Jesse A. Langer
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July 8, 2021

VIA ELECTRONIC MAIL
AND FEDERAL EXPRESS

Ms. Melanie A. Bachman, Esq., Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: DOCKET NO. 496

Dear Attorney Bachman:

This office represents Tarpon Towers II, LLC ("Tarpon"). On behalf of Tarpon, and pursuant to § 16-50j-75 *et seq.* of the Regulations of Connecticut State Agencies, I have enclosed one original and fifteen copies of Tarpon's Development and Management ("D&M") Plan submission in connection with the above-captioned docket. The submission includes the following:

1. Pursuant to Condition 2(a) of the Order, Tarpon has provided a firm commitment from T-Mobile Northeast LLC to install and operate its wireless equipment on the facility approved in Docket No. 496 after completion of construction.

2. Pursuant to Condition 2(b) and (d) of the Order, Tarpon has prepared detailed final site plans, including construction plans in compliance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

3. Pursuant to Condition 2(c) of the Order, the enclosed tower and foundation design incorporate a yield point to ensure that the tower setback radius remains within the boundaries of the subject property.

4. Pursuant to Condition 2(e) of the Order, the construction schedule is as follows: Mondays through Friday, 7:30a.m. to 7:30p.m. Tarpon will coordinate with the Town of Windsor, as necessary.

Updike, Kelly & Spellacy, P.C.
8 Frontage Road ▪ East Haven, CT 06512-2101 (t) 203.467.7337 (f) 203.468.7865 www.uks.com

Tarpon respectfully requests that the Connecticut Siting Council include this D&M Plan submission for review and approval on the next available agenda. Please do not hesitate to contact me with any questions.

Very truly yours,

Jesse A. Langer

Enclosures

cc: The Honorable Mayor Donald S. Trinks (*via email)*
The Ferraina Company, LLC *c/o* Craig W. Ferraina *(via email)*

T-Mobile

T-Mobile USA
35 Griffin Road South
Bloomfield, CT 06002

July 7, 2021

INCLUDED WITH DEVELOPMENT
AND MANAGEMENT PLAN SUBMITTAL

Ms. Melanie A. Bachman, Esq., Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: DOCKET NO. 496

Dear Attorney Bachman:

In accordance with Condition 2(a) of the Connecticut Siting Council's decision in Docket 496, T-Mobile Northeast LLC presents this letter as its firm commitment to install and thereafter operate associated wireless equipment at the facility identified in Docket 496 upon completion of construction.

Brian Paul

Manager, Engineering
Development CT

DocuSigned by:
Brian Paul
6EF34A8D927E49C...

7/7/2021

DEVELOPMENT AND MANAGEMENT PLAN

TARPON TOWERS

TARPON TOWERS II, LLC
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

DRAWING INDEX

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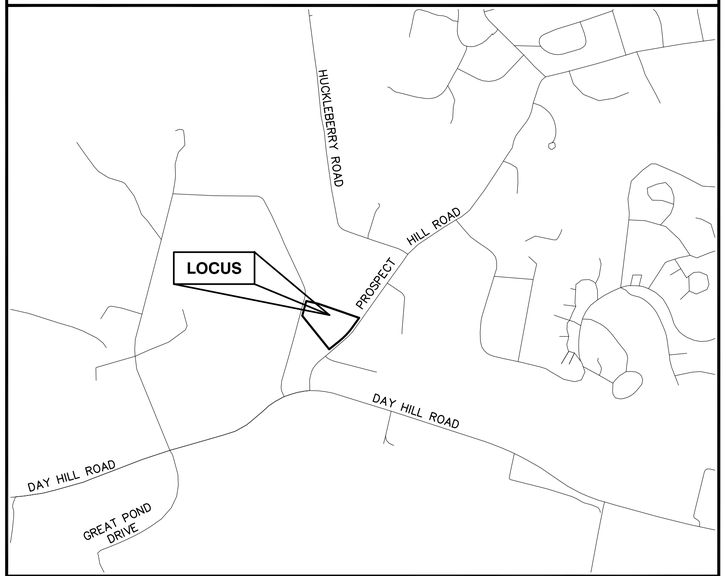
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER & TARPON TOWERS II, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
2. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH TARPON TOWERS II, LLC CONSTRUCTION GUIDELINES.
3. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL CBYD AT 811 (CALL BEFORE YOU DIG) 72 HOURS PRIOR TO ANY EXCAVATION.
4. THIS SHEET SET WAS ORIGINALLY PRINTED TO ANSI D (22"x34") WITH 1" MARGINS. PRINTING TO ANSI B (11"x17") WILL RESULT IN A HALF-SCALE (1:2) SHEET SET WITH 1/2" MARGINS. CONFIRM ALL SCALED DISTANCES WITH GRAPHICAL SCALES SHOWN HEREIN.
5. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   BUILDING CODE: CONNECTICUT STATE BUILDING CODE (2018) (IBC 2015 WITH AMENDMENTS)
   ELECTRICAL CODE: NEC 2017 WITH AMENDMENTS
6. ALL WORK TO CONFORM WITH THE CONNECTICUT SITING COUNCIL DOCKET NO. 496 DECISION ORDER ISSUED JUNE 7, 2021.
7. REFER TO THE NEW TAPP TOWER DESIGN PREPARED FOR THIS PROJECT DATED JUNE 11, 2021 FOR FURTHER INFORMATION ON THE PROPOSED STRUCTURE. TOWER INSTALLATION AND POST MODIFICATION INSPECTION REPORT SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF FUTURE CARRIER EQUIPMENT.
8. THE CONSTRUCTION SHOWN HEREIN MAY REQUIRE SPECIAL INSPECTIONS PER THE BUILDING CODE. APPLICANT/CONTRACTOR SHALL VERIFY WITH THE AUTHORITIES HAVING JURISDICTION (AHJ) PRIOR TO CONSTRUCTION AND ENGAGE THE INSPECTOR AND/OR APPROPRIATE 3RD PARTIES AS MAY BE REQUIRE

VICINITY MAP



1000 750 500 250 0 1000 2000

SCALE: 1" = 1000'± (22"x34")
1" = 2000'± (11"x17")

N

TENANT INFORMATION

T-Mobile

SITE NUMBER: CTHA227A

T-MOBILE NORTHEAST, LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002

PROJECT INFORMATION

SITE TYPE:	RAW LAND
SCOPE OF WORK:	PROPOSED 135' TALL MONOPOLE WITHIN 48'x48' FENCED COMPOUND AND 50'x50' LEASE AREA.
SITE NAME:	WINDSOR
SITE NUMBER:	CT 1209
SITE ADDRESS:	800 PROSPECT HILL ROAD WINDSOR, CT 06095
ASSESSOR'S TAX ID#:	MAP 17, BLOCK 135, LOT 1
ZONING DISTRICT:	INDUSTRIAL (I)
LATITUDE:	41° 52' 58.5"± N (SURVEY 1A)
LONGITUDE:	72° 42' 29.2"± W (SURVEY 1A)
(P) GRADE:	174.5'±
DATUM:	NAD83/NAVD88
PROPERTY OWNER:	N/F THE FERRAINA COMPANY, LLC 810 PROSPECT HILL ROAD WINDSOR, CT 06095
TOWER OWNER:	TARPON TOWERS II, LLC 1001 3RD AVENUE WEST SUITE 420 BRADENTON, FL 34205
SITE ENGINEER:	PROTERRA DESIGN GROUP, LLC 4 BAY ROAD BLDG A; SUITE 200 HADLEY, MA 01035 (413) 320-4918
SURVEYOR:	ALFORD ASSOCIATES, INC. 200 PIGEON HILL ROAD WINDSOR, CT 06095 (860) 688-7288

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	05/27/21	ISSUED FOR REVIEW
0	06/21/21	DEVELOPMENT & MANAGEMENT PLAN
1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

TITLE:
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:
TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:

STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
LICENSED PROFESSIONAL ENGINEER
6/25/21

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049

SHEET TITLE:

TITLE SHEET

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – TARPON TOWERS II, LLC OR ITS AFFILIATES
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – PROPERTY OWNER OF RECORD/TARPON TOWERS II, LLC
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY PROTERRA DESIGN GROUP, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL TARPON TOWERS II, LLC STANDARDS AND SPECIFICATIONS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TARPON TOWERS II, LLC SPECIFICATION FOR SITE SIGNAGE.

CONCRETE & REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS (6% ±1% AIR ENTRAINMENT, 3"–5" SLUMP), UNLESS NOTED OTHERWISE. **(NOTE: THIS IS SITE CONCRETE, NOT NECESSARILY STRUCTURAL CONCRETE AND SHOULD BE VERIFIED AGAINST MORE STRINGENT).** A HIGHER STRENGTH MAY BE USED UPON APPROVAL. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 318 CODE REQUIREMENTS.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TESTS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (ACI 318-14 SECTION 26.12.2 – FREQUENCY OF TESTING) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER TO PROVIDE THE BUILDING OFFICIAL:
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST BY AN INDEPENDENT TESTING AGENCY

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS OR FOUNDATIONS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

10. ALL TOWER FOUNDATION CONCRETE SHALL CONFORM TO SPECIFICATIONS BY STRUCTURAL ENGINEER OF RECORD.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND TARPON TOWERS II, LLC SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 95% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT NOTES:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, CARRIER ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC).

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SEE ELECTRICAL DETAIL SHEET), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (SEE ELECTRICAL DETAIL SHEET), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (EMT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
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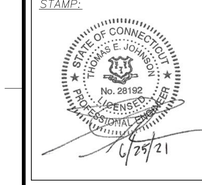
0	06/21/21	DEVELOPMENT & MANAGEMENT PLAN
1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

TITLE:
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:
TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:



DATE:	06/25/21
DRAWN:	BLM
CHECK:	JMM/TEJ
SCALE:	SEE PLAN
JOB NO.:	18-049

SHEET TITLE:

GENERAL NOTES

GN-1

SURVEY NOTES –

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20–300b–1 THROUGH 20–300b–20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC.. IT IS A LIMITED PROPERTY/BOUNDARY SURVEY BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A–2 AND IS INTENDED TO BE USED AS AN IMPROVEMENT LOCATION SURVEY.

EXISTING TOPOGRAPHY, ADJACENT TO THE PROPOSED TOWER, HAS BEEN FIELD VERIFIED ON JULY 11, 2018 AND CONFORMS TO VERTICAL CLASS T–2. UNDERGROUND UTILITIES, WITHIN THIS AREA, HAVE BEEN TAKEN FOR REFERENCE PLAN #2.

2. THE PURPOSE OF THIS SURVEY IS TO SUPPORT THE DESIGN AND CONSTRUCTION OF A TELECOMMUNICATION FACILITY. USE OF THIS SURVEY BY ANYONE OTHER THAN TARPON TOWERS II, LLC AND USE OF THIS SURVEY FOR ANY PURPOSE NOT RELATED TO THE DESIGN OF THE INTENDED FACILITY IS STRICTLY PROHIBITED.

3. PRIMARY GEODETIC SURVEY CONTROL WAS ESTABLISHED FROM AN ON THE GROUND SURVEY USING THE GLOBAL POSITIONING SYSTEM (GPS) ON JULY 11, 2018. THE HORIZONTAL REFERENCED DATUM IS THE NAD 83 BASED ON THE GRS 80 REFERENCE ELLIPSOID. THE GRID COORDINATES ARE BASED ON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM. ELEVATIONS SHOWN ARE BASED ON NAVD 88. VERTICAL AND HORIZONTAL INFORMATION SHOWN MEETS THE STANDARD CRITERIA FOR AN FAA 1A CERTIFICATION (20'± HORIZONTAL AND 3'± VERTICAL).

4. IN THE EVENT THAT BENCHMARKS, ESTABLISHED FOR THIS PROJECT AND PUBLISHED ON THIS SURVEY, ARE DESTROYED, NOT RECOVERABLE, OR A DISCREPANCY IS FOUND, THE USER SHOULD NOTIFY THIS FIRM IN WRITING PRIOR TO COMMENCING OR CONTINUING ANY WORK.

5. A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, COMMITMENT 22932967, EFFECTIVE DATE OF COMMITMENT: MAY 16, 2016 WAS USED TO PREPARE THIS SURVEY.

6. AREA OF PARCEL "780, 800, 810, 820 & 840 PROSPECT HILL ROAD" = 250,779 SQ. FT. = 5.76 ACRES

7. OWNER OF THE SUBJECT PARCEL IS THE FERRAINA COMPANY LLC; DEED REFERENCE VOL. 1212, PAGE 1. PARCEL IS SHOWN ON WINDSOR TAX ASSESSOR'S MAP 17, BLOCK 135, LOT 1, FILE CODE NO. 8300. PARCEL IS ZONED "I"; INDUSTRIAL AS SHOWN ON THE CURRENT ZONING MAP FOR THE TOWN OF WINDSOR.

8. NOTHING IN THIS SURVEY IS INTENDED TO EXPRESS AN OPINION REGARDING OWNERSHIP OR TITLE.

9. THE SUBJECT PROPERTY IS WITHIN "ZONE X", AN AREA OF MINIMAL FLOOD HAZARD, AS SHOWN ON A PLAN ENTITLED "NATIONAL FLOOD INSURANCE LAYER FIRMETTE 09003C0214F, EFFECTIVE DATE: 9/26/2008 TOWN OF WINDSOR 090041". ZONE "X" IS OUTSIDE OF THE 1% ANNUAL CHANCE FLOOD (100 YEAR FLOOD) AND THE 0.2% ANNUAL CHANCE FLOOD AREAS.

REFERENCE PLANS –

1. "ALTA/ACSM LAND TITLE SURVEY PREPARED FOR THE FERRAINA COMPANY, LLC 780, 800, 810, 820 AND 840 PROSPECT HILL ROAD, WINDSOR, CONNECTICUT ALFORD ASSOCIATES, INC. CIVIL ENGINEERS 200 PIGEON HILL ROAD, WINDSOR, CT 06095 (860) 688–7288 WILSON M. ALFORD, JR. P.E. & L.S. LICENSE #9344 SCALE: 1 IN.=40 FT. DATE: JUNE 20, 2008"

2. "SITE PLAN PREPARED FOR D.M.A.C. LIMITED PARTNERSHIP 780, 800, 820 & 840 PROSPECT HILL ROAD WINDSOR, CONN. SCALE: 1 IN.=40 FT. DATE: MAY 7, 1990 REVISION DATES TO 4/16/99 ALFORD ASSOCIATES, INC., CIVIL ENGINEERS, WINDSOR, CONNECTICUT"

FAA 1–A CERTIFICATION

I HEREBY CERTIFY THAT THE LATITUDE, LONGITUDE, AND ELEVATION PRESENTED HEREON MEET THE REQUIREMENTS OF THE FAA WITH THE FOLLOWING ACCURACIES:

THREE (3) FEET VERTICALLY
TWENTY (20) FEET HORIZONTALLY

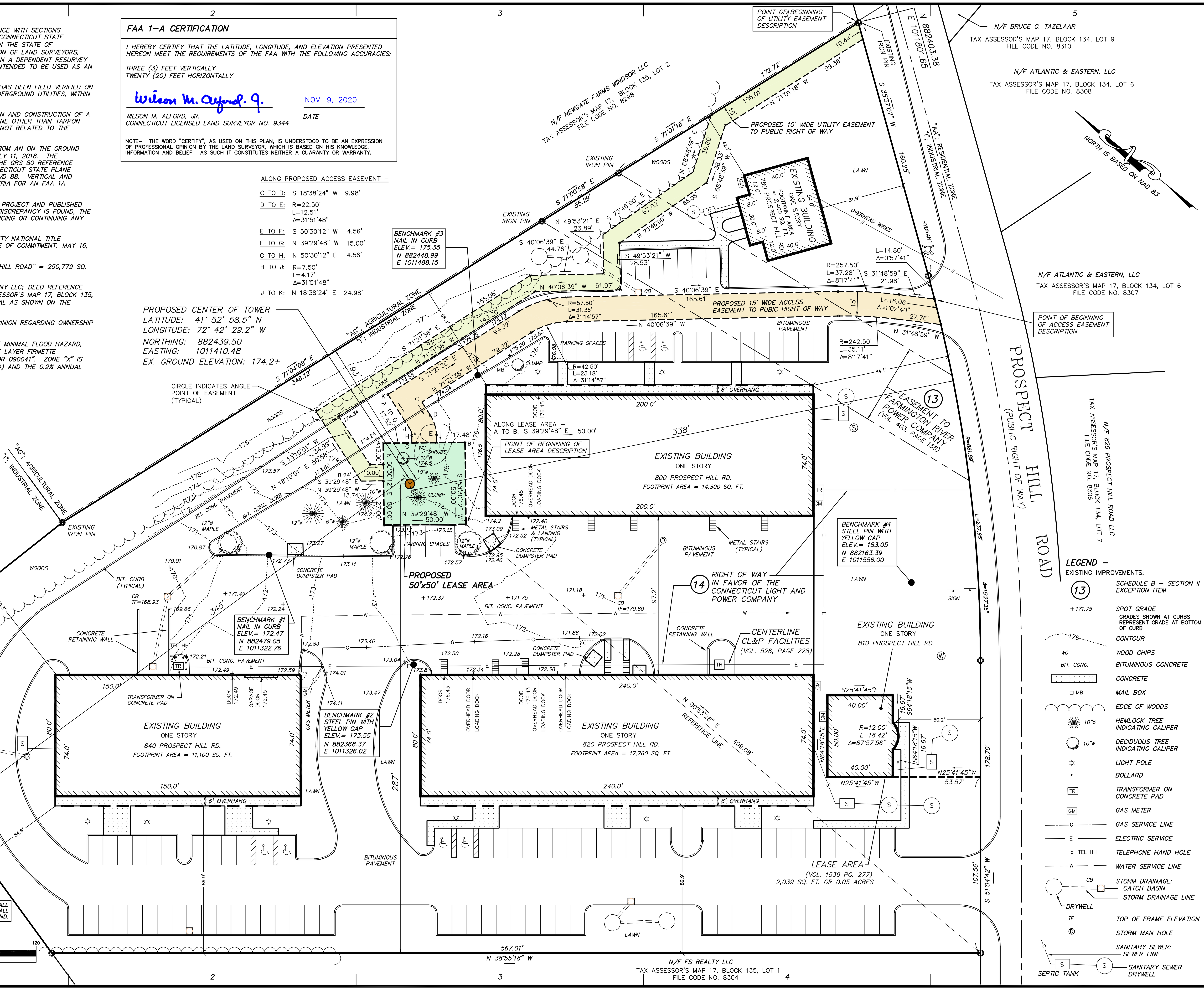
Wilson M. Alford, Jr. — NOV. 9, 2020
WILSON M. ALFORD, JR. — DATE
CONNECTICUT LICENSED LAND SURVEYOR NO. 9344

NOTE– THE WORD "CERTIFY", AS USED ON THIS PLAN, IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE LAND SURVEYOR, WHICH IS BASED ON HIS KNOWLEDGE, INFORMATION AND BELIEF. AS SUCH IT CONSTITUTES NEITHER A GUARANTY OR WARRANTY.

ALONG PROPOSED ACCESS EASEMENT –

C TO D:	S 18°38'24" W 9.98'
D TO E:	R=22.50' L=12.51' Δ=31°51'48"
E TO F:	S 50°30'12" W 4.56'
F TO G:	N 39°29'48" W 15.00'
G TO H:	N 50°30'12" E 4.56'
H TO J:	R=7.50' L=4.17' Δ=31°51'48"
J TO K:	N 18°38'24" E 24.98'

PROPOSED CENTER OF TOWER
LATITUDE: 41° 52' 58.5" N
LONGITUDE: 72° 42' 29.2" W
NORTHING: 882439.50
EASTING: 1011410.48
EX. GROUND ELEVATION: 174.2±



LEGEND –

EXISTING IMPROVEMENTS:

(13)	SCHEDULE B – SECTION II EXCEPTION ITEM
+171.75	SPOT GRADE — GRADES SHOWN AT CURBS REPRESENT GRADE AT BOTTOM OF CURB
176	CONTOUR
WC	WOOD CHIPS
BIT. CONC.	BITUMINOUS CONCRETE
	CONCRETE
MB	MAIL BOX
	EDGE OF WOODS
10"ø	HEMLOCK TREE INDICATING CALIPER
10"ø	DECIDUOUS TREE INDICATING CALIPER
	LIGHT POLE
•	BOLLARD
TR	TRANSFORMER ON CONCRETE PAD
GM	GAS METER
G	GAS SERVICE LINE
E	ELECTRIC SERVICE
TEL HH	TELEPHONE HAND HOLE
W	WATER SERVICE LINE
CB	STORM DRAINAGE: CATCH BASIN; STORM DRAINAGE LINE; DRYWELL
TF	TOP OF FRAME ELEVATION
D	STORM MAN HOLE
S	SANITARY SEWER: SEWER LINE; SEPTIC TANK; SANITARY SEWER DRYWELL

ProTerra DESIGN GROUP, LLC
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Ph: (413)320–4918

CONSULTANTS:
Alford ASSOCIATES, INC.
CIVIL ENGINEERS
200 PIGEON HILL ROAD
WINDSOR, CT 06095
860–688–7288
WILSON M. ALFORD, JR., P.E.& L.S.
LICENSE NO. 9344

NO.	DATE	REVISIONS
A	08/31/18	ISSUED FOR REVIEW
B	10/02/18	ISSUED FOR REVIEW
C	10/11/18	ISSUED FOR REVIEW
D	1–10–19	REVISED SURVEY NOTE 1
E	11–9–20	UPDATED OWNERS OF PARCELS ID/FILE CODE #8307 & #8308

TITLE:
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:
TARPON TOWERS II, LLC
TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STATE OF CONNECTICUT — WILSON M. ALFORD, JR. — No. 9344 — LICENSED LAND SURVEYOR
Wilson M. Alford, Jr.

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.
L.S. NO. 9344

NOT VALID WITHOUT A LIVE SIGNATURE AND EMBOSSED SEAL.

DATE:	08/31/18
DRAWN:	MRH
CHECK:	WMA
SCALE:	1 IN. = 30 FT.
JOB NO.:	18–049

SHEET TITLE:
IMPROVEMENT LOCATION SURVEY

C-1

SS: PROPOSED TOWER PLAN P: F99069 D: F99069WS FERRAINA 780–840 PROSPECT HILL

PARCEL
765 PROSPECT HILL ROAD
N/F
BRUCE C. TAZELAAR
765 PROSPECT HILL ROAD
WINDSOR, CT 06095
MAP: 17, BLOCK: 134, LOT: 9
FILE CODE #: 8310

PARCEL
740 PROSPECT HILL ROAD
N/F
NEWGATE FARMS WINDSOR, LLC
P.O. BOX Y
EAST GRANBY, CT 06026
MAP: 17, BLOCK: 135, LOT: 2
FILE CODE #: 8298

PARCEL
785 PROSPECT HILL ROAD
N/F
JOSEPH R. BRETON
10 VALLEY VIEW DRIVE
BLOOMFIELD, CT 06002
MAP: 17, BLOCK: 134, LOT: 6
FILE CODE #: 8308

(P) 15' WIDE
ACCESS EASEMENT
TO PUBLIC R.O.W.

(E) ABUTTER PROPERTY
LINE, TYP.

(P) 10' WIDE
UTILITY EASEMENT
TO PUBLIC R.O.W.

PARCEL
799 PROSPECT HILL ROAD
N/F
JOSEPH R. BRETON
10 VALLEY VIEW DRIVE
BLOOMFIELD, CT 06002
MAP: 17, BLOCK: 134, LOT: 6
FILE CODE #: 8307

EASEMENT TO
FARMINGTON RIVER
POWER COMPANY
(VOL. 403, PAGE 158)

(E) LOCUS PROPERTY
LINE, TYP.

1
A-2
(P) 50'x50' LEASE AREA
WITH FENCED COMPOUND
AND MONOPOLE

LOCUS
780, 800, 810, 820, & 840
PROSPECT HILL ROAD
N/F
THE FERRAINA COMPANY, LLC
810 PROSPECT HILL ROAD
WINDSOR, CT 06095
MAP: 17, BLOCK: 135, LOT 1
FILE CODE #: 8300
AREA=5.76 AC.±

PROSPECT HILL ROAD
(PUBLIC R.O.W.)

PARCEL
825 PROSPECT HILL ROAD
N/F
825 PROSPECT HILL ROAD, LLC
C/O THOMAS DANIELLS MURTHA CULLINA, LLP
185 ASYLUM STREET
HARTFORD, CT 06103
MAP: 17, BLOCK: 134, LOT: 7
FILE CODE #: 8306

PARCEL
2000 DAY HILL ROAD
N/F
COMBUSTION ENGINEERING, INC.
& ABB CORPORATE REAL ESTATE
12040 REGENCY PARKWAY, SUITE 200
CARY, NC 27518
MAP: 12, BLOCK: 142, LOT: 12
FILE CODE #: 8207

PARCEL
850 PROSPECT HILL ROAD
N/F
FS REALTY, LLC
370 SOUTH STONE STREET
WEST SUFFIELD, CT 06093
MAP: 17, BLOCK: 135, LOT: 1
FILE CODE #: 8304

ABUTTERS PLAN

1
P-1

SCALE: 1"=60' (22x34)
1"=120' (11x17)

60 30 0 60 120

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4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
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A	05/27/21	ISSUED FOR REVIEW
0	06/21/21	DEVELOPMENT & MANAGEMENT PLAN
1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

TITLE:
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

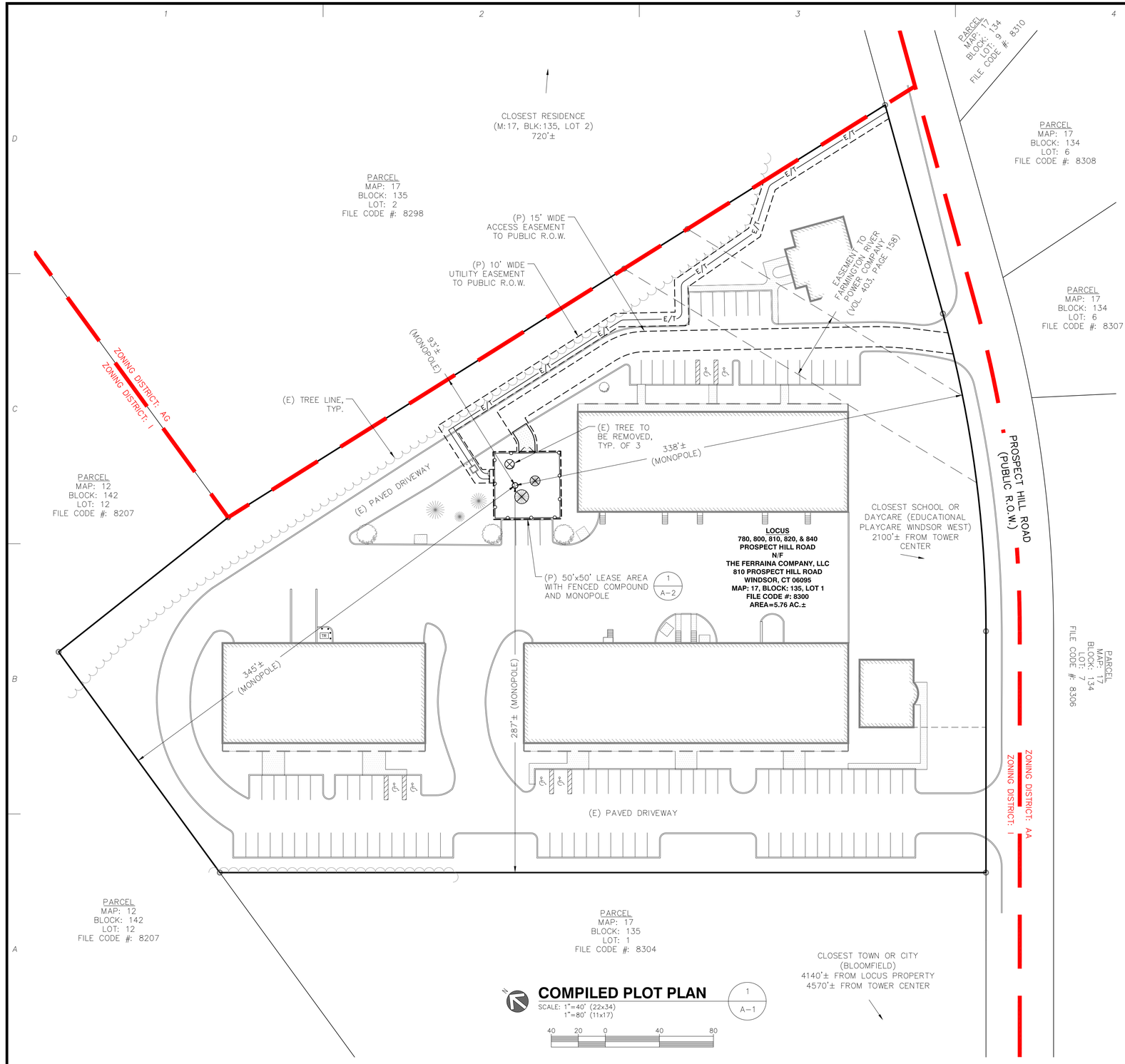
TOWER OWNER:
TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:
STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
LICENSED
PROFESSIONAL ENGINEER
6/25/21

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049
SHEET TITLE:

ABUTTERS PLAN

P-1



COMPILED PLOT PLAN

SCALE: 1"=40' (22x34)
1"=80' (11x17)

1
A-1

40 20 0 40 80

GENERAL NOTES

1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND POSITIONS OF ALL PROJECT OWNER'S EQUIPMENT ARE SHOWN IN ILLUSTRATIVE FASHION. THESE DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
2. THE PROJECT OWNER'S PCS FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. THE DESIGN OF THE TOWER, FOUNDATION AND ANTENNA MOUNTING HARDWARE WILL MEET THE ANSI/EIA/TIA-222 STANDARDS FOR STRUCTURAL STEEL ANTENNA SUPPORTING STRUCTURES AND STATE BUILDING CODE REQUIREMENTS. DETAILED CONSTRUCTION DRAWINGS AND STRUCTURAL CALCULATIONS WILL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED WITH A BUILDING PERMIT APPLICATION FOR REVIEW AND APPROVAL BY THE LOCAL BUILDING CODE ENFORCEMENT OFFICIAL.
4. ONCE THE FACILITY BECOMES FULLY OPERATIONAL, NORMAL AND ROUTINE MAINTENANCE BY TOWER OWNER'S AND CARRIER'S TECHNICIANS WILL BE PERFORMED. THE ESTIMATED VEHICULAR TRAFFIC GENERATED BY THESE VISITS IS PREDICTED TO BE LESS THAN THE TYPICAL TRAFFIC GENERATED BY A SINGLE-FAMILY DWELLING.

REFERENCES

PROPERTY LINE, TOPOGRAPHY AND EXISTING FEATURES – SEE SHEET C-1 PREPARED BY ALFORD ASSOCIATES, INC. A PROPERTY LINE AND/OR BOUNDARY RE-TRACEMENT HAS NOT BEEN PERFORMED. A A-2 SURVEY MAY BE REQUIRED PER CSC APPLICATION REVIEW.

ZONING DISTRICTS – TOWN OF WINDSOR, CT GIS DATA PORTAL

FLOODPLAIN – FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 09003C0214F EFFECTIVE DATE SEPTEMBER 26, 2008 PREPARED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), US DEPARTMENT OF HOMELAND SECURITY. ENTIRE AREA SHOWN IS WITHIN ZONE "X" UNSHADED: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOOD CHANCE FLOODPLAIN.

CSC DIMENSIONS

ASSESSORS ID: MAP 17; BLOCK 135; LOT 1
(P) USE: WIRELESS COMMUNICATION FACILITY

MONOPOLE HEIGHT (HIGHEST APPURTENANCE)	135'± (139'±)
EXISTING SITE ACCESS LENGTH	360'±
PROPOSED SITE ACCESS LENGTH	20'±
NUMBER OF TREES OVER 6" DBH TO BE REMOVED	3
NUMBER OF RESIDENCES WITHIN 1000 FEET	13
CLOSEST TOWN OR CITY TO LOCUS PARCEL	4140'± (BLOOMFIELD)
FOLLOWING DISTANCES FROM TOWER CENTER	
NEAREST WETLANDS (ON LOCUS PROPERTY)	N/A
NORTHERN PROPERTY BOUNDARY	93'±
SOUTHERN PROPERTY BOUNDARY	287'±
WESTERN PROPERTY BOUNDARY	345'±
EASTERN PROPERTY BOUNDARY	338'±
CLOSET RESIDENCE	720'± (M:17; BKL:135 L:2)
CLOSEST SCHOOL OR DAYCARE	2100'± (EDUCATIONAL PLAYCARE WINDSOR WEST)
CLOSEST TOWN OR CITY	4570'± (BLOOMFIELD)

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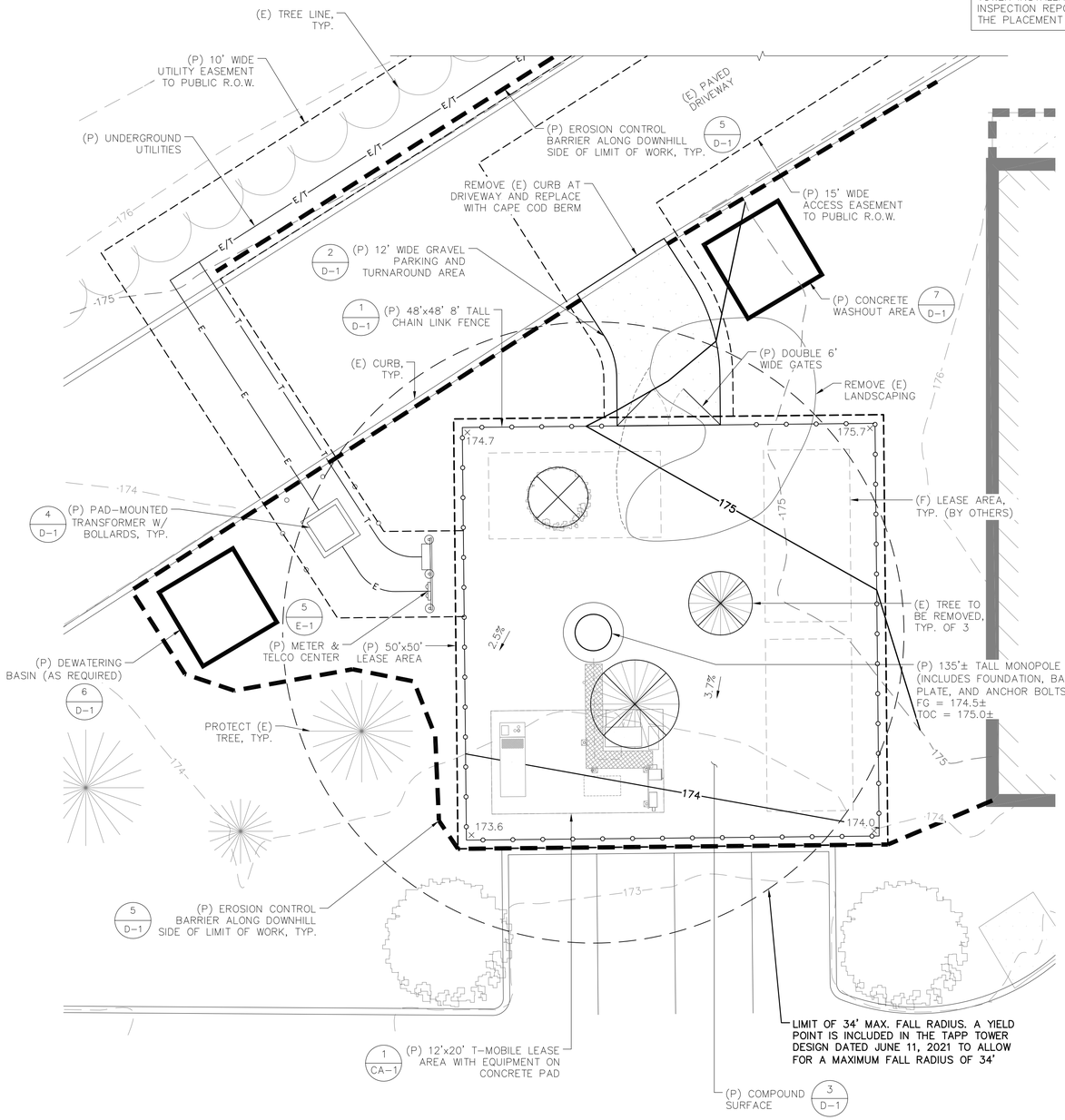
STAMP:
STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
LICENSED
PROFESSIONAL ENGINEER
6/25/21

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049
SHEET TITLE:

COMPILED PLOT PLAN

A-1

REFER TO THE NEW TAPP TOWER DESIGN PREPARED FOR THIS PROJECT DATED JUNE 11, 2021 FOR FURTHER INFORMATION ON THE PROPOSED STRUCTURE. TOWER INSTALLATION AND POST MODIFICATION INSPECTION REPORT SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF FUTURE CARRIER EQUIPMENT.

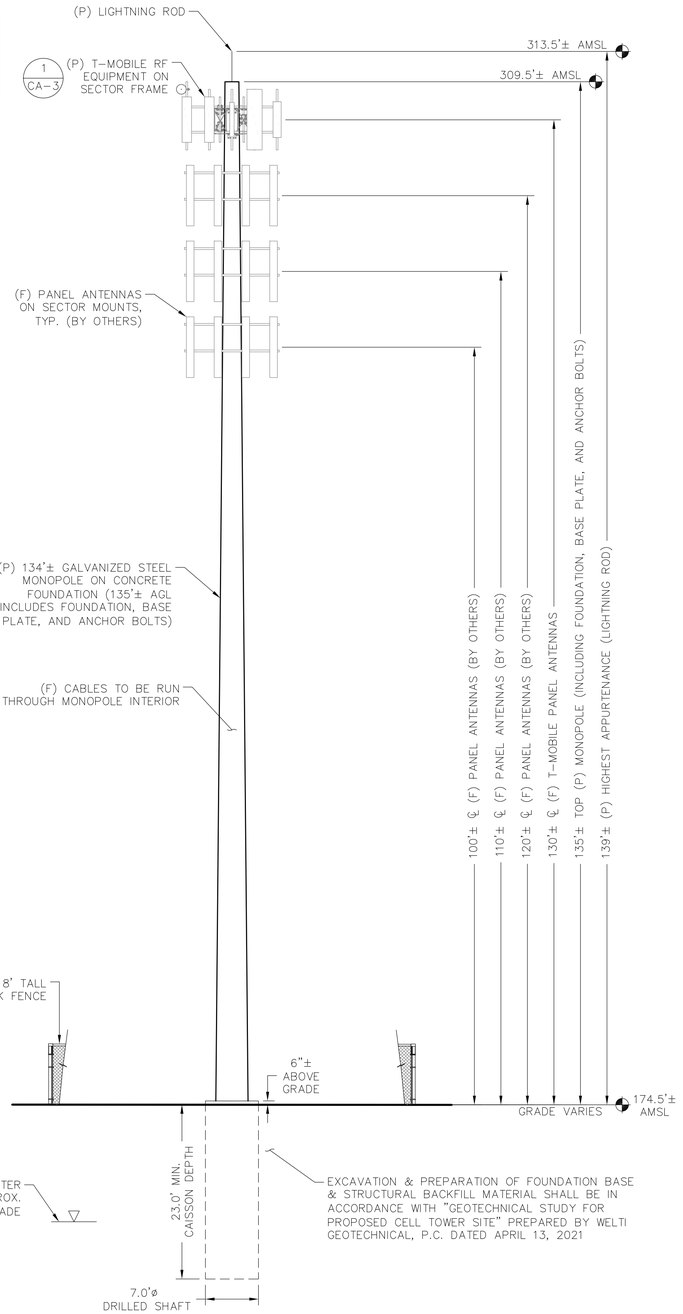


COMPOUND PLAN

1 A-2

SCALE: 1"=8' (22x34)
1"=16' (11x17)

8 4 0 8 16



SOUTHEAST ELEVATION

2 A-2

SCALE: 1"=10' (22x34)
1"=20' (11x17)

10 5 0 10 20

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BRADENTON, FL 34205

STAMP:

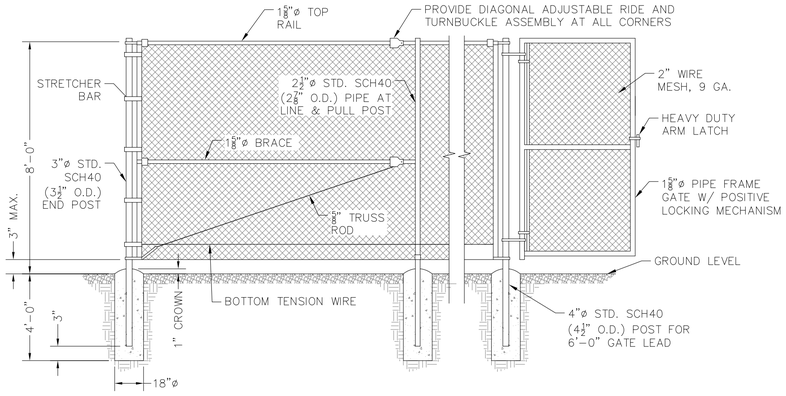
STATE OF CONNECTICUT · THOMAS E. JOHNSON · No. 28192 · LICENSED PROFESSIONAL ENGINEER
6/25/21

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049

SHEET TITLE:

COMPOUND PLAN & ELEVATION

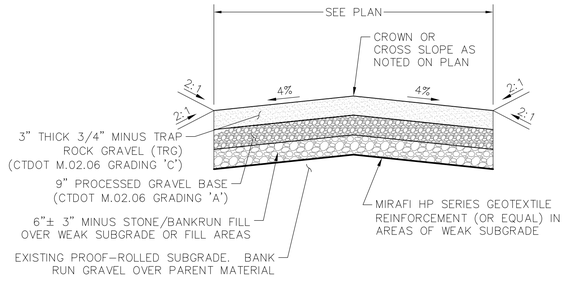
A-2



CHAIN LINK FENCE

SCALE: NONE

1 / D-1

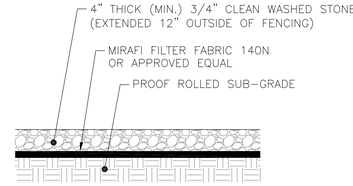


NOTES:
1. ALL GRANULAR MATERIALS SHALL BE COMPACTED TO 95±% MAXIMUM DRY DENSITY BY STD. PROCTOR METHOD
2. ALL CUT AND FILL SLOPES TO BE COVERED WITH JUTE MESH EROSION CONTROL BLANKETS AND/OR HYDROSEEDED WITH NEW ENGLAND ROADSIDE MATRIX MIX AT 35LBS PER ACRE OR EQUAL.

DRIVEWAY SECTION

SCALE: NONE

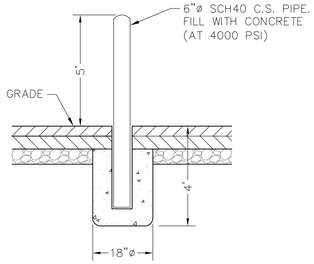
2 / D-1



COMPOUND SURFACE

SCALE: NONE

3 / D-1

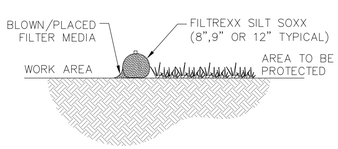


BOLLARD

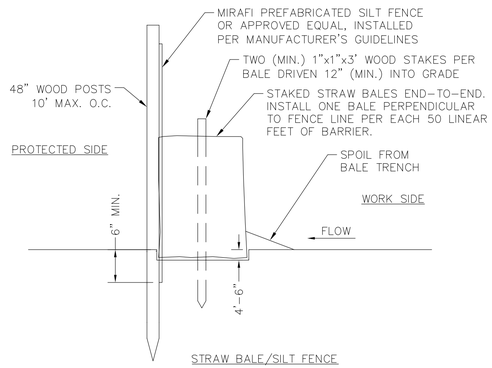
SCALE: NONE

4 / D-1

NOTES:
1. USE SILT SOXX WHERE CONDITIONS DO NOT ALLOW STAKES TO BE DRIVEN.
2. STRAW BALES TO BE TIED W/BIODEGRADABLE TWINE.
3. SILT SOXX FILL TO MEET FILTREXX SPECIFICATIONS AND APPLICATION REQUIREMENTS.
4. SILT SOXX COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



SILT SOXX

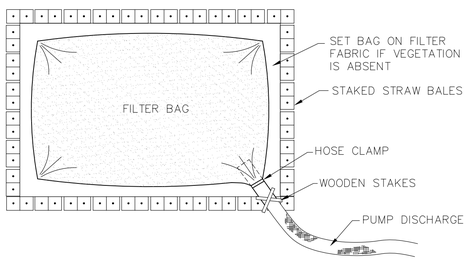


STRAW BALE/SILT FENCE

EROSION CONTROL BARRIER

SCALE: NONE

5 / D-1

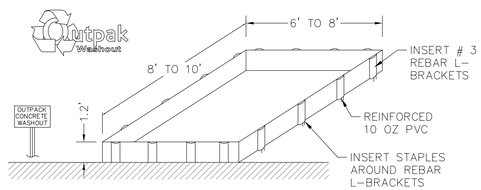


NOTES:
1. ENSURE DISCHARGE AREA IS COVERED BY STABLE VEGETATION.
2. USE DIFFUSER NOZZLE OR LOW DISCHARGE RATE TO PREVENT SCOURING.
3. TO BE PLACED AT AN UPLAND LOCATION THAT WILL ALLOW WATER TO DRAIN TO THE GROUND.
4. SIZE OF STRAW BALE ENCLOSURE TO BE 10'x10' ADJUSTED TO WATER VOLUME.
5. ADDITIONAL STRAW BALES MAY BE USED TO INCREASE RETENTION & FILTERING.

DEWATERING BASIN

SCALE: NONE

6 / D-1



NOTES:
1. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON THIS PROJECT.
2. SIGNS SHALL BE PLACED AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT.
3. THE CONCRETE WASHOUT AREA WILL BE REPLACED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE AND OTHER LIQUID WASTE.
4. WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
5. DO NOT MIX EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT ON-SITE.
6. DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
7. AVOID DUMPING EXCESS CONCRETE IN NON-DESIGNATED DUMPING AREAS.
8. LOCATE WASHOUT AREA AT LEAST 50' (15 METERS) FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES.
9. WASH OUT WASTES INTO THE OUTPACK WASHOUT AS SHOWN WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.

CONCRETE WASHOUT AREA

SCALE: NONE

7 / D-1

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
Ph: (413)320-4918

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1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

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SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:

TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:

DATE:	06/25/21
DRAWN:	BLM
CHECK:	JMM/TEJ
SCALE:	SEE PLAN
JOB NO.:	18-049

SHEET TITLE:

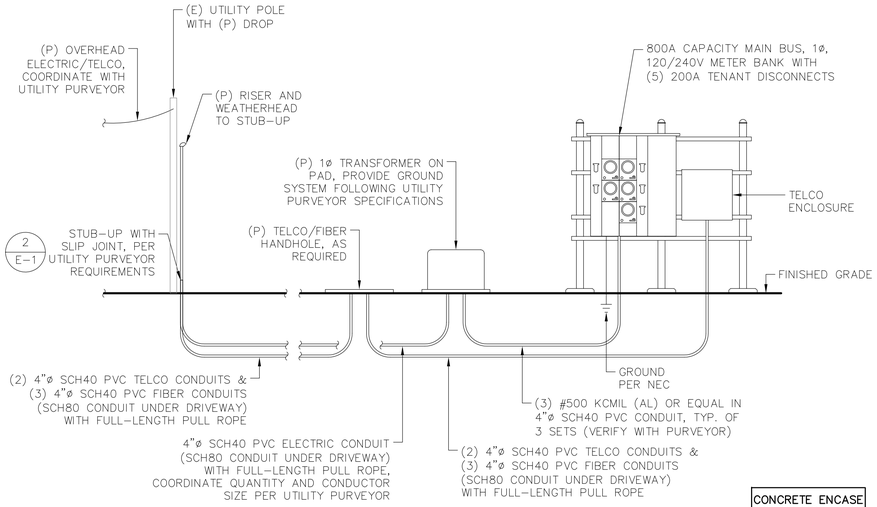
DETAILS

D-1

SITE WALK AND COORDINATION WITH UTILITY COMPANIES ARE REQUIRED PRIOR TO CONSTRUCTION BY CONSTRUCTION MANAGER

UTILITY RISER SCHEMATIC SUBJECT TO A FINAL UTILITY DESIGN TO BE COMPLETED BY THE LOCAL UTILITY COMPANY

MAKE ALL CONNECTIONS AS PER UTILITY COMPANY REQUIREMENTS AND NEC

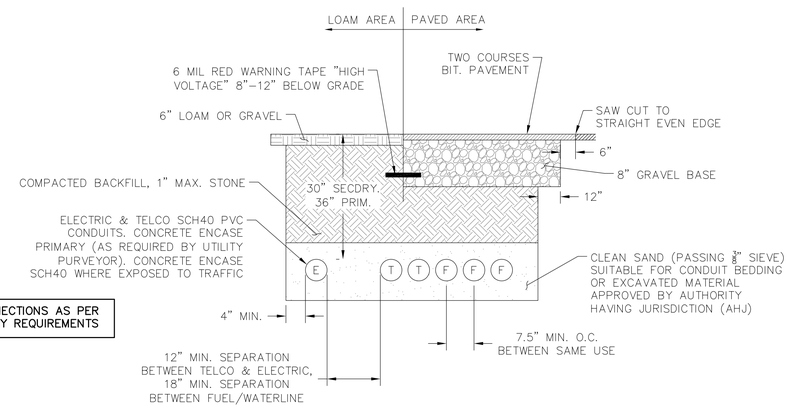


CONCRETE ENCASE SCH80 CONDUITS WHERE EXPOSED TO TRAFFIC.

UTILITY RISER SCHEMATIC

SCALE: NONE

1 E-1



MAKE ALL CONNECTIONS AS PER UTILITY COMPANY REQUIREMENTS

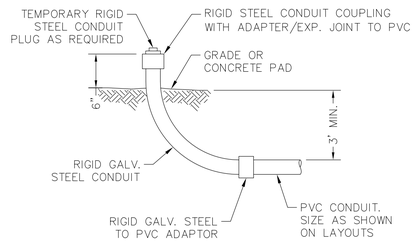
FOR SCHEMATIC ONLY

NOTES
1. MAKE ALL CONNECTIONS AS PER UTILITY COMPANY REQUIREMENTS.
2. VERIFY CONDUIT SIZE WITH UTILITY COMPANY.
3. CONTRACTOR SHALL FURNISH AND INSTALL AN APPROVED 2,500 POUND TEST TAPE IN EACH PRIMARY CONDUIT RUN OR PER UTILITY COMPANY REQUIREMENTS.

BURIED CONDUIT SECTION

SCALE: NONE

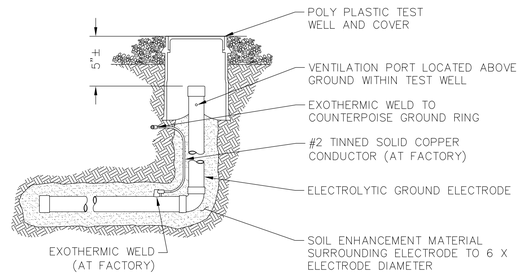
3 E-1



STUB-UP CONDUIT DETAIL

SCALE: NONE

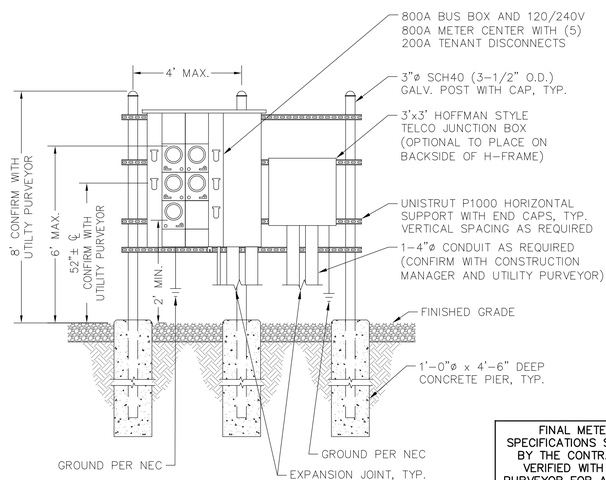
2 E-1



ELECTROLYTIC GROUND ELECTRODE (OPTIONAL)

SCALE: NONE

4 E-1



FINAL METER CENTER SPECIFICATIONS SHALL BE SENT BY THE CONTRACTOR TO BE VERIFIED WITH THE UTILITY PURVEYOR FOR APPROVAL PRIOR TO ORDERING EQUIPMENT.

TENANT METER CENTER

SCALE: NONE

5 E-1

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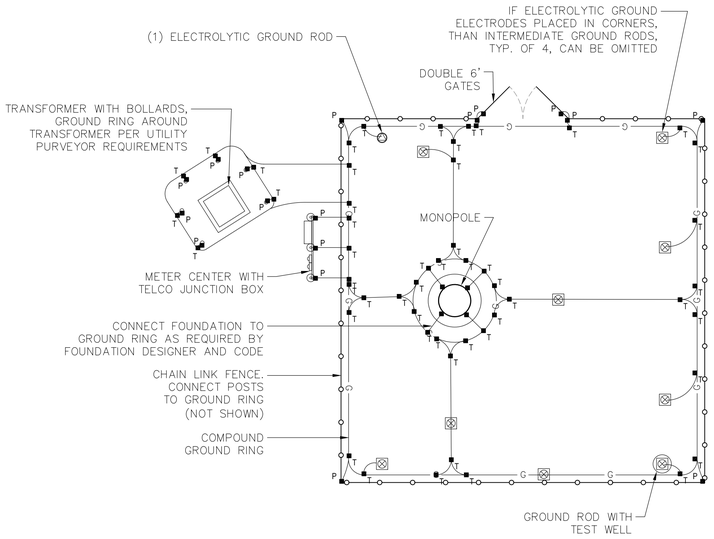
SUITE 420
BRADENTON, FL 34205

STAMP:
STATE OF CONNECTICUT · THOMAS E. JOHNSON · No. 28192 · LICENSED PROFESSIONAL ENGINEER
6/25/21
FOR SCHEMATIC ONLY

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049

SHEET TITLE:
ELECTRICAL & GROUNDING DETAILS

E-1



LEGEND

- ⊙ – ELECTROLYTIC GROUND ELECTRODE, TYP. 1 MIN. (SEE NOTE)
- ⊠ – 5/8"x10' COPPER CLAD STEEL GROUND ROD, TYP. OF 11
- ■T – EXOTHERMIC WELD #2 BCW TO #2 BCW CONDUCTOR PARALLEL
- ■P – EXOTHERMIC WELD TO #2 BCW CONDUCTOR TO VERTICAL PIPE
- —G— – #2 BCW CONDUCTOR IN 2"x4" BED OF SOIL ENHANCEMENT OR #2/0 STRANDED TINNED

NOTE:
SITE GROUNDING SYSTEM IS A BASIC DESIGN. THE ACTUAL RESISTANCE TO GROUND CANNOT BE CONFIRMED WITHOUT A FIELD TEST. CONTRACTOR TO INSTALL AND PROVIDE DOCUMENTATION AT CLOSEOUT.

COMPOUND GROUNDING SCHEMATIC

1 / E-2

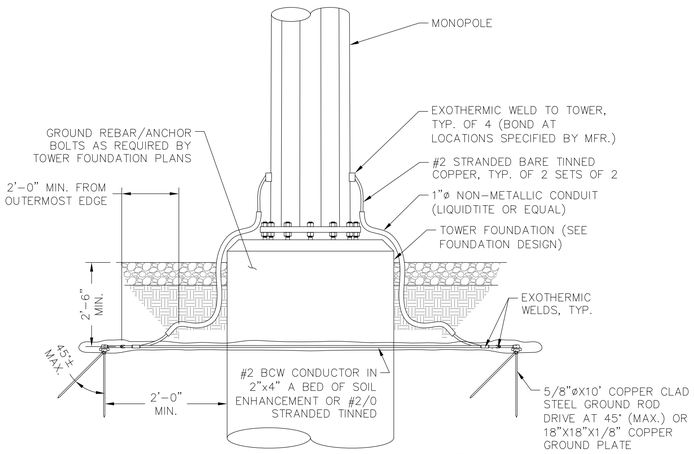
SCALE: 1"=10' (22x34)
1"=20' (11x17)

10 5 0 10 20

SOIL ENHANCEMENT

2 / E-2

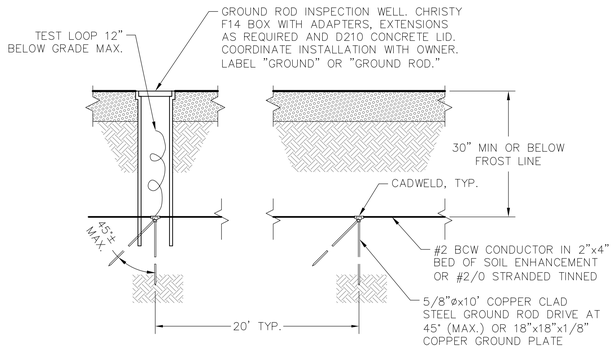
SCALE: NONE



TOWER BASE GROUNDING

3 / E-2

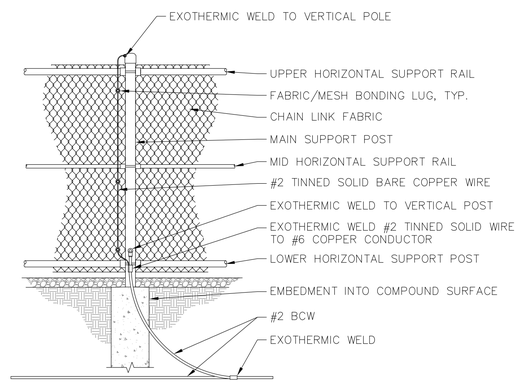
SCALE: NONE



GROUND RING WITH ROD

4 / E-2

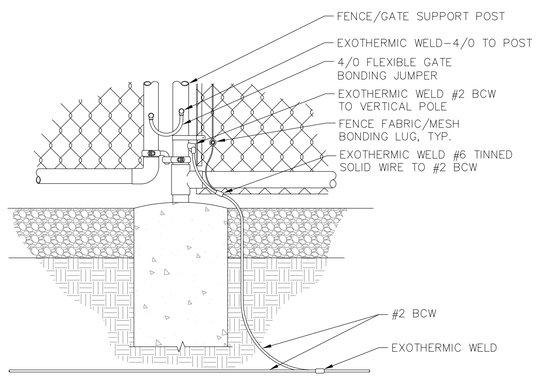
SCALE: NONE



FENCE GROUNDING

5 / E-2

SCALE: NONE



FENCE GATE GROUNDING

6 / E-2

SCALE: NONE

GROUNDING NOTES

GENERAL
1. GROUNDING SHALL COMPLY WITH ARTICLE (250) OF THE NATIONAL ELECTRIC CODE, EIA/TIA-222 REVG & MOTOROLA R-56 AS REQUIRED.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. THE CONTRACTOR SHALL SECURE A COPY OF ANY SOIL RESISTIVITY AND/OR SITE RESISTANCE TO EARTH TESTING PREVIOUSLY PERFORMED. IF NO RECORDS EXIST THAN A FIELD SOIL RESISTIVITY TEST SHALL BE PERFORMED TO ASSURE THE GROUNDING SYSTEM PROVIDES 10 OHMS OR LESS IN ACCORDANCE WITH OWNER SPECIFICATIONS.

GROUND RODS
1. RODS SHALL BE 5/8" DIAMETER, 10' LONG COPPER CLAD STEEL OR SOLID COPPER
2. SHALL BE BURIED 30" (MIN.) OR BELOW PERMANENT MOISTURE LEVEL PENETRATING BELOW FROST LINE
3. RODS SEPARATED 20' (MIN.) TO OTHER GROUND RODS OR ELECTRODES
4. SEPARATION BETWEEN GROUND RODS IN SAME GROUNDING SYSTEM SHALL BE GREATER THAN SUM OF RESPECTIVE LENGTHS
5. GROUND RODS SHALL NOT BE SHORTENED BY CUTTING OR DEFORMED BY DRIVING MACHINERY
6. WHERE CONDITIONS REQUIRE, RODS MAY BE DRIVEN AT ANGLES UP TO 45 DEGREES OR HORIZONTAL ORIENTED PERPENDICULAR TO GROUND RING

ELECTROLYTIC GROUND RODS
7. WHERE CONDITIONS REQUIRE, 10' LONG ELECTROLYTIC GROUND ELECTRODES (ALLTEC TERRADYNE TG-10L, LYNCOLE XIT K2L-10CS, OR EQUIVALENT) MAY BE USED. INSTALL PER MANUFACTURER'S SPECIFICATIONS
8. L-SHAPED ELECTROLYTIC RODS SHALL BE INSTALLED PERPENDICULAR TO GROUND RING
9. BACKFILL WITH GROUNDING ENCASEMENT MATERIALS (ALLTEC TERRAFILL, LYNCOLE LYCONITE, OR EQUIVALENT)

GROUND PLATES
1. ONLY TO BE USED WHERE CONDITIONS PROHIBIT USE OF GROUND RODS
2. 1/16" (MIN.) THICKNESS WITH 2 SQUARE FEET (MIN.) AREA UNPAINTED COPPER CLAD STEEL OR SOLID COPPER
3. TOP EDGE BURIED 30" (MIN.) OR BELOW PERMANENT MOISTURE LEVEL
4. PLATES SHALL BE INSTALLED VERTICALLY
5. BACKFILL WITH GROUNDING ENCASEMENT MATERIALS 6" MINIMUM ON ALL SIDES

RADIAL GROUNDING CONDUCTORS
1. #2 BARE COPPER WIRE IN BED OF GROUND ENHANCEMENT MATERIAL OR #2/0 STRANDED TINNED.
2. CONDUCTORS SHALL RADIATE FROM TOWER CENTER
3. SHALL BE BONDED TO GROUND RING AND DIRECTLY TO TOWER
4. WHERE NOT POSSIBLE TO BOND DIRECTLY TO TOWER, ADDITIONAL #2 CONDUCTORS SHALL BE BONDED TO RING TO OBTAIN EQUIVALENT.
5. BURIED 30" WHERE POSSIBLE, 18" (MIN.)
6. EACH RADIAL CONDUCTOR SHALL BE 25' (MIN.), 80' (MAX.) IN LENGTH
7. WHERE MULTIPLE RADIALS ARE USED, VARY CONDUCTOR LENGTHS

GROUNDING ENCASEMENT MATERIALS
1. PRE-PACKAGED MATERIALS SHALL BE USED
2. ACCEPTABLE MATERIALS: BENTONITE, BENTONITE CONTAINING MATERIALS, CONCRETE, CONDUCTIVE CONCRETE, CEMENT WITH GRADED GRANULAR CARBONACEOUS AGGREGATE IN PLACE OF SAND OR GRAVEL

CONDUCTORS
1. #2 BCW CONDUCTOR IN GROUND ENHANCEMENT MATERIAL OR #2/0 STRANDED TINNED.
2. #2 OR #6 AWG BCW OR STRANDED COPPER WHERE ABOVE GROUND AS NOTED
3. SPLICES SHALL BE EXOTHERMALLY WELDED
4. 8" (MIN.) BENDING RADIUS FOR #2 OR SMALLER. 90 DEGREES (MIN.) BEND. ALL BENDS TOWARDS GROUND LOCATION.

CONNECTORS
1. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC UNLESS OTHERWISE NOTED.
2. EXOTHERMIC WELDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD OR EQUAL
4. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL
5. FOLLOWING CONNECTION, APPLY APPROPRIATE CONDUCTIVE ANTI-OXIDIZING PAINT.
6. MECHANICAL CONNECTIONS SHALL BE 3 CRIMP STYLE COMPRESSION FIT CRIMPED WITH HYDRAULIC CRIMPING TOOLS OR EQUAL. NO SLIP BOLTS ARE ACCEPTABLE.

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TARPON TOWERS

STAMP:

STATE OF CONNECTICUT
THOMAS E. JOHNSON
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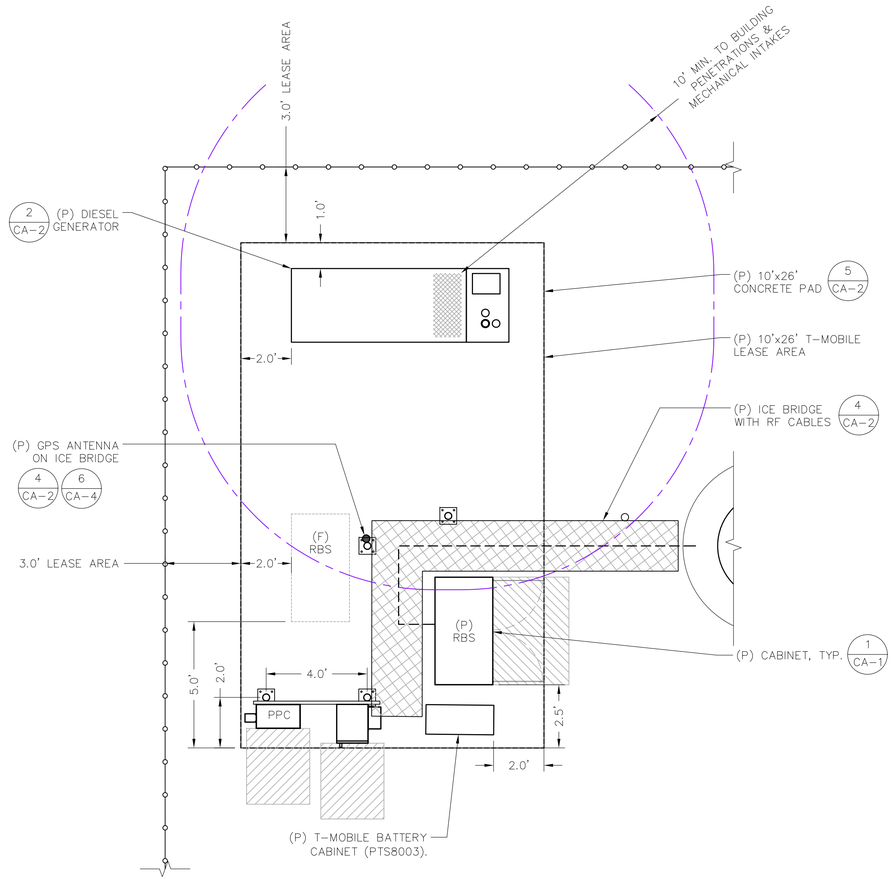
SHEET TITLE:
ELECTRICAL & GROUNDING DETAILS

E-2



GROUND EQUIPMENT LAYOUT PLAN

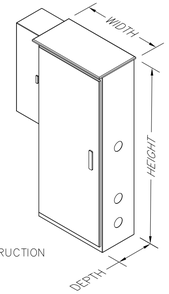
SCALE: 1"=3' (22x34)
1"=6' (11x17)

1 / CA-1

3 1.5 0 3 6

PPC SPECIFICATIONS	
MANUF.	DELTA
MODEL #	3799340400
HEIGHT	40"
WIDTH	20"
DEPTH	10"
WEIGHT	75± LBS.

TO BE PROVIDED BY T-MOBILE CONFIRM MODEL NUMBER WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION

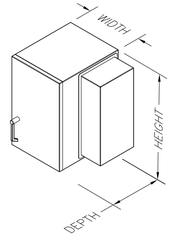


POWER PROTECTION CABINET (PPC)*

SCALE: NONE

2 / CA-1

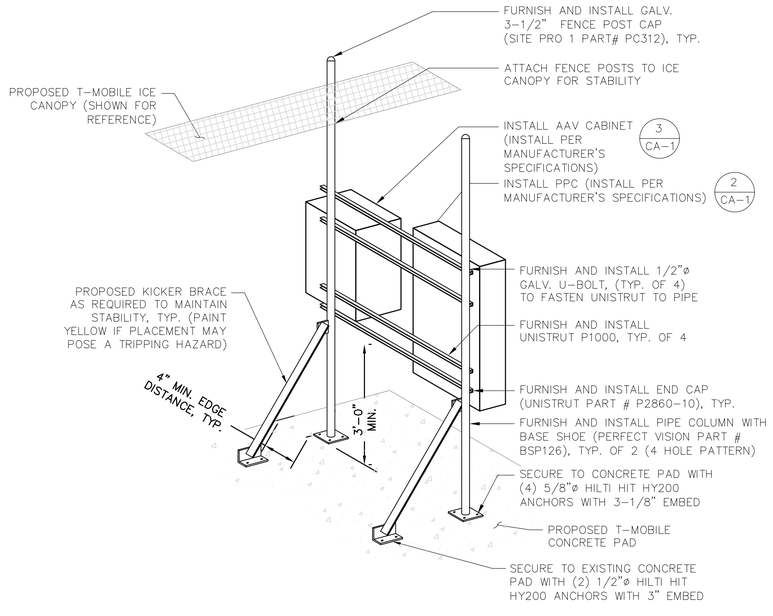
PURCELL CABINET (AAV) SPECIFICATIONS	
MANUF.	PURCELL
MODEL #	RAC24
HEIGHT	24.0" (37.1" WITH PLINTH)
WIDTH	25.4"
DEPTH	20.0"
WEIGHT	85± LBS. (EMPTY) 388± LBS. (MAX.)



PURCELL CABINET (AAV)

SCALE: NONE

3 / CA-1



PPC AND TELCO CABINET H-FRAME MOUNTING DETAIL

SCALE: NONE

4 / CA-1

TENANT INFORMATION

T-Mobile

SITE NUMBER: CTHA227A

T-MOBILE NORTHEAST, LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
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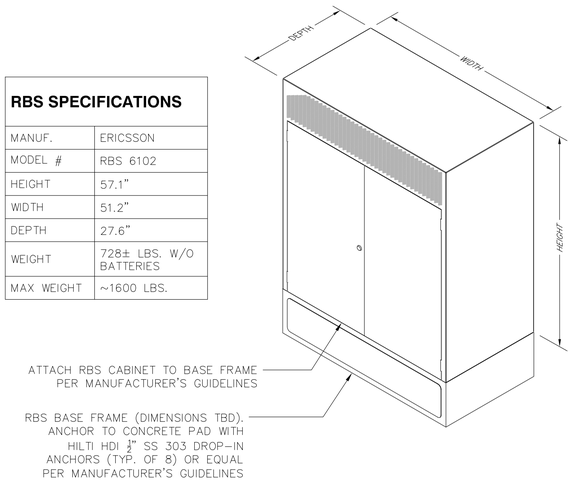
SHEET TITLE:

TENANT DETAILS

CA-1

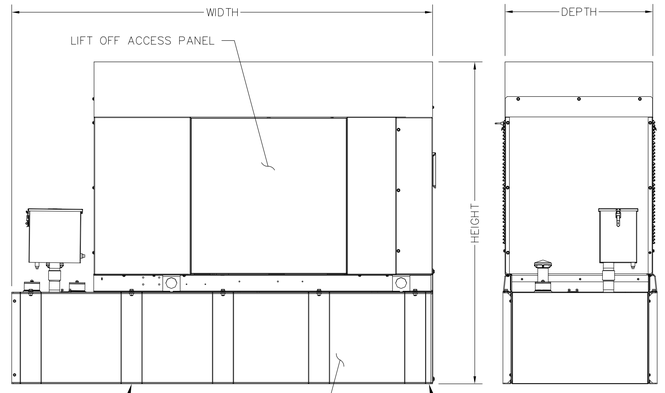
RBS SPECIFICATIONS	
MANUF.	ERICSSON
MODEL #	RBS 6102
HEIGHT	57.1"
WIDTH	51.2"
DEPTH	27.6"
WEIGHT	728± LBS. W/O BATTERIES
MAX WEIGHT	~1600 LBS.



EQUIPMENT CABINET (RBS)

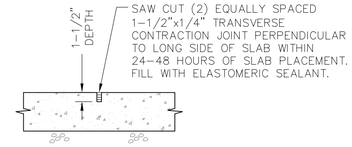
SCALE: NONE — 1 / CA-2

DIESEL GENERATOR SPECIFICATIONS	
MANUF.	GENERAC
MODEL #	RD025 (25kW)
HEIGHT	102.6"
WIDTH	89.1"
DEPTH	35"
WEIGHT	2950± LBS.



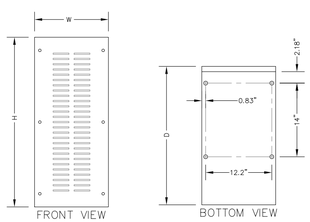
GENERATOR DETAIL

SCALE: NONE — 2 / CA-2



SAWN JOINT

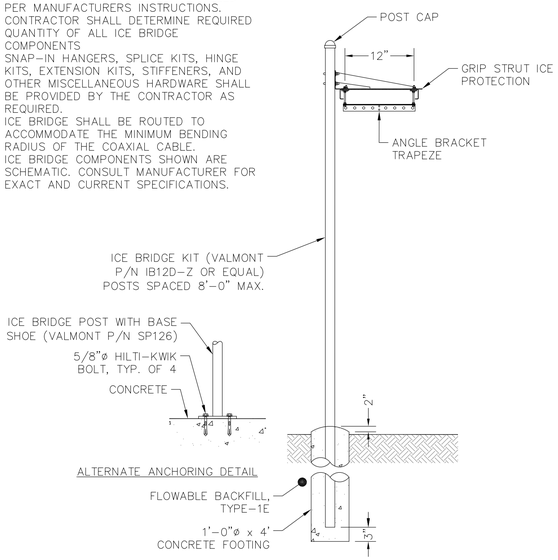
BBU SPECIFICATIONS	
MANUF.	PTS
MODEL #	PTS8003
HEIGHT	32.3"
WIDTH	14.0"
DEPTH	26.3"
WEIGHT WITHOUT BATTERIES	60 LBS.
MOUNT BASE WITH (4) ½" DROP-IN ANCHORS WITH 2" MINIMUM EMBEDMENT (INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES)	



BATTERY BACKUP UNIT (BBU)

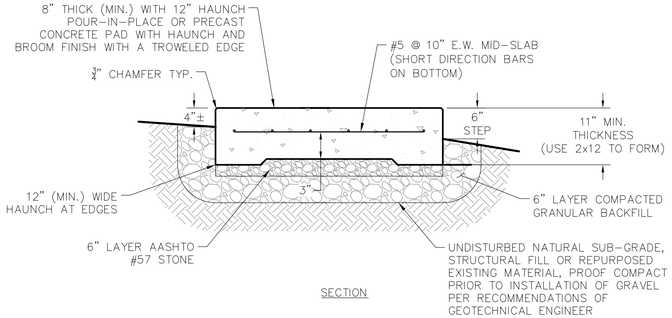
SCALE: N.T.S. — 3 / CA-2

1. ALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. CONTRACTOR SHALL DETERMINE REQUIRED QUANTITY OF ALL ICE BRIDGE COMPONENTS
3. SNAP-IN HANGERS, SPLICE KITS, HINGE KITS, EXTENSION KITS, STIFFENERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
4. ICE BRIDGE SHALL BE ROUTED TO ACCOMMODATE THE MINIMUM BENDING RADIUS OF THE COAXIAL CABLE.
5. ICE BRIDGE COMPONENTS SHOWN ARE SCHEMATIC. CONSULT MANUFACTURER FOR EXACT AND CURRENT SPECIFICATIONS.

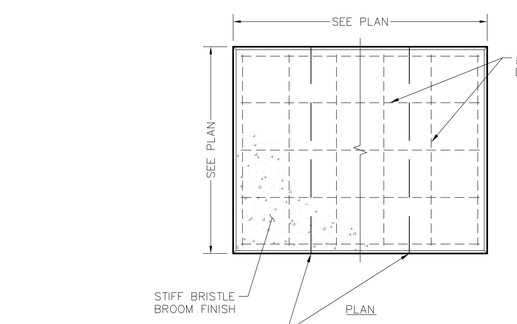


ICE BRIDGE

SCALE: NONE — 4 / CA-2



SECTION



PLAN

NOTES:
1. BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED FILL. 95% COMPACTION.
2. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. NO DELETERIOUS MATERIALS OR ORGANICS TO BE USED.
3. CONCRETE FORM WORK SHALL BE CONSTRUCTED USING MINIMUM 2"x10" NOMINAL SIZE LUMBER. STRIP AND REMOVE UPON COMPLETION.
4. CONCRETE SHALL HAVE 4000PSI 28-DAY COMPRESSIVE STRENGTH WITH 5(±1)% AIR ENTRAINMENT, 4(±1)" SLUMP AND BRISTLE BROOM FINISH.
5. SEE CONCRETE NOTES ON GN-1.

CONCRETE PAD

SCALE: NONE — 5 / CA-2

TENANT INFORMATION

T-Mobile

SITE NUMBER: CTHA227A

T-MOBILE NORTHEAST, LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	05/27/21	ISSUED FOR REVIEW
0	06/21/21	DEVELOPMENT & MANAGEMENT PLAN
1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

TITLE:
SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:
TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:

DATE:	06/25/21
DRAWN:	BLM
CHECK:	JMM/TEJ
SCALE:	SEE PLAN
JOB NO.:	18-049

SHEET TITLE:

TENANT DETAILS

CA-2

ANTENNA CONFIGURATION

SECTOR	ANTENNA MODEL	ANTENNA RAD (SBA DATABASE)	AZIMUTH	RADIOS/TMAs	CABLE FEED LINES
ALPHA	ERICSSON – AIR32 KRD901146-1_B66A_B2A	130'±	70°	PROPOSED RRU'S (1) ERICSSON 4449 B71+B12 (1) ERICSSON 4415 B25	PROPOSED (3) ERICSSON 6x12 HCS (1) ERICSSON 9x18 HCS (SHARED WITH ALL SECTORS)
	RFS – APXVAALL24_43-U-NA20	130'±	70°		
	ERICSSON – AIR6449 B41	130'±	70°		
BETA	ERICSSON – AIR32 KRD901146-1_B66A_B2A	130'±	200°	PROPOSED RRU'S (1) ERICSSON 4449 B71+B12 (1) ERICSSON 4415 B25	CABLING SHARED WITH ANOTHER SECTOR
	RFS – APXVAALL24_43-U-NA20	130'±	200°		
	ERICSSON – AIR6449 B41	130'±	200°		
GAMMA	ERICSSON – AIR32 KRD901146-1_B66A_B2A	130'±	325°	PROPOSED RRU'S (1) ERICSSON 4449 B71+B12 (1) ERICSSON 4415 B25	CABLING SHARED WITH ANOTHER SECTOR
	RFS – APXVAALL24_43-U-NA20	130'±	325°		
	ERICSSON – AIR6449 B41	130'±	325°		

BASED UPON THE CO-LOCATION APPLICATION DATED NOVEMBER 05, 2020

T-MOBILE SITE TECHNICIAN SITE SAFETY NOTES	
SECTOR A:	ACCESS NOT PERMITTED
SECTOR B:	ACCESS NOT PERMITTED
SECTOR C:	ACCESS NOT PERMITTED
SECTOR D:	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

CONTRACTOR TO VERIFY PORT LOCATIONS AND NOTIFY ENGINEER PRIOR TO ORDERING PLATFORM.

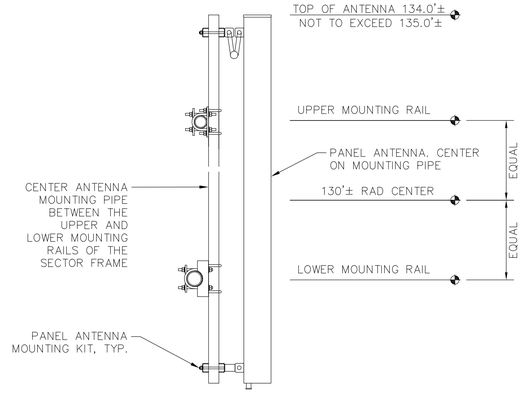
NO MOUNT SUBSTITUTIONS WITHOUT PRIOR APPROVAL BY ENGINEER

TENANT INFORMATION

T-Mobile

SITE NUMBER: CTHA227A

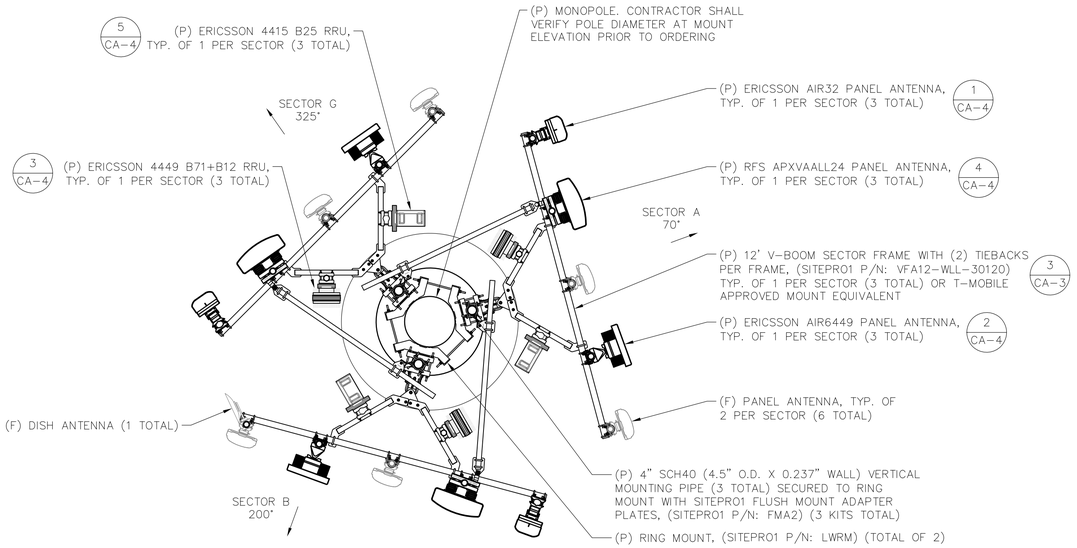
T-MOBILE NORTHEAST, LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002



TYPICAL MOUNTING ELEVATION

SCALE: NONE

2 / CA-3



N

RF ANTENNA PLAN

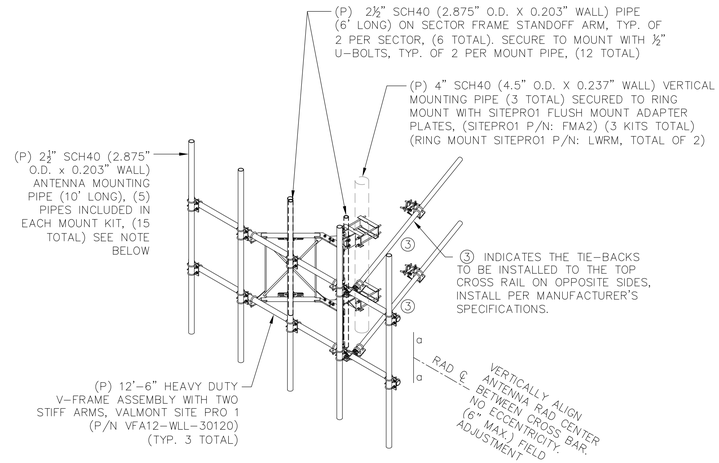
SCALE: 1"=3' (22x34)
1"=6' (11x17)

1 / CA-3

3 1.5 0 3 6

PLATFORM FRAME SHALL BE ALIGNED TO MAINTAIN A CLEAR PATH FOR THE SAFETY CLIMB.

EQUIPMENT PLACEMENT NOTE:
ANTENNAS TO BE INSTALLED WITH THE CENTER OF THE ANTENNAS, (RADCEN) EQUALLY SPACED BETWEEN THE MOUNTING RAILS, (CENTER OF THE MOUNT) NO VERTICAL ECCENTRICITY ALLOWED.



NOTE: MOUNT CONFIGURATION SHOWN SUBJECT TO FINAL APPROVAL BY T-MOBILE

ANTENNA MOUNT ISOMETRIC

SCALE: NONE

3 / CA-3

ProTerra DESIGN GROUP, LLC
4 Bay Road
Bldg A; Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

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1	06/25/21	REVISED DEVELOPMENT & MANAGEMENT PLAN

TITLE:

SITE NAME: WINDSOR
SITE NUMBER: CT 1209
ADDRESS: 800 PROSPECT HILL ROAD
WINDSOR, CT 06095

TOWER OWNER:

TARPON TOWERS II, LLC
1001 3RD AVENUE WEST
SUITE 420
BRADENTON, FL 34205

STAMP:

STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
LICENSED PROFESSIONAL ENGINEER
6/25/21

DATE:	06/25/21
DRAWN:	BLM
CHECK:	JMM/TEJ
SCALE:	SEE PLAN
JOB NO.:	18-049

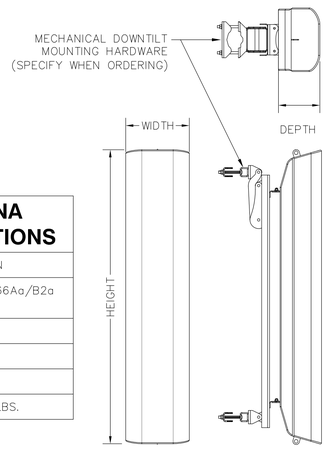
SHEET TITLE:

TENANT DETAILS

CA-3

AIR ANTENNA SPECIFICATIONS

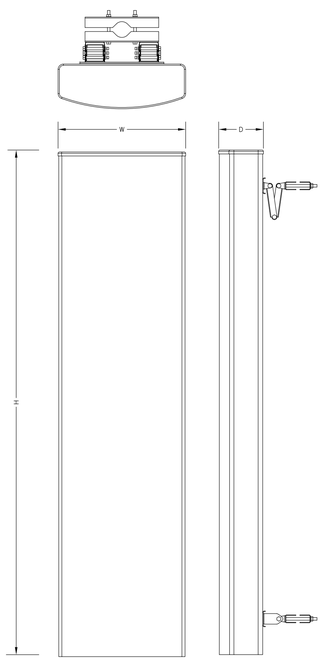
MANUF.	ERICSSON
MODEL #	AIR32 B66Aa/B2a (Octa)
HEIGHT	56.6"
WIDTH	12.9"
DEPTH	8.7"
WEIGHT	132.2± LBS.



AIR32 ANTENNA DETAIL — 1 / CA-4
SCALE: NONE

APXVAALL24_43-U-NA20 (OCTO) ANTENNA SPECIFICATIONS

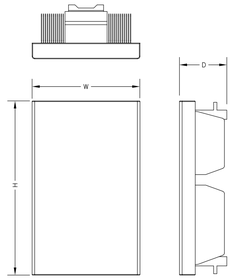
MANUF.	RFS
MODEL #	APXVAALL24_43-U-NA20
HEIGHT	95.9"
WIDTH	24"
DEPTH	8.5"
WEIGHT	123± LBS.



RFS ANTENNA DETAIL — 4 / CA-4
SCALE: NONE

AIR 6449 B41 SPECIFICATIONS

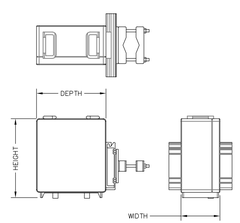
MANUF.	ERICSSON
MODEL #	AIR 6449 B41
HEIGHT	33.1"
WIDTH	20.5"
DEPTH	8.5"
WEIGHT	102± LBS.



ERICSSON ANTENNA DETAIL — 2 / CA-4
SCALE: N.T.S.

4415 B25 SPECIFICATIONS

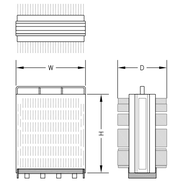
MANUF.	ERICSSON
MODEL #	4415 B25
HEIGHT	14.96"
WIDTH	13.19"
DEPTH	5.39"
WEIGHT	44± LBS.



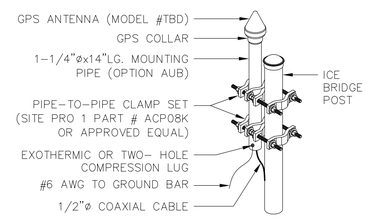
REMOTE RADIO UNIT (RRU) DETAIL — 5 / CA-4
SCALE: N.T.S.

4449 B71+B85 SPECIFICATIONS

MANUF.	ERICSSON
MODEL #	4449 B71+B85
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	9.2"
WEIGHT	74± LBS.



REMOTE RADIO UNIT (RRU) DETAIL — 3 / CA-4
SCALE: N.T.S.



GPS DETAIL — 6 / CA-4
SCALE: NONE

TENANT INFORMATION

T-Mobile

SITE NUMBER: CTHA227A

T-MOBILE NORTHEAST, LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002

ProTerra DESIGN GROUP, LLC
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1001 3RD AVENUE WEST
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BRADENTON, FL 34205

STAMP:

STATE OF CONNECTICUT · THOMAS E. JOHNSON · No. 28192 · LICENSED PROFESSIONAL ENGINEER
6/25/21

DATE: 06/25/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-049
SHEET TITLE:

TENANT DETAILS

CA-4

TAPP
QUALITY STEEL POLES. DELIVERED.
2427 Kelly Lane
Houston, Texas 77066
281-444-8277

Page 1 of 3		Job Number:	23521-150
Eng: MFP		Customer Ref:	TP-19977
		Date:	6/11/2021
Structure:	135-FT MONOPOLE		
Site:	CT1209 WINDSOR		
Location:	HARTFORD CO., CT / 41°52'58.5", -72°42'29.2"		
Owner:	TARPON TOWERS		
Revision No.:	Revision Date:		

DESIGN

Building Code:	2016 CONNECTICUT BUILDING CODE		
Design Standard:	ANSI/TIA-222-G		
Wind Speed Load Cases:	ASCE-7-05 CONVERTED TO ASCE-7-10		
Load Case #1:	94 MPH Design Wind Speed - V_{ASD} (V_{ULT} = 121 MPH)		
Load Case #2:	50 MPH Wind with 1" Ice Accumulation		
Load Case #3	60 MPH Service Wind Speed		
Structure Class / Risk Category	Exposure Cat.	Topography Cat.	Crest Height
II	C	1	

STRUCTURE MEETS THE MINIMUM REQUIREMENTS OF TIA-222-H

EQUIPMENT LIST

Elev.	Description
130	(4) AIR32 + (4) APXVAALL24_43 + (4) AIR6449 B41 + (6) RRU
130	(1) 1-FT DISH + 12-FT PLATFORM WITH HANDRAIL
120	(12) JAHH-45C-R3B + (6) RRH + (2) RAYCAP
120	12-FT PLATFORM WITH HANDRAIL
110	(3) APX16DWV-16DWV-S-E-ACU + (3) APXVAARR24-43 + (9) RRU
110	(3) AIR3246 + (1) 1-FT DISH + 12-FT PLATFORM WITH HANDRAIL

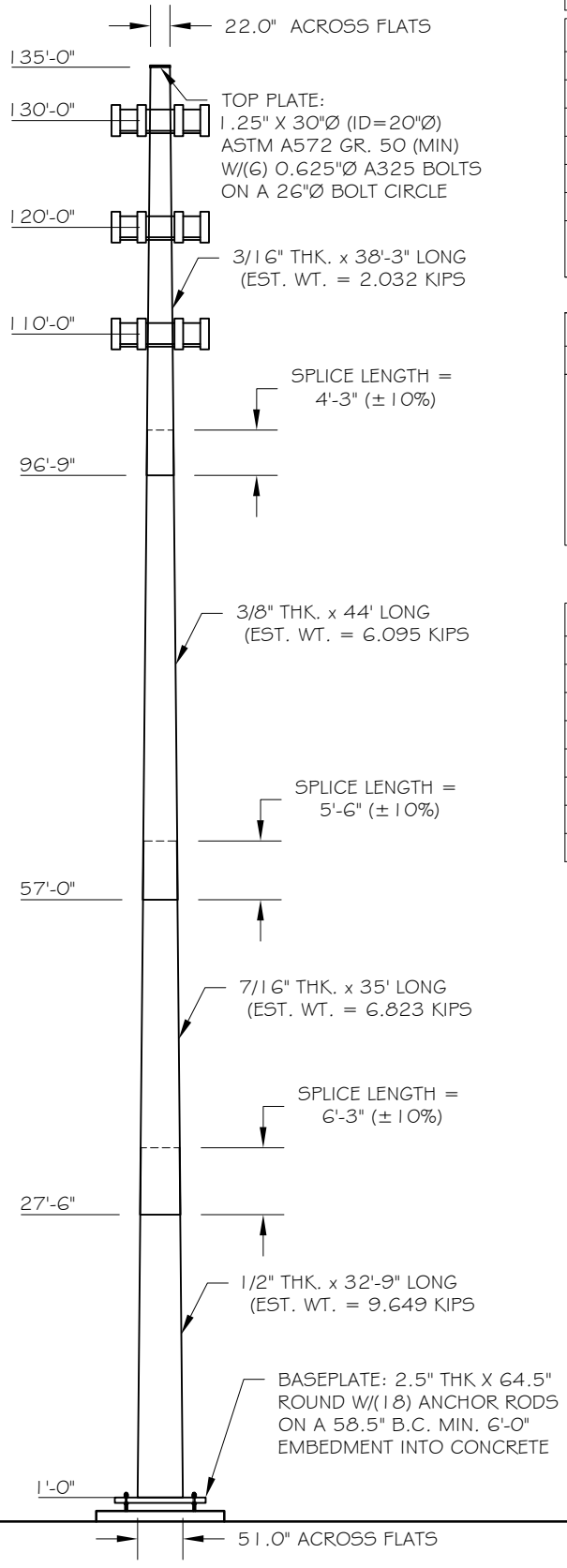
ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE

POLE DESIGNED FOR A MAX 34-FT FALL RADIUS

STRUCTURE PROPERTIES

Cross-Section: 18-Sided	Taper: 0.23134 in/ft
Shaft Steel: ASTM A572 GR 65	Baseplate Steel: ASTM A572 GR 50
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0"	

Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	38.25	0.1875	4.25	22.00	30.85
2	44.00	0.3750	5.50	29.49	39.67
3	35.00	0.4375	6.25	37.65	45.74
4	32.75	0.5000	0.00	43.42	51.00



STATE OF CONNECTICUT
MICHAEL F. PLAHOVINSAK
No. 25849
LICENSED PROFESSIONAL ENGINEER
6.11.2021

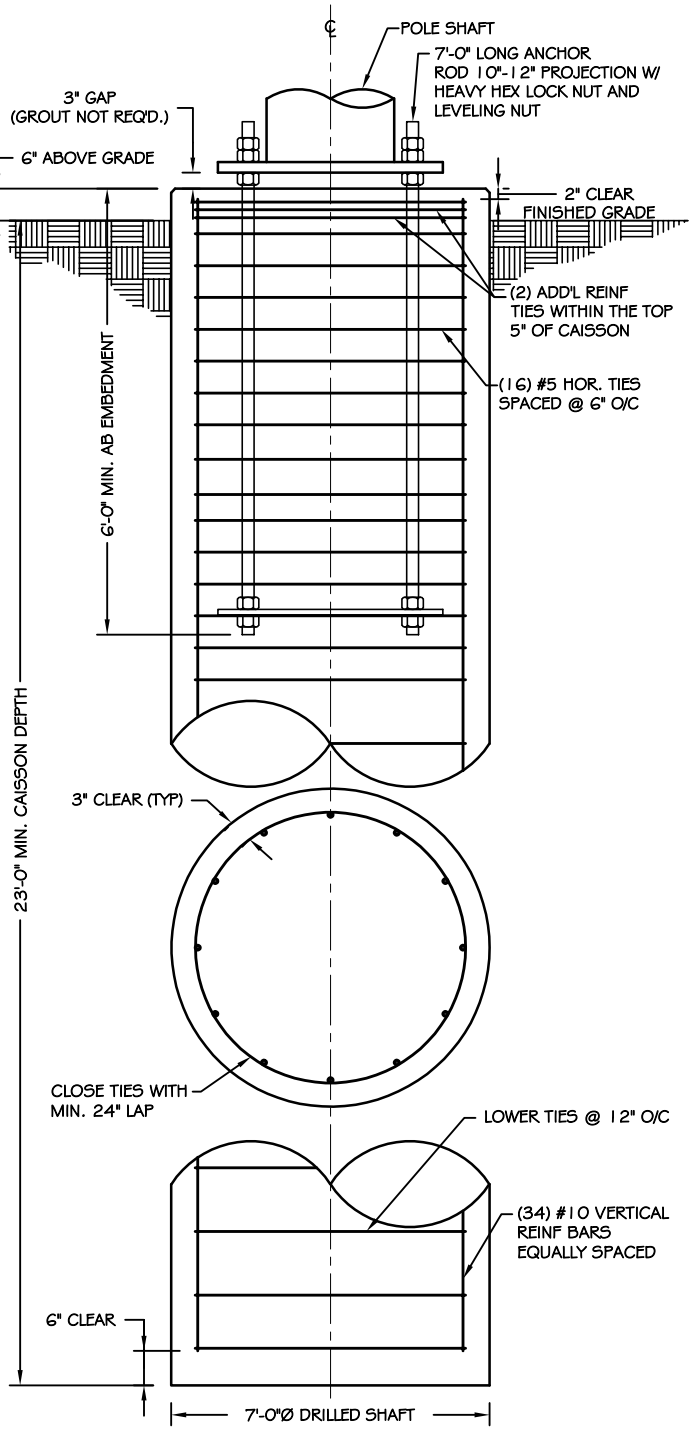
MICHAEL F. PLAHOVINSAK, P.E. #25849
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mike@mfpeng.com

BASE REACTIONS FOR FOUNDATION DESIGN

Moment:	4767 ft-kip
Shear:	46 kip
Axial:	48 kip

TAPP
QUALITY STEEL POLES. DELIVERED.
2427 Kelly Lane
Houston, Texas 77066
281-444-8277

Page 2 of 3		Job Number:	23521-150
Eng: MFP		Customer Ref:	TP-19977
		Date:	6/11/2021
Structure:	135-FT MONOPOLE		
Site:	CT1209 WINDSOR		
Location:	HARTFORD CO., CT / 41°52'58.5", -72°42'29.2"		
Owner:	TARPON TOWERS		
Revision No.:	Revision Date:		



CAISSON FOUNDATION

NOT TO SCALE

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45. IN AREAS OF POTENTIAL FREEZING, CONCRETE SHALL BE AIR ENTRAINED 6% (±1.5%). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.

2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

3. CAISSON FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.

4. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.

5. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: WELTI GEOTECHNICAL
REPORT NO.: N/A (DATED 4/13/21)

6. ESTIMATED CONCRETE VOLUME = 33 CUBIC YARDS.

7. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
MOMENT: 4767 FT*KIPS
SHEAR: 46 KIPS
AXIAL: 48 KIPS

8. GEOTECHNICAL REPORT INDICATES GROUNDWATER MAY BE ENCOUNTERED AT 18'-0" BELOW GRADE.

MICHAEL F. PLAHOVINSAK, P.E. #25849
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mike@mfpeng.com

TAPP
QUALITY STEEL POLES. DELIVERED.
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Page 3 of 3		Job Number:	23521-150
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4. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: WELTI GEOTECHNICAL
REPORT NO.: N/A (DATED 4/13/21)

5. ESTIMATED CONCRETE VOLUME = 86.5 CUBIC YARDS.

6. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
MOMENT: 4767 FT*KIPS
SHEAR: 46 KIPS
AXIAL: 48 KIPS

STATE OF CONNECTICUT
MICHAEL F. PLAHOVINSAK
No. 25849
LICENSED PROFESSIONAL ENGINEER
6.11.2021

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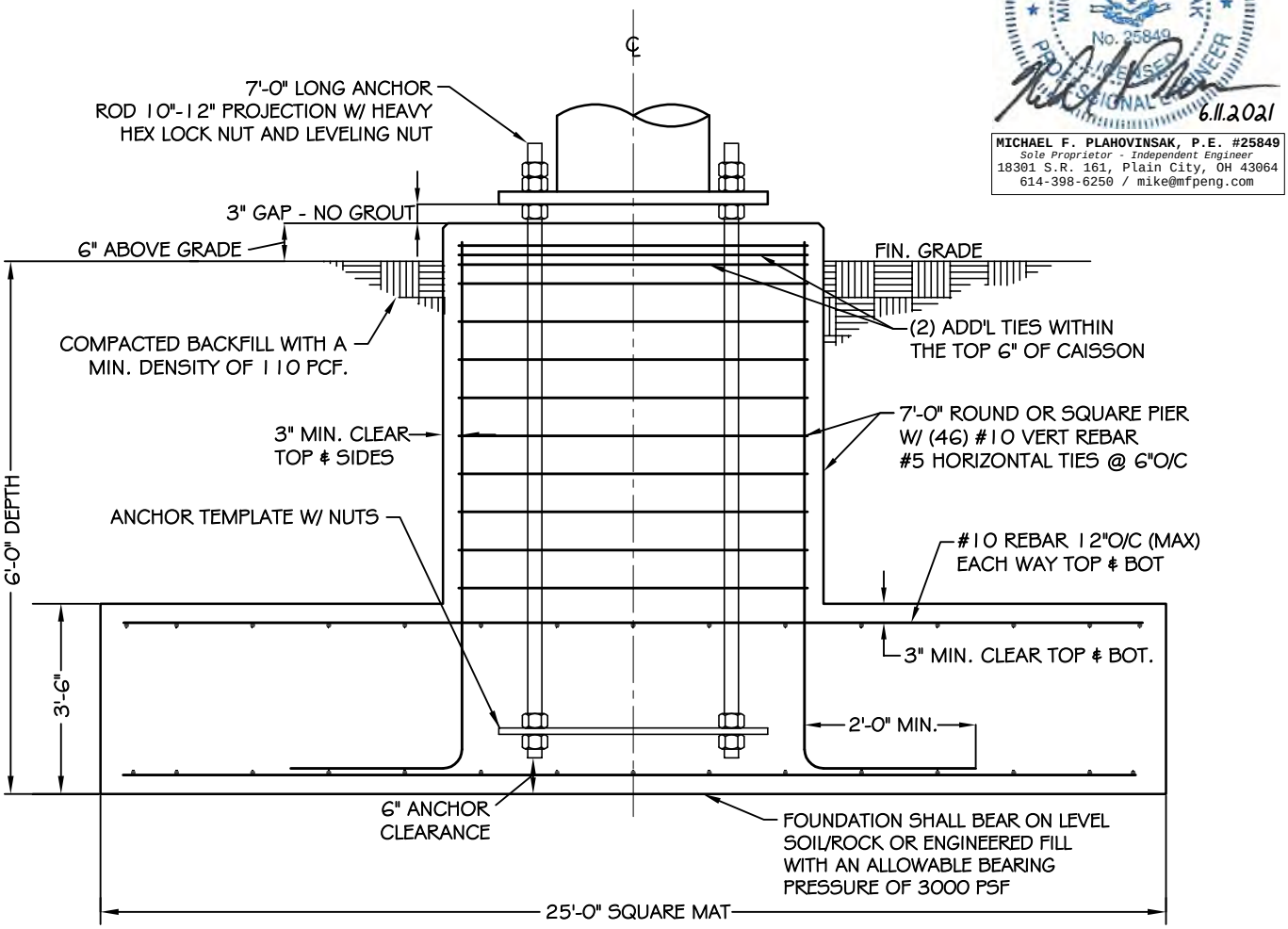

SPREAD FOOTING

NOT TO SCALE

Michael Plahovinsak, P.E.
18301 State Route 161
Plain City, OH 43064
Phone: 614-398-6250
FAX: mike@mfpeng.com

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 94 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	135.00-96.75	38.25	4.25	18	22.0000	30.8489	0.1875	0.7500	A572-65 (65 ksi)
L2	96.75-57.00	44.00	5.50	18	29.4907	39.6698	0.3750	1.5000	A572-65 (65 ksi)
L3	57.00-27.50	35.00	6.25	18	37.6474	45.7444	0.4375	1.7500	A572-65 (65 ksi)
L4	27.50-1.00	32.75		18	43.4235	51.0000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	22.3105	12.9812	780.3007	7.7434	11.1760	69.8193	1561.6281	6.4918	3.5420	18.891
	31.2958	18.2474	2167.3087	10.8848	15.6712	138.2986	4337.4693	9.1254	5.0994	27.197
L2	30.8861	34.6549	3711.5567	10.3361	14.9813	247.7466	7427.9971	17.3308	4.5304	12.081
	40.2239	46.7706	9123.8911	13.9496	20.1522	452.7481	18259.7876	23.3897	6.3219	16.858
L3	39.4527	51.6706	9038.5241	13.2095	19.1249	472.6057	18088.9412	25.8402	5.8559	13.385
	46.3826	62.9143	16316.0700	16.0840	23.2382	702.1241	32653.6091	31.4631	7.2810	16.642
L4	45.4845	68.1196	15856.2313	15.2378	22.0591	718.8055	31733.3266	34.0663	6.7625	13.525
	51.7096	80.1435	25821.9188	17.9275	25.9080	996.6774	51677.8148	40.0794	8.0960	16.192

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
135.00-96.75									
L2 96.75-57.00				1	1	1			
L3 57.00-27.50				1	1	1			
L4 27.50-1.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1 5/8"	C	No	Yes	Inside Pole	130.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	120.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	110.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	135.00-96.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.15
L2	96.75-57.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.97
L3	57.00-27.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.46
L4	27.50-1.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.31

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	135.00-96.75	A	2.266	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.15
L2	96.75-57.00	A	2.175	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.97
L3	57.00-27.50	A	2.048	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.46
L4	27.50-1.00	A	1.835	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.31

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
**									
(4) Ericsson AIR 32 w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	5.92 6.31 6.70	5.60 6.25 6.91	0.13 0.18 0.24
(4) RFS APXVAALL24_43 w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	20.24 20.89 21.55	10.63 12.06 13.34	0.15 0.29 0.43
(4) Ericsson AIR6449-B41 w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	6.05 6.43 6.82	3.27 3.74 4.23	0.13 0.18 0.23
(3) Ericsson RRUS-4449	A	From Face	2.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.10
(3) Ericsson RRUS-4415/B25	B	From Face	2.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	1.63 1.78 1.95	0.64 0.75 0.86	0.05 0.06 0.08
12' Platform w/ Handrail	C	None		0.0000	130.00	No Ice 1/2" Ice 1" Ice	30.00 35.00 40.00	30.00 35.00 40.00	1.80 2.60 3.40
**									
(4) Andrew JAHH-45C-R3B w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	15.89 16.51 17.14	9.47 10.88 12.15	0.13 0.24 0.36
(4) Andrew JAHH-45C-R3B w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	15.89 16.51 17.14	9.47 10.88 12.15	0.13 0.24 0.36
(4) Andrew JAHH-45C-R3B w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	15.89 16.51 17.14	9.47 10.88 12.15	0.13 0.24 0.36
(3) Nokia RRH 4T4R-B13/5	A	From Face	2.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	2.27 2.47 2.67	1.42 1.59 1.76	0.07 0.09 0.11
(3) Nokia RRH-4T4R-B2/66	B	From Face	2.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	2.27 2.47 2.67	1.42 1.59 1.76	0.07 0.09 0.11
(2) Raycap RVZDC-6627-PF-48	C	From Face	2.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
12' Platform w/ Handrail	C	None		0.0000	120.00	No Ice 1/2" Ice 1" Ice	30.00 35.00 40.00	30.00 35.00 40.00	1.80 2.60 3.40
**									
(3) Ericsson AIR-3246 B66 w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	110.00	No Ice 1/2" Ice 1" Ice	7.96 8.37 8.79	6.35 7.02 7.71	0.20 0.27 0.34
(3) RFS APXVAARR24-43 w/ mount pipe	B	From Face	3.00 0.00	0.0000	110.00	No Ice 1/2" Ice	20.24 20.89	10.79 12.21	0.09 0.22

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	21.55	13.49	0.37
(3) RFS APX16DWV-16DWV-S-E-A	C	From Face	3.00 0.00	0.0000	110.00	No Ice 1/2" Ice	6.38 6.80	3.52 4.18	0.07 0.12
CU w/Mount Pipe			0.00			1" Ice	7.23	4.85	0.18
(3) Ericsson RRUS-2217	A	From Face	2.00	0.0000	110.00	No Ice	1.35	0.63	0.03
			0.00			1/2" Ice	1.49	0.73	0.04
			0.00			1" Ice	1.65	0.85	0.05
(3) Ericsson RRUS-4449	A	From Face	2.00	0.0000	110.00	No Ice	1.65	1.16	0.07
			0.00			1/2" Ice	1.81	1.30	0.09
			0.00			1" Ice	1.98	1.45	0.10
(3) Ericsson RRUS-4415/B25	A	From Face	2.00	0.0000	110.00	No Ice	1.63	0.64	0.05
			0.00			1/2" Ice	1.78	0.75	0.06
			0.00			1" Ice	1.95	0.86	0.08
12' Platform w/ Handrail	C	None		0.0000	110.00	No Ice	30.00	30.00	1.80
						1/2" Ice	35.00	35.00	2.60
						1" Ice	40.00	40.00	3.40

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
Andrew VHLP1-23 (1' Std. 23.6 GHz)	A	Paraboloid w/o Radome	From Face	1.00 0.00 0.00	0.0000		130.00	1.00	No Ice 1/2" Ice 1" Ice	0.79 0.92 1.06	0.03 0.03 0.04
Andrew VHLP1-23 (1' Std. 23.6 GHz)	A	Paraboloid w/o Radome	From Face	1.00 0.00 0.00	0.0000		110.00	1.00	No Ice 1/2" Ice 1" Ice	0.79 0.92 1.06	0.03 0.03 0.04

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	135 - 96.75	Pole	Max Tension	6	0.00	0.00	0.00
			Max. Compression	8	-49.13	-4.34	13.34
			Max. Mx	4	-15.01	-446.18	25.23
			Max. My	2	-15.13	-19.90	433.86
			Max. Vy	4	23.40	-446.18	25.23
			Max. Vx	6	22.45	24.28	-427.48
			Max. Torque	4			6.34
L2	96.75 - 57	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-62.10	-4.65	14.32
			Max. Mx	4	-24.33	-1408.35	61.85
			Max. My	2	-24.40	-58.29	1358.35
			Max. Vy	4	26.58	-1408.35	61.85
			Max. Vx	6	25.64	59.02	-1353.06
			Max. Torque	4			6.34
L3	57 - 27.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-75.23	-4.77	14.67
			Max. Mx	4	-34.16	-2206.89	88.79
			Max. My	2	-34.19	-86.63	2128.90
			Max. Vy	4	28.90	-2206.89	88.79
			Max. Vx	6	27.97	84.72	-2124.46
			Max. Torque	4			6.32
L4	27.5 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-93.06	-4.77	14.70
			Max. Mx	4	-48.15	-3191.80	118.80
			Max. My	2	-48.15	-118.27	3082.45
			Max. Vy	4	31.10	-3191.80	118.80
			Max. Vx	6	30.19	113.42	-3079.01
			Max. Torque	4			6.31

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	135 - 96.75	16.262	13	1.0813	0.0081
L2	101 - 57	8.964	13	0.8781	0.0030
L3	62.5 - 27.5	3.255	13	0.5075	0.0011
L4	33.75 - 1	0.915	13	0.2505	0.0004

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.00	Andrew VHLP1-23 (1' Std. 23.6 GHz)	13	15.126	1.0561	0.0115	36120
120.00	(4) Andrew JAHH-45C-R3B w/ mount pipe	13	12.888	1.0032	0.0091	12040
110.00	Andrew VHLP1-23 (1' Std. 23.6 GHz)	13	10.749	0.9429	0.0070	7223

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	135 - 96.75	72.138	4	4.8065	0.0343
L2	101 - 57	39.721	4	3.9000	0.0129
L3	62.5 - 27.5	14.410	4	2.2485	0.0046
L4	33.75 - 1	4.049	4	1.1085	0.0018

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
130.00	Andrew VHLP1-23 (1' Std. 23.6 GHz)	4	67.092	4.6941	0.0490	8215
120.00	(4) Andrew JAHH-45C-R3B w/ mount pipe	4	57.149	4.4583	0.0391	2737
110.00	Andrew VHLP1-23 (1' Std. 23.6 GHz)	4	47.649	4.1892	0.0301	1640

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L1	135 - 96.75 (1)	TP30.8489x22x0.1875	38.25	0.00	0.0	17.6622	-15.01	1120.64	0.013
L2	96.75 - 57 (2)	TP39.6698x29.4907x0.375	44.00	0.00	0.0	45.2561	-24.33	3351.08	0.007
L3	57 - 27.5 (3)	TP45.7444x37.6474x0.4375	35.00	0.00	0.0	60.9065	-34.16	4522.87	0.008
L4	27.5 - 1 (4)	TP51x43.4235x0.5	32.75	0.00	0.0	80.1435	-48.15	5940.26	0.008

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	135 - 96.75 (1)	TP30.8489x22x0.1875	446.89	684.95	0.652	0.00	684.95	0.000
L2	96.75 - 57 (2)	TP39.6698x29.4907x0.375	1409.71	2614.90	0.539	0.00	2614.90	0.000
L3	57 - 27.5 (3)	TP45.7444x37.6474x0.4375	2208.68	4070.75	0.543	0.00	4070.75	0.000
L4	27.5 - 1 (4)	TP51x43.4235x0.5	3194.01	6156.17	0.519	0.00	6156.17	0.000

Pole Shear Design Data

Section No.	Elevation	Size	Actual V_u	ϕV_n	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u	ϕT_n	Ratio $\frac{T_u}{\phi T_n}$
	ft		K	K		kip-ft	kip-ft	
L1	135 - 96.75 (1)	TP30.8489x22x0.1875	23.42	560.32	0.042	6.34	1372.88	0.005
L2	96.75 - 57 (2)	TP39.6698x29.4907x0.375	26.60	1675.54	0.016	6.32	5243.98	0.001
L3	57 - 27.5 (3)	TP45.7444x37.6474x0.4375	28.92	2261.44	0.013	6.31	8163.72	0.001
L4	27.5 - 1 (4)	TP51x43.4235x0.5	31.11	2970.13	0.010	6.31	12345.75	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	135 - 96.75 (1)	0.013	0.652	0.000	0.042	0.005	0.668 ✔	1.000	4.8.2 ✔
L2	96.75 - 57 (2)	0.007	0.539	0.000	0.016	0.001	0.547 ✔	1.000	4.8.2 ✔
L3	57 - 27.5 (3)	0.008	0.543	0.000	0.013	0.001	0.550 ✔	1.000	4.8.2 ✔
L4	27.5 - 1 (4)	0.008	0.519	0.000	0.010	0.001	0.527 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	135 - 96.75	Pole	TP30.8489x22x0.1875	1	-15.01	1120.64	66.8	Pass
L2	96.75 - 57	Pole	TP39.6698x29.4907x0.375	2	-24.33	3351.08	54.7	Pass
L3	57 - 27.5	Pole	TP45.7444x37.6474x0.4375	3	-34.16	4522.87	55.0	Pass
L4	27.5 - 1	Pole	TP51x43.4235x0.5	4	-48.15	5940.26	52.7	Pass
							Summary	
						Pole (L1)	66.8	Pass
						RATING =	**66.8**	**Pass**

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Job	Page
135-ft monopole - MFP #23521-150	BP & AB Calc
Project	**Date**
CT1209 Windsor	6/11/2021
Client	**Designed by**
TAPP TP-19977	Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G

Factored Base Reactions:		***Pole Shape:***	***Anchor Rods:***	***Base Plate:***
Moment:	3194 ft-kips	18-Sided	(18) 2.25 in. A615 GR. 75	2.5 in. x 64.5 in. Round
Shear:	31 kips	***Pole Dia. (D_f):***	Anchor Rods Evenly Spaced	fy = 50 ksi
Axial:	48 kips	51.00 in	On a 58.5 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-G section 4.9.9

ϕ_t , ϕ_v =	0.80	TIA 4.9.9
I_{bolts} =	7700.06	in^2 Momet of Inertia
P_u =	148	kips Compr Force
V_u =	1.7	kips Shear Force
Rnt =	325.00	kips Nominal Tensile Strength
n	0.50	for detail type (d)

Stress Rating = 58.3% Satisfies TIA-G 4.9.9

Base Plate Calculation According to TIA-222-G

ϕ =	0.90	TIA 4.7
M_{PL} =	344.8	in-kip Plate Moment
L =	8.9	in Section Length
Z =	13.9	Plastic Section Modulus
M_P =	695.4	in-kip Plastic Moment
ϕM_n=	625.9	in-kip Factored Resistance

Calculated Moment vs Factored Resistance

344.77 in-kip $\leq$ 626 in-kip

Stress Rating = 55.1%

Anchor Rods Are Adequate	**58.3%** ☑
Base Plate is Adequate	**55.1%** ☑

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Job	Page
135-ft monopole - MFP #23521-150	FND
Project	**Date**
CT1209 Windsor	6/11/2021
Client	**Designed by**
TAPP TP-19977	Mike

Caisson Calculation

According to ANSI/TIA-222-G

1. Foundation overturning resistance calculated with PLS Caisson, for Brom's method for rigid piles. Soil layers modeled after recommendations from the geotechnical report.
2. Cohesion strength for the upper 21 ft has been reduced by 50%
3. In lieu of a soil resistance factor fs = 0.75 (TIA-9.4.1) an additional safey fator against soil failure of 1.33 has been applied.
4. Foundation has been designed with factored loads per TIA-222-G.
5. Design water table = 18 ft below grade

*** PIER PROPERTIES CONCRETE STRENGTH (ksi) = 4.50 STEEL STRENGTH (ksi) = 60.00

DIAMETER (ft) = 7.000 DISTANCE FROM TOP OF PIER TO GROUND LEVEL (ft) = 0.50

*** SOIL PROPERTIES

LAYER	TYPE	THICKNESS (ft)	DEPTH AT TOP OF LAYER (ft)	DENSITY (pcf)	CU (psf)	KP	PHI (degrees)
1	S	4.00	0.00	100.0		1.000	-0.00
2	S	14.00	4.00	120.0		3.000	30.00
3	S	13.00	18.00	58.0		3.000	30.00

*** DESIGN (FACTORED) LOADS AT TOP OF PIER MOMENT (ft-k) = 4767.0 VERTICAL (k) = 48.0 SHEAR (k) = 46.0
ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 1.33

*** CALCULATED PIER LENGTH (ft) = 23.500

*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER

TYPE	TOP OF LAYER BELOW TOP OF PIER (ft)	THICKNESS (ft)	DENSITY (pcf)	CU (psf)	KP	FORCE (k)	ARM (ft)
S	0.50	4.00	100.0		1.000	16.80	3.17
S	4.50	12.62	120.0		3.000	919.78	12.18
S	17.12	1.38	120.0		3.000	-173.90	17.82
S	18.50	5.00	58.0		3.000	-700.88	21.05

*** SHEAR AND MOMENTS ALONG PIER

DISTANCE BELOW TOP OF PIER (ft)	WITH THE ADDITIONAL SAFETY FACTOR SHEAR (k)	WITH THE ADDITIONAL SAFETY FACTOR MOMENT (ft-k)	WITHOUT ADDITIONAL SAFETY FACTOR SHEAR (k)	WITHOUT ADDITIONAL SAFETY FACTOR MOMENT (ft-k)
0.00	61.8	6594.4	46.4	4946.0
2.35	58.2	6737.5	43.7	5053.2
4.70	39.8	6858.7	29.9	5144.1
7.05	-43.8	6862.1	-32.9	5146.7
9.40	-169.2	6619.9	-126.9	4965.1
11.75	-336.4	6034.0	-252.3	4525.6
14.10	-545.3	5006.2	-409.0	3754.8
16.45	-795.9	3438.5	-597.0	2578.9
18.80	-661.4	1585.9	-496.1	1189.5
21.15	-340.8	404.4	-255.6	303.3
23.50	0.0	-0.0	0.0	-0.0

*** TOTAL REINFORCEMENT PCT = 0.62 REINFORCEMENT AREA (in^2) = 34.36
*** USABLE AXIAL CAP. (k) = 48.0 USABLE MOMENT CAP. (ft-k) = 5305.7

For Design:

7-ft Diameter caisson x 23.5-ft long (23-ft Embeded with 0.5-ft above grade)
Concrete strength =4500 PSI @ 28 days. Estimated Concrete Volume = 33 CY3.
(34) #10 Vertical Rebar. Steel Cross-Section = 43.18 in2

Monopole Spread Footing Calculation

ANSI/TIA-222-G

Factored Base Reactions:		**Footing Dimensions:**		**Concrete:**
Moment:	4767 ft-kips	25 ft x 25 ft	7 ft Square Pier	f'c = 4500 psi
Shear:	46 kips	x 3.5 ft thick	w/6 in Reveal	Steel fy = 60 ksi
Axial:	48 kips	Bearing 6 ft B.G.	86.5 Yd3 Concrete	f = 0.75
Soil Backfill	100 pcf	Ultimate Bearing:	6000 psf	Water Table n/a

Foundation Weight

Weight of Pole	48.0	kips
Weight of Concrete	350.175	kips
Weight of Soil	144	kips
Bouyancy of Water	0.0	kips
Total	542.2	kips

Overturning Resistance:

Overturning Moment (M_u)	5066	ft-kips	4767 ft-kips + (46 kips x 6.5 ft)
Resisting Moment (R_s)	6777.1875	ft-kips	542.175 kips x 25 ft / 2
ϕ x R_s > M_u	$M_{overturning}$ / f M_{resist}		**99.7%** **OK**

Soil Bearing Pressure:

Eccentricity (e)	9.34	ft	5066 ft-kips / 542.175 kips
6(e)	56.1 ft	>	25.0 ft 6e > 25
Maximum Soil Bearing	4039.4335	psf	Calculated across corners
Soil Overburden	-600	psf	
Net Soil Bearing	3439.4335	psf	
Resisting Soil Bearing (R_s)	6000	psf	
Net Soil Bearing < ϕ x R_s	Net Bearing / f R_s		**76.4%** **OK**

Bending Moment in Pier:

Bending Moment	4905	ft-kips	4767 ft-kips + (46 kips x 3 ft)
Pier Steel Req'd (Loads)	56.11	in^2	
Min. Pier Steel	35.28	in^2	1/2% (Based on Square Pier)

Bending Moment in Footing:

Max Bending Moment	3168.5947	ft-kips	Σ Moments about pier face
Footing Steel Req'd (Loads)	1.22	in^2/ft	
Min. Footing Steel	0.91	in^2/ft	0.18%