

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
A PETITION OF CELLCO PARTNERSHIP : PETITION NO. ____
D/B/A VERIZON WIRELESS FOR A :
DECLARATORY RULING ON THE NEED TO :
OBTAIN A SITING COUNCIL CERTIFICATE :
FOR THE INSTALLATION OF A ROOF-TOP :
WIRELESS TELECOMMUNICATIONS :
FACILITY AT 1069 EAST MAIN STREET, :
STAMFORD, CONNECTICUT : JUNE 1, 2017

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.”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) 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 install a new telecommunications tower on the roof of an existing office building at 1069 East Main Street in Stamford, Connecticut (the “Property”). The Property is owned by 1069 East Main Street LLC. Cellco has designated this proposed facility as its “Stamford South 3 Facility”.

II. Factual Background

The Property, a 0.52-acre parcel in Stamford’s (C-N) Neighborhood Business zone, is currently used for commercial (office) purposes. The Property is surrounded by other commercial uses to the east and west; Interstate 95 to the south; and multi-family residential uses

to the north. The proposed Stamford South 3 Facility will provide for enhanced wireless service in southeast Stamford. See Attachment 1 – Site Vicinity and Site Schematic Maps (Aerial Photograph).

III. Proposed Stamford South 3 Facility

Cellco proposes the installation of a tower in the southwest portion of the roof of the existing office building. Cellco will install a total of six (6) antennas (four (4) model JAHH-65B-R3B and two (2) model JAHH-45B-R3B), three (3) sectors – two (2) antennas per sector, attached to T-Arms at the top of the tower. The top of Cellco’s antennas will extend to a height of 44 feet above ground level, approximately 10 feet above the top of the building’s parapet wall and 11’-8” above the roof. Cellco will also install nine (9) remote radio heads (“RRHs”) (three (3) Model B13 RRH 4X30-LTE; three (3) Model B25 RRH 4X30-PCS; and three (3) Model B66A RRH 4X45-AWS) attached to the steel support structure on the roof near the base of the tower. Equipment associated with Cellco’s antennas will be located in a small cabinet also located on the roof. A 25 kW natural-gas back-up generator will be located on a 3’-4” x 7’ concrete pad along the north side of the building behind an existing wood fence. Power and telephone service to the facility will extend from existing service at the Property. (See Cellco’s Project Plans included in Attachment 2). Specifications for the Stamford South 3 Facility antennas, RRHs and generator are included in Attachment 3.

IV. 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 cellular 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

Cellco respectfully submits that the installation of a roof-top tower supporting six (6) panel antennas and nine (9) RRHs, and a ground-mounted generator will not involve a significant alteration in the physical and environmental characteristics of the Property.

2. Visual Effects

The proposed Stamford South 3 Facility would have minimal visual effects on the Property and the surrounding area. (See Visual Assessment and Photo-Simulations (“Visual Assessment”) included in Attachment 4). As concluded in the Visual Assessment, the visibility of the proposed roof-top tower would be limited to locations within approximately 500 feet of the building to the south and west. The tower’s location in the southwest corner of the roof helps obscure direct views of the structure from East Main Street and areas to the north and east of the Property. The generator would be visible along East Main Street and is partially screened by landscaping in the area. Overall, the proposed facility is not expected to have an adverse visual impact on the character of the community.

3. FCC Compliance

Radio frequency (“RF”) emissions from the proposed installation will be well below the standards adopted by the Federal Communications Commission (“FCC”). Included in Attachment 5 is a Calculated Radio Frequency Emissions Report, which demonstrates that

Cellco's Stamford South 3 Facility will operate well within the FCC safety limits (76.88% of the Standard).

4. FAA Summary Report

Included in Attachment 6 is a Federal Airways & Airspace Summary Report (the "FAA Report") verifying that the tower, antenna and RRHs attached to the building at the Property would not constitute an obstruction or hazard to air navigation and that notification to the FAA is not required.

B. Notice to the Town, Property Owner and Abutting Landowners

On June 1, 2017, a copy of this Petition was sent to Stamford's Mayor David Martin and to 1069 East Main Street LLC, the owner of the Property. Copies of the letters sent to Mayor Martin and 1069 East Main Street LLC are included in Attachment 6. A copy of Cellco's Petition was also sent to the owners of land that abuts the Property. A sample abutter's letter, and the list of those abutting landowners who were sent notice of the filing of the Petition is included in Attachment 7.

V. Conclusion

Based on the information provided above, Cellco respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a tower on the roof of the commercial office building at 1069 East Main Street LLC building 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.

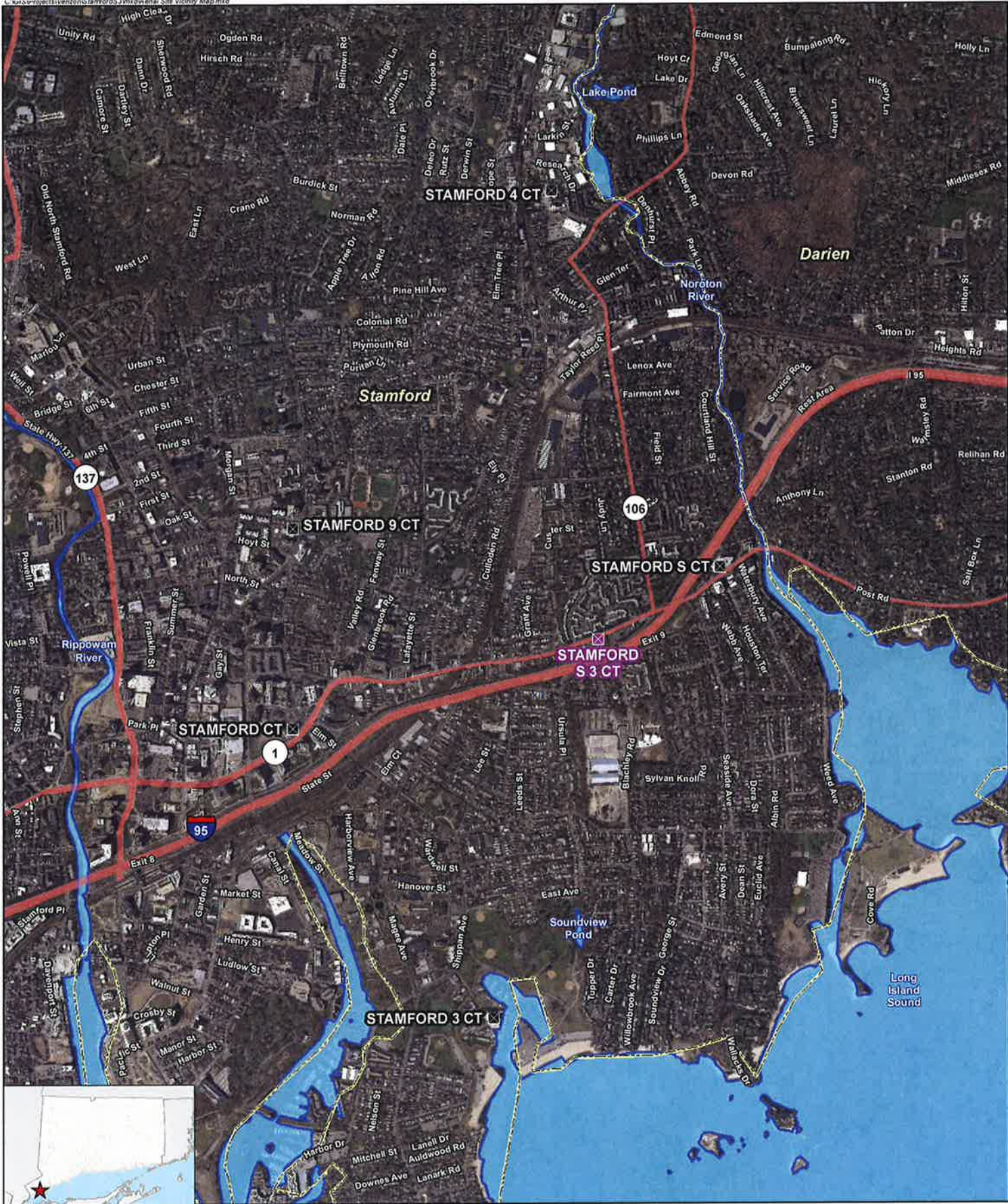
Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS

By  _____

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

ATTACHMENT 1



- Legend**
- Proposed Verizon Wireless Facility
 - Surrounding Verizon Wireless Facilities
 - Waterbody
 - Watercourse (CTDEEP)
 - Municipal Boundary

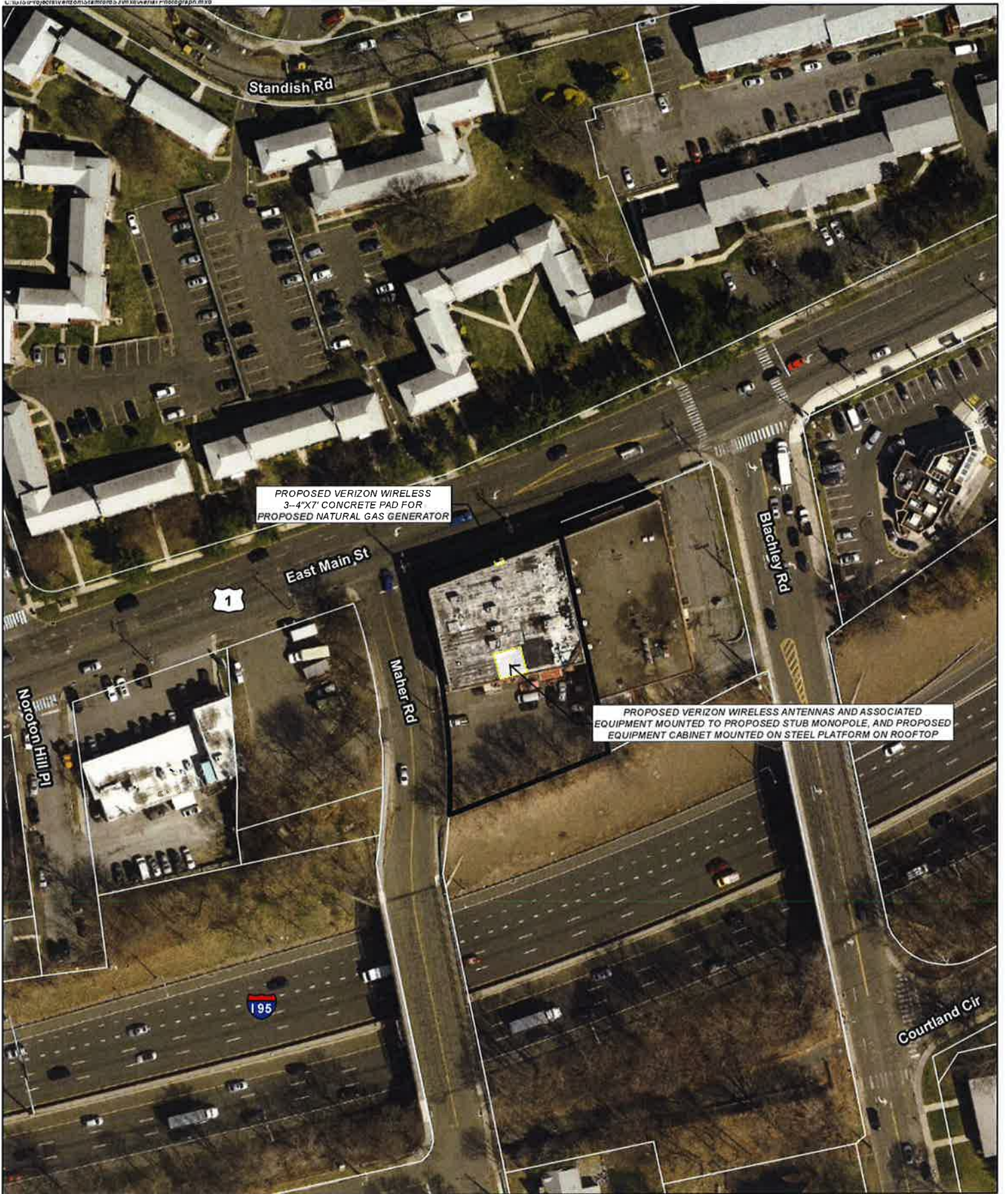
Site Vicinity Map

Proposed Wireless Telecommunications Facility
 Stamford S 3 CT
 1069 East Main Street
 Stamford, Connecticut



Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale 1 Inch = 2,000 feet
 Map Date: February 2017





PROPOSED VERIZON WIRELESS
3-4'x7' CONCRETE PAD FOR
PROPOSED NATURAL GAS GENERATOR

PROPOSED VERIZON WIRELESS ANTENNAS AND ASSOCIATED
EQUIPMENT MOUNTED TO PROPOSED STUB MONOPOLE, AND PROPOSED
EQUIPMENT CABINET MOUNTED ON STEEL PLATFORM ON ROOFTOP

Legend

- Proposed Wireless Telecommunications Equipment Layout
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)

Aerial Photograph

Proposed Wireless
Telecommunications Facility
Stamford S 3 CT
1069 East Main Street
Stamford, Connecticut

Map Notes:
Base Map Source: 2016 Google Imagery
Map Scale: 1 inch = 100 feet
Map Date: May 2017



verizon

ALL POINTS
TECHNOLOGY CORPORATION

ATTACHMENT 2



STAMFORD S 3 CT
 20151225763/383745
 1069 EAST MAIN STREET
 STAMFORD, CT 06901

INSTALLATION OF WRELESS ANTENNA(S) AND RELATED EQUIPMENT

APPLICANT:



99 EAST RIVER DRIVE – 9th FLOOR
 EAST HARTFORD, CT 06108

PREPARED BY:



21 B Street | Burlington, MA 01803
 Tel: (781) 273-2500 | Fax: (781) 273-3311
 www.ebiconsulting.com



Matthew C Hykes

ENGINEER STAMP/SIGNATURE

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
A	12/21/16	SITING COUNCIL	SM
B	01/13/17	REVISED PER NEW RFDS	KO
C	01/27/17	REVISED PER COMMENTS	SH
D	02/10/17	REVISED PER COMMENTS	SH
E	04/28/17	REVISED PER STRUCTURAL	SH

EBI JOB NO:

8116000847

SITE INFO:

STAMFORD S 3 CT
 1069 EAST MAIN STREET
 STAMFORD, CT 06901

SHEET TITLE:

TITLE SHEET

DRAWN BY:

SM

CHECKED BY:

DP

DATE:

12/20/16

SHEET NO:

T-1

VICINITY MAP



SHEET INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
Z-1	KEY PLAN & ROOF PLAN
Z-2	ELEVATION
Z-3	ABUTTERS LIST AND AERIAL MAP
Z-4	DETAILS
Z-5	DETAILS

PROJECT INFORMATION

SITE NAME: STAMFORD S 3 CT
 SITE ADDRESS: 1069 EAST MAIN STREET
 STAMFORD, CT 06901
 COORDINATES: LATITUDE: 41° 03' 25.23" N (NAD 83)
 LONGITUDE: 73° 30' 59.64" W (NAD 83)
 GROUND ELEVATION: 104'± A.M.S.L. (NAVD88)

SCOPE OF WORK

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR VERIZON WIRELESS CONSISTING OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT.

1. INSTALL (2) ANTENNAS PER SECTOR, TOTAL OF 6, MOUNTED ON STUB MONOPOLE WITH STRUCTURAL SUPPORT FRAME ON TOP OF ROOF.
2. INSTALL (3) RRH'S PER SECTOR, TOTAL OF 9, MOUNTED ON PROPOSED H-FRAME AT BASE OF MONOPOLE SUPPORT STRUCTURE.
3. INSTALL (1) GPS ANTENNA.
4. INSTALL (1) EQUIPMENT CABINETS ON STEEL PLATFORM AT BASE OF ANTENNA.
5. INSTALL (1) NATURAL GAS GENERATOR ON A 3'-4"x7'-0" CONCRETE PAD AT GROUND LEVEL WITHIN 10'-0"x8'-0" GROUND LEVEL.

PROJECT TEAM

APPLICANT: CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS
 99 EAST RIVER DRIVE – 9th FLOOR
 EAST HARTFORD, CT 06108

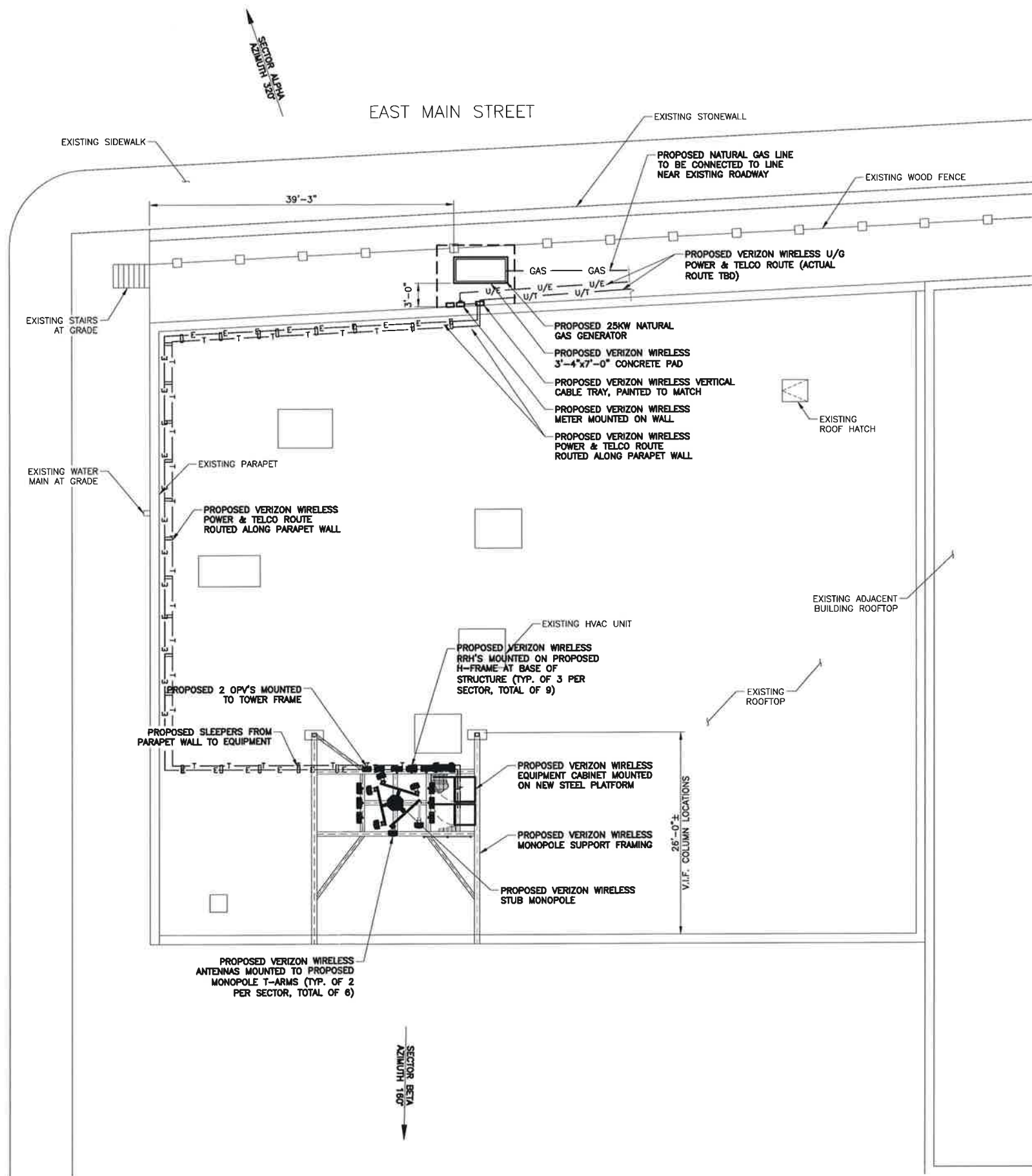
ARCHITECT & ENGINEER: EBI CONSULTING
 21 B STREET
 BURLINGTON, MA 01803
 (781) 273-2500

SITE ACQUISITION: EBI CONSULTING
 21 B STREET
 BURLINGTON, MA 01803
 (781) 273-2500

LEGAL COUNSEL: KENNETH C. BALDWIN, ESQ
 ROBINSON & COLE LLP
 (860) 275-8345



1 KEY PLAN



APPROX. NORTH

2 ROOF PLAN

11x17 SCALE: 1/16" = 1'-0"
22x34 SCALE: 1/8" = 1'-0"

APPLICANT:

verizon

99 EAST RIVER DRIVE - 9th FLOOR
EAST HARTFORD, CT 06108

PREPARED BY:

EBI Consulting
environmental | engineering | due diligence

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1069 EAST MAIN STREET
STAMFORD, CT 06901

SHEET TITLE:

KEY PLAN &
ROOF PLAN

DRAWN BY:

SM

CHECKED BY:

DP

DATE:

12/20/16

SHEET NO:

Z-1

APPLICANT:



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STAMFORD, CT 06901

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ELEVATION

DRAWN BY:

SM

CHECKED BY:

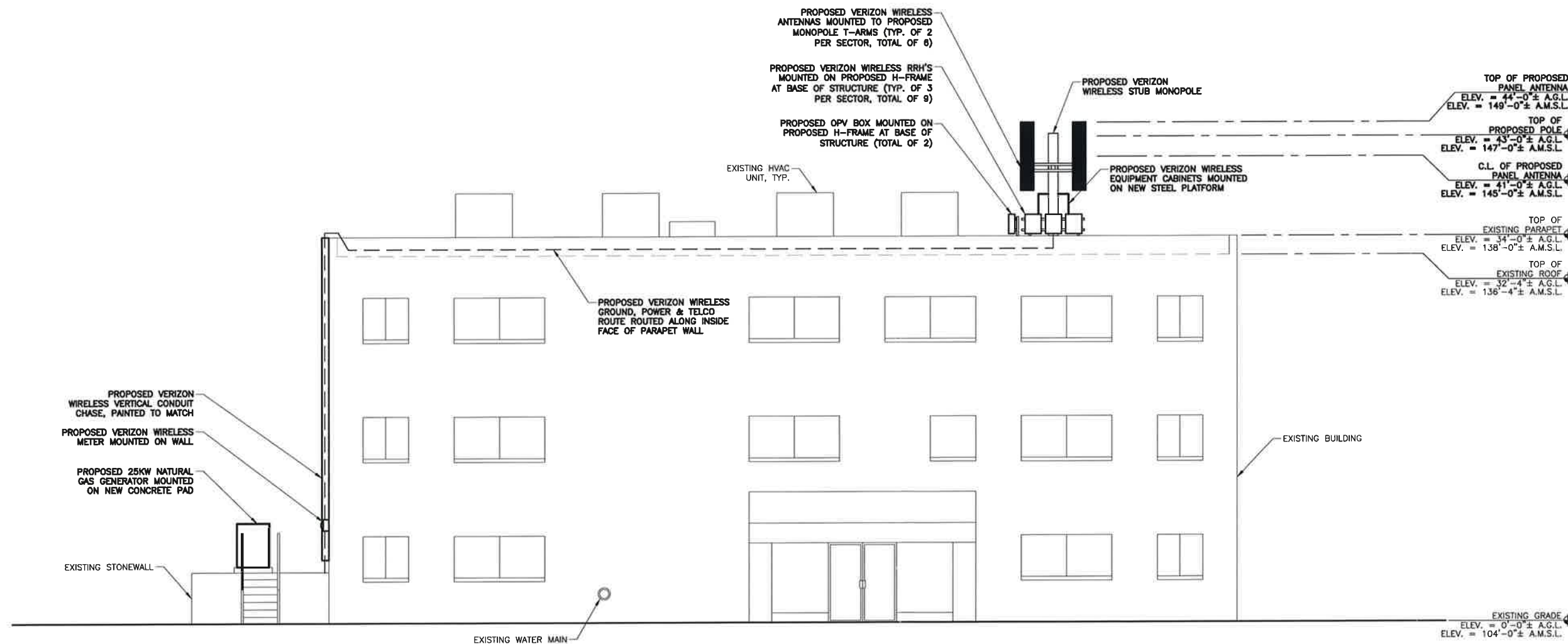
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DATE:

12/20/16

SHEET NO:

Z-2





APPROX. NORTH

ABUTTERS LIST

LOCATION	MBLWEB	OWNER
INTERSTATE HIGHWAY	UNKNOWN	CT DEPT. OF TRANSPORTATION 2800 BERLIN AVENUE NEWINGTON, CT. 06111
12 STANDISH RD	002/ 8467	FAIR LAWN THIRD CONDOMINIUM ASSOCIATION 148 SEATON ROAD STAMFORD, CT 06902
1103 EAST MAIN STREET	003/ 6762	MCDONALDS REAL ESTATE COMPANY ONE MCDONALDS PLAZA OAK BROOK, IL 60523
1083 EAST MAIN STREET	001/ 3137	1083 EAST MAIN LLC 10 MIDDLE STREET, 17TH FLOOR BRIDGE PORT, CT 06604
1051 EAST MAIN ST	003/ 1291	1047-1055 EAST MAIN STREET LLC 1 CHRISTIANO ST. COS COB, CT 06807
0 MAHER ROAD	000/ 9773	CONNECTICUT LIGHT & POWER CO PO BOX 270 HARTFORD, CT 06141

APPLICANT:



99 EAST RIVER DRIVE – 9th FLOOR
EAST HARTFORD, CT 06108

PREPARED BY:



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1069 EAST MAIN STREET
STAMFORD, CT 06901

SHEET TITLE:

ABUTTERS LIST AND
AERIAL MAP

DRAWN BY:

SM

CHECKED BY:

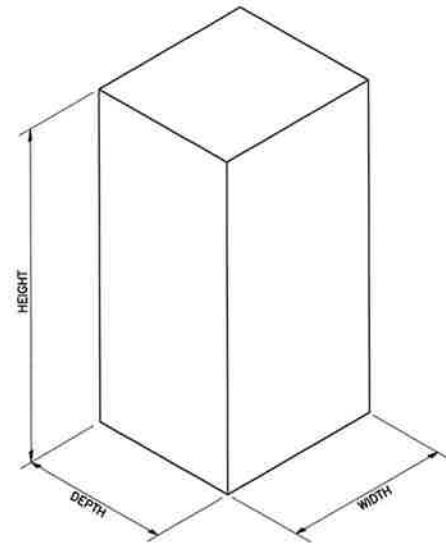
DP

DATE:

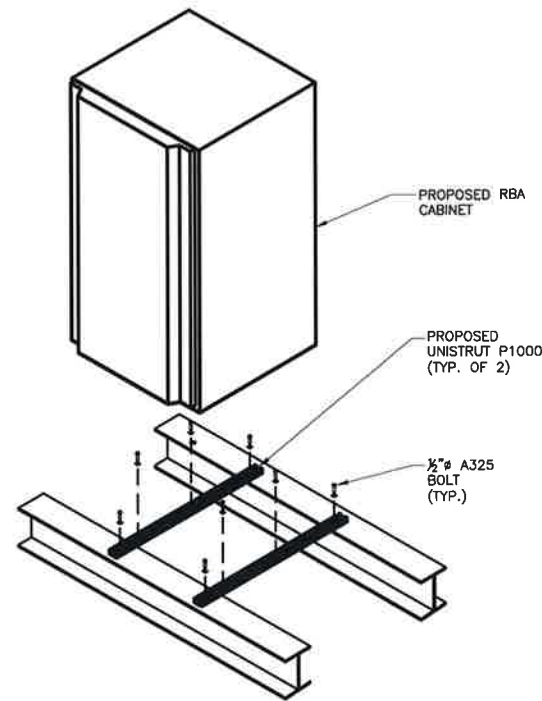
12/20/16

SHEET NO:

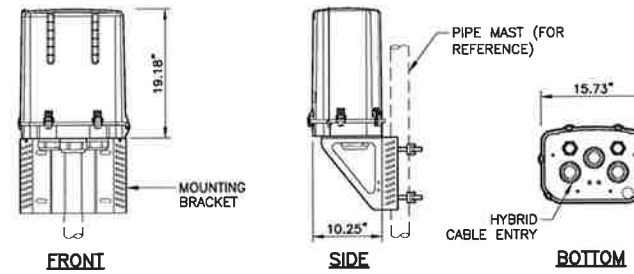
Z-3



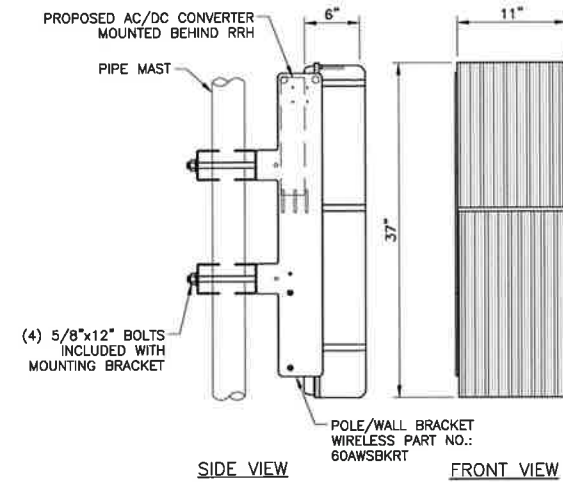
TYPE	WIDTH	DEPT H	HEIGHT	WEIGHT	ADD'L INFO
RBA72-36	36"	40.6"	70.6"	3,900 LBS	WEIGHT INCLUDES BATTERIES
RBA72	30"	42"	72"	700 LBS	WEIGHT IS WITHOUT BATTERIES



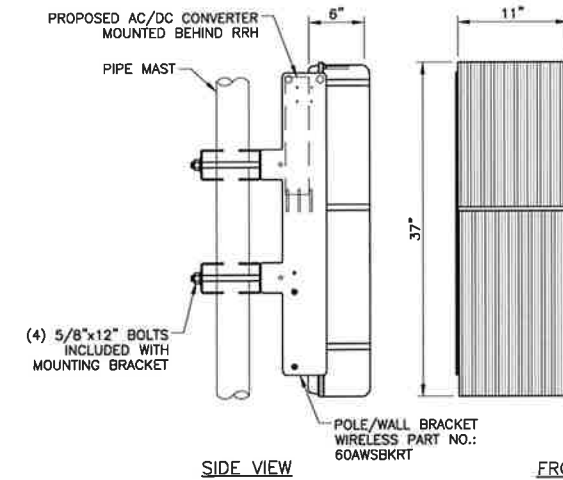
NOTES:
ATTACH UNISTRUT TO PLINTH W/ 1/2" A325 BOLTS



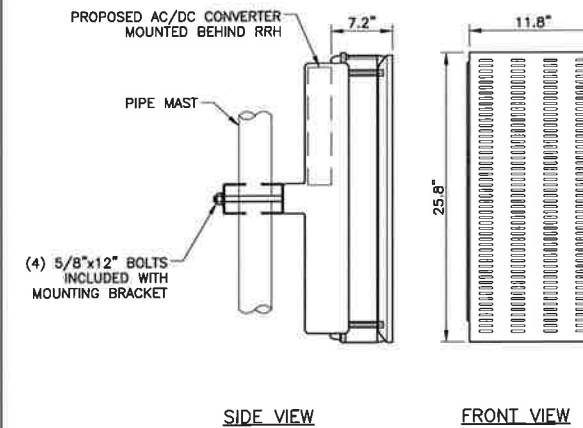
6-CIRCUIT TOWER TOP/BASE/ROOFTOP OVP BOX
MANUFACTURER: RAYCAP
MODEL NO.: RHSDC-3315-PF-48
WEIGHT: 32 LBS.



ALCATEL-LUCENT RRH2x60-700
DIMENSIONS: 21.6"Hx12.0"Wx9"D (WITH SOLAR SHIELD)
WEIGHT: 57.2 LBS. (WITH SOLAR SHIELD)



ALCATEL-LUCENT RRH2x60 PCS
DIMENSIONS: 22"Hx12.0"Wx9.4"D (WITH SOLAR SHIELD)
WEIGHT: 55 LBS. (WITH SOLAR SHIELD)



ALCATEL-LUCENT B66A RRH4x45
WITH SOLAR SHIELD:
DIMENSIONS: 25.8"Hx11.8"Wx7.2"D
WEIGHT: 56.8 LBS.

APPLICANT:

verizon

99 EAST RIVER DRIVE - 9th FLOOR
EAST HARTFORD, CT 06108

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DETAILS

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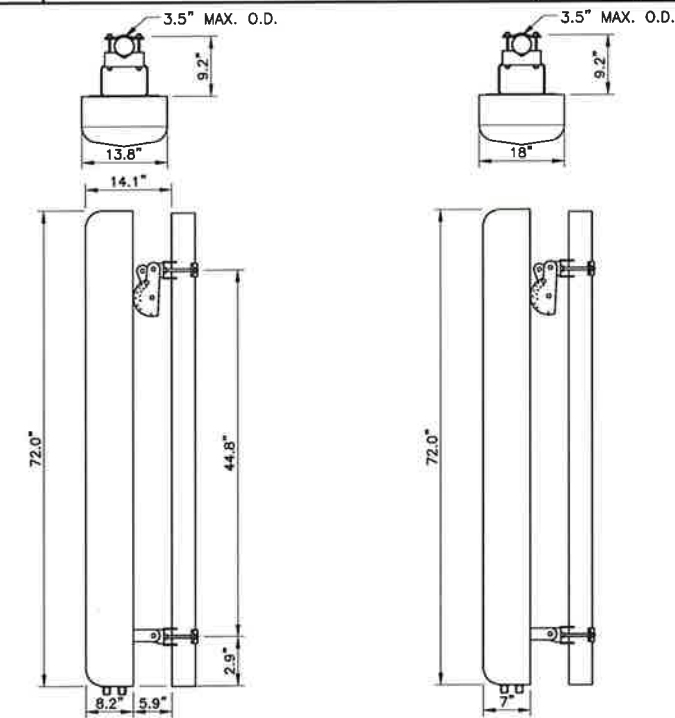
SHEET NO:

Z-4

1 CABINET DETAIL N.T.S.

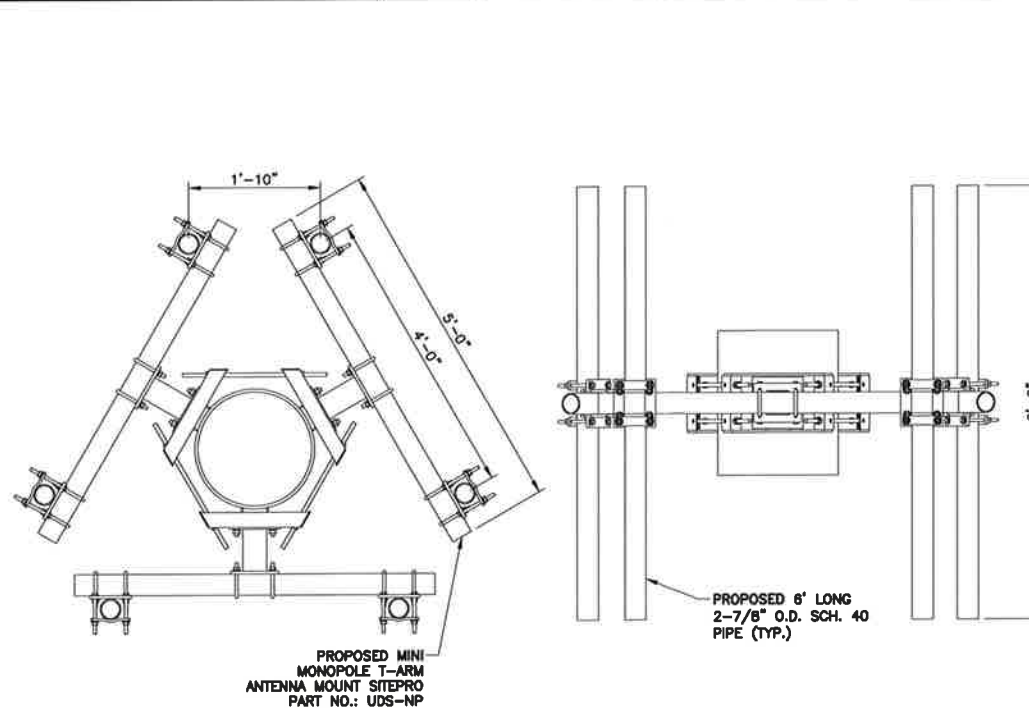
2 RBA CABINET MOUNTING FOOTPRINT N.T.S.

3 RBA CABINET MOUNTING FOOTPRINT N.T.S.



COMMSCOPE - JAHH-65B-R3B
ANTENNA WEIGHT: 63.3 LBS.
BRACKET WEIGHT: 13.2 LBS.

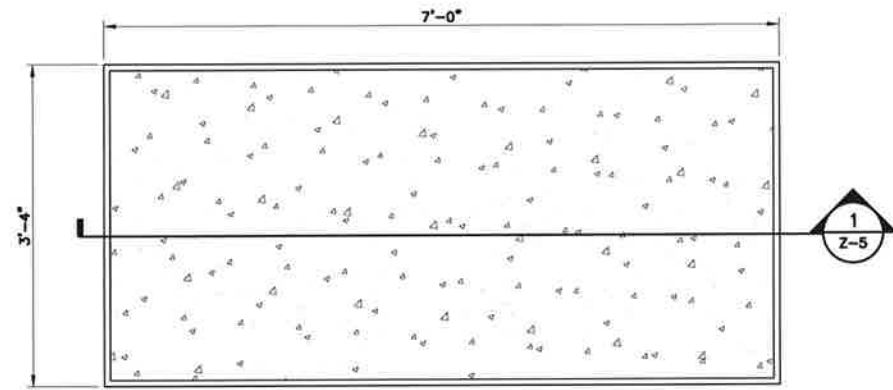
COMMSCOPE - JAHH-45B-R3B
ANTENNA WEIGHT: 86 LBS.
BRACKET WEIGHT: 13.2 LBS.



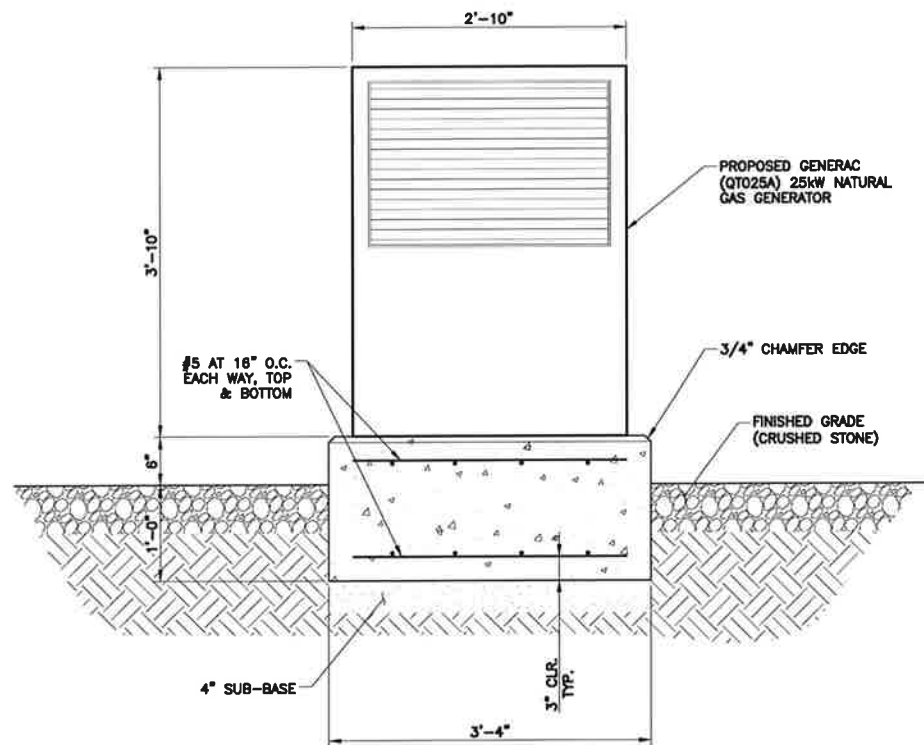
4 ANTENNA SPECIFICATION & DETAIL N.T.S.

5 ANTENNA T-ARM & STAND-OFF MOUNT SPECIFICATION & DETAIL N.T.S.

6 RRU SPECIFICATION & DETAIL N.T.S.



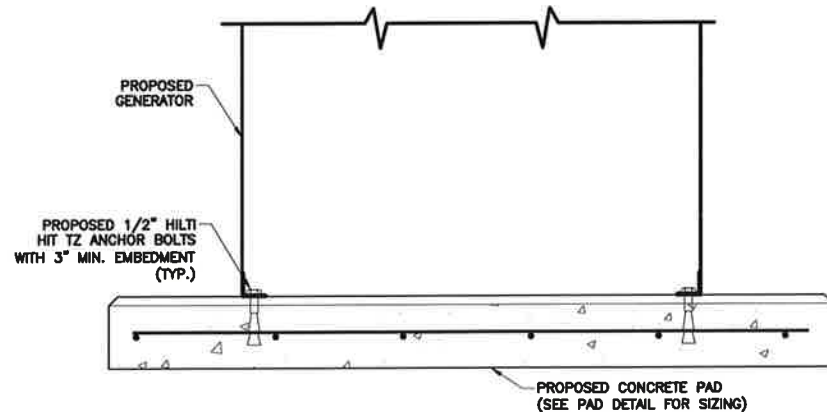
PLAN VIEW



SECTION VIEW

1 GENERATOR PAD DETAIL

N.T.S.



2 GENERATOR ANCHORAGE DETAIL

N.T.S.

FOUNDATION CRITERIA:

1. GENERATOR FOUNDATION DESIGN IS BASED UPON AN ALLOWABLE SOIL BEARING CAPACITY OF 1500 LBS PER SQ. FT. TO BE VERIFIED BY GEOTECHNICAL REPRESENTATIVE ON SITE DURING EXCAVATION.
2. DESIGN & CONSTRUCTION OF THE GENERATOR SHALL BE IN ACCORDANCE WITH THE 2016 CONNECTICUT STATE BUILDING CODE.

CONCRETE NOTES:

1. DESIGN & CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318.
2. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 3000 PSI. (EQUIPMENT SHELTER FOUNDATION SHALL BE 4000 PSI).
3. SUBMIT CONCRETE MIX DESIGN & REINFORCING STEEL SHOP DRAWINGS FOR REVIEW, AS DIRECTED BY THE CONSTRUCTION MANAGER, NO LESS THAN 7 DAYS PRIOR TO START OF CONSTRUCTION.
4. CONCRETE WORK & MATERIALS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" ACI 301.
5. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150 TYPE II REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615-GR 60, "DEFORMED & PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT."
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT.
7. JOINT FILLER SHALL BE PREFORMED RESILIENT BITUMINOUS EXPANSION JOINT FILLER CONFORMING TO ASTM D1751.
8. CONCRETE SLUMP SHALL NOT EXCEED 5 INCHES UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER, SLUMP SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C143.
9. READY MIX CONCRETE SHALL COMPLY WITH ACI-304 & ASTM C-94 WITH A MAXIMUM WATER CEMENT RATION OF 0.50 TIME BETWEEN INTRODUCTION OF WATER AND THE PLACEMENT OF CONCRETE SHALL NOT EXCEED 1-1/2 HOURS. TESTING OF CONCRETE SHALL BE PERFORMED UNDER THE DIRECTION OF THE CONSTRUCTION MANAGER. CONTRACTOR SHALL HAVE 6 CYLINDERS PREPARED FOR EVERY 50 CY OF CONCRETE CAST OR FRACTION THEREOF. CYLINDERS SHALL BE TESTED AT A CERTIFIED TESTING FACILITY W/2 @ 3 DAYS, 2 @ 7 DAYS, & 2 @ 28 DAYS. SUBMIT TEST RESULTS TO THE CONSTRUCTION MANAGER.
10. PROVIDE AIR ENTRAINMENT IN EXTERIOR EXPOSED CONCRETE TO OBTAIN TOTAL AIR CONTENT OF 5% ± 1% IN ACCORDANCE WITH ACI 301.
11. CONCRETE AGGREGATES SHALL BE NORMAL WEIGHT, CONFORMING TO ASTM C33. MAXIMUM SIZE OF COURSE AGGREGATE SHALL BE 1"
12. PROVIDE A 3/4" CHAMFER AT ALL EXPOSED EDGES OF CONCRETE, UNLESS OTHERWISE NOTED. PROVIDE NOT LESS THAN 48 HOURS NOTICE TO THE CLIENT FIELD REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.
13. WHEN AMBIENT TEMPERATURE IS BELOW 50 DEGREES F, CONCRETE MATERIALS & PLACEMENT SHALL CONFORM TO THE RECOMMENDATIONS OF ACI 306R "COLD WEATHER CONCRETING".
14. WHEN AMBIENT TEMPERATURE IS ABOVE 90 DEGREES F, CONCRETE MATERIALS & PLACEMENT SHALL CONFORM TO THE RECOMMENDATIONS OF ACI 305R "HOT WEATHER CONCRETING"
15. CONCRETE COVER FOR REINFORCING SHALL BE 3 INCHES FOR CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH AT ALL OTHER CONCRETE SURFACES, MINIMUM COVER SHALL BE 2 INCHES FOR #6 & LARGER BARS, & 1 1/2" INCHES FOR #5 & SMALLER BARS.
16. WELDING OF REINFORCING STEEL IS SPECIFICALLY PROHIBITED.
17. ALL REINFORCING, ANCHOR BOLTS, EMBEDDED STEEL, INSERTS & ALL OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
18. LAP SPLICES FOR REINFORCING STEEL SHALL BE 40 BAR DIAMETER.
19. REMOVE ALL LOOSE MATERIAL & DEBRIS FROM COMPACTED SUBGRADE SURFACE PRIOR TO PLACING CONCRETE.
20. THE TOP OF ALL FOUNDATIONS SHALL BE SQUARE & LEVEL WITH A SMOOTH FLOAT FINISH. ALL DIMENSIONS SHALL BE WITHIN ± 1/8 INCH.
21. EXTERIOR WALKING SURFACES SHALL RECEIVE A BROOM FINISH.
22. THROUGHOUT CONSTRUCTION, THE CONCRETE WORK LOAD SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGED DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, RAIN, SNOW EXCESSIVE HEAT & FREEZING.
23. DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY GUARDED AGAINST. ALL SURFACES SHALL BE MOIST CURED OR PROTECTED USING A MEMBRANE CURING AGENT APPLIED. AS SOON AS FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, EXERCISE CARE NOT TO DAMAGE SURFACE.
24. CONTRACTOR SHALL BRING TO THE IMMEDIATE ATTENTION OF THE CONSTRUCTION MANAGER OF ANY DEFECTS OR ERRORS IN THE WORKS, PRIOR TO MAKING REPAIRS. CONTRACTOR SHALL OBTAIN PERMISSION FROM THE CONSTRUCTION MANAGER TO PATCH OR REPAIR DEFECTS OTHER THAN MINOR HONEYCOMBING.
25. CONCRETE ANCHORS SHALL BE HEADED STEEL STUDS MEETING THE REQUIREMENTS OF ASTM A108 "STEEL BARS, CARBON, COLD FINISHED, STANDARD QUALITY."

3 FOUNDATION AND CONCRETE NOTES

N.T.S.

APPLICANT:



99 EAST RIVER DRIVE - 9th FLOOR
EAST HARTFORD, CT 06108

PREPARED BY:



21 B Street | Burlington, MA 01803
Tel: (781) 273-2500 | Fax: (781) 273-3311
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Matthew C Hykes

ENGINEER STAMP/SIGNATURE

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
A	12/21/16	SITING COUNCIL	SM
B	01/13/17	REVISED PER NEW RFDS	KO
C	01/27/17	REVISED PER COMMENTS	SH
D	02/10/17	REVISED PER COMMENTS	SH
E	04/28/17	REVISED PER STRUCTURAL	SH

EBI JOB NO:

8116000847

SITE INFO:

STAMFORD S 3 CT
1069 EAST MAIN STREET
STAMFORD, CT 06901

SHEET TITLE:

DETAILS

DRAWN BY:

SM

CHECKED BY:

DP

DATE:

12/20/16

SHEET NO:

Z-5

ATTACHMENT 3



JAHH-65B-R3B

Multiband Antenna, 698–787, 824–894 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RETs and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18.0	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

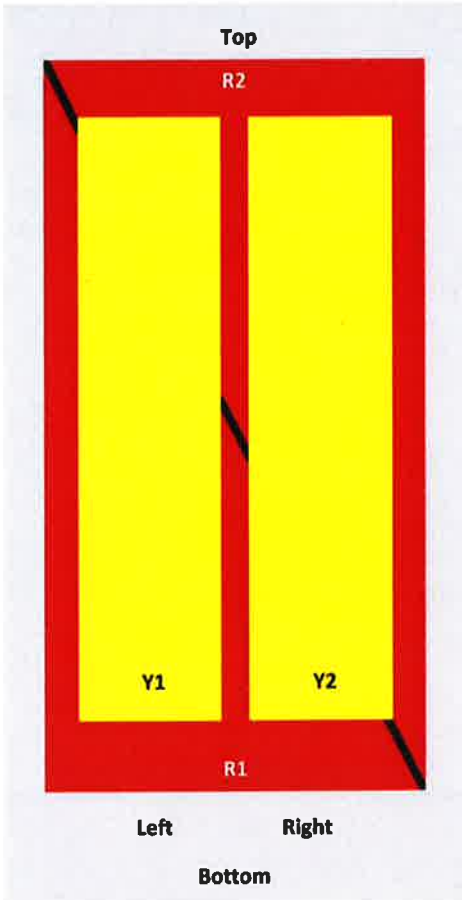
Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2° 14.3	2° 15.0	0° 17.2	0° 17.6	0° 17.7	0° 17.9
	8° 14.3	8° 14.9	5° 17.6	5° 18.2	5° 18.3	5° 18.7
	14° 14.3	14° 15.4	10° 17.6	10° 18.2	10° 18.3	10° 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24
CPR at Sector, dB	11	12	11	11	11	8

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper [Time to Raise the Bar on BSAs](#).

Array Layout

JAHH-65B-R3B

JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Combs	RET (SRET)	AISG RET UID
R1	698-798	1-2	1	ANXXXXXXXXXXXXX1
R2	824-894	3-4	2	ANXXXXXXXXXXXXX2
Y1	1695-2360	5-6	3	ANXXXXXXXXXXXXX3
Y2	1695-2360	7-8		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz 698 – 787 MHz 824 – 894 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	8
RF Connector Quantity, low band	4
RF Connector Quantity, high band	4
RF Connector Interface	4.3-10 Female
Color	Light gray

JAHH-65B-R3B

Grounding Type	RF connector body grounded to reflector and mounting bracket
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	746.0 N @ 150 km/h 167.7 lbf @ 150 km/h
Wind Loading, lateral	243.0 N @ 150 km/h 54.6 lbf @ 150 km/h
Wind Loading, rear	776.0 N @ 150 km/h 174.5 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Length	1828.0 mm 72.0 in
Width	350.0 mm 13.8 in
Depth	208.0 mm 8.2 in
Net Weight, without mounting kit	28.7 kg 63.3 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 Port 5
Internal RET	High band (1) Low band (2)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Single RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	2 female 2 male

Packed Dimensions

Length	1975.0 mm 77.8 in
Width	456.0 mm 18.0 in
Depth	357.0 mm 14.1 in
Shipping Weight	42.0 kg 92.6 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



JAHH-65B-R3B

Included Products

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note

Severe environmental conditions may degrade optimum performance

CommScope—Proprietary and Confidential. Preliminary specifications are for illustrative purposes only and will be updated prior to publication.

JAHH-45B-R3B

Multiband Antenna, 698–787, 824–894 and 2x 1695–2360 MHz, 45° horizontal beamwidth, low bands each have a RET and the high bands share a RET. Two internal SBTs.

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	16.5	17.2	19.5	20.1	20.5	21.0
Beamwidth, Horizontal, degrees	47	43	45	42	42	39
Beamwidth, Vertical, degrees	12.4	11.4	5.8	5.3	5.1	4.5
Beam Tilt, degrees	2–14	2–14	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	16	16	18	17	17	16
Front-to-Back Ratio at 180°, dB	30	31	33	35	35	35
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	200	200	300	300	300	250
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

General Specifications

Operating Frequency Band	1695 – 2360 MHz 698 – 787 MHz 824 – 894 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	8
RF Connector Quantity, low band	4
RF Connector Quantity, high band	4
RF Connector Interface	4.3-10 Female
Color	Light gray
Grounding Type	RF connector body grounded to reflector and mounting bracket
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	1038.0 N @ 150 km/h 233.4 lbf @ 150 km/h
Wind Loading, lateral	234.0 N @ 150 km/h 52.6 lbf @ 150 km/h

JAHH-45B-R3B

Wind Loading, rear	1091.0 N @ 150 km/h 245.3 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Length	1829.0 mm 72.0 in
Width	457.0 mm 18.0 in
Depth	178.0 mm 7.0 in
Net Weight, without mounting kit	39.0 kg 86.0 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 Port 5
Internal RET	High band (1) Low band (2)
Power Consumption, idle state, maximum	1.0 W
Power Consumption, normal conditions, maximum	8.0 W
Protocol	3GPP/AISG 2.0 (Single RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	2 female 2 male

Packed Dimensions

Length	1950.0 mm 76.8 in
Width	567.0 mm 22.3 in
Depth	311.0 mm 12.2 in
Shipping Weight	52.3 kg 115.3 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



Included Products

BSAMNT-3 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent’s distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.



The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

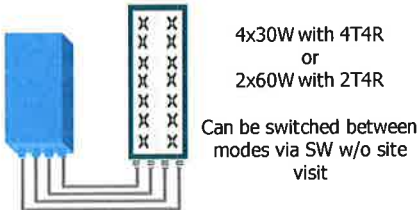
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



TECHNICAL SPECIFICATIONS

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (In 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
Volume in L	38 (with solar shield)
Weight in kg (lb) (w/o mounting HW)	26 (57.2) (with solar shield)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) IP65
Wind load (@150km/h or 93mph)	Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

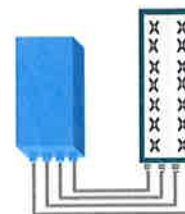


FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options (Pole or Wall)



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between
modes via SW w/o site
visit

TECHNICAL SPECIFICATIONS

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2)	2.0 dB typ. (<2.5 dB max)
RX Diversity scheme	2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.)	538 x 304 x 182 (21.2" x 12.0" x 7.2")
Volume (w/ solar shield) in L	30
Weight (w/ solar shield) in kg (lb)	24 (53)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	580W typical @100% RF load
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) IP65
Wind load (@150km/h or 93mph)	Frontal: <200N / Lateral : <150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

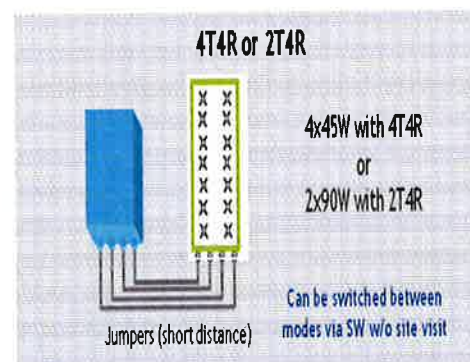
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



TECHNICAL SPECIFICATIONS

Features & Performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (In 70 MHz occupied bandwidth)
LTE carrier bandwidth	5, 10, 15, 20 MHz
RF output power	2x90W or 4x45W (selectable by SW)
Noise figure – RX Diversity scheme Receiver Sensivity (FRC A1-3)	2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity -104.5 dBm maximum
Sizes (HxWxD) in mm (in.)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
Volume in Liters	35.5 (with solar shield) 29.7 (without solar shield)
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure
Wind load (@150km/h or 93mph)	250N (56lb) Frontal/150N (34lb) Lateral
Antenna ports	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

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QT025A

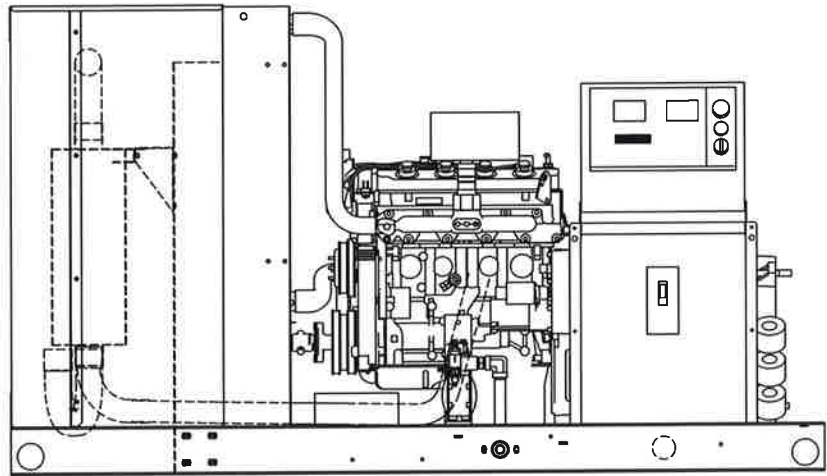
Industrial Gaseous Generator Set

EPA Certified Stationary Emergency

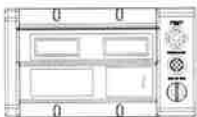
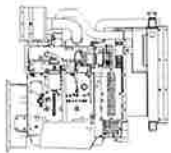
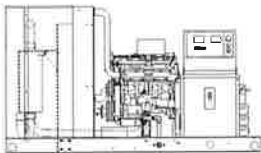
QT025A 25kW

1 of

Standby Power Rating
31kVA 25kW 60Hz



Generator image used for illustration purposes only



features

benefits

Generator Set

- PROTOTYPE & TORSIONALLY TESTED
- UL2200 TESTED
- RHINOCOAT PAINT SYSTEM

- ▶ PROVIDES A PROVEN UNIT
- ▶ ENSURES A QUALITY PRODUCT
- ▶ IMPROVES RESISTANCE TO ELEMENTS

Engine

- EPA COMPLIANT
- INDUSTRIAL TESTED, GENERAC APPROVED
- POWER-MATCHED OUTPUT
- INDUSTRIAL GRADE

- ▶ ENVIRONMENTALLY FRIENDLY
- ▶ ENSURES INDUSTRIAL STANDARDS
- ▶ ENGINEERED FOR PERFORMANCE
- ▶ IMPROVES LONGEVITY AND RELIABILITY

Alternator

- TWO-THIRDS PITCH
- LAYER WOUND ROTOR & STATOR
- CLASS H MATERIALS
- DIGITAL 3-PHASE VOLTAGE CONTROL

- ▶ ELIMINATES HARMFUL 3RD HARMONIC
- ▶ IMPROVES COOLING
- ▶ HEAT TOLERANT DESIGN
- ▶ FAST AND ACCURATE RESPONSE

Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS
- 4-20mA VOLTAGE-TO-CURRENT SENSORS
- SURFACE-MOUNT TECHNOLOGY
- ADVANCED DIAGNOSTICS & COMMUNICATIONS

- ▶ EASY, AFFORDABLE REPLACEMENT
- ▶ NOISE RESISTANT 24/7 MONITORING
- ▶ PROVIDES VIBRATION RESISTANCE
- ▶ HARDENED RELIABILITY

primary codes and standards



QT025A

application and engineering data

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Engine Reference	See Emissions Data Sheet
Cylinder #	4
Type	In-line
Displacement - L	2.4
Bore - mm (in.)	86.61 (3.41)
Stroke - mm (in.)	100.08 (3.94)
Compression Ratio	9.5:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	5
Connecting Rods	Forged
Cylinder Head	Aluminum
Cylinder Liners	No
Ignition	High Energy
Pistons	Aluminum Alloy
Crankshaft	Cast
Lifter Type	Overhead Cam
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Hardened Steel
Hardened Valve Seats	Yes

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-flow spin-on cartridge
Crankcase Capacity - L (qts)	3.8 (4)

Cooling System

Cooling System Type	Pressurized Closed
Water Pump Flow	11 gal/min
Fan Type	Pusher
Fan Speed (rpm)	2150
Fan Diameter mm (in.)	457 (18)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120VAC

Fuel System

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	5" - 14" H2O*

*Fuel pressure must remain within specified range and not drop more than 1 in. w.c. from static (no-load) to full load.

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator (Amps)	30
Battery Size (at 0°C)	525CCA
Battery Group	26
Battery Voltage	12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390mm
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	Brush Type
Bearings	Sealed Ball
Coupling	Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Full Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	+/- 0.25%

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	+/- 0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1
	UL2200

Rating Definitions:

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

QT025A

operating data (60Hz)

POWER RATINGS (kW)

	Natural Gas		Propane Vapor	
Single-Phase 120/240VAC @1.0pf	25	Amps: 104	25	Amps: 104
Three-Phase 120/208VAC @0.8pf	25	Amps: 87	25	Amps: 87
Three-Phase 120/240VAC @0.8pf	25	Amps: 75	25	Amps: 75
Three-Phase 277/480VAC @0.8pf	25	Amps: 38	25	Amps: 38

STARTING CAPABILITIES (sKVA)

		sKVA vs. Voltage Dip											
		480VAC						208/240VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	25	16	25	33	41	49	57	12	19	25	31	37	43

FUEL

Fuel Consumption Rates*

Natural Gas			Propane Vapor		
Percent Load	ft ³ /hr	m ³ /hr	Percent Load	ft ³ /hr	m ³ /hr
25%	140	3.9	25%	56	1.6
50%	220	6.2	50%	87	2.5
75%	300	8.5	75%	119	3.4
100%	380	10.8	100%	151	4.3

* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

COOLING

STANDBY		
Air Flow (inlet air combustion and radiator)	ft ³ /min (m ³ /min)	1500 (42.48)
System Coolant Capacity	Gal (Liters)	2.5 (9.46)
Heat Rejection to Coolant	BTU/hr	95,000
Max. Operating Air Temp on Radiator	°F (°C)	122 (50)
Max. Ambient Temperature	°F (°C)	104 (40)
Maximum Radiator Backpressure	in H ₂ O	1.5

COMBUSTION AIR REQUIREMENTS

STANDBY		
Flow at Rated Power	cfm	70

ENGINE

STANDBY		
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	40
Piston Speed	ft/min	1182
BMEP	psi	120

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

STANDBY		
Exhaust Flow (Rated Output)	cfm (m ³ /min)	220 (6.2)
Maximum Recommended Back Pressure	inHg	1.5
Exhaust Temp (Rated Output)	°F (°C)	975 (524)
Exhaust Outlet Size	in	2.5

QT025A

standard features and options

GENERATOR SET

- Genset Vibration Isolation Std
- Extended warranty Opt
- Gen-Link™ Communications Software Opt
- Steel Enclosure Opt
- Aluminum Enclosure Opt

ENGINE SYSTEM

- General
- Oil Drain Extension Std
 - Critical Exhaust Silencer Std
 - Air cleaner Std
 - Fan guard Std
 - Radiator duct adapter Std
- Fuel System
- Fuel lockoff solenoid Std
 - Secondary Fuel Regulator Std
 - Flexible fuel lines Std
- Cooling System
- 120VAC Coolant Heater Std
 - Closed Coolant Recovery System Std
 - UV/Ozone resistant hoses Std
 - Factory-Installed Radiator Std
 - Radiator Drain Extension Std
- Engine Electrical System
- Battery charging alternator Std
 - Battery cables Std
 - Battery tray Std
 - Solenoid activated starter motor Std
 - 10A UL float/equalize battery charger Std
 - Rubber-booted engine electrical connections Std

ALTERNATOR SYSTEM

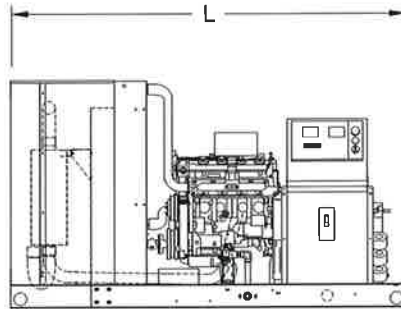
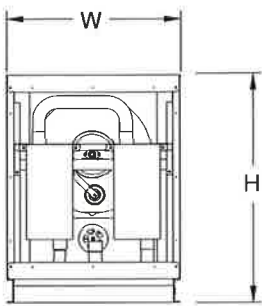
- UL2200 GENprotect™ Std
- Main Line Circuit Breaker Std

CONTROL SYSTEM

- Control Panel
- Digital H Control Panel - Dual 4x20 Display Std
 - Programmable Crank Limiter Std
 - 21-Light Remote Annunciator Opt
 - Remote Relay Panel (8 or 16) Opt
 - 7-Day Programmable Exerciser Std
 - Special Applications Programmable PLC Std
 - RS-232 Communications Std
 - RS-485 Communications Std
 - All-Phase Sensing DVR Std
 - Full System Status Std
 - Utility Monitoring (Req. H-Transfer Switch) Std
 - 2-Wire Start Compatible Std
 - Power Output (kW) Std
 - Power Factor Std
 - Reactive Power Std
 - All phase AC Voltage Std
 - All phase Currents Std
 - Oil Pressure Std
 - Coolant Temperature Std
 - Coolant Level Std
 - Fuel Pressure Std
 - Engine Speed Std
 - Battery Voltage Std
 - Frequency Std
 - Isochronous Governor Control Std
 - -40deg C - 70deg C Operation Std
 - Waterproof Plug-In Connectors Std
 - Audible Alarms and Shutdowns Std
 - Not in Auto (Flashing Light) Std
 - Auto/Off/Manual Switch Std
 - E-Stop (Red Mushroom-Type) Std
 - NFPA 110 Level I and II (Programmable) Std
 - Remote Communication - RS232 Std
- Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)
- Low Fuel Pressure Std
 - Oil Pressure (Pre-programmed Low Pressure Shutdown) Std
 - Coolant Temperature (Pre-programmed High Temp Shutdown) Std
 - Coolant Level (Pre-programmed Low Level Shutdown) Std
 - Engine Speed (Pre-programmed Overspeed Shutdown) Std
 - Voltage (Pre-programmed Overvoltage Shutdown) Std
 - Battery Voltage Std

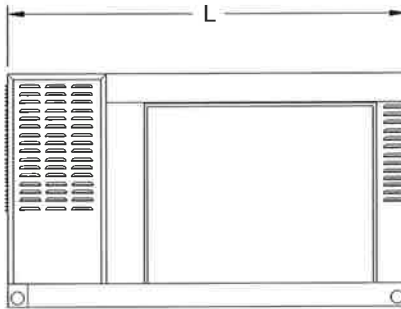
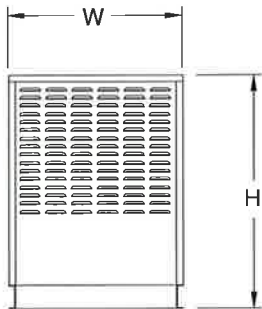
QT025A

dimensions, weights and sound levels



OPEN SET

L	W	H	WT	dBA*
77	34	43	1163	83



LEVEL 1 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
77	34	46	1414	60

*All measurements are approximate and *All measurements are approximate and for estimation purposes only. Sound levels measured at 23ft (7m) under normal operation and do not account for ambient site conditions. estimation purposes only. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

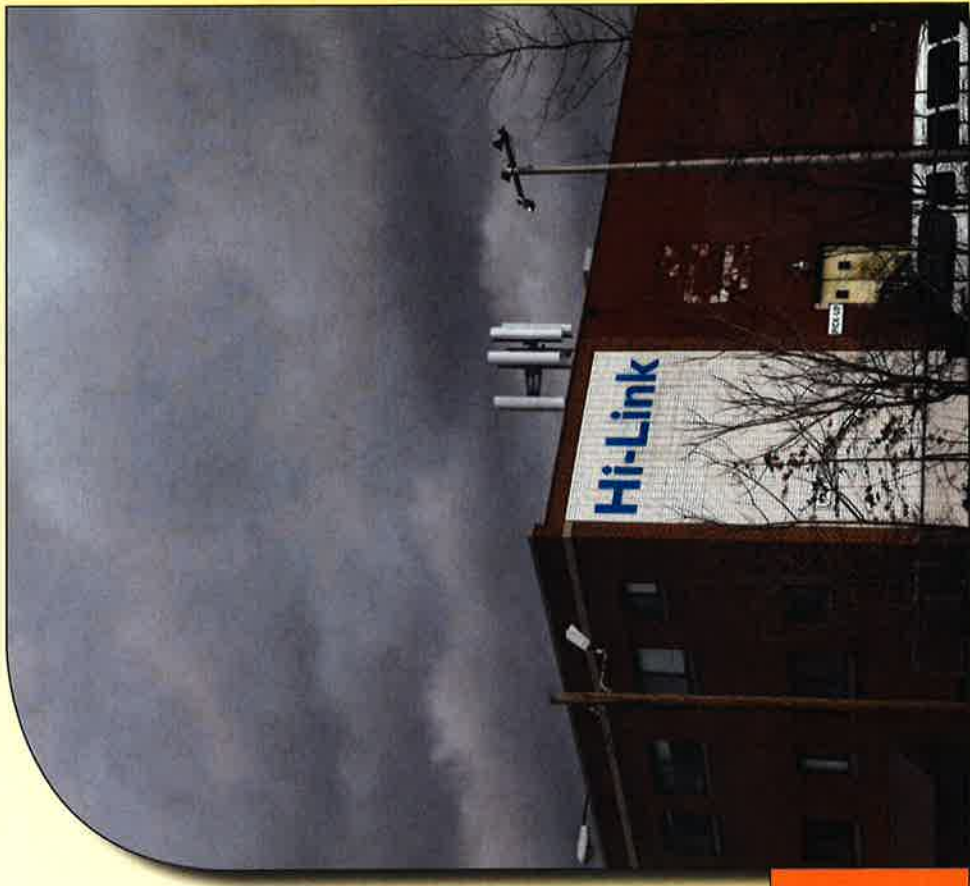
YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

ATTACHMENT 4

Visual Assessment & Photo-Simulations

STAMFORD S3 CT
1069 EAST MAIN STREET
STAMFORD, CT 06901



Prepared in May 2017 by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

Prepared for Verizon Wireless



VISUAL ASSESSMENT & PHOTO-SIMULATIONS

At the request of Cellco partnership LLC d/b/a Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") completed this visual assessment and prepared computer-generated photo-simulations depicting the proposed installation of a wireless telecommunications Facility at 1069 East Main Street in Stamford, Connecticut (the "Property").

Project Setting

The Property is located on the south side of East Main Street and north of Interstate 95 ("I-95"). The surrounding land use is a mix of commercial (primarily along East Main Street) and residential development. The Property is currently developed with two (2) adjoining, three-story brick commercial buildings.

The proposed Facility would include a roof-mounted "stub" monopole tower with six (6) antennas rising to a height of approximately 10 feet above the building's parapet in the southwest corner of the structure. Nine (9) remote radio heads, two (2) over voltage protection boxes and an equipment cabinet would be affixed to a steel H-frame and platform surrounding the base of the monopole. A free-standing emergency power backup generator would be located at street level along the building's north side on a concrete pad (measuring 3' 4" x 7'). Utility connections from the rooftop to ground level will be contained within a cable tray extending down the north side of the building and painted to match the façade.

Methodology

On January 27, 2017, APT personnel conducted field reconnaissance and photo-documented existing conditions. Eight (8) nearby locations were selected to provide an approximate extent of the proposed installation's visibility. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens, with the lens set to 50 mm to present a consistent field of view.

Three-dimensional computer models were developed for the building and proposed small cell components from AutoCAD information. Photographic simulations were then generated to portray scaled renderings of the proposed installation. Using field data, site plan information and image editing software, the proposed Facility was scaled to the correct location and height, relative to the existing structure and surrounding area. A photolog map and copies of the existing conditions and photo-simulations are attached.

Four (4) of the eight (8) photo-locations were simulated and present generally unobstructed view lines towards at least a portion of the proposed installation(s). They are however static in nature and do not necessarily fairly

characterize the prevailing views from all locations within a given area. The simulations provide a representation of the proposed Facility under similar settings as those encountered during the field reconnaissance. Views can change substantially throughout the seasons as well as the time of day, and are dependent on weather and other atmospheric conditions including but not necessarily limited to haze, fog, and clouds; the location, angle and intensity of the sun; light conditions, and the specific viewer location.

Photograph Locations

The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, and the distance from where the photo was taken relative to the proposed Facility. The photo locations are depicted on the photo-log map provided as an attachment to this report.

View	Location	Orientation	Distance to Site
1	Maher Road	Northeast	±144 Feet
2	Adjacent to Host Property	East	±122 Feet
3	East Main Street	Southeast	±200 Feet
4	East Main Street	South	± 90 Feet
5	East Main Street	Southwest	±341 Feet
6	Adjacent to Host Property	Southwest	±378 Feet
7	Blachley Road	Northwest	±248 Feet
8	Host Property	Northwest	±110 Feet

Conclusions

The visibility of the proposed stub tower and antennas would be limited to locations within ±500 feet of the building to the south and west. Its position on the southwest roof of the building obscures direct lines of sight from locations along East Main Street, and to the north and east. Primary views extend southwestward along Maher Road (including the highway overpass) and nearby portions of I-95. The ground equipment enclosure would be visible for a short stretch of East Main Street in front of the Property and extending just beyond the intersection of Blachley Road to the east.

Based on the results of this assessment, it is our opinion that the proposed installation of the Verizon Wireless communications Facility will not have an adverse visual impact on existing views of this building or the character of the community.

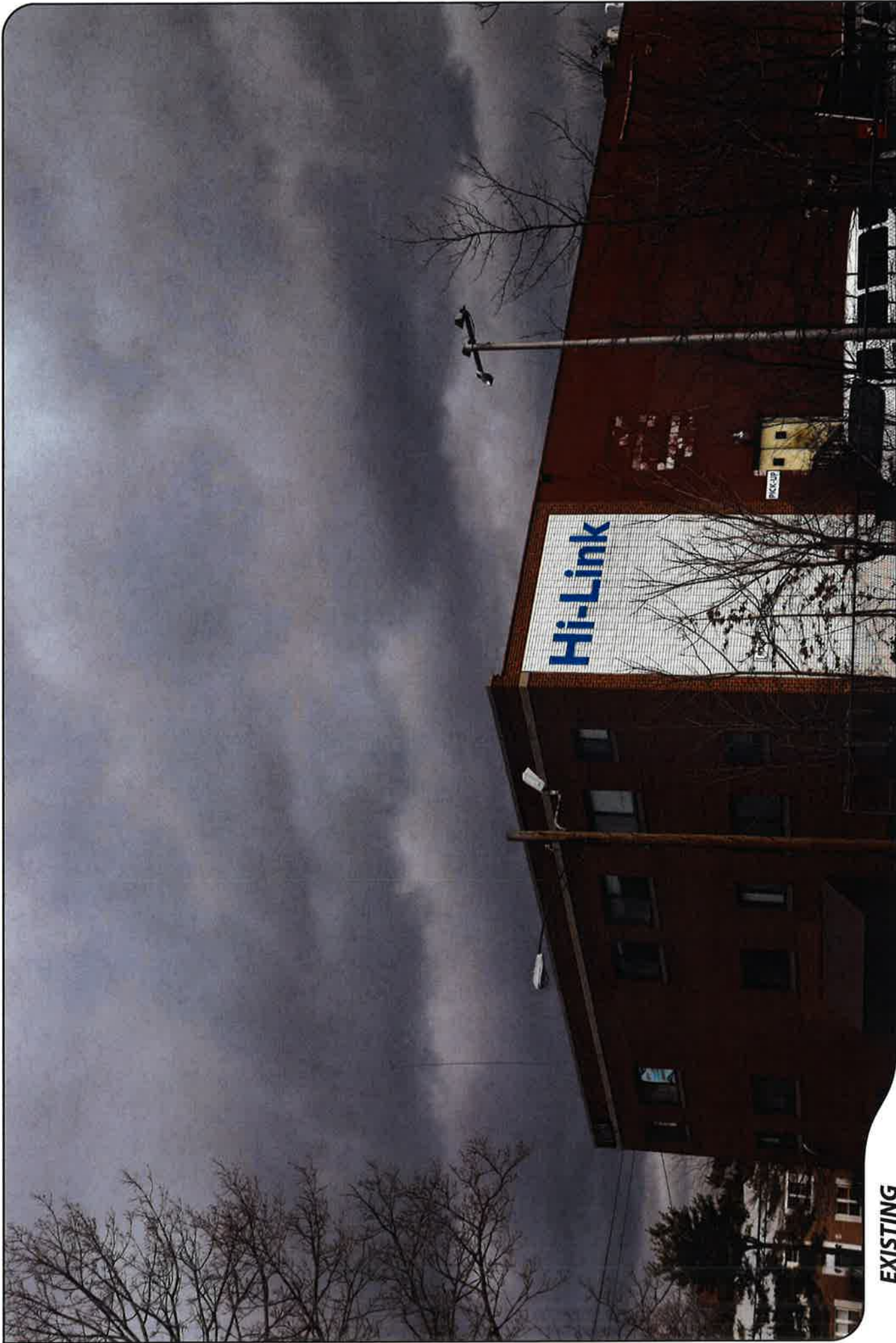
ATTACHMENTS



PHOTO LOG

- Legend**
- Site
 - Visible
 - Not Visible





EXISTING

PHOTO

1

LOCATION

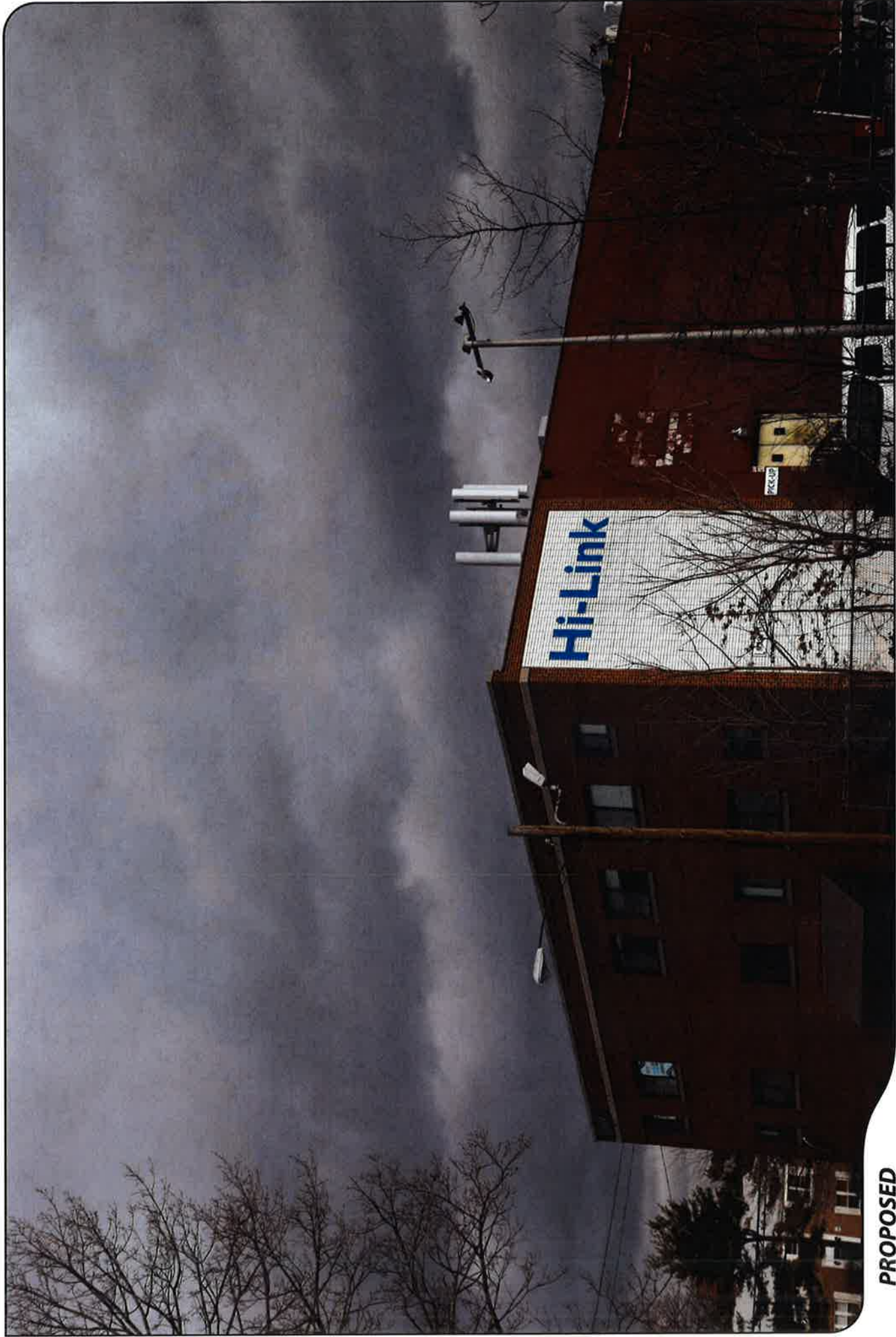
MAHER ROAD

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 144 FEET



PROPOSED

PHOTO

1

LOCATION

MAHER ROAD

ORIENTATION

NORTHEAST

DISTANCE TO SITE

+/- 144 FEET



ALL-POINTS
TECHNOLOGY CORPORATION





NOT VISIBLE FROM THIS LOCATION

EXISTING

PHOTO

2

LOCATION

ADJACENT TO HOST PROPERTY

ORIENTATION

EAST

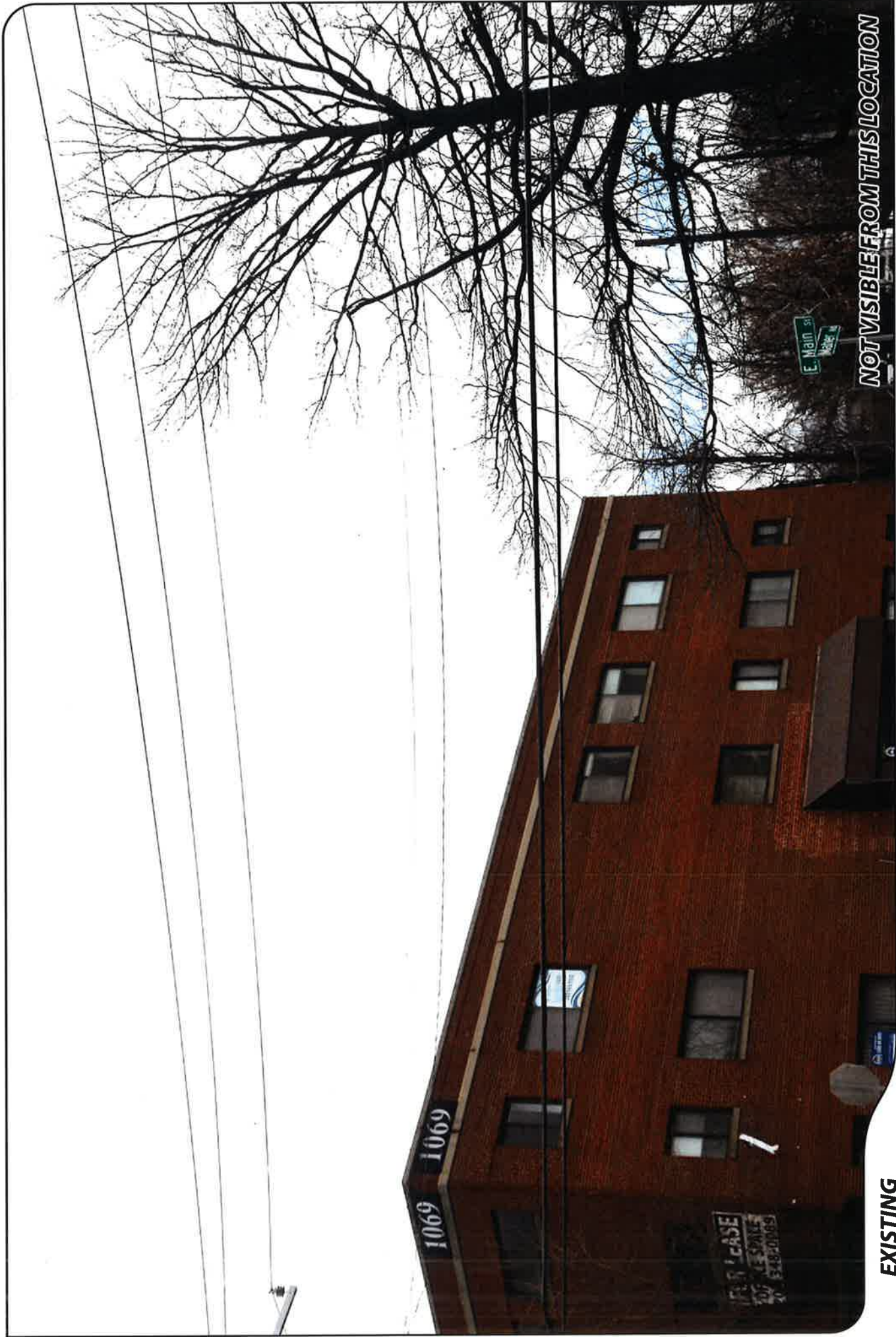
DISTANCE TO SITE

+/- 122 FEET



ALL-POINTS
TECHNOLOGY CORPORATION

verizon



NOT VISIBLE FROM THIS LOCATION

EXISTING

PHOTO

3

LOCATION

EAST MAIN STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 200 FEET





EXISTING

PHOTO

4

LOCATION

EAST MAIN STREET

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 90 FEET



ALL-POINTS
TECHNOLOGY CORPORATION

verizon



PROPOSED

PHOTO

4

LOCATION

EAST MAIN STREET

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 90 FEET



ALL-POINTS
TECHNOLOGY CORPORATION

verizon



EXISTING

PHOTO

5

LOCATION

EAST MAIN STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 341 FEET



ALL-POINTS
TECHNOLOGY CORPORATION





PROPOSED

PHOTO

5

LOCATION

EAST MAIN STREET

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 341 FEET



EXISTING

PHOTO

6

LOCATION

ADJACENT TO HOST PROPERTY

ORIENTATION

SOUTHWEST

DISTANCE TO SITE

+/- 378 FEET

NOT VISIBLE FROM THIS LOCATION





NOT VISIBLE FROM THIS LOCATION

EXISTING

PHOTO

7

LOCATION

BLACHLEY ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 248 FEET





EXISTING

PHOTO

8

LOCATION

HOST PROPERTY

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 110 FEET



ALL-POINTS
TECHNOLOGY CORPORATION

verizon



PROPOSED

PHOTO

8

LOCATION

HOST PROPERTY

DISTANCE TO SITE

+/- 110 FEET

ORIENTATION

NORTHWEST



ATTACHMENT 5



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

Calculated Radio Frequency Emissions Report



Stamford South 3

1069 East Main Street, Stamford, CT 06901

February 9, 2017

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3. RF Exposure Prediction Methods.....	2
4. Calculation Results	2
5. Conclusion	3
6. Statement of Certification.....	3
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Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)	5
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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of Verizon Wireless antenna arrays and a stub monopole tower on the rooftop of the building located at 1069 East Main Street in Stamford, CT. The coordinates of the building are 41° 03' 25.23" N, 73° 30' 59.64" W.

Verizon is proposing to install the following:

- 1) Install a 12' stub monopole tower on a steel H-frame support structure;
- 2) Install three dualband 751/1900 MHz LTE antennas (one per sector);
- 3) Install three dualband 751/2100 MHz LTE antennas (one per sector);
- 4) Install nine remote radio heads (RRHs) for 751/1900/2100 MHz LTE (three per sector).

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/cm^2). 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.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times \text{EIRP}}{4\pi \times R^2} \right) \times \text{OffBeamLoss}$$

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna patterns

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final site configuration.

4. Calculation Results

Table 1 below outlines the power density information for the site. Due to the directional nature of the proposed Verizon antennas, 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 building. Please refer to Attachment C for the vertical patterns of the proposed Verizon antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
Verizon	41.3	751	1	3305	0.9543	0.5007	19.06%
Verizon	41.3	1900	1	7571	2.1861	1.0000	21.86%
Verizon	41.3	2100	1	12453	3.5957	1.0000	35.96%
Total:							76.88%

Table 1: Carrier Information^{1 2}

¹ Antenna heights listed for Verizon are in reference to the EBI Consulting Zoning Drawings, dated 12/21/2016.

² In cases where downtilt and antenna models are not uniform across all 3 sectors, the sector with the highest gain and/or most downtilt was used for the calculations.

5. Conclusion

The above analysis verifies that emissions from the proposed site configuration will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. The highest, cumulative expected percent of Maximum Permissible Exposure at ground level is **76.88% of the FCC Uncontrolled/General Population limit.**

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 ANSI/IEEE Std. C95.3, ANSI/IEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

February 9, 2017

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 Exposure³

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 Exposure⁴

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)

³ 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.

⁴ 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.

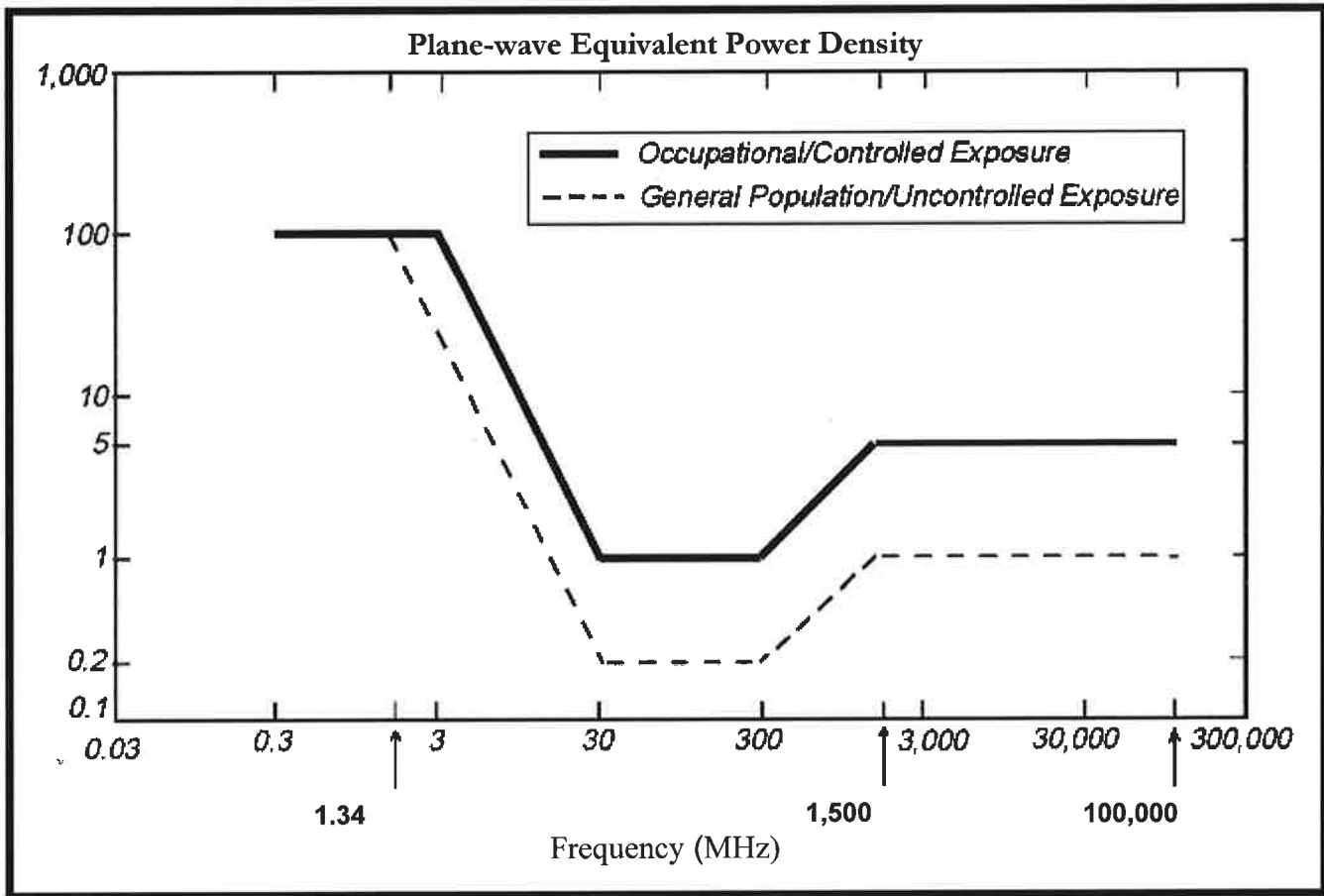
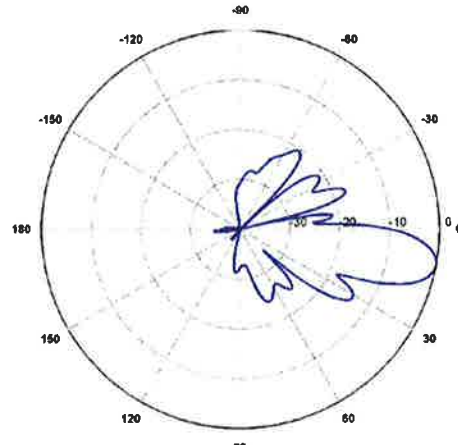
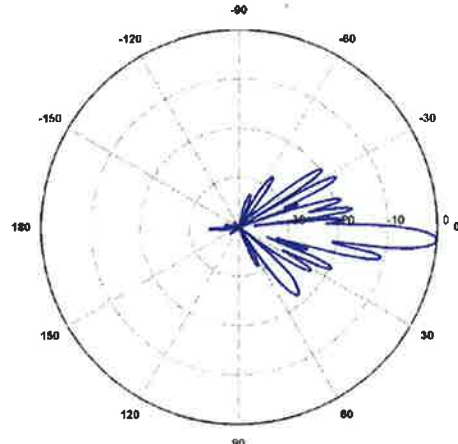
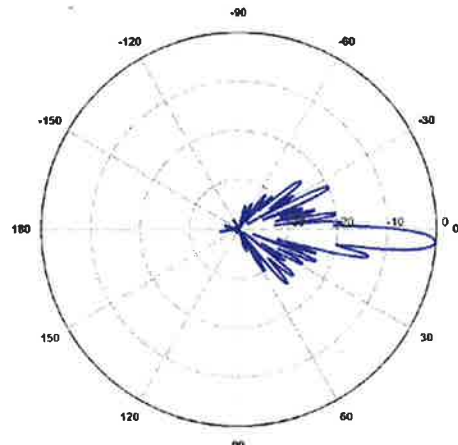


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Wireless' Antenna Model Data Sheets and Electrical Patterns

<p>751 MHz LTE</p> <p>Manufacturer: Commscope Model #: JAHH-45B-R3B_10 Frequency Band: 698-787 MHz Gain: 16.5 dBi Vertical Beamwidth: 12.4° Horizontal Beamwidth: 47° Polarization: ± 45° Size L x W x D: 72.0" x 18.0" x 7.0"</p>	
<p>1900 MHz LTE</p> <p>Manufacturer: Commscope Model #: JAHH-45B-R3B_4 Frequency Band: 1850-1990 MHz Gain: 20.1 dBi Vertical Beamwidth: 5.3° Horizontal Beamwidth: 42° Polarization: ± 45° Size L x W x D: 72.0" x 18.0" x 7.0"</p>	
<p>2100 MHz LTE</p> <p>Manufacturer: Commscope Model #: JAHH-45B-R3B_4 Frequency Band: 1920-2200 MHz Gain: 20.5 dBi Vertical Beamwidth: 5.1° Horizontal Beamwidth: 42° Polarization: ± 45° Size L x W x D: 72.0" x 18.0" x 7.0"</p>	

ATTACHMENT 6

STAMFORD_S_3_CT - FAA Analysis.txt

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Antenna Structure *

Airspace User: Your Name

File: STAMFORD_S_3_CT

Location: Stamford, CT

Latitude: 41°-03'-25.23"

Longitude: 73°-30'-59.64"

SITE ELEVATION AMSL.....104 ft.

STRUCTURE HEIGHT.....45 ft.

OVERALL HEIGHT AMSL.....149 ft.

NOTICE CRITERIA

FAR 77.9(a): NNR (DNE 200 ft AGL)
FAR 77.9(b): NNR (DNE Notice Slope)
FAR 77.9(c): NNR (Not a Traverse Way)
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for HPN
FAR 77.9: NNR (No Expected TERPS® impact 7N3)
FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required

NNR = Notice Not Required

PNR = Possible Notice Required (depends upon actual IFR procedure)
For new construction review Air Navigation Facilities at bottom
of this report.

Notice to the FAA is not required at the analyzed location and height for
slope, height or Straight-In procedures. Please review the 'Air Navigation'
section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

FAR 77.17(a)(1): DNE 499 ft AGL
FAR 77.17(a)(2): DNE - Airport Surface
FAR 77.19(a): DNE - Horizontal Surface
FAR 77.19(b): DNE - Conical surface
FAR 77.19(c): DNE - Primary Surface
FAR 77.19(d): DNE - Approach Surface
FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: HPN: WESTCHESTER COUNTY

Type: A RD: 50660.38 RE: 387.7

FAR 77.17(a)(1): DNE
FAR 77.17(a)(2): DNE - Greater Than 5.99 NM.
VFR Horizontal Surface: DNE
VFR Conical Surface: DNE
VFR Approach Slope: DNE
VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: 7N3: SANDS POINT

Type: S RD: 97380.22 RE: 6.6

FAR 77.17(a)(1): DNE
FAR 77.17(a)(2): DNE - Greater Than 5.99 NM.
VFR Horizontal Surface: DNE
VFR Conical Surface: DNE
VFR Approach Slope: DNE

STAMFORD_S_3_CT - FAA Analysis.txt
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)
 FAR 77.17(a)(3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
 FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 700 ft AMSL

PRIVATE LANDING FACILITIES

FACIL IDENT TYP NAME	BEARING To FACIL	RANGE IN NM	DELTA ARP FAA ELEVATION IFR
5CT8 HEL CANAL STREET No Impact to Private Landing Facility Structure is beyond notice limit by 1319 feet.	221.06	1.04	+99
CT56 HEL 50 WASHINGTON STREET No Impact to Private Landing Facility Structure is beyond notice limit by 25806 feet.	59.43	5.07	+6
5CT4 HEL NORWALK HOSPITAL No Impact to Private Landing Facility Structure 0 ft below heliport.	53.69	5.34	-7

AIR NAVIGATION ELECTRONIC FACILITIES

APCH BEAR	FAC IDENT	ST TYPE	AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA	ST LOCATION	GRND ANGLE
	HPN	RADAR	ON	2735.	276.04	55120	-361	NY WESTCHESTER COUNT	-.38
	No Impact. This structure does not require Notice based upon EMI. The studied location is within 20 NM of a Radar facility. The calculated Radar Line-Of-Sight (LOS) distance is: 43 NM. This location and height is within the Radar Line-Of-Sight.								
	CMK	VOR/DME	I	116.6	347.65	83209	-545	NY CARMEL	-.38
	DPK	VOR/DME	I	117.7	148.74	113157	+26	NY DEER PARK	.01
	BDR	VOR/DME	R	108.8	70.61	114465	+140	CT BRIDGEPORT	.07
	LGA	VOR/DME	R	113.1	224.22	139214	+140	NY LA GUARDIA	.06
	ISP	RADAR	ON	2735.	128.25	147883	-33	NY LONG ISLAND MacAR	-.01
	JFK	RADAR	ON	2755.	204.36	167067	+62	NY JOHN F KENNEDY IN	.02
	TEB	VOR/DME	R	108.4	243.09	168759	+146	NJ TETERBORO	.05
	JFK	VOR/DME	I	115.9	204.44	169846	+138	NY KENNEDY	.05
	HVN	VOR/DME	R	109.8	66.51	189277	+143	CT NEW HAVEN	.04
	CRI	VOR/DME	R	112.3	212.73	192783	+139	NY CANARSIE	.04
	KOKX	RADAR WXL	Y		111.37	193295	-46	NY NEW YORK	-.01
	JFK	RADAR WXL	Y	05647.	210.43	198069	+25	NY FLOYD BENNETT TDW	.01

STAMFORD_S_3_CT - FAA Analysis.txt

CCC	VOR/DME	R	117.2	103.42	203507	+64	NY CALVERTON	.02
EWR	RADAR	Y		232.88	222779	-1	NJ NEWARK ASDE	0.00
SWF	RADAR	Y	2765.	314.48	226232	-572	NY STEWART INTERNATI	-.14
EWR	RADAR	ON	2715.	232.71	231974	+43	NY NEWARK INTERNATIO	.01
QVH	RADAR ARSR	Y	1326.9	106.11	238071	-202	NY RIVERHEAD	-.05

CFR Title 47, §1.30000-§1.30004

AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.
Movement Method Proof as specified in §73.151(c) is not required.
Please review 'AM Station Report' for details.

Nearest AM Station: WSTC @ 1376 meters.

Airspace® Summary Version 16.9.424

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12-30-2016
10:24:22

ATTACHMENT 7

June 1, 2017

Via Certificate of Mailing

David Martin, Mayor
City of Stamford
888 Washington Boulevard
Stamford, CT 06901

Re: **Proposed Installation of a Roof-Top Wireless Telecommunications Facility at
1069 East Main Street, Stamford, Connecticut**

Dear Mayor Martin:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new telecommunications facility on the roof of the existing commercial office building at 1069 East Main Street in Stamford (the “Property”). The facility will consist of a roof-top tower supporting six (6) panel antennas and the installation of nine (9) remote radio heads (RRHs) on the roof near the base of the tower. The tower and antennas will extend to a height of 44 feet above ground level. An equipment cabinet associated with the facility will be located on the roof of the building and a natural gas-fueled back-up generator will be located on a concrete pad adjacent to the north side of the building.

A copy of the Petition is attached for your review. Landowners whose parcels abut the Property were also sent notice of this filing along with a copy of the Petition.

16159405-v1

Robinson + Cole

David Martin, Mayor
June 1, 2017
Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

June 1, 2017

Via Certificate of Mailing

1069 East Main Street LLC
933 Still Water
Stamford, CT 06902

Re: **Proposed Installation of a Roof-Top Wireless Telecommunications Facility at
1069 East Main Street, Stamford, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new telecommunications facility on the roof of the existing commercial office building at 1069 East Main Street in Stamford (the “Property”). The facility will consist of a roof-top tower supporting six (6) panel antennas and the installation of nine (9) remote radio heads (RRHs) on the roof near the base of the tower. The tower and antennas will extend to a height of 44 feet above ground level. An equipment cabinet associated with the facility will be located on the roof of the building and a natural gas-fueled back-up generator will be located on a concrete pad adjacent to the north side of the building.

A copy of the Petition is attached for your review. Landowners whose parcels abut the Property were also sent notice of this filing along with a copy of the Petition.

16159420-v1

Robinson+Cole

1069 East Main Street LLC

June 1, 2017

Page 2

Please contact me if you have any questions regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Baldwin', with a long horizontal flourish extending to the right.

Kenneth C. Baldwin

Attachment

ATTACHMENT 8

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

June 1, 2017

Via Certificate of Mailing

«Name_and_Address»

Re: Notice of Intent to File a Petition for Declaratory Ruling with the Connecticut Siting Council for the Installation of a Roof-Top Wireless Telecommunications Facility at 1069 East Main Street, Stamford, Connecticut

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Petition for Declaratory Ruling (“Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install a new telecommunications facility on the roof of the existing commercial office building at 1069 East Main Street in Stamford (the “Property”). The facility will consist of a roof-top tower supporting six (6) panel antennas and the installation of nine (9) remote radio heads (RRHs) on the roof near the base of the tower. The tower and antennas will extend to a height of 44 feet above ground level. An equipment cabinet associated with the facility will be located on the roof of the building and a natural gas-fueled back-up generator will be located on a concrete pad adjacent to the north side of the building. A copy of the 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.

June 1, 2017
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

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

ABUTTING PROPERTY OWNERS

**1069 EAST MAIN STREET
STAMFORD, CONNECTICUT**

	Property Address	Owner's and Mailing Address
1.	1103 East Main Street	McDonalds Real Estate Company One McDonalds Plaza Oak Brook, IL 60523
2.	1083 East Main Street	1083 East Main LLC 10 Middle Street, 17 th Floor Bridgeport, CT 06604
3.	1051 East Main Street	1047-1055 East Main Street LLC 1 Christiano Street Cos Cob, CT 06807
4.	Fairlawn Condos Standish Road	Fairlawn Third Condominium Association 148 Seaton Road Stamford, CT 06902
5.	Maher Road	Connecticut Light and Power Company P.O. Box 270 Hartford, CT 06141
6.	I-95 ROW	Connecticut Department of Transportation 2800 Berlin Avenue Newington, CT 06111