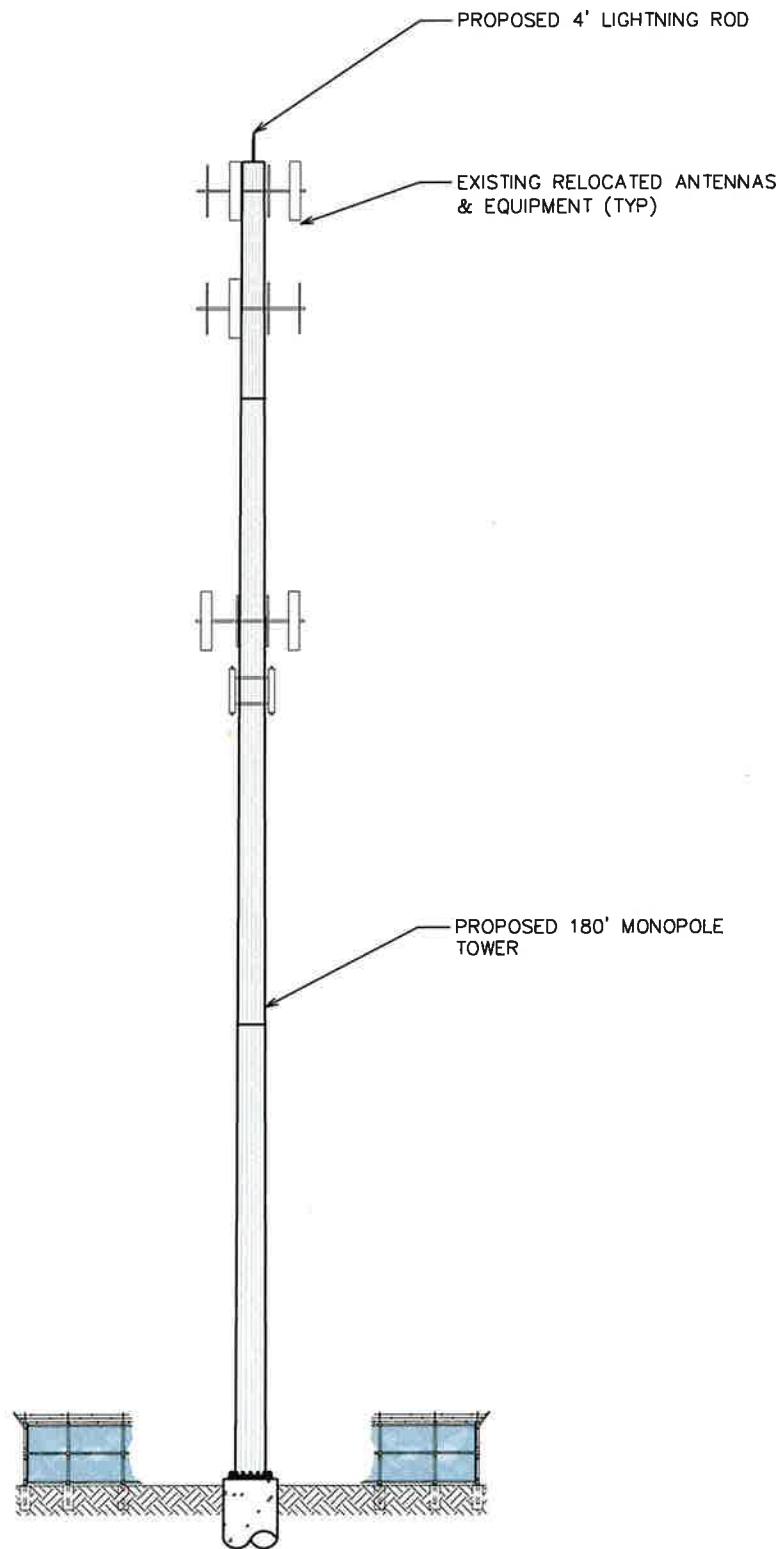
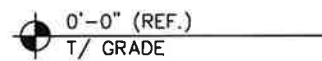
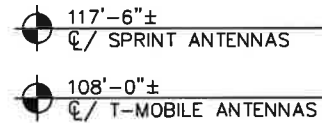
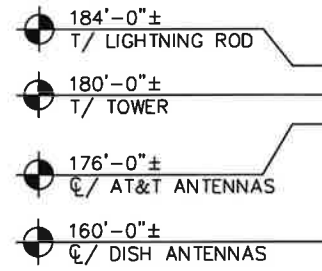
**COMPOUND DETAIL**

SCALE: 3/16" = 1'-0"



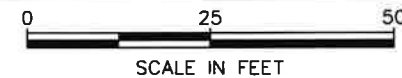
**NOTES:**

1. PROPOSED CABLES TO BE RUN PER SPECIFICATIONS OF PASSING STRUCTURAL ANALYSIS.
2. TOWER SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR PAINTED PER APPLICABLE STANDARDS OF THE FAA OR OTHER APPLICABLE FEDERAL OR STATE AGENCY.
3. TOWER ELEVATION SHOWN FOR REFERENCE ONLY. VERIFY ACTUAL TOWER DESIGN & LOADING WITH TOWER DRAWINGS FROM MANUFACTURER AND/OR PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.



**TOWER ELEVATION**

SCALE: 1" = 25'-0"



APPLICANT/LESSEE:



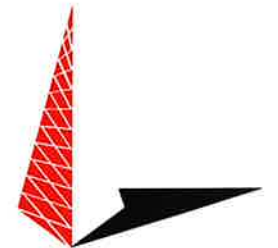
8051 CONGRESS AVENUE  
BOCA RATON, FL 33487-1307  
OFFICE: (561) 226-9457

PROJECT INFORMATION:

**SITE NAME: SOUTH LEDYARD**  
**SITE ID: CT46142A**

130 WELLES ROAD  
GROTON, CT 06340  
(NEW LONDON COUNTY)

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
326 TRYON ROAD  
RALEIGH, NC 27603-3530  
OFFICE: (919) 661-6351  
www.tepgroup.net

SEAL:



July 27, 2021

REV	DATE	ISSUED FOR:
2	07-27-21	CONSTRUCTION
1	07-16-21	PRELIMINARY
0	11-24-20	PRELIMINARY

DRAWN BY: GLB CHECKED BY: JKW

SHEET TITLE:

**TOWER ELEVATION**

SHEET NUMBER:

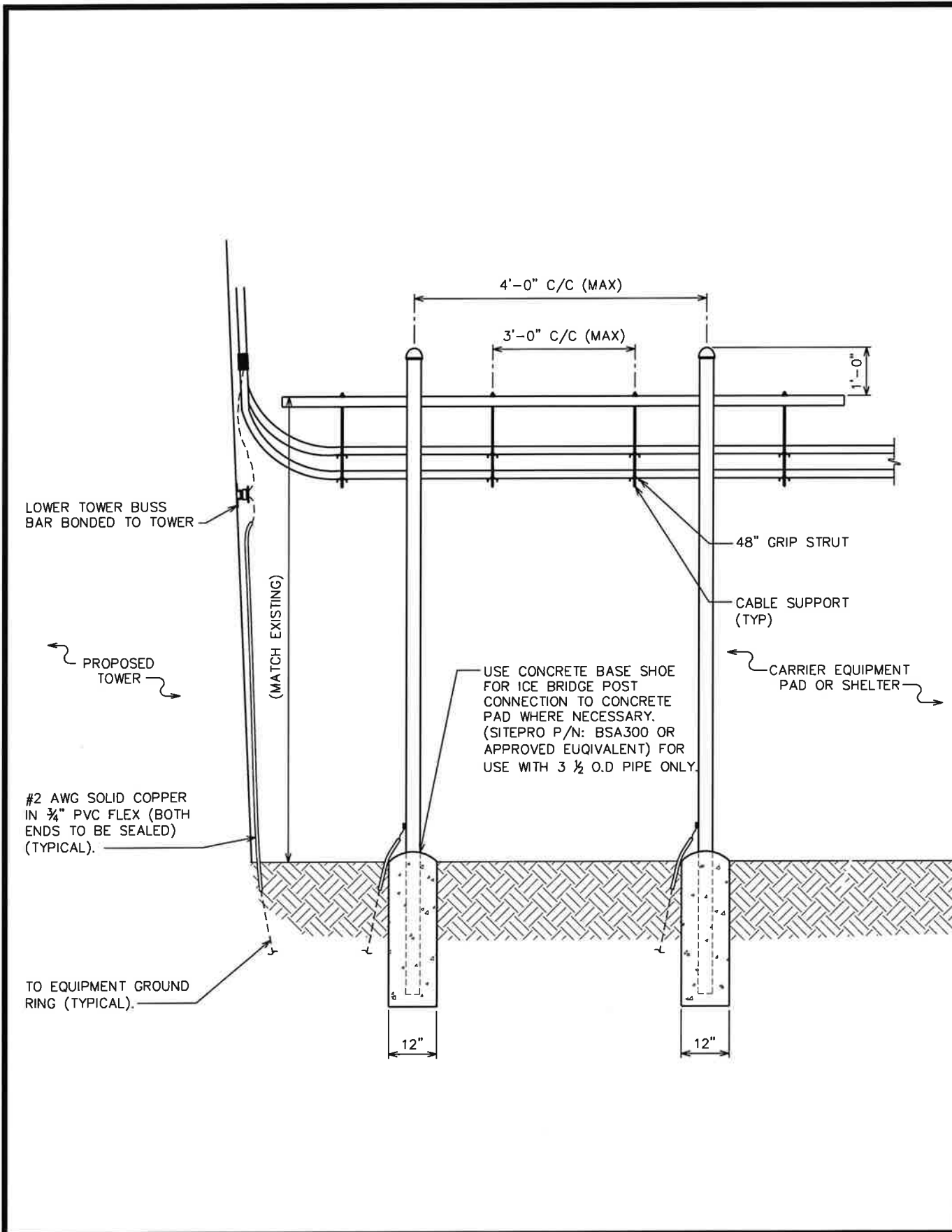
**C-3**

REVISION:

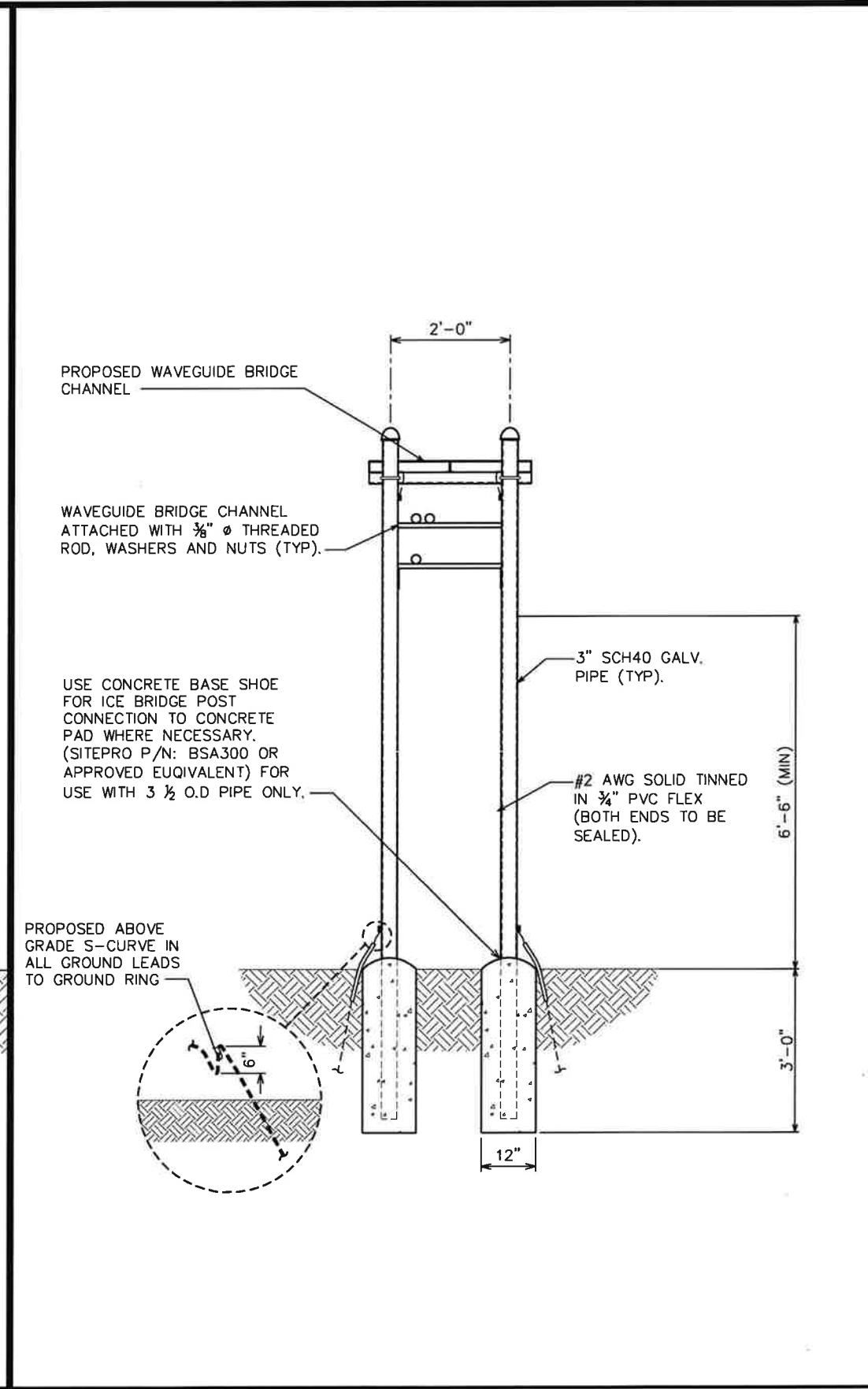
**2**

TEP #: 255888





**ICE BRIDGE DETAIL (SIDE VIEW)**  
SCALE: N.T.S

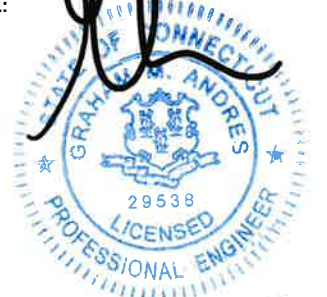


**ICE BRIDGE DETAIL (FRONT VIEW)**  
SCALE: N.T.S

APPLICANT/LESSEE:  
**SBA**   
 8051 CONGRESS AVENUE  
 BOCA RATON, FL 33487-1307  
 OFFICE: (561) 226-9457

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SHEET TITLE:  
**ICE BRIDGE DETAILS**

SHEET NUMBER: **C-4** REVISION: **2**  
 TEP #: 255888

**SCOPE:**

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

**CODES:**

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
  - A. THE NATIONAL ELECTRICAL SAFETY CODE
  - B. THE NATIONAL ELECTRIC CODE – NFPA-70
  - C. REGULATIONS OF THE SERVING UTILITY COMPANY
  - D. LOCAL AND STATE AMENDMENTS
  - E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

**TESTING:**

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

**GUARANTEE:**

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

**UTILITY CO-ORDINATION:**

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

**EXAMINATION OF SITE:**

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

**CUTTING, PATCHING AND EXCAVATION:**

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

**RACEWAYS / CONDUITS GENERAL:**

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

**EXTERIOR CONDUIT:**

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. THE CONDUIT SHALL BE RIGID STEEL AT GRADE TRANSITIONS OR WHERE EXPOSED TO DAMAGE.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

**INTERIOR CONDUIT:**

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT OR PVC.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

**EQUIPMENT:**

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED.

**CONDUCTORS:**

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
  - A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
  - B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
  - C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
  - D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP-ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

**UL COMPLIANCE:**

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

**GROUNDING:**

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

**ABBREVIATIONS AND LEGEND**

A	- AMPERE	PNLBD	- PANELBOARD
AFG	- ABOVE FINISHED GRADE	PVC	- RIGID NON-METALLIC CONDUIT
ATS	- AUTOMATIC TRANSFER SWITCH	RGS	- RIGID GALVANIZED STEEL CONDUIT
AWG	- AMERICAN WIRE GAUGE	SW	- SWITCH
BCW	- BARE COPPER WIRE	TGB	- TOWER GROUND BAR
BFG	- BELOW FINISHED GRADE	UL	- UNDERWRITERS LABORATORIES
BKR	- BREAKER	V	- VOLTAGE
C	- CONDUIT	W	- WATTS
CKT	- CIRCUIT	XFMR	- TRANSFORMER
DISC	- DISCONNECT	XMTR	- TRANSMITTER
EGR	- EXTERNAL GROUND RING		
EMT	- ELECTRIC METALLIC TUBING		
FSC	- FLEXIBLE STEEL CONDUIT		
GEN	- GENERATOR		
GPS	- GLOBAL POSITIONING SYSTEM		
GRD	- GROUND		
IGB	- ISOLATED GROUND BAR		
IGR	- INTERIOR GROUND RING (HALO)		
KW	- KILOWATTS		
NEC	- NATIONAL ELECTRIC CODE		
PCS	- PERSONAL COMMUNICATION SYSTEM		
PH	- PHASE		
PNL	- PANEL		

— E —	UNDERGROUND ELECTRICAL CONDUIT
— T —	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT-HOUR METER
	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
	GROUND ROD
	CADWELD
	GROUND ROD WITH INSPECTION WELL

APPLICANT/LESSEE:



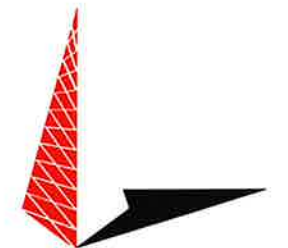
8051 CONGRESS AVENUE  
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DRAWN BY: GLB      CHECKED BY: JKW

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



**ELECTRICAL NOTES**

SHEET NUMBER: <b>E-1</b>	REVISION: <b>2</b> TEP #: 255888
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# ELECTRICAL LEGEND:

## ABBREVIATIONS:

- A - AMPERE
- AFG - ABOVE FINISHED GRADE
- ATS - AUTOMATIC TRANSFER SWITCH
- AWG - AMERICAN WIRE GAUGE
- BCW - BARE COPPER WIRE
- BFG - BELOW FINISHED GRADE
- BKR - BREAKER
- BTS - BASE TRANSCIEVER STATION
- C - CONDUIT
- C/W - COMPLETE WITH
- CKT - CIRCUIT
- DISC - DISCONNECT
- EC - EMPTY CONDUIT
- EGR - EXTERNAL GROUND RING
- EMT - ELECTRIC METALLIC TUBING
- F/A - FIRE ALARM
- FSC - FLEXIBLE STEEL CONDUIT
- GEN - GENERATOR
- GPS - GLOBAL POSITIONING SYSTEM
- GRD - GROUND
- IGB - ISOLATED GROUND BAR
- IGR - INTERIOR GROUND RING (HALO)
- KW - KILOWATTS
- MGB - MAIN GROUND BAR
- CEC - CANADIAN ELECTRIC CODE
- PCS - PERSONAL COMMUNICATION SYSTEM
- PH - PHASE
- PNL - PANEL
- PNLBD - PANELBOARD
- PVC - SCH40 RIGID NON-METALLIC CONDUIT
- RBS - RADIO BASE STATION
- REL - RELOCATED
- RGS - RIGID GALVANIZED STEEL CONDUIT
- S/C - SEPERATE CONDUIT
- SES - SITE ENGINEERING SPECIFICATIONS
- SW - SWITCH
- TGB - TOWER GROUND BAR
- U/F - UNFUSED
- ULC - UNDERWRITERS LABORATORIES, CANADA
- V - VOLTAGE
- W - WATTS
- WP - WEATHERPROOF
- XFMR - TRANSFORMER
- XMTR - TRANSMITTER

- E----- UNDERGROUND ELECTRICAL CONDUIT
- T----- UNDERGROUND TELEPHONE CONDUIT
-  KILOWATT-HOUR METER
- UNDERGROUND BONDING AND GROUNDING CONDUCTOR
- CADWELD
-  GROUND ROD WITH INSPECTION WELL
-  EXISTING M/W DISH ANTENNA
-  FUTURE M/W DISH ANTENNA
- ⊗ EXISTING ROOF DRAIN
-  EXISTING ROOF HATCH
- \$ 15A 120V SPST SWITCH
- ⊕ 15A 120V DUPLEX RECEPTACLE
- ⊙ 120V, 1Ø DIRECT CONNECTION TO EQUIPMENT SUPPLIED BY OTHER DIVISIONS
- ⊙ 208V, 1Ø DIRECT CONNECTION TO EQUIPMENT SUPPLIED BY OTHER DIVISIONS
- ⌒ CIRCUIT BREAKER
-  DISCONNECT SWITCH. F DENOTES FUSED
- SURFACE MOUNTED PANELBOARD
-  TRANSFORMER
-  CHECK METER
- DENOTES CABLE OR CONDUIT TURNING UP IN PLAN VIEW
-  CHANGE IN ELEVATION OF CABLE OR CONDUIT IN PLAN VIEW
- DENOTES CABLE OR CONDUIT TURNING DOWN IN PLAN VIEW
- ⊙ GROUND ROD
-  LIGHTNING PROTECTION AIR TERMINAL
- ec- ETHERNET CABLE
- f- FIBRE CABLE
- dc- DC CABLE

APPLICANT/LESSEE:



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SHEET TITLE:  
**ELECTRICAL LEGEND**

SHEET NUMBER: **E-2**      REVISION: **2**  
TEP #: 255888

# ELECTRICAL LEGEND

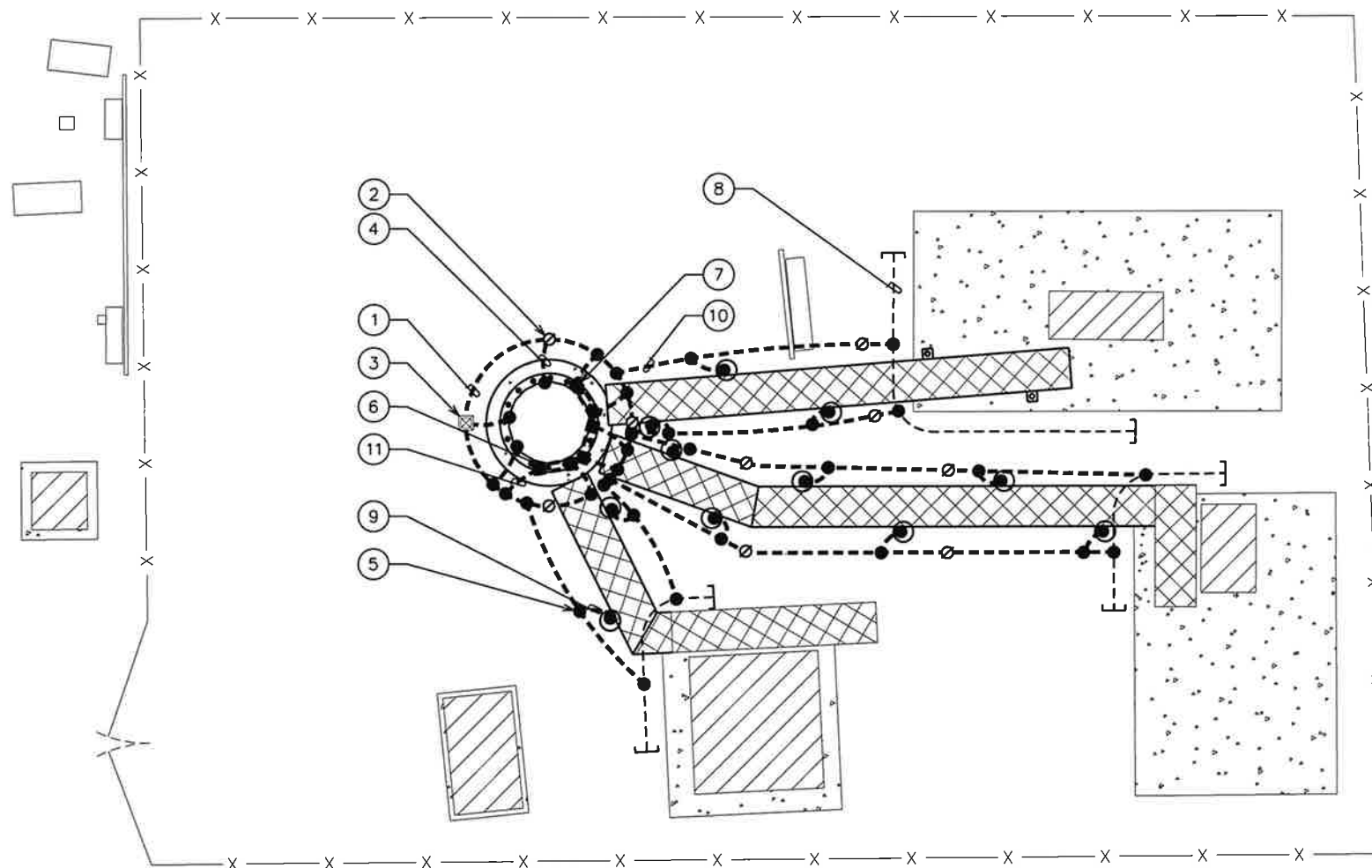
SCALE: N.T.S.

**GROUNDING NOTES:**

1. GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 30" BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 15'-0" CENTERS (MAX).
2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
4. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF EXISTING SHELTER GROUND RINGS, FENCE GROUNDING AND GATEPOST GROUNDING.

**DRAWING NOTES:**

- ① PROPOSED TOWER GROUND RING
- ② PROPOSED GROUND ROD (TYP)
- ③ PROPOSED GROUND ROD WITH INSPECTION WELL
- ④ #2 GROUND LEAD FROM TOWER TO TOWER GROUND RING (TYP)
- ⑤ PROPOSED CADWELD (TYP)
- ⑥ PROPOSED TOWER GROUND BAR (TYP)
- ⑦ PROPOSED 2-HOLE MECHANICAL LUG CONNECTION (TYP)
- ⑧ EXISTING EQUIPMENT GROUND RING (TYP). CONTRACTOR TO VERIFY LOCATION AND EXISTENCE, AND REPLACE IF MISSING.
- ⑨ #2 ICE BRIDGE POST GROUND LEAD (TYP)
- ⑩ #2 GROUND LEAD FROM EXISTING GROUND RING TO PROPOSED GROUND RING (TYP OF 2)
- ⑪ #2 GROUND LEAD FROM GROUND BAR TO TOWER GROUND RING (TYP)



APPLICANT/LESSEE:



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DRAWN BY: GLB      CHECKED BY: JKW

SHEET TITLE:

**GROUNDING PLAN**

SHEET NUMBER:

**E-3**

REVISION:

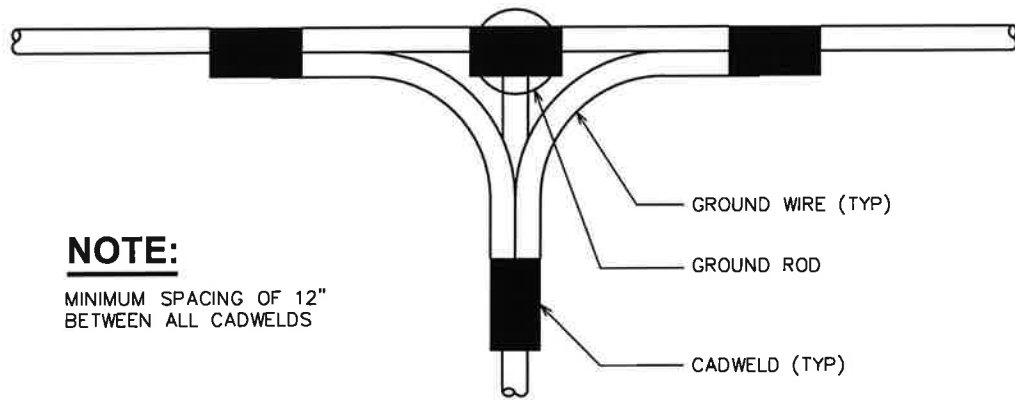
**2**

TEP #: 255888

**GROUNDING PLAN**

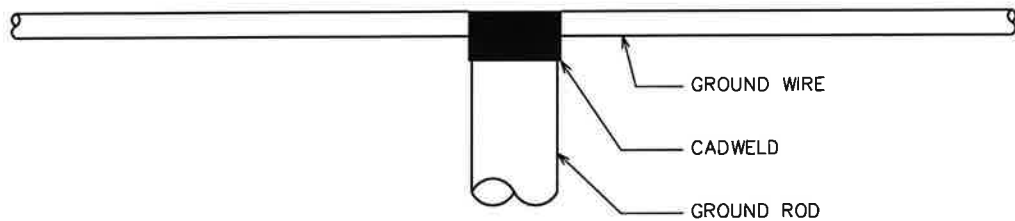
SCALE: 1/8" = 1'-0"





**NOTE:**  
MINIMUM SPACING OF 12"  
BETWEEN ALL CADWELDS

**TOP VIEW**



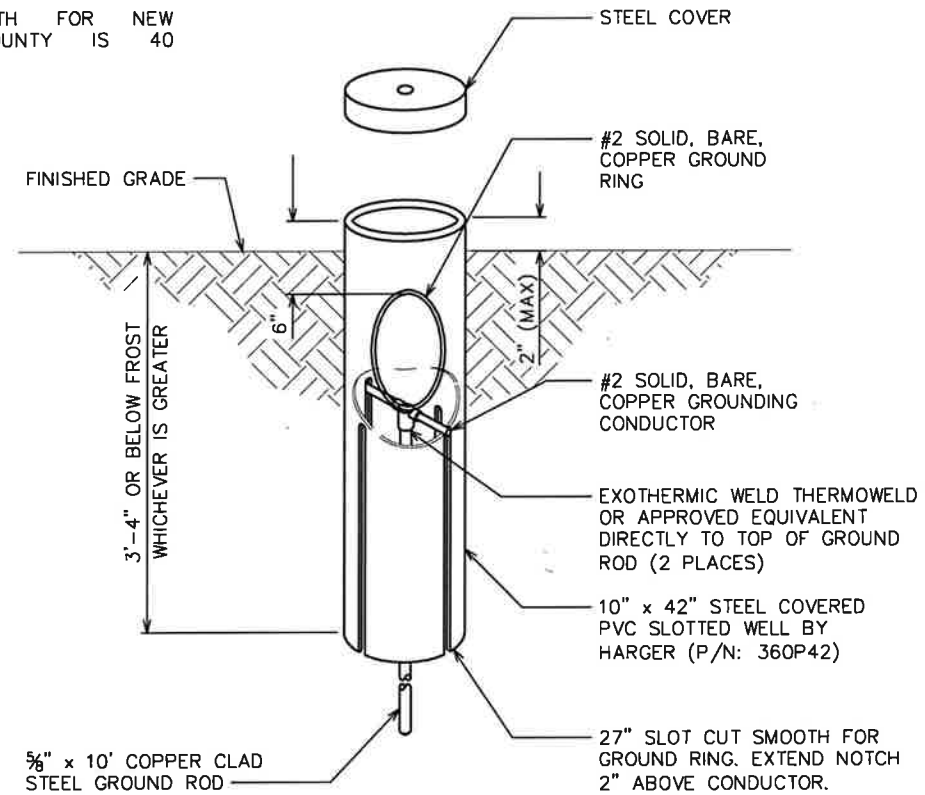
**SIDE VIEW**

**CADWELD GROUNDING DETAIL**

SCALE: N.T.S.

**NOTE:**

FROST DEPTH FOR NEW LONDON COUNTY IS 40 INCHES.



**GROUND ROD WITH INSPECTION WELL DETAIL**

SCALE: N.T.S.

APPLICANT/LESSEE:



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SHEET TITLE:

**GROUNDING  
DETAILS I**

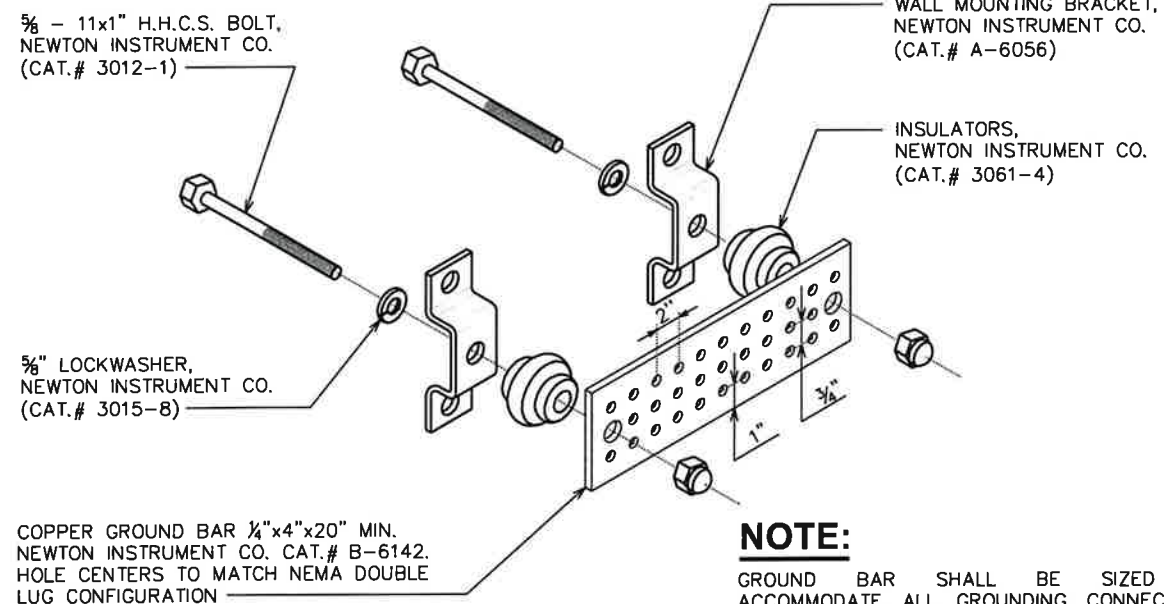
SHEET NUMBER:

**E-4**

REVISION:

**2**

TEP #: 255888



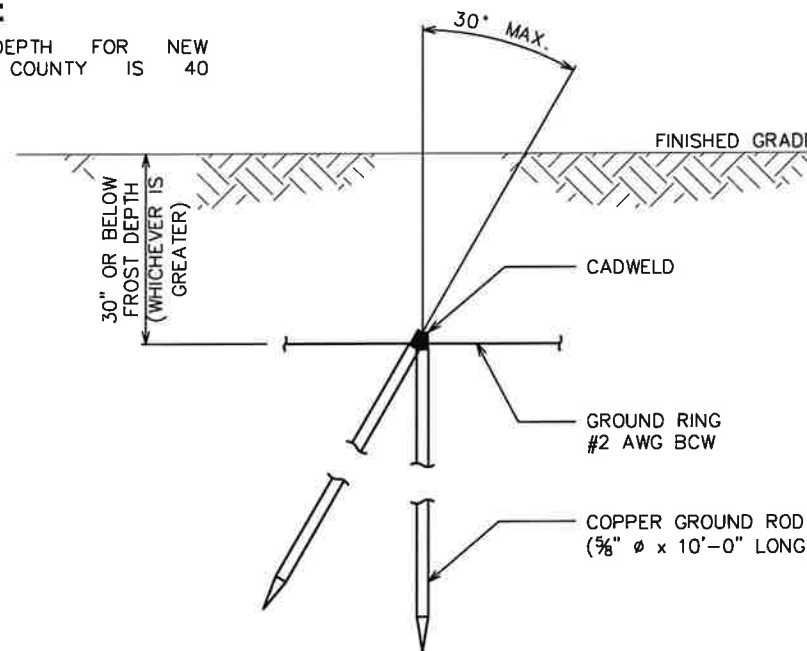
**NOTE:**  
GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY

**STANDARD GROUND BAR DETAIL**

SCALE: N.T.S.

**NOTE:**

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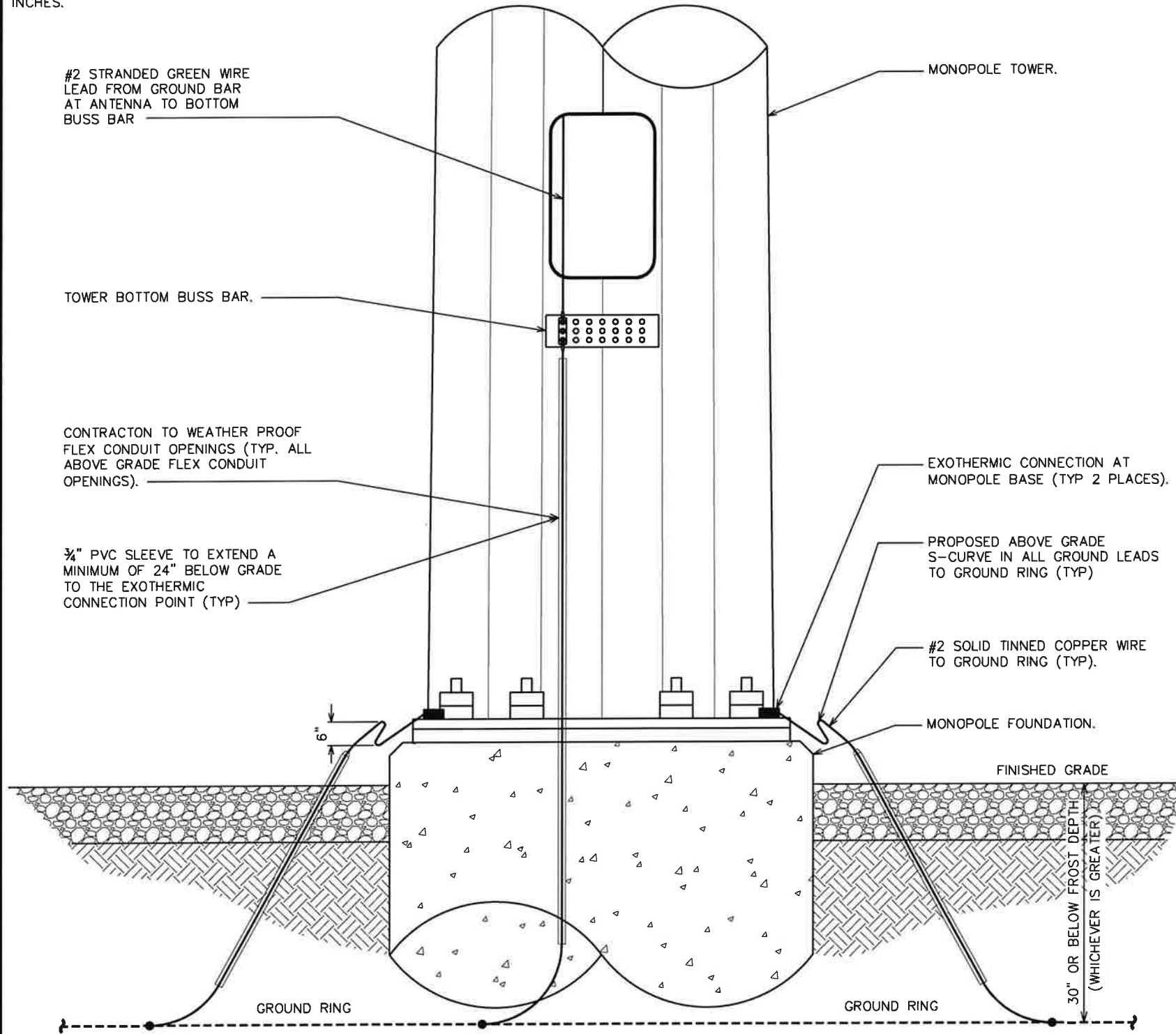


**COPPER-CLAD STEEL GROUND ROD DETAIL**

SCALE: N.T.S.

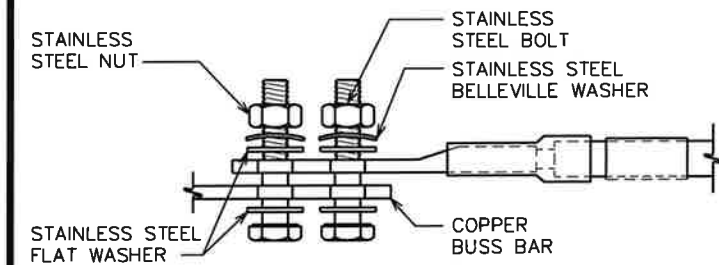
**NOTE:**

FROST DEPTH FOR NEW LONDON COUNTY IS 40 INCHES.



**TOWER GROUNDING DETAIL**

SCALE: N.T.S.



**NOTES:**

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

**LUG DETAILS**

SCALE: N.T.S.

APPLICANT/LESSEE:



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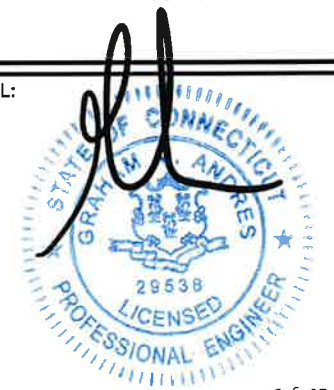
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SHEET TITLE:

**GROUNDING  
DETAILS II**

SHEET NUMBER:

**E-5**

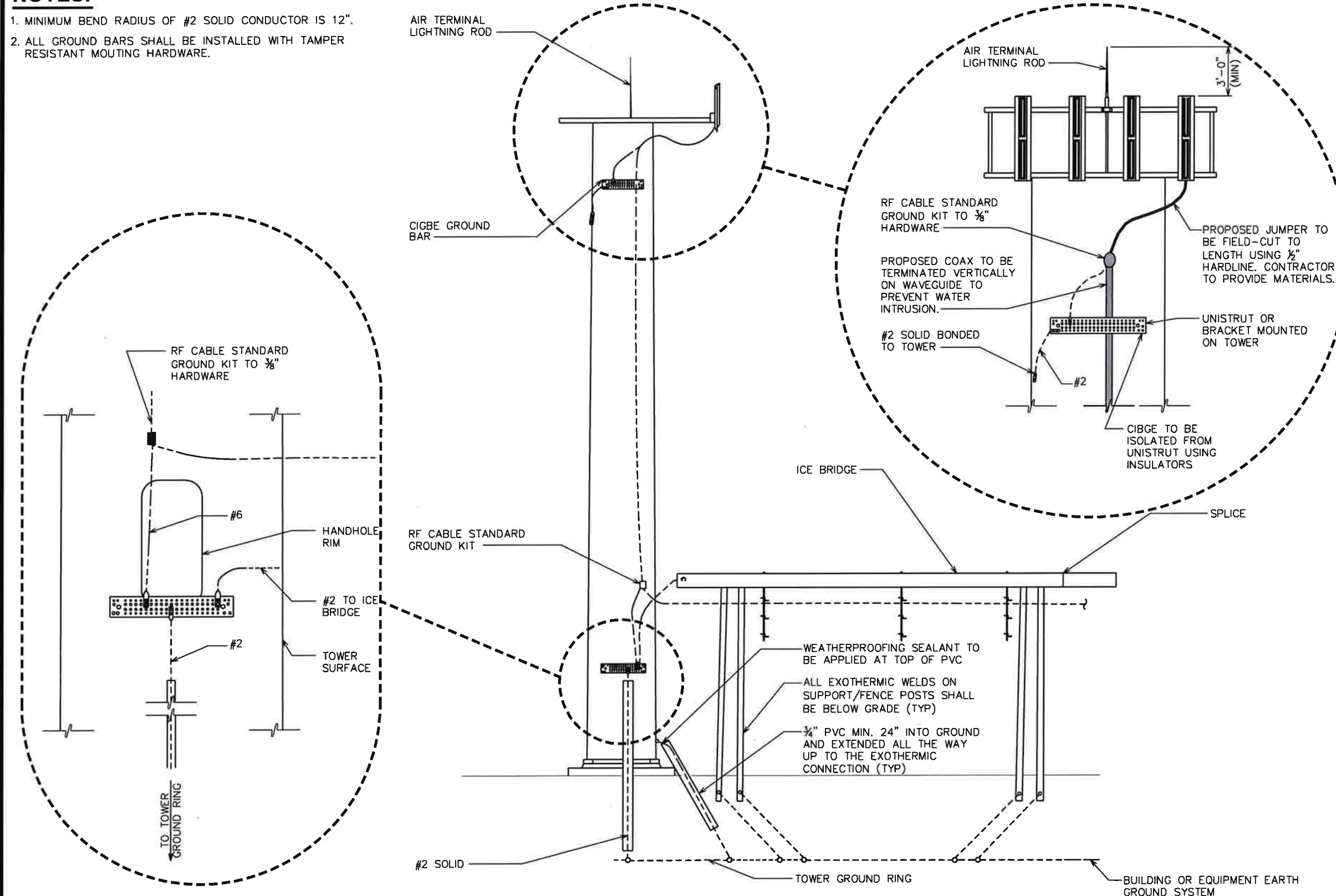
REVISION:

**2**

TEP #: 255888

**NOTES:**

1. MINIMUM BEND RADIUS OF #2 SOLID CONDUCTOR IS 12".
2. ALL GROUND BARS SHALL BE INSTALLED WITH TAMPER RESISTANT MOUNTING HARDWARE.



**ICE BRIDGE, COAX, STANCHION, AND TOWER GROUNDING DETAIL**

SCALE: N.T.S.

APPLICANT/LESSEE:

**SBA**

8051 CONGRESS AVENUE  
BOCA RATON, FL 33487-1307  
OFFICE: (561) 226-9457

PROJECT INFORMATION:

**SITE NAME: SOUTH LEDYARD**  
**SITE ID: CT46142A**

130 WELLES ROAD  
GROTON, CT 06340  
(NEW LONDON COUNTY)

PLANS PREPARED BY:

**TOWER ENGINEERING PROFESSIONALS**  
326 TRYON ROAD  
RALEIGH, NC 27603-3530  
OFFICE: (919) 661-6351  
www.tepgroup.net

SEAL:

July 27, 2021

REV	DATE	ISSUED FOR:
2	07-27-21	CONSTRUCTION
1	07-16-21	PRELIMINARY
0	11-24-20	PRELIMINARY

DRAWN BY: GLB | CHECKED BY: JKW

SHEET TITLE:

**SBA GROUNDING  
DETAILS III**

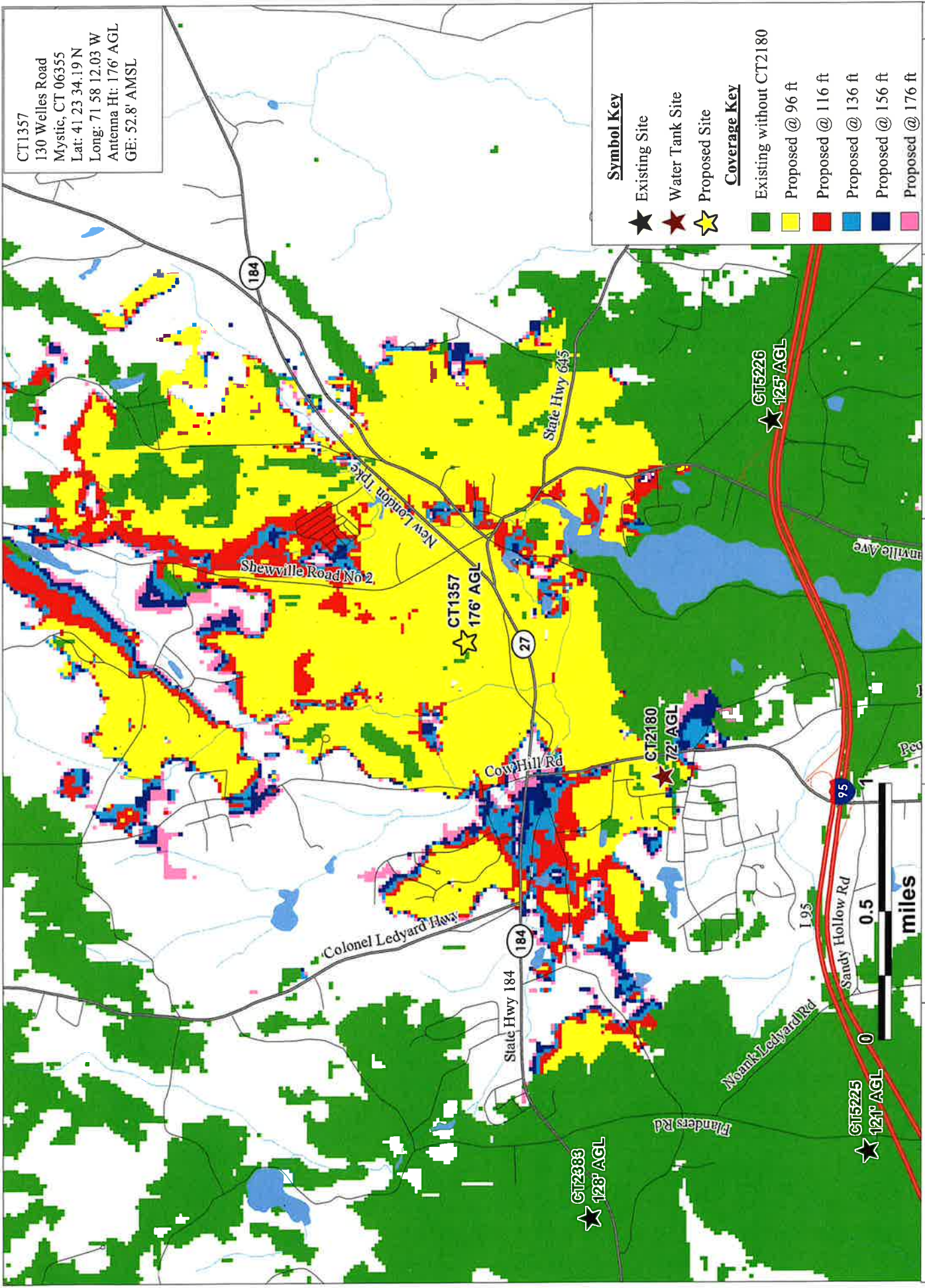
SHEET NUMBER: **E-6** | REVISION: **2**

TEP #: 255888

# **ATTACHMENT 2**



CT1357  
 130 Welles Road  
 Mystic, CT 06355  
 Lat: 41 23 34.19 N  
 Long: 71 58 12.03 W  
 Antenna Ht: 176' AGL  
 GE: 52.8' AMSL



**Symbol Key**

- ★ Existing Site
- ★ Water Tank Site
- ★ Proposed Site

**Coverage Key**

- Existing without CT2180
- Proposed @ 96 ft
- Proposed @ 116 ft
- Proposed @ 136 ft
- Proposed @ 156 ft
- Proposed @ 176 ft

PREPARED ON _____  
 DATE: 5/11/2021  
 REV 0



Mystic, CT 06355

Mystic, CT

Height Analysis  
 700 MHz LTE Coverage

# **ATTACHMENT 3**



Ms. Andrea Gassner  
Project Manager  
SBA Communications

June 11, 2021

Subject: South Ledyard (CT-46142A) Replacement Tower Balloon Test Results

Dear Ms. Gassner,

Tower Engineering Professionals, Inc. (TEP), on behalf of SBA Communications, has completed a balloon test for a proposed 180-ft AGL monopole replacement communications tower (184-ft overall with appurtenances) to be located at latitude: N 41° 23' 34.19", longitude: W 71° 58' 12.03" (NAD 83) within an existing telecommunications tower compound located at 130 Wells Road, east-northeast of the Town of Groton, in New London County, Connecticut, on a parcel of land identified as Parcel ID #271014348682 by the New London County Tax Assessor's Office. The proposed tower will be located within an existing tower compound and will replace an existing 118.5-ft monopole tower. The proposed tower will be located within a portion of New London County, CT surrounded primarily by forested, low-density residential, and commercial land uses.

On Wednesday, June 9, 2021, TEP deployed a 5.5' diameter orange Cloudbuster™ balloon 184-ft above ground level (to top of balloon) from approximately 11:30 a.m. to 1:00 p.m. EDT. The balloon was anchored approximately 100-ft west of the proposed replacement tower location due to trees, utilities, and the existing tower which could pose a threat of entanglement during wind gusts. The weather at the time of the balloon deployment was clear, with good visibility, and approximately 75 to 80 degrees Fahrenheit with light wind (5 to 10-mph) out of the west. During the balloon test, TEP obtained photographs from numerous locations within an approximately 0.5-mile radius of the proposed tower site. Photographs were taken by Garrett Johnson of TEP with a Sony Cyber-shot DSC-H300 digital camera. The photograph reconnaissance indicated that the balloon was visible in vicinity of the parent property, along the eastern portion of Wells Road, and for about a 0.05-mile stretch of Gold Star Highway. The balloon was partially visible from numerous locations along Shewville Road to the east between Route 184 and Hyde Pond Ct, and from a portion of Packer Road to the southwest between Cow Hill Road and Gold Star Highway; however, in many of these locations, the proposed tower would have only seasonal visibility due to intervening vegetation in the summer months and/or only the upper portion of the proposed tower would be visible above existing vegetation. The balloon was not visible from Pons Road to the west-southwest, or Marcel Road and Pumpkin Hill Road to the west. However, during the balloon test, intermittent wind gusts pushed the balloon to the east and southeast which could have caused the balloon to not be visible from locations where the proposed tower would be visible. TEP completed six (6) photograph simulations to simulate the view of the proposed tower from locations within 0.5-miles of the site to demonstrate the potential viewshed impacts. The proposed tower is anticipated to be visible from six (6) out of the sixteen (16) pre-selected photograph locations. Google Earth digital elevation modelling (DEM) was utilized to corroborate the visibility of the proposed tower in relation to the field observations of the balloon due to the unfavorable weather conditions during the balloon flight. In certain instances, Google Earth "street view" photographs were utilized in lieu of the field photographs to provide a more representative simulation of the proposed tower's visual impact from that location, as slight variances in the observer's location could drastically impact the visibility due to topography, perspective, and intervening vegetation & structures. Additionally, TEP completed a visual effect assessment for the proposed tower on 2/25/2021 for submittal to the Connecticut State Historic Preservation Office to ascertain the proposed tower's potential visual effect on historic properties listed on or eligible for listing on the National Register of Historic Places. Those photographs and simulations have been included to supplement the 6/9/2021 photographs and simulations, all of which have been attached to this report.

Due to the topography and high degree of intervening vegetation in the area in which the proposed tower will be located, the full profile of the proposed tower is not anticipated to be visible from any of the surrounding residential areas. Additionally, the presence of mature vegetation will either fully or partially obscure the view of the tower within the neighboring residential areas especially during summer months when deciduous trees contain leaves. Therefore, it is the opinion of TEP that although the proposed tower may be visible from select locations within the adjacent residential areas, it will not provide an additional visual intrusion considering that the existing tower is likely visible from most locations

326 Tryon Road Raleigh, NC 27603 O) 919.661.6351 F) 919.661.6350  
[rmalek@tepgroup.net](mailto:rmalek@tepgroup.net)



where the replacement tower will be visible. Therefore, the visual and aesthetic impact is anticipated to be minimal to negligible.

Attached are the photograph simulations of the proposed tower and a photograph map key overlaid on the Google Earth 2/22/2020 aerial photograph. Please don't hesitate to contact me with any questions or concerns regarding this report.

Sincerely,

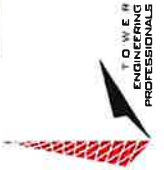
A handwritten signature in black ink that reads "Ryan A. Malek". The signature is written in a cursive, flowing style.

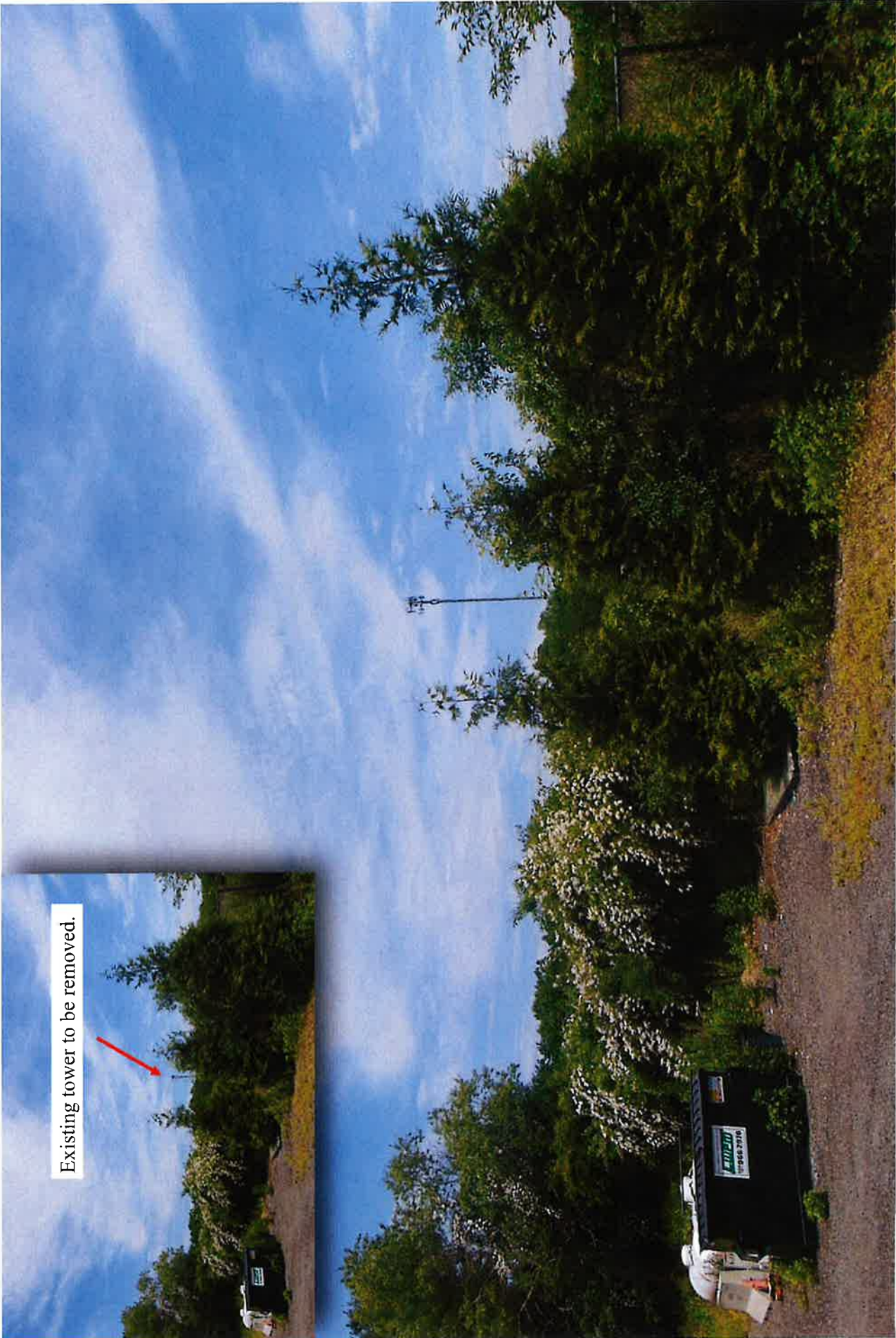
Ryan A. Malek  
Environmental Division Manager  
Tower Engineering Professionals, Inc.



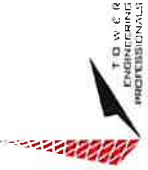
**South Ledyard (CT46142A)**  
130 Welles Road  
Groton, CT 06340

**Photo Locations**





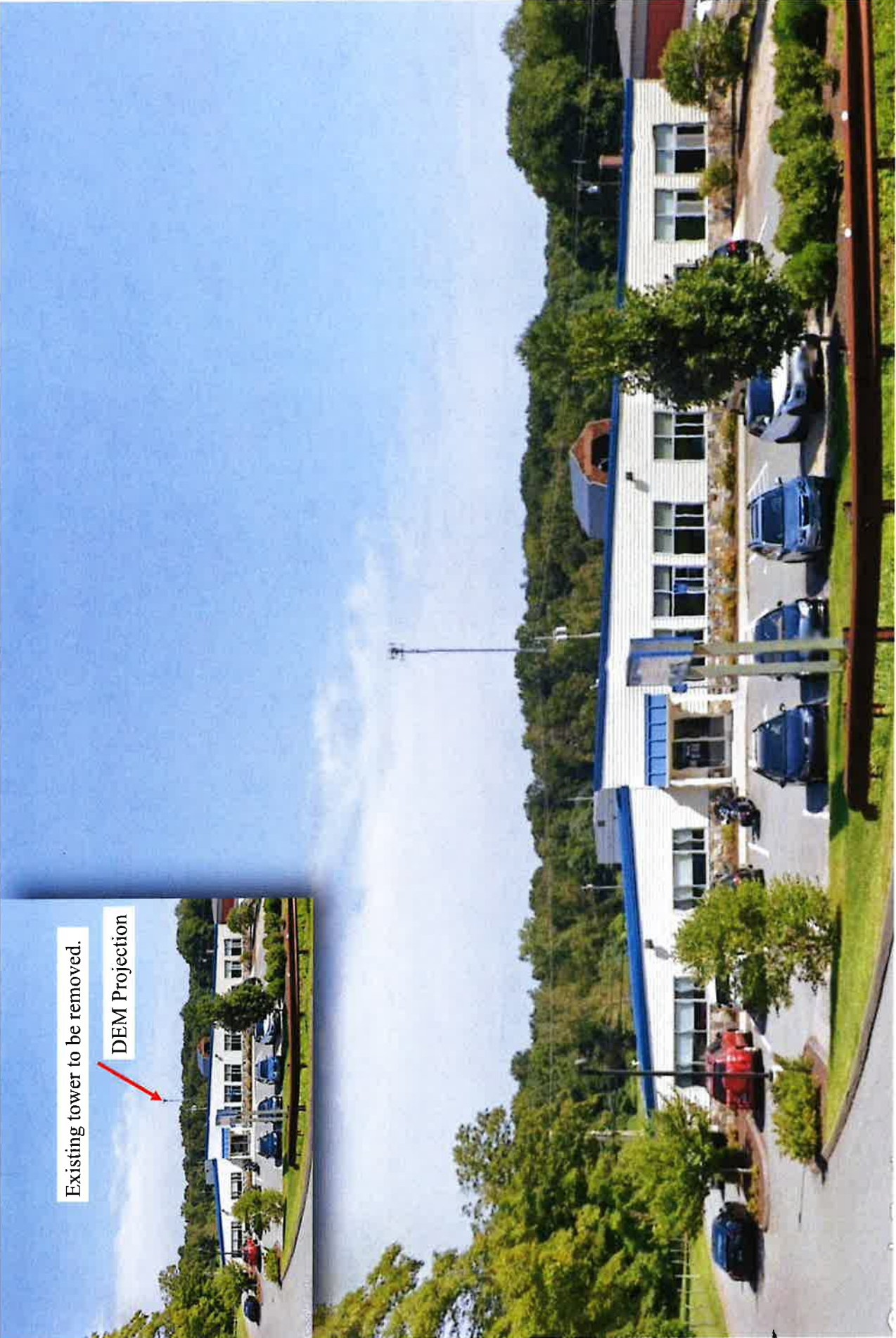
Existing tower to be removed.



**Monopole Tower Simulation**  
**180-ft AGL (184-ft AGL w/ appurtenances)**

Photo #1 - approx. 715-ft SW of site

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**



Existing tower to be removed.

DEM Projection



**Monopole Tower Simulation (Google Earth)**

**180-ft AGL (184-ft AGL w/ appurtenances)**

**Photo #2 - approx. 1,175-ft S of site**

**South Ledyard (CT46142A)**

**130 Welles Road**

**Groton, CT 06340**



**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
Photo #3 - approx. 2,670-ft WSW of site

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**







**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #4 - approx. 2,652-ft W of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





DEM Projection



**Monopole Tower Simulation (Google Earth)**

180-ft AGL (184-ft AGL w/ appurtenances)

Photo #5 - approx. 1,873-ft NE of site

South Ledyard (CT46142A)  
130 Welles Road  
Groton, CT 06340



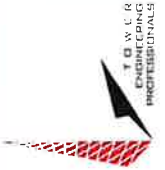


Existing tower to be removed.



**Monopole Tower Simulation**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo # 6 - approx. 1,803-ft ENE of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**

Photo #7 - approx. 2,071-ft E of site



**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #8 - approx. 2,392-ft ESE of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**



**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
Photo #9 - approx. 1,457-ft SE of site

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**



Existing tower to be removed.

DEM Projection



**Monopole Tower Simulation (Google Earth)**

**180-ft AGL (184-ft AGL w/ appurtenances)**

**Photo #10 - approx. 2,340-ft SW of site**

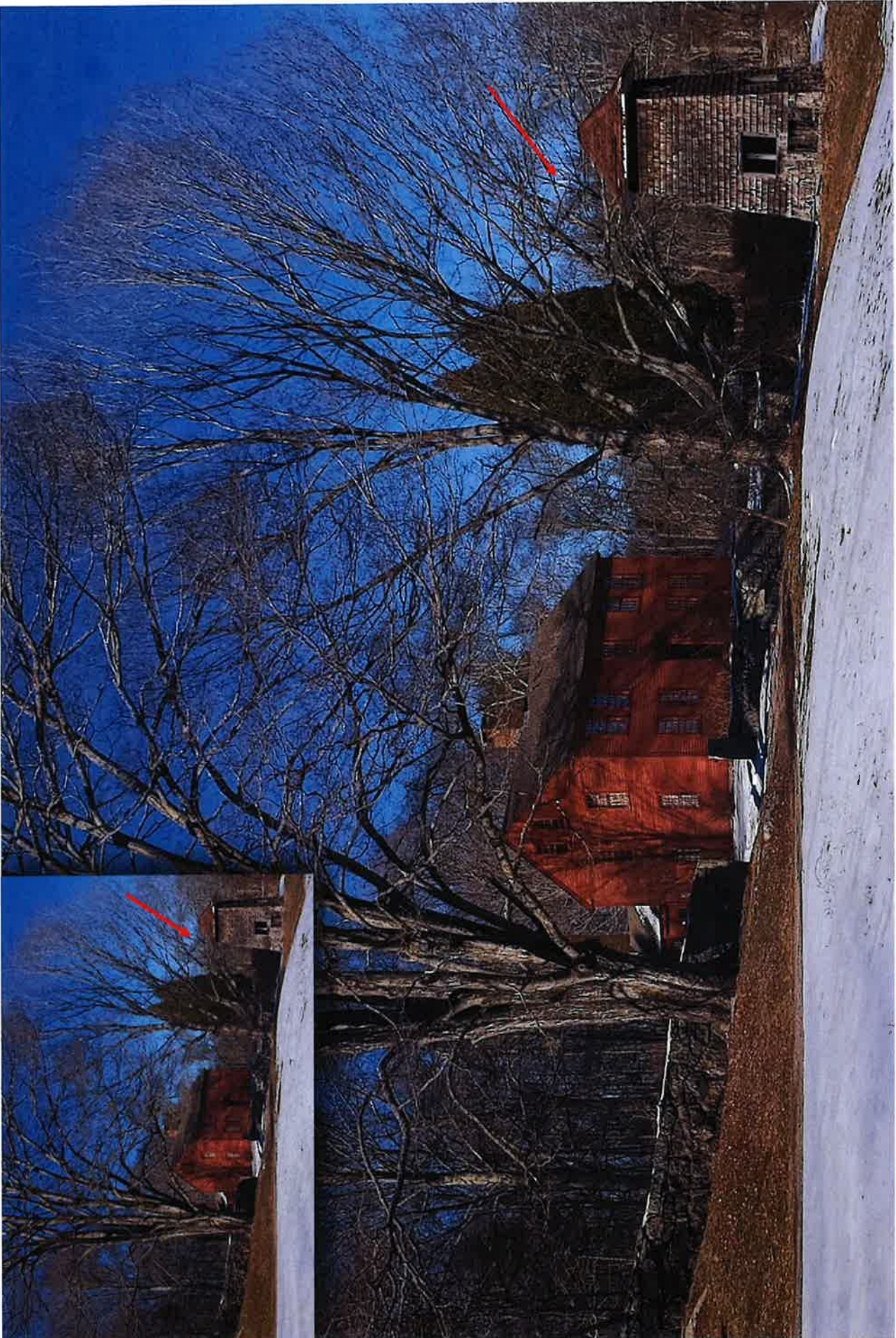
**South Ledyard (CT46142A)  
130 Welles Road  
Groton, CT 06340**



**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #11 - approx. 2,560-ft SW of site**

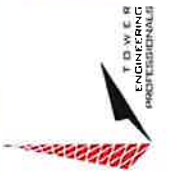
**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





**Monopole Tower Simulation**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #12 - approx. 1,850-ft SW of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #13 - approx. 3,060-ft SW of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**

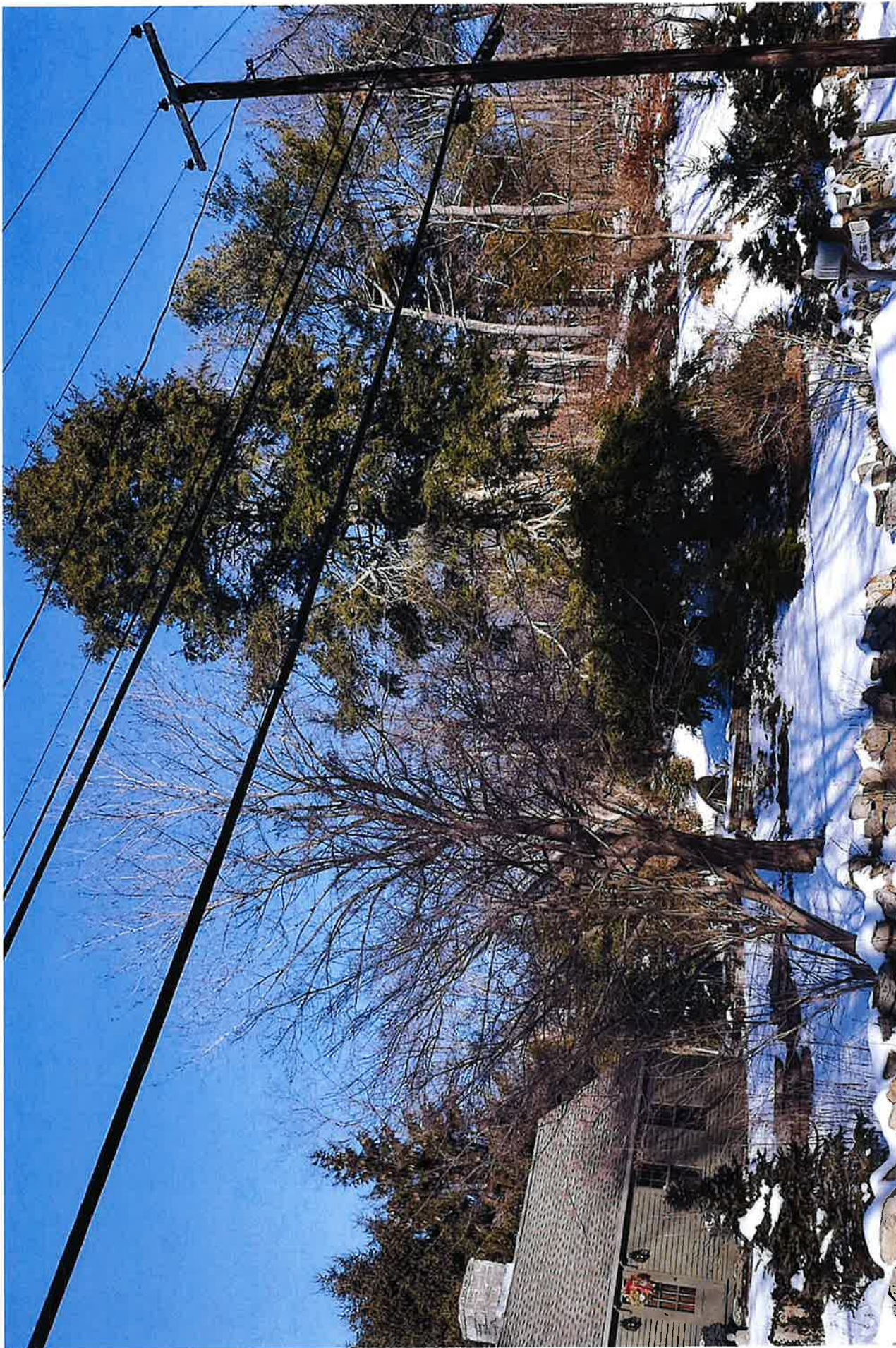




**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**  
**Photo #14 - approx. 3,580-ft SW of site**

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





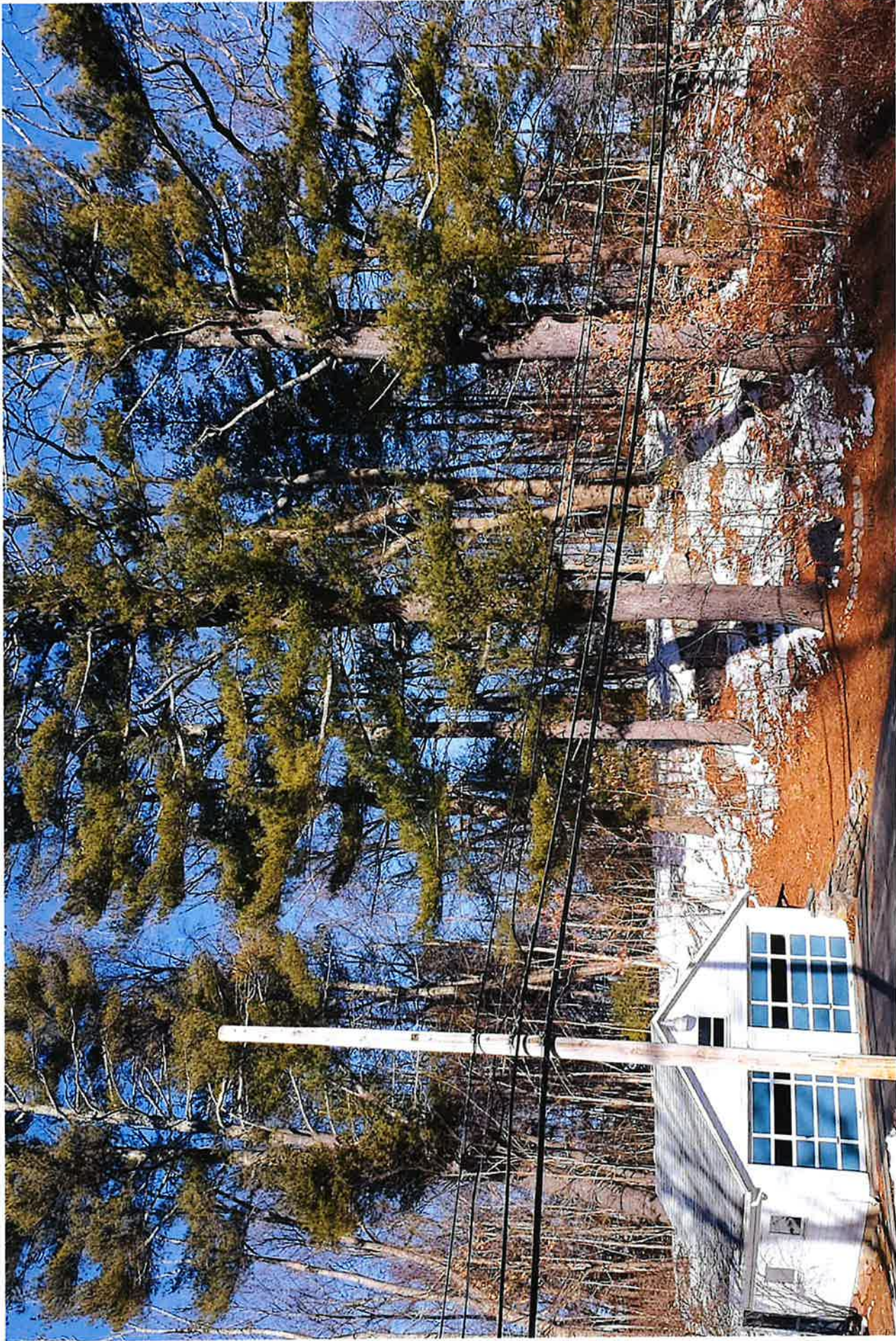
**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**

Photo #15 - approx. 2,775-ft SW of site



**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**





**Monopole Tower - Not Visible**  
**180-ft AGL (184-ft AGL w/ appurtenances)**

Photo #16 - approx. 3,950-ft SW of site

**South Ledyard (CT46142A)**  
**130 Welles Road**  
**Groton, CT 06340**



# **ATTACHMENT 4**



C Squared Systems, LLC  
65 Dartmouth Drive  
Auburn, NH 03032  
603-644-2800  
[support@csquaredsystems.com](mailto:support@csquaredsystems.com)

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## Calculated Radio Frequency Emissions



CT1357

130 Welles Road, Mystic, CT 06355

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August 4, 2021

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## 1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of AT&T antenna arrays to be mounted on an extension of the existing monopole tower located at 130 Welles Road in Mystic, CT. The coordinates of the tower are 41° 23' 34.19" N, 71° 58' 12.03" W. Sprint, T-Mobile and Dish will also install antenna systems on the proposed tower.

AT&T is proposing the following:

- 1) Install nine (9) multi-band antennas (three per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network (“NPSBN”).

This report considers the planned antenna configuration for AT&T¹, T-Mobile, Sprint² and Dish³ to derive the resulting % MPE of its proposed installation.

## 2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached “FCC Limits for Maximum Permissible Exposure (MPE)” in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

---

¹ As referenced to AT&T’s Radio Frequency Design Sheet updated 10/29/2020.

² T-Mobile and Sprint – From CSC database updated 07/15/2021.

³ As provided by SBA

### 3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \frac{1.6^2 \cdot 1.64 \cdot \text{ERP}}{4 \cdot R^2} \times \text{Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

R = Radial Distance =  $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

#### 4. Calculation Results

Table 1 below outlines the power density information for the site. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ² )	Limit	% MPE
AT&T	176	722	1	3460	0.0043	0.4813	0.89%
AT&T	176	776	1	3460	0.0043	0.5173	0.83%
AT&T	176	851	1	3973	0.0049	0.5673	0.87%
AT&T	176	1930	1	5484	0.0068	1.0000	0.68%
AT&T	176	2130	1	9445	0.0118	1.0000	1.18%
AT&T	176	2355	1	7165	0.0089	1.0000	0.89%
Sprint	117.5	850	1	438	0.0013	0.5667	0.22%
Sprint	117.5	850	2	438	0.0025	0.5667	0.45%
Sprint	117.5	1900	5	623	0.0090	1.0000	0.90%
Sprint	117.5	1900	2	1556	0.0090	1.0000	0.90%
Sprint	117.5	2500	8	778	0.0180	1.0000	1.80%
Dish	160	647	1	540	0.0008	0.4313	0.19%
Dish	160	722	1	720	0.0011	0.4813	0.23%
Dish	160	865	1	164	0.0002	0.5767	0.04%
Dish	160	2000	1	1687	0.0026	1.0000	0.26%
Dish	160	2100	1	1687	0.0026	1.0000	0.26%
T-Mobile	108	1950	2	12	0.0001	1.0000	0.01%
T-Mobile	108	2100	2	16	0.0001	1.0000	0.01%
T-Mobile	108	2100	2	24	0.0002	1.0000	0.02%
						<b>Total</b>	<b>10.63%</b>

Table 1: Carrier Information⁴

⁴ Antenna height listed for all carriers is in reference to the Tower Engineering Professionals site drawings dated July 27, 2021 (Rev. 2).

### 5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site modifications will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **10.63% of the FCC General Population/Uncontrolled limit.**

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual % MPE levels will be from the finished modifications.

### 6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1, and ANSI/IEEE Std. C95.3.



Reviewed/Approved By: _____  
 Martin Lavin  
 Senior RF Engineer  
 C Squared Systems, LLC

August 4, 2021  
 Date

### **Attachment A: References**

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

**Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)**

**(A) Limits for Occupational/Controlled Exposure⁵**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ² )	Averaging Time  E  ² ,  H  ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ² )*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

**(B) Limits for General Population/Uncontrolled Exposure⁶**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ² )	Averaging Time  E  ² ,  H  ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ² )*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

**Table 2: FCC Limits for Maximum Permissible Exposure (MPE)**

⁵ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁶ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

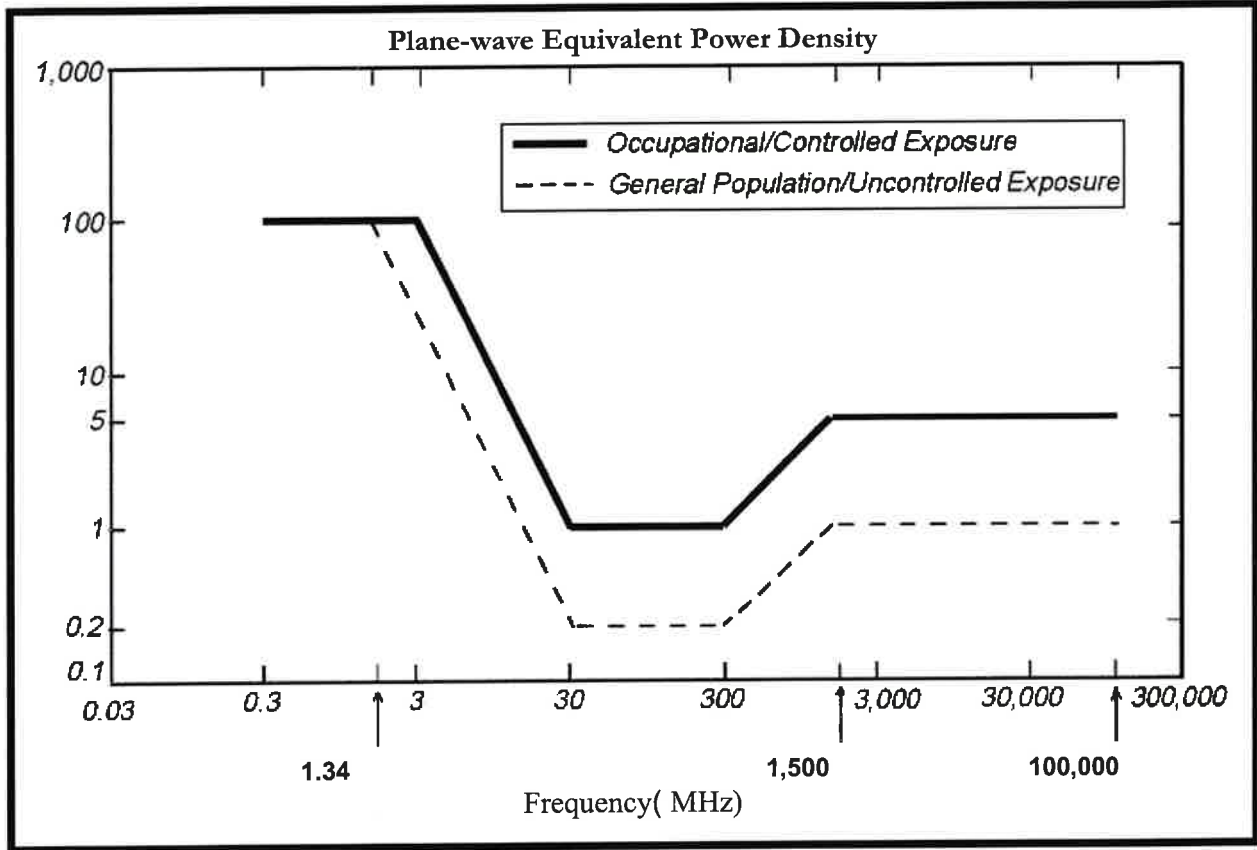
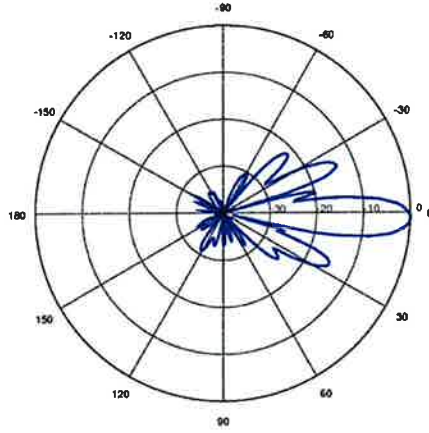
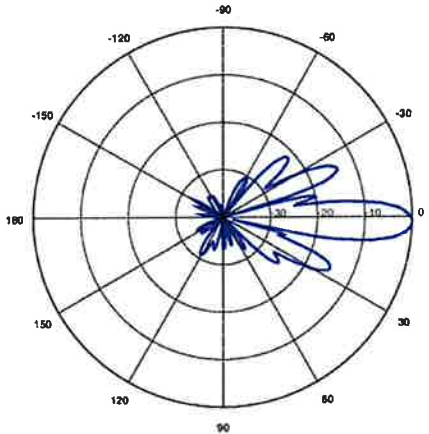
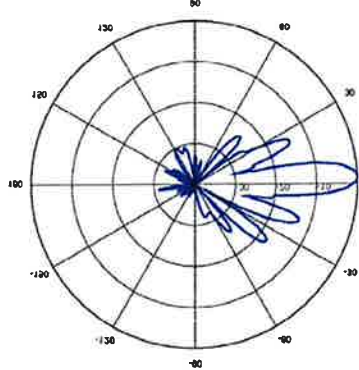
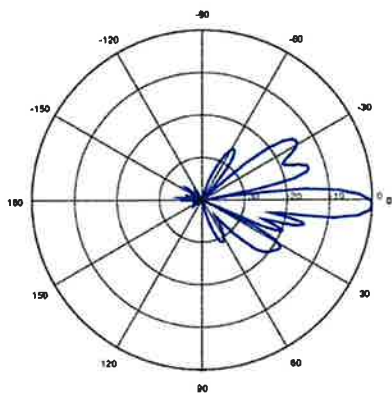
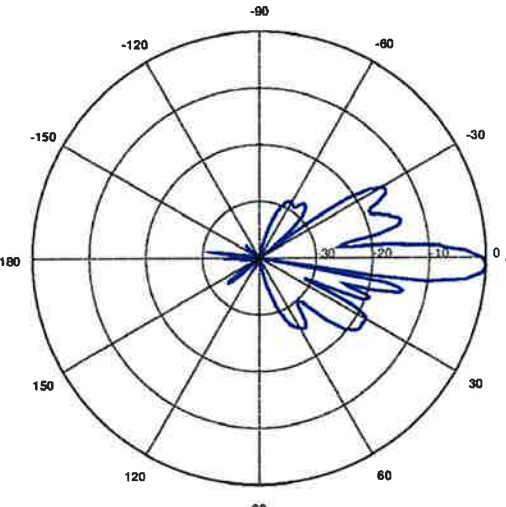
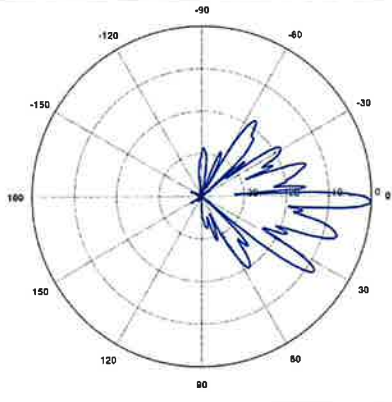


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

**Attachment C: AT&T Antenna Data Sheets and Electrical Patterns**

<p><b>722 MHz</b></p> <p>Manufacturer: KMW            Model #: EPBQ-654L8H8-L2            Frequency Band: 698-806 MHz            Gain: 15.9 dBi            Vertical Beamwidth: 9.3°            Horizontal Beamwidth: 67°            Polarization: ±45°            Dimensions (L x W x D): 96.0" x 21.0" x 6.3"</p>	
<p><b>763 MHz</b></p> <p>Manufacturer: KMW            Model #: EPBQ-654L8H8-L2            Frequency Band: 698-806 MHz            Gain: 15.9 dBi            Vertical Beamwidth: 9.3°            Horizontal Beamwidth: 67°            Polarization: ±45°            Dimensions (L x W x D): 96.0" x 21.0" x 6.3"</p>	
<p><b>885 MHz</b></p> <p>Manufacturer: KMW            Model #: EPBQ-654L8H8-L2            Frequency Band: 806-894 MHz            Gain: 16.2 dBi            Vertical Beamwidth: 8.7°            Horizontal Beamwidth: 66°            Polarization: ±45°            Dimensions (L x W x D): 96.0" x 21.0" x 6.3"</p>	



<p><b>1900 MHz</b></p> <p>Manufacturer: KMW            Model #: EPBQ-654L8H8-L2            Frequency Band: 1910-2180 MHz            Gain: 17.7 dBi            Vertical Beamwidth: 7.4°            Horizontal Beamwidth: 60°            Polarization: ±45°            Dimensions (L x W x D): 96.0" x 21.0" x 6.3"</p>	 <p>A polar plot showing the radiation pattern for a 1900 MHz antenna. The plot is circular with concentric rings representing gain levels and radial lines representing angles from 0 to 180 degrees. The main lobe is centered at 0 degrees, extending to approximately 180 degrees. There are several side lobes, with the most prominent ones between 30 and 60 degrees on both sides of the main lobe.</p>
<p><b>2100 MHz</b></p> <p>Manufacturer: KMW            Model #: EPBQ-654L8H8-L2            Frequency Band: 1920-2180 MHz            Gain: 17.7 dBi            Vertical Beamwidth: 7.4°            Horizontal Beamwidth: 60°            Polarization: ±45°            Dimensions (L x W x D): 96.0" x 21.0" x 6.3"</p>	 <p>A polar plot showing the radiation pattern for a 2100 MHz antenna. The plot is circular with concentric rings representing gain levels and radial lines representing angles from 0 to 180 degrees. The main lobe is centered at 0 degrees, extending to approximately 180 degrees. There are several side lobes, with the most prominent ones between 30 and 60 degrees on both sides of the main lobe.</p>
<p><b>2300 MHz</b></p> <p>Manufacturer: CCI            Model #: HPA-65R-BUU-H8            Frequency Band: 2305-2360 MHz            Gain: 17.7 dBi            Vertical Beamwidth: 4.5°            Horizontal Beamwidth: 60°            Polarization: ±45°            Dimensions (L x W x D): 92.4" x 14.8" x 7.4"</p>	 <p>A polar plot showing the radiation pattern for a 2300 MHz antenna. The plot is circular with concentric rings representing gain levels and radial lines representing angles from 0 to 180 degrees. The main lobe is centered at 0 degrees, extending to approximately 180 degrees. There are several side lobes, with the most prominent ones between 30 and 60 degrees on both sides of the main lobe.</p>

# **ATTACHMENT 5**



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2020-ANE-3358-OE  
Prior Study No.  
2009-ANE-1004-OE

Issued Date: 06/29/2020

Clinton Papenfuss  
SBA Towers  
8051 Congress Avenue  
Boca Raton, FL 33487-1310

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower CT 46142-A  
Location: Groton, CT  
Latitude: 41-23-33.64N NAD 83  
Longitude: 71-58-11.32W  
Heights: 48 feet site elevation (SE)  
185 feet above ground level (AGL)  
233 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)  
 Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 12/29/2021 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (816) 329-2525, or [natalie.schmalbeck@faa.gov](mailto:natalie.schmalbeck@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-ANE-3358-OE.

**Signature Control No: 442088268-444122746**

( DNE )

Natalie Schmalbeck  
Technician

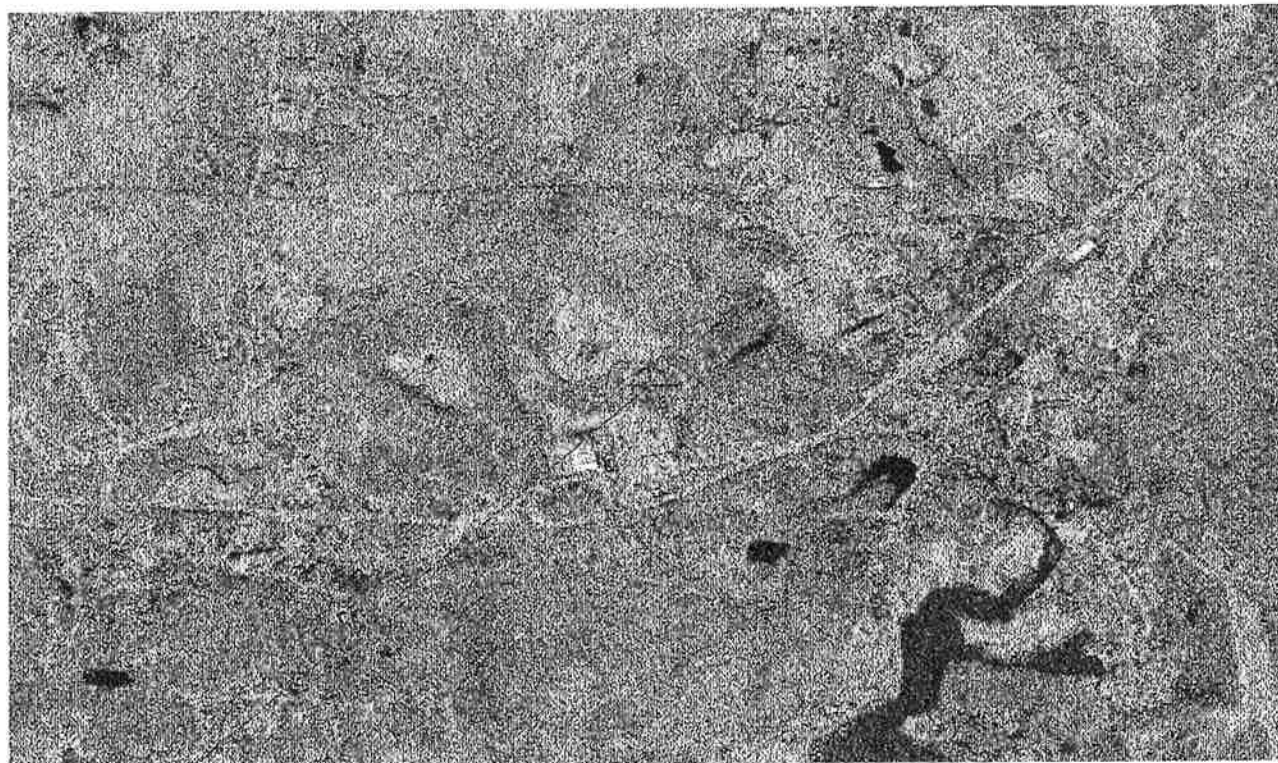
Attachment(s)  
Frequency Data  
Map(s)

cc: FCC

**Frequency Data for ASN 2020-ANE-3358-OE**

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

**Verified Map for ASN 2020-ANE-3358-OE**



# **ATTACHMENT 6**

KENNETH C. BALDWIN

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

Also admitted in Massachusetts  
and New York

August 16, 2021

«Name_and_Address»

**Re: Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Replacement of a Telecommunications Tower at 130 Welles Road, Groton, Connecticut**

Dear «Salutation»:

This firm represents the SBA Communications Corporation (“SBA”). Today, SBA filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to replace an existing 120-foot telecommunications monopole tower at 130 Welles Road, Groton, Connecticut (the “Property”).

The replacement tower will be constructed adjacent to the existing tower at a height of 180 feet tall. Once construction of the new tower is complete, the existing 120-foot tower will be removed from the Property. A copy of the full Petition is attached for your review.

If you have any questions regarding this Petition, please contact me or the Siting Council directly at (860) 827-2935.

Sincerely,



Kenneth C. Baldwin

KCB/kmd  
Enclosure



# **ATTACHMENT 7**

KENNETH C. BALDWIN

280 Trumbull Street  
Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

Also admitted in Massachusetts  
and New York

August 16, 2021

*Via Certified Mail Return Receipt Requested*

«Name_and_Address»

**Re: Petition for Declaratory Ruling Filed with the Connecticut Siting Council for the Replacement of a Telecommunications Tower at 130 Welles Road, Groton, Connecticut**

Dear «Salutation»:

This firm represents the SBA Communications Corporation (“SBA”). Today, SBA filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to replace an existing 120-foot telecommunications monopole tower at 130 Welles Road, Groton, Connecticut (the “Property”).

The replacement tower will be constructed adjacent to the existing tower at a height of 180 feet tall. Once construction of the new tower is complete, the existing 120-foot tower will be removed from the Property. A copy of the full Petition is attached for your review.

This notice is being sent to you because you are listed on the City Assessor’s records as an owner of land that abuts the Property. If you have any questions regarding the Petition, the Council’s process for reviewing the Petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

August 16, 2021  
Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Attachment

**ADJACENT PROPERTY OWNERS**

PETITIONER: SBA Communications Corporation

PROPERTY OWNER: Town of Groton

PROPERTY ADDRESS: 130 Welles Road

MAP/BLOCK/LOT: 271014348692 E

	<b>Property Address</b>	<b>Owner and Mailing Address</b>
1.	150 Welles Road	State of Connecticut 150 Welles Road, Mystic, CT 06355
2.	0 Welles Road	Town of Groton 45 Fort Hill Road, Groton, CT 06340
3.	0 Welles Road	Town of Groton 45 Fort Hill Road, Groton, CT 06340
4.	0 Welles Road	Town of Groton 45 Fort Hill Road, Groton, CT 06340
5.	90 Welles Road	Silver Oak LLC 90 Welles Road, Mystic, CT 06355
6.	115 Welles Road	Old Mystic Fire District Community House Welles Road, Mystic, CT 06355
7.	2906 Gold Star Highway	TYE LLC 116 Noank Ledyard Road, Mystic, CT 06355
8.	182 Welles Road	Terry R. & Laurie Kotfer 182 Welles Road, Mystic, CT 06355
9.	105 Welles Road	Old Welles Cemetery Welles Road, Old Mystic, CT 06372