STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A WIRELESS TELECOMMUNICATIONS FACILITY IN THE TOWN OF WATERFORD, CONNECTICUT	:	DOCKET NO. 419
	:	JULY 14, 2011

RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS TO CONNECTICUT SITING COUNCIL PRE-HEARING INTERROGATORIES, SET ONE

On June 20, 2011, the Connecticut Siting Council ("Council") issued Pre-Hearing Interrogatories to Cellco Partnership d/b/a Verizon Wireless ("Cellco"), relating to the above-captioned docket. Below are Cellco's responses.

Question No. 1

Of the letters sent to abutting property owners, how many certified mail receipts did Cellco receive? If any receipts were not returned, which owners did not receive their notice? Did Cellco make additional attempts to contact those property owners?

Response

Cellco received return certified mail receipts from all but one of the abutting property owners identified behind Tab 5 in the Application. A second notice letter was sent to Daniel E. and Therese O'Connor on June 13, 2011 by regular mail.

Question No. 2

Would Cellco's antennas comply with E911 requirements?

Response

Yes.

Question No. 3

Identify the adjacent sites with which the proposed facility would hand off signals. Include addresses of these sites.

Response

The proposed Waterford NE cell site would interact with the following existing Cellco cell sites:

1. Uncasville Cell Site
   Owner: Mariner Towers
   71 Moxley Hill Road
   Montville, CT

2. Montville 2 Cell Site
   Owner: SBA
   45 Fargo Road
   Waterford, CT

3. Waterford Cell Site
   Owner: Cohanzie Fire Department
   53 Dayton Road
   Waterford, CT

4. Groton 2 Cell Site
   Owner: SBA
   1294 Pleasant Valley Road
   Groton, CT

5. Chesterfield Cell Site
   Owner: Crown Castle
   41 Beckwith Road
   Montville, CT

6. Montville Cell Site
   Owner: Metrocast Communications of CT, Inc.
   695 Old Colchester Road
   Montville, CT

Question No. 4

What is the lowest height at which Cellco's antennas could achieve its coverage objectives from the proposed sites? Submit propagation maps showing the coverage at ten feet below these heights.

Response

Antennas at both Site 1 and Site 2 are proposed at the lowest height needed to allow Cellco to satisfy its Waterford NE coverage objectives. Propagation maps showing coverage from Site 1 at 120' and Site 2 at 140' (ten (10) feet lower than proposed in the application) are included in Attachment 1. As indicated on the table below, the lower antenna height results in a reduction in coverage along I-395, the primary coverage objective for the Waterford NE cell site, and a reduction in the overall coverage footprint from each of the alternative site locations.

Site 1

	PCS Coverage @ 130'	PCS Coverage @ 120'	Cellular Coverage @ 130'	Cellular Coverage @ 120'
I-395 (Miles)	2.08	1.9	2.3 miles	2.2
Overall Coverage Footprint (Sq. Miles)	2.83*	2.57	7.66	6.68

Site 2

	PCS Coverage @ 150'	PCS Coverage @ 140'	Cellular Coverage @ 150'	Cellular Coverage @ 140'
I-395 (Miles)	2.2	2.1	2.3	2.2
Overall Coverage Footprint (Sq. Miles)	3.26*	3.13	6.3	5.89

* The overall coverage footprint figures at PCS frequencies from Site 1 and Site 2 referenced in the table above differ from those figures included in the Docket No. 419 application. (See Application narrative pp. 3-4). The figures provided in response to this interrogatory are the corrected figures.

Question No. 5

What is the signal strength for which Cellco designs its system? For in-vehicle coverage? For in-building coverage? Does this signal strength differ according the different frequencies Cellco is licensed to use?

Response

Cellco's network design threshold is -85 dBm for reliable in-vehicle service and -75 dBm for reliable in-building service. Cellco's design threshold (-85 dBm) is the same for all of its operating frequencies.

Question No. 6

What is the existing signal strength in those areas Cellco is seeking to cover from this facility? At what frequencies?

Response

Cellco's existing signal strength in the area around the Waterford NE Facility ranges from -86 dBm to -98 dBm at PCS (1900 MHz) and cellular (850 MHz) frequencies.

Question No. 7

Does Cellco have any statistics on dropped calls in the vicinity of the proposed facility? If so, what do they indicate? Does Cellco have any other indicators of substandard service in this area?

Response

For those sectors of adjacent cell sites directed toward the Waterford NE search area, Cellco experiences dropped calls at an average rate of 2.75% and ineffective attempts at an average rate of 1.96%. Cellco's network design objective for dropped calls and ineffective attempts is less than one percent (1%). Other indicators of substandard service include the results of monthly drive tests, customer complaints, propagation modeling data and system performance data.

Question No. 8

What are the lengths of the coverage gaps on Interstate 395 that Cellco is seeking to cover from the proposed sites at cellular frequencies? At PCS frequencies?

Response

Existing coverage gaps along I-395 in northeast Waterford total approximately 2.5 miles at PCS frequencies and 0.6 miles at cellular frequencies.

Question No. 9

What are the coverage gaps on local streets that Cellco would cover from the proposed site at cellular frequencies? At PCS frequencies?

Response

Old Colchester Road	A total gap of 0.1 miles @ cellular frequencies A total gap of 1.5 miles @ PCS frequencies
Moxley Hill Road/Unger Road	A total gap of 0.5 miles @ cellular frequencies A total gap of 1.1 miles @ PCS frequencies
Fire Street/Huntsbrook Road	A total gap of 0.5 miles @ cellular frequencies A total gap of 3.0 miles @ PCS frequencies

Question No. 10

What are the distances Cellco could cover from the proposed sites on the local streets identified in the response to the previous question? At what frequencies?

Response

Site 1

Old Colchester Road	Approximately 0.1 miles @ cellular frequencies Approximately 1.5 miles @ PCS frequencies
Moxley Hill Road/Unger Road	Approximately 0.5 miles @ cellular frequencies Approximately 0 miles @ PCS frequencies
Fire Street/Huntsbrook Road	Approximately 0.5 miles @ cellular frequencies Approximately 0.67 miles @ PCS frequencies

Site 2

Old Colchester Road	Approximately 0.1 miles @ cellular frequencies Approximately 1.5 miles @ PCS frequencies
Moxley Hill Road/Unger Road	Approximately 0.7 miles @ cellular frequencies Approximately 0 miles @ PCS frequencies
Fire Street/Huntsbrook Road	Approximately 0.5 miles @ cellular frequencies Approximately 0.8 miles @ PCS frequencies

Question No. 11

Quantify the amounts of cut and fill that would be required to develop the proposed facility at both proposed locations.

Response

Site 1	Site 2
Cut - 286.9 c.y.	Cut – 84.9 c.y.
Fill - 280.9c.y.	Fill – 476.5 c.y.

Question No. 12

Would any blasting be required at either of the proposed locations?

Response

Cellco does not anticipate the need for blasting to develop a cell site at either Site 1 or Site 2. A more thorough geotechnical survey will be completed if one of the two alternate cell sites is approved by the Council. The geotechnical survey would be provided to the Council as a part of Cellco's Development and Management Plan.

Question No. 13

Describe the fuel storage and containment system for Cellco's diesel-fueled generator.

Response

At Site 1, Cellco proposes the installation of a diesel-fueled generator to provide back-up power to the cell site. The generator will maintain a 220 gallon belly tank. The tank is double-walled and contains leak detection alarms. As an additional level of spill containment, Cellco's generator room floor itself has been lowered several inches and is capable of containing 120% of the volume of all generator fluids (diesel fuel and other engine fluids) in the unlikely event of a complete generator failure. Like the diesel fuel tank, the generator room floor maintains leak detection alarms. All leak detection alarms are monitored remotely by Cellco's switch operators 24/7.

At Site 2, Cellco will install a propane-fueled generator inside the 12' x 24' equipment shelter. The shelter and a 1,000 gallon propane tank will be located inside the fenced facility compound. Cellco's generator room floor has been lowered several inches and is capable of containing more than 120% of the volume of all generator fluids in the unlikely event of a complete generator failure. The generator room floor maintains leak detection alarms. All leak detection alarms are monitored remotely by Cellco's switch operators 24/7.

Question No. 14

How would Cellco mount its antennas to the proposed tower?

Response

At both the Site 1 and Site 2 tower locations, Cellco intends to attach its antennas to a low-profile square antenna platform.

Question No. 15

Would the tower's setback radius encroach on any adjoining properties from the proposed location on the Padgett property? If so, state the distance of the encroachment and who owns these properties?

Response

No. The closest adjacent property line to the Site 2 tower is located approximately 160 feet to the east, the property owned by Brian Wohlforth.

Question No. 16

Would Cellco's proposed facility comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?

Response

Both the proposed Site 1 and Site 2 facilities would comply with the USFWS guidelines for minimizing impact to bird species. Please refer to the Migratory Bird Impact Evaluation prepared by Vanasse Hangen Brustlin, Inc., dated July 13, 2011 included in Attachment 2.

Question No. 17

Would either of the proposed sites impact an Important Bird Area identified by the Audubon Society?

Response

Neither the Site 1 nor Site 2 facilities would impact any Important Bird Area ("IBA") identified by the Connecticut Audubon Society. The closest IBA is the Connecticut College Arboretum in New London, approximately 0.85 mile to the south of Site 1 and Site 2. Please refer to the Migratory Bird Impact Evaluation prepared by Vanasse Hangen Brustlin, Inc., dated July 13, 2011 included in Attachment 2.

Question No. 18

How many trees with a diameter at breast height of six inches or more have to be removed for the construction of the facility at Site 1? At Site 2?

Response

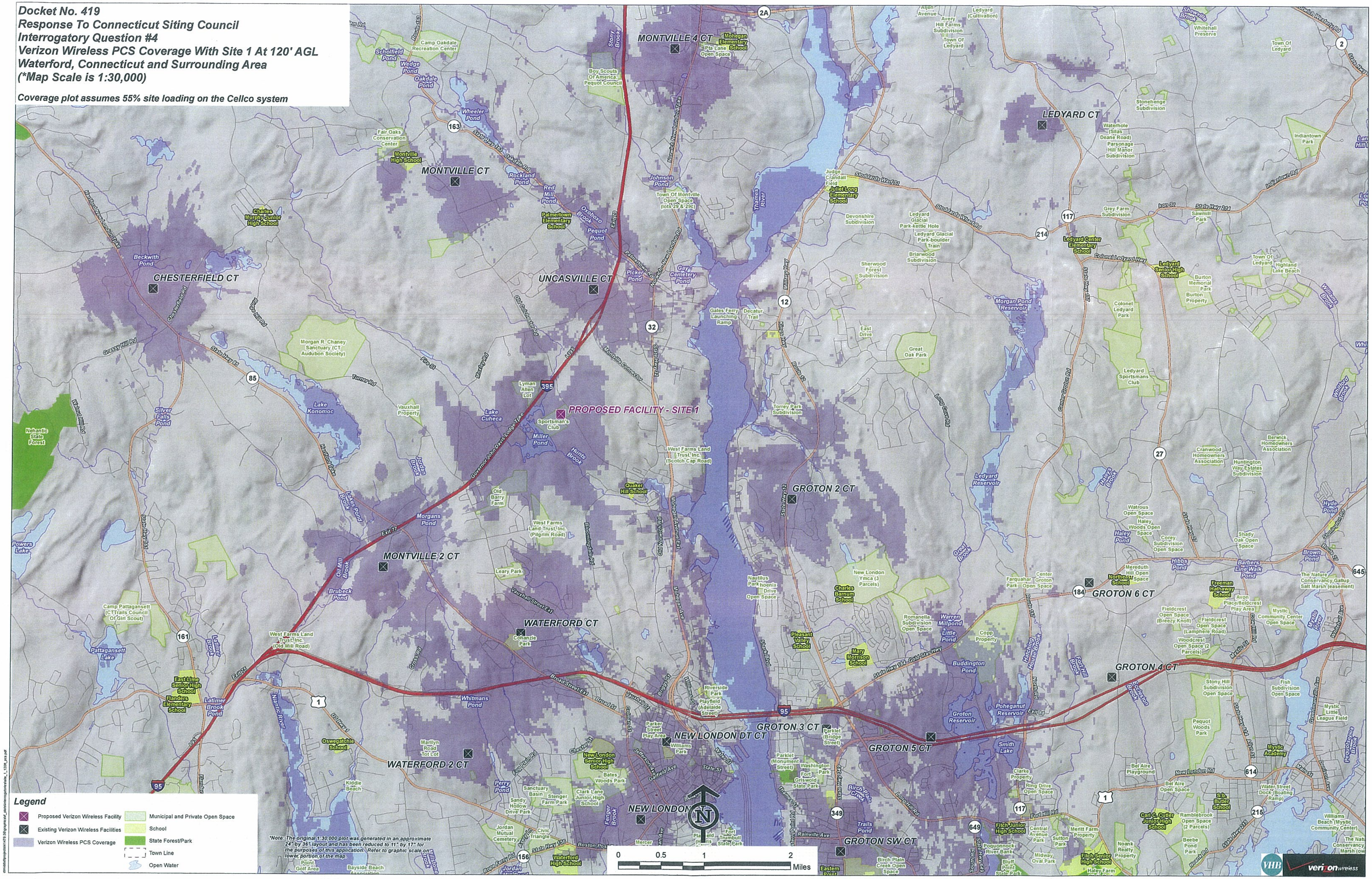
Site 1 – 45 trees

Site 2 – 5 trees

TAB 1

Docket No. 419
Response To Connecticut Siting Council
Interrogatory Question #4
Verizon Wireless PCS Coverage With Site 1 At 120' AGL
Waterford, Connecticut and Surrounding Area
*(*Map Scale is 1:30,000)*

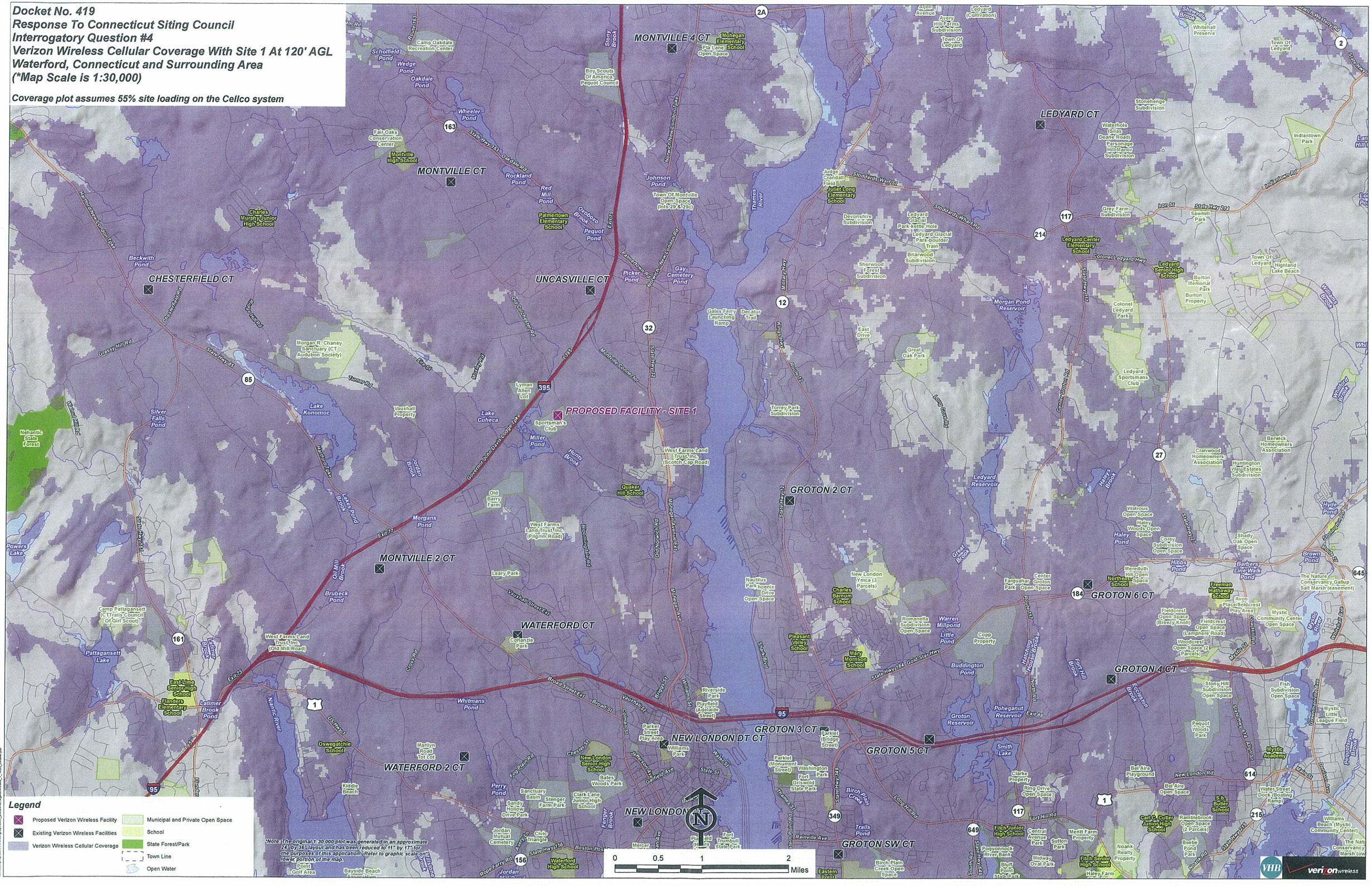
Coverage plot assumes 55% site loading on the Cellco system



PROPOSED FACILITY - SITE 1
MONTVILLE 4 CT
MONTVILLE CT
MONTVILLE 2 CT
CHESTERFIELD CT
UNCASVILLE CT
LEDYARD CT
GROTON 2 CT
GROTON 3 CT
GROTON 4 CT
GROTON 5 CT
GROTON 6 CT
GROTON SW CT
WATERFORD CT
WATERFORD 2 CT
NEW LONDON DT CT
NEW LONDON
Legend
Proposed Verizon Wireless Facility
Existing Verizon Wireless Facilities
Verizon Wireless PCS Coverage
Municipal and Private Open Space
School
State Forest/Park
Town Line
Open Water
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map
0 0.5 1 2 Miles
N
VHB
verizon wireless

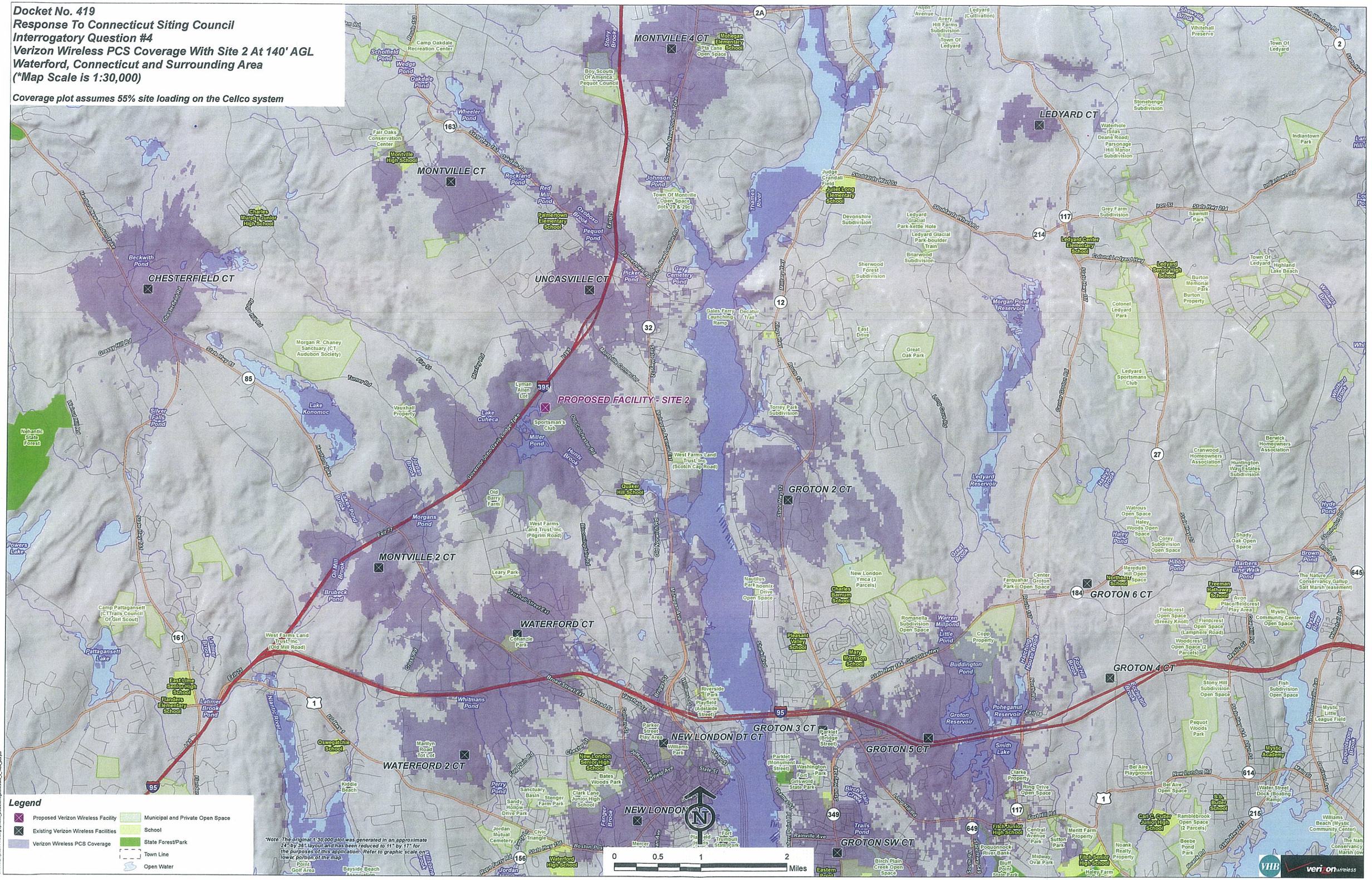
Docket No. 419
Response To Connecticut Siting Council
Interrogatory Question #4
Verizon Wireless Cellular Coverage With Site 1 At 120' AGL
Waterford, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system



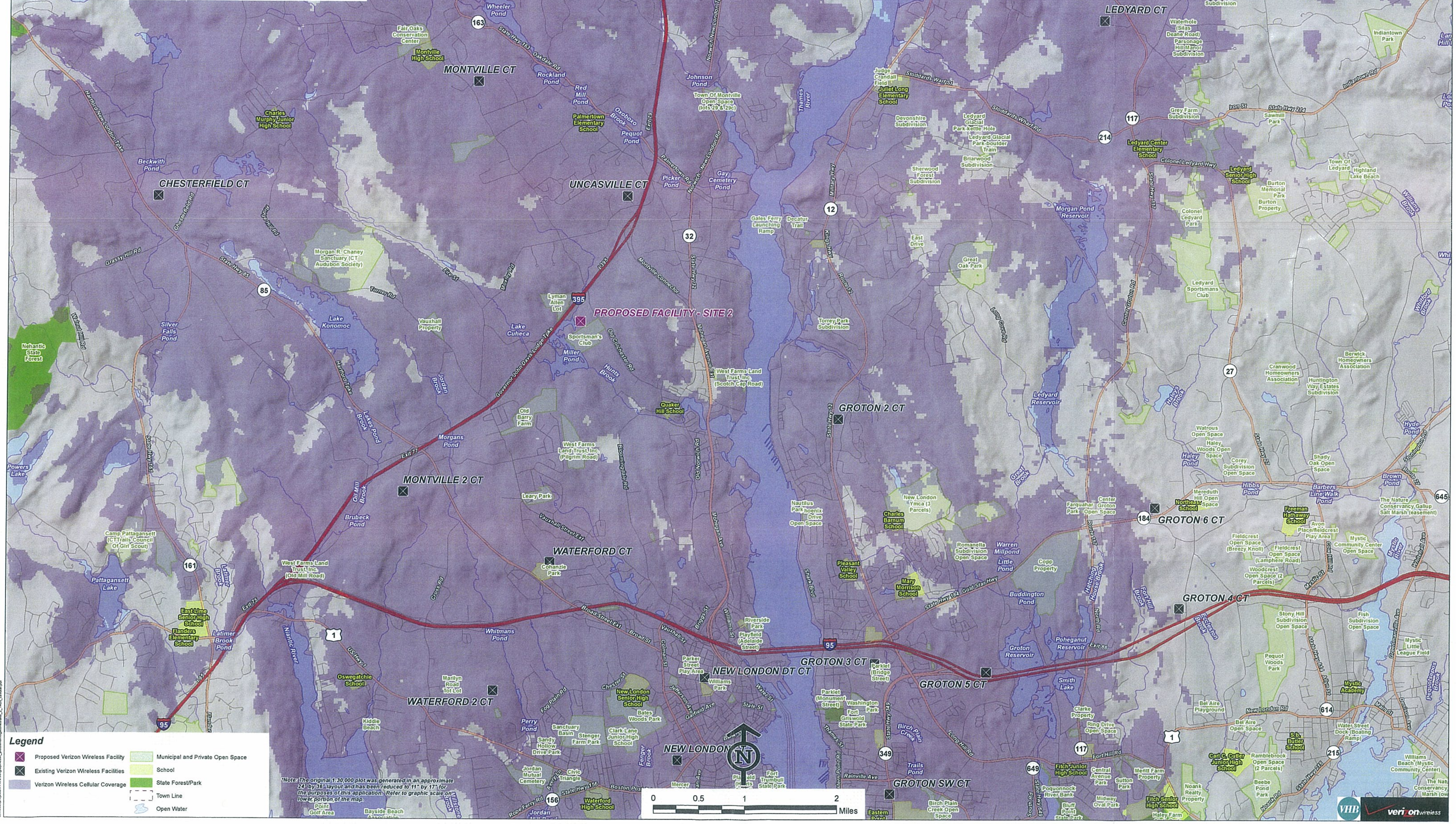
Docket No. 419
Response To Connecticut Siting Council
Interrogatory Question #4
Verizon Wireless PCS Coverage With Site 2 At 140' AGL
Waterford, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system



Docket No. 419
Response To Connecticut Siting Council
Interrogatory Question #4
Verizon Wireless Cellular Coverage With Site 2 At 140' AGL
Waterford, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system



TAB 2

Transportation
Land Development
Environmental
Services

VHB Vanasse Hangen Brustlin, Inc.

54 Tuttle Place
Middletown, Connecticut 06457
860 632-1500
FAX 860 632-7879

Memorandum

To: Ms. Alexandria Carter
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

Date: July 13, 2011

Project No.: 41479.56

From: Dean Gustafson
Senior Environmental Scientist

Re: Connecticut Siting Council Docket No. 419
Migratory Bird Impact Evaluation
Proposed Verizon Wireless Facility
146 & 164 Old Colchester Road
Waterford, Connecticut

In response to the Connecticut Siting Council Interrogatories Nos. 16 and 17 for Docket No. 419, Vanasse Hangen Brustlin, Inc. (VHB) provides the following information with respect to potential impacts on migratory birds from a wireless telecommunications facility (Facility) proposed by Verizon Wireless at one of two locations in the northeast portion of the Town of Waterford, Connecticut, described in detail below.

SITE 1

This candidate is located on municipally-owned property at 146 Old Colchester Road (identified herein as the "Site 1") in Waterford, Connecticut. Site 1 consists of approximately 45.9 acres of wooded, undeveloped land. The proposed Facility would be located in the eastern portion of the host property, roughly 675 feet to the west of Old Colchester Road, with access provided by an existing dirt road. Land use within the immediate vicinity of the proposed Facility consists of undeveloped forest and a few residential properties. Land use in the general vicinity of the proposed Facility is comprised of undeveloped woodlands, the Interstate 395 traffic corridor, medium-density residential development and several overhead electrical utility rights of way and their associated infrastructure.

SITE 2

This candidate is located on private property at 164 Old Colchester Road (identified herein as the "Site 2") in Waterford, Connecticut. Site 2 consists of approximately 12.84 acres of land and is currently occupied by a single-family dwelling consisting of cleared and disturbed areas and undeveloped forest. The proposed Facility would be located at the eastern edge of a cleared area with access provided by an existing paved driveway followed by a gravel drive with the last 200 feet following a generally cleared path. Land use within the immediate vicinity of the proposed Facility consists of cleared and disturbed areas associated with the Site residence, undeveloped forest, Miller Pond and a few nearby residential properties. Land use within the general vicinity of the proposed Facility is comprised of undeveloped woodlands, the Interstate 395 traffic corridor, medium-density residential development and several overhead electrical utility rights of way and their associated infrastructure.

VHB's research revealed the proposed Facility at either Site 1 or Site 2 complies with the U.S. Fish and Wildlife Service (USFWS) guidelines for minimizing potential impacts to birds and therefore as a result no migratory bird species would be impacted by development of the proposed Facility at either location. Since no impact to migratory birds will occure, no seasonal restrictions are recommended in association with construction or operation of the proposed Facility at either Site 1 or Site 2.

Provided below is a detailed analysis of potential impacts to migratory birds from the proposed Verizon Wireless Facility and the Facility's compliance with the USFWS guidelines.

Flyways

The Connecticut coast lies within the Atlantic Flyway, one of the four generalized regional migratory bird flyways (Mississippi, Central, and Pacific being the others). This regional flyway is used by migratory birds traveling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, which generally use the coastline of Connecticut as a migration route taking advantage of the variety of coastal habitats for breeding, wintering and as vital stopover habitat as species make their way further north and south. Migratory land birds also stop along coastal habitats before making their way inland. The Connecticut shore and associated Atlantic Flyway are located approximately 7 miles south of the proposed Facility. Smaller inland migratory flyways are often concentrated along major riparian areas in Connecticut as birds make their way further inland to their preferred breeding habitats. The larger riparian features in proximity to the proposed Facility include the Thames River, located approximately 1.6 miles to the east. Therefore, since the proposed Verizon Wireless Facility is sufficiently distant from the Connecticut coast and Thames River, no adverse impact to migratory flyways would result from the proposed tower facility and therefore no seasonal restriction is recommended for the project.

Focus Areas

The Atlantic Joint Coast Venture (AJCV) is an affiliation of federal, state, regional, and local partners working together to address bird conservation planning along the Atlantic Flyway. The AJCV has identified focus areas specifying the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these focus areas. The proposed Verizon Wireless Facility is not located within one of them (refer to attached map of CT Waterfowl Focus Areas), although the Facility is located in the Upper Thames River Watershed Planning Area. The Upper Thames River Watershed Planning Area is located in northeast Connecticut and encompasses 941,371 acres consisting of 10 individual river sub-basins. These riparian areas and the numerous wetland systems within this watershed are critical to breeding and staging waterfowl in Connecticut. Protection of these aquatic resources is the focus of this planning area. Since the proposed Verizon Wireless Facility will not result in impacts to wetlands or watercourses, no adverse impact to the Upper Thames River Watershed Planning Area will result from the proposed tower project.

CTDEP Migratory Waterfowl Data

The Connecticut Department of Environmental Protection (CTDEP) created a Geographic Information System (GIS) data layer in 1999 identifying concentration areas of migratory waterfowl at specific locations in Connecticut. The intent of this data layer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

The closest migratory waterfowl area is the Hunts Brook and Smith Cover area along the Thames River approximately 1.25 miles southeast of the proposed Facility; refer to the enclosed Avian Resources Map. Species primarily utilizing this inland tidal open water habitat for non-breeding

wintering and migratory grounds include American Black Duck, Bufflehead, Common Goldeneye, Red-breasted Merganser, Canvasback and Mallard. The exception to this group is American Black Duck which may also use the identified migratory waterfowl area as breeding habitat. Black duck nesting preferences include a wide variety of wetland habitats with proximity to open water, dense ground cover and low human disturbance[1]. Three important factors were considered in our determination that no impact to migratory or wintering waterfowl will result from the proposed development (and therefore no seasonal restrictions are recommended for the project), including: 1) the proposed project will not directly impact this migratory, wintering and breeding (limited to Black Duck) waterfowl area; 2) there is sufficient buffer from this area to the proposed development; and, 3) wetland areas surrounding the proposed Facility would not be impacted.

Important Bird Areas and Sites

Audubon Connecticut has identified 27 Important Bird Areas and Sites (IBAs) in the state. The closest IBA to the proposed Facility is the Connecticut College Arboretum in New London, approximately 0.85 mile to the south. This forested site has been identified as an IBA by Audubon Connecticut for its long-term research and monitoring of forest bird populations. Bird populations were censused every 2-4 years between 1953 and 1976, and annually between 1982 and 1997. The censuses will continue every 1-2 years into the future. Construction activities associated with the proposed Facility would not impact forest birds using the Connecticut College IBA. The only other IBA in New London County is Barn Island Wildlife Management Area in Stonington, located over 13 miles east/southeast of the proposed Facility. Therefore, no seasonal restrictions are recommended for the project.

Critical Habitat

Connecticut Critical Habitats depicts the classification and distribution of 25 rare and specialized wildlife habitats in the state resulting in the creation of habitat maps to be used in land use planning and natural resource protection. It represents a compilation of ecological information collected over numerous years by state agencies, conservation organizations and many individuals. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection. The nearest Critical Habitat is associated with an Atlantic white cedar swamp known as Ledyard Pine Swamp located in Ledyard approximately 3.5 miles northeast of the proposed Facility. Due to the distance between the proposed Facility and this nearest Critical Habitat no impact to Critical Habitats will result from the proposed development and therefore no seasonal restrictions are recommended for the project.

Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes are randomly located to sample habitats that are representative of an entire region. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a 3-minute count is conducted. During the count, every bird seen within a 0.25-mile radius or heard is recorded. The resulting data are used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities. The nearest survey route is located approximately 0.9 mile north of the proposed Facility. Bird survey routes do not represent a potential restriction to development, including the proposed Facility.

[1] Bevier, L.R., The Atlas of Breeding Birds of Connecticut, (State Geological and Natural History Survey of Connecticut, Dept. of Environmental Protection, Bulletin 113, 1994), 74.

Hawk Watch Site

The Hawk Migration Association of North America (HMANA) is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment, and appreciation of raptor migration. HMANA collects hawk count data from almost two hundred affiliated raptor monitoring sites throughout the United States, Canada, and Mexico, identified as "Hawk Watch Sites." The nearest Hawk Watch Site to the proposed Facility is in South Windsor approximately 35 miles to the north, beyond the limits of the study area shown on the enclosed Avian Resources Map. Due to the significant distance to the nearest Hawk Watch Site, no adverse impact to migrating hawks is anticipated from the proposed development and therefore no seasonal restrictions are recommended for the project.

Bald Eagle Site

Bald Eagle Sites consist of locations of midwinter Bald Eagle counts from 1986-2005 with an update provided in 2008. This survey was initiated in 1979 by the National Wildlife Federation. This database includes data from 1986-2005 midwinter counts and includes some statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least 4 years and where at least 4 eagles were counted in a single year. The nearest Bald Eagle Site to the proposed Facility is at the mouth of the Thames River into Long Island Sound approximately 7.5 miles to the south, beyond the limits of the study area shown on the enclosed Avian Resources Map. Due to the significant distance to the nearest Bald Eagle Site, no impact to Bald Eagles is anticipated from the proposed development and therefore no seasonal restrictions are recommended for the project.

Compliance with USFWS's Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers

The United States Fish and Wildlife Service's *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000), recommends 12 voluntary actions be implemented in order to mitigate tower strikes caused by the construction of telecommunications towers:

1. *Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communication tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.*

Response: Collocation on an existing building, tower or non-tower structure is not available while achieving the required radio frequency (RF) coverage objectives of the proposed Facility.

2. *If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.*

Response: The proposed Verizon Wireless Facility consists of a 130-foot monopole tower at Site 1 or a 150-foot monopole tower at Site 2 which requires neither guy wires nor lighting.

3. *If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.*

Response: Multiple towers are not proposed to be constructed at the subject property. The proposed 130-foot or 150-foot monopole tower will accommodate three additional wireless telecommunications carriers to minimize the need to construct additional towers.

4. *If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.*

Response: There are no existing antenna farms in the area that would satisfy the RF coverage objectives for this portion of Waterford. The proposed tower's location is not subject to a high incidence of fog, mist or low ceilings and is not located within the Atlantic Flyway or a known migratory flyway. According to CTDEP, no federal and state endangered species are located in the vicinity of the proposed project.

5. *If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used.*

Response: The proposed tower height of 130 feet or 150 feet is less than 199 feet AGL and does not require lighting as determined by a FAA review.

6. *Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species.*

Response: The proposed tower will be unguyed and therefore visual markers are not required.

7. *Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.*

Response: The proposed tower and appendant Facility is sited, designed, and constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible. The Facility is located near a public road and in proximity to developed residential properties and therefore will not result in habitat fragmentation.

8. *If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.*

Response: Significant numbers of breeding, feeding, or roosting birds are not known to habitually use the proposed tower construction area at either Site 1 or Site 2.

9. *In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.*

Response: The proposed unguyed and unlit tower has been designed to accommodate three additional users antennas for a total of four users on this tower.

10. *Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.*

Response: Security lighting will be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer.

11. *If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.*

Response: With prior notification to Verizon Wireless, USFWS personnel would be allowed access to the proposed Facility for evaluation.

12. *Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.*

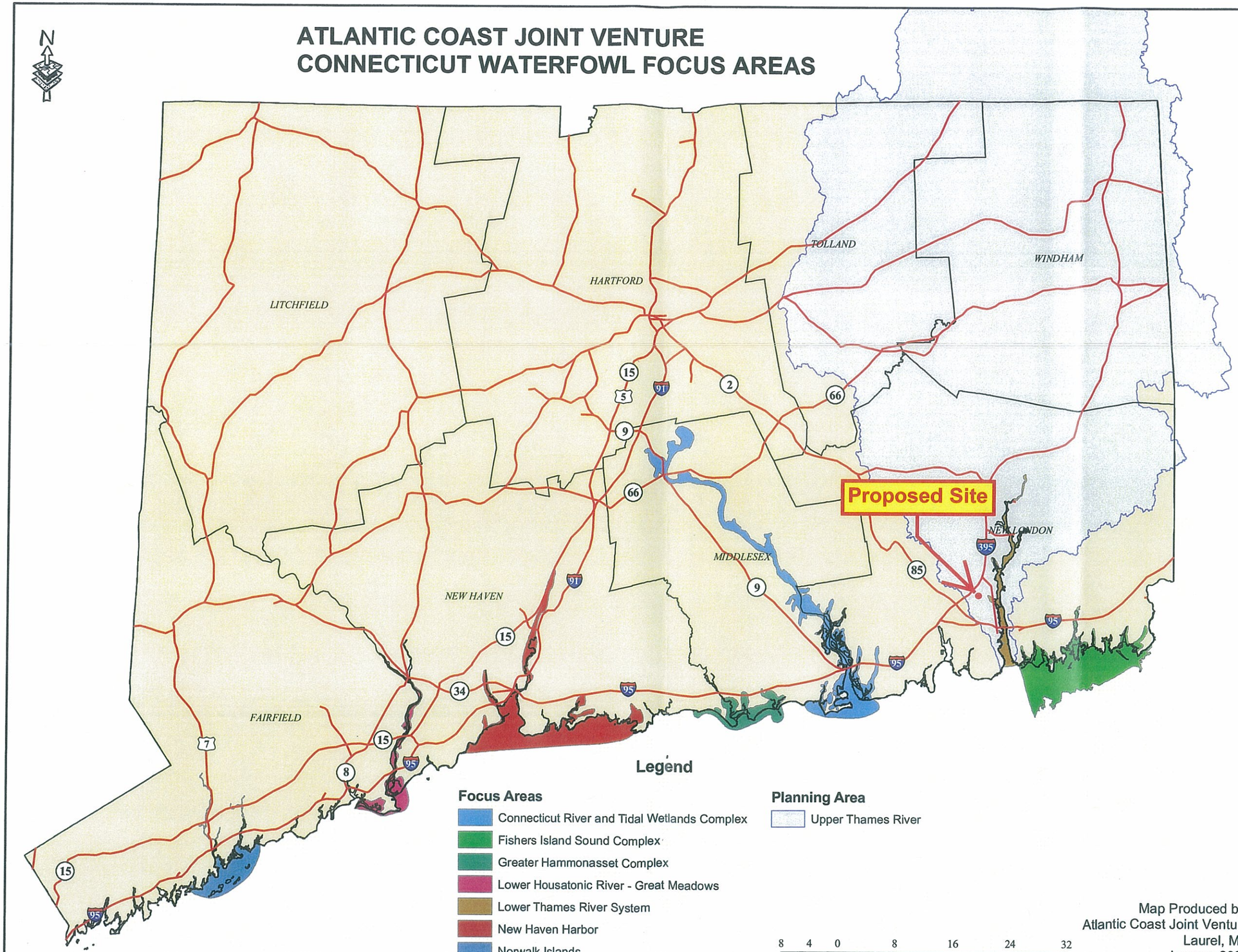
Response: If the proposed tower was no longer in use or determined to be obsolete, it would be removed within 12 months of cessation of use.

Summary
Potentially impacted waterfowl species: none
Closest Important Bird Area: Connecticut College Arboretum (0.85± mile south)
Closest CTDEP Critical Habitat: Ledyard Pine Swamp (3.5± miles northeast)
Recommended Seasonal Restriction: None

cc: Kenneth C. Baldwin, Robinson & Cole LLP

Enclosures

ATLANTIC COAST JOINT VENTURE
CONNECTICUT WATERFOWL FOCUS AREAS



Legend

Focus Areas

- Connecticut River and Tidal Wetlands Complex
- Fishers Island Sound Complex
- Greater Hammonasset Complex
- Lower Housatonic River - Great Meadows
- Lower Thames River System
- New Haven Harbor
- Norwalk Islands

Planning Area

- Upper Thames River

8 4 0 8 16 24 32 Kilometers

Map Produced by:
Atlantic Coast Joint Venture
Laurel, MD
January 2005

Avian Resources Map

Proposed Verizon Wireless
Telecommunications Facility
Waterford NE
164 Old Colchester Road &
146 Old Colchester Road
Waterford, Connecticut

Legend

- Alternate Facility
- Proposed Facility
- Bald Eagle Site
- Hawk Watch Site
- Important Bird Site
- Bat Site
- Breeding Bird Survey Route
- Town Boundary
- Natural Diversity Database (CTDEP, 8/2010)
- Migratory Waterfowl (CTDEP, 1999)
- Important Bird Area
- Federal Open Space (CTDEP, 2004)

CT DEP Property (CT DEP, 12/2009)

- State Forest
- State Park
- DEP Owned Waterbody
- State Park Scenic Reserve
- Historic Preserve
- Natural Area Preserve
- Fish Hatchery
- Flood Control
- Other
- State Park Trail
- Water Access
- Wildlife Area
- Wildlife Sanctuary
- Open Water

Bird Data Sources:
Bald Eagle Sites: Midwinter Bald Eagle Count Survey website http://ocid.nacse.org/nbii/eagles/state.php?php_screen=first&statein=Connecticut
Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website: http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut
Migratory Waterfowl: CTDEP GIS, 1999
Important Bird Sites/Areas: National Audubon Society, Audubon Connecticut http://ct.audubon.org/BirdSci_IBAs.html
Breeding Bird Survey Routes: Patuxent Wildlife Research Center of the U.S. Geological Survey and the Canadian Wildlife Service's National Wildlife Research Centre http://www.nationalatlas.gov/mld/bbsrtsl.html

Base Map Source: 2004 aerial photograph with 0.5-foot resolution.

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