



**TECHNICAL REPORT  
to the  
TOWN OF BRANFORD**

**T-MOBILE NORTHEAST LLC  
(T-MOBILE)**

**PROPOSED BRANFORD  
MONOPOLE TOWER TELECOMMUNICATIONS FACILITY**

**77-145 PLEASANT POINT ROAD  
BRANFORD, CONNECTICUT**

*T-Mobile Northeast LLC  
35 Griffin Road South  
Bloomfield, Connecticut 06002*

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## Introduction

T-Mobile Northeast LLC, a subsidiary of T-Mobile USA, Inc. d.b.a. T-Mobile ("T-Mobile") hereby submits this Technical Report to the Town of Branford ("Town") pursuant to General Statutes § 16-50f. T-Mobile proposes to install a wireless telecommunications facility (the "Facility") on an approximately 92.3 acre parcel located at 77-145 Pleasant Point Road and owned by Tilcon, Inc. (the "Property" or the "Site"). The Facility would consist of a 160 foot monopole structure, with an antenna array mounted on the tower at a centerline of approximately 157'9" above grade level ("AGL"), and related equipment located nearby on a concrete equipment pad. The Facility, if approved, would provide wireless communications service in this area of Branford.

The purpose of this Technical Report is to provide the Town with information concerning the Facility. Section One addresses the need for the proposed Facility. Section Two details the site selection process, including an analysis of other sites considered and rejected by T-Mobile. Section Three describes the design for the Facility and the environmental effects, if any, associated with the proposed Facility.

Correspondence and/or communications regarding this Technical Report should be addressed to the attorneys for T-Mobile:

Cohen and Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604  
(203) 368-0211

Attention: Julie D. Kohler, Esq.  
Jesse A. Langer, Esq.

## **SECTION 1**

### **Site Justification**

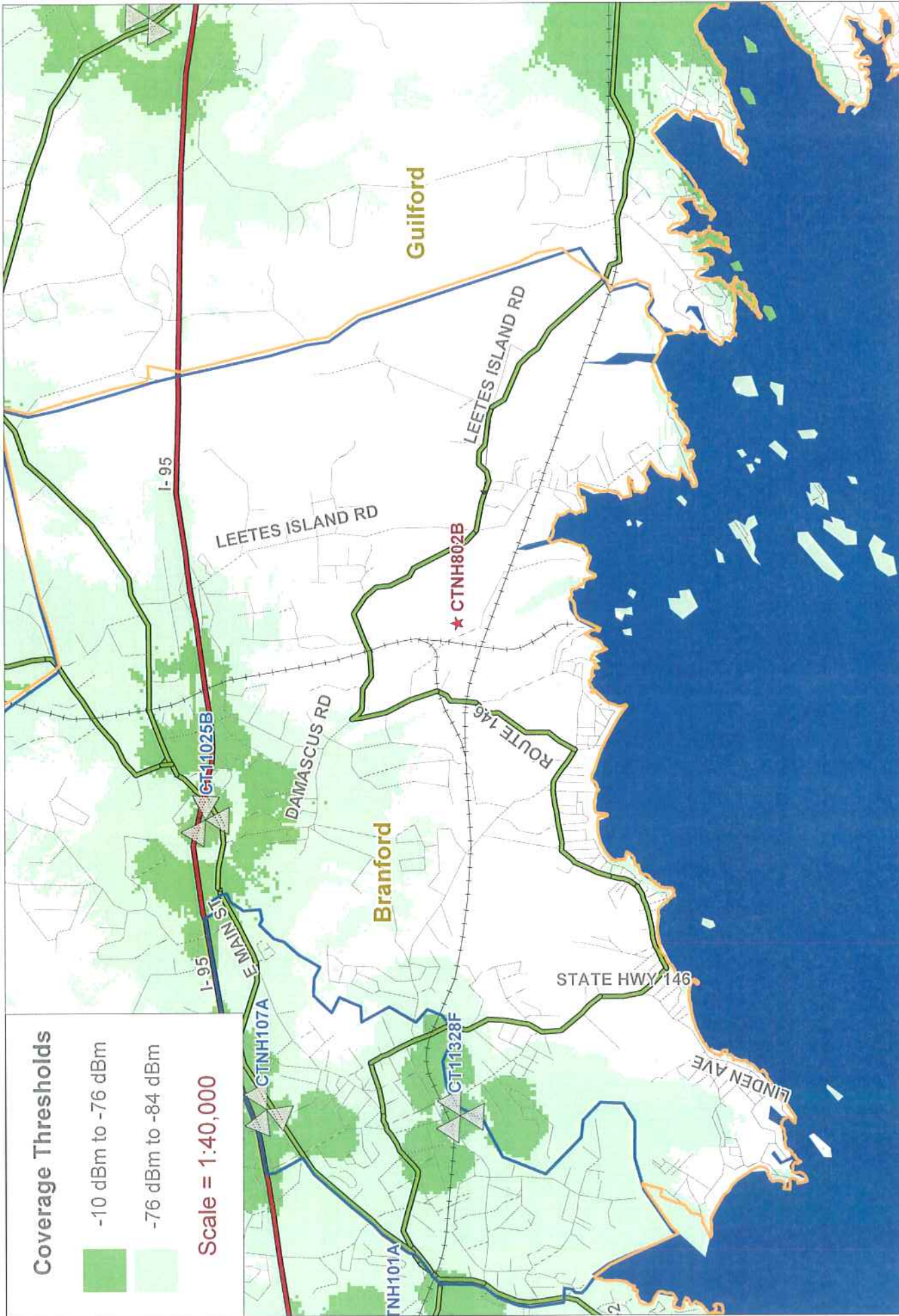
The proposed Facility is necessary to enhance wireless service availability to existing and future T-Mobile wireless device users. Enhanced coverage provided by the Facility would allow T-Mobile subscribers to use voice and data services reliably as well as to connect to Emergency 911 services. The intended coverage area of the Facility includes sections around Route 146, Leetes Island Road and Pleasant Point Road, south of Interstate 95, as well as the Amtrak rail line that passes through the area. Additionally, the Facility would provide capacity relief for the current sites that presently cover this area from outlying areas.

Included herein are propagation plots prepared by T-Mobile that depict (1) coverage from existing and approved surrounding sites; (2) predicted coverage from the proposed Site with an antenna array mounted on the monopole at 157'9" AGL; and (3) coverage from the proposed Site with the existing and approved sites.

Together, these propagation plots demonstrate the need for a site in the area of the proposed Facility and the effectiveness of the proposed Facility in meeting the need for wireless service in this area of Branford.

# **ATTACHMENT A**

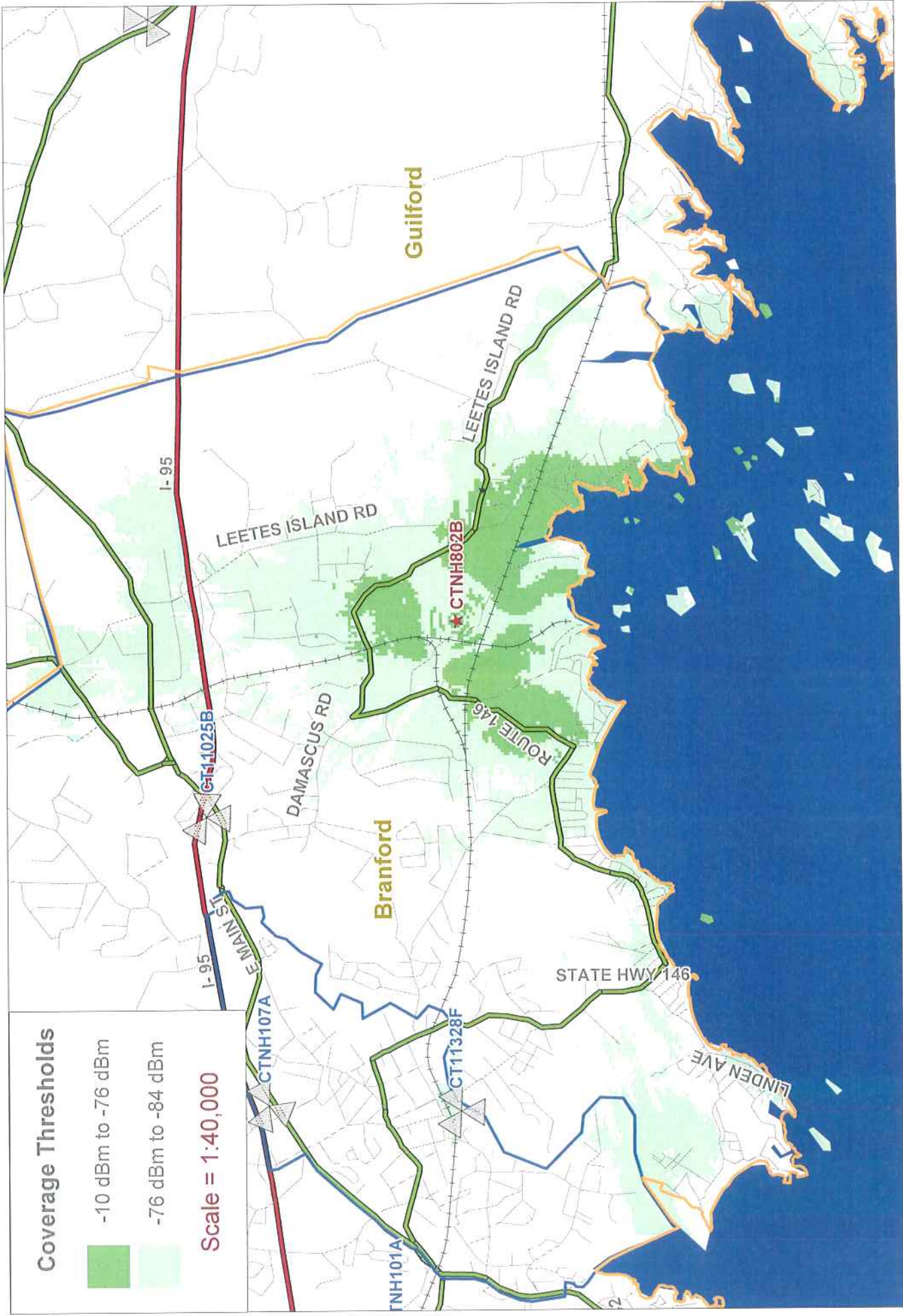




**- T-Mobile -**

Existing T-Mobile On Air Coverage  
 Dark Green - In Building Coverage  
 Light Green - In Vehicle Coverage





**Coverage Thresholds**

- 10 dBm to -76 dBm
- 76 dBm to -84 dBm

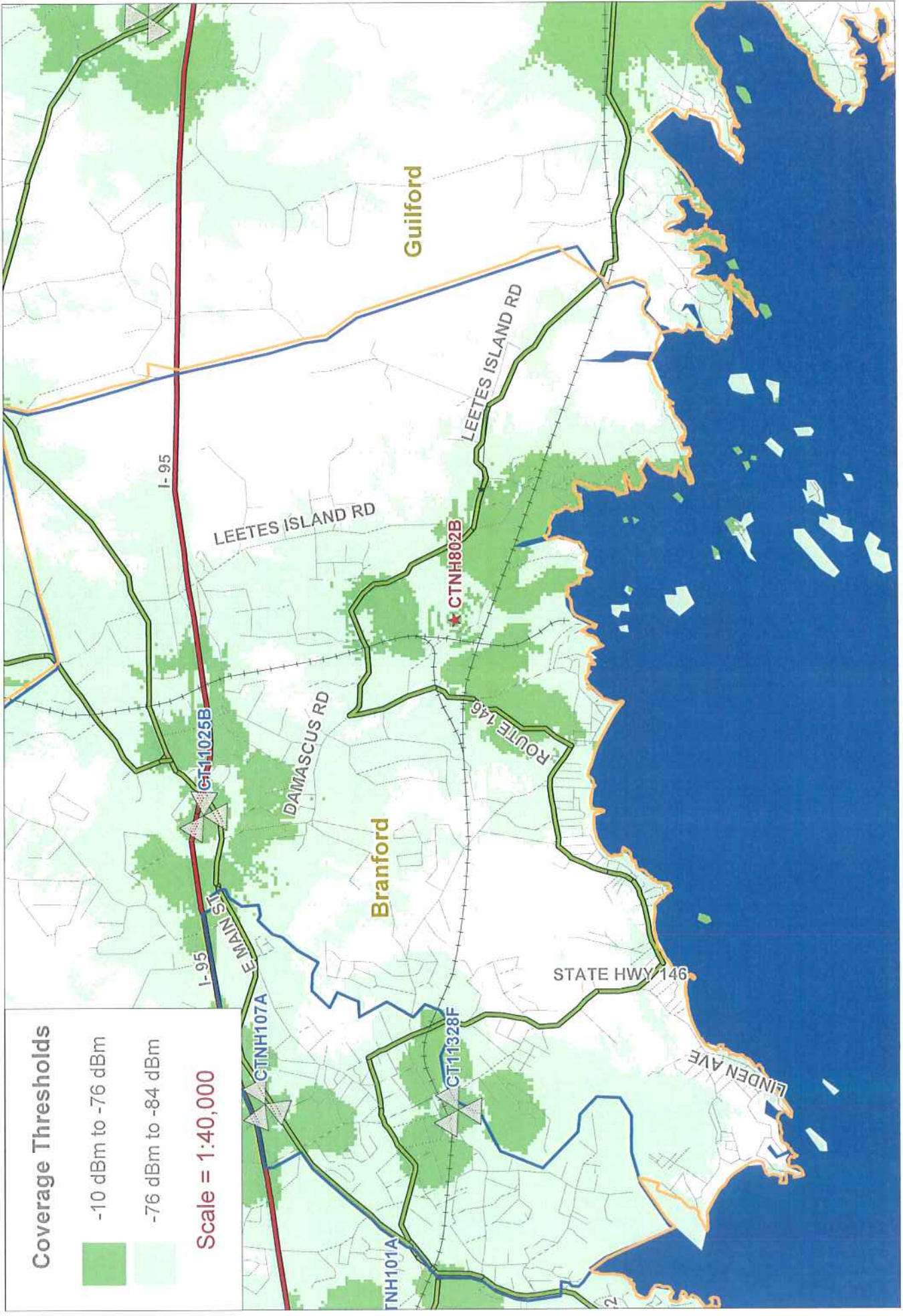
Scale = 1:40,000

Coverage Thresholds  
 Dark Green - In Building Coverage  
 Light Green - In Vehicle Coverage

**- T-Mobile -** T-Mobile Proposed CTNH802B @ 157' 9"







**Coverage Thresholds**  
 Dark Green - In Building Coverage  
 Light Green - In Vehicle Coverage

**Existing T-Mobile On Air Coverage**  
 With CTNH802B @ 157' 9"

**- T-Mobile -**





## SECTION 2

### Site Search Process and Selection

General Statutes § 16-50l (e) requires T-Mobile to provide the Town with a technical report considering, *inter alia*, "the site selection process." When filing its application for a certificate of environmental compatibility and public need with the Connecticut Siting Council, T-Mobile must include a statement that describes "the narrowing process by which other possible sites were considered and eliminated." Regs., Conn. State Agencies § 16-50j-74(j). In accordance with these requirements, this Technical Report details the description of the general site search process, the identification of the target search area and the alternative locations considered for development of the proposed Facility.

As a wireless carrier licensed by the Federal Communications Commission ("FCC"), T-Mobile investigates prospective sites in an area based upon the needs of its wireless infrastructure. T-Mobile chooses a target area central to the area in which it has identified coverage and/or capacity needs after extensive research of that particular area. The area targeted is the geographical location where the installation of a site would, based on general radio frequency engineering and system design standards, likely address the identified problem. T-Mobile's goal is to locate sites that will remedy coverage or capacity issues, and cause the least environmental impact. In this case, T-Mobile has searched for a site in this area, and has identified the Property as the best possible location for a wireless facility.

T-Mobile is sensitive to State and local desires to minimize the construction of new towers, and it does not pursue development of a new facility where an acceptable existing structure can be found. In general, T-Mobile's site acquisition personnel study the area in and near the search area to determine whether any suitable structure exists. If T-Mobile cannot find a structure with appropriate height and structural capabilities, it turns to industrial and commercial areas or individual parcels that have appropriate environmental and land use characteristics. The list of potential locations is limited by the willingness of property owners to make their properties available for a telecommunications facility. Radio frequency engineers study potentially suitable and available locations to determine whether those locations will meet the technical requirements for a telecommunications facility. The list of possible alternative sites may be further narrowed by T-Mobile's analysis of potential environmental effects and benefits. The weight given to relevant factors varies for each search, depending on the nature of the area and the availability of potential sites.

There are no existing towers, transmission line structures or other suitable structures in the area of Branford, which is the subject of this site search. The nearest towers and suitable structures are already in use by T-Mobile. Moreover, any other existing towers are too far from the target area to provide coverage specifically to the

target area. Finally, there are no other suitable areas of commercial or industrial use in or near the target area.

T-Mobile considered several other locations that might have addressed the coverage gap in this area of Branford. The reasons T-Mobile did not select any of these locations are outlined below:

1. Pleasant Point Road (Map H08, Block 004, Lot 00001). This is a 9.4 acre parcel owned by Tilcon, Inc. Tilcon was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.

2. Totoket Road Rear (Map H08, Block 005, Lot 00005). This is a 5.6 acre parcel owned by Tilcon, Inc. Tilcon was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.

3. 86 Totoket Road (H09, Block 001, Lot 00001). This is a 25.5 acre parcel owned by Pine Orchard Yacht and Country Club, Inc. This property is subject to a deed restriction which would prevent the construction of a telecommunications facility.

4. Young's Pond Park. This is a park owned by the Town. The Town was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.

5. 190 Totoket Road (Map H09/J09, Block 003, Lot 00002). This is a 21.16 acre parcel owned by Tilcon, Inc. This parcel hosts a structure with a 35 foot rooftop. T-Mobile's radio frequency ("RF") engineers reviewed the structure and determined that the height was inadequate and that the site was too far to the south to afford coverage to the target area. Tilcon was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.

6. Pleasant Point Road (Map H09, Block 003, Lot 00002). This is a 24 acre parcel owned by the Town. The Town was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.

7. Pleasant Point Road (Map J08, Block 001, Lot 00027). This is a 17 acre parcel owned by the State of Connecticut. This parcel is subject to a deed restriction which would prevent the construction of a telecommunications facility.

8. Pleasant Point Road (Map H08, Block 003, Lot 003.1). This parcel is 11.6 acres and is owned by Tilcon, Inc. The parcel does host existing 40 foot wooden poles, which are used by boat pilots to enter Stony Creek and the Tilcon dock facility. T-Mobile's RF engineers reviewed these structures for purposes of co-location and determined that the structures were not suitable. The height would be too low to afford coverage to the target area. Tilcon was not interested in leasing this parcel to T-Mobile for the construction of a telecommunications facility.



Consequently, T-Mobile has determined that the Property is superior to the other properties in the area. There are no residences located within 1,000 feet of the proposed Facility. Additionally, the proposed Site would be fairly secluded and shielded by existing mature vegetation. The majority of the year round views of the Facility would consist of open-water views on the Long Island Sound.



**SECTION 3**

**PROPOSED SITE**

**77-145 Pleasant Point Road  
Branford, Connecticut**

Land of  
Tilcon, Inc.

Map H08/Block 2/Lot 1  
92.3 Acres

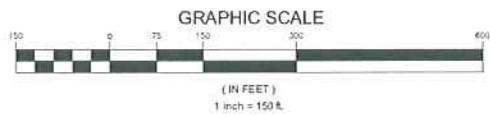
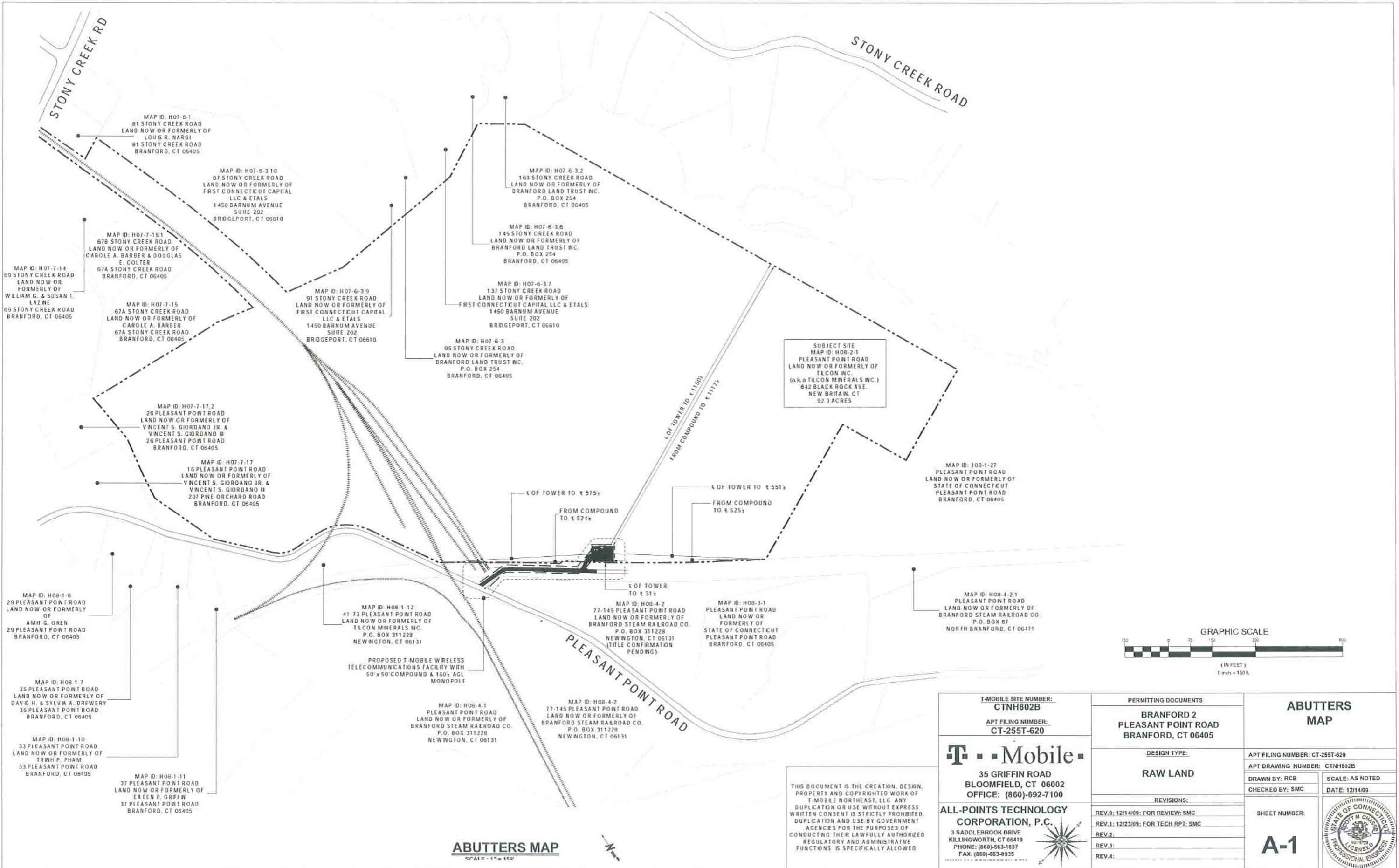
## GENERAL FACILITY DESCRIPTION

The proposed Site would consist of a 2,500 square foot compound, which would sit within a 4,800 square foot area leased to T-Mobile. The Facility would be located in the southeastern portion of an approximately 92.3 acre parcel located on Pleasant Point Road in Branford, Connecticut. The Property is currently vacant and undeveloped. The Facility would include a 160 foot monopole structure with T-Mobile's antenna array mounted on the tower with T-arms.

Related equipment cabinets would be placed nearby within the leased area. The equipment would be surrounded by an eight foot stockade fence. Access to the proposed tower would be across a proposed gravel drive, which T-Mobile would install along an abandoned railroad bed. Utility connections would extend from Pleasant Point Road.

# **ATTACHMENT B**





**ABUTTERS MAP**  
SCALE: 1" = 150'

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<b>T-Mobile</b> 35 GRIFFIN ROAD BLOOMFIELD, CT 06002 OFFICE: (860)-692-7100	<b>T-MOBILE SITE NUMBER:</b> <b>CTNH802B</b>	<b>PERMITTING DOCUMENTS</b> <b>BRANFORD 2</b> <b>PLEASANT POINT ROAD</b> <b>BRANFORD, CT 06405</b>	<b>ABUTTERS MAP</b>
	<b>APT FILING NUMBER:</b> <b>CT-255T-620</b>	<b>DESIGN TYPE:</b> <b>RAW LAND</b>	<b>APT FILING NUMBER:</b> CT-255T-620 <b>APT DRAWING NUMBER:</b> CTNH802B <b>DRAWN BY:</b> RCB <b>CHECKED BY:</b> SMC
<b>ALL-POINTS TECHNOLOGY CORPORATION, P.C.</b> 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419 PHONE: (860)-663-1697 FAX: (860)-663-0935	<b>REVISIONS:</b> REV.0: 12/14/09: FOR REVIEW: SMC REV.1: 12/23/09: FOR TECH RPT: SMC REV.2: REV.3: REV.4:	<b>SHEET NUMBER:</b> <b>A-1</b>	



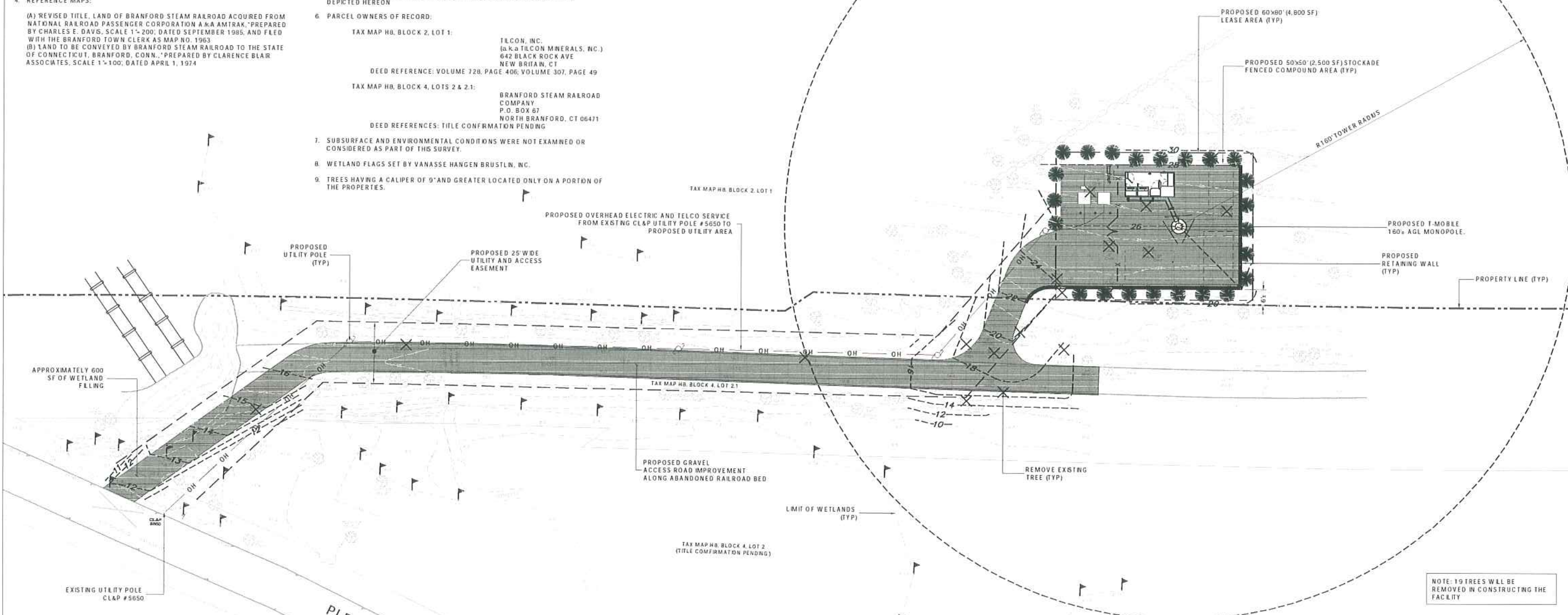
**NOTES**

- THIS MAP AND SURVEY HAVE BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.  
  
THE TYPE OF SURVEY PERFORMED AND THE MAPPED FEATURES DEPICTED HEREON ARE IN ACCORDANCE WITH THE REQUIREMENTS OF A TOPOGRAPHIC SURVEY. BOUNDARY LINES DEPICTED HEREON ARE COMPILED FROM OTHER MAPS, DEEDS, AND A LIMITED FIELD SURVEY; THESE LINES DO NOT REPRESENT A PROPERTY BOUNDARY OPINION AND ARE SUBJECT TO CHANGE BASED ON A COMPLETE FIELD SURVEY.
- VERTICAL ACCURACY CLASS: 1-2. ELEVATIONS REFER TO NORTH AMERICAN VERTICAL DATUM 1988. TOPOGRAPHIC INFORMATION IS DEPICTED ONLY FOR A PORTION OF EACH PROPERTY. FIELD SURVEYED NOV. 19, 2009.
- NORTH REFERS TO REFERENCE MAPS A & B.
- REFERENCE MAPS:  
  
(A) REVISED TITLE, LAND OF BRANFORD STEAM RAILROAD ACQUIRED FROM NATIONAL RAILROAD PASSENGER CORPORATION AKA AMTRAK, PREPARED BY CHARLES E. DAVIS, SCALE 1"=200', DATED SEPTEMBER 1985, AND FILED WITH THE BRANFORD TOWN CLERK AS MAP NO. 1963  
(B) LAND TO BE CONVEYED BY BRANFORD STEAM RAILROAD TO THE STATE OF CONNECTICUT, BRANFORD, CONN., PREPARED BY CLARENCE BLAIR ASSOCIATES, SCALE 1"=100', DATED APRIL 1, 1974

- ACCORDING TO FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENTS FOR TITLE INSURANCE NUMBERED HPC-CTNH802B & XXXXXX-PENDING, THE PORTIONS OF THE PROPERTIES DEPICTED HEREON MAY BE SUBJECT TO:  
(A) A 20 FOOT WIDE RIGHT OF WAY AS DESCRIBED IN VOLUME 265 AT PAGE 527 OF THE BRANFORD LAND RECORDS (BLR); RIGHT OF WAY IS NOT PLOTTABLE  
(B) EASEMENTS AND AGREEMENTS RECORDED IN VOLUME 482 AT PAGE 579 OF THE BLR; EASEMENTS ARE NOT PHYSICALLY ON THE PORTIONS OF THE PROPERTIES DEPICTED HEREON  
(C) EXISTING DRAINAGE CONDITIONS, COVENANTS AND AGREEMENTS AS REFERRED TO IN VOLUME 188 AT PAGE 235 OF THE BLR; CONDITIONS, COVENANTS AND AGREEMENTS ARE NOT PLOTTABLE; LAND DESCRIBED THEREIN IS SOUTH OF THE LAND DEPICTED HEREON  
(D) A RIGHT OF WAY IN FAVOR OF THE STATE OF CONNECTICUT AS RECORDED IN VOLUME 265 AT PAGE 529 OF THE BLR; RIGHT OF WAY IS NOT PLOTTABLE  
(E) RIGHTS AND EASEMENTS RECORDED IN VOLUME 385 AT PAGE 626 OF THE BLR; RIGHTS AND EASEMENTS ARE NOT PLOTTABLE  
(F) RIGHTS OF OTHERS IN AND TO ANY BROOKS, STREAMS, CREEKS OR OTHER WATERCOURSES SITUATED UPON, CROSSING, OR ADJOINING PREMISES DEPICTED HEREON

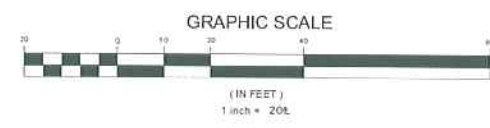
- PARCEL OWNERS OF RECORD:  
  
TAX MAP HB, BLOCK 2, LOT 1:  
  
TILCON, INC.  
(a.k.a. TILCON MINERALS, INC.)  
642 BLACK ROCK AVE  
NEW BRITAIN, CT  
  
DEED REFERENCE: VOLUME 728, PAGE 406; VOLUME 307, PAGE 49  
  
TAX MAP HB, BLOCK 4, LOTS 2 & 2.1:  
  
BRANFORD STEAM RAILROAD  
COMPANY  
P.O. BOX 67  
NORTH BRANFORD, CT 06471  
  
DEED REFERENCES: TITLE CONFIRMATION PENDING

- SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS PART OF THIS SURVEY.
- WETLAND FLAGS SET BY VANASSE HANGEN BRUSTLIN, INC.
- TREES HAVING A CALIPER OF 9" AND GREATER LOCATED ONLY ON A PORTION OF THE PROPERTIES.



**LEGEND**

	CURB		DRAINAGE INLET / STRUCTURE
	DROP CURB		CATCH BASIN
	WALL		SIGN
	STONE WALL		LIGHT POLE
	EDGE OF PAVEMENT		UTILITY POLE
	OVERHEAD WRES		STOCKADE FENCE
	STRUCTURE - MANHOLE		CONTOURS
	GAS VALVE		TOP BOTTOM OF CURB
	WATER VALVE		SPOT ELEVATION
	HANDICAP PARKING		CONCRETE



**SITE AREAS & VOLUMES OF EARTHWORK**

SITEWORK SHALL ENTAIL APPROXIMATELY 100 CUBIC YARDS OF CUT AND 700 CY FILL. APPROXIMATELY 175 CUBIC YARDS OF CRUSHED STONE SHALL BE IMPORTED TO CONSTRUCT THE COMPOUND AND ACCESS ROAD.

COMPOUND AREA SLOPES:  
EXISTING - 20%  
PROPOSED - 8% (COMPOUND)  
12% (ACCESS ROAD)

TOTAL AREA OF DISTURBANCE = 17,000± SF

STORMWATER VELOCITY:  
PRIOR TO GROUND COVER = 7 FT/SEC  
FOLLOWING GROUND COVER = < 5 FT/SEC

GROUND COVER TO BE ESTABLISHED AS FOLLOWS:  
- WHITE CLOVER @ 0.20# / SF  
- TALL FESCUE @ 0.45# / SF  
- OVERSEED @ 0.10# / SF

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T-MOBILE SITE NUMBER:  
**CTNH802B**

APT FILING NUMBER:  
**CT-255T-620**

**T-Mobile**

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002  
OFFICE: (860)-692-7100

**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE  
KILLINGWORTH, CT 06419  
PHONE: (860)-663-1697  
FAX: (860)-663-0935

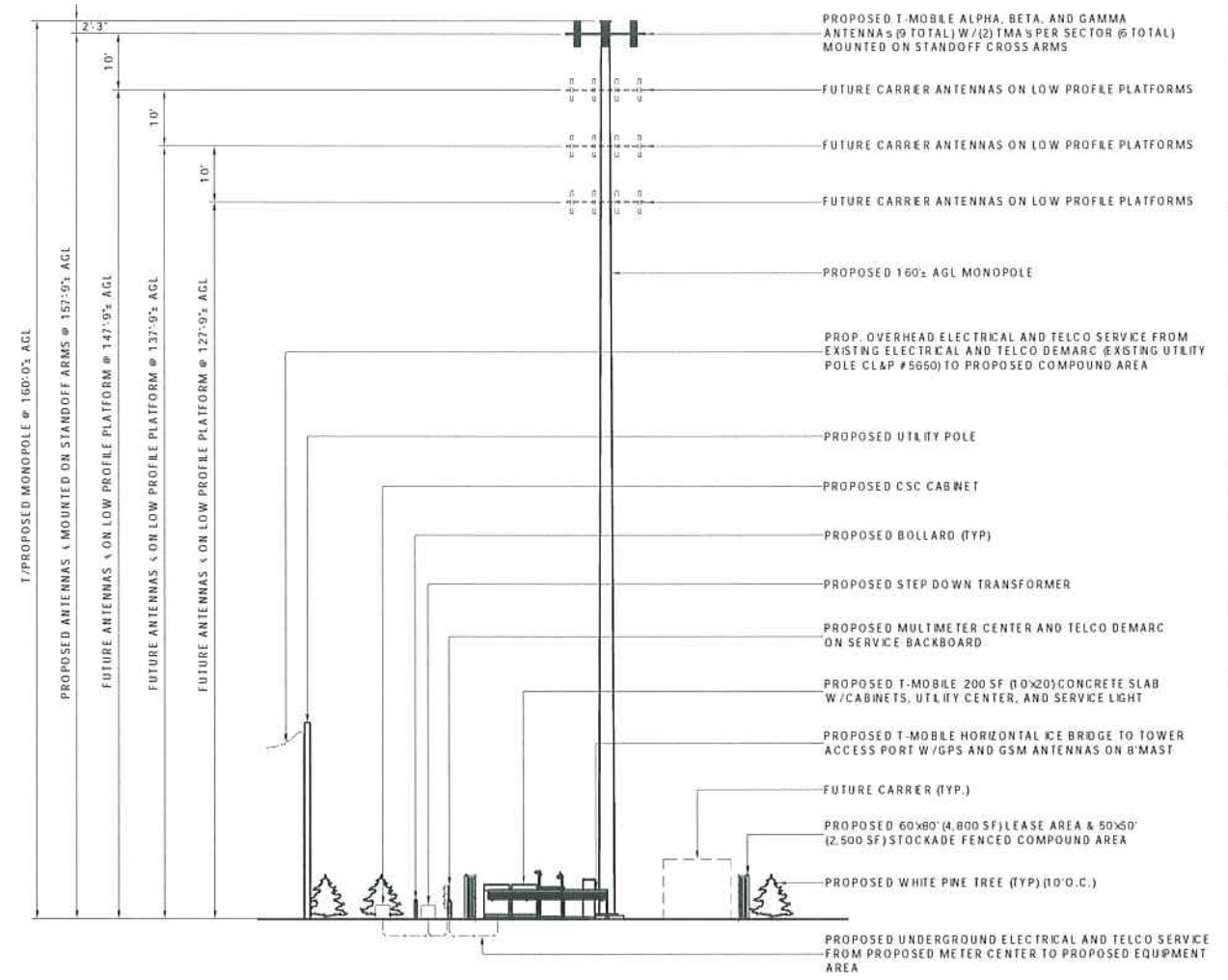
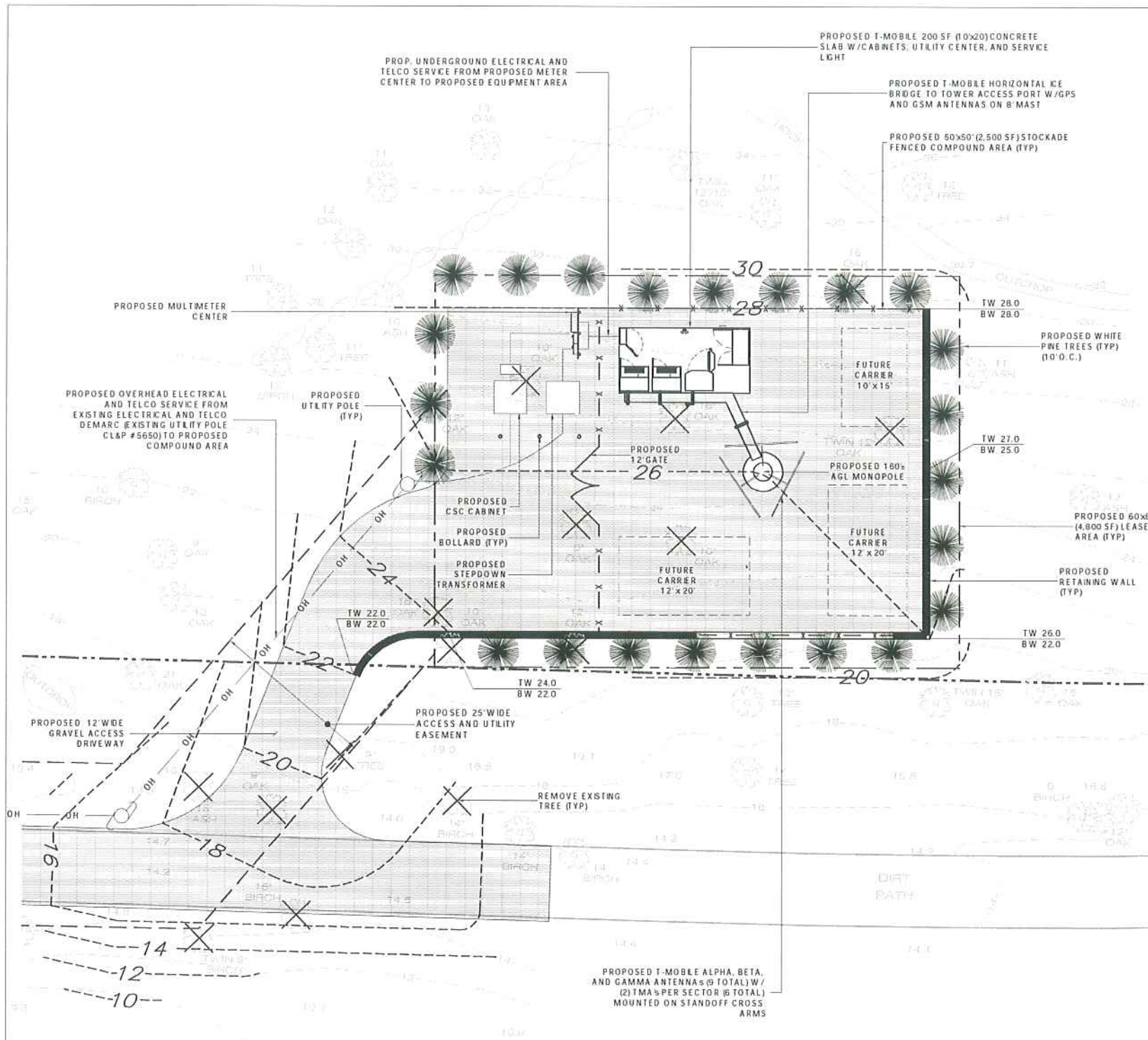
<b>PERMITTING DOCUMENTS</b>	
BRANFORD 2 PLEASANT POINT ROAD BRANFORD, CT 06405	
DESIGN TYPE: <b>RAW LAND</b>	
REVISIONS:	
REV. 0: 12/14/09: FOR REVIEW: SMC	
REV. 1: 12/23/09: FOR TECH RPT: SMC	
REV. 2:	
REV. 3:	
REV. 4:	

<b>SITE PLAN</b>	
APT FILING NUMBER: CT-255T-620	
APT DRAWING NUMBER: CTNH802B SP-1	
DRAWN BY: RCB	SCALE: AS NOTED
CHECKED BY: SMC	DATE: 12/14/09
SHEET NUMBER: <b>SP-1</b>	



NOTE: 19 TREES WILL BE REMOVED IN CONSTRUCTING THE FACILITY





**ENGINEERING ANALYSIS AND CERTIFICATION**

IN ACCORDANCE WITH THE 2005 CONNECTICUT STATE BUILDING CODE AND THE ELECTRONIC INDUSTRIES ASSOCIATION STANDARD EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES FOR NEW HAVEN COUNTY, THE TOWER WOULD BE DESIGNED TO WITHSTAND PRESSURES EQUIVALENT TO A MAXIMUM 115 MPH WIND. THE FOUNDATION DESIGN WOULD BE BASED ON SOIL CONDITIONS AT THE SITE.

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OFFICE: (860)-692-7100

**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE  
KILLINGWORTH, CT 06419  
PHONE: (860)-663-1697  
FAX: (860)-663-0935

PERMITTING DOCUMENTS	
BRANFORD 2 PLEASANT POINT ROAD BRANFORD, CT 06405	
DESIGN TYPE: <b>RAW LAND</b>	
REVISIONS:	
REV.0: 12/14/09: FOR REVIEW: SMC	
REV.1: 12/23/09: FOR TECH RPT: SMC	
REV.2:	
REV.3:	
REV.4:	

**COMPOUND PLAN AND TOWER ELEVATION**

APT FILING NUMBER: CT-255T-620  
APT DRAWING NUMBER: CTNH802B SP-2  
DRAWN BY: RCB  
CHECKED BY: SMC  
DATE: 12/14/09

SHEET NUMBER:  
**SP-2**

STATE OF CONNECTICUT  
SCOTT M. CHASE  
REGISTERED PROFESSIONAL ENGINEER



## SITE EVALUATION REPORT

### I. LOCATION

- A. COORDINATES: 41°16'33.48" N  
72°45'56.05" W
- B. GROUND ELEVATION: 25' ± AMSL
- C. USGS MAP: USGS 7.5 quadrangle for Branford, Connecticut (1984)
- D. SITE ADDRESS: 77-145 Peasant Point Road  
Branford, CT 06405
- E. ZONING WITHIN ¼ MILE OF SITE: The areas to the north, south and west are zoned for residential use. The areas to the east are zoned for residential use and include the Pine Orchard Overlay.

### II. DESCRIPTION

- A. SITE SIZE: 2,500 square feet  
LESSOR PARCEL: 4,800 square feet
- B. TOWER TYPE/HEIGHT: 160 foot monopole
- C. SITE TOPOGRAPHY AND SURFACE: The subject Site is located on a vacant and undeveloped parcel. The topography slopes from the east to the southwest.
- D. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER:  
The existing terrain is wooded and primarily undeveloped. There is a wetland system located near the abandoned rail road bed which would serve as the access to the Facility.
- E. LAND USE WITHIN ¼ MILE OF SITE: The areas to the north are vacant. The areas to the south are vacant or used for railroad. The areas to the east are vacant or residential. The areas to the west are vacant, or used for railroad or residential.

III. FACILITIES

- A. POWER COMPANY: CL&P
- B. POWER PROXIMITY TO SITE: 450'±
- C. TELEPHONE COMPANY: AT&T
- D. PHONE SERVICE PROXIMITY: 450'±
- E. VEHICLE ACCESS TO SITE: Access to the proposed tower would be across a proposed gravel drive.
- F. OBSTRUCTION: N/A
- G. CLEARING AND FILL REQUIRED: The total area of disturbance would be 17,000 square feet. The Facility would require 700 cubic yards of fill material, 100 cubic yards of cut and 175 cubic yards of crushed stone. T-Mobile would have to remove 19 trees.

IV. LEGAL

- A. PURCHASE [ ] LEASE [X]
- B. OWNER: Tilcon, Inc.
- C. ADDRESS: 642 Black Rock Avenue, New Britain, Connecticut 06052
- D. DEED ON FILE AT: Volume 307, Page 49

## FACILITIES AND EQUIPMENT SPECIFICATION (TOWER & EQUIPMENT)

### I. TOWER SPECIFICATIONS

- A. MANUFACTURER: TBD
- B. TYPE: Monopole
- C. HEIGHT: 160'
- D. DIMENSIONS: The bottom of the monopole would have an approximate 36" maximum outer diameter and the top of the monopole would have an approximate 21" outer diameter.

### II. TOWER LOADING

#### A. T-MOBILE

- 1. MODEL: 2 Nortel BTS S12000 Equipment Cabinets  
1 ERICSON BTS 3106 Equipment Cabinet  
1 Transtector 1101-781-200MG Power Telco Cabinet  
1 Magnetek MPE5566 Battery Backup Enclosure
- 2. DIMENSIONS: BTS S12000: 4'-5" x 3'-11" x 5'-9"  
BTS 3106: 4'-3" x 2'-4" x 5'-4"  
Power Telco Cabinet: 2'-6" x 1'-2" x 5'-4"  
Battery Backup Enclosure 2'-6" x 5'-6" x 5'-6"
- 3. ANTENNAS: An array consisting of alpha, beta and gamma sectors (9 antennae total) with 2 TMA per sector (6 total) mounted on T-arms.
- 4. TOWER POSITION: 157'9" AGL to the center of the antenna array
- 5. TRANSMISSION LINES: 18 lines

#### B. FUTURE CARRIERS – 3 additional carriers



### III. ENGINEERING ANALYSIS AND CERTIFICATION:

In accordance with the 2005 Connecticut State Building Code and the Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures" for New Haven County, the tower would be designed to withstand pressures equivalent to a maximum 115 MPH wind. The foundation design would be based on soil conditions at the Site.

## ENVIRONMENTAL ASSESSMENT STATEMENT

### I. PHYSICAL IMPACT

#### A. WATER FLOW AND QUALITY

There are three wetland systems located on the Property. The proposed Facility would not directly impact the wetlands as it is located more than 100 feet from the nearest wetland area. The proposed access drive would have a minor impact on one of the wetland systems. This wetland system is located near the abandoned rail road bed which would serve as the access to the Facility. T-Mobile would undertake several measures to minimize any impact to this wetland system, such as (1) placing a pervious stone bed at the base of the access road footing and (2) stabilizing the soils surrounding the proposed access drive with loam and a New England Conservation / Wildlife seed mix. T-Mobile would implement Best Management Practices during construction to control storm water and erosion. See attached Wetlands Compliance Letter.

#### B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at this Facility would emit no air pollutants of any kind. For limited periods during power outages, a portable generator might be utilized.

#### C. LAND

Some clearing and grading would be required for development of the proposed Site. See the Site Evaluation Report, *supra*. The Facility would require the removal of 19 trees. The remainder of the Property would remain unchanged by the construction and operation of the Site.

#### D. NOISE

The Facility equipment after construction would not emit any noise other than the installed heating, air conditioning and ventilation systems. A portable generator might be employed during power outages. Some noise is anticipated during Facility construction, which is expected to take approximately eight weeks.

#### E. POWER DENSITY

The worst-case calculation of power density for operation of T-Mobile's antennas at the Facility would be approximately 3.6875% of the applicable FCC/ANSI standards. See attached Power Density Calculations.

F. VISIBILITY

The attached preliminary viewshed demonstrates that 1089 acres of the 8,042 acre study area (two mile radius) would have year-round views of portions of the Facility. Most of these views would be open water views on the Long Island Sound. Accordingly, the Facility would have a minimal visual impact. See attached Preliminary Viewshed.

II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

T-Mobile has retained EBI Consulting ("EBI") to evaluate the Facility in accordance with the FCC's regulations implementing the National Environmental Policy Act of 1969 ("NEPA"). Once EBI completes the NEPA report, T-Mobile will file the report with the application for Certificate of Environmental Compatibility and Public Need. EBI, however, has issued a preliminary determination that the proposed Facility will not implicate any of the criteria outlined in § 1.1307(a) of the NEPA, particularly items (1) through (8), and that an Environmental Assessment is not required. Furthermore, based on EBI's preliminary review and archaeological assessment, even though tribal consultation is incomplete and SHPO concurrence has yet to be granted, it is unlikely that the proposed Facility would impact Native American religious sites and historic resources. See attached *Low Potential Impact Letter*



# **ATTACHMENT C**



Vanasse Hangen Brustlin, Inc.

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

**Memorandum**

To: Mr. Scott Chasse  
All-Points Technology Corp., P.C.  
3 Saddlebrook Drive  
Killingworth, CT 06419

Date: December 23, 2009

Project No.: 40505.12

From: Dean Gustafson  
Professional Soil Scientist

Re: Wetland Compliance  
T-Mobile Site No. CTNH802B  
Amtrak Branford 2  
Pleasant Point Road  
Branford, Connecticut

The property consists of a primarily wooded undeveloped property located along a Tilcon railroad track and spurs and north of Pleasant Point Road in Branford, Connecticut. The 92.3± acre parcel is bisected by the active Tilcon railroad tracks with the proposed T-Mobile facility located east of the tracks and north of an abandoned rail bed. Based on a review of plans prepared by All-Points Technology Corporation, P.C. (latest revised date 12/14/09) VHB understands that T-Mobile proposes to construct a wireless communications facility ("Facility") along the southern property boundary just north of the abandoned rail bed. VHB also understands that the proposed gravel access drive for the Facility will be located along the abandoned rail bed to provide access from Pleasant Point Road.

Vanasse Hangen Brustlin, Inc. (VHB) previously completed on-site investigations on November 19, 2009 to determine if wetlands and/or watercourses are located on the above-referenced Site. Three wetland areas were identified on the subject property in proximity to proposed development activities associated with the T-Mobile Facility. Wetland 1 is a small isolated and disturbed wetland just south of a fill pile associated with the railroad spurs to the north and bound to the south by Pleasant Point Road. Hydrology appears to be primarily provided by road runoff and fluctuation of the seasonal high groundwater table. Wetlands 2 and 3 are part of a large forested inland wetland system associated with a tributary stream of Stony Creek. Wetland 2 is confined between Pleasant Point Road to the south and an abandoned rail bed to the north. An interior intermittent stream feature conveys surface water to the southeast from a stone culvert under the old rail bed from Wetland 3 to the north. Wetland 3 is located north of the abandoned rail bed and to the east of the rail spurs. Some areas within Wetland 3 have shallow inundation as a result of the artificial impoundment caused by the old rail bed. However, inundation areas do not appear to have sufficient depth or hydrology to support amphibian breeding.

The proposed Facility will not directly impact wetlands and is located more than 100 feet from the nearest wetland area (Wetlands 2 and 3). However, the proposed access drive will result in a minor impact to Wetland 1 with 600± square feet of impact. Generally, avoidance of wetland impacts is recommended where possible. Various alternates for the entrance of the access road were reviewed

in an effort to avoid or minimize impact to Wetland 1. An entrance off Pleasant Point Road further to the northwest was evaluated. However, several railroad track spurs used by the property owner for railcar staging and storage prevent an access road from being in this location. An access road positioned between Wetlands 1 and 2 further southeast of the proposed location was also reviewed. There are two primary factors why this alternative is not feasible or prudent. First, the upland area separating these two wetlands contains several mature mast producing trees that provide important buffer functions to Wetland 2 and its associated stream. Secondly, in order to design an access road with the proper geometry with this entrance point, direct impact to Wetland 2 and possibly to the stone culvert between Wetlands 2 and 3 and stream would occur. The relative functions and values associated with Wetland 2 are significantly greater than Wetland 1, which is a small isolated wetland that has been disturbed by Pleasant Point Road and the railroad tracks. Therefore, impacting a small area of Wetland 1 was deemed the most prudent and feasible alternative.

In order to minimize impact to Wetland 1, 2:1 side slopes were designed to minimize the spread of the road base fill footing. VHB recommends that a pervious stone bed be placed at the base of the access road footing through the Wetland 1 crossing to minimize impact and allow for hydrologic connection between the bisected wetland. VHB also recommends that any exposed soils surrounding the proposed access drive and Facility be permanently stabilized by loam and seeding with a New England Conservation/Wildlife seed mix (New England Wetland Plants, Inc., or approve equivalent). The New England Conservation/Wildlife seed mix provides a permanent cover of grasses, forbs, wildflowers, legumes and grasses to provide both good erosion control and wildlife habitat value. This mix is designed to be a no maintenance seeding, and it is appropriate for cut and fill slopes and disturbed areas.

Assuming adequate erosion controls are properly installed and maintained to protect nearby wetland resources during construction, indirect impacts to wetlands and the stream will be minimal. Due to the proximity of proposed development activities to sensitive wetland resource areas (Wetlands 2 and 3), VHB recommends that an extensive erosion and sedimentation control plan be developed in accordance with the Connecticut Department of Environmental Protection 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control* to properly protect wetland resources. This erosion and sedimentation control plan can be developed during the Connecticut Siting Council's Development and Management Plan process, provided the project is approved. VHB recommends that a copy of the draft erosion and sedimentation control plan be provided for review prior to submission to the Connecticut Siting Council to ensure that nearby wetland resources will be properly protected during construction. VHB also recommends that a properly qualified professional independent of the site contractor monitor the installation and maintenance of erosion and sedimentation controls throughout the construction project to further ensure that nearby wetlands are protected.

With consideration to these recommended mitigation measures, it is VHB's professional opinion that the impact to wetlands associated with the proposed T-Mobile Facility are considered minimal and will not result in a likely adverse impact to wetland resources.



## Connecticut Market



### Worst Case Power Density

**Site:** CTNH802B  
**Site Address:** Pleasant Point Road  
**Town:** Branford  
**Tower Height:** 160 ft.  
**Facility Style:** Monopole

GSM Data		UMTS Data	
Base Station TX output	20 W	Base Station TX output	40 W
Number of channels	6	Number of channels	2
Antenna Model	APX16DWW-16DWW	Antenna Model	APX16DWW-16DWW
Cable Size	1 5/8 in.	Cable Size	1 5/8 in.
Cable Length	180 ft.	Cable Length	180 ft.
Antenna Height	157.8 ft.	Antenna Height	157.8 ft.
Ground Reflection	1.6	Ground Reflection	1.6
Frequency	1945.0 MHz	Frequency	2.1 GHz
Jumper & Connector loss	4.50 dB	Jumper & Connector loss	1.50 dB
Antenna Gain	18.0 dBi	Antenna Gain	18.0 dBi
Cable Loss per foot	0.0116 dB	Cable Loss per foot	0.0116 dB
Total Cable Loss	2.0880 dB	Total Cable Loss	2.0880 dB
Total Attenuation	6.5880 dB	Total Attenuation	3.5880 dB
Total EIRP per Channel (In Watts)	54.42 dBm 276.84 W	Total EIRP per Channel (In Watts)	60.43 dBm 1104.74 W
Total EIRP per Sector (In Watts)	62.20 dBm 1661.04 W	Total EIRP per Sector (In Watts)	63.44 dBm 2209.48 W
nsg	11.4120	nsg	14.4120
Power Density (S) = 0.015825 mW/cm <sup>2</sup>		Power Density (S) = 0.021050 mW/cm <sup>2</sup>	
T-Mobile Worst Case % MPE =		3.6875%	

Equation Used:

$$S = \frac{(1000)(grf)^2 (Power)^{10^{(nsg/10)}}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997




*Preliminary Viewshed Analysis  
Proposed T-Mobile Wireless  
Telecommunications Facility  
CTNH802B  
Pleasant Point Road  
Branford, Connecticut*

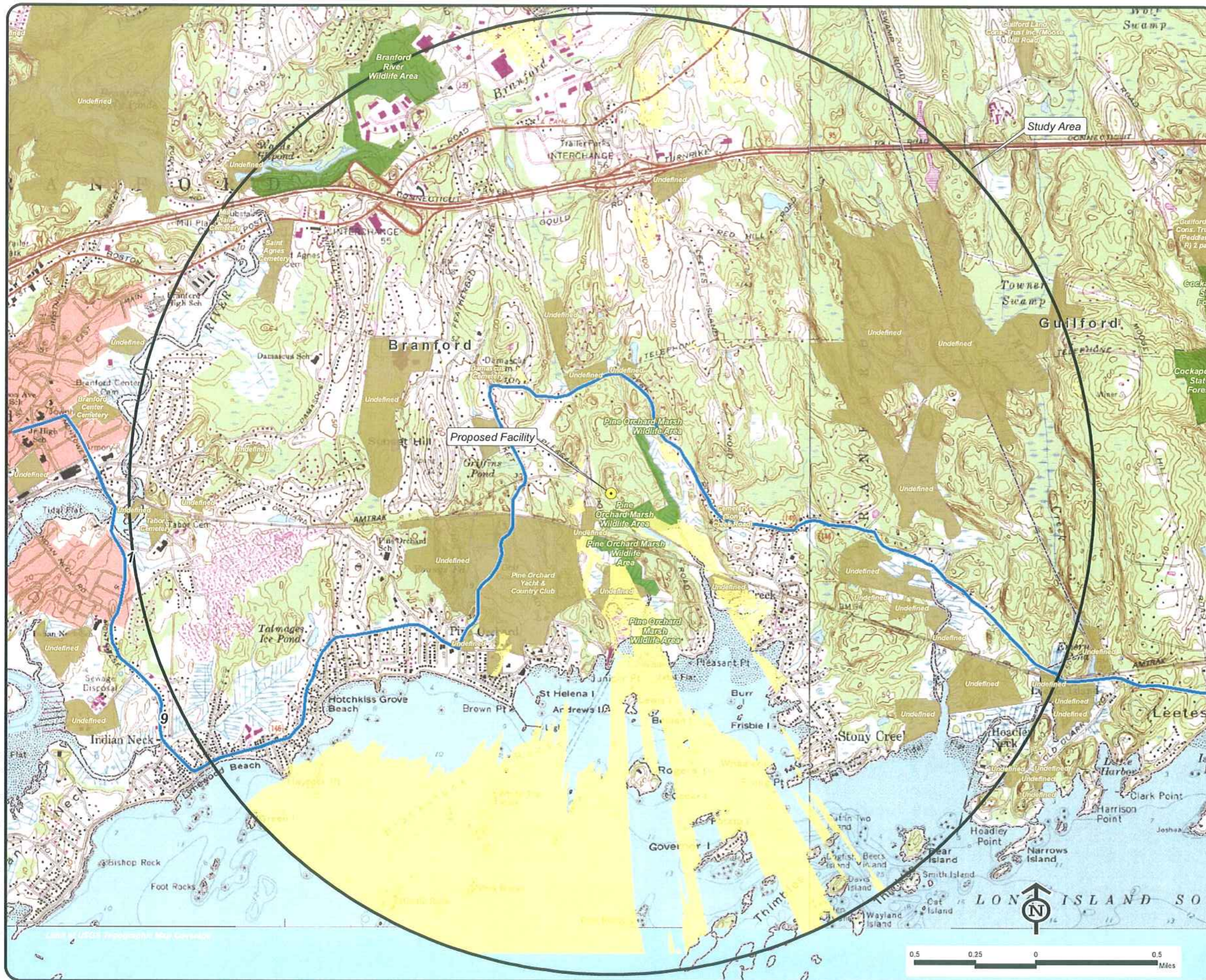
**NOTE:**  
 - Viewshed analysis conducted using ESRI's Spatial Analyst.  
 - Proposed Facility height is 160 feet.  
 - Existing tree canopy height estimated at 50 feet.  
 - Study Area is comprised of a two-mile radius surrounding the proposed facility and includes 8,042 acres of land.

**DATA SOURCES:**  
 - Digital elevation model (DEM) derived from Connecticut LiDAR-based Digital Elevation Data (collected in 2000) with a 10-foot spatial resolution produced by the University of Connecticut and the Center for Land Use Education and Research (CLEAR); 2007  
 - Forest areas derived from 2006 digital orthophotos with 1-foot pixel resolution; digitized by VHB, 2009  
 - Base map comprised of Branford (1984) and Guilford (1984) USGS Quadrangle Maps  
 - Protected municipal and private open space properties and federal protected properties and data layers provided by CT DEP, 1997  
 - Protected CT DEP properties data layer provided by CTDEP, May 2007  
 - CT DEP boat launches data layer provided by CT DEP, 1994  
 - Scenic Roads layer derived from available State and Local listings.

Map Compiled December, 2009

**Legend**

-  Tower Location
-  CT DEP Protected Properties (2007)
  - 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
-  Year-Round Visibility (Approximately 1089 acres)
-  Protected Municipal and Private Open Space Properties (1997)
  - Cemetery
  - Preservation
  - Conservation
  - Existing Preserved Open Space
  - Recreation
  - General Recreation
  - School
  - Uncategorized
-  Federal Protected Properties (1997)
-  CT DEP Boat Launches (1994)
-  Scenic Road (State and Local)
-  Town Line



I:\data\projects\40005\_12\graphics\figures\CTNH802B\_preliminary\_viewshed\_map.pdf



December 23, 2009

Ms. Jamie Ford  
Project Coordinator  
HPC Development, LLC  
53 Lake Ave Ext.  
Danbury, CT 06811

Subject: National Environmental Policy Act (NEPA) - Letter of Low Potential Impact  
CTNH802B / Amtrak Branford 2  
Pleasant Point Road, Branford, CT  
EBI Project # 61091626

Dear Ms. Ford:

Attached please find our *National Environmental Policy Act (NEPA)* Letter of Low Potential Impact for the proposed telecommunications installation at the address noted above (the Subject Property). The purpose of this *letter* is to evaluate the above-referenced property for potential environmental and historical concerns specified by the Federal Communications Commission (FCC) in 47 CFR 1.1307.

As of the date of this *Report* Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc., d.b.a. T-Mobile, proposes to construct a 160-foot monopole at the Project Site, within a 50-foot by 50-foot (15.2m by 15.2m) fenced compound located within a 60-foot by 80-foot lease area. The Project Site will be accessed by a proposed 12-foot wide gravel access drive and a 25-foot wide utility easement. A proposed utility pole will connect proposed overhead electrical and telecommunications from existing sources.

Based upon the results of our preliminary NEPA screening, it appears that the proposed installation will not impact any of the criteria as outlined in 1.1307(a) items (1) through (8) and preparation of an Environmental Assessment (EA) is not required; however, our Section 106 and Native American Indian consultation required under Section 1.1307(a) (4) & (5) of the FCC Rules is incomplete. Identified historic properties within the area of potential effects are at least 2,375-feet from the project site in a heavily wooded area. Our determination will be that the proposed undertaking will not have an adverse effect on aboveground historic resources and is not sensitive for the presence of significant prehistoric or historic archaeological resources.

Based on our preliminary review and archaeological assessment, there is a low potential that the proposed undertaking will impact listed historic resources and Native American religious sites.

Thank you for the opportunity to prepare this *Report*, and assist you with this project. Please call us if you have any questions or if we may be of further assistance.

Respectfully Submitted,



Michael Chun  
Program Director  
Direct# (646) 789-9206