ROBINSON & COLE LLP

KENNETH C. BALDWIN

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Also admitted in Massachusetts

May 21, 2014

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Request of Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of an Existing Tower at 2895 State Street, Hamden, Connecticut**

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Cellco Partnership d/b/a Verizon Wireless ("Cellco") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by Cellco of an existing telecommunications tower, owned by SBA Communications Corporation ("SBA"), at 2895 State Street in Hamden, Connecticut (the "Property"). Cellco requests that the Council find that the proposed shared use of the SBA tower satisfies the criteria of C.G.S § 16-50aa and issue an order approving the proposed shared use. A copy of this letter is being sent to Hamden's Mayor Scott D. Jackson and State Five Industry Park Inc., the owner of the Property.

Background

The existing SBA facility consists of a 140-foot self-supporting monopole tower within a fenced compound. T-Mobile maintains antennas at the 128-foot level on the tower and equipment cabinets located in the southeast portion of the facility compound. An abandoned 11-foot by 21-foot equipment shelter (formerly occupied by Nextel) is located in the northeast portion of the compound. Due to its location in a special flood hazard area, the tower and related compound improvements are located on an elevated concrete platform, approximately 2 feet above grade.

Cellco is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Cellco and SBA have agreed to the proposed shared use of the 2895 State Street tower pursuant to mutually acceptable terms and conditions, and SBA has authorized Cellco to apply for all necessary permits and approvals that may be required to share the existing tower. (*See* Owner's authorization letter included in Attachment 1).

Cellco proposes to install twelve (12) antennas and six (6) remote radio heads (RRHs) on a low-profile antenna platform at a height of 136 feet above the top of the concrete platform. Equipment associated with Cellco's antennas and a propane-fueled generator will be located inside the existing 11' x 21' shelter. Cellco will also install a 1,000 gallon propane tank on the westerly side of the raised concrete platform. Included in Attachment 2 are Cellco's project plans showing the location of all proposed site improvements.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." Cellco respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing tower is structurally capable of supporting Cellco's antennas. The proposed shared use of this tower is, therefore, technically feasible. A Structural Analysis verifying the structural integrity of the tower, and its ability to support Cellco's antennas and related equipment is included in Attachment 3.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the shared use of an existing tower such as SBA's State Street tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the SBA tower would have a minimal environmental effect, for the following reasons:

1. The proposed installation of twelve (12) antennas at the 136-foot level on the existing 140-foot tower would have an insignificant incremental visual impact on the area around the existing tower. Cellco would utilize the existing (former Nextel) shelter and would install a propane-fuel generator and fuel tank on the existing raised concrete platform. No new ground disturbance is required or planned as a part of this tower share proposal. Cellco's shared use of this tower would therefore, not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Noise associated with the equipment shelter's air conditioning ("A/C") units was evaluated for compliance with State and/or local noise standards. According to the Noise Compliance Study included in Attachment 4 ("Study"), noise from the shelter's A/C units will not exceed State and/or local noise limits. Noise associated with Cellco's emergency back-up generator is exempt from State and local noise standards.

3. Operation of Cellco's antennas at this site would not exceed the RF emissions standards adopted by the Federal Communications Commission ("FCC"). Included in Attachment 5 of this filing is a Radio Frequency ("RF") emissions calculation that demonstrates that the existing T-Mobile and proposed Cellco antennas will operate well within the FCC RF emissions standards.

4. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the State Street facility other than periodic (monthly) maintenance visits to the cell site.

5. Cellco's equipment will be located approximately 5.3 feet above the base flood elevation associated with a nearby 100-year floodplain to the Quinnipiac River and approximately 3.7 feet above a 500-year flood elevation that surrounds the Facility. Therefore, Cellco's proposed improvements will not result in an adverse impact to flood resources associated with the nearby Quinnipiac River and equipment will be appropriately protected during flood events for the various design storms as a result of its location on the existing elevated platform. Please refer to the enclosed Floodplain Compliance Determination prepared by All-Points Technology Corp., P.C. dated February 7, 2014 for further details. (Attachment 6).

The proposed use of this 2895 State Street facility would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, SBA and Cellco have entered into a lease for the shared use of the existing tower on mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible. (*See* Attachment 1).

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Cellco's full array of twelve (12) antennas and related equipment. Cellco is not aware of any public safety concerns relative to the proposed sharing of the existing SBA tower. In fact, the provision of new and improved wireless service through shared use of the existing tower is expected to enhance the safety and welfare of area residents and members of the general public traveling through Hamden.

Conclusion

For the reasons discussed above, the proposed shared use of the existing SBA tower at 2895 State Street in Hamden satisfies the criteria stated in C.G.S. § 16-50aa and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use of the SBA tower.

Thank you for your consideration of this matter.

Very truly yours,

Kenneth C. Baldwin

Enclosures
Copy to:
Mayor Scott D. Jackson
State Five Industry Park Inc.
Sandy M. Carter

ATTACHMENT 1

5900 Broken Sound Parkway NW
Boca Raton, FL 33487-2797

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: CT46137-A, Hamden-State St

Property Located at: 2895 State Street , Hamden, CT, 06517

THE CITY/COUNTY OF: Hamden / New Haven

APPLICATION FOR ZONING/USE/BUILDING PERMIT

This letter authorizes Verizon Wireless and its authorized agents to file for all necessary zoning, planning and building permits (local, state and federal) for the purposes of installing, operating and maintaining a telecommunications facility on the existing tower on our property referenced above on behalf of Wireless Capital Partners, LLC.

All approval conditions that may be granted to Verizon Wireless in connection with above referenced facility relating to this specific application are the sole responsibility of Verizon Wireless.

SBA 2012 TC Assets, LLC

Jason Silberstein

Executive VP, Site Leasing

Date: 5/13/2014

ATTACHMENT 2

Cellco Partnership

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

HAMDEN 5

2895 STATE STREET

HAMDEN, CT 06517

SITE DIRECTIONS

FROM: 99 EAST RIVER DRIVE, EAST HARTFORD, CONNECTICUT TO: 2895 STATE STREET, HAMDEN, CT 06517

1. Head west on E River Dr toward Pitkin St	0.9 mi
2. Continue onto E River Drive Extension	0.3 mi
3. Turn right onto the U.S. 5 S/Connecticut 15 S ramp to New Haven/Interstate 91 S	0.2 mi
4. Merge onto US-5 S	0.5 mi
5. Take exit 86 to merge onto I-91 S toward New Haven/New York City	30.1 mi
6. Take exit 10 for Connecticut 40 toward Mount Carmel/Hamden	0.3 mi
7. Merge onto SR Carmel Connector	0.4 mi
8. Take exit 1 toward US-5/State St/Dixwell Ave/Hamden	0.2 mi
9. Turn right onto Devine St	0.1 mi
10. Take the 1st right onto US-5 S/State St. Destination will be on the left	1.4 mi

GENERAL NOTES

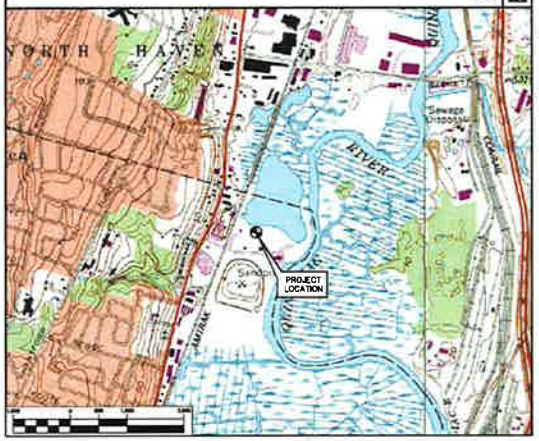
1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELLCO PARTNERSHIP.

PROJECT SCOPE

1. THE PROPOSED SCOPE OF WORK GENERALLY INCLUDES THE REPURPOSED OF AN EXISTING ABANDONED NEXTEL WIRELESS COMMUNICATION INSTALL FOR USE BY CELLCO PARTNERSHIP.
2. A TOTAL OF (12) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED ON AN EXISTING 140' TALL MONOPOLE TOWER AT A CENTERLINE ELEVATION OF 136' ABOVE TOWER BASE PLATE LEVEL.
3. PROPOSED 1000 GAL PROPANE TANK & EMERGENCY POWER BACKUP GENERATOR ARE TO BE INSTALLED ATOP THE EXISTING ELEVATED CONCRETE COMPOUND PLATFORM.

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

SITE NAME:	HAMDEN 5
SITE ADDRESS:	2895 STATE STREET HAMDEN, CT 06517
LESSEE/TENANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
CONTACT PERSON:	SANDY CARTER CELLCO PARTNERSHIP (860) 803-8219
TOWER COORDINATES:	LATITUDE 41°-21'-36.15" LONGITUDE 72°-53'-8.55" GROUND ELEVATION: 11.42'± A.M.S.L. COORDINATES ARE BASED ON CONNECTICUT SITING COUNCIL DATABASE. GROUND ELEVATION REFERENCED FROM PARTIAL SITE TOPO SURVEY AS PREPARED BY MARTINEZ COUCH AND ASSOCIATES LLC, DATED NOVEMBER 18, 2013.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
C-1	SITE SURVEY PLAN	2
C-2	COMPOUND PLAN AND ELEVATION	2

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	03/26/14	SMD	CRC	REVISED FOR CSC
1	02/05/14	GLT	DMG	REVISED FOR CSC
0	02/03/14	GLT	CRC	CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. Verizon Wireless

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
HAMDEN 5
2895 STATE STREET
HAMDEN, CT 06517

DATE: 02/03/14
SCALE: AS NOTED
JOB NO. 13275.000

TITLE SHEET

T-1

Sheet No. 1 of 2

SURVEY NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. IT IS A TOPOGRAPHIC SURVEY CONFORMING TO A VERTICAL ACCURACY OF CLASS T-2 AND IS INTENDED TO BE USED TO DEPICT EXISTING TOPOGRAPHY.

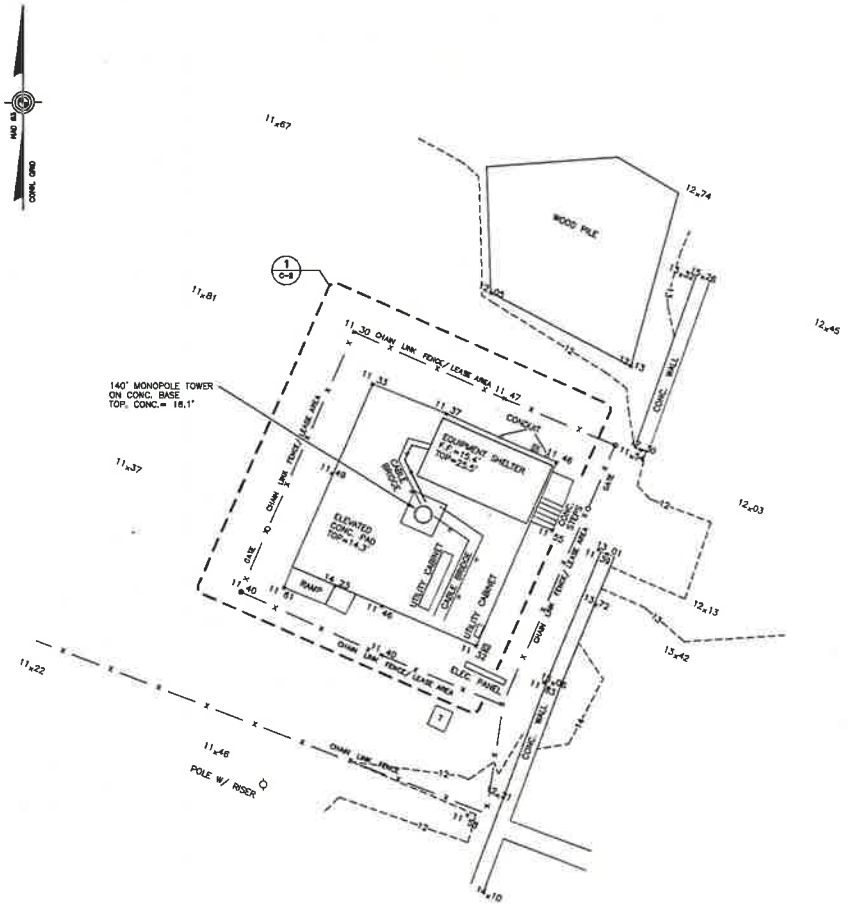
VERTICAL DATUM IS BASED ON NAVD 88.

COORDINATES REFER TO NAD 83.

AREA OF SURVEY IS IN SHADED ZONE X AS SHOWN ON THE FLOOD INSURANCE RATE MAP, NEW HAVEN COUNTY, CONNECTICUT, ALL JURISDICTIONS, PANEL 432 OF 635, COMMUNITY PANEL NUMBER 09009C0432J , MAP REVISED JULY 8, 2013, BY FEDERAL EMERGENCY MANAGEMENT AGENCY.

THE 500 YEAR FLOOD HAZARD ZONE (SHADED ZONE X; 0.2% ANNUAL CHANCE FLOOD) IS ASSOCIATED WITH A FLOOD ELEVATION OF ±10.6 FT, QUINNIPIAC RIVER FLOOD PROFILE PANEL 333P, FLOOD INSURANCE STUDY, NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS), REVISED JULY 8, 2013.

NOT ALL IMPROVEMENTS SHOWN.



1 / C-1 SITE SURVEY PLAN - EXISTING
SCALE: 1" = 10'

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

SYMBOLS LEGEND

- Utility Post
- Post
- Hand Hole
- Transformer
- 14x32 Spot Grade
- Fence Line
- 105 Contour Line

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL

A. RAFAEL MARTINEZ LLS #18833 DATE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
3	02/20/14	DAD	CFC	REVISED FOR CSC
2	02/06/14	CLT	DAD	REVISED FOR CSC
1	01/30/14	CLT	DAD	ISSUED FOR CSC
0	10/21/13	CLT	DAD	PRE-FINAL - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d/b/a Verizon Wireless

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY:
HAMDEN 5

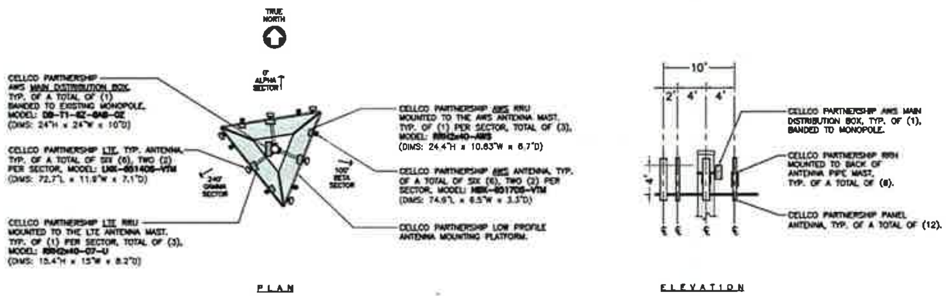
2895 STATE STREET
HAMDEN, CT 06517

DATE: 02/03/14
SCALE: AS NOTED
JOB NO. 13275.000

SITE SURVEY PLAN

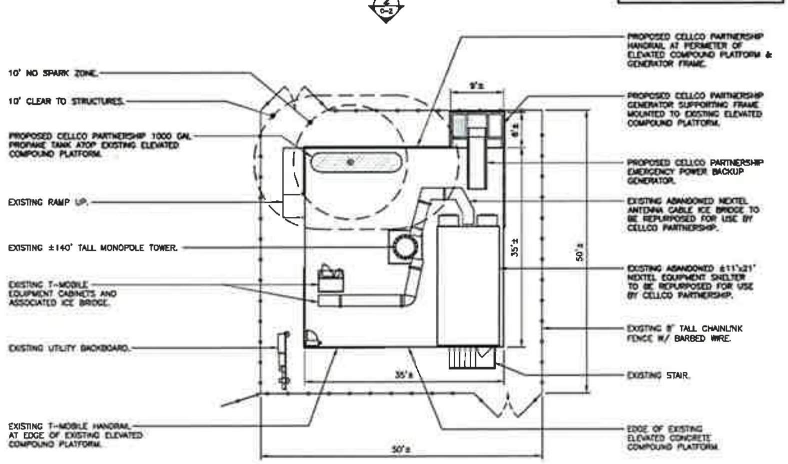
C-1

Sheet No. 2 of 3



3 / C-2 **ANTENNA MOUNTING CONFIGURATION**
NOT TO SCALE

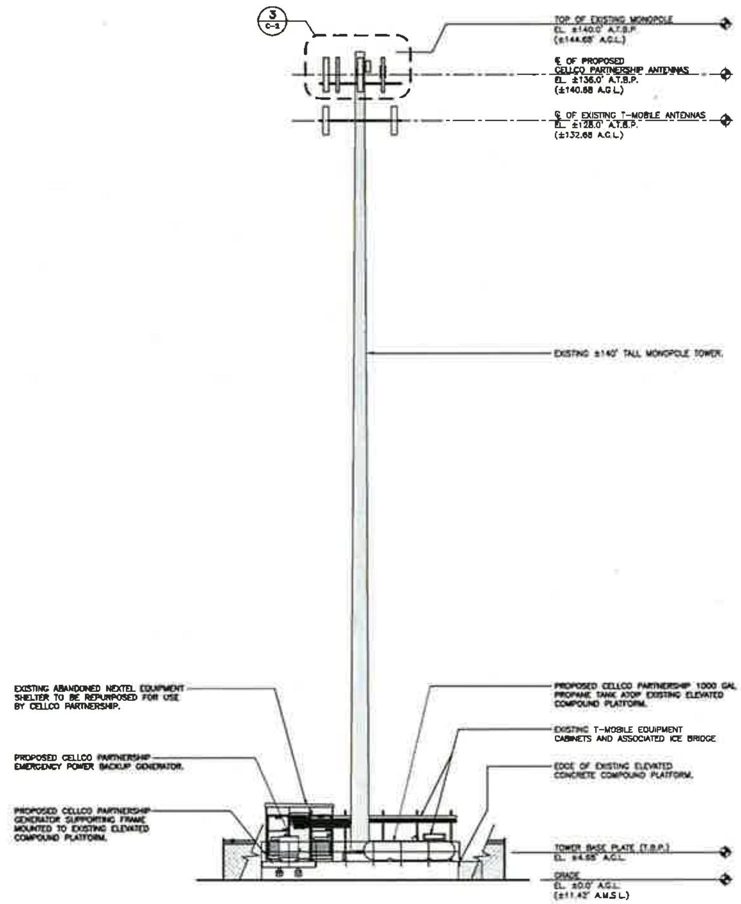
EXISTING LEASE AREA NOTE:
THE EXISTING COMPOUND FENCED AREA IS ALSO THE EXTENT OF THE TOWER OWNER'S LEASE AREA.



1 / C-2 **COMPOUND PLAN - PROPOSED**
SCALE: 1" = 10'

APPROXIMATE NORTH

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.



2 / C-2 **WEST ELEVATION - PROPOSED**
SCALE: 1" = 10'

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	05/20/14	DMD	CFC	REVISED FOR CSC
1	02/05/14	CLT	DMD	ISSUED FOR CSC
0	02/04/14	CLT	DMD	ISSUED FOR CSC - CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. verizon wireless

CENTEK engineering
Centered on Solutions™
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Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
HAMDEN 5
2895 STATE STREET
HAMDEN, CT 06517

DATE: 02/03/14
SCALE: AS NOTED
JOB NO. 13275.000

COMPOUND PLAN AND ELEVATION

C-2

Sheet No. 3 of 3

ATTACHMENT 3

FDH

FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

Structural Analysis for SBA Network Services, Inc.

136' Monopole Tower

SBA Site Name: Hamden State Street
SBA Site ID: CT46137-A
Verizon Site Name: Hamden 5

FDH Project Number 1422CS1400

Analysis Results

Tower Components	72.3%	Sufficient
Foundation	73.2%	Sufficient

Prepared By:

Chip DeVoto, EI
Project Engineer

Reviewed By:

Bradley R. Newman, PE
Senior Project Engineer
CT PE License No. 29630

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com

February 11, 2014

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and 2005 Connecticut Building Code (CBC)

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Hamden, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F and 2005 Connecticut Building Code (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, foundation dimensions, and member sizes was obtained from:

- Engineered Endeavors Incorporated (Job No. 5315-P01) Structure & Foundation Design Calculations dated August 16. 1999
- Tower Engineering Professionals, Inc. (Project No. 090512) Structural Analysis Report dated February 18, 2009
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from Verizon in place at 136 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Engineered Endeavors Incorporated Job No. 5315-P01), the foundation should have the necessary capacity to support both the proposed and existing loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement as determined by the client.
3. Sprint's equipment, coax and mount to be removed prior to Verizon's installation.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines[1]	Carrier	Mount Elevation (ft)	Mount Type
136.8	(12) Decibel DB844H90E-XY[2]	(12) 1-1/4"[2]	Sprint[2]	136	(1) Platform w/ Handrails[2]
128	(3) Ericsson AIR 21 B2A/B4P (3) Ericsson AIR 21 B4A/B2P (3) Ericsson KRY 112 144 TMAs	(12) 1-5/8" (1) 1-5/8" Hybrid	T-Mobile	128	(1) Low Profile Platform

1. Coax installed inside the pole's shaft unless otherwise noted.
2. Sprint's equipment, coax and mount to be removed prior to Verizon's installation.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
136	(6) Andrew/LNX-6514DS-VTM (6) Andrew/HBX-6517DS-VTM (3) Alcatel Lucent RRH-2X40-700U RRHs (3) Alcatel Lucent RRH-2X40-AWS RRHs	(2) 1-5/8" Fiber	Verizon	136	(1) Low-Profile Platform

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Base Plate	60 ksi
Anchor Bolts	75 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. *Note: Capacities up to 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	136 - 88	Pole	TP28x19x0.25	67.2	Pass
L2	88 - 43.5	Pole	TP35.72x26.75x0.375	64.3	Pass
L3	43.5 - 0	Pole	TP43x34.0453x0.4375	64.2	Pass
		Anchor Bolts	(16) 2.25" Ø on 51" BC	50.6	Pass
		Base Plate	PL 57" Ø x 2" Thk.	72.3	Pass

*Capacities include a 1/3 allowable stress increase for wind per *TIA/EIA-222-F* standards.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial	24 k	27 k
Shear	17 k	22 k
Moment	1,701 k-ft	2,325 k-ft

GENERAL COMMENTS

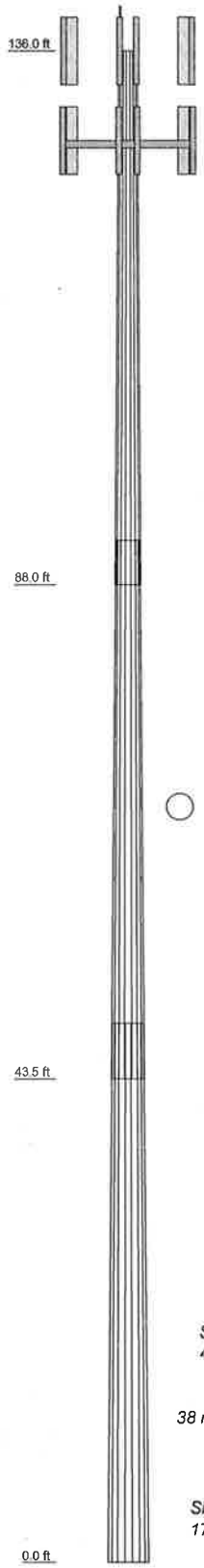
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

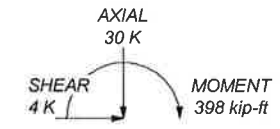
LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

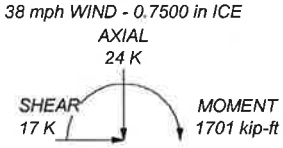
Section	1	2	3
Length (ft)	48.00	48.50	48.50
Number of Sides	18	18	18
Thickness (in)	0.2500	0.3750	0.4375
Socket Length (ft)	4.00	5.00	
Top Dia (in)	19.0000	28.7500	34.0453
Bot Dia (in)	28.0000	35.7200	43.0000
Grade		A572-65	
Weight (K)	3.0	6.1	8.7

17.8





TORQUE 0 kip-ft
38 mph WIND - 0.7500 in ICE



TORQUE 0 kip-ft
REACTIONS - 85 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	136	RRH2x40-700U	136
(2) LNX-6514DS-VTM w/ Mount Pipe	136	(1) Low-Profile Platform	136
(2) LNX-6514DS-VTM w/ Mount Pipe	136	AIR 21 B2A/B4P w/Mount Pipe	128
(2) LNX-6514DS-VTM w/ Mount Pipe	136	AIR 21 B4A/B2P w/Mount Pipe	128
(2) HBX-6517DS-VTM w/ Mount Pipe	136	AIR 21 B4A/B2P w/Mount Pipe	128
(2) HBX-6517DS-VTM w/ Mount Pipe	136	AIR 21 B4A/B2P w/Mount Pipe	128
(2) HBX-6517DS-VTM w/ Mount Pipe	136	KRY 112 144	128
RRH2X40-AWS	136	KRY 112 144	128
RRH2X40-AWS	136	KRY 112 144	128
RRH2X40-AWS	136	Low Profile Platform	128
RRH2x40-700U	136	AIR 21 B2A/B4P w/Mount Pipe	128
RRH2x40-700U	136	AIR 21 B2A/B4P w/Mount Pipe	128

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice.
4. Deflections are based upon a 50 mph wind.

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
Phone: (919) 755-1012
FAX: (919) 755-1031
Tower Analysis

Job: Hamden State Street, CT46137-A			
Project: 1422CS1400			
Client: SBA Network Services, Inc.	Drawn by: Chip DeVoto, E	App'd:	
Code: TIA/EIA-222-F	Date: 02/11/14	Scale: NTS	
Path:		Dwg No. E-1	

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Bureau of Natural Resources
Wildlife Division
Natural History Survey – Natural Diversity Data Base

February 10, 2014

Ms. Coreen Kelsey
Vanasse Hangen Brustlin, Inc.
54 Tuttle Place
Middletown, CT 06457
ckelsey@vhb.com

Regarding: Trumbull SE 4 CT, 60 Commerce Drive, Trumbull - Installation of a Telecommunications Facility Consisting of a Monopole Tower, Antennas and Associated Ground Equipment - Natural Diversity Data Base 201400583

Dear Ms. Kelsey:

In response to your request for a Natural Diversity Data Base (NDDB) Review of State Listed Species for project Trumbull SE 4 CT, our records indicate the following extant populations of species on or within the vicinity of the site:

Eastern box turtle (*Terrapene carolina Carolina*) Protection Status: Species of Special Concern

Eastern box turtles inhabit old fields and deciduous forests, which can include power lines and logged woodlands. They are often found near small streams and ponds. The adults are completely terrestrial but the young may be semiaquatic, and hibernate on land by digging down in the soil from October to April. They have an extremely small home range and can usually be found in the same area year after year. Eastern box turtles have been negatively impacted by the loss of suitable habitat. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated.

Recommendations: The following guidelines should be met to protect turtles:

- Silt fencing should be installed around the work area prior to activity;
- After silt fencing is installed and prior to work being conducted, a sweep of the work area should be conducted to look for turtles;
- Workers should be apprised of the possible presence of turtles, and provided a description of the species (http://www.ct.gov/dep/cwp/view.asp?a=2723&q=473472&depNav_GID=1655);

- Any turtles that are discovered should be moved, unharmed, to an area immediately outside of the fenced area, and positioned in the same direction that it was walking;
- Work conducted during early morning and evening hours should occur with special care not to harm basking or foraging individuals; and
- All silt fencing should be removed after work is completed and soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

The Natural Diversity Data Base includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. If the project is not implemented within 12 months, then another Natural Diversity Data Base review should be requested for up-to-date information.

Please be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site.

Thank you for consulting the Natural Diversity Data Base. If you have any questions, I can be reached by email at Elaine.Hinsch@ct.gov.

Sincerely,
/s/
Elaine Hinsch
Program Specialist II
Wildlife Division

ATTACHMENT 4

HMB

HMB Acoustics LLC 3 CherryTree Lane, Avon, Ct. 06001 860-677-5955

February 14, 2014

Chris Thomas
Centek Engineering, Inc.
63-2 North Branford Road
Branford, Ct. 06405

Subject: Hamden 5 - CSC Noise Compliance Study

Dear Mr. Thomas:

The noise levels for the V1 and V2 wall mounted HVAC units were calculated while each one was operating separately. Typically, only one of the two units on the equipment shelter operates at any one time. The noise level was then projected to each property line. The resultant noise level was compared to the State of Ct. Noise Regulation. The Regulation allows a noise level of 70 dBA (daytime and nighttime) when measured between a manufacturing noise zone emitter and a manufacturing noise zone receptor's property line. I found that the V1 and V2 air-conditioner units meet the conditions for compliance as set forth in the noise Regulation, at all property lines.

Allan Smardin
HMB Acoustics LLC

PROJECT INFORMATION:	Centek Job #: 13275.000
Applicant:	Cellco Partnership d.b.a. Verizon Wireless
Applicant Site ID:	Hamden 5
Site Owner:	SBA Communications Corporation
Site Address:	2895 State Street, Hamden, CT
Subject Zoning District:	Manufacturing
Abutting Zoning District(s):	Manufacturing Transect

APPLICANT EQUIPMENT:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West
V-1	Wall Mounted HVAC	Bard / W61A1-105EPXXXJ	201	772	1160	217
V-2	Wall Mounted HVAC	Bard / W61A1-105EPXXXJ	194	779	1161	217

EXISTING COLOCATORS:

☐ AT&T	☐ Metro PCS	☐ Other:
☐ Sprint	☒ T Mobile	☐ Other:
☐ Nextel	☐ None	☐ Other:

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

EXISTING COLOCATOR EQUIPMENT OWNER:

ID	Noise Emitter	Make/Model	Prop. Line. Dist. (FT)			
			North	South	East	West

CONCLUSION:

Daytime Regulation:	70 dBA	**Nighttime Regulation:**	70 dBA
Compliance:	☒ Yes ☐ No	**Compliance:**	☒ Yes ☐ No

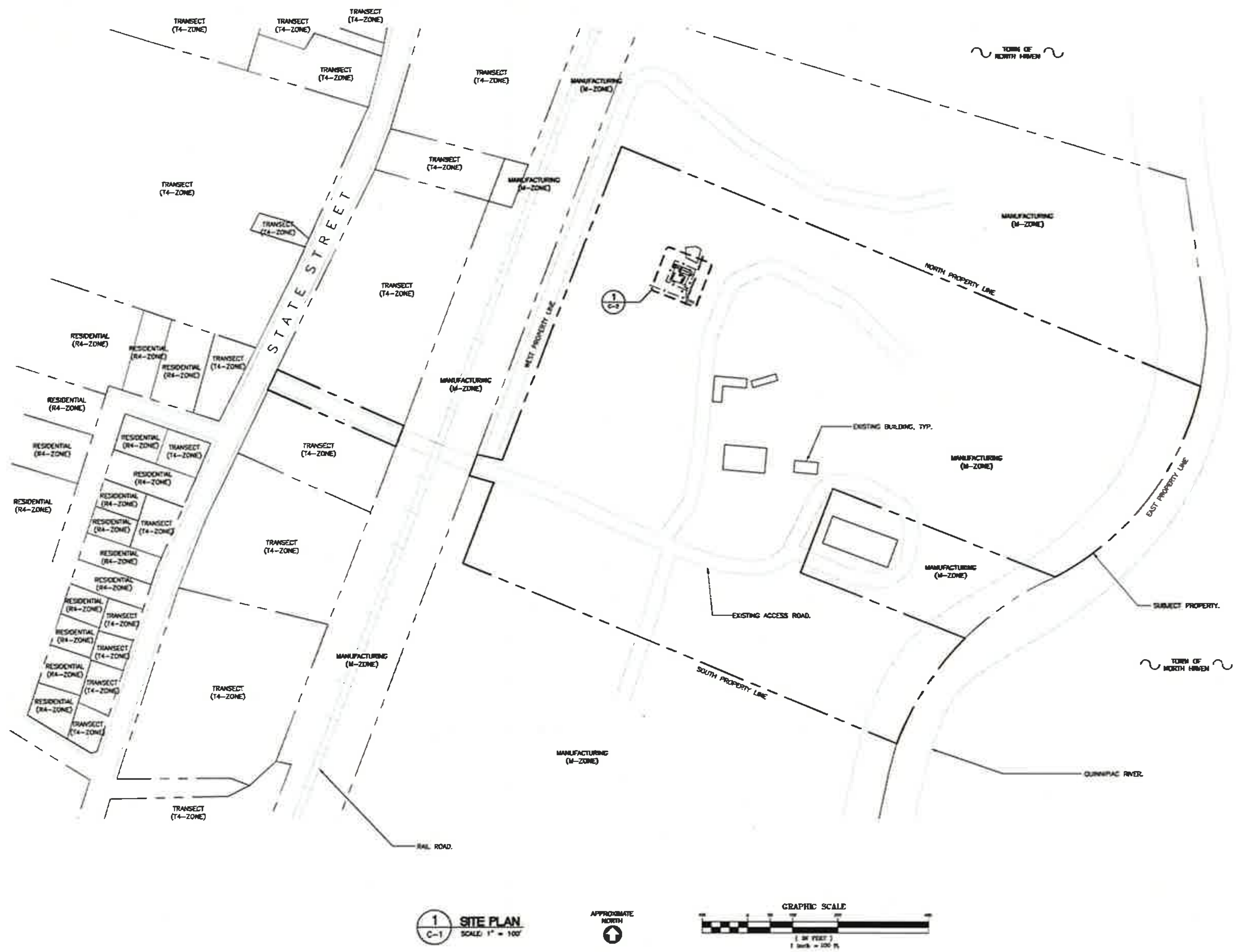
BASIS OF FINDINGS:

North property line: V1 = 40 dBA ; V2 = 42 dBA
South property line: V1 = 30 dBA ; V2 = 30 dBA
East property line: V1 = 15 dBA ; V2 = 15 dBA
West property line: V1 = 38 dBA ; V2 = 38 dBA

The dBA levels take into account the acoustical shielding effect provided by other structures on the property.

The projected noise levels from T-Mobile outdoor equipment is inaudible at the distance of 15 feet or greater. This equipment will have no adverse acoustical effect on the V1 and V2 noise projections.

Prepared By: Alan Smardin, HMB ACOUSTICS LLC Date: 02/14/14



1 C-1 **SITE PLAN**
SCALE: 1" = 100'

Cellco Partnership d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY

HAMDEN 5

2895 STATE STREET
HAMDEN, CT 06517

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d.b.a. Verizon wireless

PROFESSIONAL ENGINEER SEAL

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	02/11/14	CLT	DMD	NOISE EMITTER INFORMATION

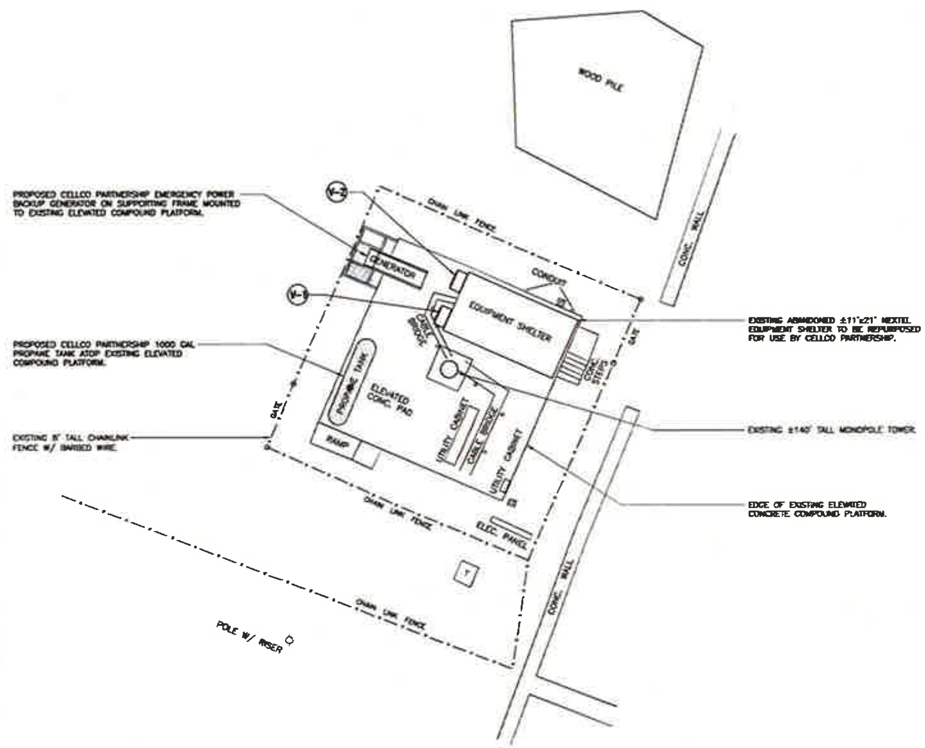
DATE: 02/11/14
SCALE: AS NOTED
JOB NO. 13275.000

SITE PLAN

C-1

Sheet No. 1 of 2

NOISE EMMITTER INFORMATION	
(V-1) WALL MOUNTED HVAC UNIT, MAKE: BARD,	MODEL: W61A1-A05EPXXXJ
(V-2) WALL MOUNTED HVAC UNIT, MAKE: BARD,	MODEL: W61A1-A05EPXXXJ



1 C-2 **COMPOUND PLAN**
SCALE: 1" = 10'

APPROXIMATE NORTH

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
HAMDEN 5
2896 STATE STREET
HAMDEN, CT 06517

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d.b.a. Verizon wireless

PROFESSIONAL ENGINEER SEAL

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	02/11/14	CLT	DMD	NOISE EMITTER INFORMATION

DATE:	02/11/14
SCALE:	AS NOTED
JOB NO.	13275.000

COMPOUND PLAN

C-2
Sheet No. 2 of 2

ATTACHMENT 5

	General	Power	Density					
Site Name: Hamden 5								
Tower Height: Verizon @ 136ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*T-Mobile GSM/UMTS	2	12	128	0.0005	1950	1.0000	0.05%	
*T-Mobile UMTS	2	12	128	0.0005	2100	1.0000	0.05%	
*T-Mobile LTE	2	24	128	0.0011	2100	1.0000	0.11%	
Verizon	**7**	**474**	**136**	**0.0645**	**1970**	**1.0000**	**6.45%**	
Verizon	**9**	**368**	**136**	**0.0644**	**869**	**0.5793**	**11.11%**	
Verizon	**1**	**1915**	**136**	**0.0372**	**2145**	**1.0000**	**3.72%**	
Verizon	**1**	**665**	**136**	**0.0129**	**698**	**0.4653**	**2.78%**	
								24.28%
* Source: Siting Council								

ATTACHMENT 6

ALL-POINTS TECHNOLOGY CORPORATION

Floodplain Compliance Determination

February 7, 2014

Verizon Wireless
99 East River Drive
East Hartford, CT 06108

APT Project No.: CT141970

Attn: Alexandria Carter

Re: Proposed Verizon Wireless
Hamden 5 Facility
2895 State Street
Hamden, Connecticut

Dear Ms. Carter,

At your request, All-Points Technology Corporation, P.C. ("APT") has reviewed the referenced Hamden 5 Facility to evaluate potential impact to floodplain resources located within and proximity to this proposed collocation project. APT understands that Verizon Wireless proposes to collocate on the existing telecommunications facility, owned by SBA Communications Corporation ("SBA"), which consists of a 140-foot tall monopole and a 50-foot by 50-foot fenced compound that surrounds an elevated equipment platform ("Facility"). The Facility is located on a developed industrial property occupied by Modern Materials Corporation, which provides various earth products to the construction industry. The Quinnipiac River is located along the east property boundary approximately 1,000 feet east of the Facility.

The existing Facility is not located within a Special Flood Hazard Area (100-year floodplain[1]); refer to the enclosed Flood Hazard Constraint Map. The Facility is located within a Shaded Zone X, which consists of the 500-year flood hazard zone[2] (areas of 0.2% annual chance of flood), associated with the Quinnipiac River. The flood elevation associated with the 500-year flood hazard zone that encompasses the Facility is interpolated at ±10.6 feet[3]; refer to the enclosed Flood Insurance Rate Map and Quinnipiac River Flood Profile noting cross section "A" for determination of this elevation. The flood mapping shows a Special Flood Hazard Zone AE with a base flood elevation (100-year flood) of 9 feet approximately 230 feet to the west of the Facility. A topographic survey of the Facility reveals the top of the elevated concrete pad at 14.3 feet; refer to Site Survey Plan Sheet C-1 prepared by Centek Engineering, latest revision date 02/05/14 included in the Tower Share Application to the Connecticut Siting Council provided under separate cover. Both the flood elevation data and topographic survey elevations are referenced to the same datum, North American Vertical Datum of 1988 ("NAVD 88").

APT understands that Verizon's proposed equipment shelter (repurposed abandoned 11-foot by 21-foot Nextel shelter), emergency power backup generator and 1,000 gallon propane tank will all be located on the existing

[1] CGS Sec. 25-68b: "Floodplain" means that area located within the real or theoretical limits of the base flood or base flood for a critical activity; "Base flood" means that flood which has a one per cent chance of being equaled or exceeded in any year, as defined in regulations of the National Flood Insurance Program (44 CFR 59 et seq.), or that flood designated by the commissioner pursuant to section 25-68c.

[2] FEMA Flood Insurance Rate Map, New Haven County, Connecticut, All Jurisdictions, Panel 432 of 635, Community Panel Number 09009C0432J, Map Revised July 8, 2013.

[3] FEMA Quinnipiac River Flood Profile Panel 333P, Flood Insurance Study, New Haven County, Connecticut (All Jurisdictions), Revised July 8, 2013.

elevated compound platform. As a result, Verizon's equipment will be located approximately 5.3 feet above the base flood elevation associated with the nearby 100-year floodplain and approximately 3.7 feet above the 500-year flood elevation.

Therefore, the proposed Verizon Wireless Hamden 5 Facility will not result in an adverse impact to flood resources associated with the nearby Quinnipiac River and equipment will be appropriately protected during flood events for the various design storms as a result of its location on the existing elevated platform.

Please feel free to contact me at by phone at (860) 984-9515 or via email at dgustafson@allpointstech.com with any questions.

Sincerely,

Dean Gustafson
Senior Environmental Scientist

Enclosures

Attachments

- Flood Hazard Constraint Map

- FEMA Flood Insurance Rate Map, New Haven County, Connecticut, All Jurisdictions, Panel 432 of 635, Community Panel Number 09009C0432J, Map Revised July 8, 2013

- FEMA Quinnipiac River Flood Profile Panel 333P, Flood Insurance Study, New Haven County, Connecticut (All Jurisdictions), Revised July 8, 2013

Flood Hazard Constraint Map

2895 State Street
Hamden, CT

Legend

- Proposed Tower Location
- Subject Parcel
- CT DEEP Parcel (updated 8/10)

S_FLD_HAZ_AR

FEMA General Flooding Classification

- 100 Year Flood Hazard Area
- 500 Year Flood Hazard Area
- Floodway

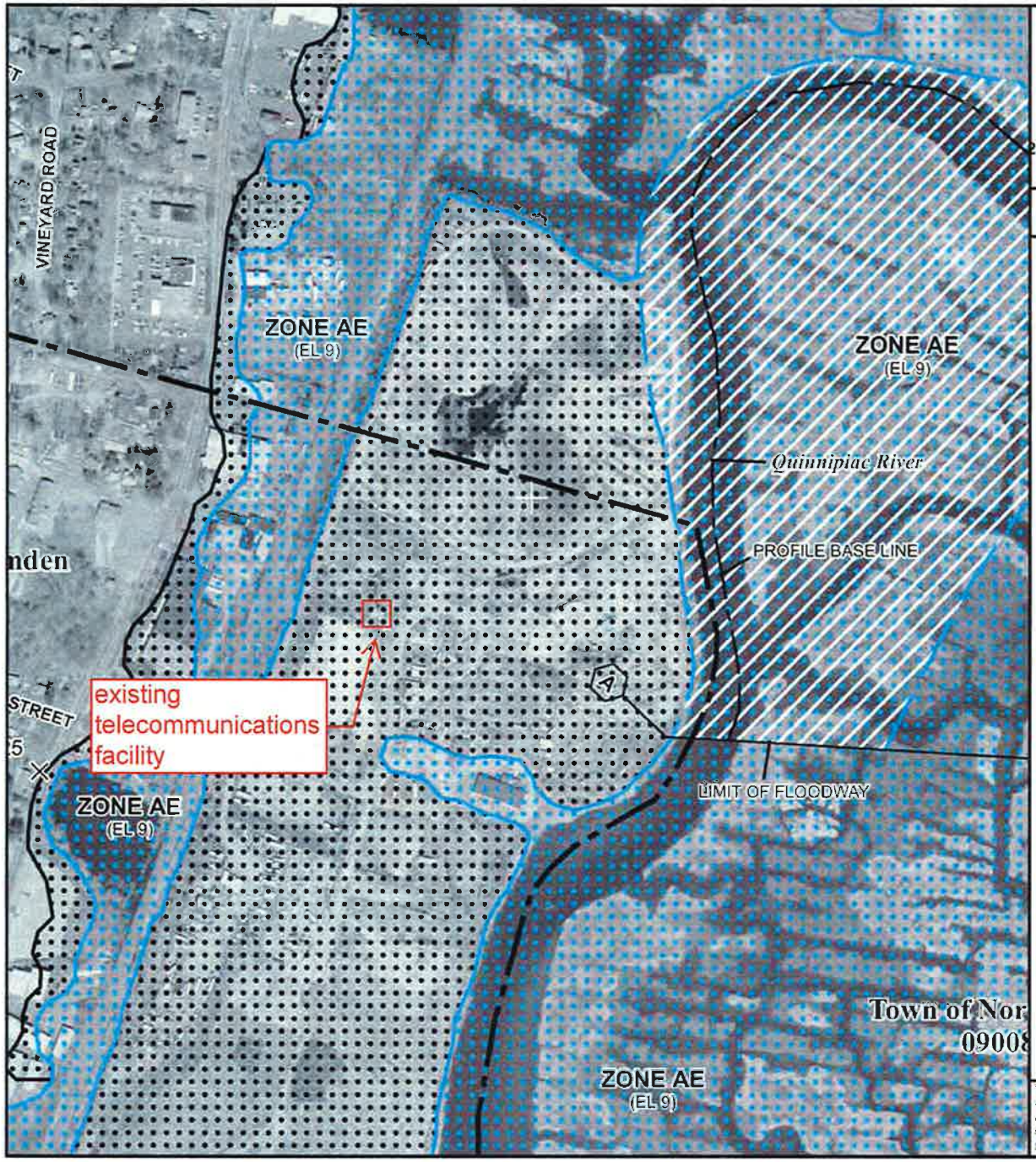
Last Updated Friday, February 07, 2014

1 inch equals 167 feet

0 85 170 340 Feet

ALL-POINTS TECHNOLOGY CORPORATION

Path: L:\All_Points_Tech\Projects\Client\Verizon\Hamden\Gis\Maps\Flood_Hazard_Map.mxd



MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0432J

FIRM

FLOOD INSURANCE RATE MAP

NEW HAVEN COUNTY, CONNECTICUT
(ALL JURISDICTIONS)

PANEL 432 OF 635
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HAMDEN, TOWN OF	090078	0432	J
NORTH HAVEN, TOWN OF	090086	0432	J

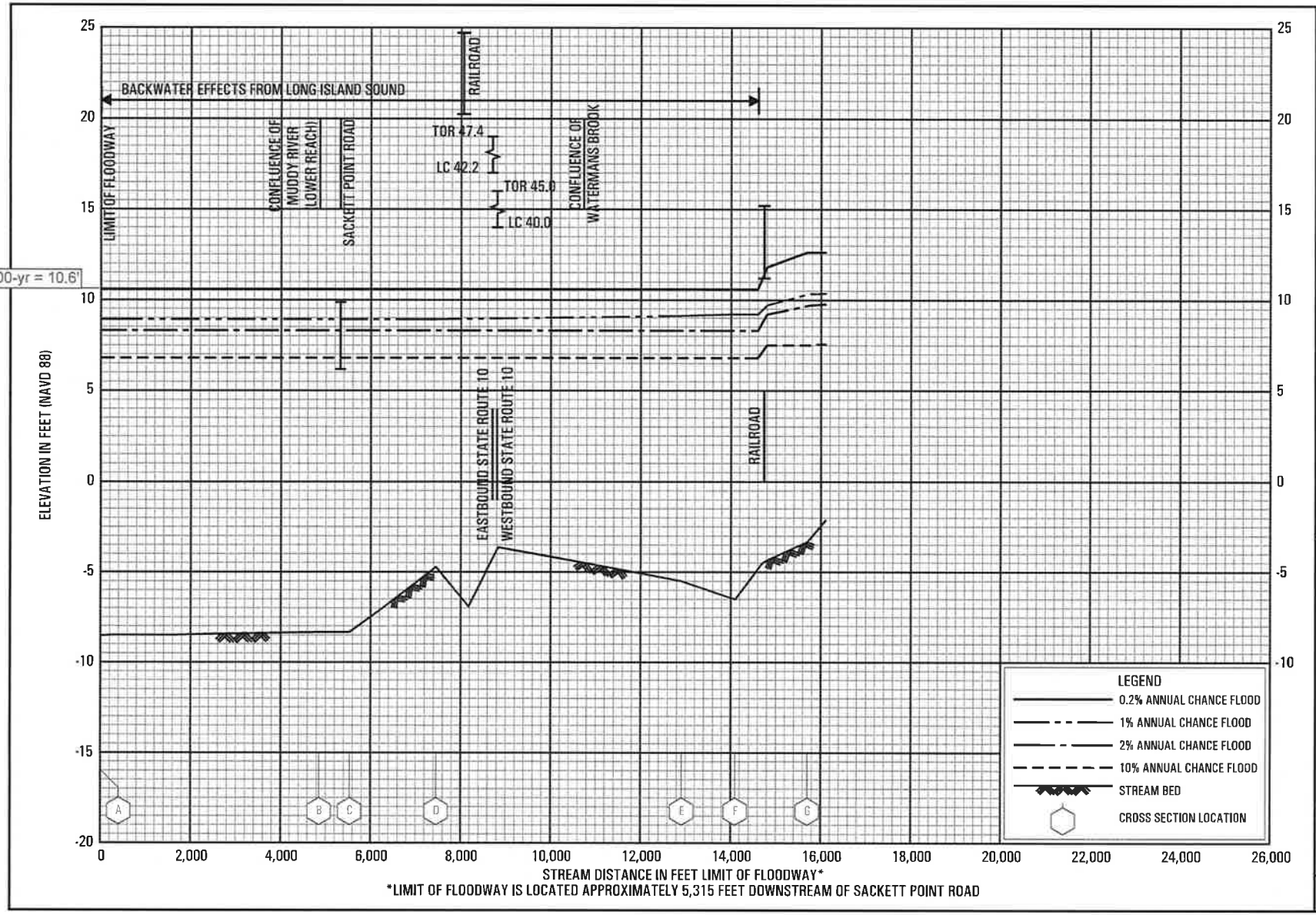
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09009C0432J

MAP REVISED
JULY 8, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



FLOOD PROFILES

QUINNIPIAC RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

NEW HAVEN COUNTY, CT

(ALL JURISDICTIONS)

333P