

118 Flanders Road
Third Floor
Westborough, MA
01581

Sean Conway
Principal Engineer

October 30, 2019

City Clerk, City of Malden
110 Pleasant Street, 1st Floor
Malden, MA 02148

Re: Small Cell Wireless Application
Applicant: Cellco Partnership d/b/a Verizon Wireless
("Verizon Wireless")

Dear City Clerk and City Council Members:

Enclosed please find Verizon Wireless's application to collocate small wireless facilities (also referred to as "small cells") on existing wooden utility poles located within the public right of way. This application is for five (5) proposed small cell locations, and a check for the \$500.00 application fee is included. Under federal law, municipalities may assess up to \$500.00 for a single application that includes up to five small wireless facilities. *Accelerating Wireless Broadband Deployment*, FCC 18-133, WT Docket No. 17-79, 85 FR 51867, at ¶ 79 (September 26, 2018).

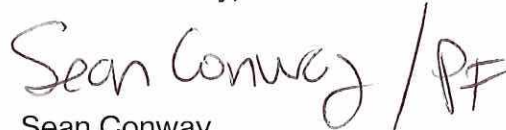
Verizon Wireless also herein provides the acknowledgments required under Section 6.49.12(11) of Malden's Code (adopted January 2018), which governs siting and installation of wireless communications equipment within the City:

Verizon Wireless acknowledges that locating wireless systems in, on and along the public right of way and public airspace of the City affects the City and its inhabitants. Verizon Wireless acknowledges that Verizon Wireless's wireless communications equipment is for Verizon Wireless's commercial enterprise and competitive use and purposes, distinct from any municipal non-profit purpose the City may have to use its public right of way and airspace or to locate municipal equipment. Verizon Wireless agrees to permit the City to place or attach its own equipment to any pole located within the City, whether owned by the City or not, for municipal use purposes as they arise [as long as Verizon Wireless has the authority to permit such use, and the use relates to public safety and does not interfere with Verizon Wireless's use]. Verizon Wireless agrees to pay [bi-annual inspectional fees [to the extent the fee assessed complies with applicable law] to accommodate use of poles in, on and along public right of way and public airspace within the City.



While Verizon Wireless provides this acknowledgement as part of this application, Verizon Wireless does not own any poles in the City and stipulates that payment for bi-annual inspections of Verizon Wireless's small cell facilities are due only if the City actually conducts the inspections and the bi-annual inspection fee represents an objectively reasonable approximation of costs reasonably incurred by the City in conducting the inspections.

Yours sincerely,

A handwritten signature in black ink that reads "Sean Conway" followed by a vertical slash and the initials "PF".

Sean Conway
Principal Engineer

cc: Nelson Miller, City of Malden Permits, Inspections and Planning Director

Friday, February 21st, 2020

City of Malden: Application for Approval of Proposed Small Cell Infrastructure

1). Applicant Information

Applicant Name:	Cellco Partnership d/b/a Verizon Wireless, Attn: Sean Conway				
Address:	118 Flanders Road				
City:	Westborough	State:	MA	Zip Code:	01581
Phone Number:	508-320-2017		Email Address:	Sean.conway@verizonwireless.com	

2). Applicant Vendor Information

Applicant Name:	Nexius Solutions, Inc., Attn.: Noah Meunier				
Address:	300 Apollo Drive, Suite 7				
City:	Chelmsford	State:	MA	Zip Code:	01824
Phone Number:	978-790-1108		Email Address:	Noah.Meunier@nexius.com	

3). Applicant Vendor Information

VZW NOC: 800-264-6620

- See Attached “Shut Down Procedure” Document for more Information

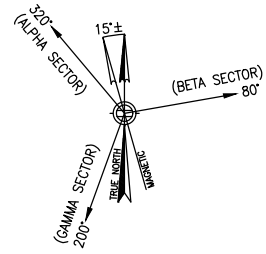
4). Utility Pole Information

Site Name	Utility Pole #	Nearest Abutting Property	Pole Owner
BOS_MALDEN_020_MA	4842	490 Eastern Avenue	National Grid / Verizon
BOS_MALDEN_039_MA	2138	77 Revere Street	National Grid / Verizon
BOS_MALDEN_040_MA	5123	1279 Salem Street	National Grid / Verizon
BOS_MALDEN_041_MA	1	12 Fairfield Avenue	National Grid / Verizon
BOS_MALDEN_094_MA	4508	135 Main Street	National Grid / Verizon



Attached Documents

- Lease Exhibit for Each Proposed Small Cell
- Structural Pole Analysis for Each Utility Pole
- National Grid Consent Form
- RF Emissions Report
- FCC Licenses
- Utility Pole Shut Down Procedure



BOS_MALDEN_040_MA

CLUSTER: MALDEN S - EVERETT N

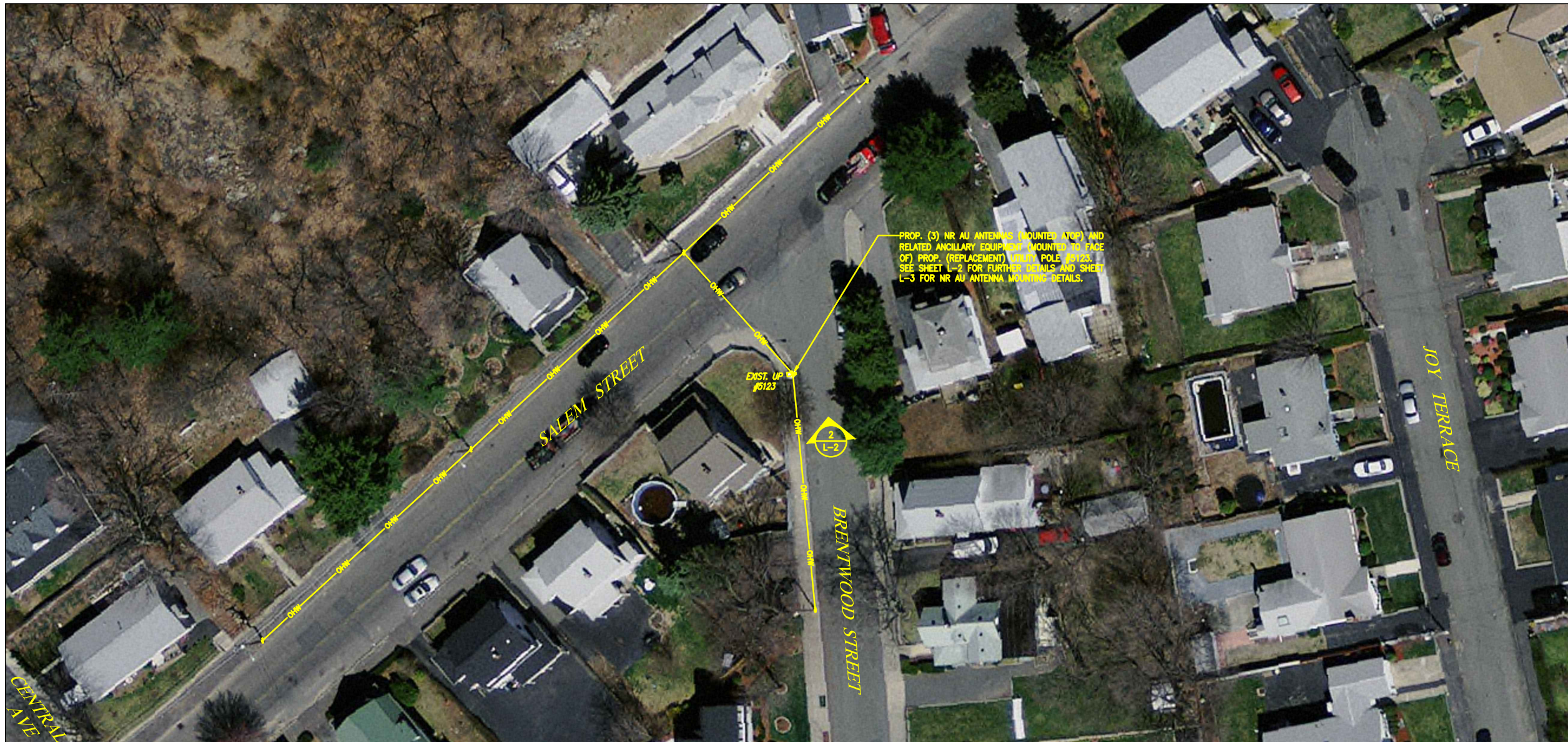
UTILITY POLE #5123
 1279 SALEM STREET, POLE ON BRENTWOOD STREET
 MALDEN, MA 02148

PRESIDING POWER COMPANY
 nationalgrid

verizon
 "Because Better Matters"

CHAPPELL ENGINEERING ASSOCIATES, LLC
 Civil • Structural • Land Surveying

R.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752
 (508) 481-7400
 www.chappellengineering.com



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/8/19
1	REVISED FOR POLE REPLACEMENT	12/13/19

SITE NAME:
BOS_MALDEN_040_MA
 UTILITY POLE #5123
 1279 SALEM STREET,
 POLE ON BRENTWOOD STREET
 MALDEN, MA 02148

DRAWING TITLE:
 LOCATION PLAN/
 AERIAL IMAGE

DRAWING NO:
L-1

LEASE EXHIBIT
 NOT FOR CONSTRUCTION

SITE CONTROL POINT:
 CENTER OF EXISTING UTILITY POLE #5123
 N 42.436327" (42'-26"-10.78")
 W 71.026950" (71'-01"-37.02")
 APPROXIMATE GROUND ELEVATION - 32± AMSL

LOCATION PLAN/AERIAL IMAGE
 SCALE: 1" = 50'
 0 50' 100' 150'

SHEET INDEX		
DWG.	DESCRIPTION	REV.
L-1	LOCATION PLAN/AERIAL IMAGE	1
L-2	UTILITY POLE PHOTOGRAPH AND ELEVATION	1
L-3	ANTENNA & ANCILLARY EQUIPMENT DETAILS AND ONE-LINE DIAGRAM	1

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	554202
CEA PROJECT NO:	CHECKED BY: GRS	
1907.0160	ORIGINAL ISSUE DATE:	8/8/19



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/8/19
1	REVISED FOR POLE REPLACEMENT	12/13/19

SITE NAME:
BOS_MALDEN_040_MA
UTILITY POLE #5123
1279 SALEM STREET,
POLE ON BRENTWOOD STREET
MALDEN, MA 02148

DRAWING TITLE:
UTILITY POLE PHOTOGRAPH AND ELEVATION

DRAWING NO:
L-2

LEASE EXHIBIT
NOT FOR CONSTRUCTION

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	
CEA PROJECT NO:	CHECKED BY: GRS	554202
1907.0160	ORIGINAL ISSUE DATE:	8/8/19

- GENERAL NOTES:**
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION, SIZE AND ORIENTATION OF THE PROPOSED WIRELESS TELECOMMUNICATIONS EQUIPMENT INSTALLATION ON THE UTILITY POLE AND ARE NOT SPECIFICALLY INTENDED FOR CONSTRUCTION.
 - VERIZON WIRELESS SHALL PLACE WEATHER RESISTANT PHENOLIC PLACARDS ON UTILITY POLE AND ANCILLARY EQUIPMENT TO IDENTIFY EQUIPMENT OWNERSHIP & CONTACT INFORMATION TO BE UTILIZED IN THE CASE OF EMERGENCY.
 - AN ANALYSIS OF THE CAPACITY OF THE EXISTING UTILITY POLE TO SUPPORT THE PROPOSED LOADING HAS NOT BEEN COMPLETED BY CHAPPELL ENGINEERING ASSOCIATES, LLC. AND THUS, THESE DRAWINGS ARE SUBJECT TO CHANGE PENDING THE OUTCOME OF A STRUCTURAL ANALYSIS (TO BE PERFORMED BY OTHERS).
 - VERIZON WIRELESS' GENERAL CONTRACTOR SHALL EXTEND EFFORTS TO ENSURE THAT ALL PROPOSED EQUIPMENT MEETS THE REQUIREMENTS OF THE EXISTING UTILITY COMPANY OR COMPANIES CURRENTLY OCCUPYING THE UTILITY POLE AND THE 2017 NATIONAL ELECTRICAL SAFETY CODE.

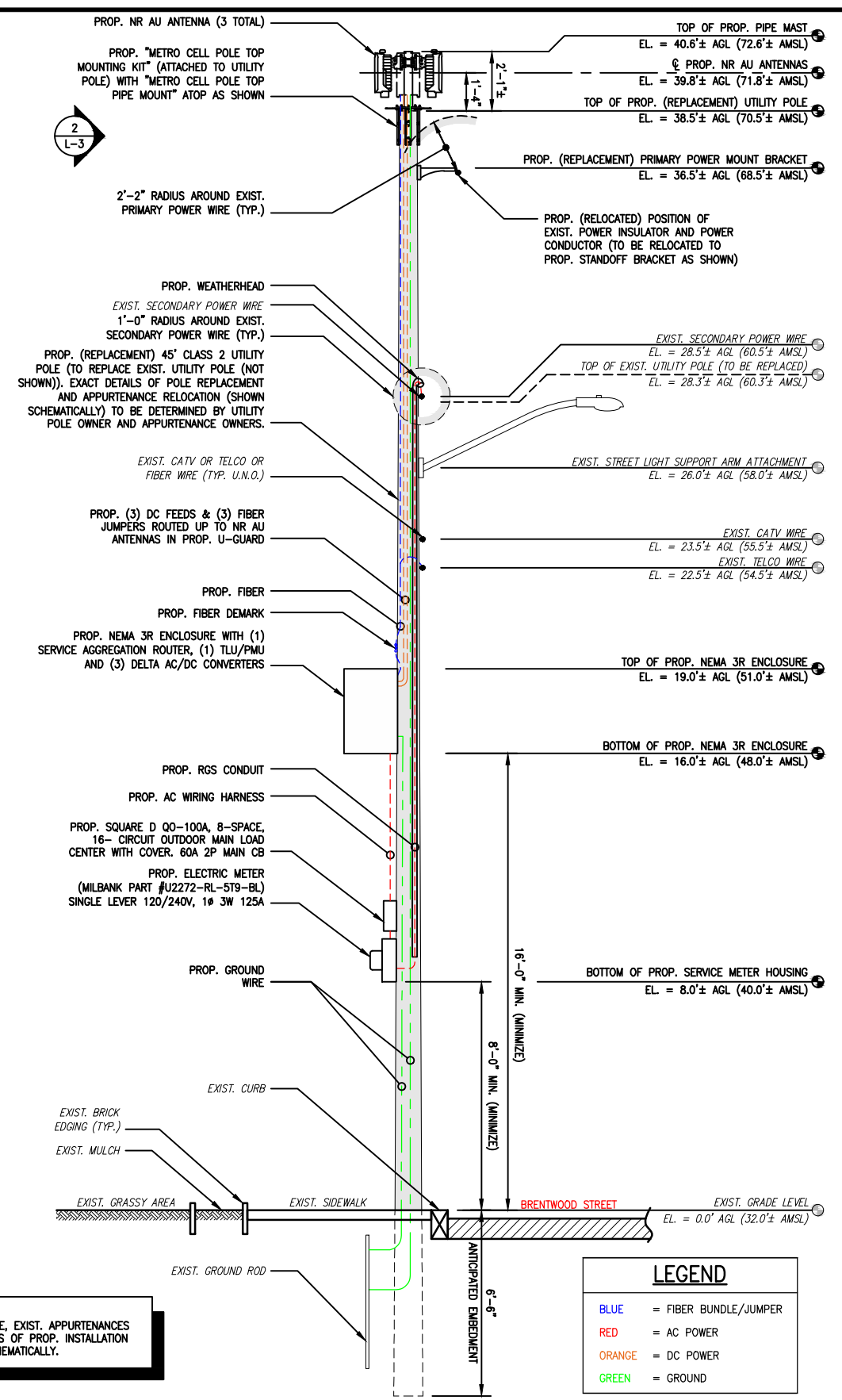
ANTENNA AND MOUNT NOTE:
CONTRACTOR SHALL POSITION/ROTATE PROP. ANTENNA MOUNT/BRAKET IN SUCH A WAY SO AS TO NOT INTERFERE WITH EXIST. STREET LIGHT, PRIMARY POWER CROSSARM(S) (IF PRESENT), BRACKETS, BRACES, SECONDARY POWER SUPPORTS OR ANY OTHER MISCELLANEOUS APPURTENANCES AND RELATED SUPPORT BRACKETS ENCOUNTERED LOCATED ON THE EXIST. UTILITY POLE.

EQUIPMENT AND MOUNT NOTE:
CONTRACTOR SHALL POSITION/ROTATE PROP. EQUIPMENT AND ASSOCIATED MOUNTS/BRAKETS IN SUCH A WAY SO AS TO NOT INTERFERE WITH EXIST. WIRES/PANELS ETC. OR ANY OTHER MISCELLANEOUS APPURTENANCES AND RELATED SUPPORT BRACKETS ENCOUNTERED LOCATED ON THE FACE OF THE EXIST. UTILITY POLE.

NOTE:
UTILITY POLE, EXIST. APPURTENANCES AND DETAILS OF PROP. INSTALLATION SHOWN SCHEMATICALLY.



EXIST. PRIMARY POWER INSULATOR AND POWER CONDUCTOR TO BE RELOCATED TO PROP. STANDOFF BRACKET AS SHOWN. SEE DETAIL 2 ON THIS SHEET.



UTILITY POLE #5123 PHOTOGRAPH (EXISTING CONDITIONS)
SCALE: NO SCALE

1
L-2

UTILITY POLE #5123 ELEVATION (PROPOSED CONDITIONS)

SCALE: 3/16" = 1'-0"
0 5'-4" 10'-8" 16'-0"

2
L-2

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/8/19
1	REVISED FOR POLE REPLACEMENT	12/13/19

SITE NAME:

BOS_MALDEN_040_MA

UTILITY POLE #5123
1279 SALEM STREET,
POLE ON BRENTWOOD STREET
MALDEN, MA 02148

DRAWING TITLE:

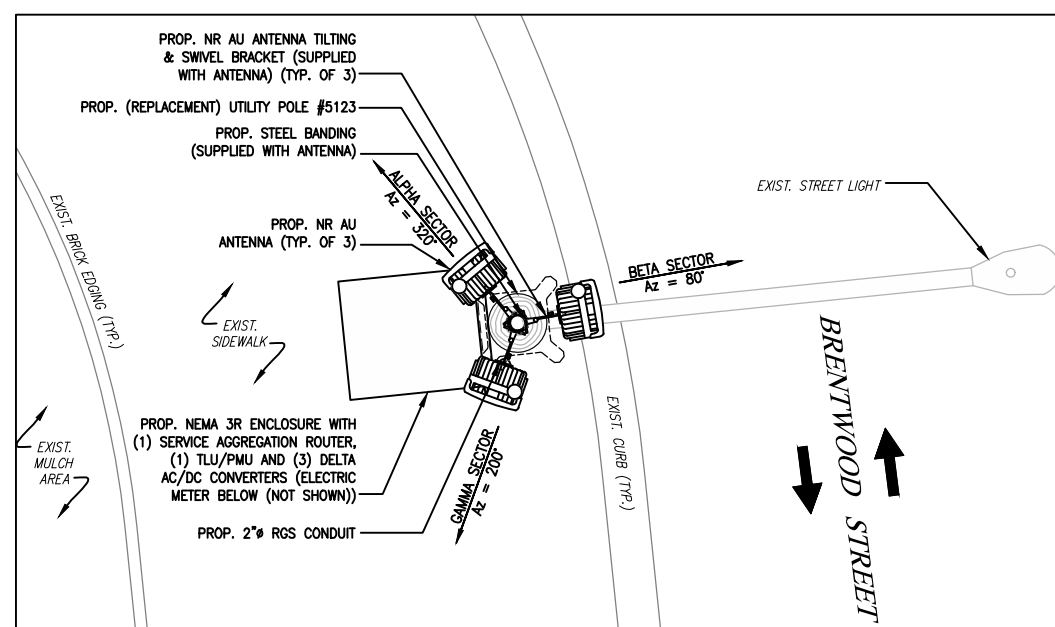
ANTENNA & ANCILLARY EQUIPMENT DETAILS AND ONE-LINE DIAGRAM

DRAWING NO:

L-3

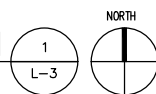
LEASE EXHIBIT NOT FOR CONSTRUCTION

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	
CEA PROJECT NO: 1907.0160	CHECKED BY: GRS	554202
	ORIGINAL ISSUE DATE: 8/8/19	



EQUIPMENT AND ANTENNA ORIENTATION PLAN

SCALE: 3/8" = 1'-0"

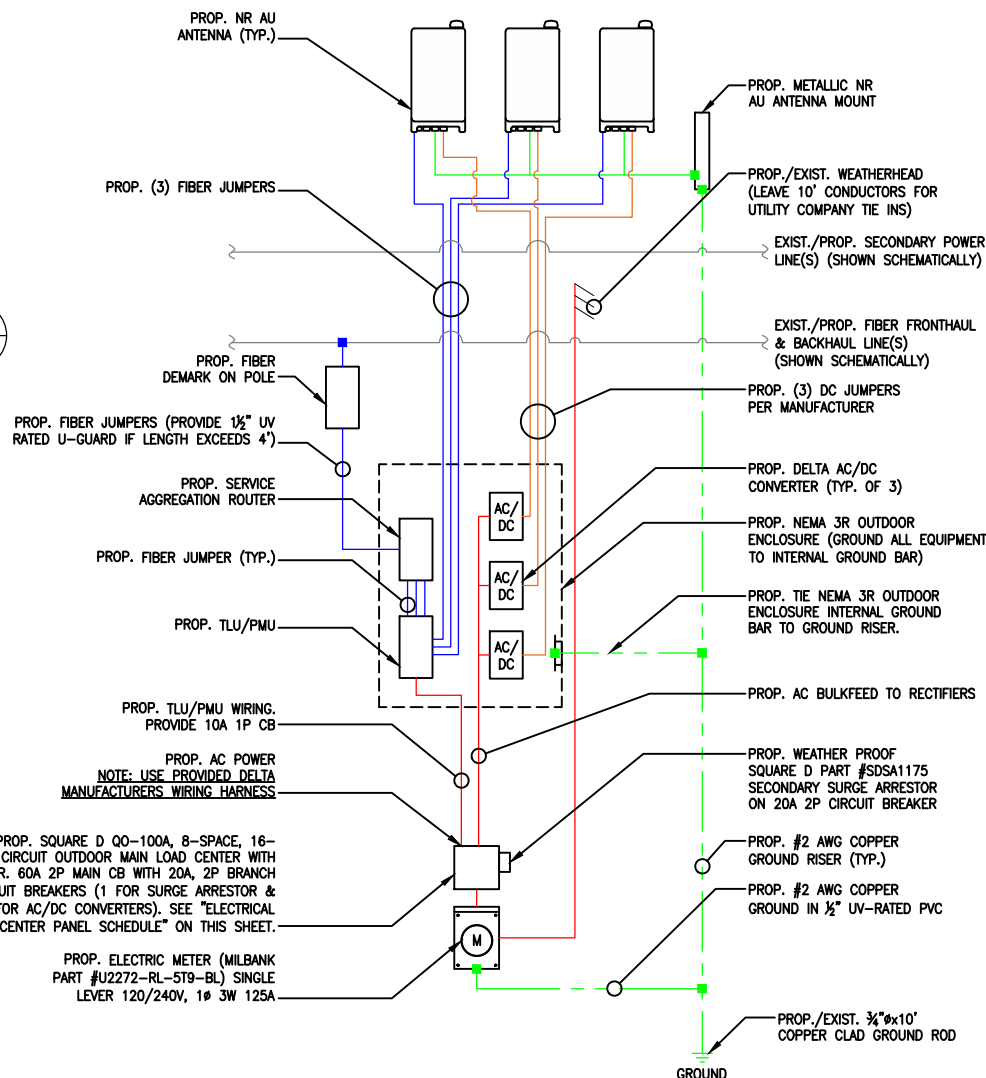


SQUARE D QO-100A, 8-SPACE, 16-CIRCUIT OUTDOOR MAIN LOAD CENTER, SINGLE PHASE IN 3R ENCLOSURE

CKT #	1	2	3	4	5	6	7	8
DESCRIPTION	AC/DC CONVERTERS	TLU/PMU	BLANK	BLANK	BLANK	BLANK	SURGE ARRESTOR	
AMP	20	10	-	-	-	-	20	

ELECTRICAL LOAD CENTER PANEL SCHEDULE

SCALE: N/A



ONE-LINE DIAGRAM NOTES:
1) PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS EACH SIDE OF ENCLOSURE HOUSING.
2) COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH VERIZON WIRELESS AND ELECTRIC COMPANY.

LEGEND

BLUE	= FIBER BUNDLE/JUMPER
RED	= AC POWER
ORANGE	= DC POWER
GREEN	= GROUND

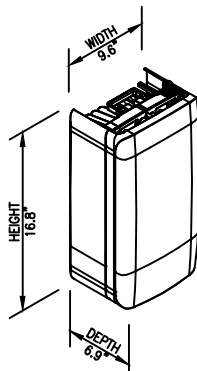
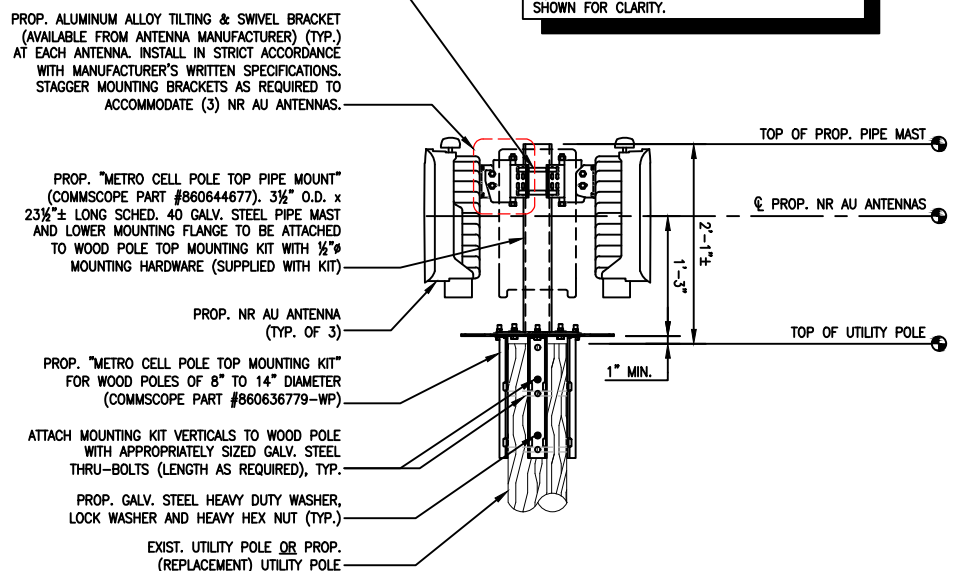
FIBER/ELECTRICAL ONE-LINE DIAGRAM

SCALE: N.T.S.



14 mm. WIDE SAE 304 S.S. PASSIVATED BANDING (AVAILABLE FROM ANTENNA MANUFACTURER) (TYP.). INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS.
PROP. ALUMINUM ALLOY TILTING & SWIVEL BRACKET (AVAILABLE FROM ANTENNA MANUFACTURER) (TYP.) AT EACH ANTENNA. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS. STAGGER MOUNTING BRACKETS AS REQUIRED TO ACCOMMODATE (3) NR AU ANTENNAS.

NOTES:
1.) CONFIRM DOWNTILT REQUIREMENTS (IF ANY) AND AZIMUTH SPECIFICATIONS WITH VERIZON WIRELESS RF ENGINEER AT TIME OF CONSTRUCTION.
2.) MOUNT SHALL BE INSTALLED IN SUCH A WAY TO ENSURE PLUMB INSTALLATION OF PIPE MAST.
3.) EXIST. UTILITY POLE APPURTENANCES NOT SHOWN FOR CLARITY.



TYPICAL NR AU ANTENNA SPECIFICATIONS

DIMENSIONS:	16.8"H x 9.6"W x 6.9"D
WEIGHT:	33 LBS EACH
QUANTITY:	1 PER SECTOR, TOTAL OF 3

TYPICAL NR AU ANTENNA MOUNT DETAIL

SCALE: N.T.S.

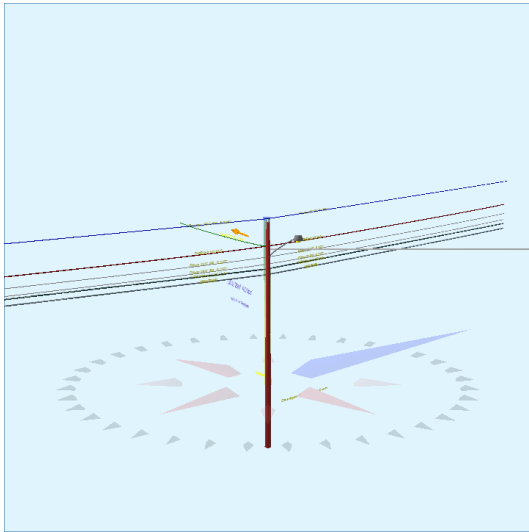


NR AU ANTENNA MOUNT DETAIL

SCALE: 1/2" = 1'-0"



Pole Num:	5123	Pole Length / Class:	40 / 3	Code:	NESC	Structure Type:	Guyed Tangent
Aux Data 1	Unset	Species:	SOUTHERN PINE	NESC Rule:	Rule 250B	Status	Guy Wires Adequate
Aux Data 2	Unset	Setting Depth (ft):	11.32	Construction Grade:	C	Pole Strength Factor:	0.85
Aux Data 3	Unset	G/L Circumference (in):	38.00	Loading District:	Heavy	Transverse Wind LF:	1.75
Aux Data 4	Unset	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.50	Wire Tension LF:	1.30
Aux Data 5	Unset	Allowable Stress (psi):	6,800	Wind Speed (mph):	39.53	Vertical LF:	1.90
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	4.00		
Latitude:	42.436318 Deg		Longitude:	-71.026962 Deg		Elevation:	0 Feet



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Maximum	58.4	0.0
Groundline	58.4	0.0
Vertical	0.5	17.3

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	57,139	308.3
Groundline	57,139	308.3
GL Allowable	98,453	

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load With Overload Applied	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max* Load Capacity (%)	Wind Angle (deg)
Single Helix Anchor	126.0	45.0		7.3	290.0	8.3	260.0
12.5M (Span/Head)			24.1	13.0	290.0	14.7	260.0
System Capacity Summary:				Adequate		Adequate	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 308.3°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Powers	1,163	45.7	30,939	54.2	31.4	2,135	508	4	2,140	31.5
Comms	1,332	52.4	26,873	47.0	27.3	1,855	594	5	1,860	27.4
GuyBraces	-126	-4.9	-3,022	-5.3	-3.1	-209	46	0	-208	-3.1
Pole	154	6.1	2,279	4.0	2.3	157	1,715	15	172	2.5
Streetlights	19	0.8	10	0.0	0.0	1	114	1	2	0.0
Insulators	2	0.1	59	0.1	0.1	4	51	0	5	0.1
Pole Load	2,545	100.0	57,139	100.0	58.0	3,944	3,028	26	3,970	58.4
Pole Reserve Capacity			41,314		42.0	2,856			2,830	41.6

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 308.3°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
NGrid	894	35.1	24,716	43.3	25.1	1,706	413	4	1,710	25.1
Municipal	164	6.4	3,262	5.7	3.3	225	288	3	228	3.3
Catv	554	21.8	11,493	20.1	11.7	793	241	2	795	11.7
Telco	778	30.6	15,389	26.9	15.6	1,062	372	3	1,065	15.7
Pole	154	6.1	2,279	4.0	2.3	157	1,715	15	172	2.5
<Undefined>	0	0.0	0	0.0	0.0	0	0	0	0	0.0
Totals:	2,545	100.0	57,139	100.0	58.0	3,944	3,028	26	3,970	58.4

Detailed Load Components:

Power	Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Primary	AAAC 123.3 KCM AZUSA	NGrid	29.31	0.00	0.3980	0.20	0.115	99.0	194.0	99.0	1,807	-28,383	0	1,073	-27,311
Primary	AAAC 123.3 KCM AZUSA	NGrid	29.31	0.00	0.3980	0.03	0.115	69.0	0.0	69.0	1,807	42,725	0	608	43,333
Secondary	TRIPLEX 1/0 10-5	NGrid	24.46	6.26	1.0300	1.21	0.399	99.0	194.0	99.0	1,065	-13,951	57	1,299	-12,595
Secondary	TRIPLEX 1/0 10-5	NGrid	24.46	6.26	1.0300	0.80	0.399	69.0	0.0	69.0	1,065	21,000	39	736	21,776
Service	TRIPLEX 2 AWG	NGrid	24.46	6.26	0.8060	0.34	0.248	30.0	282.0	30.0	86	2,436	13	24	2,474
Other	municipal	Municipal	22.56	5.92	0.2370	1.34	0.026	99.0	194.0	99.0	80	-967	19	730	-217
Other	municipal	Municipal	22.56	5.92	0.2370	0.88	0.026	69.0	0.0	69.0	80	1,455	13	414	1,882
Other	municipal	Municipal	21.32	6.02	0.2370	1.34	0.026	99.0	194.0	99.0	80	-914	20	690	-204

Other	municipal	Municipal	21.32	6.02	0.2370	0.88	0.026	69.0	0.0	69.0	80	1,375	14	391	1,780
Totals:												24,777	175	5,965	30,918

Comm	Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Overlashed Bundle	6.6M Strand 1.25 Catv	Catv	20.52	6.84	0.2500	0.16	0.121	99.0	194.0	99.0	1,663	-18,276	35	950	-17,292
CATV	CATV 1.25	Catv	20.46	6.84	1.3200		0.061	99.0	194.0	99.0			32	412	444
Overlashed Bundle	6.6M Strand 1.25 Catv	Catv	20.52	6.84	0.2500	0.08	0.121	69.0	0.0	69.0	1,663	27,511	24	539	28,073
CATV	CATV 1.25	Catv	20.46	6.84	1.3200		0.061	69.0	0.0	69.0			22	233	256
Overlashed Bundle	10M STRAND	Telco	19.52	6.92	0.3060	0.60	0.165	99.0	194.0	99.0	2,500	-26,144	36	889	-25,218
Telco	Telco 1.25	Telco	19.46	6.92	1.2500		0.875	99.0	194.0	99.0			69	377	447
Overlashed Bundle	10M STRAND	Telco	19.52	6.92	0.3060	0.29	0.165	69.0	0.0	69.0	2,500	39,354	25	504	39,883
Telco	Telco 1.25	Telco	19.46	6.92	1.2500		0.875	69.0	0.0	69.0			48	214	262
Totals:												22,445	291	4,119	26,855

Streetlight	Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
General	Streetlight - 6 ft. Arm	Municipal	22.84	4.15	90.0	90.0	60.00	48.00	20.00	3.00	72.00	-428	438	10
Totals:												-428	438	10

Insulator	Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Pin	Pin Insulator	NGrid	28.68	0.00	0.0	0.0	6.00	3.50	7.50	0	35	35
Spool	Spool Insulator	NGrid	24.46	0.00	277.0	187.0	1.00	2.50	2.12	1	6	7
J-Hook	J-Hook	Municipal	22.56	0.00	277.0	277.0	5.00	1.50	0.00	4	0	4
J-Hook	J-Hook	Municipal	21.32	0.00	277.0	277.0	5.00	1.50	0.00	4	0	4
Bolt	Three Bolt	Catv	20.52	0.00	277.0	187.0	5.00	3.00	0.00	5	0	5
Bolt	Three Bolt	Telco	19.52	0.00	277.0	187.0	5.00	3.00	0.00	5	0	5
Totals:										18	41	59

Guy Wire and Brace	Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)	
12.5M	Span/Head	NGrid	24.05	24.05	126.00	0.343	100.00	45.0	0.0	0.208	124.67	1.03

Guy Wire and Brace (Loads and Reactions)	Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension ² (lbs)	Maximum Tension ² (lbs)	Applied Tension ³ (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL ³ (ft-lb)	
12.5M	Span/Head	2.30e+7	12,500	0.90	11,250	700	1,650	1,500	1,464	0	1,464	-170	-3,020
Totals:										0	1,464	-170	-3,020

Anchor/Rod Load Summary	Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load ² (lbs)	Load at Pole MCU ³ (lbs)	Max Required Capacity ² (%)
Single Helix Anchor	NGrid	18.00	126.00	45.0	20,000	1.00	20,000	1,650	1,464	8.3

Pole Buckling													
Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	17.34	33.58	11.13	3.20	7.32	12.10	2.13e+6	60.00	57.00	28.68	620,690	6056.29	200.00



February 7, 2020

Attn: Malden, MA City Council

To Whom It May Concern:

National Grid, as owner of certain utility poles in public rights-of-way in Malden, MA, is aware and authorizes Verizon Wireless to complete the process of permitting for the installation of necessary telecommunications equipment and corresponding aerial fiber optic cable on National Grid-owned utility poles at the following locations;

Site Name	Street Address	Pole
BOS_MALDEN_020_MA	490 Eastern Ave - Pole on Bryant St	Post No. 4842
BOS_MALDEN_040_MA	1279 Salem St - Pole on Bentwood St	Pole No. 5123
BOS_MALDEN_041_MA	12 Fairfield Ave - Pole on Salem St	Pole No. 1
BOS_MALDEN_039_MA	77 Revere St	Pole No. 2138
BOS_MALDEN_094_MA	135 Main St	Pole No. 4508

Accordingly, National Grid hereby submits its authorization for Verizon Wireless to install its antennae and appurtenant equipment and aerial fiber routes to National Grid poles at the above locations. Please be advised that the undersigned has entered into a master lease agreement authorizing Verizon Wireless to install, attach, maintain, repair, upgrade and use wireless communications equipment and appurtenances on certain utility poles. The installations on National Grid utility poles will be subject to the underlying terms and conditions of the aforementioned agreement by and between National Grid and Verizon Wireless, as the same may be in effect from time to time.

Sincerely,

Amy Sullivan
National Grid



12/23/2019

To: City of Malden

Transmitted via email

RE: Verizon Wireless Small Cell Sites

Dear City of Malden,

Verizon is installing additional wireless telecommunications facilities in order to meet the growing demand for Verizon Wireless service by residents, businesses, visitors, and emergency responders.

To ensure general public safety, it is important that you contact Verizon Wireless personnel at least 24 hours in advance should general maintenance need to be performed in areas of potential concern as marked on the next page of this document. This is required to comply with FCC guidelines and ensure the environment is safe for general maintenance workers who may require RF Safety & Awareness training. With notification, Verizon Wireless is able to evaluate appropriate actions needed relating to the antennas and proximity of the work location.

Thank you for your inquiry. Verizon has a process to deactivate power on small cells (regardless of whether the small cell is 4G or 5G) while work is being done on the pole (including joint use poles). The information needed to have a small cell powered down for work to occur on the pole (including contact numbers and pole identifiers) is provided at a safe distance from the small cell on the pole itself. Please contact Verizon Wireless personnel at least 24 hours in advance if you need to perform maintenance at that site. If you have any additional questions, our point of contact in that area is Luis Teves.

You also expressed concerns about the health effects of RF emissions from Verizon's network equipment. The Federal Communications Commission (FCC) has developed safety rules for human exposure to RF emissions in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration. These rules can be found at 47 C.F.R § 1.1310. No matter which generation of technology we use, all Verizon equipment must comply with these safety requirements.

The FCC supported and adopted the standards after examining the RF research that scientists in the US and around the world conducted for decades. The research continues to this day, and agencies continue to monitor it. Based on that research, federal agencies have concluded that equipment that has been deployed in a manner that complies with the safety standards poses no known health risks. You can obtain further information about the safety of RF emissions from cell towers on the FCC's website, which you can access via this link: <http://www.fcc.gov/oet/rfsafety/rf-faqs.html>.

Thank you for reaching out to us regarding your concerns. We appreciate the chance to explain our activities regarding the wireless facility at issue. Questions related to compliance with federal regulations should be directed to VZWRFCCompliance@verizonwireless.com. Please contact your local Verizon Wireless resource below if you have any additional questions.

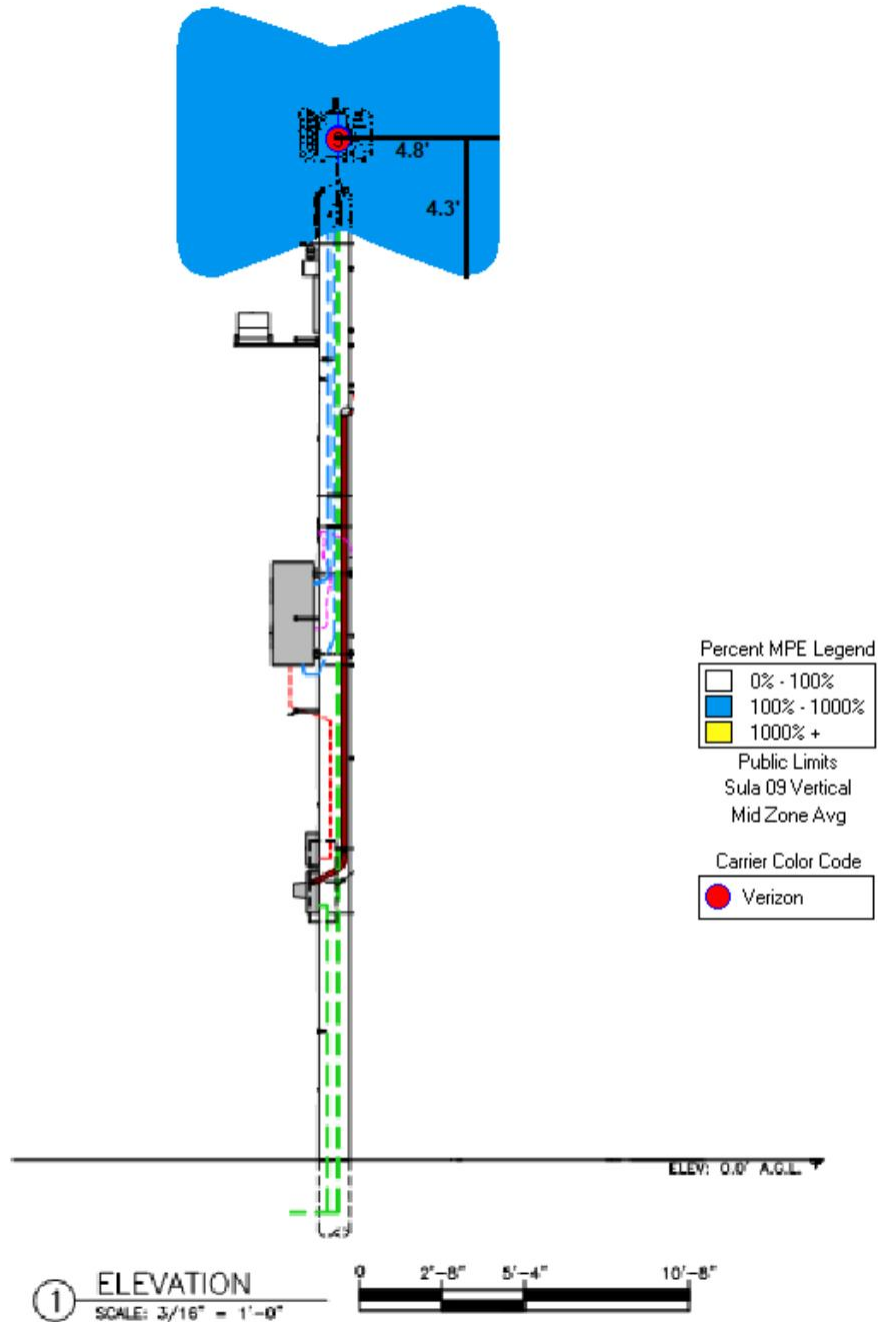
Contact Name	Contact Email	Contact Phone
Luis Teves	Luis.Teves@VerizonWireless.com	508-479-3197

Sincerely,

Michael Creamer
Sr Manager - RF Design
Verizon Wireless

Verizon Wireless (VZW) Radiofrequency (RF) Emissions Map

The following site layout represents a current snapshot in time of the predicted Verizon Wireless RF emissions from transmitting antennas on this facility. Contact Verizon Wireless should maintenance need to be performed in any non-white areas.



Color	% Public MPE	Instructions
	0 to 100	Safe In Relation to VZW. Contact Other Carriers Before Entering This Area Contact VZW Before Accessing This Area
	100 to 1000	
	Greater Than 1,000	
	Greater Than 10,000	

Property Owner Responsibilities (M.E.N.U)

RF exposure safety and the protection of every licensee's infrastructure are very important. Property owners and licensees have a shared responsibility in maintaining a safe and secure RF environment. Property owners can help in this significant endeavor by:

- ⇒ **Maintaining** all necessary wireless licensee contact information.
- ⇒ **Enforcing** restricted access (help maintain a Controlled Environment). **Ensuring** all building/maintenance personnel are aware that the potential for exposure exists, and follow all appropriate entry and safety procedures.
- ⇒ **Notifying** all licensees when any non-carrier requests access to any area with antennas **at least 24 hours in advance**.
- ⇒ **Understanding** that compliance with the FCC and OSHA can be achieved with RF Exposure levels above the applicable limit if the proper signage, physical/indicative barrier, and access restrictions are implemented. Commitment to compliance and willingness to cooperate are essential.



For General RF Safety & Awareness Questions

Verizon Wireless

E-mail: VZWRFCCompliance@vzw.com

E-mail Subject: "ATTN: RF Compliance"

In The Event That Emergency Maintenance Is Required

24-Hour Network Operations Center:

RF Safety & Awareness Training Contacts

Dtech Communications

(michelle@dtechcom.com.)

EBI Consulting

(spenta@ebiconsulting.com)

SiteSafe

(cbagley@sitesafe.com)

Waterford Consultants

Sbaier-

anderson@waterfordconsultants.com

Radio Frequency (RF) Emissions

S A F E T Y
&
A W A R E N E S S



Federal Compliance Requirements

The Federal Communications Commission (FCC) has established safety guidelines relating to RF exposure from cell sites. The FCC developed those standards, known as Maximum Permissible Exposure (MPE) limits, in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration. The standards were developed by expert scientists and engineers after extensive reviews of the scientific literature related to RF biological effects. The FCC explains that its standards incorporate prudent margins of safety. The following represents an overview of the most applicable information:

Classifications for Exposure Limits

Occupational

Persons are “exposed as a consequence of their employment” and are “fully aware of the potential for exposure and can exercise control over their exposure”.

General Population

Any persons that “may not be made fully aware of the potential for exposure or cannot exercise control over their exposure”.

Those in this category do not have RF Safety & Awareness Training.

Ensuring Compliance With FCC Guidelines

Areas or portions of any transmitter site may be susceptible to high power densities that could cause personnel exposures in excess of the FCC guidelines.

Wireless Licensees are required by law to implement the following:

- **Restrict access** (lock doors/ladders)
- **Post notification signage on every access point** to increase awareness of the potential for exposure BEFORE one enters an area with antennas.
- **Place additional notification signage and visual indicators** in an area with antennas (beyond an access point) where RF exposure levels may start to exceed the FCC’s limits.

Compliance Materials

Notification Signage



(Notice) RF Guidelines - Informs viewer of the basic safety guidelines for working in an RF Environment.



Information– Provides relevant contact information for any questions or requests.



(Blue) Notice - Informs viewer that beyond the sign, RF exposure levels may exceed the General Population MPE limit but will remain below the Occupational MPE limit.



(Yellow) Caution - Informs viewer that beyond the sign, RF exposure levels may exceed the General Population and Occupational MPE limit.



(Red) Warning - Informs viewer that beyond the sign, RF exposure levels may substantially exceed the General Population and Occupational MPE limit.

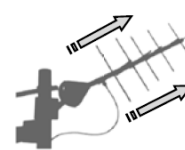
Indicative Barriers

In addition to physical barriers such as locked doors or ladders, wireless licensees may also be required to place indicative barriers as a means of visually demarcating an area where RF levels are expected to exceed the FCC’s limits. **Examples of Indicative Barrier Materials:** plastic chains, buckets, reflective paint or tape, plastic cones, fiber-glass fences, and poles mounted in cinderblocks.



Antenna Safety

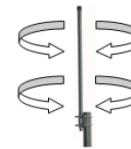
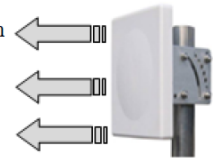
Antenna Types



Yagi - Antenna that radiates energy in one direction. RF energy has a narrow beam. **Walk behind or under this antenna.**

Panel-

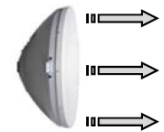
Antenna that radiates energy in one direction. RF energy beam can range from narrow to very wide. **Walk behind this antenna. Stay out of the general direction that the antenna is pointing.**



Whip - Antenna that radiates energy equally in all directions. **Maintain as much distance as possible from this antenna.**

Microwave - An-

tenna that radiates energy in one direction. RF energy has a narrow beam. **Walk under or behind this antenna.**



When In An Environment With Antennas:

- ⇒ Maintain at least a 3-foot clearance from all antennas. A 10-foot separation distance is preferred.
- ⇒ Never touch an antenna. Assume all are active.
- ⇒ Read and obey ALL signs on an access point.
- ⇒ Read and obey ALL signs in the environment with antennas.
- ⇒ Never walk past an indicative barrier without first confirming transmitter inactivity.
- ⇒ Never walk in front of or stand in front of an antenna whenever possible. Keep walking.
- ⇒ Contact all wireless licensees **at least 24 hours in advance** of scheduled maintenance.

ULS License

AWS, 1710-1755/2110-2155 MHz bands License - WQGA900 - Cellco Partnership

Call Sign	WQGA900	Radio Service	AW - AWS, 1710-1755/2110-2155 MHz bands
Status	Active	Auth Type	Regular
Market			
Market	BEA003 - Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	Channel Block	B
Submarket	1	Associated Frequencies (MHz)	001720.00000000-001730.00000000 002120.00000000-002130.00000000

Dates

Grant	11/29/2006	Expiration	11/29/2021
Effective	09/13/2012	Cancellation	

Buildout Deadlines

1st	2nd
-----	-----

Notification Dates

1st	2nd
-----	-----

Licensee

FRN	0003290673	Type	General Partnership
-----	------------	------	---------------------

Licensee

Cellco Partnership 1120 Sanctuary Pkwy, Ste 150 GASA5REG Alpharetta, GA 30009 ATTN Licensing Manager	P: (770)797-1070 F: (770)797-1036 E: LicensingCompliance@VerizonWireless.com
---	--

Contact

Verizon Wireless 1120 Sanctuary Pkwy, Ste 150 GASA5REG Alpharetta, GA 30009 ATTN Licensing Manager	P: (770)797-1070 F: (770)797-1036 E: LicensingCompliance@VerizonWireless.com
---	--

Ownership and Qualifications

Radio Service Type	Fixed, Mobile		
Regulatory Status	Non-Common Carrier	Interconnected	No

Alien Ownership

Is the applicant a foreign government or the representative of any foreign government?	No
Is the applicant an alien or the representative of an alien?	No

Is the applicant a corporation organized under the laws of any foreign government? **No**

Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? **No**

Is the applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? **Yes**

If the answer to the above question is 'Yes', has the applicant received a ruling(s) under Section 310(b)(4) of the Communications Act with respect to the same radio service involved in this application? **Yes**

Basic Qualifications

The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits

This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign WQGB266	File Number 0006150458
Radio Service AW - AWS (1710-1755 MHz and 2110-2155 MHz)	

FCC Registration Number (FRN): 0003290673

Grant Date 11-29-2006	Effective Date 01-04-2014	Expiration Date 11-29-2021	Print Date 02-14-2014
Market Number CMA006	Channel Block A	Sub-Market Designator 0	
Market Name Boston-Lowell-Brockton-Lawrenc			
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGB266

File Number: 0006150458

Print Date: 02-14-2014

The license is subject to compliance with the provisions of the January 12, 2001 Agreement between Deutsche Telekom AG, VoiceStream Wireless Corporation, VoiceStream Wireless Holding Corporation and the Department of Justice (DOJ) and the Federal Bureau of Investigation (FBI), which addresses national security, law enforcement, and public safety issues of the FBI and the DOJ regarding the authority granted by this license. Nothing in the Agreement is intended to limit any obligation imposed by Federal law or regulation including, but not limited to, 47 U.S.C. Section 222(a) and (c)(1) and the FCC's implementing regulations. The Agreement is published at VoiceStream-DT Order, IB Docket No. 00-187, FCC 01-142, 16 FCC Rcd 9779, 9853 (2001).

Reference Copy

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASAS5REG
ALPHARETTA, GA 30009-7630

Call Sign KNKA201	File Number 0006356224
Radio Service CL - Cellular	
Market Numer CMA006	Channel Block B
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003290673

Market Name Boston-Lowell-Brockton-Lawrenc
--

Grant Date 08-26-2014	Effective Date 08-26-2014	Expiration Date 10-01-2024	Five Yr Build-Out Date	Print Date 08-26-2014
---------------------------------	-------------------------------------	--------------------------------------	-------------------------------	---------------------------------

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	42-38-26.3 N	070-36-25.2 W	36.3	35.7	

Address: (Rockport) Thatcher Road

City: Rockport **County:** ESSEX **State:** MA **Construction Deadline:**

Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	70.400	34.100	34.100	34.100	70.400	67.800	55.200	61.300
Transmitting ERP (watts)	246.920	325.500	33.310	0.940	0.820	0.820	1.210	20.070
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	70.400	34.100	34.100	34.100	70.400	67.800	55.200	61.300
Transmitting ERP (watts)	0.820	3.330	54.020	373.730	191.670	10.780	0.820	0.820
Antenna: 7 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	70.400	34.100	34.100	34.100	70.400	67.800	55.200	61.300
Transmitting ERP (watts)	3.330	0.820	0.820	0.820	7.810	126.630	409.780	89.650

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	42-08-56.4 N	071-24-55.2 W	75.6	44.2	

Address: 113 Main Street

City: Medway County: NORFOLK State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.500	66.700	61.200	46.900	23.900	39.300	13.900	12.300
Transmitting ERP (watts)	81.280	89.130	24.550	1.120	0.200	0.200	0.420	16.600
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.500	66.700	61.200	46.900	23.900	39.300	13.900	12.300
Transmitting ERP (watts)	0.200	2.000	33.800	95.500	67.610	10.700	0.200	0.200
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	59.500	66.700	61.200	46.900	23.900	39.300	13.900	12.300
Transmitting ERP (watts)	3.890	0.200	0.200	0.200	6.760	57.540	100.000	44.670

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	42-11-42.4 N	070-49-10.2 W	57.9	56.1	

Address: (Scituate) OFF CLAPP RD

City: SCITUATE County: PLYMOUTH State: MA Construction Deadline:

Antenna: 7 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.300	106.100	93.800	85.900	95.600	76.500	81.800	104.300
Transmitting ERP (watts)	172.400	167.230	26.990	1.190	0.960	0.960	1.720	28.870
Antenna: 8 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.300	106.100	93.800	85.900	95.600	76.500	81.800	104.300
Transmitting ERP (watts)	0.980	3.910	54.020	409.780	200.700	15.220	0.980	0.980
Antenna: 9 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	105.300	106.100	93.800	85.900	95.600	76.500	81.800	104.300
Transmitting ERP (watts)	4.490	0.980	0.980	1.300	10.060	123.750	449.320	96.060

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
10	42-52-57.3 N	071-16-28.2 W	163.0	58.2	

Address: (Derry) 46 FLOYD ROAD

City: DERRY County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	82.200	129.400	144.500	155.100	136.800	127.900	126.200	118.100
Transmitting ERP (watts)	31.810	146.820	102.310	15.410	1.000	1.000	1.000	1.130
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	82.200	129.400	144.500	155.100	136.800	127.900	126.200	118.100
Transmitting ERP (watts)	1.000	1.000	4.660	82.110	250.350	80.300	3.790	1.000
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	80.200	129.400	144.500	155.100	136.800	127.900	126.200	118.100
Transmitting ERP (watts)	32.480	1.680	1.000	1.000	1.000	13.740	107.220	143.470

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	41-52-08.3 N	070-52-56.1 W	29.6	58.2	

Address: (Middleboro) E. GROVE ST.

City: MIDDLESBORO County: PLYMOUTH State: MA Construction Deadline:

Antenna: 7 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.600	32.400	40.200	47.600	44.900	41.300	50.300	52.600
Transmitting ERP (watts)	277.330	364.730	40.890	2.250	0.960	0.960	2.410	20.640
Antenna: 8 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.600	32.400	40.200	47.600	44.900	41.300	50.300	52.600
Transmitting ERP (watts)	0.960	3.730	61.620	418.280	215.780	13.090	1.700	0.960
Antenna: 9 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.600	32.400	40.200	47.600	44.900	41.300	50.300	52.600
Transmitting ERP (watts)	5.070	1.130	0.610	1.600	5.050	89.040	278.490	66.210

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	42-28-06.3 N	071-27-16.2 W	102.1	54.0	

Address: Main Street

City: South Acton County: MIDDLESEX State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.000	79.000	105.500	96.200	72.600	76.300	47.400	58.700
Transmitting ERP (watts)	65.200	77.960	20.970	2.400	0.200	0.200	2.000	13.720
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.000	79.900	105.500	96.200	72.600	76.300	47.400	58.700
Transmitting ERP (watts)	0.200	3.880	23.800	59.780	43.360	10.290	0.830	0.200
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	76.400	65.500	105.500	96.200	72.600	76.300	47.400	58.700
Transmitting ERP (watts)	5.010	0.420	0.200	0.740	6.570	43.660	91.210	34.920

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	42-30-08.4 N	070-55-02.2 W	39.6	46.3	

Address: 12 First Street

City: Salem County: ESSEX State: MA Construction Deadline:

Antenna: 7 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	63.400	62.100	62.800	77.900	77.500	70.500	40.900	50.900
Transmitting ERP (watts)	49.150	56.730	19.190	2.360	0.200	0.200	1.930	12.920
Antenna: 8 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	63.400	62.100	62.800	77.900	77.500	70.500	40.900	50.900
Transmitting ERP (watts)	0.100	1.550	9.520	23.920	17.350	4.120	0.330	0.100
Antenna: 9 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	63.400	62.100	62.800	77.900	77.500	70.500	40.900	50.900
Transmitting ERP (watts)	5.010	0.380	0.200	0.680	6.510	35.500	64.630	29.380

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	42-16-51.4 N	071-02-04.2 W	5.2	53.0	

Address: 100 HANCOCK STREET

City: QUINCY County: NORFOLK State: MA Construction Deadline:

Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	43.000	44.100	42.200	29.000	8.300	14.800	12.100	31.500
Transmitting ERP (watts)	7.170	6.480	6.790	0.320	0.100	0.100	0.160	5.630
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	40.900	41.900	40.000	26.800	6.200	12.600	9.900	29.300
Transmitting ERP (watts)	0.100	0.340	3.140	2.480	2.970	1.500	0.100	0.100
Antenna: 7 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	43.000	44.100	42.200	29.000	8.300	14.800	12.100	31.500
Transmitting ERP (watts)	0.100	0.100	0.100	0.120	2.640	2.770	2.720	2.360

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	42-30-36.4 N	070-51-21.2 W	23.2	47.2	

Address: Tioga Way

City: Marblehead County: ESSEX State: MA Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	46.700	37.200	60.400	60.400	54.600	28.000	43.700
Transmitting ERP (watts)	0.100	0.130	3.130	7.860	6.600	1.220	0.100	0.100
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	46.700	37.200	60.400	60.400	54.600	28.000	43.700
Transmitting ERP (watts)	0.410	0.100	0.100	0.100	0.530	5.070	8.210	4.870
Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	46.700	37.200	60.400	60.400	54.600	28.000	43.700
Transmitting ERP (watts)	6.780	7.760	2.800	0.100	0.100	0.100	0.100	1.540

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	42-51-55.4 N	070-56-13.2 W	94.5	50.9	

Address: (Amesbury) 10 DENNET WAY

City: AMESBURY County: ESSEX State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	117.000	123.800	125.500	137.800	126.100	109.800	94.200	100.300
Transmitting ERP (watts)	178.880	225.190	34.880	0.860	0.860	0.860	0.860	10.780
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	117.000	123.800	125.500	137.800	126.100	109.800	94.200	100.300
Transmitting ERP (watts)	0.860	1.240	35.690	258.560	148.780	12.380	0.860	0.860
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	117.000	123.800	125.500	137.800	126.100	109.800	94.200	100.300
Transmitting ERP (watts)	3.110	0.830	0.860	0.860	3.110	89.650	270.740	81.760

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	42-03-31.4 N	071-17-29.2 W	105.5	59.1	

Address: (Wrentham) 415 Washington St. - Route 1

City: WRENTHAM County: NORFOLK State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	78.700	94.600	120.300	114.800	77.800	71.700	95.700
Transmitting ERP (watts)	2.580	85.500	401.990	363.280	54.920	1.060	0.850	0.850
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	78.700	94.600	120.300	114.800	77.800	71.700	95.700
Transmitting ERP (watts)	0.850	0.850	0.850	8.930	146.240	311.250	197.740	18.980
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.900	78.700	94.600	120.300	114.800	77.800	71.700	95.700
Transmitting ERP (watts)	352.500	136.390	5.560	0.980	0.980	0.980	39.210	263.760

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
25	43-10-34.3 N	071-12-24.2 W	335.3	31.4	

Address: (Northwood) SADDLEBACK MOUNTAIN

City: NORTHWOOD County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.900	213.700	260.100	268.500	234.000	215.400	150.700	173.600
Transmitting ERP (watts)	45.240	219.790	199.540	31.860	1.550	1.000	1.000	2.360
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.900	213.700	260.100	268.500	234.000	215.400	150.700	173.600
Transmitting ERP (watts)	1.000	1.000	6.160	105.350	236.610	142.220	7.190	1.780
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	152.900	213.700	260.100	268.500	234.000	215.400	150.700	173.600
Transmitting ERP (watts)	55.630	1.980	1.000	1.000	2.260	8.170	110.540	141.320

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	41-41-13.4 N	070-48-25.1 W	22.9	59.4	

Address: (Mattapoisett) Industrial Drive

City: Mattapoisett County: PLYMOUTH State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	61.700	76.400	79.200	79.900	80.600	75.400	56.100	60.600
Transmitting ERP (watts)	217.540	281.390	29.930	2.050	0.980	0.980	2.340	21.270
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	61.700	76.400	79.300	79.900	80.600	75.400	56.100	60.600
Transmitting ERP (watts)	0.980	10.610	118.800	349.190	74.510	4.550	0.980	0.980
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	61.700	76.400	79.200	79.900	80.600	75.400	56.100	60.600
Transmitting ERP (watts)	2.220	0.980	0.980	2.540	27.640	252.570	253.110	22.510

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	41-55-21.0 N	070-39-05.0 W	39.6	77.4	1021869

Address: (Plymouth) CALEB ST

City: Plymouth County: PLYMOUTH State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.600	84.200	79.500	67.900	61.400	63.600	52.500	63.200
Transmitting ERP (watts)	252.450	246.240	37.800	1.470	0.940	0.940	2.080	39.370
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.600	84.200	79.500	67.900	61.400	63.600	52.500	63.200
Transmitting ERP (watts)	1.000	3.000	53.330	346.500	184.150	15.870	1.000	1.000
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	94.600	84.200	79.500	67.900	61.400	63.600	52.500	63.200
Transmitting ERP (watts)	4.660	1.000	1.000	1.000	5.610	128.480	425.450	99.740

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
31	42-14-40.0 N	071-30-38.0 W	142.6	102.0	1009024

Address: 1.25 MI NNE

City: HOPKINTON County: MIDDLESEX State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.800	138.000	130.800	126.800	101.200	85.900	73.000	97.500
Transmitting ERP (watts)	23.200	21.890	16.370	2.550	0.130	0.100	1.640	13.250
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.800	138.000	130.800	126.800	101.200	85.900	73.000	97.500
Transmitting ERP (watts)	0.940	9.100	53.990	96.320	78.580	26.320	3.730	0.460
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	107.800	138.000	130.800	126.800	101.200	85.900	73.000	97.500
Transmitting ERP (watts)	13.400	1.700	0.620	2.340	18.300	72.460	95.170	63.740

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	42-23-29.5 N	071-07-22.9 W	7.9	26.8	

Address: 2067 MASSACHUSETTS AVENUE

City: CAMBRIDGE County: SUFFOLK State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-3.400	5.800	21.700	28.600	13.000	-2.600	-14.400	-21.300
Transmitting ERP (watts)	6.780	7.760	2.800	0.100	0.100	0.100	0.100	1.540
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-3.400	5.800	21.700	28.600	13.000	-2.600	-14.400	-21.300
Transmitting ERP (watts)	0.100	0.130	3.130	7.860	6.600	1.220	0.100	0.100
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-3.400	5.800	21.700	28.300	13.000	-2.600	-14.400	-21.300
Transmitting ERP (watts)	0.410	0.100	0.100	0.100	0.530	5.070	8.210	4.870

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	42-39-16.7 N	071-44-12.3 W	192.6	51.2	

Address: 84 Bayberry Hill Road

City: Townsend County: MIDDLESEX State: MA Construction Deadline:

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	57.900	139.500	149.200	136.100	102.200	42.700	-79.000	-25.700
Transmitting ERP (watts)	0.580	7.080	42.660	95.500	77.620	22.390	2.820	0.460
Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	146.600	148.900	136.600	101.300	25.000	-79.700	-22.300
Transmitting ERP (watts)	35.060	35.620	17.670	2.660	0.200	0.150	1.860	13.500
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	146.600	148.900	136.600	101.300	25.000	-79.700	-22.300
Transmitting ERP (watts)	5.360	0.690	0.250	0.930	7.320	28.980	38.070	25.500

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
38	42-38-45.8 N	071-05-37.7 W	117.3	52.4	

Address: 5 Boston Hill Road

City: North Andover County: ESSEX State: MA Construction Deadline:

Antenna: 4 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	96.900	98.200	110.000	111.300	110.000	101.700	90.300	106.200
Transmitting ERP (watts)	83.180	87.100	23.990	2.290	0.200	0.200	1.820	20.420
Antenna: 5 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	96.900	98.100	110.000	111.300	110.000	101.700	90.200	106.200
Transmitting ERP (watts)	0.240	4.170	38.020	97.720	66.070	11.750	1.050	0.200
Antenna: 6 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	96.900	98.200	110.000	111.300	110.000	101.700	90.200	106.200
Transmitting ERP (watts)	5.250	0.340	0.200	0.830	9.770	60.262	100.000	42.660

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
39	42-18-13.0 N	071-13-05.0 W	44.8	96.0	1018331

Address: 140 CABOT ST

City: NEEDHAM County: NORFOLK State: MA Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	68.400	58.900	48.800	36.300	40.300	44.100	41.600
Transmitting ERP (watts)	30.340	35.650	9.380	0.920	0.100	0.100	0.610	6.050
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	68.400	58.900	48.800	36.300	40.300	44.100	41.600
Transmitting ERP (watts)	0.100	1.230	10.440	23.990	19.000	4.420	0.370	0.100
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.200	68.400	58.900	48.800	36.300	40.300	44.100	41.600
Transmitting ERP (watts)	2.200	0.190	0.100	0.300	2.700	19.270	35.660	16.260

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNKA201

File Number: 0006356224

Print Date: 08-26-2014

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
41	42-22-16.6 N	071-05-49.6 W	6.3	18.6	

Address: (Cambridge Donnelly Field site) 284 Norfolk Street

City: Cambridge County: MIDDLESEX State: MA Construction Deadline: 07-03-2014

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-11.600	16.500	20.700	21.000	2.200	-20.400	2.300	-16.900
Transmitting ERP (watts)	48.150	197.980	63.920	1.080	0.680	0.680	0.680	0.850
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-11.600	16.500	20.700	21.000	2.200	-20.400	2.300	-16.900
Transmitting ERP (watts)	0.670	0.670	18.990	128.120	74.750	3.300	0.670	0.670
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	-10.600	17.600	21.700	22.000	3.200	-19.400	3.400	-15.900
Transmitting ERP (watts)	28.690	0.650	0.650	0.650	0.650	5.700	114.450	208.740

Control Points:

Control Pt. No. 3

Address: 500 W. Dove Rd.

City: Southlake County: TARRANT State: TX Telephone Number: (800)264-6620

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

THE FOLLOWING CELLULAR GEOGRAPHIC SERVICE AREAS HAVE BEEN COMBINED (LISTED BY CALL SIGN, MARKET NUMBER AND BLOCK, AND MARKET NAME): KNKA201 6B BOSTON, MASSACHUSETTS KNKA251 76B

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AIRTOUCH CELLULAR

ATTN: REGULATORY
AIRTOUCH CELLULAR
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign KNLF646	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0006146468

Grant Date 12-02-2016	Effective Date 11-30-2017	Expiration Date 01-03-2027	Print Date
Market Number BTA051	Channel Block C	Sub-Market Designator 3	
Market Name Boston, MA			
1st Build-out Date 12-07-2003	2nd Build-out Date 01-03-2007	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AIRTOUCH CELLULAR

Call Sign: KNLF646

File Number:

Print Date:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Reference Copy

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign KNLH242	File Number 0007716969
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date 06-02-2017	Effective Date 06-02-2017	Expiration Date 06-27-2027	Print Date 06-06-2017
Market Number BTA051	Channel Block F		Sub-Market Designator 0
Market Name Boston, MA			
1st Build-out Date 06-27-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: KNLH242

File Number: 0007716969

Print Date: 06-06-2017

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Reference Copy

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AIRTOUCH CELLULAR

ATTN: REGULATORY
AIRTOUCH CELLULAR
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Call Sign KNLH310	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0006146468

Grant Date 06-08-2017	Effective Date 11-30-2017	Expiration Date 06-27-2027	Print Date
Market Number BTA051	Channel Block E	Sub-Market Designator 0	
Market Name Boston, MA			
1st Build-out Date 06-27-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQJQ689), File Number (0008587211), and Radio Service (WU - 700 MHz Upper Band (Block C)).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions: Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQJQ689

File Number: 0008587211

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
---------------	--------------------	--------------------------	------------------------------	---------------

Reference Copy

GENERAL METHOD OF PROCEDURE

JOB DESCRIPTION: POWERING DOWN VZW ANTENNAS ON UTILITY POLES

MOP PREPARED BY: Sean Conway **DATE:** 7/9/2020 (UPDATED)

EMERGENCY TURN-DOWNS

- 1. TURN OFF POWER AT DISCONNECT**
- 2. VERIFY POWER IS OFF BY NOTING GREEN LIGHT ON BOTTOM OF RADIO IS OFF (SEE FIGURE 2)**
- 3. IF POSSIBLE, AFTER EMERGENCY HAS ENDED---CONTACT VZW NOC at 800-264-6620**
- 4. IF POSSIBLE (SAFETY ALLOWS), TURN POWER BACK ON AT DISCONNECT**
- 5. VERIFY GREEN LIGHT ON BOTTOM OF RADIO IS ON**

NON-EMERGENCY TURN-DOWN

1. WHEN YOU ARRIVE ON SITE TO PERFORM SCHEDULED MAINTENANCE WORK CONTACT VZW NOC (EAST) at **800-264-6620**
 - a. CHOOSE OPTION 1 (TECH MONITORING YOUR AREA)
 - b. NEXT CHOOSE OPTION 2 (TECH MONITORING CELL SITES)
 - i. TELL THEM THAT YOU NEED TO PERFORM MAINTENANCE WORK ON A TELEPHONE POLE THAT HAS A VZW SMALL CELL ON IT AND YOU ARE GOING TO SHUT OFF THE POWER AT THAT NODE
 - ii. GIVE THEM INFORMATION FROM GREEN INFORMATION TAG (FIGURE 1) AT LOCATION--STATE, SWITCH, SITE ID, SECTOR/NODE
2. VZW NOC WILL SEND NOTIFICATION TO LOCAL CELL TECH SO THAT THEY KNOW TO EXPECT THE NODE TO GO OUT OF SERVICE
3. **CELL TECH / NOC WILL VERIFY THERE ARE NO USERS ON THAT RADIO AND WILL LOCK IT OUT PRIOR TO POWER SHUT-OFF**

4. TURN OFF POWER IN FIELD
5. **VERIFY RADIO IS OFF BY NOTING GREEN LIGHT ON BOTTOM OF RADIO IS OFF**
(SEE FIGURE 2 FOR LOCATION OF LIGHT)
6. PERFORM REQUIRED WORK
7. CONTACT VZW NOC at **800-264-6620** WHEN WORK IS COMPLETE
 - a. NOC MAY HAVE YOU CONTACT LOCAL CELL TECH DIRECTLY INSTEAD
8. TURN POWER BACK ON--GREEN LIGHT ON BOTTOM OF RADIO WILL START BLINKING AND THEN HOPEFULLY GO SOLID GREEN

NOTE---EVERY LOCATION HAS AN INFORMATIONAL STICKER WITH CONTACT AND LOCATION INFORMATION ON IT (SEE FIGURE 1)

FIGURE 1



FIGURE 2



VOID TO LIGHT TO VIEW TRUE WATERMARK IN PAPER HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

2667

NEXIUS SOLUTIONS, INC.
NEW ENGLAND MARKET ACCOUNT
2595 DALLAS PARKWAY, SUITE 300
FRISCO, TEXAS 75034
(972) 581-9888

11-24/1210

DATE 2/7/20

PAY TO THE ORDER OF

CITY OF MALDEN

\$ 500

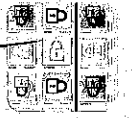
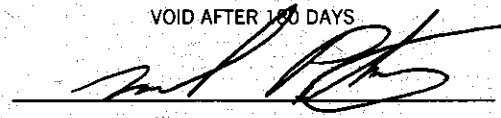
FIVE HUNDRED AND ~~00~~/~~100~~

DOLLARS

WELLS FARGO BANK N.A.

VOID AFTER 180 DAYS

FOR ZONING APP FEE / UZ11162
BATCH # 2



⑈002667⑈ ⑆121000248⑆ 4519027882⑈

Details on back Security Features