brownrudnick

THOMAS J. REGAN

January 13, 2022

VIA E-MAIL (SITING.COUNCIL@CT.GOV) &
(MELANIE.BACHMAN@CT.GOV)
& OVERNIGHT MAIL

Connecticut Siting Council
Attn: Melanie A. Bachman, Esq., Executive Director
Ten Franklin Square
New Britain, CT 06051

RE: Petition for Declaratory Ruling – 2627 Day Hill Road, Bloomfield

Dear Executive Director Bachman:

Please find enclosed for filing one copy of New Cingular Wireless PCS, LLC d/b/a AT&T's ("AT&T") Petition for Declaratory Ruling that no certificate of environmental compatibility and public need is required for AT&T to increase the height of an existing monopole located at 2627 Day Hill Road, Connecticut. Also enclosed is a check in the amount of $625.00 representing the filing fee.

A complete copy of the filing will be provided in PDF format electronically via One Drive.

Sincerely,

BROWN RUDNICK LLP

Thomas J. Regan

cc (cover letter only):

Mayor Danielle Wong
Bloomfield Town Hall
800 Bloomfield Avenue
Bloomfield, CT 06002

Jose Giner, Director
Planning and Zoning,
Bloomfield Town Hall
800 Bloomfield Avenue
Bloomfield, CT 06002

Alan Budkofsky, Chair
Inland Wetlands and Watercourses Commission
Bloomfield Town Hall
800 Bloomfield Avenue
Bloomfield, CT 06002

Marguerite Phillips, Town Clerk
Bloomfield Town Hall
800 Bloomfield Avenue
Bloomfield, CT 06002

Mayor Donald Trinks
Town of Windsor
275 Broad Street
Windsor, CT 06095

Eric Barz, AICP, Town Planner
Town of Windsor
275 Broad Street
Windsor, CT 06095

Anna Posniak, Town Clerk
Town of Windsor
275 Broad Street
Windsor, CT 06095

Historic District Commission
Town of Windsor
275 Broad Street
Windsor, CT 06095

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	)	**PETITION NO. _____**
NEW CINGULAR WIRELESS PCS, LLC (AT&T)	)	
PETITION FOR A DECLARATORY RULING THAT	)	
NO CERTIFICATE OF ENVIRONMENTAL	)	
COMPATIBILITY AND PUBLIC NEED IS	)	
REQUIRED TO MODIFY AN EXISTING WIRELESS	)	
TELECOMMUNICATIONS FACILITY ON	)	
PROPERTY LOCATED AT 2627 DAY HILL RD,	)	
BLOOMFIELD, CONNECTICUT.	)	**JANUARY 13, 2022**

PETITION FOR A DECLARATORY RULING TO MODIFY AN EXISTING WIRELESS FACILITY
2627 DAY HILL ROAD, BLOOMFIELD, CONNECTICUT

I. INTRODUCTION

On behalf of New Cingular Wireless PCS, LLC d/b/a AT&T ("AT&T" or the "Petitioner"), we respectfully submit this petition (the "Petition") to the Connecticut Siting Council (the "Council") pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies ("R.C.S.A.") for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required pursuant to Section 16-50k of Connecticut General Statutes to modify an existing wireless facility owned by American Tower and located at 2627 Day Hill Road in Bloomfield, Connecticut by extending the existing 109' above ground level ("AGL") monopole (the "Monopole") to a height of 139' AGL and collocating nine (9) panel antennas at the 135' AGL antenna centerline height on the Monopole, as extended. **Attachment 1** contains correspondence from American Tower authorizing AT&T to file this Petition. The modifications and collocation will allow AT&T to provide its enhanced, state-of-the-art services, including 5G services, to its customers.

II. HISTORY OF EXISTING TELECOMMUNICATIONS FACILITY

The existing Monopole is owned by American Tower and was approved by the Council on November 3, 2011 in Docket No. 416. As noted in the Decision and Order in Docket 416 attached as **Attachment 2**, the Monopole was not to exceed a height of 110' AGL.

III. PROPOSED MODIFICATIONS

AT&T is licensed by the Federal Communications Commission ("FCC") to provide wireless services in this area of the State of Connecticut. AT&T proposes to extend the existing 109' AGL Monopole to a height of 139' AGL and collocate nine (9) panel antennas at the 135' AGL antenna centerline height, together with related amplifiers, cables, fiber and other associated antenna equipment, including, without limitation, fifteen (15) remote radio heads, two (2) surge arrestors, and global positioning system antenna with associated electronic equipment in a walk-in-cabinet, and other appurtenances on a proposed equipment pad all located within an existing compound enclosed by a chain link fence (the "Facility") as depicted on the plans submitted with this application as **Attachment 3** (the "Plans"). The Site is located within the R-40 (Residential) zoning district. The surrounding area is a mix of residential and industrial uses.

Attachment 4 contains a copy of the structural report evidencing that the proposed modifications can be supported in accordance with applicable codes. Notice to the FAA is not required for the proposed modifications as demonstrated in **Attachment 5**. Please refer to **Attachment 6** which contains a viewshed analysis of the proposed modifications to the Monopole along with photographs and photo simulations.

Once AT&T receives all required approvals, the installation of the Facility will take approximately three (3) to four (4) weeks and will be constructed during normal business hours. Construction is scheduled to commence in 2022.

While there is a state and federal listed species area within a quarter mile to the north of the Site, given that AT&T's proposed Facility will be located on a Monopole on land which has previously been disturbed, AT&T respectfully asserts that the Proposed Facility will not impact any state listed species. Please refer to the Avian Resources Evaluation with DEEP Map submitted as **Attachment 7**. A letter from the State Historic Preservation Officer indicating that the proposed modification will have no adverse effects to historic resources is attached as **Attachment 8**.

IV. AT&T's PROPOSED MODIFICATIONS WILL NOT HAVE SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

AT&T's proposed modifications will not result in significant or substantial environmental impacts. The proposed extension of the Monopole will be consistent with the existing design and materials. AT&T's antennas will be mounted in similar fashion to the existing antennas on the Monopole. The proposed extension will match the color of the existing Monopole and AT&T's antennas will be a nonreflective neutral color which will be consistent with the existing antennas on the Monopole. The portion of the parcel around the Monopole is substantially wooded and the parcel is about 11.8 acres in size and will continue to provide generous setbacks to the nearest lot lines; the nearest lot line is 245' away from the Monopole. The photosimulations illustrate that the increase in visibility of the extended Monopole will be minimal. AT&T's Facility will not produce unreasonable noise, smoke, odor, waste or significant amounts of traffic. The Facility will be unmanned and will not require water or sewer services. AT&T's proposed modifications will not entail any expansion of the footprint of the Monopole or fenced compound area. Access to the Site will be via existing ways.

V. MAXIMUM PERMISSIBLE EXPOSURE COMPLIANCE

The power density levels for AT&T's proposed Facility, along with the existing antennas on the Monopole, are calculated not to exceed 23.47% of the federally permitted emission standards for the public. Please see the Radio Frequency Emissions analysis submitted as **Attachment 9**. The total radio frequency power density will comply with the standards adopted by the Connecticut Department of Environmental Protection and the Maximum Permissible Exposure limits of the FCC.

VI. PROPOSED MODIFICATION NECESSARY TO PROVIDE RELIABLE SERVICE

AT&T has provided radio frequency coverage maps at **Attachment 10** which depict AT&T's existing coverage without the modifications and with the extended Monopole with antenna centerline height of 135'. AT&T needs the modifications in order to provide reliable service within this area of Bloomfield. Though the Council does not have to find a public need for the proposed Facility as part of a ruling, the submitted coverage maps illustrates the need to provide reliable wireless services to this area of Bloomfield.

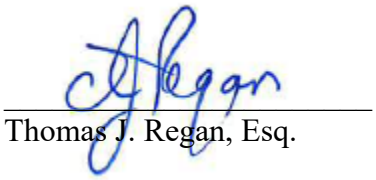
VII. NOTICE TO GOVERNMENT OFFICIALS, AGENCIES AND ABUTTING PROPERTY OWNERS

AT&T sent notice of its filing of this Petition to the Town of Bloomfield and to each abutting property owner as listed in the Town of Bloomfield's Assessor records, as well as the appropriate abutting property owners in the adjoining Town of Windsor, as well as the appropriate municipal officials and government agencies. A certification of such notice, a copy of the notice, the list of Town officials, State officials, State Agencies and abutting property owners, and maps produced from the Towns of Bloomfield and Windsor GIS mapping data are submitted herewith as **Attachment 11**.

VIII. CONCLUSION

AT&T respectfully asserts that its proposed modifications will not result in any significant adverse environmental effects as specified in Section 16-50p of the Connecticut General Statutes. Furthermore, the proposed extension of the existing Monopole eliminates the need to construct an additional tower in the immediate area in keeping with Sections 16-50g and 16-50aa of the Connecticut General Statutes. For the foregoing reasons, AT&T respectfully requests that the Council determine that AT&T's proposed Facility does not require a Certificate of Environmental Compatibility and Public Need and issue an order approving AT&T's proposed wireless telecommunications facility accordingly.

Respectfully submitted,



Thomas J. Regan, Esq.

64303144 v2-WorkSiteUS-024519/1600

Attachment 1

Letter of Authorization

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION

ATC SITE # / NAME/PROJECT: 283562/ NORTH BLOOMFIELD CT / OAA761819
SITE ADDRESS: 1627 Day Hill Road, Bloomfield, CT 06002-1177
LICENSEE: AT&T MOBILITY d/b/a NEW CINGULAR WIRELESS PCS, LLC

I, Margaret Robinson, Senior Counsel for American Tower*, owner of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize AT&T MOBILITY d/b/a NEW CINGULAR WIRELESS PCS, LLC, its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified, or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

Signature:

Print Name: Margaret Robinson
Senior Counsel
American Tower*

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel for American Tower*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 3rd day of September, 2021.

NOTARY SEAL

GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public
My Commission Expires: August 9, 2024

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

Attachment 2

Docket No. 416 Decision & Order

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

November 4, 2011

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director LRoberts

RE: **DOCKET NO. 416** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Day Hill Road, Bloomfield, Connecticut.

By its Decision and Order dated November 3, 2011, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a telecommunications facility site on property now or formerly owned by River Bend Associates, Inc., located off Day Hill Road, Bloomfield, Connecticut.

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

LR/CDM/laf

Enclosures (3)

c: State Documents Librarian

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Linda Roberts
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 416 has been forwarded by Certified First Class Return Receipt Requested mail, on November 4, 2011, to all parties and intervenors of record as listed on the attached service list, dated February 14, 2011.

ATTEST:

Lisa Fontaine
Fiscal Administrative Officer
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	☒ E-mail	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8345 (860) 275-8299 - fax kbaldwin@rc.com
	☒ U.S. Mail		Sandy Carter Regulatory Manager Verizon Wireless 99 East River Drive East Hartford, CT 06108

DOCKET NO. 416 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off of Day Hill Road, Bloomfield, Connecticut.	}	Connecticut
	}	Siting
	}	Council

November 3, 2011

Findings of Fact

Introduction

1. Cellco Partnership d/b/a Verizon Wireless (Cellco), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on February 14, 2011 for the construction, maintenance, and operation of a telecommunications facility, which would include a 110-foot tall monopole tower, south of Day Hill Road in the Town of Bloomfield, Connecticut. (Cellco 1, pp. i, 1)

2. Cellco is a Delaware Partnership with an administrative office located at 99 East River Drive, East Hartford, Connecticut. Cellco is licensed by the Federal Communications Commission (FCC) to operate a wireless telecommunications system in Connecticut. The operation of wireless telecommunications systems and related activities is Cellco's sole business in Connecticut. (Cellco 1, pp. 4-5)

3. The party in this proceeding is the applicant. (Transcript, June 7, 2011, 3:00 p.m. [Tr. 1], p. 3)

4. The purpose of the proposed facility is to provide coverage, particularly for PCS frequencies, and capacity relief primarily along portions of Routes 187 and 189 as well as local roads and residential, agricultural, industrial, and commercial areas in portions of northern Bloomfield, northwest Windsor, and southern East Granby. (Cellco 1, pp. i, 1-2; Transcript, August 30, 2011, 1:00 p.m. [Tr. 3], p. 41)

5. Pursuant to CGS § 16-50*l*(b), Cellco published public notice of its intent to submit this application on February 9 and 10, 2011 in The Hartford Courant. (Cellco 1, p. 5; Cellco 2 - Affidavit of Publication dated February 14, 2011)

6. Pursuant to CGS § 16-50*l*(b), Cellco sent notices of its intent to file an application with the Council to each person appearing of record as owner of property abutting the property on which the site is located. (Cellco 1, p. 6; Attachment 4)

7. Cellco received return receipts from all but two abutting property owners. Notice letters to Donald and Lisa Dickson and James E. and Renee M. Trzcinski were returned marked "unclaimed." Notices to these two parties were resent via regular mail on March 14, 2011. (Cellco 4, Response 6)

8. Pursuant to CGS § 16-50*l* (b), Cellco provided copies of its application to all federal, state and local officials and agencies listed therein. (Cellco 1, p. 5; Attachment 2)

9. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on June 7, 2011, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Bloomfield Council Chambers in the Bloomfield Town Hall, 800 Bloomfield Avenue in Bloomfield, Connecticut. (Tr. 1, p. 2 ff.)

10. Cellco posted a sign giving public notice of its pending application on the host property on June 1, 2011. The sign was four feet by six feet in size and included the date of the scheduled public hearing and contact information for the Council. (Cellco 5, Sign Posting Affidavit, dated June 1, 2011)

11. The Council and its staff conducted an inspection of the proposed site on June 7, 2011, beginning at 2:00 p.m. The applicant flew a balloon at the site from 8:00 a.m. until approximately 6:00 p.m. at a height of 110 feet to simulate the proposed monopole tower. Weather conditions were favorable for the balloon flight with light winds and good visibility. (Tr. 1, p. 24)

12. On July 14, 2011, Cellco requested that the Council re-open its evidentiary hearing for this proceeding in order to allow the introduction of new evidence regarding a possible alternative location for the proposed facility. The alternative site was being offered in response to a request from the Council at the June 7, 2011 public hearing. (Cellco 6 – Motion to Reopen the Evidentiary Hearing, July 14, 2011)

13. The Council approved Cellco's request to re-open the evidentiary hearing on July 28, 2011. It held the re-opened hearing on August 30, 2011 beginning at 1:00 p.m. in Hearing Room One of the Council's offices at Ten Franklin Square in New Britain. (Tr. 3, p. 2 ff.)

State Agency Comment

14. Pursuant to CGS § 16-50*l*, on March 24, 2011 and June 8, 2011, the Council solicited comments on Cellco's application from the following state agencies: Department of Agriculture, Department of Environmental Protection (DEP), Department of Public Health, Council on Environmental Quality, Department of Public Utility Control, Office of Policy and Management, Department of Economic and Community Development, the Department of Transportation (ConnDOT), and the Department of Emergency Management and Homeland Security. (CSC Hearing Package dated March 24, 2011; CSC Letter to State Department Heads dated June 8, 2011)

15. Pursuant to CGS § 16-50j (h), the Council requested additional comments on August 31, 2011 from the same state agencies following the re-opened hearing. (CSC Letter to State Department Heads dated August 31, 2011)

16. On May 10, 2011, ConnDOT submitted comments describing its procedure for leasing DOT property for telecommunications sites. (ConnDOT Comments, dated May 10, 2011)

17. Except for ConnDOT, no state agencies responded to the Council's solicitations for comments on this application. (Record)

Municipal Consultation

18. On November 19, 2010, Cellco representatives met with Bloomfield Town Planner Thomas Hooper, who served as designee for Bloomfield's Town Manager, to discuss Cellco's need for wireless service in the north Bloomfield area and its plans for a wireless telecommunications facility off of Day Hill Road. During this meeting Cellco provided copies of a Technical Report, which included a description of its proposed facility, to Mr. Hooper. (Cellco 1, p. 19)

19. On November 19, 2010, Cellco representatives also met with Paul Goldberg, Fire Administrator with the Windsor Volunteer Fire Department, who was serving as designee for Windsor Town Manager Peter Souza. This meeting occurred because Cellco's proposed facility is located within 2,500 feet of the Windsor town boundary. (Cellco 1, p. 19)

20. Cellco offered free space on its proposed tower to both of the Towns of Bloomfield and Windsor. (Tr. 1, p. 52)

21. Neither the Town of Bloomfield nor the Town of Windsor has expressed an interest in placing antennas on the proposed tower. (Tr. 1, p. 53)

22. Should either town seek to place antennas on the proposed tower in the future, it could do so without incurring a rental charge. (Tr. 1, p. 53)

Public Need for Service

23. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996)

24. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996; Cellco 1, p. 7)

25. The Telecommunications Act of 1996 prohibits local and state bodies from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996)

26. The Telecommunications Act of 1996 prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects, which include human health effects, of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice Item No. 8 - Telecommunications Act of 1996)

27. In recognition of the public safety benefits enhanced wireless telecommunications networks can provide, Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act). The purpose of this legislation was to promote public safety by making 9-1-1 the universal emergency assistance number and through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (Cellco 1, pp. 7-8)

28. In 2004, Congress enacted the Enhanced 911 (E911) Act for the specific purpose of enhancing and promoting homeland security, public safety, and citizen activated emergency response capabilities. (Cellco 1, p. 8)

29. Cellco's antennas would comply with E911 requirements. (Cellco 4, Response 1)

Existing and Proposed Wireless Coverage

30. In the Hartford market area, Cellco holds licenses issued by the FCC for the "A" Block for cellular frequencies, the "F" Block for Personal Communications Services (PCS) frequencies, and the "C" Block for the 700 MHz frequency range (Long Term Evolution – LTE). (Cellco 1, Attachment 5)

31. Cellco's network design thresholds for reliable service are -85 dBm for in-vehicle service and -75 dBm for in-building coverage on all of its operating frequencies. (Cellco 4, Response 7)

32. Cellco's existing signal strength in the vicinity of the proposed facility ranges from -86 dBm to -96 dBm at cellular (850 Mhz) and PCS (1900 MHz) frequencies. (Cellco 4, Response 8)

33. In the sectors of the adjacent cell sites that are directed toward the proposed facility, Cellco experiences dropped calls at an average rate of 2.7% and ineffective attempts at an average rate of 2.5%. Cellco's network design objective for dropped calls and ineffective attempts is less than one percent (1%). The results of Cellco's monthly drive tests, customer complaints, propagation modeling data, and system performance data indicate Cellco's service is substandard within the area that would be served by the proposed facility. (Cellco 4, Response 9)

34. During the last three years, Cellco has experienced a 30 to 40 percent increase in demand for data traffic and an approximately 15 percent increase in voice traffic. (Tr. 1, p. 39)

35. Cellco experiences existing coverage gaps along Routes 189 and 187 as indicated in the following table:

	Length of Coverage Gap	
Frequency	**Route 189**	**Route 187**
850 MHz	0.9 mile	0.3 mile
1900 MHz	1.7 miles	2.0 miles

(Cellco 4, Response 10)

36. The table below indicates the distances Cellco would cover at its different licensed frequencies along the major routes in the vicinity of its proposed facility.

	Distance Covered	
Frequency	**Route 187**	**Route 189**
850 MHz	2.2 miles	1.7 miles
1900 MHz	1.8 miles	1.7 miles
700 MHz	2.3 miles	1.9 miles

(Cellco 1, p. 3)

37. The table below indicates the total area Cellco would cover at its different licensed frequencies from the proposed facility.

Frequency	**Total Area Covered**
850 MHz	4.07 sq. mi.
1900 MHz	3.88 sq. mi.
700 MHz	5.91 sq. mi.

(Cellco 1, p. 3)

38. Cellco's proposed facility would hand off signals with the adjacent facilities identified in the following table.

Hand Off Facility Location	**Distance and Direction from Proposed Site**
Grist Mill Road, Simsbury	3.8 miles, W
8 Hoskins Road, Bloomfield	1.7 miles, NW
750 Rainbow Road, Windsor	3.4 miles, NE
482 Pigeon Hill Road, Windsor	3.3 miles, E
785 Park Avenue, Bloomfield	3.3 miles, S

(Cellco 4, Response 4)

39. The lowest feasible height at which Cellco's antennas could achieve its coverage objectives in the vicinity of the proposed facility is 110 feet above ground level (AGL). (Cellco 4, Response 5)

40. With antennas at 100 feet AGL, Cellco's coverage footprint would shrink from 4.07 square miles to 3.35 square miles at 850 MHz frequencies from 3.88 to 3.52 square miles at 1900 MHz frequencies, and from 5.91 to 5.25 square miles at 700 MHz frequencies. (Cellco 4, Response 5)

41. With Cellco's antennas at 100 feet AGL, coverage gaps along Routes 187 and 189 would open up. (Tr. 1, p. 18)

Site Selection

42. Cellco initiated its site search process for facility in north Bloomfield in April 2006. (Cellco 1, p. 11)

43. Cellco's search ring had a radius of approximately 0.55 mile. (Cellco 4, Response 12)

44. Cellco maintains five telecommunications facilities within approximately four miles of the proposed north Bloomfield site. None of these facilities can provide the service Cellco is seeking to provide in this area of Bloomfield. Cellco's existing sites are listed in the following table.

Cellco Site Name	Facility Height and Type	Location	Cellco Ant. Ht.	Distance and Direction to Facility
Simsbury	150', monopole	Grist Mill Road, Simsbury	140'	3.8 miles, W
Windsor 2	100', monopole	750 Rainbow Road, Windsor	83'	3.4 miles, NE
Windsor	160', self-supporting lattice	482 Pigeon Hill Road, Windsor	158'	3.3 miles, E
Tariffville	180', self-supporting lattice	8 Hoskins Road, Bloomfield	148'	1.7 miles, NW
Bloomfield 3	140', monopole	785 Park Avenue	109'	3.3 miles, S

(Cellco 1, p. 2; Attachment 8)

45. In addition to the towers on which Cellco has antennas, there are six other telecommunications facilities within four miles of the proposed site. None of these six facilities would enable Cellco to achieve its coverage objectives in this area. The six facilities are identified in the following table:

Type of Tower	Tower Location	Distance and Direction from Proposed Facility
140' monopole	871 Hopmeadow Road, Simsbury	3.1 miles, NW
87' transmission line tower	142 Duncaster Road, Bloomfield	1.2 miles, SW
120' flagpole	30 Brae Burnie Lane, Bloomfield	3.1 miles, SW
120' monopole	28 Brewer Street, Bloomfield	2.8 miles, SE
95' monopole	100 Filley Street, Bloomfield	2.2 miles, SE
170' monopole	99 Day Hill Road, Windsor	3.6 miles, E

(Cellco 4, Response 2)

46. In its site search process, Cellco did not find any existing, non-tower structures of a height that would enable Cellco to provide its desired coverage. (Cellco 1, p. 11)

47. Cellco identified and investigated 11 properties during its site search process. These properties and the determinations of their suitability are listed below.

    a. River Bend Associates, Inc. – Day Hill Road, Bloomfield – This is the 11.8 acre property on which Cellco's proposed facility would be located.

    b. Center Fire Department No. 3 – 361 Tunxis Avenue, Bloomfield – This parcel is located at the southeast corner of Tunxis Avenue and Adams Road. It is the location of the Center Fire Department firehouse. Another structure used for fire training purposes is in the rear of the property. Most of the parcel is paved and used on a regular basis by the fire department. This site was rejected because of the fire department's use of all paved areas on the parcel and limitations posed by a large wetland area in the rear, unpaved portion of the property.

    c. Griffin Center Development – 1975, 1985, and 1995 Blue Hills Avenue, Windsor – These three parcels are currently used for agricultural purposes. The property owner was unwilling to lease space for a telecommunications tower because he plans to develop the properties for industrial and mixed uses.

    d. Griffin Road North – Windsor – There are four parcels in this area, all located within the Griffin Center Business Park. The property owner was unwilling to lease land for a telecommunications tower due to future development plans.

    e. 1936 Blue Hills Avenue, Windsor – This is a five-acre parcel used for agricultural purposes. The property owner was unwilling to lease space for a telecommunications tower due to plans for future development.

    f. 310 and 340 West Newberry Road, Bloomfield – Cellco investigated two parcels at these addresses. The owner of these two properties was unwilling to lease space for a telecommunications tower due to plans for future development.

    (Cellco 1, Attachment 8)

48. Cellco could not identify any equally effective technological alternatives to the proposed facility that would provide service of comparable quality. (Cellco 1, p. 10)

49. A Distributed Antenna System (DAS) would not be viable for Cellco's desired coverage as it is more suited for specific, more localized need areas. (Tr. 1, p. 11)

Facility Description

Application Site

50. Cellco's proposed site would be located on a 10.8 acre parcel south of Day Hill Road and west of the ConnDOT rail line. The property (Property) is owned by River Bend Associates, Inc. and was formerly used for agricultural purposes. The proposed site is approximately 600 feet east of Tunxis Avenue (Route 189) and 1,600 feet southwest of Blue Hills Avenue Extension (Route 187). (See Figures 1 and 2) (Cellco 1, pp. iii, 2; Attachment 1)

51. The Property is located in an R-40 zoning district, a designation primarily intended to allow for single family residences on a minimum lot size of 40,000 square feet. Telecommunications towers are permitted in R-40 districts subject to the issuance of a Special Permit by the planning and zoning commission. (Cellco 1, p. 17; Bulk Filing – Bloomfield Zoning Regulations)

52. Cellco's proposed facility would be located in the southerly portion of the Property. Cellco would lease a 100-foot by 100-foot parcel, within which it would develop a 47-foot by 76-foot graveled compound that would include a 110-foot high monopole tower. The compound would be enclosed by an eight-foot high chain link fence topped with three strands of barbed wire. Cellco's equipment would be housed within a 12-foot by 24-foot single-story shelter. (See Figure 3) (Cellco 1, Attachment 1)

53. The proposed tower would be located at 41° 52' 32.77" N latitude and 72° 44' 31.08" W longitude. Its elevation at ground level would be approximately 180 feet above mean sea level. (Cellco 1, Attachment 1, p. 4)

54. Emergency backup power would be provided by a propane-fueled generator that would be located within Cellco's equipment shelter. A 1,000 gallon propane tank would be installed adjacent to the equipment shelter. (Cellco 1, p. 12; Attachment 1)

55. Cellco would use propane to fuel its backup generator because of the presence of wetlands near the proposed facility. (Tr. 1, p. 16)

56. The propane tank would have a separate gate for service access. (Tr. 1, p. 16)

57. The propane-fueled generator would be able to operate for approximately 70 hours before it would need to be refueled. (Tr. 1, p. 17)

58. Cellco's proposed tower would be designed in accordance with the specifications of the Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." The diameter of the tower would be approximately 55 inches at its base and 30 inches at its top. (Cellco 1, Attachment 1, p. 6)

59. The proposed tower would be designed to accommodate a minimum of four wireless carriers, plus municipal antennas should either Bloomfield or Windsor have a need to locate on the tower. (Cellco 1, p. 12)

60. The proposed tower would be designed to be capable of being extended up to 20 feet, to an overall height of 130 feet AGL. (Cellco 1, p. 12)

61. Cellco would install a total of 15 antennas—six cellular (850 MHz) antennas, six PCS (1900 MHz) antennas, and three LTE (700 MHz) antennas—at a centerline height of 110 feet AGL. The antennas would extend to an overall height of 113 feet AGL. (Cellco 1, pp. 2-3)

62. Cellco would install its antennas on a low-profile platform. (Cellco 4, Response 15)

63. Cellco would require three different heights to deploy its proposed antennas on a flagpole- or flush-mounted tower, and the height of the proposed tower would have to be raised 10 or 20 feet. (Tr. 1, pp. 14-15)

64. The proposed facility would require approximately 365 cubic yards of cut and 32 cubic yards of fill. (Cellco 4, Response 11)

65. Vehicular access to the proposed site would extend over a new gravel driveway for a distance of approximately 1,250 feet from Day Hill Road, run closely parallel to the ConnDOT rail line, and then turn westward toward the site. (Cellco 1, Attachment 1; Drawing C-10)

66. Utility service would extend from existing service along Day Hill Road and follow the path of the access drive underground to the proposed facility. (Cellco 1, Attachment 1, p. 1; Tr. 1, pp. 10-11)

67. Cellco does not anticipate that blasting would be required to develop the proposed facility. Any final determination of the need for blasting, however, would be made after a more thorough geotechnical survey of the project site. (Cellco 4, Response 13)

68. The setback radius of the proposed tower would lie completely within the Property. The nearest property line to the location of the proposed tower is 215 feet to the south. (Cellco 4, Response 16)

69. There are 29 residences located within 1,000 feet of the proposed facility. (Cellco 1, p. 14)

70. The closest residence is located at 372 Tunxis Avenue, approximately 470 feet to the west of the proposed site. It is owned by Susan and Jacqueline Oclair. (Cellco 1, pp. 14-15; Attachment 4)

71. Land use within ¼ mile of the proposed site is a mix of commercial, residential, and industrial uses in the Towns of Bloomfield and Windsor. (Cellco 1, Attachment 1, p. 4)

72. The estimated cost of the proposed facility, including antennas, is:

Cell site radio equipment	$450,000
Tower, coax, and antennas costs	150,000
Power systems costs	20,000
Equipment building costs	50,000
Miscellaneous costs	170,000
Total costs	$840,000

(Cellco 1, p. 22)

Alternative Site

73. Cellco's alternative site would be located approximately 350 feet north of the site proposed in Cellco's original application and immediately west of a large barn in the northern portion of the Property. (See Figure 2) (Cellco 6.c. - Visual Assessment - Alternate Site Location)

74. At this location, Cellco would erect a 110-foot tall monopole tower inside a 50-foot by 58-foot compound, enclosed by an eight-foot tall chain link fence, within a 100-foot by 100-foot lease area. (Cellco 6.a. - Alternate Site Location Project Plans, Sheet C-1.0)

75. Vehicular access to the alternative site would be from Day Hill Road via a 12-foot wide gravel access drive for a distance of approximately 580 feet. (Cellco 6.a. - Alternate Site Location Project Plans, Sheet C-1.0)

76. Utilities would be brought to the alternative site underground from Day Hill Road along a different route than the access drive in order to give the property owner greater flexibility for future development possibilities. (See Figure 4) (Cellco 6.a. - Alternate Site Location Project Plans, Sheet C-1.0; Tr. 3, pp. 36-37)

77. The nearest residence to the alternative site is located approximately 530 feet to the west at 374 Tunxis Avenue. It is owned by Leo Ryans. (Cellco 6.a. - Alternate Site Location Project Plans, Sheet C-0.0)

Environmental Considerations

Application Site

78. The proposed facility would have no effect on archaeological resources listed or eligible for listing in the National Register of Historic Places. (Cellco 1, Attachment 10, SHPO Comment dated November 22, 2010)

79. There are no extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur on the Property. (Cellco 1, Attachment 10, Letter from CTDEP Bureau of Natural Resources, dated August 18, 2010)

80. Cellco's emergency backup generator would require a permit from DEP's Bureau of Air Management. Cellco would obtain this permit prior to installing the generator. (Cellco 1, pp. 20-21)

81. Cellco's proposed facility is not located within an Important Bird Area (IBA) as designated by Audubon Connecticut. The closest IBA is Northwest Park in Windsor, which is located approximately 2.3 miles to the northeast along the Farmington River. (Cellco 4, Tab 2 – Dean Gustafson, Migratory Bird Impact Evaluation, p. 2)

82. Cellco's proposed facility would comply with the recommendations of the United States Fish and Wildlife Service's *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers*. (Cellco 4, Tab 2 – Dean Gustafson, Migratory Bird Impact Evaluation, pp. 3-5)

83. Two trees with a diameter at breast height of six inches or more would be removed to develop the proposed site. (Cellco 1, Attachment 10, p. 5)

84. There is a wetland resource area that consists of a seasonally saturated forested wetland with an associated intermittent watercourse flowing through its interior and a man-made pond located to the west of the proposed facility. The nearest proposed disturbance associated with the proposed facility is approximately 100 feet from the nearest point of the wetland area. (Cellco 1, Attachment 12)

85. Cellco would establish and maintain appropriate soil erosion and sedimentation control measures, in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* established by the Connecticut Council for Soil and Water Conservation, in cooperation with the Connecticut Department of Environmental Protection, throughout the construction period of the proposed facility. (Cellco 1, p. 18; Attachment 12)

86. With appropriate erosion and sedimentation controls in place, Cellco's proposed facility would not have any direct impacts to the wetland area. (Cellco 1, p. 18; Attachment 12)

87. Cellco's proposed facility site is located outside of the 500-year flood plain. (Cellco 1, Attachment 13)

88. The proposed tower would not constitute an obstruction or hazard to air navigation and would not require any obstruction marking or lighting. (Cellco 1, p. 20; Attachment 14)

89. At either location, the cumulative worst-case maximum power density from the radio frequency emissions from the operation of Cellco's proposed antennas would be 29.3% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas would be pointed at the base of the tower and all channels would be operating simultaneously, which creates the highest possible power density levels. Under normal operation, the antennas would be oriented outward, directing radio frequency emissions away from the tower, thus resulting in significantly lower power density levels in areas around the tower. (Cellco 1, p. 16; Attachment 11)

Alternative Site

90. The alternative site would be approximately 65 feet from the closest point of the wetlands to the west of the site. (Cellco 6.b. - Wetland Impact Assessment - Alternate Site Location)

91. The trench for the underground utilities would be approximately 15 feet from the wetland area at its nearest point. (Cellco 6.b. - Wetland Impact Assessment - Alternate Site Location; Tr. 3, p. 28)

92. Cellco could take protective measures to minimize any potential impact on the wetlands. These measures include: the installation and maintenance of proper erosion control measures during construction activities in accordance with the *2002 Connecticut Guidelines For Soil Erosion and Sediment Control Guidelines*, maintaining a minimum buffer of 25 feet between the compound and the wetlands, stabilizing any disturbed soil by seeding it with a New England Conservation/Wildlife mix, and planting a buffer of native shrubs along the west and south sides of the proposed compound. (Cellco 6.b. - Wetland Impact Assessment - Alternate Site Location)

93. One catalpa tree with a diameter at breast height of 12 inches would be required to be removed for the alternative site's compound. Four additional trees—three catalpas and one red maple—would be required to be removed for the utility trench to this site. (Cellco 6.b. - Wetland Impact Assessment - Alternate Site Location)

Visibility

Application Site

94. Cellco's proposed tower would be visible above the tree canopy on a year-round basis from approximately 101 acres in the surrounding vicinity. The majority of the areas with year-round visibility are open commercial and agricultural properties. There are smaller areas that would have year-round visibility to the northwest, southwest and southeast of the proposed facility. (See Figure 9) (Cellco 1, Attachment 9, p. 5)

95. A monopine tower would possibly soften the views of the tower from surrounding areas, particularly those located to the west of the proposed facility. From a vantage point to the east of the proposed facility looking westward, a monopine would appear more prominent. (Tr. 1, pp. 11-13)

96. The proposed tower would be seasonally visible from approximately 33 acres located within the general vicinity of the proposed facility. (Cellco 1, Attachment 9, p. 5)

97. The proposed tower would not be visible from the Metacomet Trail, which is located approximately 1.6 miles to the west. (Cellco 1, Attachment 9, p. 5: Viewshed Analysis Map)

98. Approximately 12 residential properties could have at least partial year-round views of the proposed tower. In addition, there are approximately 17 residential properties that could have seasonal views of the proposed tower. The locations of the properties that are likely to have year-round and seasonal views of the proposed tower are identified in the following table.

Property Location	**Number of residential properties with potential year-round views**	**Number of residential properties with potential seasonal views**
Route 189 (Tunxis Avenue)	2	5
McCormick Place	3	2
Bear Ridge Drive	-	2
Adams Road	1	3
Boysen Drive	2	4
Lynn Circle	-	1
Terry Plains Road	2	-
Duncaster Road	2	-
Total	**12**	**17**

(Cellco 1, Attachment 9, pp. 5-6)

99. The visibility of Cellco's proposed tower from different vantage points in the surrounding vicinity is summarized in the following table. The vantage points listed are identified by their corresponding number in the Visual Resource Evaluation Report contained in Attachment 9 of Cellco's application (Figure 9).

Location	**Visibility**	**Approx. Portion of (110') Tower Visible**	**Approx. Distance and Direction to Tower**
1 – Day Hill Road	Year-round	50'	5100 feet, west
2 – Day Hill Road	Year-round	50'	4000 feet, west
3 – Blue Hills Avenue Extension	Year-round	20'	2400 feet, southwest
4 – Waterside Crossing Approaching Blue Hills Ave Extension	Year-round	50'	2100 feet, southwest
5 – Route 189 (Tunxis Avenue)	Year-round	30'	1800 feet, southeast
6 – 387 Tunxis Avenue	Year-round	30'	950 feet, southeast
7 – 372 Tunxis Avenue	Year-round	100'	580 feet, east
8 – 368 Tunxis Avenue	Year-round	60'	740 feet, northeast
9 – 6 McCormick Place	Year-round	20'	1,100 feet, northeast
10 – 10 McCormick Place	Year-round	40'	950 feet, east
11 – 1 Boysen Drive	Year-round	30'	1,700 feet, northeast

(table continued on next page)

Location	Visibility	Approx. Portion of (110') Tower Visible	Approx. Distance and Direction to Tower
12 – Lynn Circle west of Boysen Drive	Seasonal	20'	2,000 feet, northeast
13 – 11 Boysen Drive	Seasonal	10'	2,100 feet, northeast
14 – 16 Bear Ridge Drive	Seasonal	40'	1,500 feet, east
15 – Harvest Lane at Habitat Lane	None	n/a	2,400 feet, east
16 – Terry Plains Road	Year-round	20'	7,500 feet, northeast
17 – Terry Plains Road	None	n/a	8,400 feet, northeast
18 – Griffin Road South	Seasonal	20'	2,600 feet, northwest
19 – 30 Griffin Road South	Year-round	40'	2,400 feet, northwest
20 – Day Hill Road	Year-round	100'	1,800 feet, west
21 – Day Hill Road, near host property	Year-round	80'	650 feet, southwest
22 – 98 Adams Road	Year-round	50'	580 feet, northwest
23 – 23 Edwards Way	None	n/a	1,600 feet, northwest
24 – Bloomfield Reservoir	None	n/a	6,230 feet, northeast

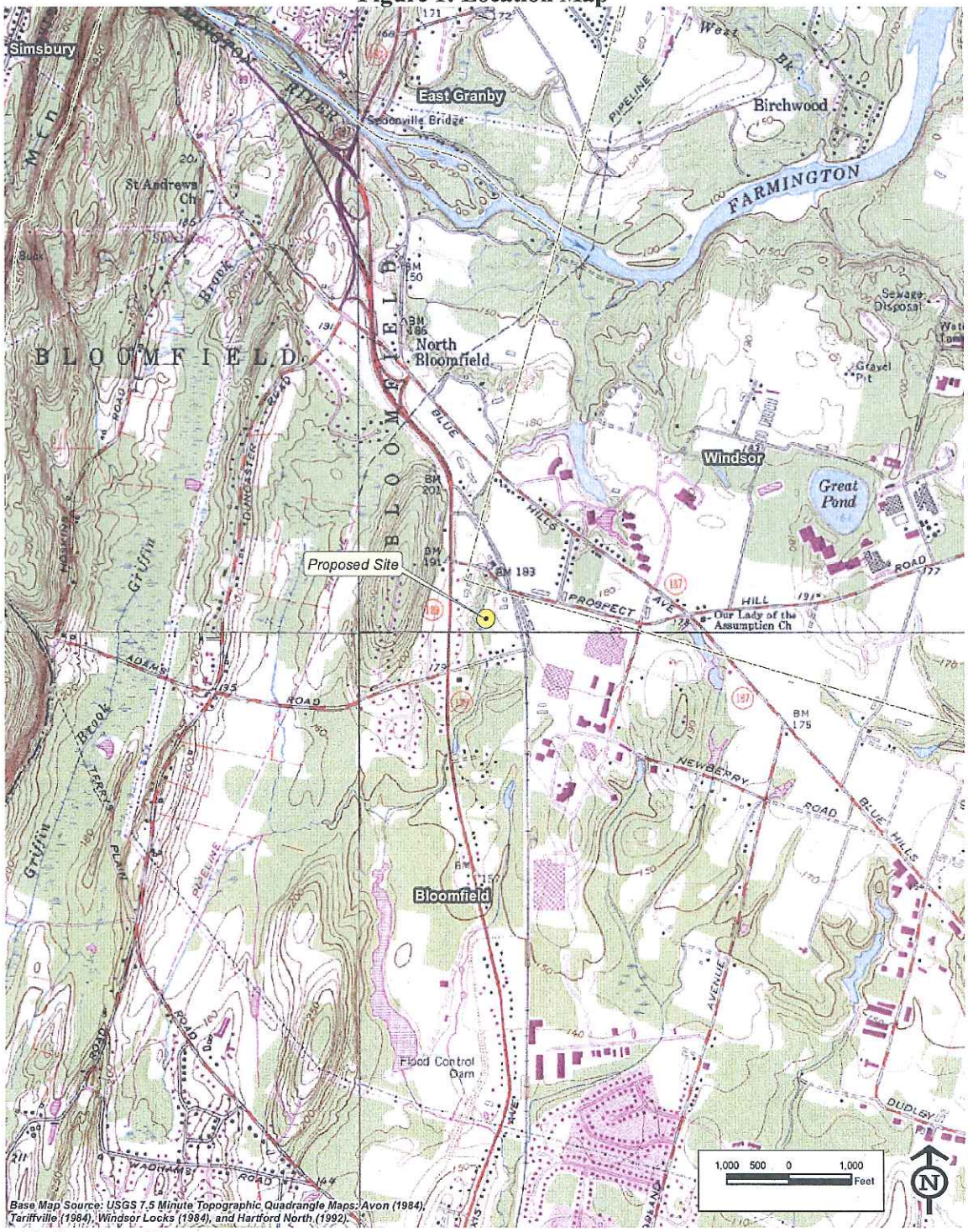
(Cellco 1, Attachment 9 – Photographic Simulations)

Alternative Site

100. The alternative site would substantially minimize potential visibility from locations along Adams Road to the south due to the increased distance between the alternate site and Adams Road. (Cellco 6.c. - Visual Assessment - Alternate Site Location, p. 1; Tr. 3, pp. 26-27)

101. The alternative site would also reduce visibility to the west along Tunxis Avenue because the trees between this site and Tunxis Avenue are higher than the trees between Tunxis Avenue and the application site. (Cellco 6.c. - Visual Assessment - Alternate Site Location, p. 2; Tr. 3, pp. 35-36)

Figure 1: Location Map

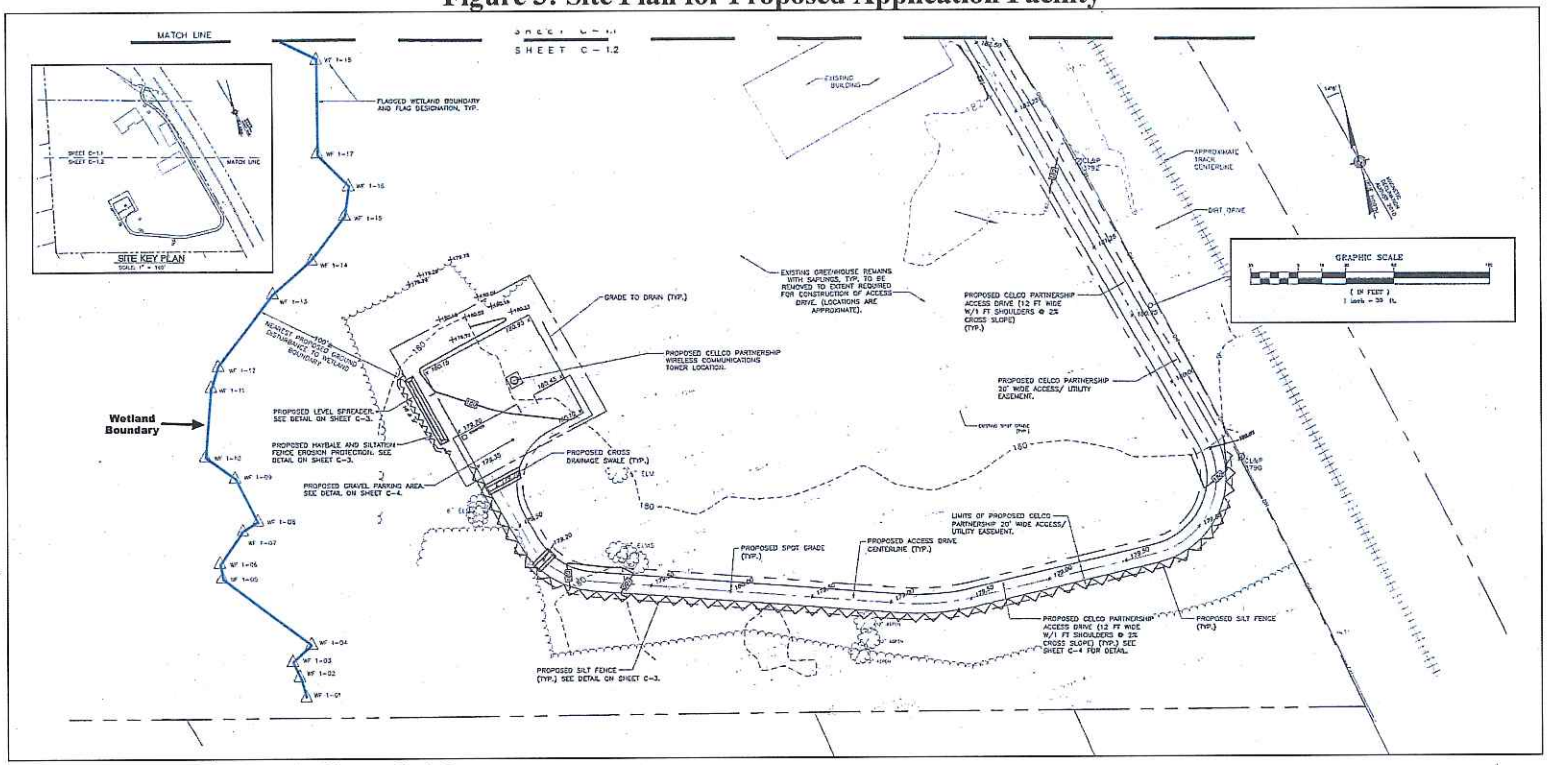


(Cellco 1, p. ii)

Figure 2: Aerial Photograph of Proposed Application Site and Alternative Site

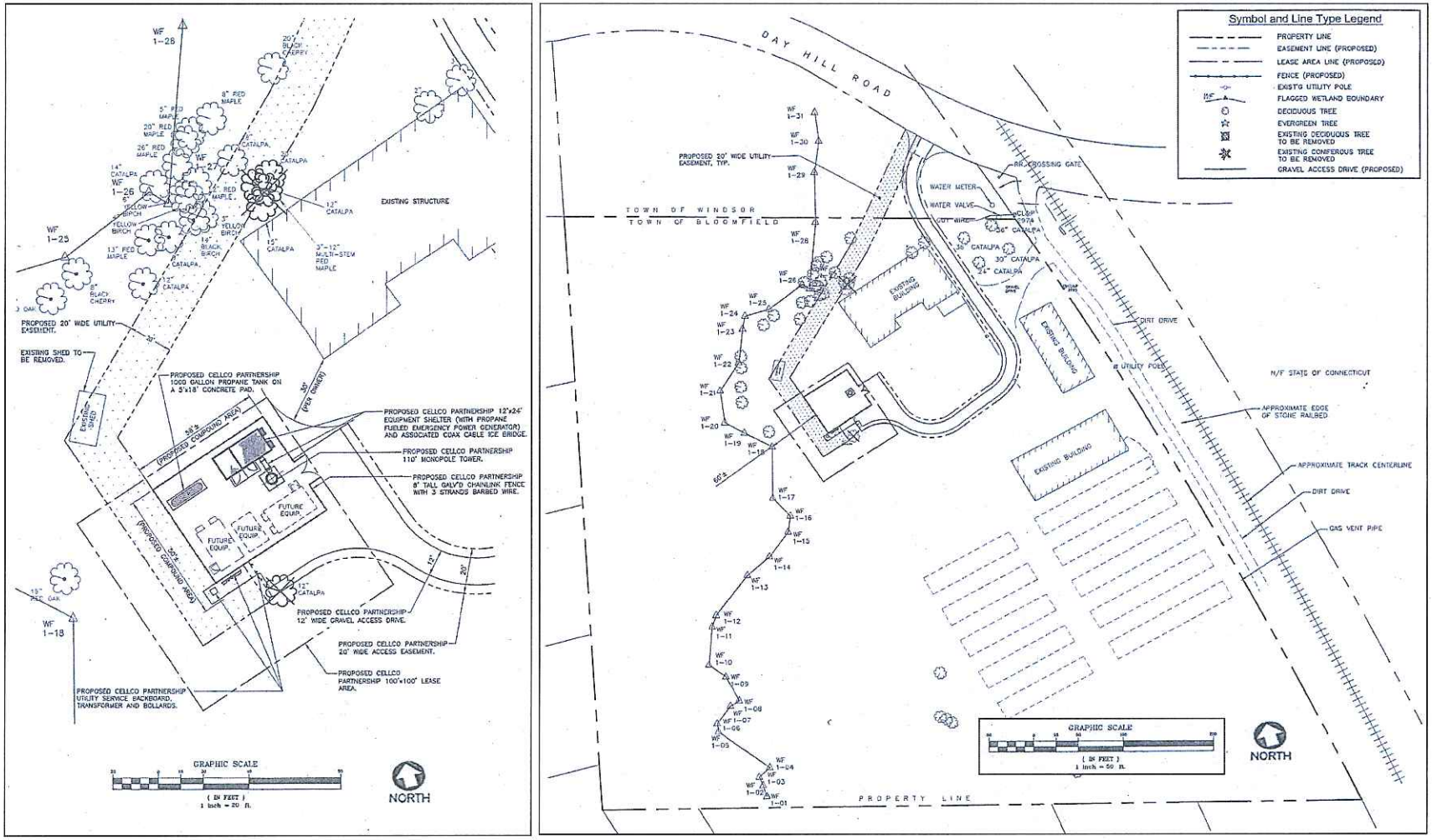
(Cellco 6.c. - Visual Assessment - Alternate Site Location)

Figure 3: Site Plan for Proposed Application Facility



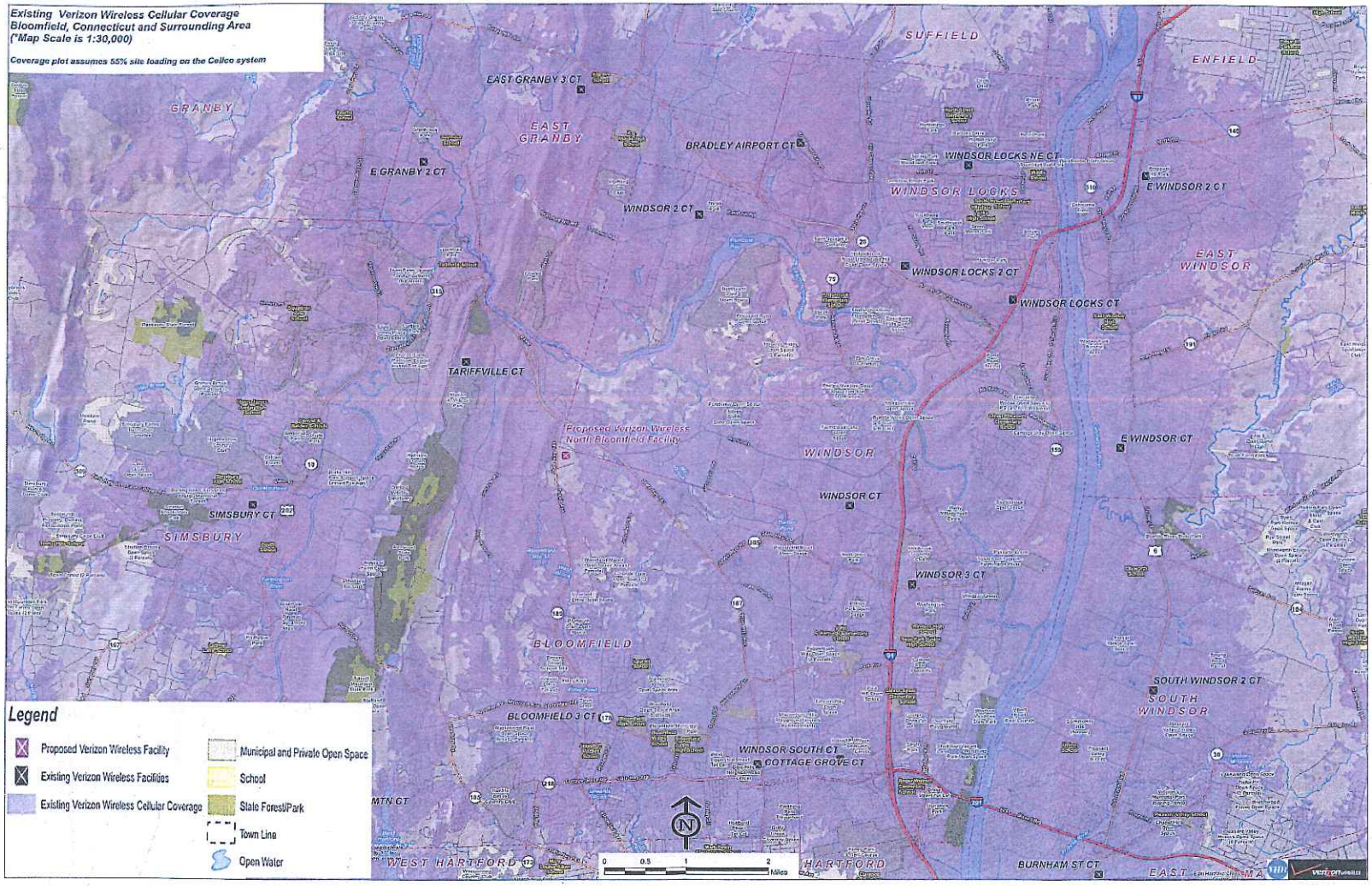
(Cellco 1, Attachment 1, Sheet C-1.2

Figure 4: Site Plan for Alternative Site



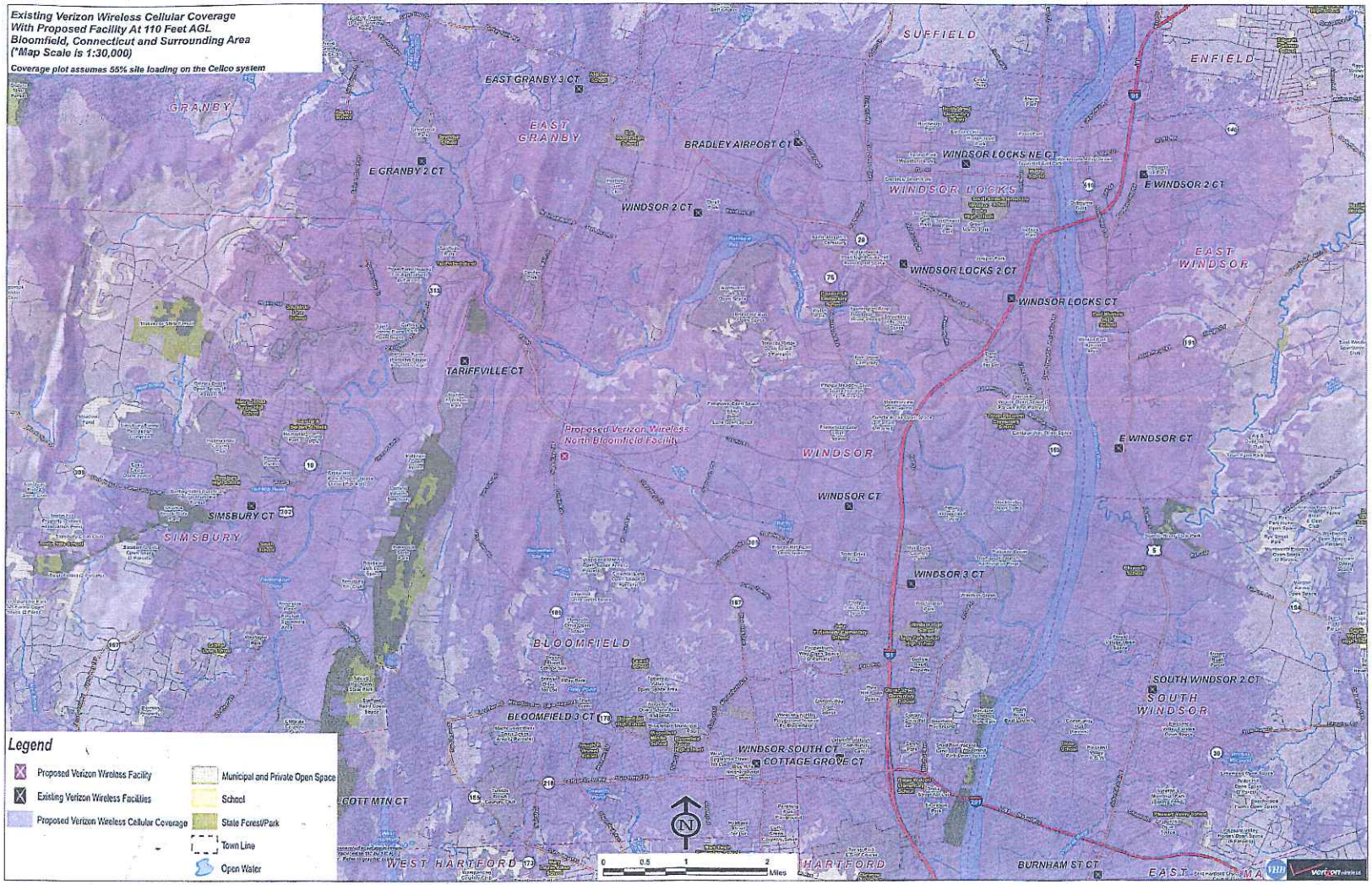
(Cellco 6.a. - Alternate Site Location Project Plans, Sheet 1.0)

Figure 5: Cellco's Existing Coverage at Cellular Frequencies



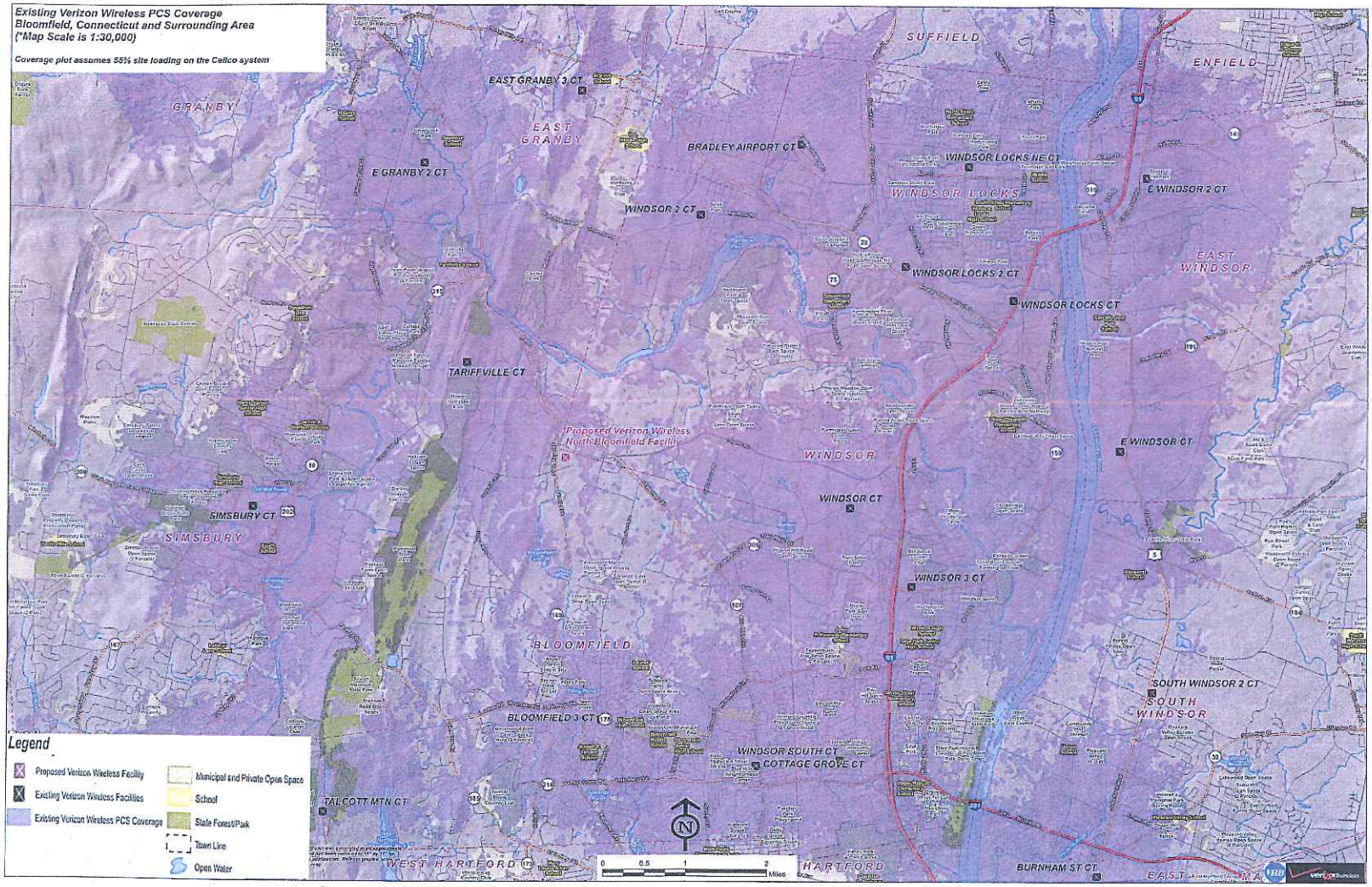
(Cellco 1, Attachment 6)

Figure 6: Cellco's Cellular Coverage with Proposed Facility



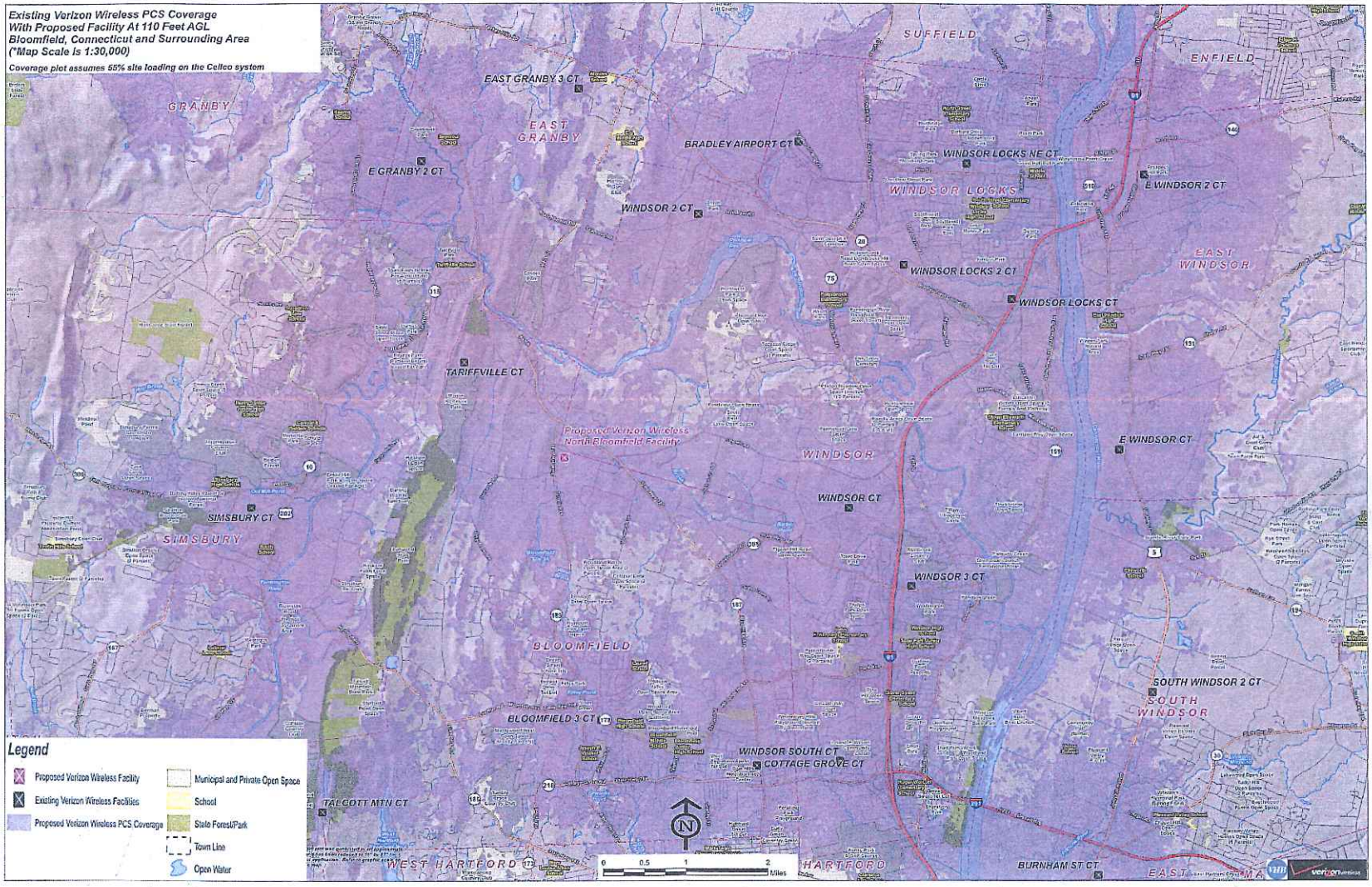
(Cellco 1, Attachment 6)

Figure 7: Cellco's Existing Coverage at PCS Frequencies



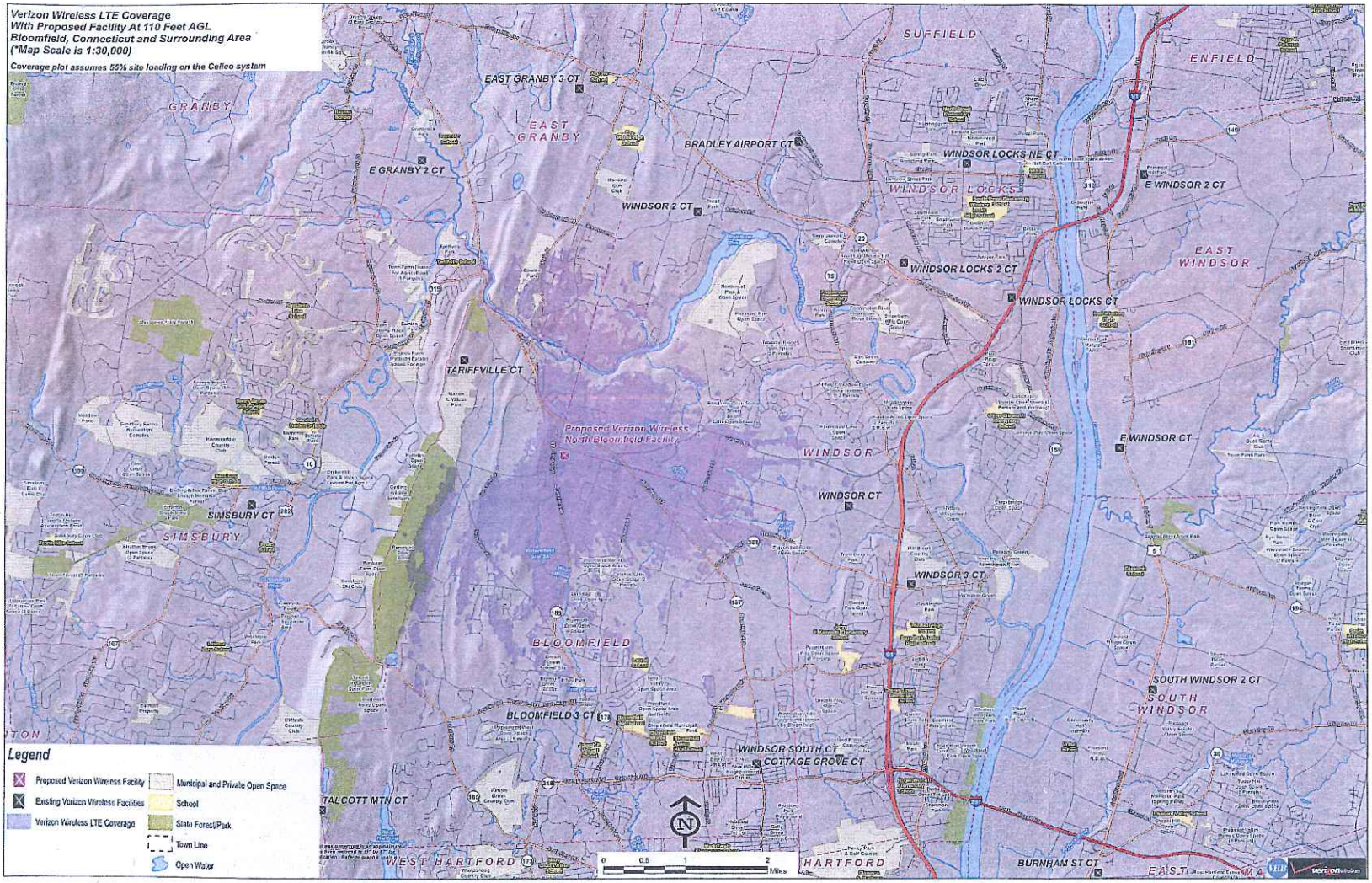
(Cellco 1, Attachment 6)

Figure 8: Cellco PCS Coverage with Proposed Facility



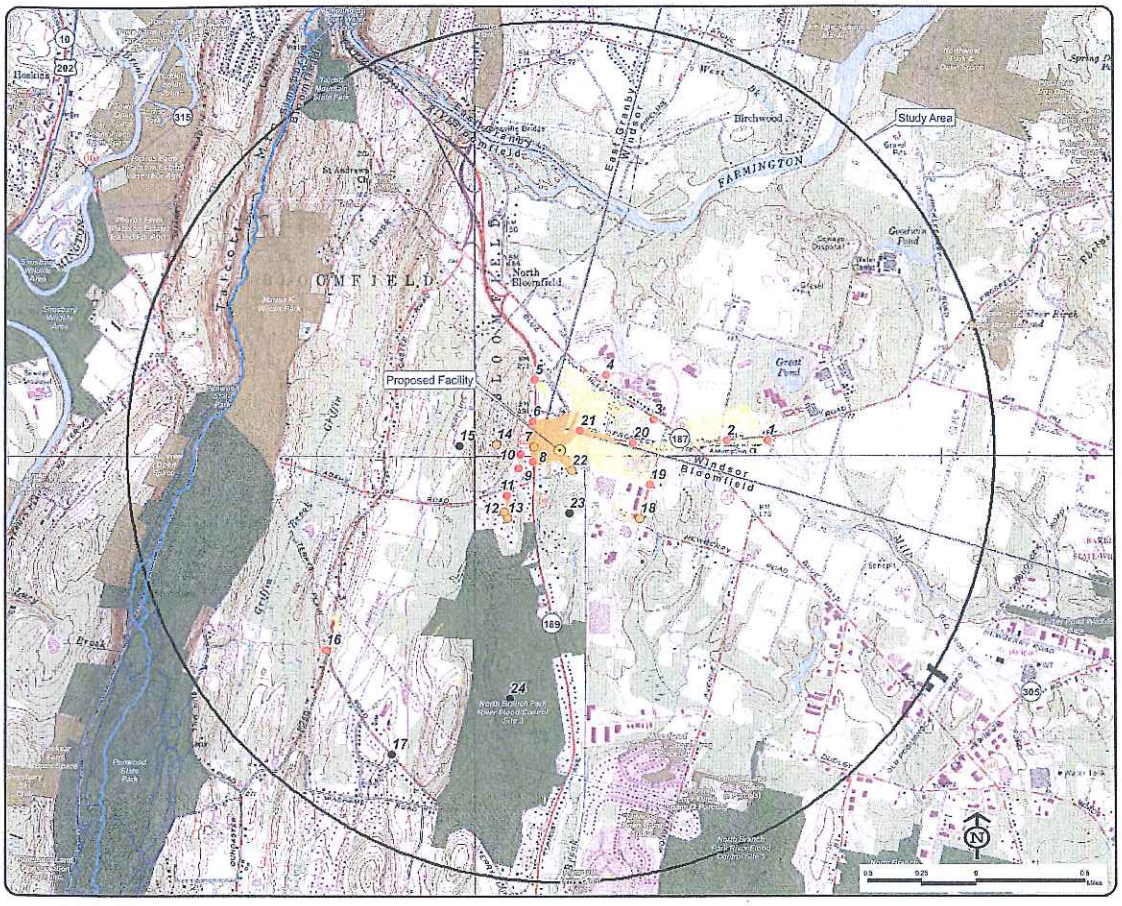
(Cellco 1, Attachment 6)

Figure 9: Cellco LTE Coverage from Proposed Facility



(Cellco 1, Attachment 6)

Figure 10: Visibility Analysis (Application Site)



(Cellco 1, Attachment 9)

DOCKET NO. 416 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off of Day Hill Road, Bloomfield, Connecticut.	}	Connecticut Siting Council

November 3, 2011

Opinion

On February 14, 2011, Cellco Partnership d/b/a Verizon Wireless (Cellco) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a wireless telecommunications facility to be located on a property off of Day Hill Road in Bloomfield, Connecticut. Cellco is seeking to develop a facility on a 10.8 acre parcel owned by River Bend Associates, Inc. and formerly used for agricultural purposes. Cellco's objective for its facility at this location is to provide coverage, particularly for PCS frequencies, and capacity relief primarily along portions of Routes 187 and 189 as well as local roads and residential, agricultural, industrial, and commercial areas in portions of northern Bloomfield, northwest Windsor, and southern East Granby.

In its original application, Cellco proposed constructing a 110-foot monopole tower within a 47-foot by 76-foot graveled compound at a location in the south central portion of the host property. Based upon Council concerns expressed during the public hearing on this Certificate application, Cellco subsequently submitted a proposal for an alternate facility location, which would be on the same property approximately 350 feet to the north of the original location. Cellco's tower at the alternate location would also be 110 feet tall, but the compound would be 50 feet by 58 feet. At either location, vehicular access would be via a gravel drive. For the original facility location, the drive would utilize an existing dirt road and then cut westerly across the property. For the alternative location, the drive would originate at Day Hill Road. Utilities would be brought to the original site underground along the access drive. Utilities would also be brought underground to the alternate site, but they would travel a more direct route from Day Hill Road in order to allow the property owner more flexibility for future development possibilities.

The proposed tower's setback radius would lie completely within the host property's boundaries at either location.

Cellco's proposed tower would be visible above the tree canopy on a year-round basis from approximately 101 acres in the surrounding vicinity. The majority of the areas with year-round visibility are open commercial and agricultural properties. There are smaller areas that would have year-round visibility to the northwest, southwest and southeast of the proposed facility. The proposed tower would be seasonally visible from approximately 33 acres located within the general vicinity of the proposed facility. A monopine tower would possibly soften the views of the tower from surrounding areas, particularly those located to the west of the proposed facility. From a vantage point to the east of the proposed facility looking westward, a monopine would appear more prominent. Approximately 12 residential properties could have at least partial year-round views of the proposed tower. Approximately 17 additional residential properties would have seasonal views of the proposed tower. The alternative site would substantially

minimize potential visibility from locations along Adams Road to the south due to the increased distance between this site and Adams Road. It would also reduce visibility to the west along Tunxis Avenue because the trees between the alternate site and Tunxis Avenue are taller than the trees between Tunxis Avenue and the application site.

The host property contains a wetland resource area that consists of a seasonally saturated forested wetland with an associated intermittent watercourse flowing through its interior and a man-made pond located in the western portion of the property. The nearest disturbance associated with the facility proposed in the application is approximately 100 feet from the nearest point of the wetland area. The trench for the underground utilities to the alternate site would be approximately 15 feet from the wetland area at its nearest point. At either site, Cellco would take measures to prevent any disturbance to the wetland area.

There are no populations of Federal or State Endangered, Threatened or Special Concern Species on the host property. A facility on this property would have no effect on archaeological resources listed or eligible for listing in the National Register of Historic Places.

After reviewing the record in this proceeding, the Council finds Cellco's alternate site to be preferable to the site proposed in its application. This site is farther away from the nearest neighbors and would be less visible to the residences to the south on Adams Road and along Tunxis Avenue. The proposed tower's visibility from vantage points to the east would be about the same at either location.

According to a methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the worst-case combined radio frequency power density levels of the antennas proposed to be installed on the tower have been calculated by Council staff to amount to 29.3% of the FCC's Maximum Permissible Exposure, as measured at the base of the tower. This percentage is well below federal and state standards established for the frequencies used by wireless companies. If federal or state standards change, the Council will require that the tower be brought into compliance with such standards. The Council will require that the power densities be recalculated in the event other carriers add antennas to the tower. The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, maintenance and operation of the telecommunications facility at the proposed alternate site, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with policies of the State concerning such effects, and are not sufficient reason to deny this application. Therefore, the Council will issue a Certificate for the construction, maintenance, and operation of a 110-foot monopole telecommunications facility at the alternative site off of Day Hill Road, and deny certification for the site proposed in Cellco's original application.

DOCKET NO. 416 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off of Day Hill Road, Bloomfield, Connecticut.	}	Connecticut
	}	Siting
	}	Council

November 3, 2011

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the alternate site, located off of Day Hall Road on property now or formerly owned by River Bend Associates, Inc. in Bloomfield, Connecticut. The Council denies certification of the site proposed in the original application, which is located on the same property in Bloomfield, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of the Certificate Holder and other entities, both public and private, but such tower shall not exceed a height of 110 feet above ground level. The height at the top of the Certificate Holder's antennas shall not exceed 113 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Bloomfield for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Bloomfield and/or Windsor public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Bloomfield. Any proposed modifications to this Decision and Order shall likewise be so served.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 416** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Day Hill Road, Bloomfield, Connecticut., and voted as follows to approve the alternate site on property now or formerly owned by River Bend Associates, Inc. in Bloomfield, Connecticut:

Council Members	**Vote Cast**
Robert Stein, Chairman	Yes
Colin C. Tait, Vice Chairman	Yes
Commissioner Kevin M. DelGobbo Designee: Larry P. Levesque	Absent
Commissioner Dan Esty Designee: Brian Golembiewski	Yes
Philip T. Ashton	Yes
Daniel P. Lynch, Jr.	~~Abstain~~ Absent
James J. Murphy, Jr.	Yes
Dr. Barbara Currier Bell	Yes
Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, November 3, 2011.

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

November 4, 2011

Sandy Carter
Regulatory Manager
Verizon Wireless
99 East River Drive
East Hartford, CT 06108

RE: **DOCKET NO. 416** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Day Hill Road, Bloomfield, Connecticut.

Dear Ms. Carter:

By its Decision and Order dated November 3, 2011, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a telecommunications facility site on property now or formerly owned by River Bend Associates, Inc., located off Day Hill Road, Bloomfield, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

Linda Roberts
Executive Director

LR/CDM/laf

Enclosures (4)

c: Kenneth C. Baldwin, Esq., Robinson & Cole LLP

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CERTIFICATE

OF

ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

DOCKET NO. 416

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Cellco Partnership d/b/a Verizon Wireless for the construction, maintenance and operation of a telecommunications facility located at the alternate site on property now or formerly owned by River Bend Associates, Inc. off Day Hill Road, Bloomfield, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on November 3, 2011.

By order of the Council,

Robert Stein, Chairman

November 3, 2011

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Phone: (860) 827-2935 Fax: (860) 827-2950
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www.ct.gov/csc

November 4, 2011

TO: Classified/Legal Supervisor
416110607
The Hartford Courant
285 Broad St.
Hartford, CT 06115

FROM: Lisa A. Fontaine, Fiscal Administrative Officer

RE: **DOCKET NO. 416** - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off Day Hill Road, Bloomfield, Connecticut.

Please publish the attached notice as soon as possible, but not on Saturday, Sunday, or a holiday.

Please send an affidavit of publication and invoice to my attention.

Thank you.

LAF

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
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NOTICE

Pursuant to General Statutes § 16-50p (a), the Connecticut Siting Council (Council) announces that, on November 3, 2011, the Council issued Findings of Fact, an Opinion, and a Decision and Order approving an application from Cellco Partnership d/b/a Verizon Wireless for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at the alternate site off Day Hill Road, Bloomfield, Connecticut. This application record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut.

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www.ct.gov/csc

March 29, 2012

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **DOCKET NO. 416** - Cellco Partnership d/b/a Verizon Wireless Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located off of Day Hill Road, Bloomfield, Connecticut.

Dear Attorney Baldwin:

At a public meeting of the Connecticut Siting Council (Council) held on March 29, 2012, the Council considered and approved the Development and Management (D&M) Plan submitted for this project on March 7, 2012.

This approval applies only to the D&M Plan submitted on March 7, 2012. Any changes to the D&M Plan require advance Council notification and approval.

Please be advised that deviations from this plan are enforceable under the provisions of the Connecticut General Statutes § 16-50u. Enclosed is a copy of the staff report on this D&M Plan, dated March 29, 2012.

Thank you for your attention and cooperation.

Very truly yours,

Robert Stein
Chairman

RS/CDM/laf

Enclosure: Staff Report, dated March 29, 2012

c: Parties and Intervenors
The Honorable Sydney Schulman, Mayor, Town of Bloomfield
Louie Chapman, Jr., Town Manager, Town of Bloomfield
Thomas B. Hooper, Director of Planning, Town of Bloomfield

CSC
CONNECTICUT SITING COUNCIL

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Docket 416
Bloomfield – Day Hill Road
Cellco Partnership dba Verizon Wireless
Development and Management Plan
Staff Report
March 29, 2012

On November 3, 2011, the Connecticut Siting Council (Council) issued a Certificate of Environmental Compatibility and Public Need to Cellco Partnership (Verizon) for the construction, maintenance and operation of a wireless telecommunications facility off of Day Hill Road in the North Bloomfield section of Bloomfield, Connecticut. In its decision, the Council specified that the approved tower shall not exceed 110 feet in height. As required in the Council's Decision and Order, Verizon submitted a Development and Management (D&M) Plan for this facility on March 7, 2012.

Verizon's site is located on a 10.8-acre parcel owned by River Bend Associates, Inc. The property was formerly used for agricultural purposes. In this proceeding, Verizon originally proposed that its compound be located in the southerly area of the host property. In the course of the Council's deliberations, however, Verizon proffered an alternative location that was approximately 350 feet farther to the north in order to alleviate concerns expressed by some of the neighboring property owners. In its decision, the Council approved the northerly, alternative site. At the approved, alternate location, Verizon would develop a 50-foot by 58-foot compound within a 100-foot by 100-foot lease area. The compound would be enclosed by an eight-foot chain link fence and would include a 12-foot by 24-foot shelter for Verizon's ground equipment and a 1,000 gallon propane tank to fuel its backup propane generator. Verizon is installing a propane-fueled generator at this location because of its proximity to wetlands in order to minimize the possibility of fuel spills damaging the wetlands.

Verizon's tower will be 110 feet tall. It is designed accommodate three additional wireless carriers. Verizon's plans indicate that it will install 15 antennas (five per sector) on a low profile platform at the top of the tower.

Vehicular access to the proposed facility will extend from Day Hill Road over a 12-foot wide gravel access drive for a distance of approximately 580 feet. Utilities will be extended underground to the site from existing service poles near Day Hill Road. The utilities will not follow the access road as is the usual practice but will have a separate easement. Verizon is installing utilities this way in order for the property owner to retain maximum flexibility for future development possibilities on the property. No landscaping is proposed for the facility.

Verizon will install erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* around the area that will be disturbed during construction. They will be kept in place during the construction period.

The D&M plans as presented conform to the Council's Decision and Order and with the scope of the project described during this docket's proceedings.

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	☒ E-mail	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8345 (860) 275-8299 - fax kbaldwin@rc.com
	☒ U.S. Mail		Sandy Carter Regulatory Manager Verizon Wireless 99 East River Drive East Hartford, CT 06108

Attachment 3

Site Plans

PROJECT INFORMATION

SCOPE OF WORK:	TELECOMMUNICATIONS FACILITY (NSB AN EXISTING 109'–0" A.G.L. TALL MONOPOLE W/ PROPOSED 30'–0" TOWER EXTENSION, & WALK–IN CABINET WILL BE INSTALLED AT GRADE INSIDE A EXISTING FENCED–IN COMPOUND. PROPOSED (3) TPA65R–BU8DA–K ANTENNAS, (3) HPA65R–BU8A ANTENNAS, (3) DMP65R–BU8DA–K ANTENNAS, (3) 4478 B14 RRH'S, (3) 4415 B30 RRH'S, (3) RRUS–E2 B29 RRH'S, (3) 4449 B5/B12 RRH'S, (3) 8843 B2/B66A RRH'S, (2) DC9–48–60–24–8C–EV SURGE ARRESTORS, AND ASSOCIATED EQUIPMENT WILL BE INSTALLED AT A HEIGHT OF 135'–0" A.G.L.):
SITE ADDRESS:	2627 DAY HILL ROAD BLOOMFIELD, CT 06002
APPLICANT:	AT&T 550 COCHITUATE ROAD FRAMINGHAM, MA 01701
SITE OWNER:	RIVER BEND DEVELOPMENT CT LLC 2627 DAY HILL RD BLOOMFIELD, CT 06002
LATITUDE:	41.87650 N, 41° 52' 35.4" N
LONGITUDE:	72.74184 W, 72° 44' 30.6" W
TYPE OF SITE:	MONOPOLE/ WALK–IN CABINET
TOWER HEIGHT:	109'–0"±
PROPOSED TOWER HEIGHT:	140'–0"± WITH EXTENSION
RAD CENTER:	135'–0"±

SITE NUMBER: CT3387

SITE NAME: BLOOMFIELD DAY HILL ROAD

FA CODE:14510293

PACE ID: MRCTB048374

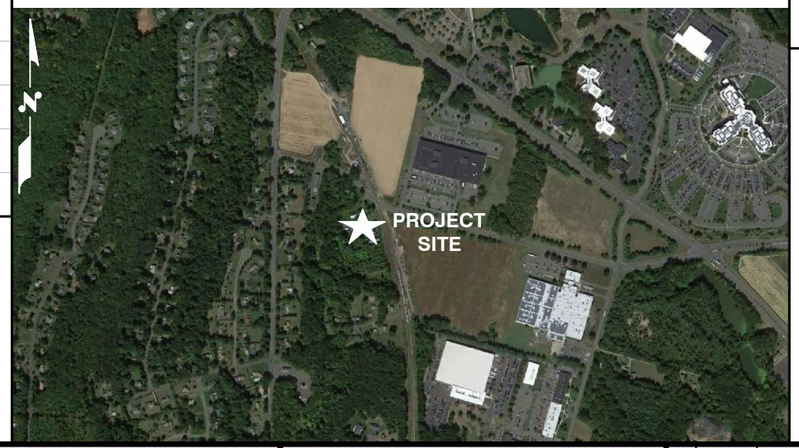
PROJECT: NSB

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T–1	TITLE SHEET	3
GN–1	GENERAL NOTES	3
C–1	PARCEL PLAN	3
A–1	COMPOUND & EQUIPMENT PLANS	3
A–2	ANTENNA LAYOUT & ELEVATION	3
A–3	DETAILS	3
A–4	DETAILS	3
S–1	ANTENNA LAYOUT DESIGN	3
E–1	ELECTRICAL NOTES & ONE–LINE DIAGRAM	3
G–1	GROUNDING DETAILS	3
RF–1	RF PLUMBING DIAGRAM	3

VICINITY MAP

DIRECTIONS TO SITE:
DEPART NORTHEAST, TURN RIGHT AND THEN LEFT ONTO LEGGATT MCCALL CONNECTOR ROAD, BEAR LEFT ONTO BURR STREET, TURN LEFT ONTO MA–30/COCHITUATE ROAD, TAKE RAMP RIGHT FOR I–90 EAST/I–90 WEST TOWARD BOSTON/SPRINGFIELD, AT EXIT 9 TAKE RAMP RIGHT FOR I–84 TOWARD HARTFORD/NEW YORK CITY, AT EXIT 61 TAKE RAMP RIGHT FOR I–291 WEST TOWARD WINDSOR, AT EXIT 2B TAKE RAMP RIGHT FOR I–91 NORTH TOWARD SPRINGFIELD, AT EXIT 38 TAKE RAMP RIGHT FOR CT–75 TOWARD POQUONOCK, TAKE RAMP RIGHT, KEEP STRAIGHT ONTO DAY HILL RD, MAKE A U–TURN AT GREAT POND DR



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1–800–922–4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT3387
SITE NAME: BLOOMFIELD DAY HILL ROAD

2627 DAY HILL ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	12/15/21	ISSUED FOR REVIEW	CC	JC	DPH
2	04/28/21	ISSUED FOR REVIEW	AR	JC	DPH
1	03/23/21	ISSUED FOR REVIEW	ES	JC	DPH
0	12/04/20	ISSUED FOR REVIEW	AS	JC	DPH

SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	T–1	3

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – SAI
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT3387
SITE NAME: BLOOMFIELD DAY HILL ROAD

2627 DAY HILL ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	12/04/20	ISSUED FOR REVIEW	AS	JC	DPH

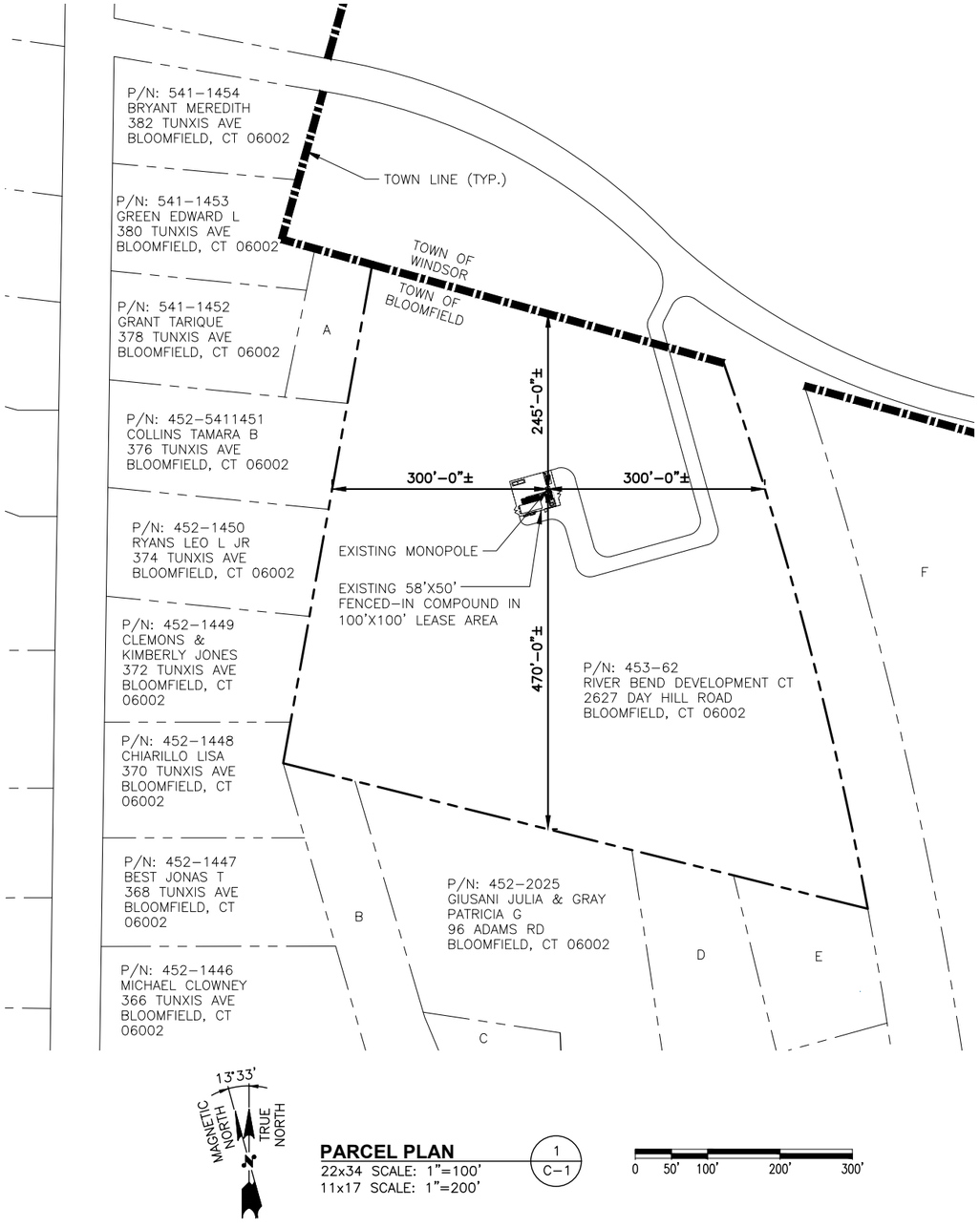
SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	GN-1	3



PARCEL PLAN (1 / C-1)
22x34 SCALE: 1"=100'
11x17 SCALE: 1"=200'

0 50' 100' 200' 300'

INFORMATION TAKEN FROM PLANS BY CONNECTICUT GIS

ZONING INFORMATION		
ZONING DISTRICT:	AGRICULTURAL & FORESTRY DISTRICT D	
DIMENSIONS REQUIREMENTS:	REQUIRED	PROPOSED
ANTENNA SETBACKS		
FRONT YARD SETBACK:	50'	245'±
SIDE YARD SETBACK:	25'	300'± & 300'±
REAR YARD SETBACK:	50	470'±

(ALL MEASUREMENTS ARE IN FEET ± UNLESS OTHERWISE NOTED)
(SETBACK TO EXISTING EQUIPMENT SHELTER UNLESS OTHERWISE NOTED)

GENERAL NOTES:

1. PROPERTY LINE INFORMATION (WHEN APPLICABLE) WAS PREPARED USING TAX MAPS, AND PLANS OF RECORD AND SHOULD NOT BE CONSTRUCTED AS A BOUNDARY SURVEY.
2. NO NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
3. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (THERE IS NO HANDICAP ACCESS REQUIRED).
4. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
5. CONNECTION TO ELECTRICAL & TELEPHONE UTILITIES TO BE DETERMINED BY THE APPROPRIATE UTILITY COMPANY.
6. SUBCONTRACTOR TO VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEER PRIOR TO INSTALLATION. SEE ANTENNA CONFIGURATION SHEETS FOR SITE SPECIFIC DETAILS.
7. SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
8. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION.
9. THE MAXIMUM AREA OF DISTURBANCE IS LESS THAN 1 ACRE. THE PROJECT IMPACT AREA IS BELOW THE EXEMPTION THRESHOLD OF 43,560 SQUARE FEET IN 40 CFR PARTS 9, 122-124 AND THEREFORE IS NOT SUBJECT TO REGULATION UNDER THE EPA OR STATE-MANAGED NPDES GENERAL CONSTRUCTION PERMIT PROGRAM. THE PROJECT OWNER'S GENERAL CONTRACTOR SHALL CONDUCT ALL SITE DEVELOPMENT IN ACCORDANCE WITH THE "LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL" ISSUED BY THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION. ADDITIONALLY, THE PROJECT OWNERS GENERAL CONTRACTOR SHALL CONDUCT ALL CONSTRUCTION ACTIVITIES IN A MANNER THAT DOES NOT RESULT IN STORM WATER DISCHARGES WITH AN ADVERSE IMPACT ON ANY STORM WATER COLLECTION/CONVEYANCE SYSTEM, WETLAND, WATER BODY, OR OTHER WATER RESOURCE AREAS.

PARCEL OWNERS

	PARCEL NUMBER	OWNER	ADDRESS
A	541-56-000-000	TRZCINSKI JAMES E	2645 DAY HILL RD SUFFIELD, CT 06078
B	452-2026-000-000	LAMBERT MAXIUS	92 ADAMS RD BLOOMFIELD, CT 06002
C	452-57-000-000	HITE SARAH A	94 ADAMS RD BLOOMFIELD, CT 06002
D	452-4531001	DICKSON LISA M	98 ADAMS RD BLOOMFIELD, CT 06002
E	453-62-000-000	RADZIEWICZ RONALD E	100 ADAMS RD BLOOMFIELD, CT 06002
F	453-2012-000-000	GRS REALTY LLC	1 GRIFFIN RD S BLOOMFIELD, CT 06002

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT3387
SITE NAME: BLOOMFIELD DAY HILL ROAD

2627 DAY HILL ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	12/04/20	ISSUED FOR REVIEW	AS	JC	DPH

SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

PARCEL PLAN
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	C-1	3

NOTE:

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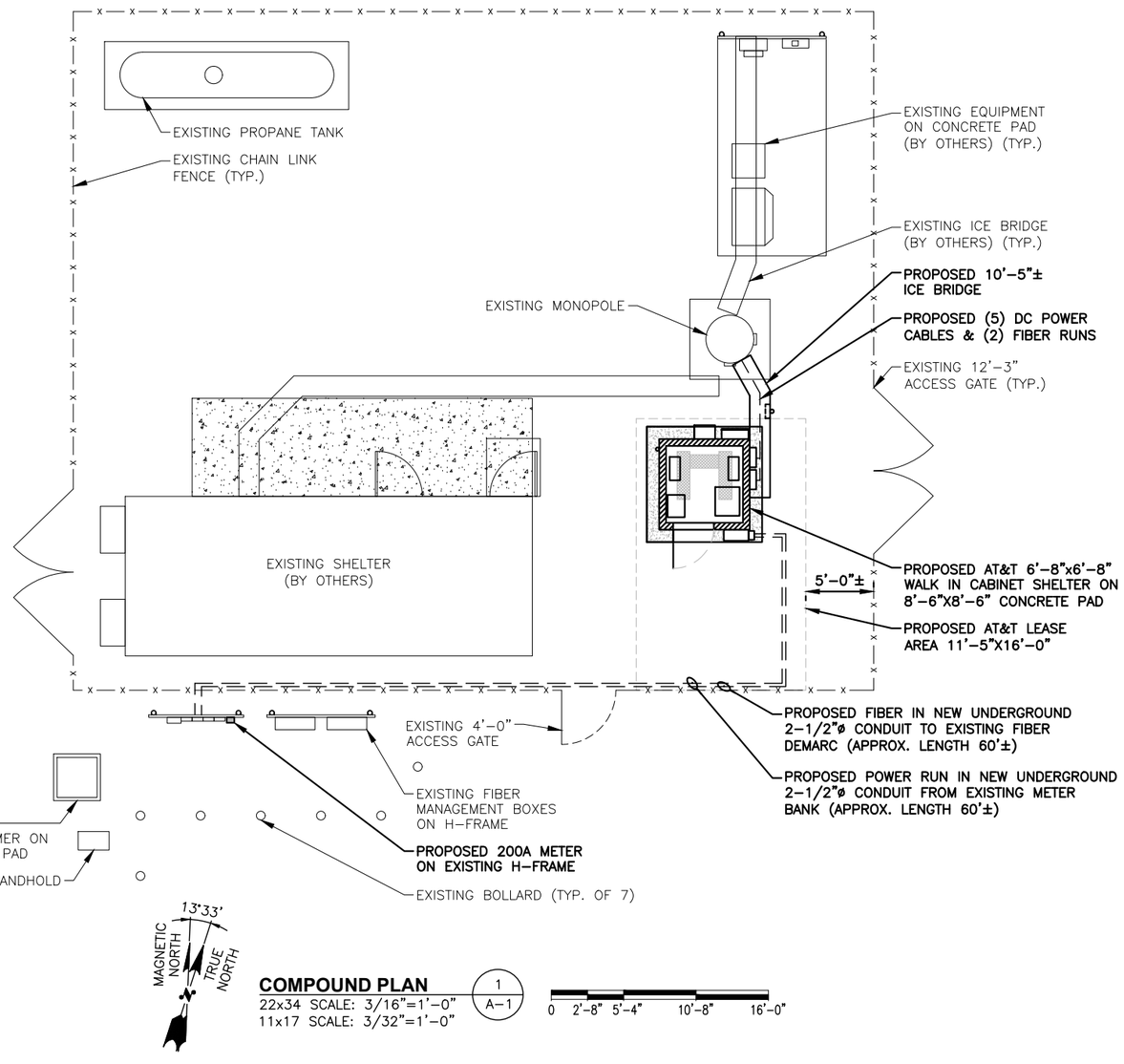
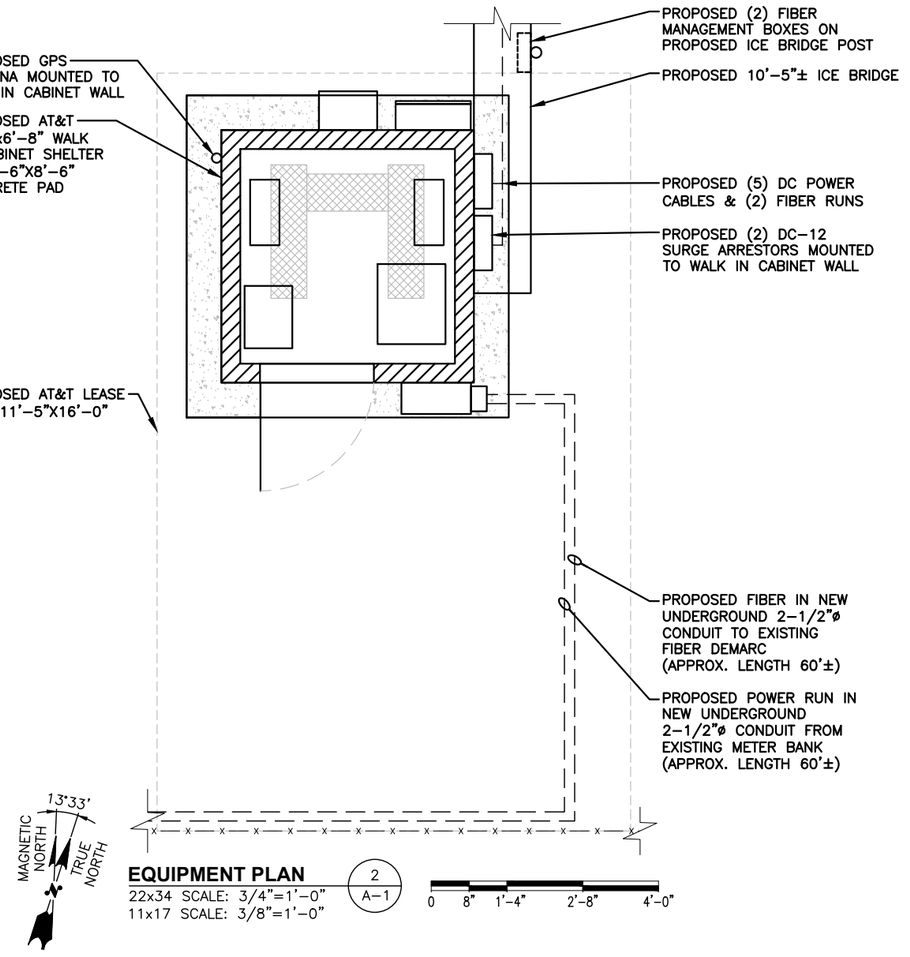
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

0 2'-8" 5'-4" 10'-8" 16'-0"



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"

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SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 21178 · LICENSED PROFESSIONAL ENGINEER

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COMPOUND & EQUIPMENT PLANS
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	A-1	3

NOTE:

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NOTE:

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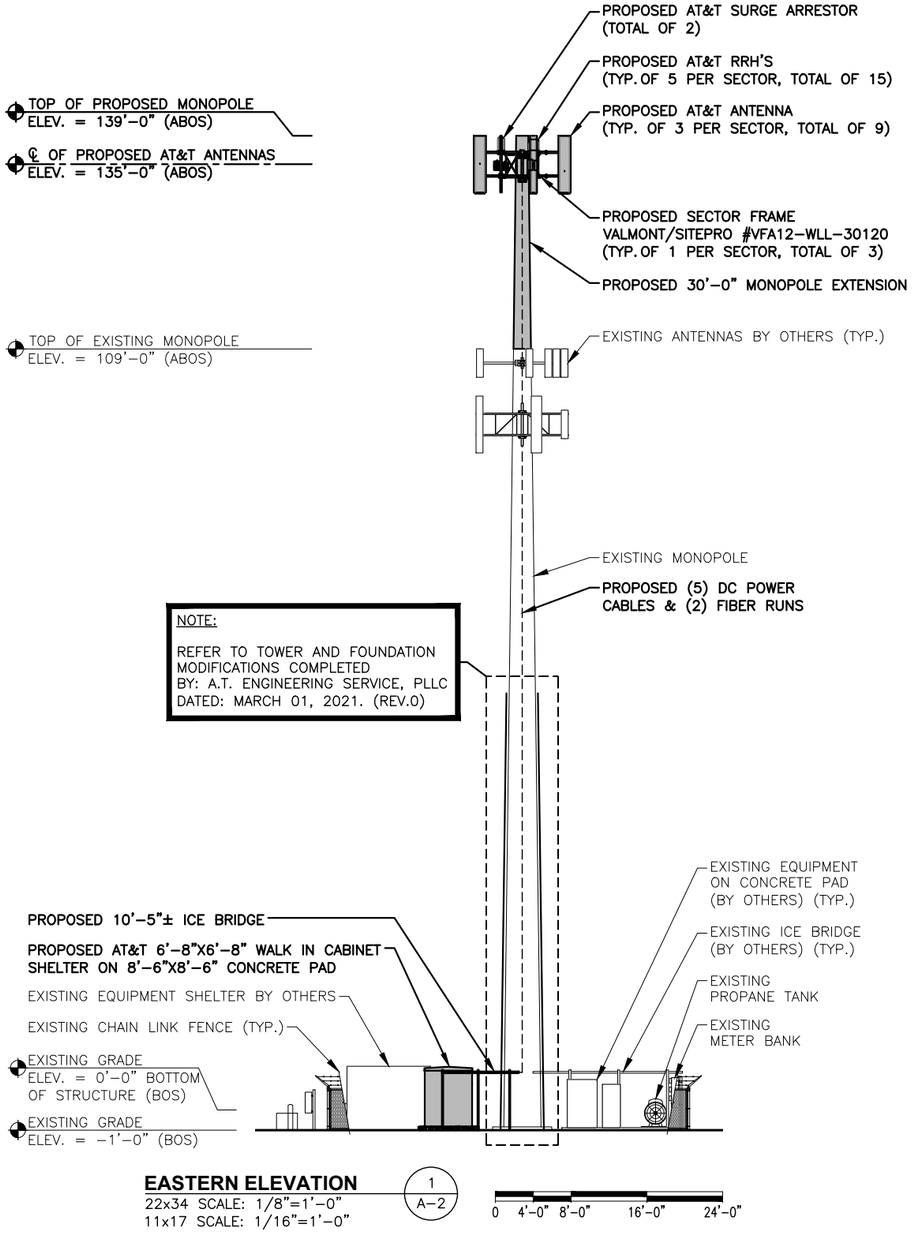
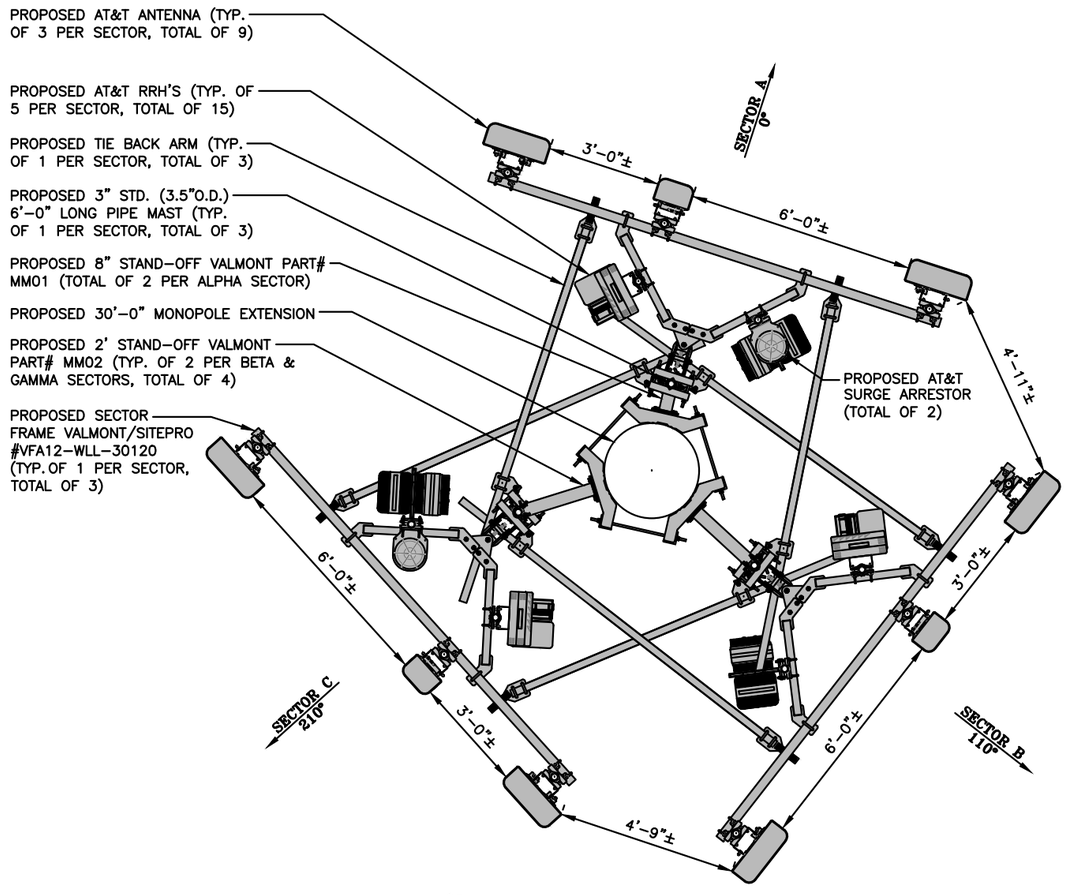
BY: HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2021. (REV.1)



NOTE:

REFER TO TOWER AND FOUNDATION MODIFICATIONS COMPLETED
BY: A.T. ENGINEERING SERVICE, PLLC
DATED: MARCH 01, 2021. (REV.0)

EASTERN ELEVATION (1 / A-2)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"



PROPOSED ANTENNA LAYOUT (2 / A-2)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUT & ELEVATION
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	A-2	3

NOTE:

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DATED: APRIL 21, 2021. (REV.1)

NOTE:

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NOTE:

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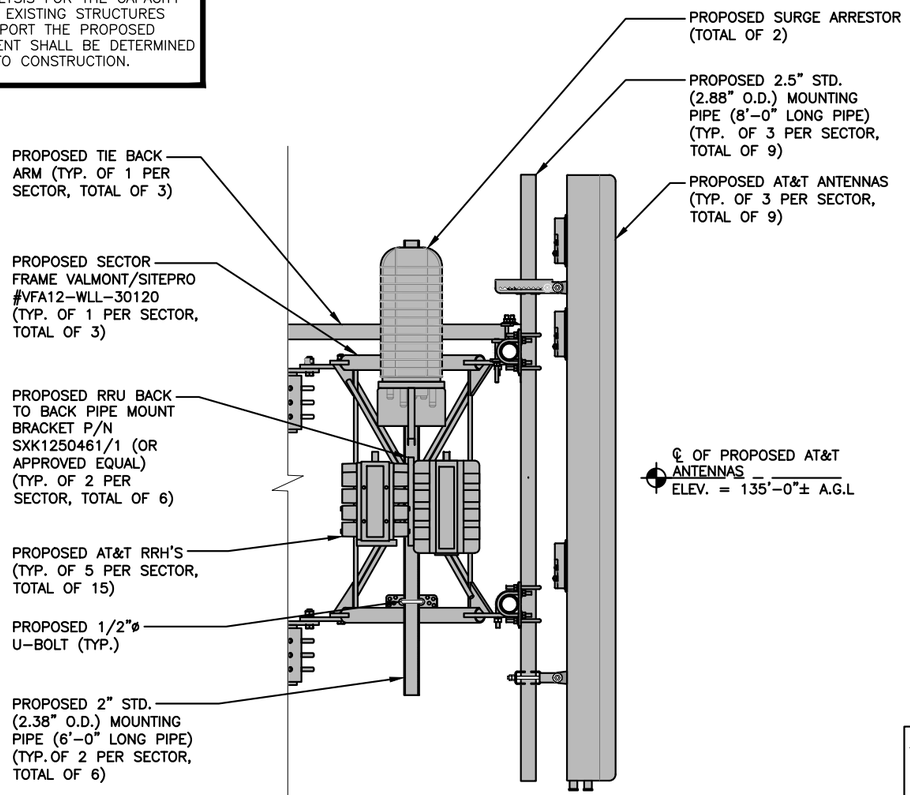


NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

PROPOSED SECTOR FRAME, ANTENNA,SURGE SUPPRESSOR & RRH'S MOUNTING DETAIL (2 / A-3)
SCALE: N.T.S

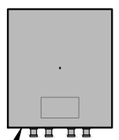
ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	LTE B14/AWS	TPA65R-BU8DA-K	96X21X7.8	135'-0"	0°	–	(P) (1) 4478 B14	18.1X13.4X8.3	(P) (5) DC POWER CABLES (P) (2) FIBER RUN	(P) (2) RAYCAP DC9-48-60-24-8C-EV
A2	PROPOSED	LTE DE/WCS	HPA65R-BU8A	96X11.7X7.6	135'-0"	0°	–	(P) (1) 4415 B30 (P) (1) RRUS-E2 B29	16.5X13.4X5.9 20.4X18.5X7.5		
A3	PROPOSED	LTE 700 BC/580/PCS	DMP65R-BU8DA-K	96X20.7X7.7	135'-0"	0°	–	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	14.9X13.2X10.4 14.9X13.2X10.9		
A4	–	–	–	–	–	–	–	–	–		
B1	PROPOSED	LTE B14/AWS	TPA65R-BU8DA-K	96X21X7.8	135'-0"	110°	–	(P) (1) 4478 B14	18.1X13.4X8.3		
B2	PROPOSED	LTE DE/WCS	HPA65R-BU8A	96X11.7X7.6	135'-0"	110°	–	(P) (1) 4415 B30 (P) (1) RRUS-E2 B29	16.5X13.4X5.9 20.4X18.5X7.5		
B3	PROPOSED	LTE 700 BC/580/PCS	DMP65R-BU8DA-K	96X20.7X7.7	135'-0"	110°	–	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	14.9X13.2X10.4 14.9X13.2X10.9		
B4	–	–	–	–	–	–	–	–	–		
C1	PROPOSED	LTE B14/AWS	TPA65R-BU8DA-K	96X21X7.8	135'-0"	210°	–	(P) (1) 4478 B14	18.1X13.4X8.3		
C2	PROPOSED	LTE DE/WCS	HPA65R-BU8A	96X11.7X7.6	135'-0"	210°	–	(P) (1) 4415 B30 (P) (1) RRUS-E2 B29	16.5X13.4X5.9 20.4X18.5X7.5		
C3	PROPOSED	LTE 700 BC/580/PCS	DMP65R-BU8DA-K	96X20.7X7.7	135'-0"	210°	–	(P) (1) 4449 B5/B12 (P) (1) 8843 B2/B66A	14.9X13.2X10.4 14.9X13.2X10.9		
C4	–	–	–	–	–	–	–	–	–		

FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

NOTE:

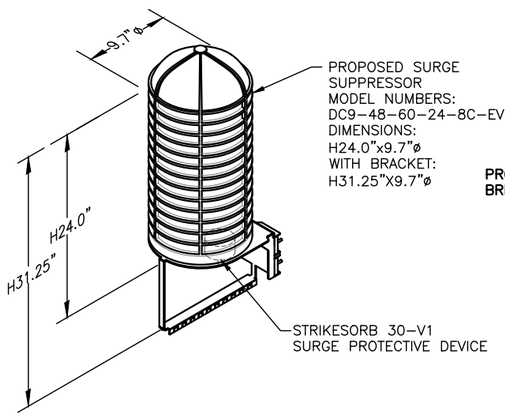
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

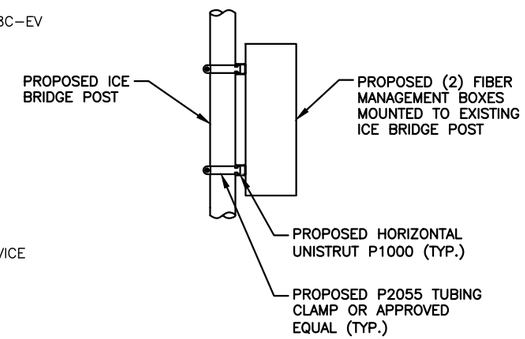
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (3 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (4 / A-3)
SCALE: N.T.S



PROPOSED FIBER MANAGEMENT BOX MOUNTING DETAIL (5 / A-3)
SCALE: N.T.S

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at&t
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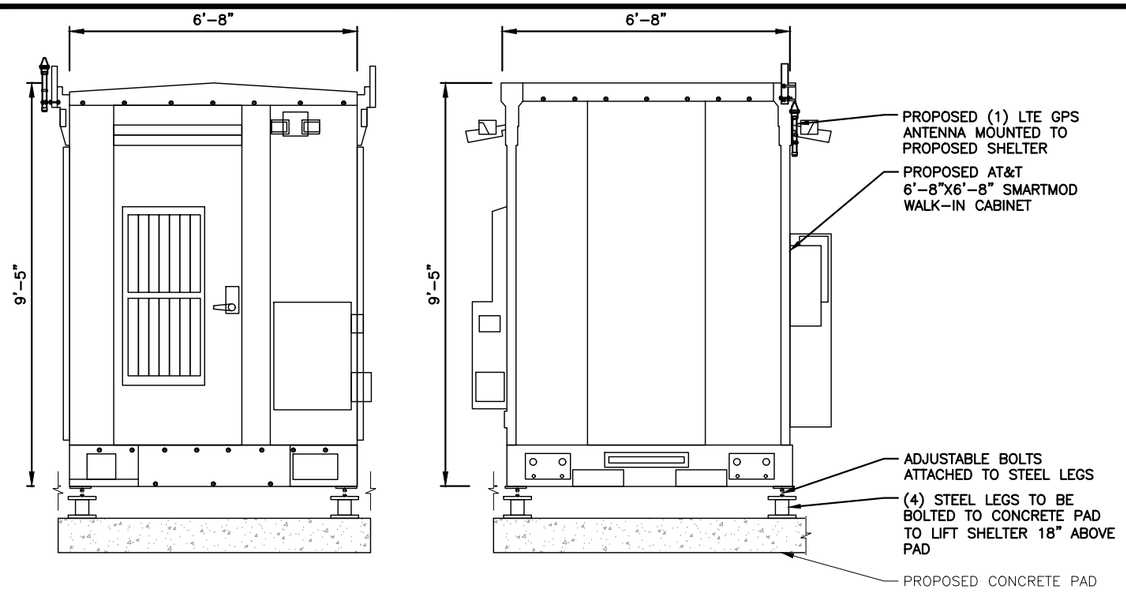
SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

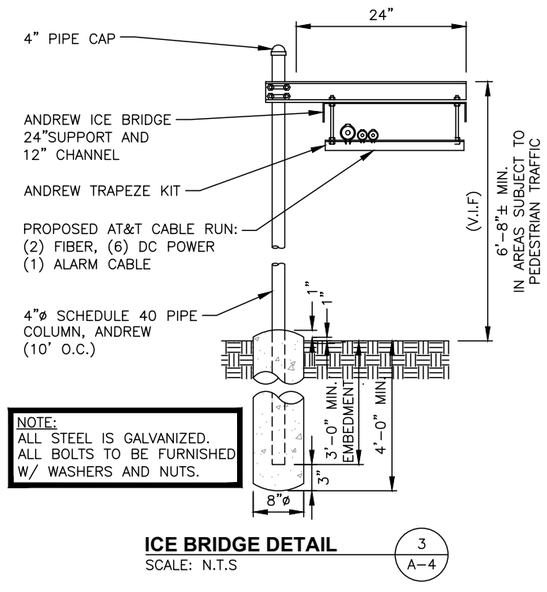
DETAILS
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	A-3	3



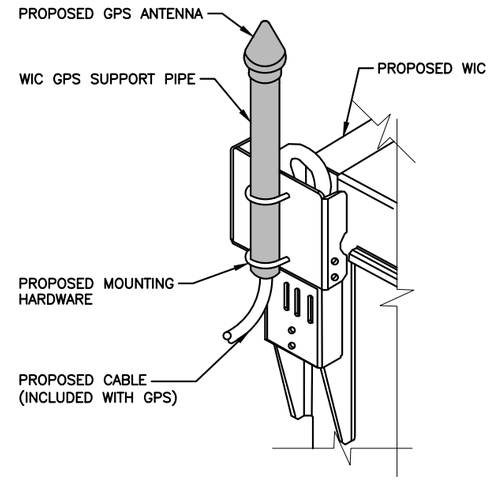
NOTE:
SHELTER SHALL BE MOUNTED PER MANUFACTURER'S SPECIFICATIONS.

TYPICAL SHELTER DETAIL 1 / A-4
SCALE: N.T.S



NOTE:
ALL STEEL IS GALVANIZED.
ALL BOLTS TO BE FURNISHED W/ WASHERS AND NUTS.

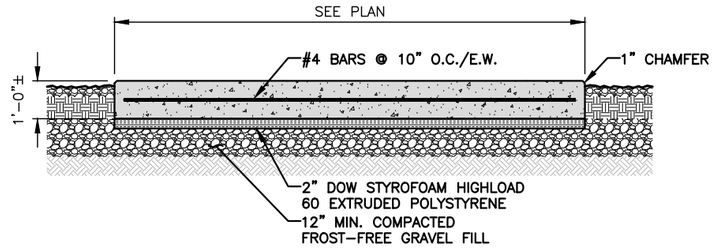
ICE BRIDGE DETAIL 3 / A-4
SCALE: N.T.S



GPS MOUNTING DETAIL 2 / A-4
N.T.S

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

1. FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
2. UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
3. CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
4. REINFORCING BAR TO BE ASTM A615 GRADE 60.
5. WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
6. COORDINATE WITH MANUFACTURER OF PREFABRICATED SHELTER FOR LOCATION OF ATTACHMENTS TO BASE SLAB.
7. ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
8. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



CONCRETE PAD DETAIL 4 / A-4
22x34 SCALE: N.T.S

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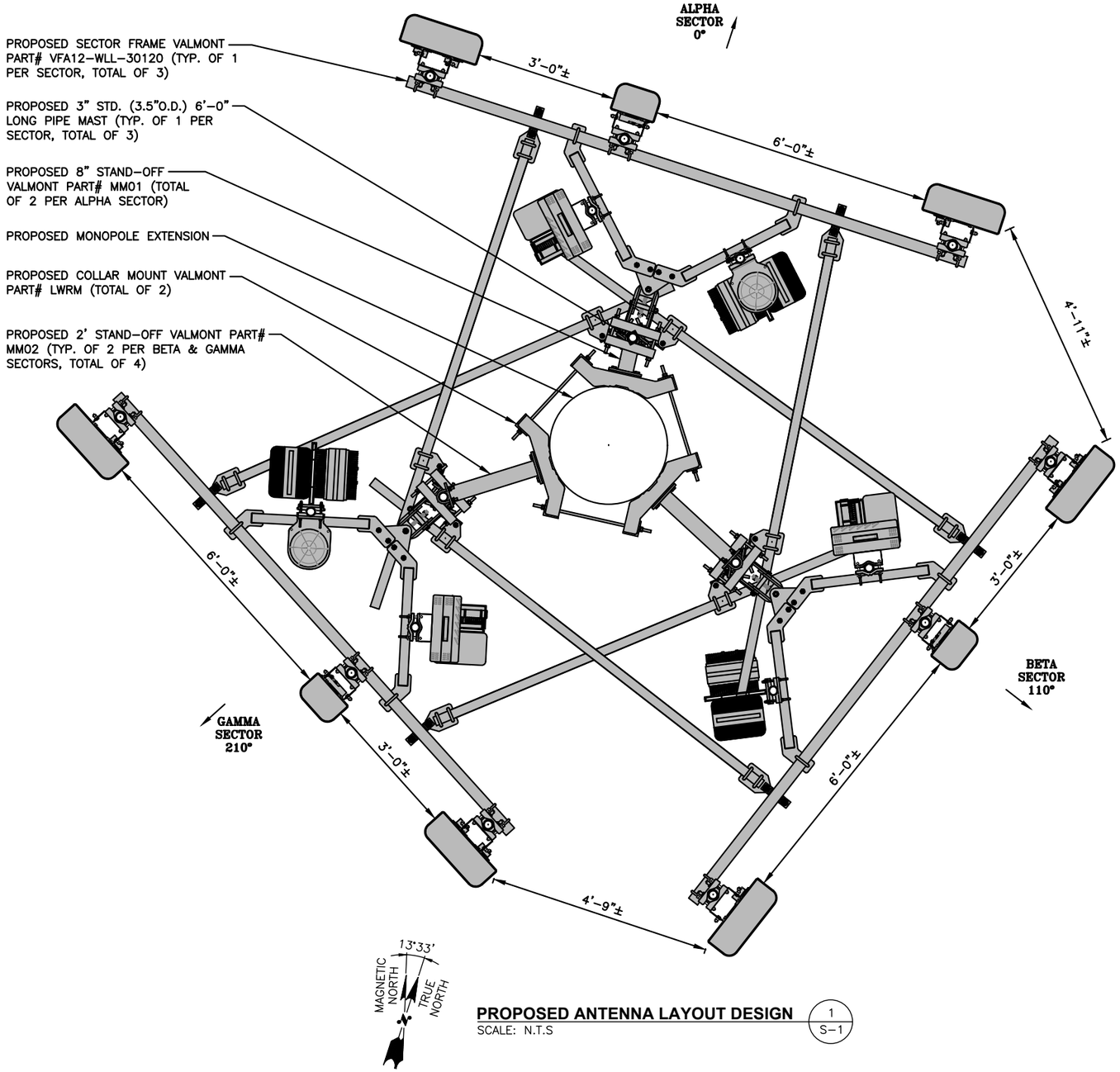
SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 21078 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	A-4	3



PROPOSED ANTENNA LAYOUT DESIGN (1 / S-1)

SCALE: N.T.S

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED
BY: HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2021. (REV.1)

NOTE:

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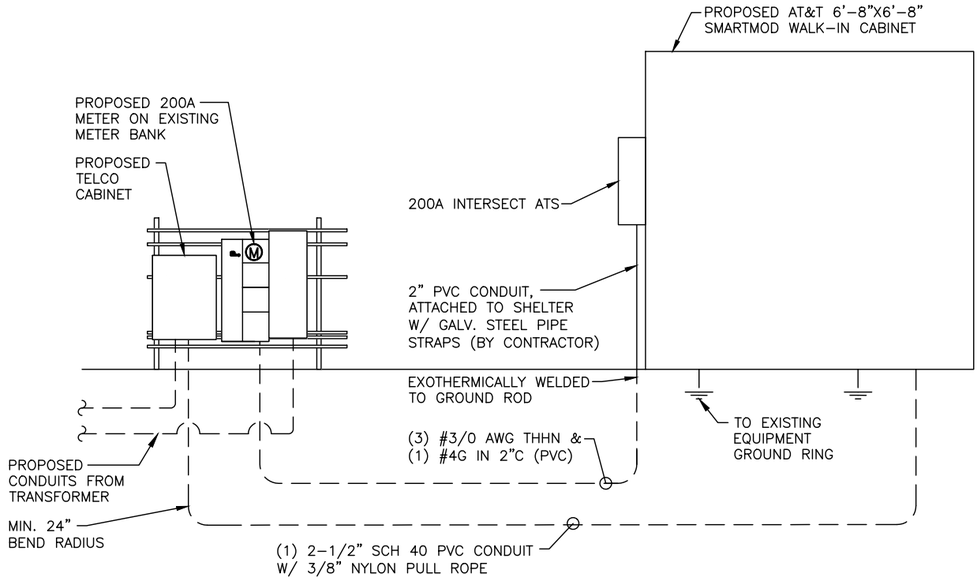
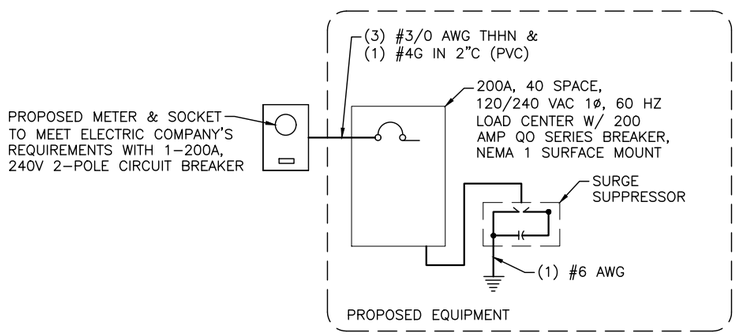
ANTENNA LAYOUT DESIGN
(NSB)

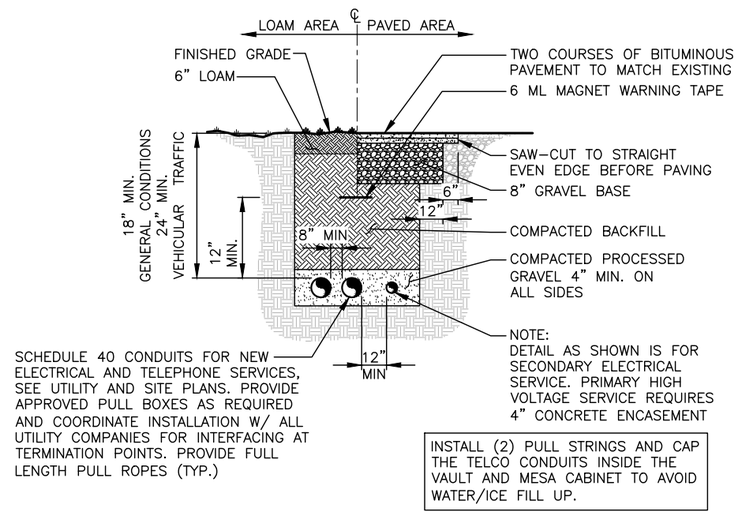
SITE NUMBER	DRAWING NUMBER	REV
CT3387	S-1	3



W.I.C. WIRING DETAIL (1 / E-1)
SCALE: N.T.S



TYPICAL ONE-LINE DIAGRAM (2 / E-1)
SCALE: N.T.S



BURIED CONDUIT DETAIL (3 / E-1)
SCALE: N.T.S

ELECTRICAL LEGEND & ABBREVIATIONS

	NEW PANEL BOARD, SURFACE MOUNTED
	EXISTING PANEL BOARD, SURFACE MOUNTED
T	DRY TYPE TRANSFORMER
M	METER
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
F	FUSIBLE DISCONNECT SWITCH, MOUNTED 54"A.F.F.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
	DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
J	JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
	EXPOSED WIRING
	HOME RUNS, MINIMUM 2#10 + 1#8G IN 3/4" CONDUIT U.O.N.
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
PVC	POLYVINYL CHLORIDE
HZ	HERTZ
PH, ø	PHASE
W	WATTS
NEC	NATIONAL ELECTRIC CODE
PPC	POWER PROTECTION CABINET
UL	UNDERWRITER LABORATORIES
PTS	POWER TRANSFER SWITCH
QO	QUICK OPEN
GRC	GALVANIZED RIGID CONDUIT
G	GROUND
	GROUND
MGB	MASTER GROUND BAR — ○ MECHANICAL CONNECTION ● CADWELD CONNECTION
EGB	EQUIPMENT GROUND BAR
G	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	COAXIAL CABLE
	5/8"x8" COPPER CLAD STAINLESS STEEL GROUND ROD
	● EXOTHERMIC (CAD WELD) OR ○ MECHANICAL (COMPRESSION TYPE) CONNECTION
PF	POWER FACTOR

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250.
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 AWG COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 AWG SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 AWG WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
21. BOND ANTENNA EGB'S AND MGB TO GROUND RING.
22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
23. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.
24. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL, MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.

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45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT3387
SITE NAME: BLOOMFIELD DAY HILL ROAD

2627 DAY HILL ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
3	12/15/21	ISSUED FOR REVIEW	CC	JC	DPH
2	04/28/21	ISSUED FOR REVIEW	AR	JC	DPH
1	03/23/21	ISSUED FOR REVIEW	ES	JC	DPH
0	12/04/20	ISSUED FOR REVIEW	AS	JC	DPH

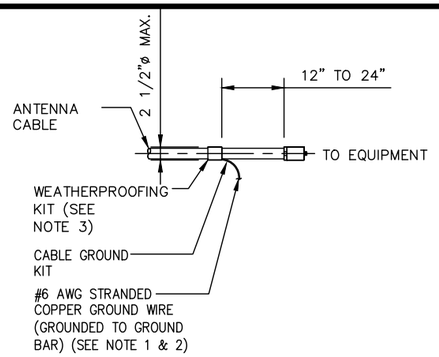
SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

ELECTRICAL NOTES & ONE-LINE DIAGRAM (NSB)

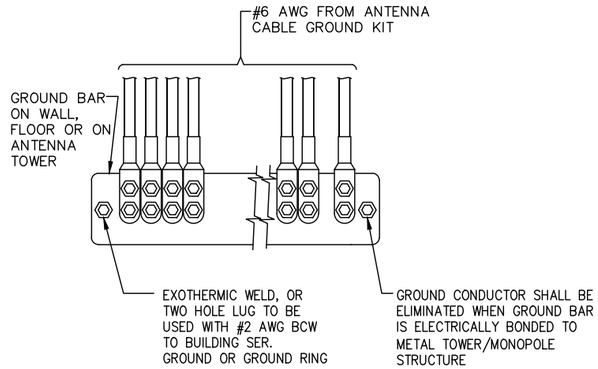
SITE NUMBER	DRAWING NUMBER	REV
CT3387	E-1	3



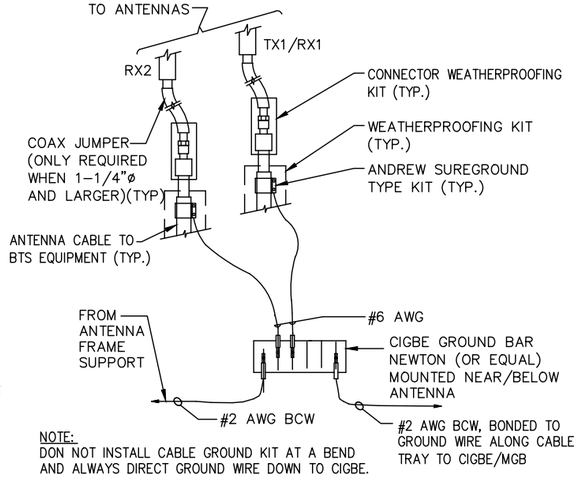
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE 1 G-1
SCALE: N.T.S



INSTALLATION OF GROUND WIRE TO GROUND BAR 2 G-1
SCALE: N.T.S



NOTE:
DON NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

INSTALLATION OF GROUND WIRE TO GROUNDING BAR TOWER 3 G-1
SCALE: N.T.S

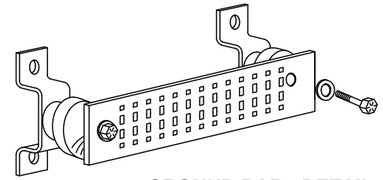
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

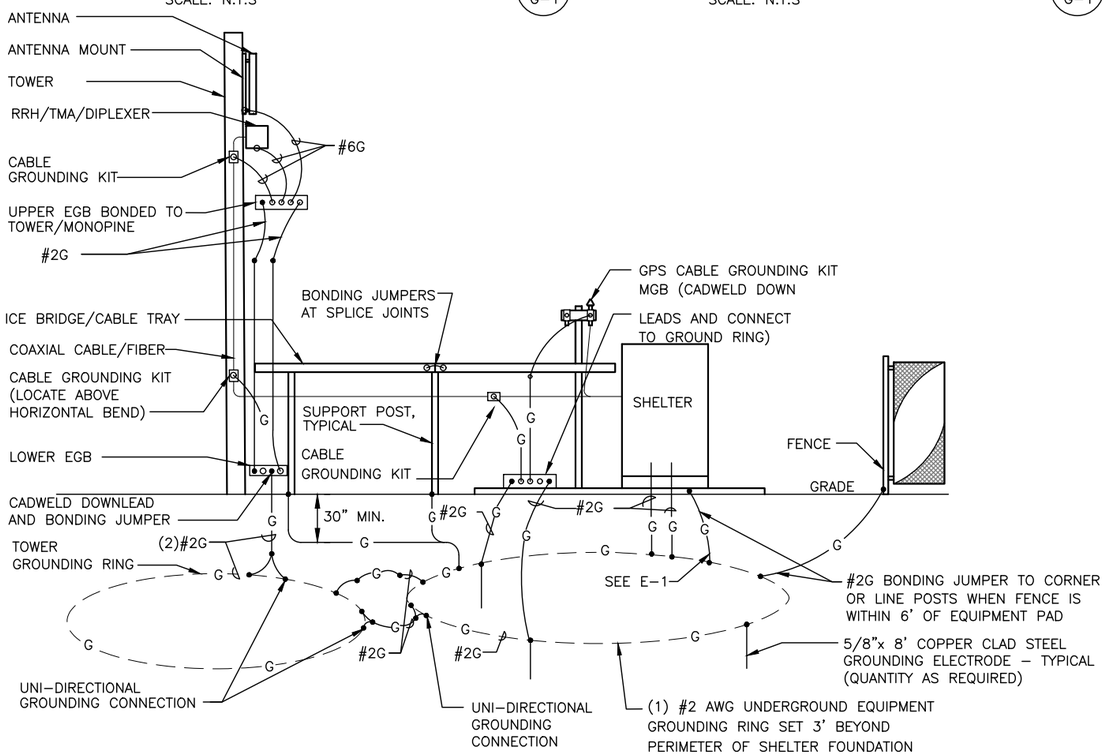
CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
-48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

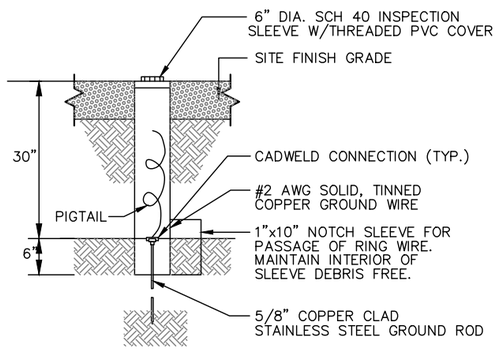
INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



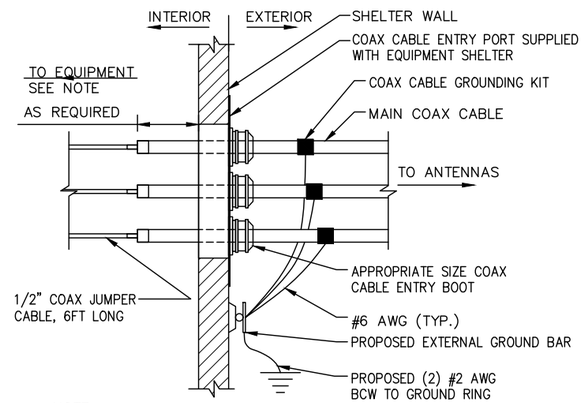
GROUND BAR - DETAIL 4 G-1
SCALE: N.T.S



GROUNDING ONE-LINE DIAGRAM 5 G-1
SCALE: N.T.S



GROUND ROD TEST WELL DETAIL 6 G-1
SCALE: N.T.S



NOTE:
EXTEND MAIN COAXIAL CABLE AS CLOSE AS POSSIBLE TO BTS EQUIPMENT. MAX LENGTH OF BTS JUMPER IS 6 FT.

INSTALLATION OF GROUND WIRE TO GROUND BAR 7 G-1
SCALE: N.T.S

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SITE NUMBER: CT3387
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2627 DAY HILL ROAD
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at&t
550 COCHITUATE ROAD
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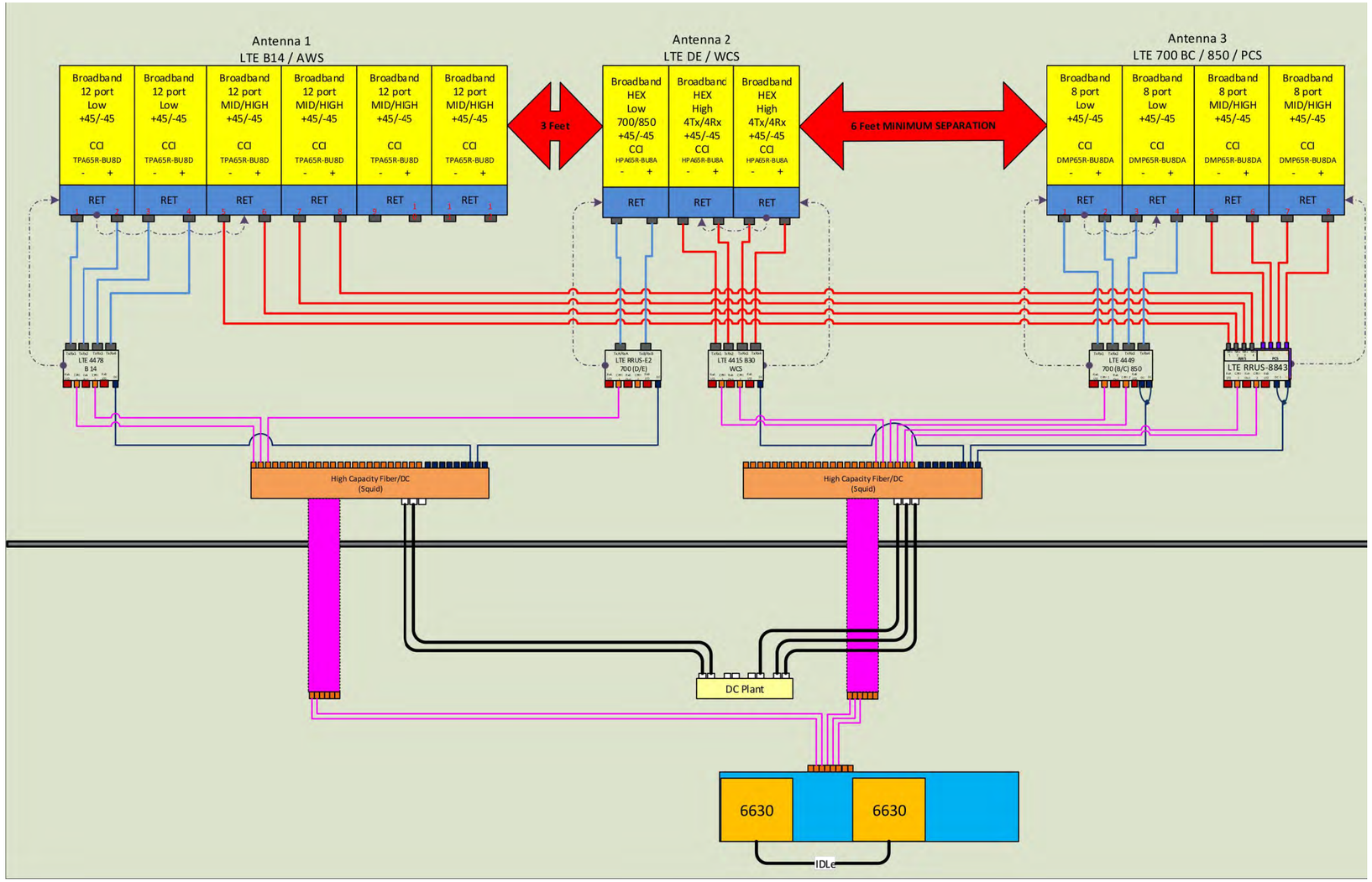
SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	G-1	3



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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0	12/04/20	ISSUED FOR REVIEW	ES	JC	DPH

SCALE: AS SHOWN | DESIGNED BY: JC | DRAWN BY: ES

AT&T

RF PLUMBING DIAGRAM
(NSB)

SITE NUMBER	DRAWING NUMBER	REV
CT3387	RF–1	3

Attachment 4

Structural Report

AMERICAN TOWER®
CORPORATION

Post Modification Structural Analysis Report

Structure	:	**139 ft Monopole**
ATC Site Name	:	**NORTH BLOOMFIELD CT,CT**
ATC Site Number	:	**283562**
Engineering Number	:	**OAA761819_C4_05**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**BLOOMFIELD DAY HILL ROAD**
Carrier Site Number	:	**CT3387**
Site Location	:	**2627 Day Hill Road** **Bloomfield, CT 06002-1177** **41.8765, -72.7418**
County	:	**Hartford**
Date	:	**September 10, 2021**
Max Usage	:	**97%**
Result	:	**Pass**

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Prepared By:

Isaac P. Dodson
Structural Engineer III

Reviewed By:

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a post modification structural analysis performed on the 139 ft Monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Sabre Job #67167, dated October 15, 2012
Foundation Drawing	Sabre Job #67167, dated September 19, 2012
Geotechnical Report	DET Job #2011-20, dated January 28, 2012
Modifications	ATC Project #OAA761819_C6_03, dated February 22, 2021 (Pending)

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	116 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

****Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, Annex S.**

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report. If the pending modifications cited in the supporting documents table are not completed, the results of this analysis are no longer valid, and AT&T MOBILITY should contact American Tower's Site Manager for further direction on how to proceed.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
110.0	6	Commscope CBC78T-DS-43-2X	T-Arm	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	2	Raycap RC3DC-3315-PF-48			
	3	Samsung MT6407-77A			
	6	Commscope JAHH-65B-R3B			
	6	Antel LPA-80063/6CF			
101.0	3	Ericsson Radio 4449 B12,B71	T-Arm	(3) 1 1/4" Hybriflex Cable (3) 1 5/8" Fiber	T-MOBILE
100.0	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
	3	Ericsson AIR-32 B2A/B66Aa			
	3	RFS APXVAARR24_43-U-NA20			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
135.0	3	Ericsson RRUS 8843 B2, B66A	SitePro1 VFA12-WLL-30120 Sector Frame with New SitePro1 LWRM Ring Mounts and New SitePro1 MM01 and MM01 Standoffs	(2) 0.40" Fiber (5) 0.96" Cable (3) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4415 B30			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS E2 B29			
	2	Raycap DC9-48-60-24-8C-EV			
	3	CCI HPA65R-BU8A			
	3	CCI DMP65R-BU8D			
	3	CCI TPA65R-BU8D			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	64%	Pass
Shaft	97%	Pass
Base Plate	79%	Pass
Reinforcement	94%	Pass
Flanges	82%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,234.0	68%
Axial (Kips)	34.7	53%
Shear (Kips)	21.9	24%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
135.0	Ericsson RRUS 8843 B2, B66A	AT&T MOBILITY	2.284	1.940
	Ericsson RRUS 4415 B30			
	Ericsson RRUS 4449 B5, B12			
	Ericsson RRUS 4478 B14			
	CCI TPA65R-BU8D			
	Raycap DC9-48-60-24-8C-EV			
	CCI HPA65R-BU8A			
	CCI DMP65R-BU8D			
	Ericsson RRUS E2 B29			

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

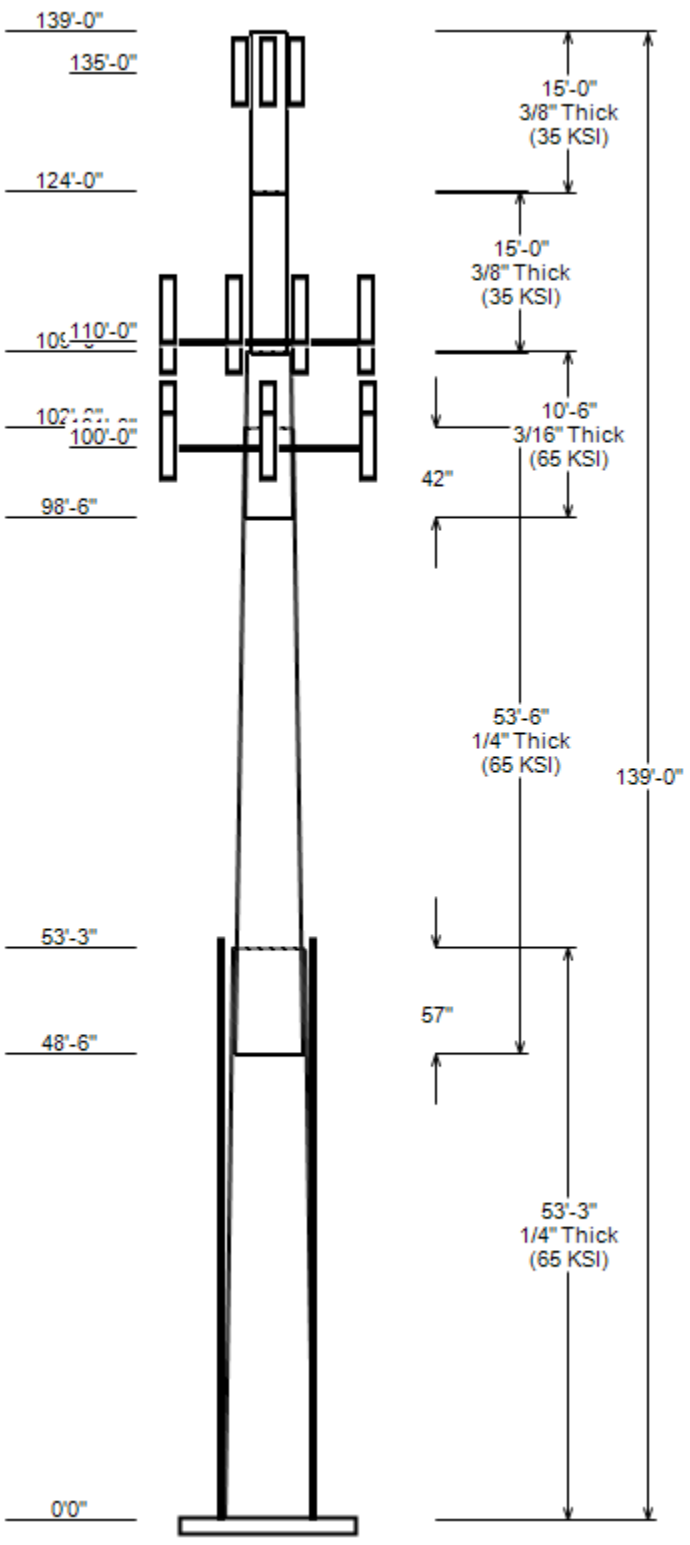
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset :	283562, NORTH BLOOMFIELD CT	Height :	139 ft
Client :	AT&T MOBILITY	Base Width :	42.92
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.20000 (In/ft)	Exposure :	C
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.250	32.27	42.92	0.250		0.000	18 Sides	65
2	53.500	23.02	33.72	0.250	Slip Joint	57.000	18 Sides	65
3	10.500	22.00	24.10	0.188	Slip Joint	42.000	18 Sides	65
4	15.000	18.00	18.00	0.375	Butt Joint	0.000	Round	35
5	15.000	18.00	18.00	0.375	Butt Joint	0.000	Round	35

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
135.0	135.0	3	Ericsson RRUS 8843 B2, B66A
135.0	135.0	3	Ericsson RRUS 4415 B30
135.0	135.0	3	Ericsson RRUS 4449 B5, B12
135.0	135.0	3	Ericsson RRUS 4478 B14
135.0	135.0	3	Ericsson RRUS E2 B29
135.0	135.0	2	Raycap DC9-48-60-24-8C-EV
135.0	135.0	3	CCI HPA65R-BU8A
135.0	135.0	3	CCI DMP65R-BU8D
135.0	135.0	3	SitePro1 VFA12- WLL-30120 Sect
135.0	135.0	3	CCI TPA65R-BU8D
110.0	110.0	6	Commscope CBC78T-DS-43-2X
110.0	110.0	3	Samsung B5/B13 RRH-BR04C
110.0	110.0	3	Samsung B2/B66A RRH-BR049
110.0	112.0	2	Raycap RC3DC-3315-PF-48
110.0	110.0	3	Samsung MT6407-77A
110.0	112.0	6	Commscope JAHH-65B-R3B
110.0	112.0	6	Antel LPA-80063/6CF
110.0	110.0	3	Generic Round T-Arm
101.0	101.0	3	Ericsson Radio 4449 B12,B71
100.0	100.0	3	Ericsson Radio 4449 B12,B71
100.0	101.0	3	Ericsson AIR 21, 1.3M, B2A B4P
100.0	100.0	3	Ericsson AIR-32 B2A/B66Aa
100.0	100.0	3	Generic Round T-Arm
100.0	100.0	3	RFS APXVAARR24_43-U-NA20

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	135.0	2" conduit	No
0.0	135.0	0.96" (24.3mm) Cable	No
0.0	135.0	0.40" (10.3mm) Fiber	No
0.0	110.0	1 5/8" Hybriflex	No
0.0	110.0	1 5/8" Coax	No
0.0	100.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	100.0	1 1/4" Hybriflex Cable	No

LOAD CASES

1.2D + 1.0W Normal	113.06 mph wind with no ice
0.9D + 1.0W Normal	113.06 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	48.73 mph wind with 1.275" radial
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

JOB INFORMATION			
Asset :	283562, NORTH BLOOMFIELD CT	Height :	139 ft
Client :	AT&T MOBILITY	Base Width :	42.92
Code :	ANSI/TIA-222-H	Shape :	18 Sides

REACTIONS			
Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	2233.96	21.86	34.74
0.9D + 1.0W Normal	2198.16	21.84	26.04
1.2D + 1.0Di + 1.0Wi Normal	641.47	6.22	51.56
1.2D + 1.0Ev + 1.0Eh Normal	104.81	0.87	34.56
0.9D - 1.0Ev + 1.0Eh Normal	102.65	0.87	24.08
1.0D + 1.0W Service Normal	558.07	5.50	28.98

DISH DEFLECTIONS			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)

ANALYSIS PARAMETERS

Location:	Hartford County,CT	Height:	139 ft
Type and Shape:	Custom, Round	Base Diameter:	42.92 in
Manufacturer:	Sabre	Top Diameter:	18.00 in
K_d (non-service):	0.95	Taper:	0.2000 in/ft
K_e:	0.99	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	C	Design Wind Speed w/o Ice:	113 mph
Risk Category:	II	Design Wind Speed w/Ice:	49 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.28 in
Crest Height:	0 ft	HMSL:	179.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			Period Based on Rayleigh Method (sec):	2.74
T_L (sec):	6	P:	1	$C_{s:}$	0.030
$S_{s:}$	0.177	$S_{1:}$	0.054	C_s Max:	0.030
$F_{a:}$	1.600	$F_{v:}$	2.400	C_s Min:	0.030
$S_{ds:}$	0.189	$S_{d1:}$	0.086		

LOAD CASES

1.2D + 1.0W Normal	113.06 mph wind with no ice
0.9D + 1.0W Normal	113.06 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	48.73 mph wind with 1.275" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.25	0.2500	65		0.00	5,369	42.92	0.000	33.86	7,788.5	28.51	171.68	32.27	53.25	25.41	3,291.2	21.00	129.09	0.2000
2-18	53.50	0.2500	65	Slip	57.00	4,062	33.72	48.500	26.56	3,758.8	22.02	134.89	23.02	102.00	18.07	1,183.5	14.47	92.10	0.2000
3-18	10.50	0.1875	65	Slip	42.00	486	24.10	98.500	14.23	1,027.4	20.90	128.53	22.00	109.00	12.98	779.8	18.92	117.33	0.2000
4-R	15.00	0.3750	35	Butt	0.00	1,060	18.00	109.000	20.76	806.9	0.00	48.00	18.00	124.00	20.76	806.9	0.00	48.00	0.0000
5-R	15.00	0.3750	35	Butt	0.00	1,060	18.00	124.000	20.76	806.9	0.00	48.00	18.00	139.00	20.76	806.9	0.00	48.00	0.0000

Shaft Weight 12,037

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
135.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	125.22	2.754	0.50
135.00	Ericsson RRUS 4415 B30	3	0.80	0.000	46.00	1.842	0.50	87.25	2.597	0.50
135.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.639	0.50	123.56	2.350	0.50
135.00	SitePro1 VFA12- WLL-30120 Sect	3	0.75	0.000	1055.00	17.900	0.75	1673.29	28.390	0.75
135.00	Raycap DC9-48-60-24-8C-EV	2	0.80	0.000	16.00	4.788	0.75	124.60	6.025	0.75
135.00	CCI TPA65R-BU8D	3	0.80	0.000	82.50	18.089	0.63	372.55	21.195	0.63
135.00	Ericsson RRUS E2 B29	3	0.80	0.000	60.00	3.145	0.62	128.04	4.120	0.62
135.00	CCI DMP65R-BU8D	3	0.80	0.000	95.70	17.871	0.63	381.63	20.971	0.63
135.00	CCI HPA65R-BU8A	3	0.80	0.000	54.00	11.230	0.71	249.42	13.942	0.71
135.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.67	111.03	2.815	0.67
110.00	Generic Round T-Arm	3	0.75	0.000	312.50	9.700	0.67	528.12	16.504	0.67
110.00	Antel LPA-80063/6CF	6	0.80	2.000	27.00	9.593	0.76	258.22	10.701	0.76
110.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	165.73	5.963	0.61
110.00	Raycap RC3DC-3315-PF-48	2	0.80	2.000	32.00	3.781	0.67	122.29	4.875	0.67
110.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	137.05	2.620	0.50
110.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	117.51	2.620	0.50
110.00	Commscope CBC78T-DS-43-2X	6	0.80	0.000	20.70	0.552	0.50	38.93	0.971	0.50
110.00	Commscope JAHH-65B-R3B	6	0.80	2.000	60.60	9.113	0.69	227.57	11.403	0.69
101.00	Ericsson Radio 4449 B12,B71	3	1.00	0.000	74.00	1.639	0.50	119.81	2.329	0.50
100.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	448.75	23.274	0.63
100.00	Generic Round T-Arm	3	0.75	0.000	312.50	9.700	0.67	526.01	16.438	0.67
100.00	Ericsson AIR-32 B2A/B66Aa	3	0.80	0.000	132.20	6.510	0.71	262.64	8.300	0.71
100.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.80	1.000	91.50	6.037	0.70	210.49	7.790	0.70
100.00	Ericsson Radio 4449 B12,B71	3	0.80	0.000	74.00	1.639	0.50	119.76	2.329	0.50
Totals	Num Loadings: 24	79			9,615.30			21,305.68		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	135.00	5	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	135.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	135.00	2	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	110.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	110.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	100.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	T-MOBILE
0.00	100.00	3	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	T-MOBILE

ADDITIONAL STEEL

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connectors Description	Intermediate Connectors Spacing (in)	Intermediate Connectors Len (in)	Connectors	Continuation?
0.00	54.25	4	SOL #20 All Thread Bar	61	2.19	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	N

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.2500	42.920	33.857	7,788.50	28.51	171.68	67.9	357.4	0.0	0.0	19.640	6,150.40	0.0
5.00		0.2500	41.920	33.064	7,253.60	27.80	167.68	68.7	340.8	0.0	569.3	19.640	5,903.50	334.0
10.00		0.2500	40.920	32.270	6,743.80	27.10	163.68	69.5	324.6	0.0	555.8	19.640	5,661.70	334.0
15.00		0.2500	39.920	31.477	6,258.50	26.39	159.68	70.4	308.8	0.0	542.3	19.640	5,425.00	334.0
20.00		0.2500	38.920	30.684	5,797.00	25.69	155.68	71.2	293.4	0.0	528.8	19.640	5,193.30	334.0
25.00		0.2500	37.920	29.890	5,358.80	24.98	151.68	72	278.3	0.0	515.3	19.640	4,966.70	334.0
30.00		0.2500	36.920	29.097	4,943.30	24.28	147.68	72.8	263.7	0.0	501.8	19.640	4,745.20	334.0
35.00		0.2500	35.920	28.303	4,549.80	23.57	143.68	73.7	249.5	0.0	488.3	19.640	4,528.70	334.0
40.00		0.2500	34.920	27.510	4,177.80	22.87	139.68	74.5	235.6	0.0	474.8	19.640	4,317.30	334.0
45.00		0.2500	33.920	26.716	3,826.60	22.16	135.68	75.3	222.2	0.0	461.3	19.640	4,110.90	334.0
48.50	Bot - Section 2	0.2500	33.220	26.161	3,592.90	21.67	132.88	75.9	213.0	0.0	314.9	19.640	3,969.50	233.8
50.00		0.2500	32.920	25.923	3,495.70	21.46	131.68	76.2	209.1	0.0	267.9	19.640	4,009.60	100.2
53.25	Top - Section 1	0.2500	32.770	25.804	3,447.80	21.35	131.08	76.3	207.2	0.0	572.0	19.640	3,879.80	217.1
54.25	Reinf. Top	0.2500	32.570	25.645	3,384.50	21.21	130.28	76.5	204.7	0.0	87.5	19.640	3,840.30	66.8
55.00		0.2500	32.420	25.526	3,337.60	21.10	129.68	76.6	202.8	0.0	65.3			
60.00		0.2500	31.420	24.733	3,036.00	20.40	125.68	77.4	190.3	0.0	427.5			
65.00		0.2500	30.420	23.939	2,753.00	19.69	121.68	78.2	178.3	0.0	414.0			
70.00		0.2500	29.420	23.146	2,488.20	18.99	117.68	79.1	166.6	0.0	400.5			
75.00		0.2500	28.420	22.352	2,241.00	18.28	113.68	79.9	155.3	0.0	387.0			
80.00		0.2500	27.420	21.559	2,010.70	17.58	109.68	80.7	144.4	0.0	373.5			
85.00		0.2500	26.420	20.765	1,796.80	16.87	105.68	81.6	134.0	0.0	360.0			
90.00		0.2500	25.420	19.972	1,598.60	16.17	101.68	82.4	123.9	0.0	346.5			
95.00		0.2500	24.420	19.178	1,415.50	15.46	97.68	82.6	114.2	0.0	333.0			
98.50	Bot - Section 3	0.2500	23.720	18.623	1,296.10	14.97	94.88	82.6	107.6	0.0	225.1			
100.00		0.2500	23.420	18.385	1,247.00	14.76	93.68	82.6	104.9	0.0	166.6			
101.00		0.2500	23.220	18.226	1,215.00	14.61	92.88	82.6	103.1	0.0	109.9			
102.00	Top - Section 2	0.1875	23.395	13.811	939.80	20.24	124.77	77.6	79.1	0.0	108.9			
105.00		0.1875	22.795	13.454	868.80	19.67	121.57	78.3	75.1	0.0	139.2			
109.00	Top - Section 3	0.1875	21.995	12.978	779.80	18.92	117.31	79.1	69.8	0.0	179.9			
109.00	Bot - Section 4	0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5				
110.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	70.7			
115.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	353.3			
120.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	353.3			
124.00	Top - Section 4	0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	282.6			
124.00	Bot - Section 5	0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5				
125.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	70.7			
130.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	353.3			
135.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	353.3			
139.00		0.3750	18.000	20.764	806.90	0.00	48.00	35	89.7	116.5	282.6			
								Totals:			12,036.7			3,623.9

Load Case: 1.2D + 1.0W Normal — 113.06 mph wind with no ice — 26 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.74	-21.86	0.00	-2,234.0	0.00	2,233.96	2,068.11	594.20	2,289.94	1,819.33	0	0	0.698
5.00	-33.38	-21.61	0.00	-2,124.7	0.00	2,124.67	2,044.32	580.27	2,183.87	1,756.02	0.12	-0.22	0.679
10.00	-32.05	-21.36	0.00	-2,016.6	0.00	2,016.62	2,019.36	566.35	2,080.32	1,692.70	0.47	-0.45	0.659
15.00	-30.73	-21.11	0.00	-1,909.8	0.00	1,909.80	1,993.20	552.42	1,979.29	1,629.44	1.06	-0.67	0.639
20.00	-29.44	-20.84	0.00	-1,804.2	0.00	1,804.25	1,965.87	538.50	1,880.77	1,566.33	1.89	-0.9	0.618
25.00	-28.16	-20.56	0.00	-1,700.0	0.00	1,700.03	1,937.35	524.57	1,784.76	1,503.43	2.95	-1.12	0.597
30.00	-26.90	-20.26	0.00	-1,597.2	0.00	1,597.24	1,907.64	510.65	1,691.27	1,440.82	4.25	-1.35	0.576
35.00	-25.66	-19.95	0.00	-1,495.9	0.00	1,495.94	1,876.75	496.72	1,600.29	1,378.57	5.79	-1.58	0.554
40.00	-24.43	-19.63	0.00	-1,396.2	0.00	1,396.20	1,844.67	482.79	1,511.83	1,316.76	7.56	-1.81	0.531
45.00	-23.24	-19.35	0.00	-1,298.0	0.00	1,298.05	1,811.41	468.87	1,425.89	1,255.46	9.58	-2.03	0.508
48.50	-22.42	-19.17	0.00	-1,230.4	0.00	1,230.35	1,787.43	459.12	1,367.22	1,212.88	11.13	-2.19	0.491
50.00	-21.90	-19.01	0.00	-1,201.6	0.00	1,201.59	1,776.97	454.94	1,342.46	1,194.73	11.83	-2.26	0.477
53.25	-20.81	-18.84	0.00	-1,139.8	0.00	1,139.81	1,771.70	452.85	1,330.16	1,185.68	13.41	-2.4	0.461
54.25	-20.58	-18.78	0.00	-1,121.0	0.00	1,120.97	1,764.63	450.07	1,313.85	1,173.63	13.92	-2.45	0.456
54.25	-20.58	-18.78	0.00	-1,121.0	0.00	1,120.97	1,764.63	450.07	1,313.85	1,173.63	13.92	-2.45	0.969
55.00	-20.40	-18.64	0.00	-1,106.9	0.00	1,106.89	1,759.30	447.98	1,301.68	1,164.62	14.31	-2.48	0.964
60.00	-19.57	-18.39	0.00	-1,013.7	0.00	1,013.68	1,723.08	434.06	1,222.03	1,104.91	17.15	-2.93	0.931
65.00	-18.77	-18.13	0.00	-921.7	0.00	921.73	1,685.67	420.13	1,144.88	1,045.97	20.46	-3.39	0.894
70.00	-17.99	-17.87	0.00	-831.1	0.00	831.06	1,647.08	406.20	1,070.25	987.87	24.25	-3.84	0.854
75.00	-17.23	-17.61	0.00	-741.7	0.00	741.70	1,607.30	392.28	998.14	930.68	28.51	-4.29	0.810
80.00	-16.49	-17.34	0.00	-653.7	0.00	653.67	1,566.34	378.35	928.54	874.48	33.23	-4.73	0.760
85.00	-15.78	-17.06	0.00	-567.0	0.00	566.98	1,524.19	364.43	861.46	819.35	38.41	-5.16	0.705
90.00	-15.10	-16.79	0.00	-481.7	0.00	481.67	1,480.86	350.50	796.89	765.35	44.04	-5.58	0.642
95.00	-14.45	-16.54	0.00	-397.7	0.00	397.74	1,424.84	336.58	734.84	706.85	50.08	-5.97	0.575
98.50	-14.02	-16.38	0.00	-339.9	0.00	339.87	1,383.58	326.83	692.90	666.30	54.55	-6.23	0.523
100.00	-11.43	-13.07	0.00	-314.9	0.00	314.86	1,365.89	322.65	675.30	649.29	56.52	-6.34	0.495
101.00	-11.01	-12.87	0.00	-301.8	0.00	301.79	1,354.10	319.87	663.69	638.07	57.85	-6.41	0.483
102.00	-10.84	-12.76	0.00	-288.9	0.00	288.92	964.52	242.38	508.07	460.47	59.2	-6.48	0.641
105.00	-10.56	-12.56	0.00	-250.6	0.00	250.65	947.62	236.11	482.14	440.61	63.32	-6.67	0.583
109.00	-10.21	-12.42	0.00	-200.4	0.00	200.40	924.42	227.76	448.63	414.49	69.03	-6.97	0.498
109.00	-10.21	-12.42	0.00	-200.4	0.00	200.40	654.06	196.22	304.05	305.83	69.03	-6.97	0.675
110.00	-7.80	-7.75	0.00	-181.9	0.00	181.89	654.06	196.22	304.05	305.83	70.49	-7.04	0.608
115.00	-7.28	-7.52	0.00	-143.2	0.00	143.15	654.06	196.22	304.05	305.83	78	-7.32	0.481
120.00	-6.77	-7.29	0.00	-105.6	0.00	105.57	654.06	196.22	304.05	305.83	85.77	-7.54	0.357
124.00	-6.36	-7.14	0.00	-76.4	0.00	76.41	654.06	196.22	304.05	305.83	92.12	-7.67	0.261
125.00	-6.27	-7.02	0.00	-69.3	0.00	69.26	654.06	196.22	304.05	305.83	93.73	-7.7	0.237
130.00	-5.78	-6.75	0.00	-34.2	0.00	34.18	654.06	196.22	304.05	305.83	101.82	-7.79	0.122
135.00	-0.33	-0.11	0.00	-0.4	0.00	0.43	654.06	196.22	304.05	305.83	109.97	-7.82	0.002
139.00	0.00	-0.06	0.00	0.0	0.00	0.00	654.06	196.22	304.05	305.83	116.5	-7.82	0.000

Load Case: 0.9D + 1.0W Normal 113.06 mph wind with no ice 26 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-26.04	-21.84	0.00	-2,198.2	0.00	2,198.16	2,068.11	594.20	2,289.94	1,819.33	0	0	0.684
5.00	-25.01	-21.56	0.00	-2,089.0	0.00	2,088.97	2,044.32	580.27	2,183.87	1,756.02	0.12	-0.22	0.665
10.00	-23.99	-21.28	0.00	-1,981.2	0.00	1,981.17	2,019.36	566.35	2,080.32	1,692.70	0.47	-0.44	0.645
15.00	-22.98	-21.00	0.00	-1,874.8	0.00	1,874.77	1,993.20	552.42	1,979.29	1,629.44	1.05	-0.66	0.625
20.00	-21.99	-20.71	0.00	-1,769.8	0.00	1,769.77	1,965.87	538.50	1,880.77	1,566.33	1.86	-0.88	0.604
25.00	-21.02	-20.40	0.00	-1,666.2	0.00	1,666.25	1,937.35	524.57	1,784.76	1,503.43	2.9	-1.1	0.583
30.00	-20.06	-20.07	0.00	-1,564.3	0.00	1,564.27	1,907.64	510.65	1,691.27	1,440.82	4.18	-1.33	0.562
35.00	-19.11	-19.74	0.00	-1,463.9	0.00	1,463.90	1,876.75	496.72	1,600.29	1,378.57	5.69	-1.55	0.540
40.00	-18.18	-19.41	0.00	-1,365.2	0.00	1,365.18	1,844.67	482.79	1,511.83	1,316.76	7.43	-1.77	0.517
45.00	-17.27	-19.11	0.00	-1,268.2	0.00	1,268.15	1,811.41	468.87	1,425.89	1,255.46	9.4	-1.99	0.494
48.50	-16.65	-18.93	0.00	-1,201.2	0.00	1,201.25	1,787.43	459.12	1,367.22	1,212.88	10.92	-2.15	0.478
50.00	-16.25	-18.77	0.00	-1,172.8	0.00	1,172.85	1,776.97	454.94	1,342.46	1,194.73	11.61	-2.21	0.464
53.25	-15.43	-18.60	0.00	-1,111.9	0.00	1,111.87	1,771.70	452.85	1,330.16	1,185.68	13.16	-2.35	0.448
54.25	-15.26	-18.53	0.00	-1,093.3	0.00	1,093.27	1,764.63	450.07	1,313.85	1,173.63	13.66	-2.4	0.443
54.25	-15.26	-18.53	0.00	-1,093.3	0.00	1,093.27	1,764.63	450.07	1,313.85	1,173.63	13.66	-2.4	0.942
55.00	-15.11	-18.38	0.00	-1,079.4	0.00	1,079.37	1,759.30	447.98	1,301.68	1,164.62	14.04	-2.43	0.937
60.00	-14.46	-18.09	0.00	-987.5	0.00	987.49	1,723.08	434.06	1,222.03	1,104.91	16.82	-2.87	0.904
65.00	-13.84	-17.80	0.00	-897.0	0.00	897.04	1,685.67	420.13	1,144.88	1,045.97	20.06	-3.31	0.868
70.00	-13.23	-17.51	0.00	-808.0	0.00	808.04	1,647.08	406.20	1,070.25	987.87	23.76	-3.75	0.828
75.00	-12.63	-17.22	0.00	-720.5	0.00	720.49	1,607.30	392.28	998.14	930.68	27.93	-4.19	0.784
80.00	-12.06	-16.93	0.00	-634.4	0.00	634.40	1,566.34	378.35	928.54	874.48	32.54	-4.62	0.735
85.00	-11.51	-16.63	0.00	-549.8	0.00	549.77	1,524.19	364.43	861.46	819.35	37.6	-5.04	0.681
90.00	-10.98	-16.34	0.00	-466.6	0.00	466.61	1,480.86	350.50	796.89	765.35	43.09	-5.44	0.619
95.00	-10.48	-16.08	0.00	-384.9	0.00	384.93	1,424.84	336.58	734.84	706.85	48.98	-5.82	0.554
98.50	-10.15	-15.92	0.00	-328.6	0.00	328.65	1,383.58	326.83	692.90	666.30	53.34	-6.07	0.503
100.00	-8.28	-12.69	0.00	-304.3	0.00	304.34	1,365.89	322.65	675.30	649.29	55.26	-6.17	0.476
101.00	-7.97	-12.50	0.00	-291.6	0.00	291.64	1,354.10	319.87	663.69	638.07	56.56	-6.24	0.464
102.00	-7.84	-12.38	0.00	-279.1	0.00	279.14	964.52	242.38	508.07	460.47	57.87	-6.31	0.617
105.00	-7.62	-12.18	0.00	-242.0	0.00	241.99	947.62	236.11	482.14	440.61	61.89	-6.5	0.560
109.00	-7.36	-12.04	0.00	-193.3	0.00	193.26	924.42	227.76	448.63	414.49	67.44	-6.78	0.477
109.00	-7.36	-12.04	0.00	-193.3	0.00	193.26	654.06	196.22	304.05	305.83	67.44	-6.78	0.647
110.00	-5.66	-7.46	0.00	-175.1	0.00	175.13	654.06	196.22	304.05	305.83	68.87	-6.85	0.583
115.00	-5.27	-7.23	0.00	-137.8	0.00	137.85	654.06	196.22	304.05	305.83	76.18	-7.13	0.460
120.00	-4.89	-7.02	0.00	-101.7	0.00	101.68	654.06	196.22	304.05	305.83	83.74	-7.34	0.341
124.00	-4.59	-6.88	0.00	-73.6	0.00	73.60	654.06	196.22	304.05	305.83	89.92	-7.46	0.249
125.00	-4.52	-6.76	0.00	-66.7	0.00	66.72	654.06	196.22	304.05	305.83	91.48	-7.49	0.226
130.00	-4.16	-6.51	0.00	-32.9	0.00	32.93	654.06	196.22	304.05	305.83	99.35	-7.57	0.115
135.00	-0.24	-0.10	0.00	-0.4	0.00	0.38	654.06	196.22	304.05	305.83	107.28	-7.6	0.002
139.00	0.00	-0.06	0.00	0.0	0.00	0.00	654.06	196.22	304.05	305.83	113.63	-7.6	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		48.73 mph wind with 1.275" radial ice			25 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-51.56	-6.22	0.00	-641.5	0.00	641.47	2,068.11	594.20	2,289.94	1,819.33	0	0	0.213
5.00	-50.02	-6.16	0.00	-610.4	0.00	610.37	2,044.32	580.27	2,183.87	1,756.02	0.03	-0.06	0.207
10.00	-48.47	-6.09	0.00	-579.6	0.00	579.59	2,019.36	566.35	2,080.32	1,692.70	0.14	-0.13	0.201
15.00	-46.93	-6.02	0.00	-549.1	0.00	549.14	1,993.20	552.42	1,979.29	1,629.44	0.31	-0.19	0.195
20.00	-45.41	-5.95	0.00	-519.0	0.00	519.03	1,965.87	538.50	1,880.77	1,566.33	0.54	-0.26	0.189
25.00	-43.89	-5.87	0.00	-489.3	0.00	489.29	1,937.35	524.57	1,784.76	1,503.43	0.85	-0.32	0.183
30.00	-42.40	-5.78	0.00	-459.9	0.00	459.94	1,907.64	510.65	1,691.27	1,440.82	1.22	-0.39	0.176
35.00	-40.93	-5.70	0.00	-431.0	0.00	431.02	1,876.75	496.72	1,600.29	1,378.57	1.66	-0.45	0.170
40.00	-39.47	-5.60	0.00	-402.5	0.00	402.54	1,844.67	482.79	1,511.83	1,316.76	2.17	-0.52	0.163
45.00	-38.04	-5.52	0.00	-374.5	0.00	374.53	1,811.41	468.87	1,425.89	1,255.46	2.75	-0.58	0.156
48.50	-37.05	-5.47	0.00	-355.2	0.00	355.22	1,787.43	459.12	1,367.22	1,212.88	3.2	-0.63	0.151
50.00	-36.46	-5.42	0.00	-347.0	0.00	347.02	1,776.97	454.94	1,342.46	1,194.73	3.4	-0.65	0.147
53.25	-35.21	-5.37	0.00	-329.4	0.00	329.40	1,771.70	452.85	1,330.16	1,185.68	3.86	-0.69	0.142
54.25	-34.93	-5.35	0.00	-324.0	0.00	324.03	1,764.63	450.07	1,313.85	1,173.63	4	-0.7	0.141
54.25	-34.93	-5.35	0.00	-324.0	0.00	324.03	1,764.63	450.07	1,313.85	1,173.63	4	-0.7	0.296
55.00	-34.78	-5.32	0.00	-320.0	0.00	320.02	1,759.30	447.98	1,301.68	1,164.62	4.12	-0.71	0.295
60.00	-33.79	-5.26	0.00	-293.4	0.00	293.42	1,723.08	434.06	1,222.03	1,104.91	4.93	-0.84	0.285
65.00	-32.83	-5.20	0.00	-267.1	0.00	267.12	1,685.67	420.13	1,144.88	1,045.97	5.89	-0.98	0.275
70.00	-31.89	-5.13	0.00	-241.1	0.00	241.14	1,647.08	406.20	1,070.25	987.87	6.98	-1.11	0.264
75.00	-30.97	-5.07	0.00	-215.5	0.00	215.48	1,607.30	392.28	998.14	930.68	8.21	-1.24	0.251
80.00	-30.08	-5.00	0.00	-190.2	0.00	190.15	1,566.34	378.35	928.54	874.48	9.58	-1.37	0.237
85.00	-29.21	-4.92	0.00	-165.2	0.00	165.18	1,524.19	364.43	861.46	819.35	11.08	-1.49	0.221
90.00	-28.37	-4.85	0.00	-140.6	0.00	140.57	1,480.86	350.50	796.89	765.35	12.71	-1.61	0.203
95.00	-27.55	-4.77	0.00	-116.3	0.00	116.34	1,424.84	336.58	734.84	706.85	14.46	-1.73	0.184
98.50	-26.99	-4.73	0.00	-99.6	0.00	99.62	1,383.58	326.83	692.90	666.30	15.75	-1.8	0.169
100.00	-21.98	-3.83	0.00	-92.4	0.00	92.43	1,365.89	322.65	675.30	649.29	16.33	-1.84	0.159
101.00	-21.40	-3.77	0.00	-88.6	0.00	88.59	1,354.10	319.87	663.69	638.07	16.71	-1.86	0.155
102.00	-21.20	-3.74	0.00	-84.8	0.00	84.82	964.52	242.38	508.07	460.47	17.1	-1.88	0.206
105.00	-20.82	-3.68	0.00	-73.6	0.00	73.61	947.62	236.11	482.14	440.61	18.3	-1.93	0.189
109.00	-20.32	-3.63	0.00	-58.9	0.00	58.89	924.42	227.76	448.63	414.49	19.96	-2.02	0.164
109.00	-20.32	-3.63	0.00	-58.9	0.00	58.89	654.06	196.22	304.05	305.83	19.96	-2.02	0.224
110.00	-13.94	-2.35	0.00	-53.9	0.00	53.92	654.06	196.22	304.05	305.83	20.38	-2.04	0.198
115.00	-13.25	-2.26	0.00	-42.2	0.00	42.17	654.06	196.22	304.05	305.83	22.57	-2.13	0.158
120.00	-12.56	-2.16	0.00	-30.9	0.00	30.89	654.06	196.22	304.05	305.83	24.83	-2.19	0.120
124.00	-12.01	-2.10	0.00	-22.2	0.00	22.24	654.06	196.22	304.05	305.83	26.68	-2.23	0.091
125.00	-11.87	-2.05	0.00	-20.1	0.00	20.14	654.06	196.22	304.05	305.83	27.15	-2.24	0.084
130.00	-11.19	-1.94	0.00	-9.9	0.00	9.89	654.06	196.22	304.05	305.83	29.5	-2.26	0.050
135.00	-0.48	-0.05	0.00	-0.2	0.00	0.21	654.06	196.22	304.05	305.83	31.88	-2.27	0.001
139.00	0.00	-0.03	0.00	0.0	0.00	0.00	654.06	196.22	304.05	305.83	33.78	-2.27	0.000

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 25 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-28.98	-5.50	0.00	-558.1	0.00	558.07	2,068.11	594.20	2,289.94	1,819.33	0	0	0.180
5.00	-27.92	-5.44	0.00	-530.6	0.00	530.55	2,044.32	580.27	2,183.87	1,756.02	0.03	-0.06	0.175
10.00	-26.87	-5.37	0.00	-503.4	0.00	503.37	2,019.36	566.35	2,080.32	1,692.70	0.12	-0.11	0.170
15.00	-25.83	-5.30	0.00	-476.5	0.00	476.52	1,993.20	552.42	1,979.29	1,629.44	0.27	-0.17	0.165
20.00	-24.81	-5.23	0.00	-450.0	0.00	450.01	1,965.87	538.50	1,880.77	1,566.33	0.47	-0.22	0.159
25.00	-23.80	-5.15	0.00	-423.9	0.00	423.87	1,937.35	524.57	1,784.76	1,503.43	0.74	-0.28	0.154
30.00	-22.81	-5.08	0.00	-398.1	0.00	398.10	1,907.64	510.65	1,691.27	1,440.82	1.06	-0.34	0.148
35.00	-21.83	-4.99	0.00	-372.7	0.00	372.72	1,876.75	496.72	1,600.29	1,378.57	1.44	-0.39	0.142
40.00	-20.86	-4.91	0.00	-347.8	0.00	347.75	1,844.67	482.79	1,511.83	1,316.76	1.89	-0.45	0.137
45.00	-19.91	-4.84	0.00	-323.2	0.00	323.19	1,811.41	468.87	1,425.89	1,255.46	2.39	-0.51	0.131
48.50	-19.25	-4.79	0.00	-306.2	0.00	306.25	1,787.43	459.12	1,367.22	1,212.88	2.78	-0.55	0.126
50.00	-18.83	-4.75	0.00	-299.1	0.00	299.06	1,776.97	454.94	1,342.46	1,194.73	2.95	-0.56	0.123
53.25	-17.94	-4.71	0.00	-283.6	0.00	283.62	1,771.70	452.85	1,330.16	1,185.68	3.35	-0.6	0.118
54.25	-17.75	-4.69	0.00	-278.9	0.00	278.91	1,764.63	450.07	1,313.85	1,173.63	3.47	-0.61	0.117
54.25	-17.75	-4.69	0.00	-278.9	0.00	278.91	1,764.63	450.07	1,313.85	1,173.63	3.47	-0.61	0.248
55.00	-17.66	-4.66	0.00	-275.4	0.00	275.39	1,759.30	447.98	1,301.68	1,164.62	3.57	-0.62	0.247
60.00	-17.07	-4.59	0.00	-252.1	0.00	252.10	1,723.08	434.06	1,222.03	1,104.91	4.28	-0.73	0.238
65.00	-16.50	-4.52	0.00	-229.2	0.00	229.15	1,685.67	420.13	1,144.88	1,045.97	5.1	-0.84	0.229
70.00	-15.93	-4.45	0.00	-206.5	0.00	206.54	1,647.08	406.20	1,070.25	987.87	6.05	-0.96	0.219
75.00	-15.39	-4.38	0.00	-184.3	0.00	184.28	1,607.30	392.28	998.14	930.68	7.11	-1.07	0.208
80.00	-14.85	-4.31	0.00	-162.4	0.00	162.36	1,566.34	378.35	928.54	874.48	8.29	-1.18	0.195
85.00	-14.33	-4.24	0.00	-140.8	0.00	140.79	1,524.19	364.43	861.46	819.35	9.58	-1.28	0.181
90.00	-13.82	-4.17	0.00	-119.6	0.00	119.57	1,480.86	350.50	796.89	765.35	10.98	-1.39	0.166
95.00	-13.33	-4.11	0.00	-98.7	0.00	98.71	1,424.84	336.58	734.84	706.85	12.49	-1.49	0.149
98.50	-13.00	-4.07	0.00	-84.3	0.00	84.32	1,383.58	326.83	692.90	666.30	13.6	-1.55	0.136
100.00	-10.59	-3.25	0.00	-78.1	0.00	78.10	1,365.89	322.65	675.30	649.29	14.09	-1.58	0.128
101.00	-10.24	-3.20	0.00	-74.8	0.00	74.85	1,354.10	319.87	663.69	638.07	14.42	-1.59	0.125
102.00	-10.10	-3.17	0.00	-71.6	0.00	71.65	964.52	242.38	508.07	460.47	14.76	-1.61	0.166
105.00	-9.89	-3.12	0.00	-62.1	0.00	62.14	947.62	236.11	482.14	440.61	15.79	-1.66	0.152
109.00	-9.62	-3.09	0.00	-49.7	0.00	49.66	924.42	227.76	448.63	414.49	17.21	-1.73	0.130
109.00	-9.62	-3.09	0.00	-49.7	0.00	49.66	654.06	196.22	304.05	305.83	17.21	-1.73	0.177
110.00	-7.20	-1.92	0.00	-45.0	0.00	45.04	654.06	196.22	304.05	305.83	17.57	-1.75	0.158
115.00	-6.77	-1.86	0.00	-35.5	0.00	35.46	654.06	196.22	304.05	305.83	19.44	-1.82	0.126
120.00	-6.34	-1.81	0.00	-26.2	0.00	26.16	654.06	196.22	304.05	305.83	21.38	-1.88	0.095
124.00	-5.99	-1.77	0.00	-18.9	0.00	18.93	654.06	196.22	304.05	305.83	22.97	-1.91	0.071
125.00	-5.91	-1.74	0.00	-17.2	0.00	17.16	654.06	196.22	304.05	305.83	23.37	-1.91	0.065
130.00	-5.48	-1.67	0.00	-8.5	0.00	8.47	654.06	196.22	304.05	305.83	25.38	-1.94	0.036
135.00	-0.28	-0.03	0.00	-0.1	0.00	0.10	654.06	196.22	304.05	305.83	27.41	-1.94	0.001
139.00	0.00	-0.02	0.00	0.0	0.00	0.00	654.06	196.22	304.05	305.83	29.04	-1.94	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.177
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.189
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	2.740
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	28.980 k
Seismic Base Shear (E):	0.870 k

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	137	283	5,305	0.023	20	350
35	132.5	431	7,565	0.033	29	533
34	127.5	431	7,005	0.031	27	533
33	124.5	86	1,336	0.006	5	107
32	122	345	5,131	0.022	20	427
31	117.5	431	5,949	0.026	23	533
30	112.5	431	5,454	0.024	21	533
29	109.5	94	1,124	0.005	4	116
28	107	272	3,115	0.014	12	337
27	103.5	208	2,232	0.010	8	258
26	101.5	132	1,360	0.006	5	163
25	100.5	133	1,343	0.006	5	165
24	99.25	213	2,097	0.009	8	264
23	96.75	333	3,119	0.014	12	412
22	92.5	487	4,171	0.018	16	603
21	87.5	501	3,835	0.017	15	620
20	82.5	514	3,501	0.015	13	637
19	77.5	528	3,171	0.014	12	653
18	72.5	541	2,846	0.012	11	670
17	67.5	555	2,528	0.011	10	687
16	62.5	568	2,220	0.010	8	704
15	57.5	582	1,924	0.008	7	720
14	54.625	88	264	0.001	1	109
13	53.75	185	535	0.002	2	229
12	51.625	890	2,371	0.010	9	1,101
11	49.25	414	1,005	0.004	4	513
10	46.75	657	1,435	0.006	5	813
9	42.5	950	1,715	0.008	7	1,175
8	37.5	963	1,354	0.006	5	1,192
7	32.5	977	1,032	0.004	4	1,209
6	27.5	990	749	0.003	3	1,226
5	22.5	1,004	508	0.002	2	1,242
4	17.5	1,017	312	0.001	1	1,259
3	12.5	1,031	161	0.001	1	1,276

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
2	7.5	1,044	59	0.000	0	1,292
1	2.5	1,058	7	0.000	0	1,309
Ericsson RRUS 8843 B2, B66A	135	216	3,937	0.017	15	267
Ericsson RRUS 4415 B30	135	138	2,515	0.011	10	171
Ericsson RRUS 4449 B5, B12	135	213	3,882	0.017	15	264
Ericsson RRUS 4478 B14	135	178	3,248	0.014	12	221
Ericsson RRUS E2 B29	135	180	3,280	0.014	12	223
Raycap DC9-48-60-24-8C-EV	135	32	583	0.003	2	40
CCI HPA65R-BU8A	135	162	2,952	0.013	11	201
CCI DMP65R-BU8D	135	287	5,232	0.023	20	355
SitePro1 VFA12- WLL-30120 Sector Frame	135	3,165	57,682	0.252	219	3,918
CCI TPA65R-BU8D	135	248	4,511	0.020	17	306
Commscope CBC78T-DS-43-2X	110	124	1,503	0.007	6	154
Samsung B5/B13 RRH-BR04C	110	211	2,552	0.011	10	261
Samsung B2/B66A RRH-BR049	110	253	3,064	0.013	12	313
Raycap RC3DC-3315-PF-48	110	64	774	0.003	3	79
Samsung MT6407-77A	110	245	2,962	0.013	11	303
Commscope JAHH-65B-R3B	110	364	4,400	0.019	17	450
Antel LPA-80063/6CF	110	162	1,960	0.009	7	201
Generic Round T-Arm	110	938	11,344	0.050	43	1,160
Generic Round T-Arm	100	938	9,375	0.041	36	1,160
Ericsson Radio 4449 B12,B71	101	222	2,265	0.010	9	275
Ericsson Radio 4449 B12,B71	100	222	2,220	0.010	8	275
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	100	274	2,745	0.012	10	340
Ericsson AIR-32 B2A/B66Aa	100	397	3,966	0.017	15	491
RFS APXVAARR24_43-U-NA20	100	384	3,837	0.017	15	475
		28,983	228,627	1.000	869	35,874

0.9D - 1.0Ev + 1.0Eh Normal **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	137	283	5,305	0.023	20	244
35	132.5	431	7,565	0.033	29	372
34	127.5	431	7,005	0.031	27	372
33	124.5	86	1,336	0.006	5	74
32	122	345	5,131	0.022	20	297
31	117.5	431	5,949	0.026	23	372
30	112.5	431	5,454	0.024	21	372
29	109.5	94	1,124	0.005	4	81
28	107	272	3,115	0.014	12	235
27	103.5	208	2,232	0.010	8	180
26	101.5	132	1,360	0.006	5	114
25	100.5	133	1,343	0.006	5	115
24	99.25	213	2,097	0.009	8	184
23	96.75	333	3,119	0.014	12	287
22	92.5	487	4,171	0.018	16	420
21	87.5	501	3,835	0.017	15	432
20	82.5	514	3,501	0.015	13	444
19	77.5	528	3,171	0.014	12	455
18	72.5	541	2,846	0.012	11	467
17	67.5	555	2,528	0.011	10	478
16	62.5	568	2,220	0.010	8	490
15	57.5	582	1,924	0.008	7	502
14	54.625	88	264	0.001	1	76
13	53.75	185	535	0.002	2	160
12	51.625	890	2,371	0.010	9	767
11	49.25	414	1,005	0.004	4	357
10	46.75	657	1,435	0.006	5	566
9	42.5	950	1,715	0.008	7	819
8	37.5	963	1,354	0.006	5	831
7	32.5	977	1,032	0.004	4	842
6	27.5	990	749	0.003	3	854

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
5	22.5	1,004	508	0.002	2	865
4	17.5	1,017	312	0.001	1	877
3	12.5	1,031	161	0.001	1	889
2	7.5	1,044	59	0.000	0	900
1	2.5	1,058	7	0.000	0	912
Ericsson RRUS 8843 B2, B66A	135	216	3,937	0.017	15	186
Ericsson RRUS 4415 B30	135	138	2,515	0.011	10	119
Ericsson RRUS 4449 B5, B12	135	213	3,882	0.017	15	184
Ericsson RRUS 4478 B14	135	178	3,248	0.014	12	154
Ericsson RRUS E2 B29	135	180	3,280	0.014	12	155
Raycap DC9-48-60-24-8C-EV	135	32	583	0.003	2	28
CCI HPA65R-BU8A	135	162	2,952	0.013	11	140
CCI DMP65R-BU8D	135	287	5,232	0.023	20	248
SitePro1 VFA12- WLL-30120 Sector Frame	135	3,165	57,682	0.252	219	2,729
CCI TPA65R-BU8D	135	248	4,511	0.020	17	213
Commscope CBC78T-DS-43-2X	110	124	1,503	0.007	6	107
Samsung B5/B13 RRH-BR04C	110	211	2,552	0.011	10	182
Samsung B2/B66A RRH-BR049	110	253	3,064	0.013	12	218
Raycap RC3DC-3315-PF-48	110	64	774	0.003	3	55
Samsung MT6407-77A	110	245	2,962	0.013	11	211
Commscope JAHH-65B-R3B	110	364	4,400	0.019	17	314
Antel LPA-80063/6CF	110	162	1,960	0.009	7	140
Generic Round T-Arm	110	938	11,344	0.050	43	808
Generic Round T-Arm	100	938	9,375	0.041	36	808
Ericsson Radio 4449 B12,B71	101	222	2,265	0.010	9	191
Ericsson Radio 4449 B12,B71	100	222	2,220	0.010	8	191
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	100	274	2,745	0.012	10	237
Ericsson AIR-32 B2A/B66Aa	100	397	3,966	0.017	15	342
RFS APXVAARR24_43-U-NA20	100	384	3,837	0.017	15	331
		28,983	228,627	1.000	869	24,990

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.56	-0.87	0.00	-104.81	0.00	104.81	2,068.11	594.20	2,290	1,819.33	0.00	0.00	0.04
5.00	-33.27	-0.88	0.00	-100.45	0.00	100.45	2,044.32	580.27	2,184	1,756.02	0.01	-0.01	0.04
10.00	-32.00	-0.88	0.00	-96.07	0.00	96.07	2,019.36	566.35	2,080	1,692.70	0.02	-0.02	0.04
15.00	-30.74	-0.89	0.00	-91.65	0.00	91.65	1,993.20	552.42	1,979	1,629.44	0.05	-0.03	0.04
20.00	-29.49	-0.89	0.00	-87.22	0.00	87.22	1,965.87	538.50	1,881	1,566.33	0.09	-0.04	0.04
25.00	-28.27	-0.89	0.00	-82.77	0.00	82.77	1,937.35	524.57	1,785	1,503.43	0.14	-0.05	0.04
30.00	-27.06	-0.89	0.00	-78.32	0.00	78.32	1,907.64	510.65	1,691	1,440.82	0.20	-0.06	0.04
35.00	-25.87	-0.89	0.00	-73.86	0.00	73.86	1,876.75	496.72	1,600	1,378.57	0.28	-0.08	0.04
40.00	-24.69	-0.89	0.00	-69.41	0.00	69.41	1,844.67	482.79	1,512	1,316.76	0.36	-0.09	0.03
45.00	-23.88	-0.88	0.00	-64.98	0.00	64.98	1,811.41	468.87	1,426	1,255.46	0.46	-0.10	0.03
48.50	-23.37	-0.88	0.00	-61.89	0.00	61.89	1,787.43	459.12	1,367	1,212.88	0.53	-0.11	0.03
50.00	-22.26	-0.87	0.00	-60.56	0.00	60.56	1,776.97	454.94	1,342	1,194.73	0.57	-0.11	0.03
53.25	-22.03	-0.87	0.00	-57.73	0.00	57.73	1,771.70	452.85	1,330	1,185.68	0.65	-0.12	0.03
54.25	-21.93	-0.87	0.00	-56.86	0.00	56.86	1,764.63	450.07	1,314	1,173.63	0.67	-0.12	0.03
54.25	-21.93	-0.87	0.00	-56.86	0.00	56.86	1,764.63	450.07	1,314	1,173.63	0.67	-0.12	0.06
55.00	-21.20	-0.87	0.00	-56.21	0.00	56.21	1,759.30	447.98	1,302	1,164.62	0.69	-0.12	0.06
60.00	-20.50	-0.87	0.00	-51.87	0.00	51.87	1,723.08	434.06	1,222	1,104.91	0.83	-0.14	0.06
65.00	-19.81	-0.86	0.00	-47.55	0.00	47.55	1,685.67	420.13	1,145	1,045.97	0.99	-0.17	0.06
70.00	-19.14	-0.86	0.00	-43.24	0.00	43.24	1,647.08	406.20	1,070	987.87	1.18	-0.19	0.06
75.00	-18.49	-0.85	0.00	-38.95	0.00	38.95	1,607.30	392.28	998	930.68	1.39	-0.21	0.05
80.00	-17.85	-0.84	0.00	-34.71	0.00	34.71	1,566.34	378.35	929	874.48	1.63	-0.24	0.05
85.00	-17.23	-0.83	0.00	-30.50	0.00	30.50	1,524.19	364.43	861	819.35	1.89	-0.26	0.05
90.00	-16.63	-0.82	0.00	-26.35	0.00	26.35	1,480.86	350.50	797	765.35	2.18	-0.28	0.05
95.00	-16.22	-0.81	0.00	-22.25	0.00	22.25	1,424.84	336.58	735	706.85	2.49	-0.30	0.04
98.50	-15.95	-0.80	0.00	-19.42	0.00	19.42	1,383.58	326.83	693	666.30	2.71	-0.32	0.04
100.00	-13.05	-0.70	0.00	-18.21	0.00	18.21	1,365.89	322.65	675	649.29	2.82	-0.33	0.04
101.00	-12.61	-0.68	0.00	-17.52	0.00	17.52	1,354.10	319.87	664	638.07	2.88	-0.33	0.04
102.00	-12.35	-0.68	0.00	-16.83	0.00	16.83	964.52	242.38	508	460.47	2.95	-0.33	0.05
105.00	-12.01	-0.66	0.00	-14.81	0.00	14.81	947.62	236.11	482	440.61	3.17	-0.35	0.05

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
109.00	-11.90	-0.66	0.00	-12.15	0.00	12.15	924.42	227.76	449	414.49	3.47	-0.36	0.04
109.00	-11.90	-0.66	0.00	-12.15	0.00	12.15	654.06	196.22	304	305.83	3.47	-0.36	0.06
110.00	-8.44	-0.51	0.00	-11.49	0.00	11.49	654.06	196.22	304	305.83	3.54	-0.37	0.05
115.00	-7.91	-0.49	0.00	-8.93	0.00	8.93	654.06	196.22	304	305.83	3.94	-0.39	0.04
120.00	-7.48	-0.47	0.00	-6.49	0.00	6.49	654.06	196.22	304	305.83	4.35	-0.40	0.03
124.00	-7.38	-0.46	0.00	-4.62	0.00	4.62	654.06	196.22	304	305.83	4.69	-0.41	0.03
124.00	-7.38	-0.46	0.00	-4.62	0.00	4.62	654.06	196.22	304	305.83	4.69	-0.41	0.03
125.00	-6.84	-0.43	0.00	-4.16	0.00	4.16	654.06	196.22	304	305.83	4.77	-0.41	0.02
130.00	-6.31	-0.40	0.00	-2.00	0.00	2.00	654.06	196.22	304	305.83	5.20	-0.41	0.02
135.00	0.00	0.00	0.00	0.00	0.00	0.00	654.06	196.22	304	305.83	5.64	-0.42	0.00
139.00	0.00	0.00	0.00	0.00	0.00	0.00	654.06	196.22	304	305.83	5.98	-0.42	0.00

0.9D - 1.0Ev + 1.0Eh Normal **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.08	-0.87	0.00	-102.65	0.00	102.65	2,068.11	594.20	2,290	1,819.33	0.00	0.00	0.04
5.00	-23.18	-0.87	0.00	-98.29	0.00	98.29	2,044.32	580.27	2,184	1,756.02	0.01	-0.01	0.04
10.00	-22.29	-0.88	0.00	-93.92	0.00	93.92	2,019.36	566.35	2,080	1,692.70	0.02	-0.02	0.04
15.00	-21.41	-0.88	0.00	-89.53	0.00	89.53	1,993.20	552.42	1,979	1,629.44	0.05	-0.03	0.04
20.00	-20.55	-0.88	0.00	-85.13	0.00	85.13	1,965.87	538.50	1,881	1,566.33	0.09	-0.04	0.04
25.00	-19.69	-0.88	0.00	-80.72	0.00	80.72	1,937.35	524.57	1,785	1,503.43	0.14	-0.05	0.03
30.00	-18.85	-0.88	0.00	-76.31	0.00	76.31	1,907.64	510.65	1,691	1,440.82	0.20	-0.06	0.03
35.00	-18.02	-0.88	0.00	-71.91	0.00	71.91	1,876.75	496.72	1,600	1,378.57	0.27	-0.07	0.03
40.00	-17.20	-0.87	0.00	-67.52	0.00	67.52	1,844.67	482.79	1,512	1,316.76	0.35	-0.09	0.03
45.00	-16.63	-0.87	0.00	-63.15	0.00	63.15	1,811.41	468.87	1,426	1,255.46	0.45	-0.10	0.03
48.50	-16.28	-0.87	0.00	-60.10	0.00	60.10	1,787.43	459.12	1,367	1,212.88	0.52	-0.10	0.03
50.00	-15.51	-0.86	0.00	-58.80	0.00	58.80	1,776.97	454.94	1,342	1,194.73	0.56	-0.11	0.03
53.25	-15.35	-0.86	0.00	-56.01	0.00	56.01	1,771.70	452.85	1,330	1,185.68	0.63	-0.11	0.03
54.25	-15.27	-0.86	0.00	-55.16	0.00	55.16	1,764.63	450.07	1,314	1,173.63	0.66	-0.12	0.03
54.25	-15.27	-0.86	0.00	-55.16	0.00	55.16	1,764.63	450.07	1,314	1,173.63	0.66	-0.12	0.06
55.00	-14.77	-0.85	0.00	-54.51	0.00	54.51	1,759.30	447.98	1,302	1,164.62	0.67	-0.12	0.06
60.00	-14.28	-0.85	0.00	-50.26	0.00	50.26	1,723.08	434.06	1,222	1,104.91	0.81	-0.14	0.05
65.00	-13.80	-0.84	0.00	-46.02	0.00	46.02	1,685.67	420.13	1,145	1,045.97	0.97	-0.16	0.05
70.00	-13.33	-0.83	0.00	-41.81	0.00	41.81	1,647.08	406.20	1,070	987.87	1.15	-0.19	0.05
75.00	-12.88	-0.83	0.00	-37.64	0.00	37.64	1,607.30	392.28	998	930.68	1.36	-0.21	0.05
80.00	-12.44	-0.82	0.00	-33.51	0.00	33.51	1,566.34	378.35	929	874.48	1.59	-0.23	0.05
85.00	-12.00	-0.80	0.00	-29.43	0.00	29.43	1,524.19	364.43	861	819.35	1.84	-0.25	0.04
90.00	-11.58	-0.79	0.00	-25.41	0.00	25.41	1,480.86	350.50	797	765.35	2.12	-0.27	0.04
95.00	-11.30	-0.78	0.00	-21.45	0.00	21.45	1,424.84	336.58	735	706.85	2.42	-0.30	0.04
98.50	-11.11	-0.77	0.00	-18.72	0.00	18.72	1,383.58	326.83	693	666.30	2.64	-0.31	0.04
100.00	-9.09	-0.67	0.00	-17.56	0.00	17.56	1,365.89	322.65	675	649.29	2.74	-0.32	0.03
101.00	-8.78	-0.66	0.00	-16.88	0.00	16.88	1,354.10	319.87	664	638.07	2.81	-0.32	0.03
102.00	-8.60	-0.65	0.00	-16.22	0.00	16.22	964.52	242.38	508	460.47	2.87	-0.32	0.04
105.00	-8.37	-0.64	0.00	-14.27	0.00	14.27	947.62	236.11	482	440.61	3.08	-0.33	0.04
109.00	-8.29	-0.64	0.00	-11.71	0.00	11.71	924.42	227.76	449	414.49	3.37	-0.35	0.04
109.00	-8.29	-0.64	0.00	-11.71	0.00	11.71	654.06	196.22	304	305.83	3.37	-0.35	0.05
110.00	-5.88	-0.49	0.00	-11.07	0.00	11.07	654.06	196.22	304	305.83	3.44	-0.36	0.05
115.00	-5.51	-0.47	0.00	-8.60	0.00	8.60	654.06	196.22	304	305.83	3.82	-0.37	0.04
120.00	-5.21	-0.45	0.00	-6.25	0.00	6.25	654.06	196.22	304	305.83	4.22	-0.39	0.03
124.00	-5.14	-0.44	0.00	-4.45	0.00	4.45	654.06	196.22	304	305.83	4.55	-0.39	0.02
124.00	-5.14	-0.44	0.00	-4.45	0.00	4.45	654.06	196.22	304	305.83	4.55	-0.39	0.02
125.00	-4.77	-0.42	0.00	-4.00	0.00	4.00	654.06	196.22	304	305.83	4.63	-0.40	0.02
130.00	-4.40	-0.38	0.00	-1.92	0.00	1.92	654.06	196.22	304	305.83	5.05	-0.40	0.01
135.00	0.00	0.00	0.00	0.00	0.00	0.00	654.06	196.22	304	305.83	5.47	-0.40	0.00
139.00	0.00	0.00	0.00	0.00	0.00	0.00	654.06	196.22	304	305.83	5.81	-0.40	0.00

ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	21.86	0.00	34.74	0.00	0.00	2233.96	54.25	0.97
0.9D + 1.0W Normal	21.84	0.00	26.04	0.00	0.00	2198.16	54.25	0.94
1.2D + 1.0Di + 1.0Wi Normal	6.22	0.00	51.56	0.00	0.00	641.47	54.25	0.3
1.2D + 1.0Ev + 1.0Eh Normal	0.89	0.00	34.56	0.00	0.00	104.81	54.25	0.06
0.9D - 1.0Ev + 1.0Eh Normal	0.88	0.00	24.08	0.00	0.00	102.65	54.25	0.06
1.0D + 1.0W Service Normal	5.50	0.00	28.98	0.00	0.00	558.07	54.25	0.25

ADDITIONAL STEEL SUMMARY

			Intermediate Connectors				Max member		
Elev From (ft)	Elev To (ft)	Member	VQ/I	Shear Applied (kips)	Shear (phiVn) (kips)	Ratio	Pu (kip)	PhiPn (kip)	Ratio
0.00	54.25	SOL #20 All Thread Bar	256.1	7.7	16.8	0.4571	239.4	256.1	0.9348

			Upper Termination Connectors					Lower Termination Connectors				
Elev From (ft)	Elev To (ft)	Member	MQ/I	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kip)	Num Reqd	Num Actual	Ratio
0.00	54.25	SOL #20 All Thread Bar	180.6019	12	16	16	0.9406	0	12	0	0	0.0000

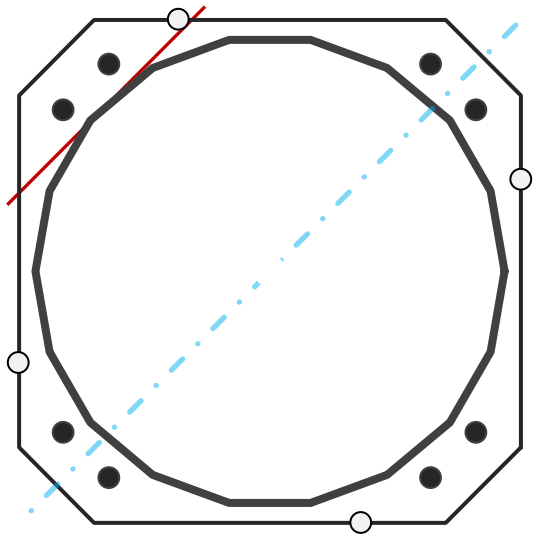
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	42.92	in
Thickness	1/4	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2,234.0	k-ft
Axial, Pu	34.7	k
Shear, Vu	21.9	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	79%	Pass
Anchor Rods	64%	Pass
Dwyidag	60%	Pass

Base Plate		
Shape	Square	-
Width	46.75	in
Thickness	2	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	7	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	819.7	k
Bending Stress, ϕMn	1038.1	k



Dywidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ø	2.5	in
Bracket Type	Angle	-
Circle	49.80	in
Orientation Offset	20	°
Applied Force, Pu	220.9	k
Dywidag Bar, ϕPn	368.2	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ø	2 1/4	in
Bolt Circle	48.75	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	153.6	k
Anchor Rods, ϕPn	243.6	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	21.9	1239.0	0.55
Anchor Rod Forces	21.9	1239.0	0.55
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	995.0	0.45
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	33.3431	1.8524	0.0387		7589.28
Bolt	3.9761	3.2477	0.8393	4.5	7725.05
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		6094.60
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	46.75	in
Thickness, t	2	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	18.532	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	48.75	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	153.6	k
Applied Shear, Vu	0.6	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.631	OK
Interaction Capacity	0.636	OK

External Base Plate		
Chord Length AA	23.069	in
Additional AA	0.000	in
Section Modulus, Z	23.069	in^3
Applied Moment, Mu	819.7	k-ft
Bending Capacity, ϕMn	1038.1	k-ft
Capacity, Mu/ϕMn	0.790	OK
Chord Length AB	22.405	in
Additional AB	0.000	in
Section Modulus, Z	22.405	in^3
Applied Moment, Mu	717.7	k-ft
Bending Capacity, ϕMn	1008.2	k-ft
Capacity, Mu/ϕMn	0.712	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	49.8	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	220.9	k
Compressive Capacity, ϕPn	368.2	k
Capacity, Pu/ϕPn	0.600	OK

Flange Plate Analysis

Flange Plate

Plate Type	***Flange***	***@ 109 ft***
Pole Diameter	18	in
Pole Thickness	0.375	in
Plate Diameter	30	in
Plate Thickness	1 1/2	in
Plate Fy	50	ksi
Weld Length	3/16	in
f_s Resistance	119.28	k-in
Applied	97.38	k-in

Code Rev.	***G***
Moment	200.4 k-ft
Axial	10.2 k

Required Flange Thickness:
1.36 in OK

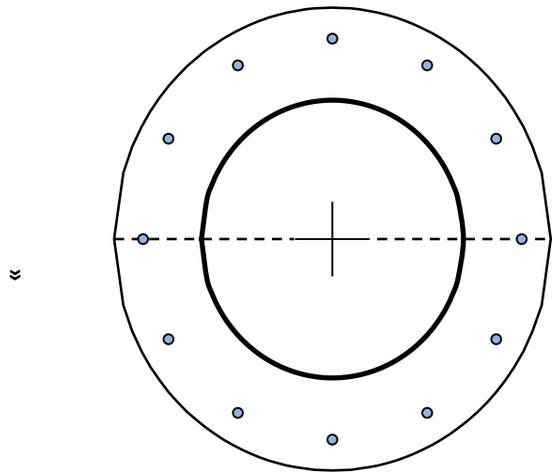
Date	9/10/2021
Engineer	
Site #	283562
Carrier	

Stiffeners

#	

Bolts

#	***12***	
Bolt Circle	26	in
(R)adial / (S)quare	R	
Diameter	1	in
Hole Diameter	1 1/8	in
Type	A325	
Fy	92	ksi
Fu	120	ksi
f_s Resistance	54.52	k
Applied	29.96	k



Reinforcement

#	

Plate Stress Ratio:
82% Pass

Bolt Stress Ratio:
55% Pass

Extra Bolts O

#	

Flange Plate Analysis

Flange Plate

Plate Type	***Flange***	***@ 124 ft***
Pole Diameter	18	in
Pole Thickness	0.375	in
Plate Diameter	26	in
Plate Thickness	1 1/2	in
Plate Fy	50	ksi
Weld Length	3/16	in
f_s Resistance	119.28	k-in
Applied	16.69	k-in

Code Rev.	***G***
Moment	76.4 k-ft
Axial	6.4 k

Required Flange Thickness:
0.56 in OK

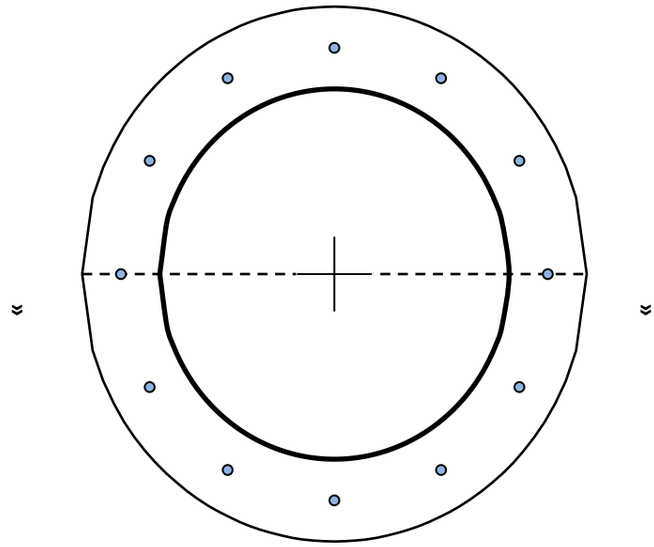
Date	9/10/2021
Engineer	
Site #	283562
Carrier	

Stiffeners

#	

Bolts

#	***12***	
Bolt Circle	22	in
(R)adial / (S)quare	R	
Diameter	1	in
Hole Diameter	1 1/8	in
Type	A325	
Fy	92	ksi
Fu	120	ksi
f_s Resistance	54.52	k
Applied	13.35	k



Reinforcement

#	

Plate Stress Ratio:
14% Pass

Bolt Stress Ratio:
24% Pass

Extra Bolts O

#	

Site Name: North Bloomfield CT, CT
Site Number: 283562
Tower Type: MP
Design Loads (Factored) - Analysis per TIA-222-H Standards

Monolithic Mat & Pier Foundation Analysis

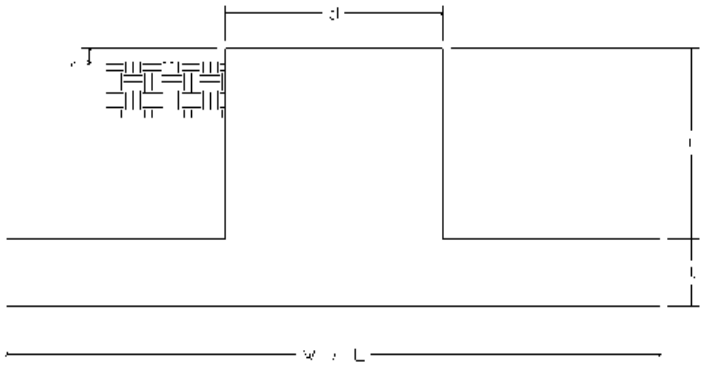
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	30.9	k
Uplift/Leg:	0.0	k
Total Shear:	21.5	k
Moment:	2,106.0	k-ft
Tower + Appurtenance Weight:	30.9	k
Depth to Base of Foundation (l + t - h):	6	ft
Diameter of Pier (d):	6	ft
Length of Pier (l):	5	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	20	ft
Length of Pad (L):	23	ft
Thickness of Pad (t):	1.5	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	3.3541	ft
Depth Below Ground Surface to Water Table:	9	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	116	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	53.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.30	-
Ultimate Compressive Bearing Pressure:	5,650	psf
Ultimate Passive Pressure on Pad Face:	329	psf
$f_{Soil\ and\ Concrete\ Weight}$:	0.9	-
f_{Soil}:	0.75	-

Overturning Moment Usage		
Design OTM:	2246.0	k-ft
OTM Resistance:	3492.4	k-ft
Design OTM / OTM Resistance:	64%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	2022	psf
Factored Nominal Bearing Pressure:	4238	psf
Factored Nominal (Net) Bearing Pressure:	48%	Pass
Load Direction Controling Design Bearing Pressure:	*Diagonal to Pad Edge*	

Sliding Factor of Safety		
Ultimate Friction Resistance:	112.8	k
Ultimate Passive Pressure Resistance:	8.5	k
Total Factored Sliding Resistance:	91.0	k
Sliding Design / Sliding Resistance:	24%	Pass

Foundation Steel Parameters		
Shear/Leg (Compression):	21.5	k
Shear/Leg (Uplift):	21.5	k
Concrete Strength (f'_c):	4,000	psi
Pad Tension Steel Depth:	14.50	in
Dead Load Factor:	0.9	-
f_{Shear}:	0.75	-
$f_{Flexure\ /\ Tension}$:	0.9	-
$f_{Compression:}$	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	8	-
# of Bottom Pad Rebar:	18	-
Pad Bottom Steel Area:	14.22	in^2
Pad Steel F_y:	60,000	psi
Top Pad Rebar Size #:	8	-
# of Top Pad Rebar:	18	-
Pad Top Steel Area:	14.22	in^2
Pier Rebar Size #:	7	-
Pier Steel Area (Single Bar):	0.60	in^2
# of Pier Rebar:	34	-
Pier Steel F_y:	60,000	psi
Pier Cage Diameter:	63.9	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	5	-
Tie Steel Area (Single Bar):	0.31	in^2
Tie Spacing:	12	in
Tie Steel F_y:	60,000	psi
Clear Cover:	3	in



Pad Strength Capacity			
Factored One Way Shear (V_u):	269.3	k	
One Way Shear Capacity (fV_c):	379.7	k	*ACI 318-14 25.5.5.1*
V_u / fV_c:	71%	Pass	
Load Direction Controling Shear Capacity:	*Parallel to Pad Edge*		
Lower Steel Pad Factored Moment (M_u):	936.7	k-ft	
Lower Steel Pad Moment Capacity (fM_n):	903.1	k-ft	*ACI 318-14 22.3.1.1*
M_u / fM_n:	104%	Pass	
Load Direction Controling Flexural Capacity:	*Parallel to Pad Edge*		
Upper Steel Pad Factored Moment (M_u):	420.9	k-ft	
Upper Steel Pad Moment Capacity (fM_n):	903.1	k-ft	
M_u / fM_n:	47%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0036		*OK - ACI 318-14 7.6.1.1 & 8.6.1.1*
Upper Pad Flexural Reinforcement Ratio:	0.0036		*OK - ACI 318-14 7.6.1.1 & 8.6.1.1*
Lower Pad Reinforcement Spacing:	15.9	in	*OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3*
Upper Pad Reinforcement Spacing:	15.9	in	*OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3*
Ultimate Punching Shear Stress, v_u:	103.79	psi	*ACI 318-14 R8.4.4.2.3*
Nominal Punching Shear Capacity (f_cv_c):	189.7	psi	*ACI 318-14 22.6.5.2*
v_u / f_cv_c:	55%	Pass	
Pier Moment Pad Flexure Transfer Ratio, γ_f:	0.60		*TIA-222-H 9.4.2*
Moment Transfer Effective Flexural Width, B_{eff}:	10.50	ft	*TIA-222-H 9.4.2*
Moment Transfer Through Pad Flexure:	15938.57	k-in	*TIA-222-H 9.4.2*
Moment Transfer Flexural Capacity ($fM_{sc,f}$):	5374.38	k-in	
g_fM_{sc} / $fM_{sc,f}$:	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	2213.7	k-ft	
Pier Moment Capacity (fM_n):	2867.4	k-ft	
M_u / fM_n:	77%	Pass	
Factored Shear in Pier (V_u):	21.5	k	
Pier Shear Capacity (fV_n):	521.6	k	*ACI 318-14 22.5.1.1*
V_u / fV_c:	4%	Pass	
Pier Shear Reinforcement Ratio:	0.0010		*OK - No Ties Necessary for Shear - ACI11.5.6.1*
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	1101.6	k	
T_u / fT_n:	0%	Pass	
Factored Compression in Pier (P_u):	30.9	k	
Pier Compression Capacity (fP_n):	7181.1	k	*ACI 318-14 22.4.2.1*
P_u / fP_n:	0%	Pass	
Minimum Depth to Develop Vertical Rebar:	22	in	*ACI 318-14 25.4.2.3*
Minimum Hook Development Length:	17	in	*ACI 318-14 25.4.3.1*
Minimum Mat Thickness / Edge Distance from Pier:	20.0	in	
Minimum Foundation Depth:	3.77	ft	
$M_u/f_BM_n + T_u/f_TT_n$:	77%	Pass	

VICINITY MAP

AMERICAN TOWER®

SITE NAME: NORTH BLOOMFIELD CT
SITE NUMBER: 283562
ATC PROJECT NUMBER: OAA761819_C6_03
SITE ADDRESS: 1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

LOCATION MAP

BIRD WATCH SITE:
PLEASE CONTACT BIRD.WATCH@AMERICANTOWER.COM OR AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

109 FT MONOPOLE MODIFICATIONS W/ PROPOSED 30 FT EXTENSION

PROJECT TEAM

TOWER OWNER

AMERICAN TOWER
10 PRESIDENTAL WAY
WOBURN, MA 01801

ENGINEERED BY

ATC TOWER SERVICES
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27518

CARRIER INFORMATION

CARRIER: AT&T MOBILITY
CARRIER SITE NAME: BLOOMFIELD DAY HILL ROAD
CARRIER SITE NUMBER: CT3387

811 Know what's below. Call before you dig.

PROJECT DESCRIPTION

THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER OAA761819_C3_02 DATED 12/01/20. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. ANSI/TIA/EIA: STRUCTURAL STANDARDS (222-H EDITION)
2. INTERNATIONAL BUILDING CODE (2015 IBC)
3. CONNECTICUT STATE BUILDING CODE (2018)

PROJECT LOCATION

GEOGRAPHIC COORDINATES

LATITUDE: 41.87650777
LONGITUDE: -72.7418397

SHEET	SHEET TITLE	REV.
G-002	IBC GENERAL NOTES	0
G-003	SPECIAL INSPECTION CHECKLIST	0
G-004	BILL OF MATERIALS	0
G-005	REBAR LIST	0
C-101	DETAILED SITE PLAN	0
S-201	MODIFICATION PROFILE	0
S-501	FOUNDATION EXTENSION INSTALLATION DETAILS	0
S-502	FOUNDATION EXTENSION INSTALLATION DETAILS (CONT'D)	0
S-503	REINFORCEMENT FOUNDATION DETAILS	0
S-504	REINFORCEMENT INSTALLATION DETAILS	0
S-505	REINFORCEMENT INSTALLATION DETAILS (CONT'D)	0
S-506	#20 STEP BOLT BRACKET INSTALLATION DETAILS	0
S-507	TOP FLANGE PLATE INSTALLATION DETAILS	0
S-508	MONOPOLE EXTENSION INSTALLATION DETAILS - SECTION 4	0
S-509	MONOPOLE EXTENSION INSTALLATION DETAILS - SECTION 5	0
Z-501	TOP FLANGE & CAP PLATE FABRICATION DETAILS	0
Z-502	MONOPOLE EXTENSION WELDMENT FABRICATION DETAILS - SECTION 4	0
Z-503	MONOPOLE EXTENSION WELDMENT FABRICATION DETAILS - SECTION 5	0
Z-504	MONOPOLE EXTENSION WELDMENT FABRICATION DETAILS (CONT'D)	0

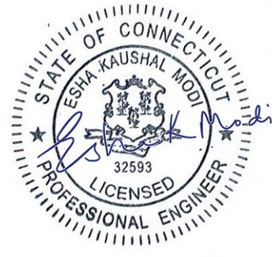
AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

COVER

SHEET NUMBER:	REVISION:
G-001	0

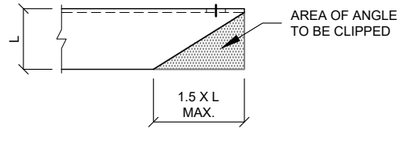
GENERAL

1. ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
2. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
4. ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
5. ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSI/TIA-322 AND ANSI/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
8. CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
3. ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
5. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
6. ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-9 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
7. CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
8. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.

MAXIMUM ALLOWABLE ANGLE CLIP



PAINT

1. AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
2. ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
3. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
4. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER AND/OR BASE METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
5. IN CASES WHERE BASE METAL GRADE IS UNKNOWN, ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES; ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES, UNLESS NOTED OTHERWISE.
6. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

1. STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
2. FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
3. IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

4. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

   FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

   8.2.1 TURN-OF-NUT PRETENSIONING
   BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

5. ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

   ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

APPLICABLE CODES AND STANDARDS

1. ANSI/TIA: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-H EDITION.
2. 2018 CONNECTICUT STATE BUILDING CODE.
3. 2015 INTERNATIONAL BUILDING CODE.
4. ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE. REFERENCE LATEST APPROPRIATE EDITION TO MATCH LOCAL AND/OR INTERNATIONAL BUILDING CODE(S) LISTED ABOVE.
5. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
6. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
7. AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

SPECIAL INSPECTION

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2015, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
   a) STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)
   b) HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2015, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

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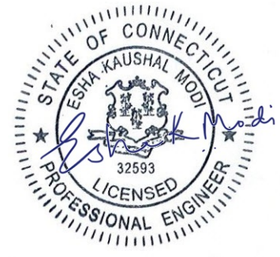
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT

CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

IBC GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION.

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

SPECIAL INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✔	SI			✔		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✔	GC	✔				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✔	SI	✔				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT	✔	GC / TA	✔	✔	✔	✔	
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT	✔	SI		✔		✔	
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)	✔	GC / TA		✔			✔
DYWIDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT	✔	GC / SI		✔			✔
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT	✔	GC / TA			✔	✔	
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.	✔	GC / TA			✔	✔	
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS. PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✔	SI			✔	✔	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✔	GC			✔	✔	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.		GC					
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✔	GC			✔		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✔	SI			✔		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✔	GC / SI			✔		

NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPILE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.

TABLE KEY:
SI - ATC APPROVED SPECIAL INSPECTOR
GC - GENERAL CONTRACTOR
TA - 3RD PARTY TESTING AGENCY
CX - CONSTRUCTION
CM - CONSTRUCTION MANAGER
ATC - AMERICAN TOWER CORPORATION

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

SPECIAL INSPECTION CHECKLIST

SHEET NUMBER:	REVISION:
G-003	0

BILL OF MATERIALS

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PART WEIGHT	WEIGHT (lb)	NOTES
			FOUNDATION REBAR					
---	---	---	TOTAL REBAR WEIGHT (SEE REBAR LIST SHEET FOR DETAILS)	---	G-005	---	2359	
			#20 DYWIDAG REINFORCEMENT MATERIAL & HARDWARE					
8	8	DYD-20-ATR-30	#20 ALL THREAD ROD 30'	30'-0"	S-504	501.0	4008	GALVANIZED
4	4	DYD-20-ATR-PF	#20 ALL THREAD ROD (PER FT)	7'-3"	S-504	121.1	484	GALVANIZED
8	8	DYD-20-COUP-00	#20 COUPLING HDG	---	S-504, S-505	---	---	GALVANIZED
16	16	DYD-20-HN-00	#20 HEX NUT HDG	---	S-504, S-505	---	---	GALVANIZED
44	44	BR-20C	L 6" X 3 1/2" X 3/8"	1'-0"	S-503, S-504, S-505	12.3	541	CONCENTRIC
4	4	TB-20C-8	L 6" X 3 1/2" X 3/8"	2'-5 1/2"	S-504	30.2	121	CONCENTRIC
44	44	BR-20E	L 6" X 3 1/2" X 3/8"	1'-0"	S-503, S-504, S-505	12.3	541	ECCENTRIC
4	4	TB-20E-8	L 6" X 3 1/2" X 3/8"	2'-5 1/2"	S-504	30.2	121	ECCENTRIC
42	47	#20SB	STEP BOLT WELDMENT	0'-7 1/4"	S-506	2.5	118	
282	296	UB-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	---	---	---	---	GALVANIZED
216	227	NG-0625-0875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	---	---	---	---	ALLFASTENERS - 2NG2060
			EXTENSION MATERIAL & HARDWARE					
1	1	283562-1	PL 1 1/2" X 30"	2'-6"	S-507, Z-501	225.9	226	
1	1	283562-2	18" OD PIPE EXTENSION WELDMENT	15'-0"	S-508, Z-502, Z-504	1521.3	1521	
1	1	283562-3	18" OD PIPE EXTENSION WELDMENT	15'-0"	S-509, Z-503, Z-504	1407.6	1408	
1	1	CP21BC	PL 1/8" X 24"	2'-0"	S-509, Z-501	16.8	17	
24	25	BK-100-475-A325	BOLT, 1"Ø A325 W/ HHN-LKW-FW, GALVANIZED	4 3/4"	---	---	---	
24	25	SW-1000-A325	DTI SQUIRTER WASHER, 1"Ø (A325 RATED)	---	---	---	---	ALLFASTENERS - 2DTIG100A325
2	3	BK-750-300-A325	BOLT, 3/4"Ø A325 W/ HHN-LKW-FW, GALVANIZED	3"	---	---	---	ALLFASTENERS - 2STBG34300A325-A
			SAFETY CLIMB					
1	1	SC-PM-140-SSC	SAFETY CLIMB (GALVANIZED, STAINLESS STEEL CABLE)	140'-0"	---	---	---	
26	27	SB-625-8250	STEP BOLT	---	---	---	---	
52	54	---	LOCK WASHER, 5/8"Ø	---	---	---	---	GALVANIZED
52	54	---	HEAVY HEX NUT, 5/8"Ø ASTM A563 DH	---	---	---	---	GALVANIZED
					TOTAL WEIGHT (lb)		**11,465**	**PAGE 1 OF 1**

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BILL OF MATERIALS

SHEET NUMBER:	REVISION:
G-004	0

GENERAL FOUNDATION AND CONSTRUCTION NOTES:

1. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS.
2. MAXIMUM ALLOWED WATER/CEMENT RATIO = 0.45
3. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
4. MINIMUM CONCRETE COVER OVER REBAR IS 3", OR AS NOTED.
5. BACKFILL SHALL BE SELECTED MATERIAL, WELL COMPACTED IN LAYERS NOT EXCEEDING 12".
6. BACKFILL SHALL BE PLACED SO AS TO PREVENT ACCUMULATION OF WATER AROUND THE FOUNDATION.
7. REINFORCING MATERIAL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615.
8. ALL REBAR TO BE GRADE 60 (UNLESS NOTED OTHERWISE).
9. ALL REBAR (HORIZONTAL & VERTICAL) SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
10. GROUT ALL REBAR DOWELS INTO EXISTING FOUNDATION WITH HILTI HIT-RE 500 V3 EPOXY.
11. EMBEDDED STRUCTURAL ANCHOR STEEL SUPPLIED BY AMERICAN TOWER.
12. COLD CONSTRUCTION JOINTS TO BE THOROUGHLY CLEANED AND WETTED PRIOR TO SECOND POUR.

FOUNDATION AND ANCHOR TOLERANCES:

ALL TOWERS:

1. CONCRETE DIMENSIONS: PLUS OR MINUS 1"
2. DEPTH OF FOUNDATION: PLUS 3" OR MINUS 0"
3. DRILLED FOUNDATIONS OUT OF PLUMB: 1.0 DEGREE
4. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/2" INCLUDING CONCRETE COVER
5. PROJECTIONS OF EMBEDMENTS: PLUS OR MINUS 1/4"
6. VERTICAL EMBEDMENTS OUT OF PLUMB: 1.0 DEGREE
7. SEE CHART BELOW FOR THE MINIMUM OVERLAP LENGTHS OF REBARS IF REQUIRED.

SELF-SUPPORT TOWERS:

8. FACE SPREAD DIMENSION CENTER TO CENTER OF ANCHOR BOLT CIRCLES: PLUS OR MINUS 1/8" PER 5'-0" OF FACE SPREAD
9. MAXIMUM DISTANCE FROM CENTERLINE OF ANCHOR BOLT TO CENTERLINE OF FOUNDATION: 1/24TH OF PIER DIAMETER UP TO A MAXIMUM OF 2"
10. MAXIMUM DIFFERENCE BETWEEN ANY TWO FOUNDATION ELEVATIONS: 2"
11. ANCHOR BOLT SPACING: PLUS OR MINUS 1/8"
12. ANCHOR BOLT CIRCLE ORIENTATION : PLUS OR MINUS 0.5 DEGREES
13. ANCHOR BOLT CIRCLE DIAMETER: PLUS OR MINUS 1/8"

GUYED TOWERS:

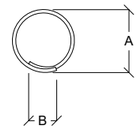
14. GUY RADIUS: PLUS OR MINUS 3% OF TOWER HEIGHT
15. ANCHOR ELEVATION: 3% OF TOWER HEIGHT ABOVE OR BELOW TOWER BASE. IF ELEVATIONS OF ANCHORS VARY BY MORE THAN 3%, ANCHOR RADIUS IS TO BE CHANGED TO KEEP THE ANCHOR LOCATED ON THE GUY FORCE RESULTANT. CALL AMERICAN TOWER FOR ASSISTANCE IF REQUIRED.
16. ANCHOR ALIGNMENT: (PERPENDICULAR TO GUY RADIUS): PLUS OR MINUS 1 DEGREE.
17. ANCHOR ROD SLOPE: PLUS OR MINUS 1 DEGREE
18. ANCHOR ROD ALIGNMENT: TOWARDS TOWER CENTER POINT, PLUS OR MINUS 0.25 DEGREE
19. GUY ANCHOR HEAD SIDES VERTICAL: PLUS OR MINUS 1 DEGREE.

STANDARD REBAR CHART

BAR SIZE	BAR DIAMETER (in.)	WEIGHT (lb/ft)	INSIDE BEND RADIUS	MINIMUM OVERLAP LENGTHS	DRILLED HOLE DIA.
3	0.375	0.376	1 1/8"	1'-0"	1/2"
4	0.500	0.668	1 1/2"	1'-6"	5/8"
5	0.625	1.043	1 7/8"	2'-0"	3/4"
6	0.750	1.502	2 1/4"	2'-0"	7/8"
7	0.875	2.044	2 5/8"	2'-4"	1 1/8"
8	1.000	2.670	3"	2'-8"	1 1/4"
9	1.128	3.400	4 1/2"	3'-0"	1 3/8"
10	1.270	4.303	5"	3'-6"	1 1/2"
11	1.410	5.313	5 1/2"	4'-0"	1 5/8"

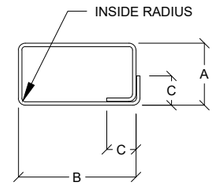
ROUND TIE

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A	B



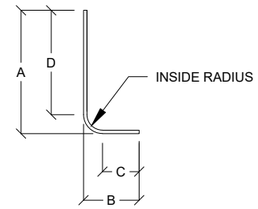
SQUARE OR RECTANGULAR TIE

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A	B	C	INSIDE RADIUS
22	#4	7 ' - 4"	108	1' - 0"	2' - 6"	5"	1-1/2"
19	#4	13 ' - 4"	169	1' - 0"	5' - 6"	5"	1-1/2"



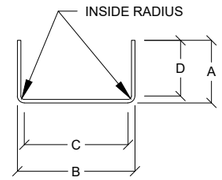
L-SHAPE 90° BEND

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A	B	C	D	INSIDE RADIUS
34	#8	4 ' - 6 1/2"	412	3' - 9"	1' - 0"	0 ' - 8"	3 ' - 5"	3"
34	#8	7 ' - 6 1/2"	685	6' - 9"	1' - 0"	0 ' - 8"	6 ' - 5"	3"



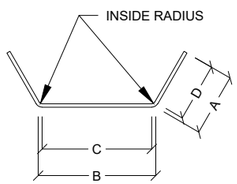
U-SHAPE 90° BEND

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A	B	C	D	INSIDE RADIUS



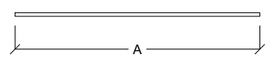
U-SHAPE 60° BEND

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A	B	C	D	INSIDE RADIUS



STRAIGHT

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	A
12	#8	19 ' - 6"	625	19 ' - 6"
6	#8	22 ' - 6"	360	22 ' - 6"



TOTAL WEIGHT: 2,359

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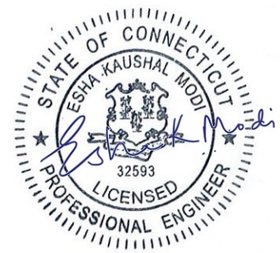
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



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APPROVED BY:	IPD
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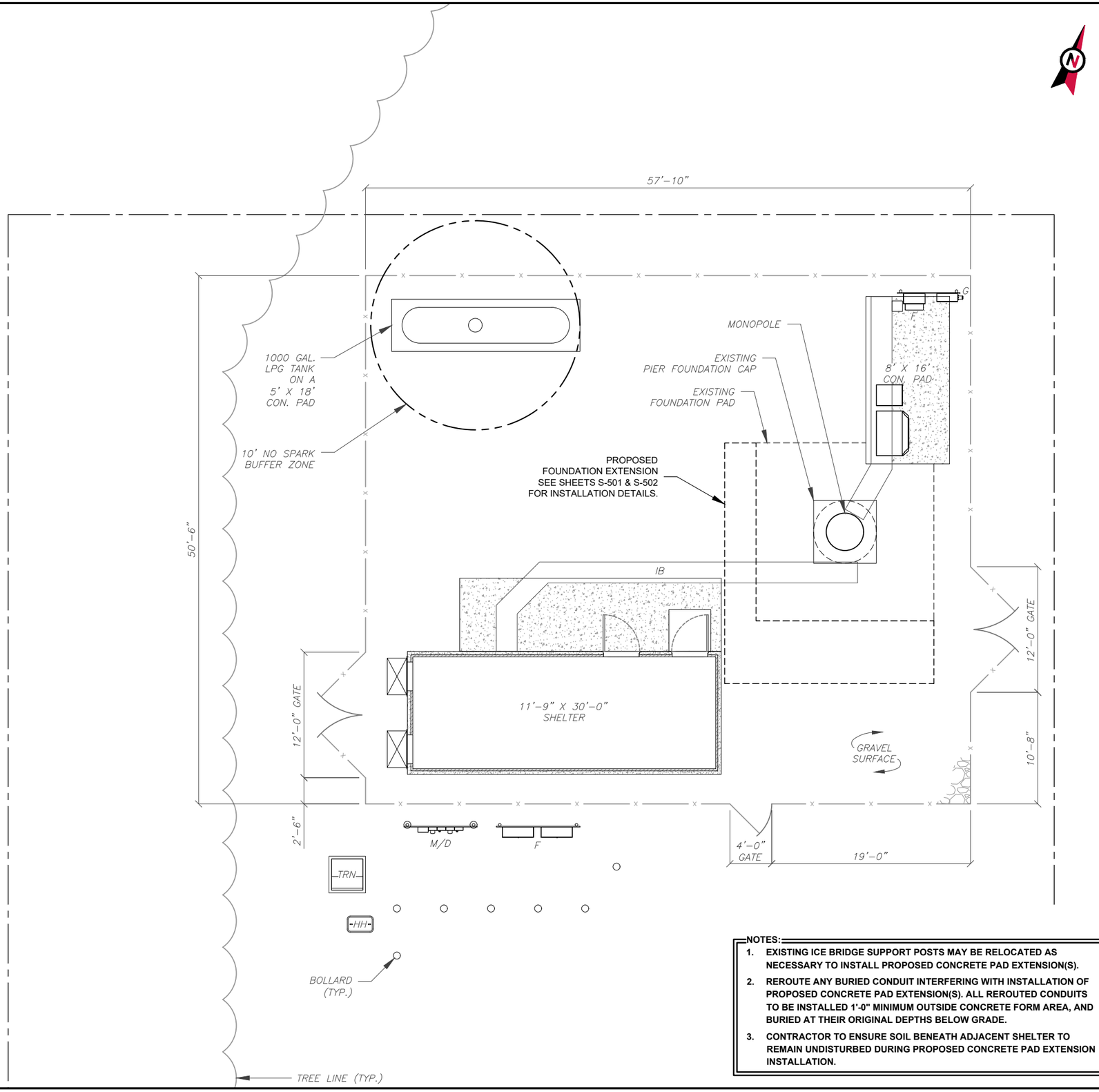
REBAR LIST

SHEET NUMBER:	REVISION:
G-005	0

LEGEND

⊗	GROUNDING TEST WELL
AV, A/V	AIR VENT
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
C	CABINET
CS	COAX SHROUD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
HFC	HYDROGEN FUEL CELL
HSM	HYDROGEN STORAGE MATERIAL
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
LPG	LIQUID PROPANE GAS
M	METER
OHW	OVERHEAD WIRE
P	POWER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	LEASE AREA
	EASEMENT
	WOOD FENCE
	WIRE FENCE
	METAL FENCE
	GUARD RAIL
	CHAINLINK FENCE
	ROAD (DIRT)
	ROAD (STONE)
	ROAD (PAVED)



0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

NOTES:

1. **EXISTING ICE BRIDGE SUPPORT POSTS MAY BE RELOCATED AS NECESSARY TO INSTALL PROPOSED CONCRETE PAD EXTENSION(S).**
2. **REROUTE ANY BURIED CONDUIT INTERFERING WITH INSTALLATION OF PROPOSED CONCRETE PAD EXTENSION(S). ALL REROUTED CONDUITS TO BE INSTALLED 1'-0" MINIMUM OUTSIDE CONCRETE FORM AREA, AND BURIED AT THEIR ORIGINAL DEPTHS BELOW GRADE.**
3. **CONTRACTOR TO ENSURE SOIL BENEATH ADJACENT SHELTER TO REMAIN UNDISTURBED DURING PROPOSED CONCRETE PAD EXTENSION INSTALLATION.**

AMERICAN TOWER®

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CONNECTICUT

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BLOOMFIELD, CT 06002

DRAWN BY:	BJK
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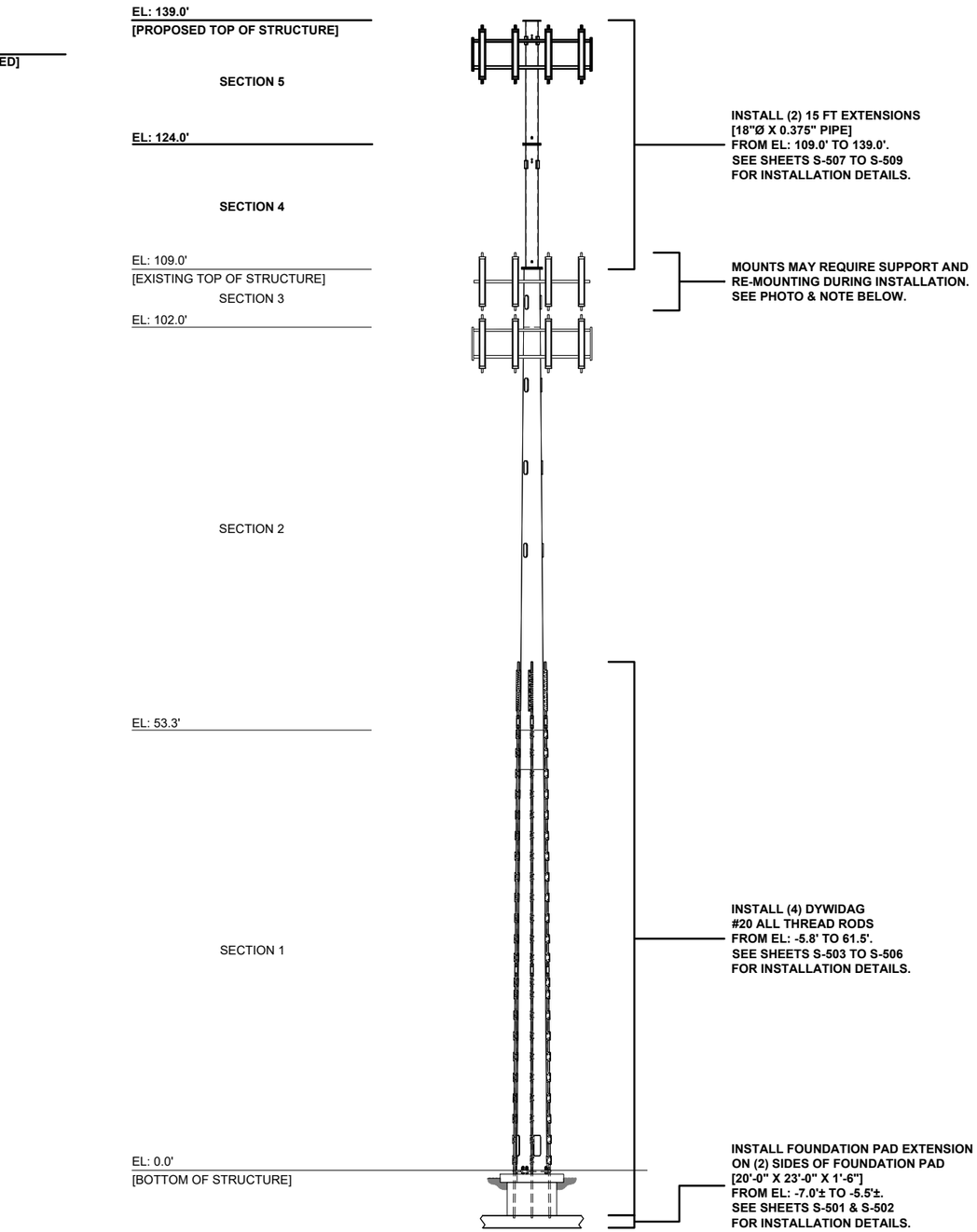
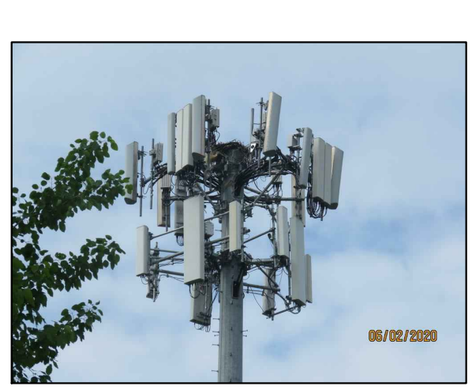
DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0



TOWER ELEVATION VIEW



MODIFICATION INTERFERENCE
EL: 110'-0"±

NOTES:

1. PROPOSED AT&T MOBILITY COAX TO BE INSTALLED INSIDE MONOPOLE.
2. BASE FLANGE WELD AND STIFFENER PLATE WELDS (WHEN PRESENT) ARE TO BE INSPECTED VISUALLY AND BY NDT METHODS BY A CERTIFIED WELD INSPECTOR WITH NDT LEVEL II CERTIFICATION. RESULTS ARE TO BE SENT TO PMI@AMERICANTOWER.COM .
3. CONTACT AMERICAN TOWER FIELD OPERATIONS WHEN EXISTING EQUIPMENT INTERFERES WITH INSTALLATION OF MODIFICATIONS. ONCE APPROVED, EXISTING EQUIPMENT MAY BE TEMPORARILY MOVED DURING INSTALLATION & REINSTALLED TO THE ORIGINAL HEIGHT & LOCATION BY CONTRACTOR POST COMPLETION OF MODIFICATIONS.

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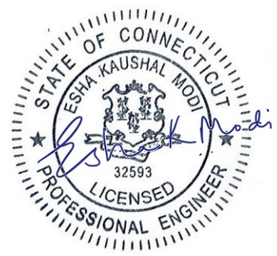

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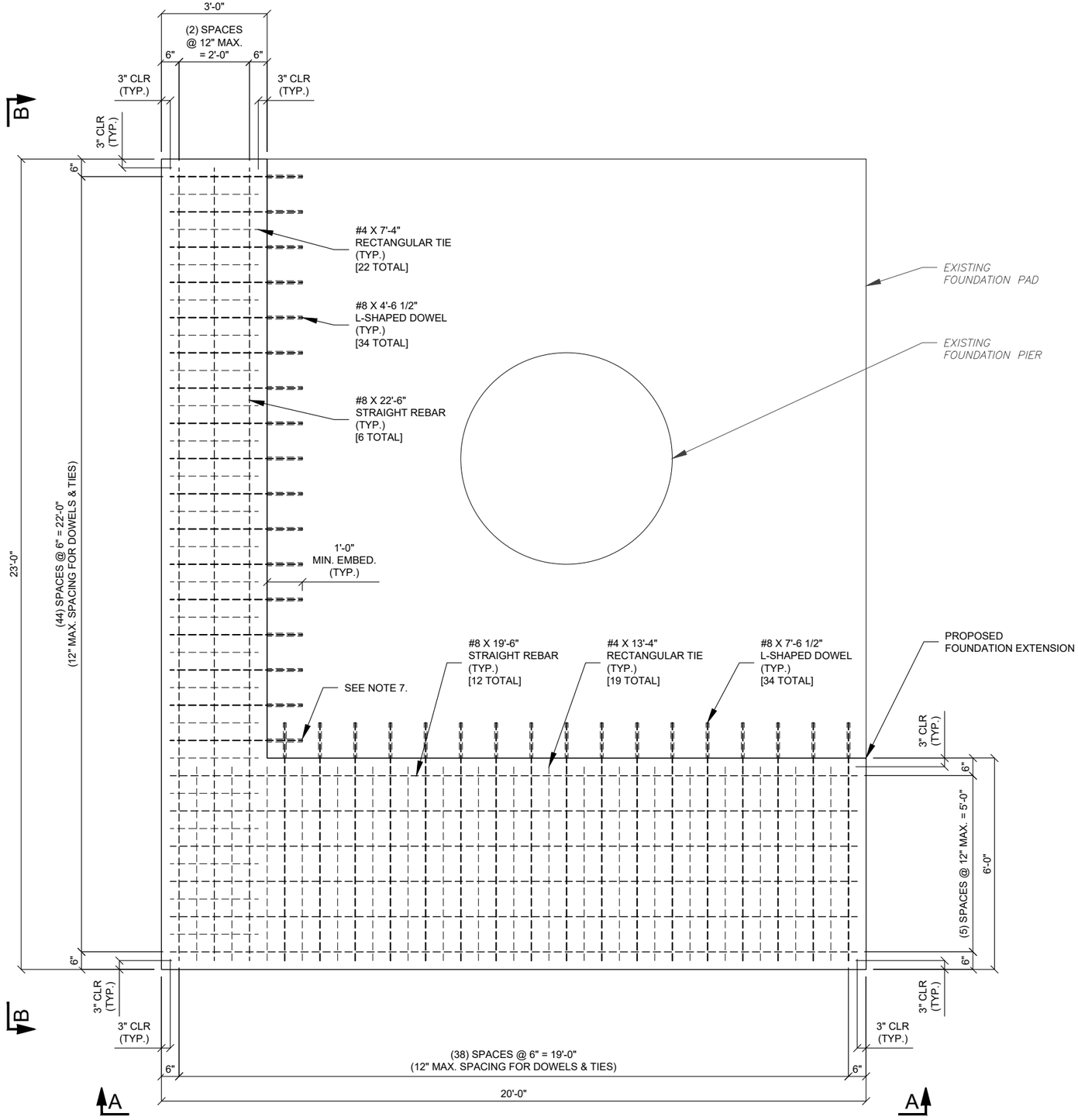
MODIFICATION PROFILE

SHEET NUMBER:	REVISION:
S-201	0



PLAN VIEW
FOUNDATION EXTENSION INSTALLATION DETAILS

NOTES:

1. **SEE SHEET S-502 FOR SECTION DETAILS "A-A" & "B-B".**
2. **CONCRETE EXTENSION TO BE INSTALLED ON (2) SIDES OF EXISTING FOUNDATION PAD. SEE SHEET C-101 FOR INSTALLATION LAYOUT.**
3. **TOTAL CONCRETE REQUIRED: 10± CUBIC YARDS.**
4. **FOR REBAR LIST/FOUNDATION NOTES SEE SHEET G-005.**
5. **CONCRETE COVER OVER REBAR 3" MIN. (TYP.) U.N.O.**
6. **CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS = 4500 PSI.**
7. **CONTRACTOR TO STAGGER DRILL HOLES IN CORNER TO AVOID FIT-UP ISSUES WITH L-SHAPED DOWEL INSTALLATION. MAINTAIN 3" CLR FROM EXISTING FOUNDATION PAD EDGES.**
8. **SEE SHEET G-005 FOR DOWEL DRILLED HOLE SIZES. DO NOT CUT REBAR IN EXISTING FOUNDATION.**
9. **DRILLED HOLES SHALL BE FREE OF MOISTURE, DEBRIS AND LAITANCE.**
10. **GROUT DOWELS INTO EXISTING FOUNDATION WITH HILTI HIT-RE 500 V3 EPOXY.**
11. **REMOVE ALL LOOSE CONCRETE FROM EXISTING FOUNDATION PIER AND/OR PAD PRIOR TO POURING NEW CONCRETE.**
12. **CRACKS & BROKEN CONCRETE TO BE CLEANED WITH BUSH HAMMER OR SANDBLASTING. AFTER CLEANING, ALL CRACKS TO BE ROUTED TO 3/8" - 1/2" WIDE & 1/4" DEEP WITH GRINDER. INJECT CRACKS WITH SIKADUR® 35 HI-MOD LV EPOXY AFTER ROUTING. PATCH IS THEN TO BE GROUTED FLUSH TO EXISTING FOUNDATION WITH HIGH STRENGTH NON-SHRINK GROUT.**
13. **COAT INTERFACE OF NEW AND EXISTING CONCRETE AND COLD JOINTS WITH SIKADUR 32® HI-MOD LPL BONDING AGENT OR APPROVED EQUIVALENT, PRIOR TO POURING NEW CONCRETE. ADDITIONAL SIKADUR 32® HI-MOD LPL BONDING AGENT MAY BE REQUIRED TO ACCOMMODATE FIELD CONDITIONS.**
14. **FOUNDATION DESIGN BASED UPON GEOTECHNICAL REPORT BY: DESIGN EARTH TECHNOLOGY, DET JOB NO. 2011-20, DATED JANUARY 28, 2012.**
15. **PRIOR TO INSTALLATION, REMOVE ORGANICS AND DELETERIOUS MATERIAL. COMPACT AREA UNDER PROPOSED PAD EXTENSION IN ACCORDANCE WITH ATC CONSTRUCTION SPEC. SECTION 312000.**
16. **CONCRETE, REBAR, AND FORM WORK SHALL BE IN ACCORDANCE WITH ATC CONSTRUCTION SPEC. SECTION 033000.**

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CONNECTICUT

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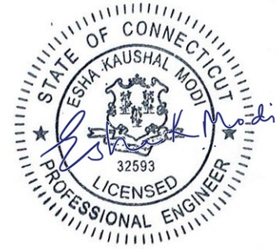

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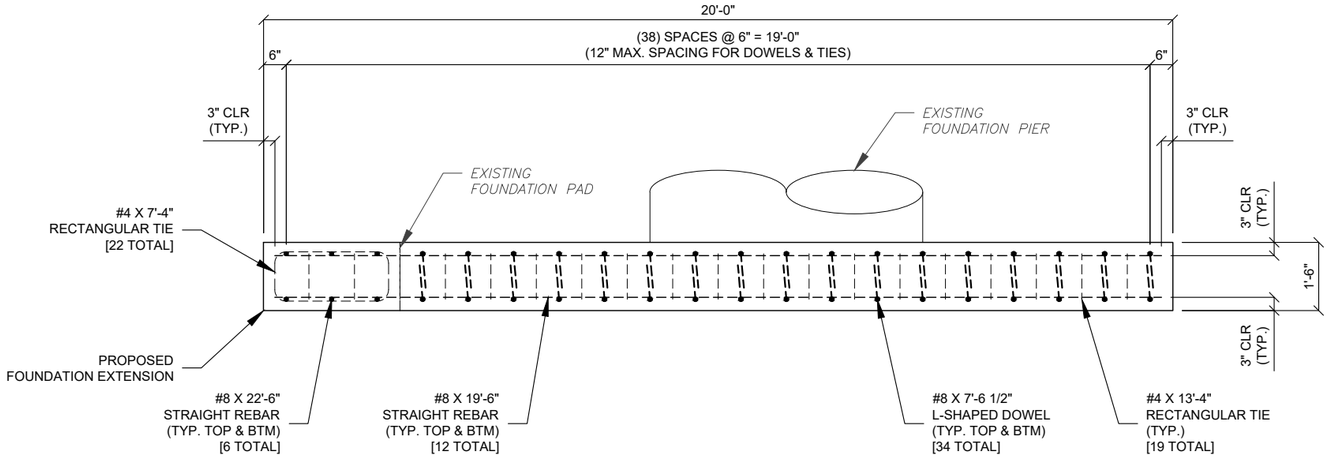
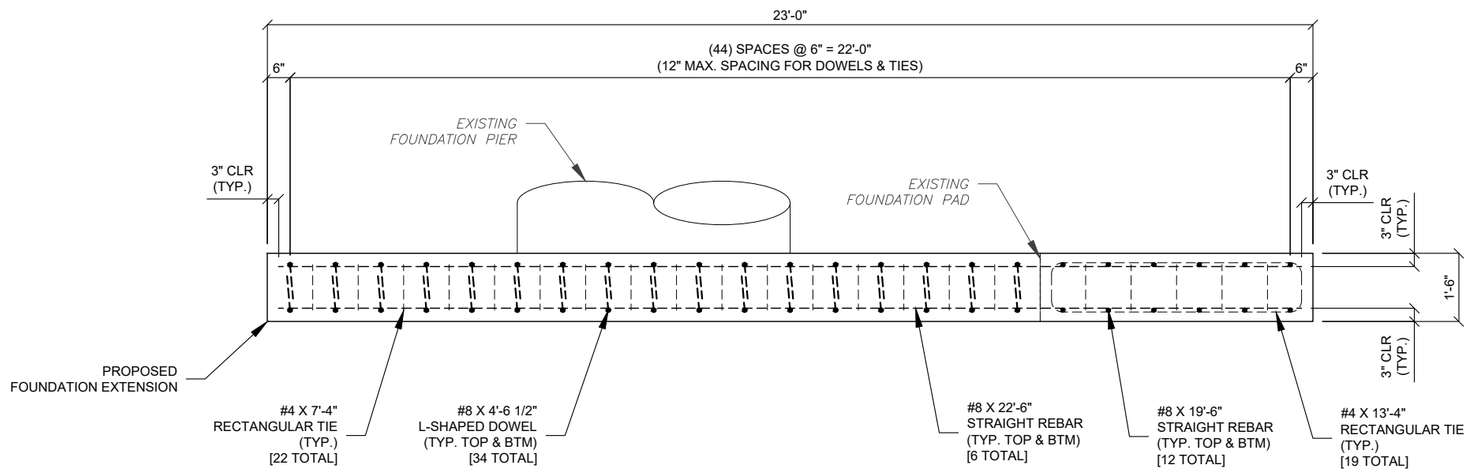
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

FOUNDATION EXTENSION
INSTALLATION DETAILS

SHEET NUMBER:	REVISION:
S-501	0



SECTION "A-A"
ELEVATION VIEW



SECTION "B-B"
ELEVATION VIEW

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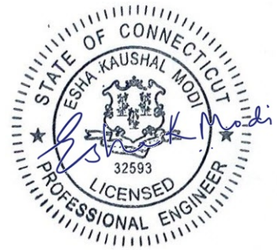

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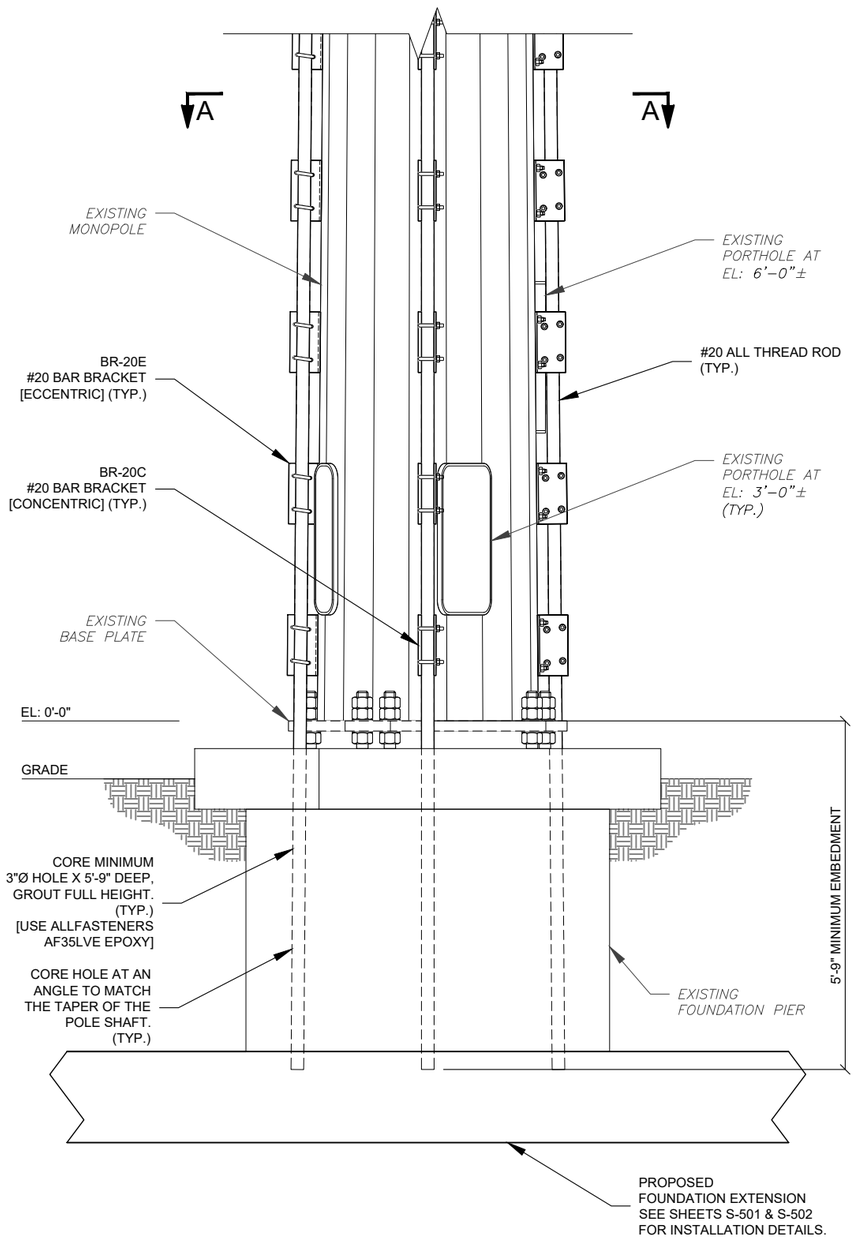
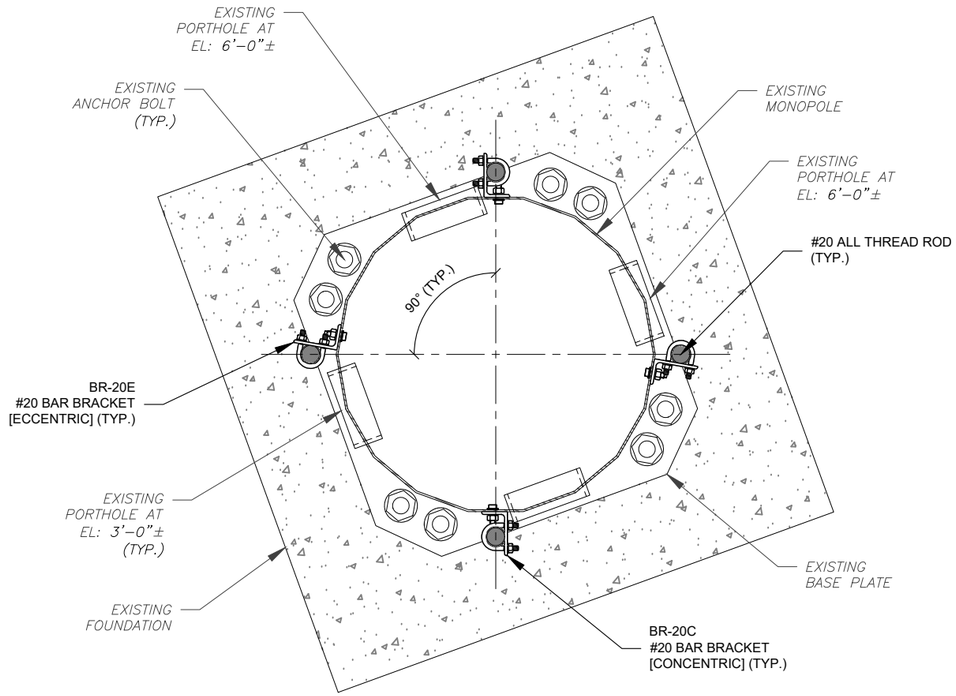
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

FOUNDATION EXTENSION
INSTALLATION DETAILS
(CONT'D)

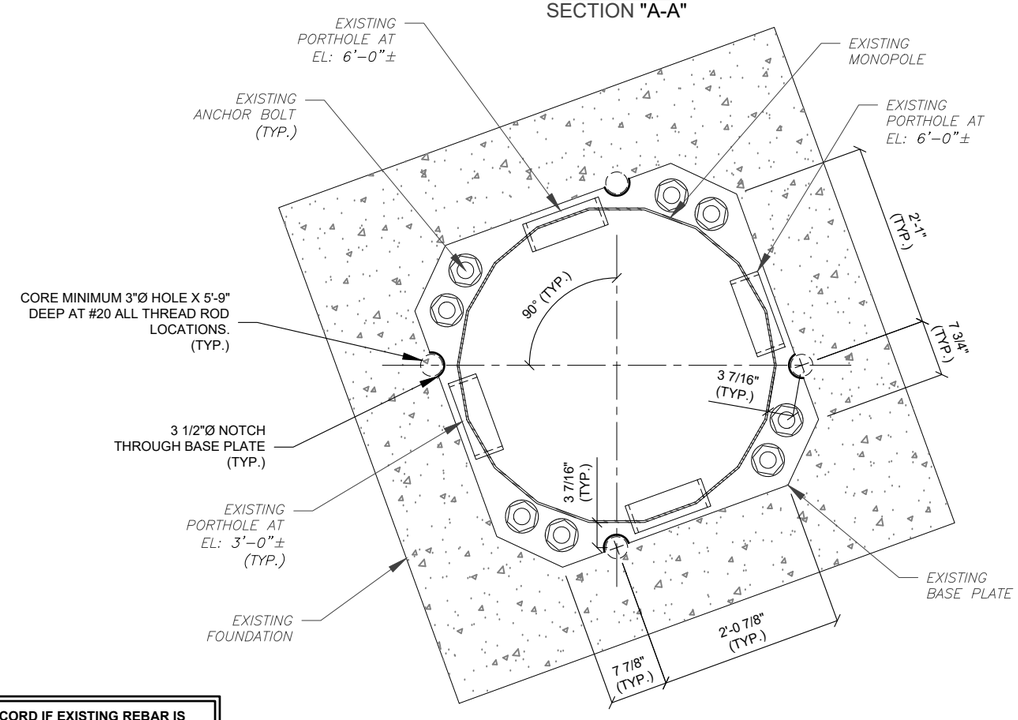
SHEET NUMBER:	REVISION:
S-502	0



ELEVATION VIEW
FOUNDATION DETAIL



PLAN VIEW
SECTION "A-A"



PLAN VIEW
HOLE DRILL DETAIL

NOTE:
CONTRACTOR TO CONTACT ENGINEER OF RECORD IF EXISTING REBAR IS ENCOUNTERED DURING CORING.

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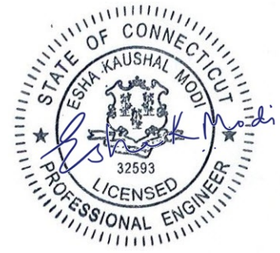

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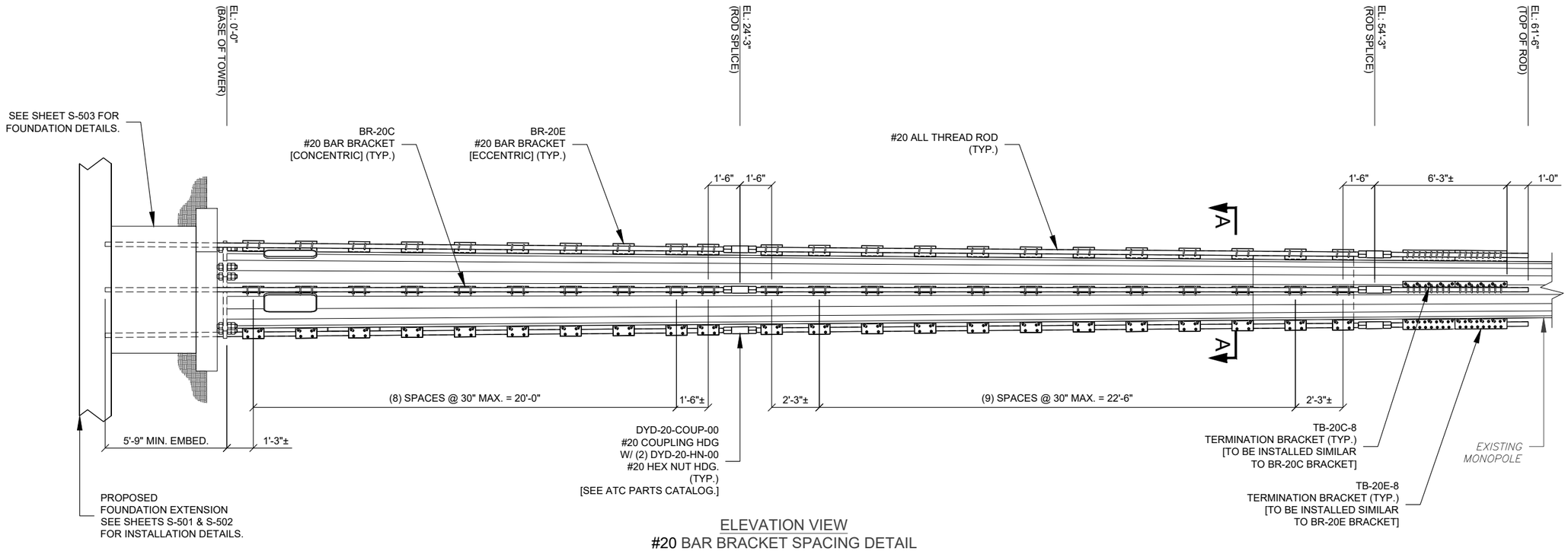
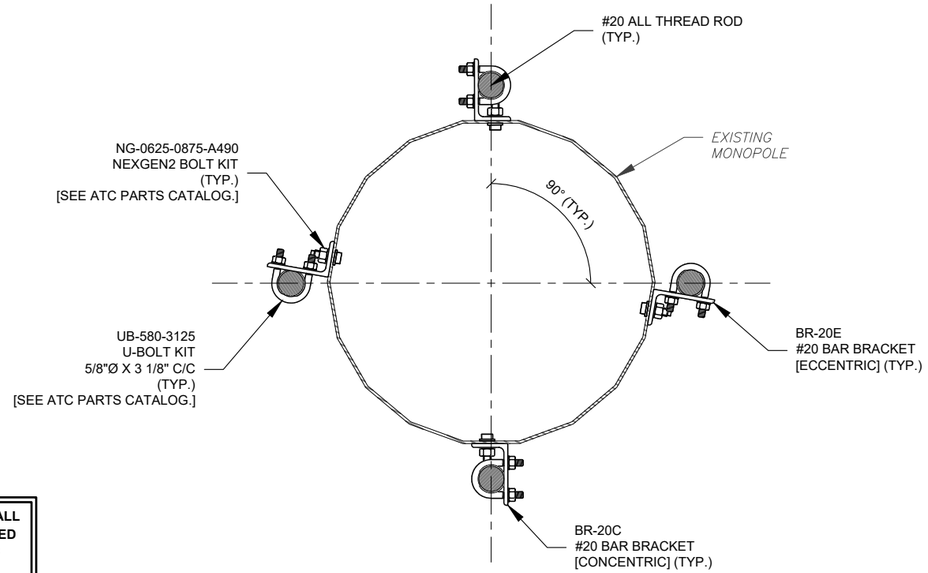
ATC JOB NO:	OAA761819_C6_03

REINFORCEMENT
FOUNDATION DETAILS

SHEET NUMBER:	REVISION:
S-503	0



ELEVATION VIEW
#20 BAR BRACKET SPACING DETAIL



SECTION "A-A"
TYPICAL DETAIL

NOTES:

1. **REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW #20 ALL THREAD ROD REINFORCEMENTS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE #20 ALL THREAD RODS IN THE SAME APPROXIMATE LOCATION. SEE SHEET S-506 FOR INSTALLATION DETAILS.**
2. **PLACE A BRACKET (BR-20C OR BR-20E) DIRECTLY ABOVE AND BELOW ANY EXISTING PORTHOLE AS REQUIRED.**
3. **SEE SHEET S-505 FOR #20 ALL THREAD ROD BRACKET INSTALLATION DETAILS.**
4. **NG-0938-1438-A490 NEXGEN2 BOLT KITS ARE SUPPLIED AS REQUIRED FOR BAR BRACKET CONNECTIONS THAT FALL WITHIN SLIP JOINT LOCATIONS.**

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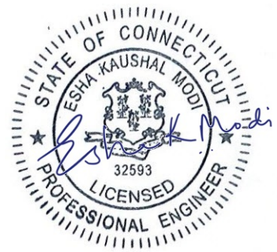

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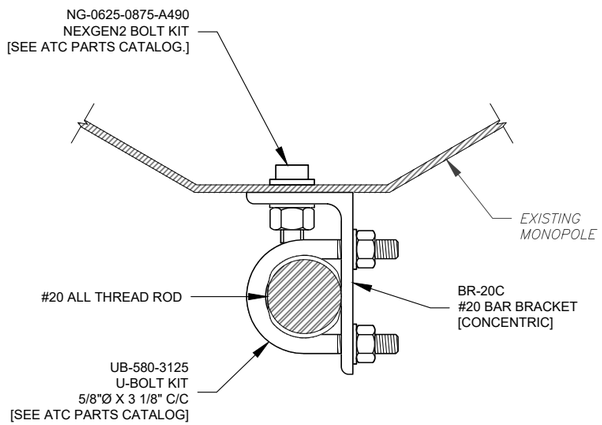
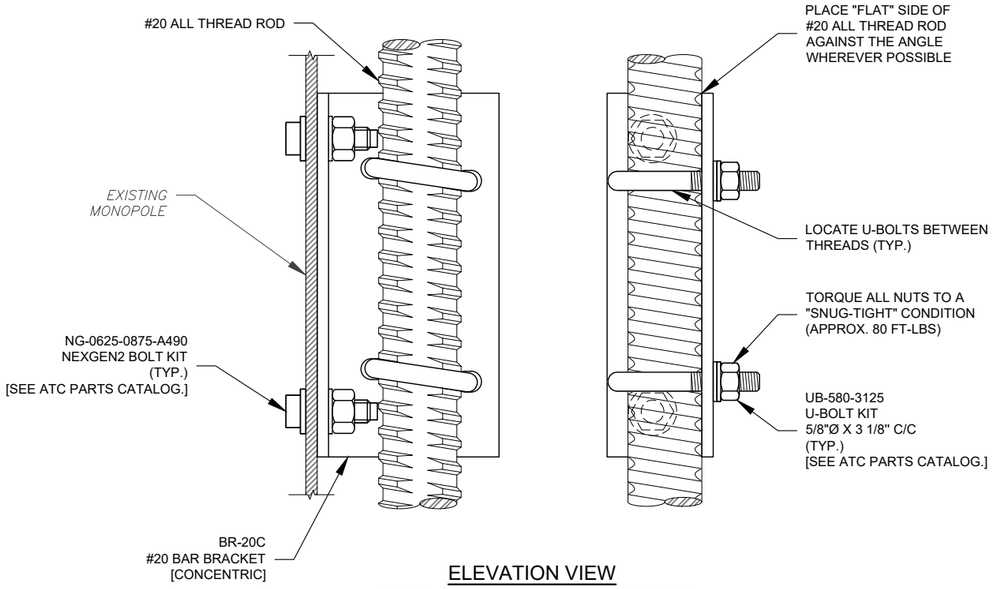
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

REINFORCEMENT
INSTALLATION DETAILS

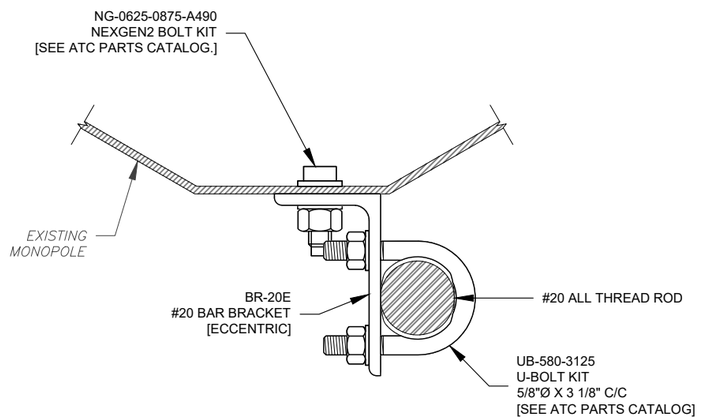
SHEET NUMBER:	REVISION:
S-504	0



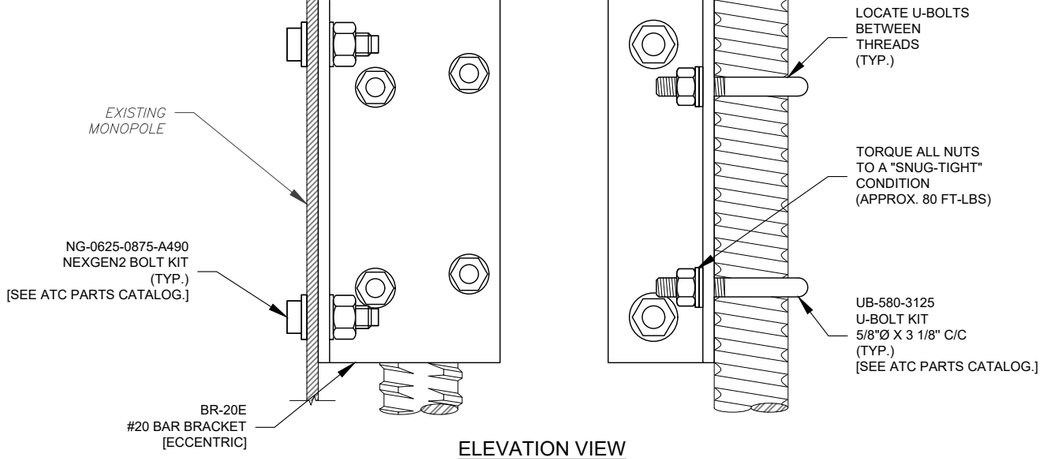
PLAN VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



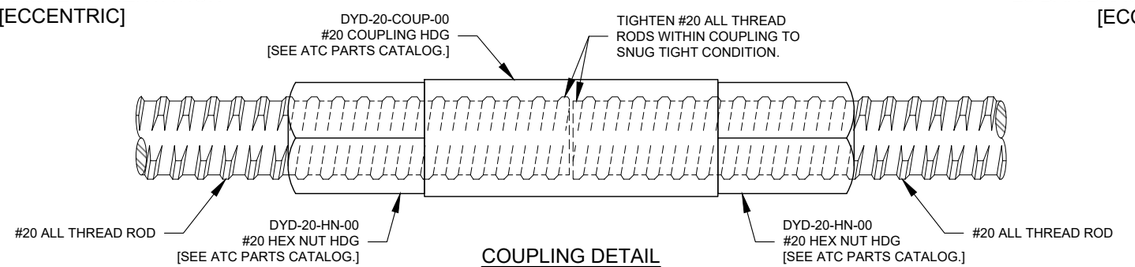
ELEVATION VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



PLAN VIEW
#20 BAR BRACKET ORIENTATION
[ECCENTRIC]



ELEVATION VIEW
#20 BAR BRACKET ORIENTATION
[ECCENTRIC]



COUPLING DETAIL
TYPICAL DETAIL

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT

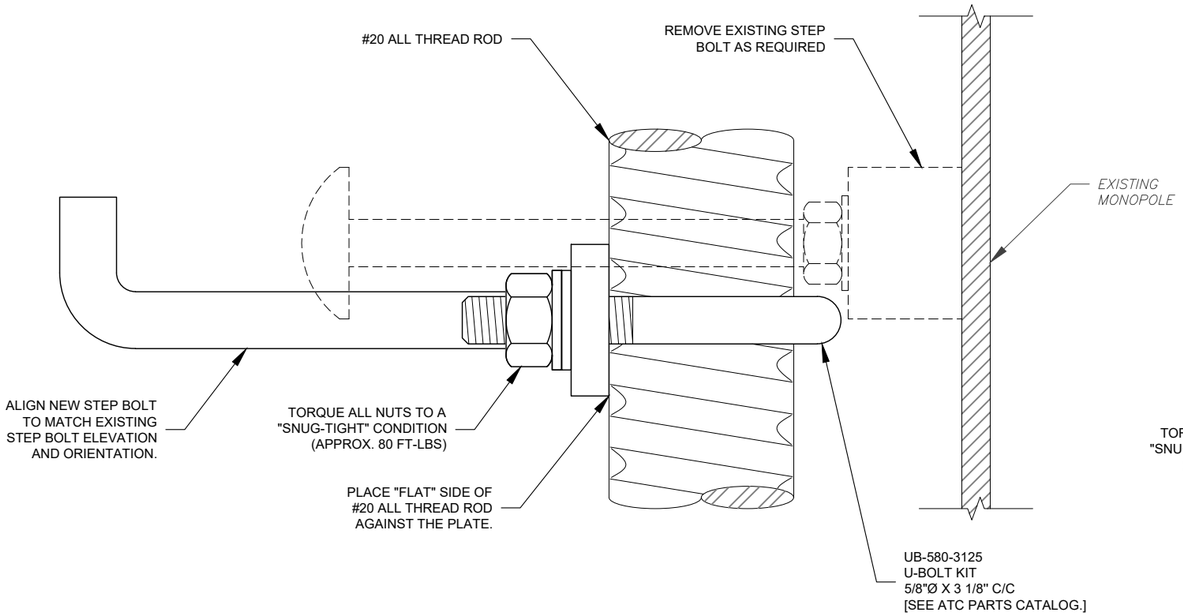
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

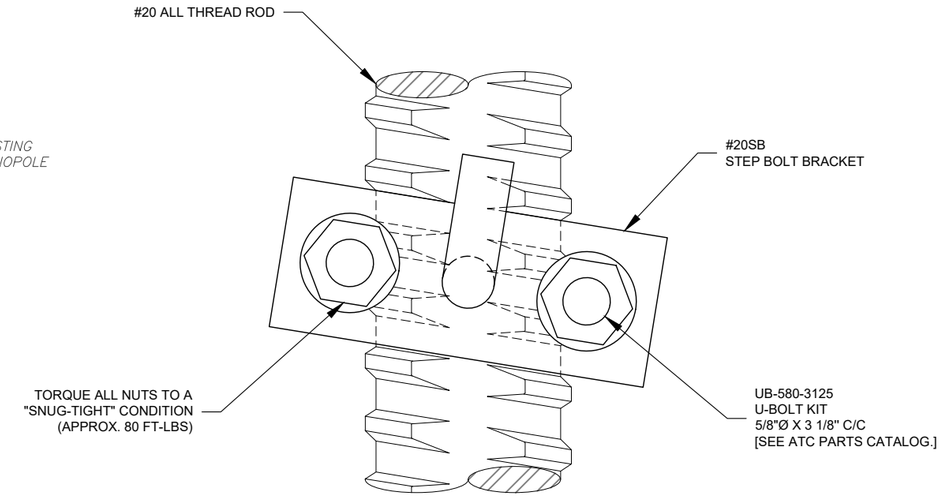
DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

REINFORCEMENT
INSTALLATION DETAILS
(CONT'D)

SHEET NUMBER:	REVISION:
S-505	0



#20SB INSTALLATION DETAILS
SIDE VIEW



#20SB INSTALLATION DETAILS
FRONT VIEW

NOTE:
STEP PEG SPACING IS NOT TO EXCEED 15" MAX. STAGGERED OR 30" MAX. ON ANY SINGLE SIDE OF THE DYWIDAG BAR.

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

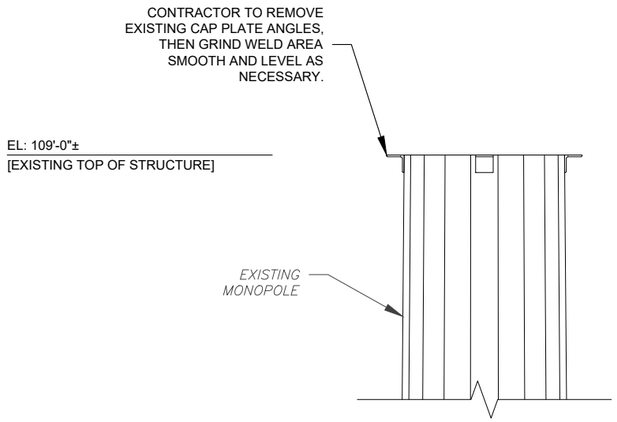
ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

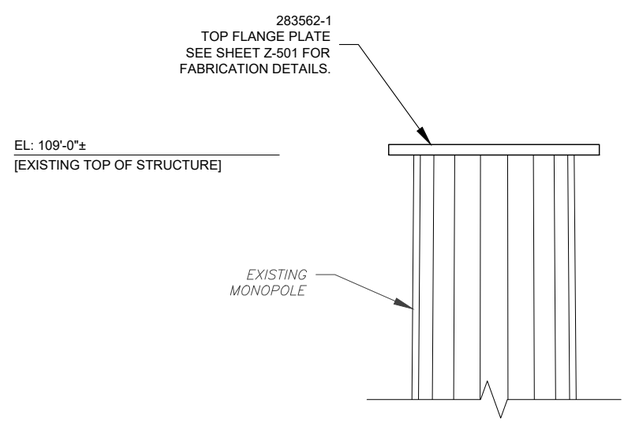
DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

#20 STEP BOLT BRACKET
INSTALLATION DETAILS

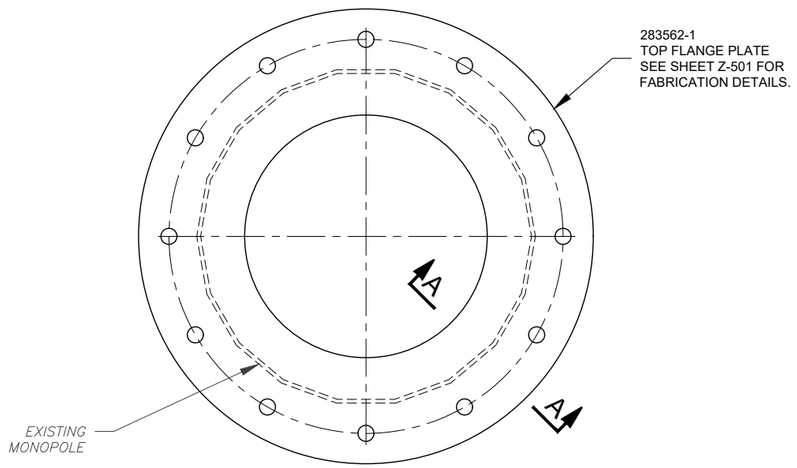
SHEET NUMBER:	REVISION:
S-506	0



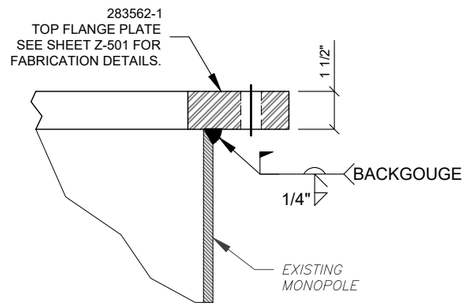
ELEVATION VIEW
EXISTING CONDITION



ELEVATION VIEW
TOP FLANGE PLATE INSTALLATION



PLAN VIEW
TOP FLANGE PLATE INSTALLATION



SECTION "A-A"
FLANGE PLATE WELD DETAIL

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

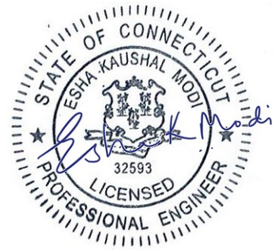
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT

CONNECTICUT

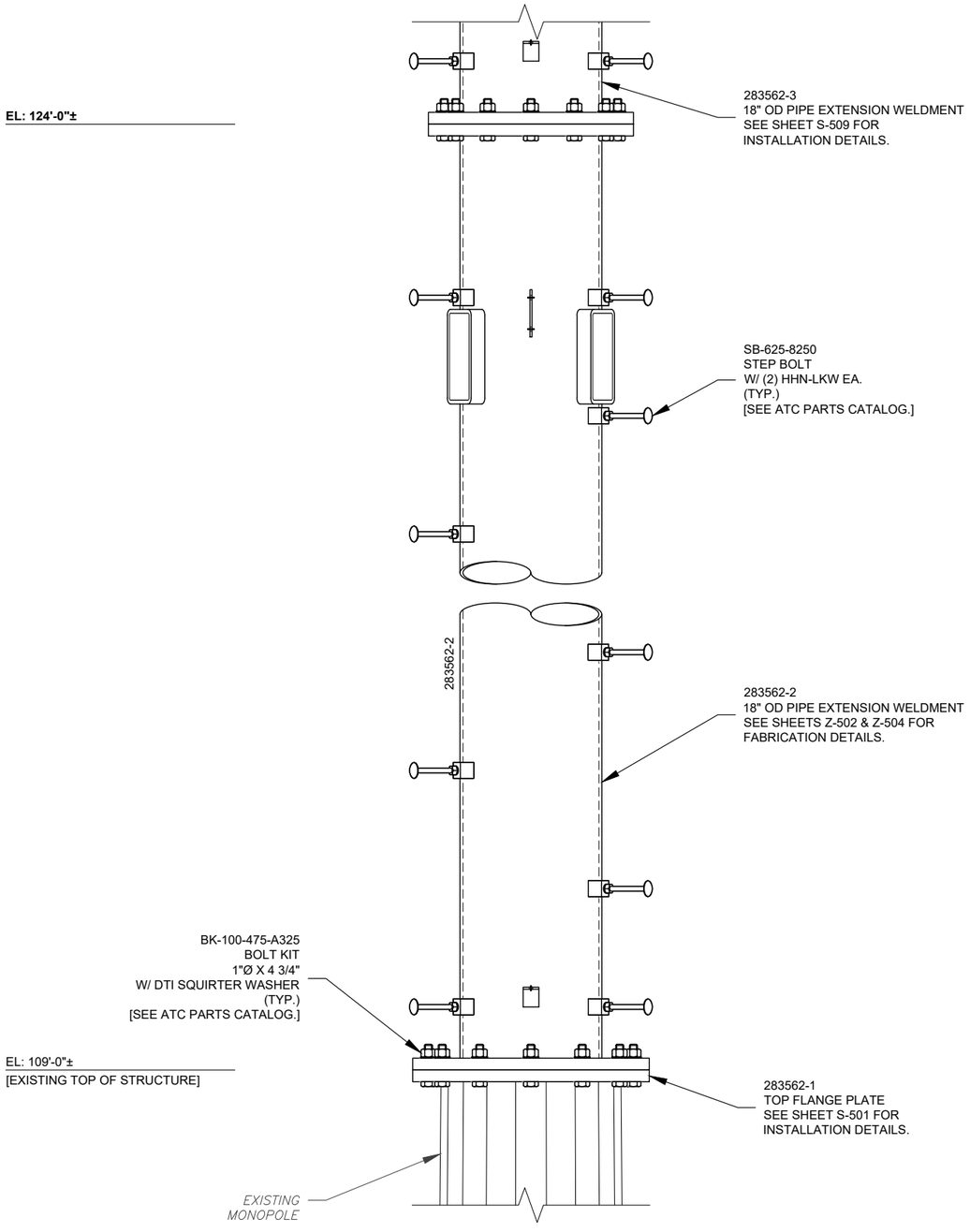
SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

TOP FLANGE PLATE
INSTALLATION DETAILS

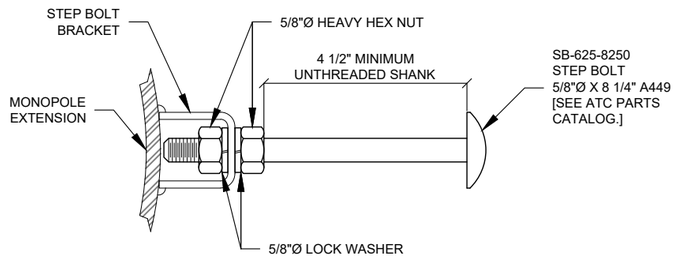
SHEET NUMBER:	REVISION:
S-507	0



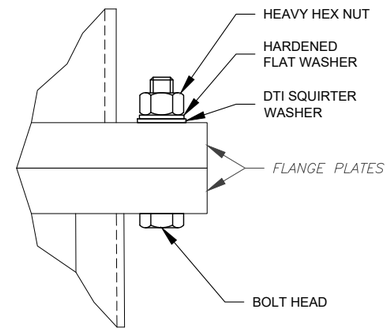
ELEVATION VIEW
SECTION 4 [EL: 109'-0"± TO 124'-0"±]

NOTES:

1. **ALIGN NEW EXTENSION WELDMENT SAFETY CLIMB BRACKETS TO MATCH EXISTING SAFETY CLIMB SYSTEM AND CLIMBING PATH.**
2. **REMOVE EXISTING SAFETY CLIMB CABLE AND ASSOCIATED HARDWARE / MOUNTS. INSTALL NEW ATC-APPROVED SAFETY CLIMB SYSTEM WITH NEW 3/8"Ø SAFETY CLIMB CABLE. ENSURE 100% TIE-OFF IS MAINTAINED AND CABLE IS FREE OF ALL OBSTRUCTIONS. CONTRACTOR SHALL INSTALL THE PROVIDED SAFETY CLIMB IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.**



STEP BOLT INSTALLATION
TYPICAL DETAIL



FLANGE BOLT INSTALLATION
TYPICAL DETAIL

1. **ALL FLANGE BOLTS SHALL BE TIGHTENED USING DTI SQUIRTER WASHERS FOR TENSION VERIFICATION. SEE SHEET G-002 FOR DETAILS.**
2. **PROPER TORQUE GENERATING EQUIPMENT, WHICH MAY INCLUDE IMPACT WRENCHES, IS REQUIRED IN ORDER TO ACHIEVE DTI COMPRESSION WITH SQUIRT INDICATION. MANUFACTURER GUIDELINES FOR DTI INSTALLATION ARE TO BE FOLLOWED.**

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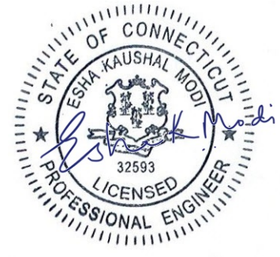
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

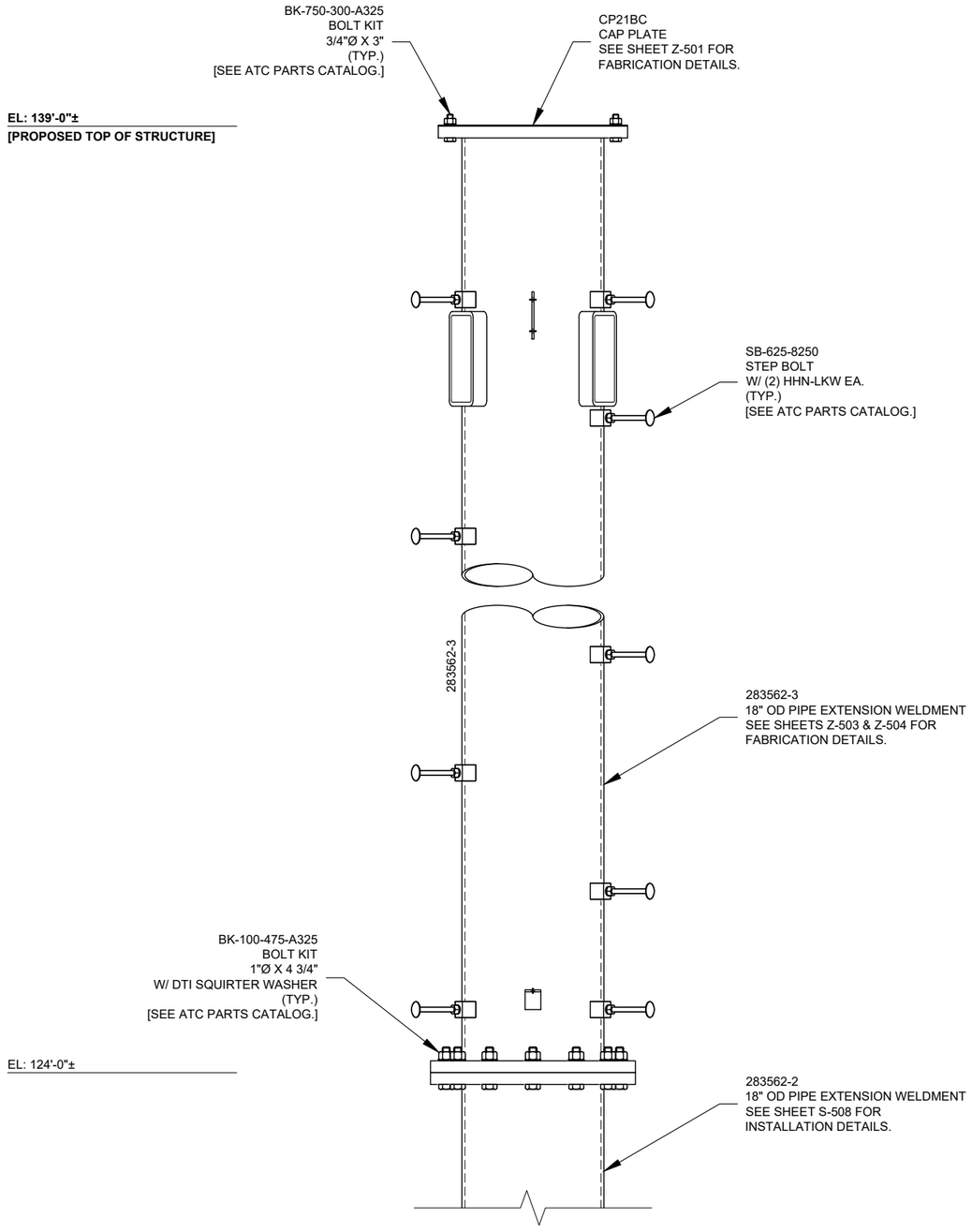
SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

MONOPOLE EXTENSION
INSTALLATION DETAILS
SECTION 4

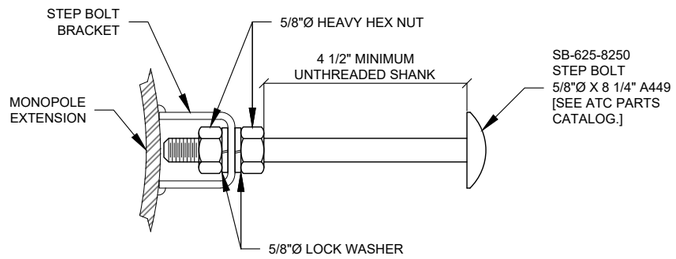
SHEET NUMBER:	REVISION:
S-508	0



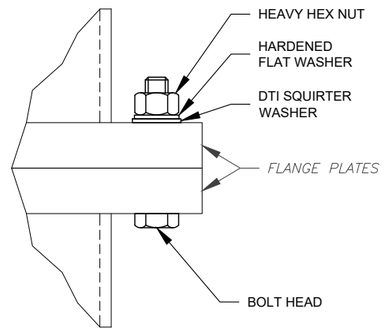
ELEVATION VIEW
MONOPOLE EXTENSION INSTALLATION

NOTES:

1. **ALIGN NEW EXTENSION WELDMENT SAFETY CLIMB BRACKETS TO MATCH EXISTING SAFETY CLIMB SYSTEM AND CLIMBING PATH.**
2. **REMOVE EXISTING SAFETY CLIMB CABLE AND ASSOCIATED HARDWARE / MOUNTS. INSTALL NEW ATC-APPROVED SAFETY CLIMB SYSTEM WITH NEW 3/8"Ø SAFETY CLIMB CABLE. ENSURE 100% TIE-OFF IS MAINTAINED AND CABLE IS FREE OF ALL OBSTRUCTIONS. CONTRACTOR SHALL INSTALL THE PROVIDED SAFETY CLIMB IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.**



STEP BOLT INSTALLATION
TYPICAL DETAIL



FLANGE BOLT INSTALLATION
TYPICAL DETAIL

1. **ALL FLANGE BOLTS SHALL BE TIGHTENED USING DTI SQUIRTER WASHERS FOR TENSION VERIFICATION. SEE SHEET G-002 FOR DETAILS.**
2. **PROPER TORQUE GENERATING EQUIPMENT, WHICH MAY INCLUDE IMPACT WRENCHES, IS REQUIRED IN ORDER TO ACHIEVE DTI COMPRESSION WITH SQUIRT INDICATION. MANUFACTURER GUIDELINES FOR DTI INSTALLATION ARE TO BE FOLLOWED.**

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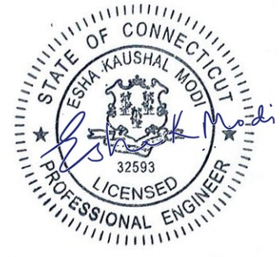
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

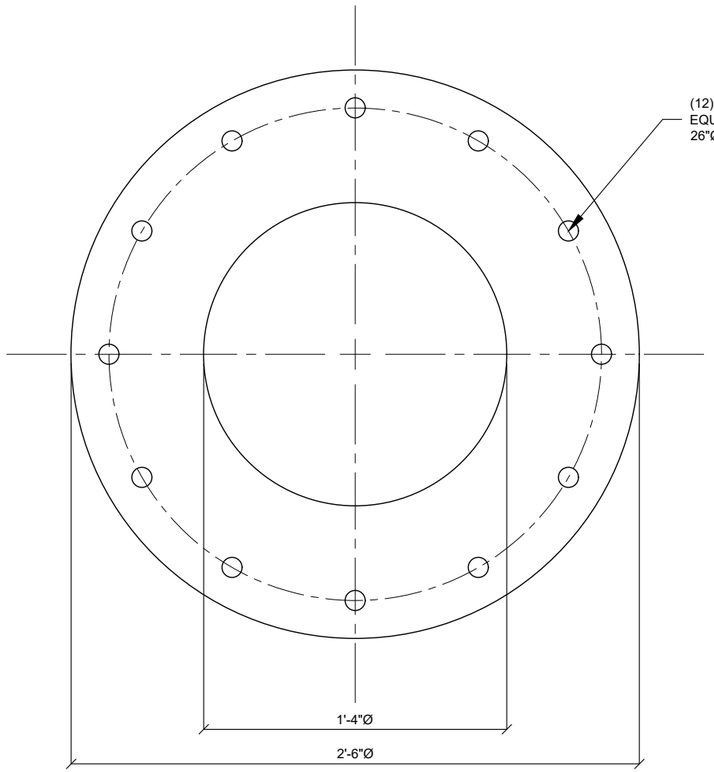
SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



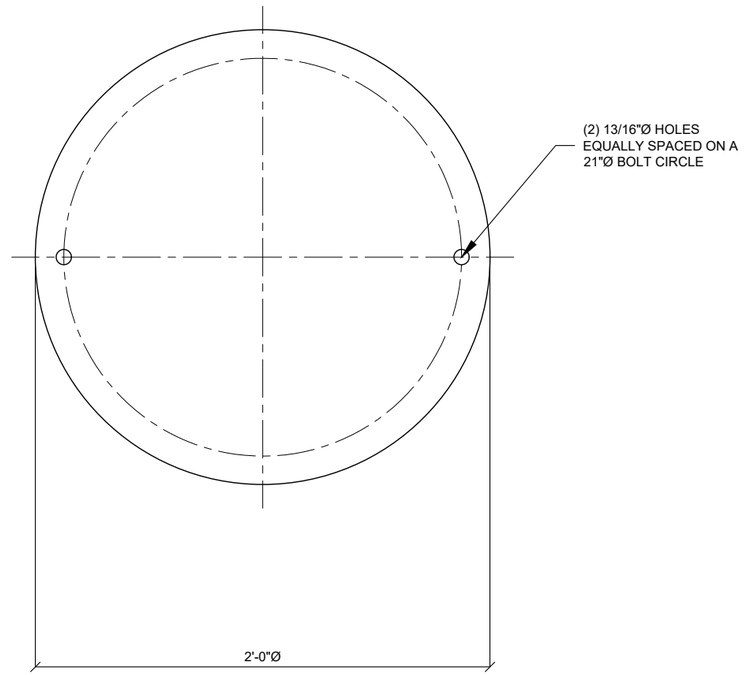
DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

MONOPOLE EXTENSION
INSTALLATION DETAILS
SECTION 5

SHEET NUMBER:	REVISION:
S-509	0



283562-1
TOP FLANGE PLATE



CP21BC
CAP PLATE

CP21BC	PL 1/8" X 24"	2'-0"	ROUND	16.0#	16.8#
283562-1	PL 1 1/2" X 30"	2'-6"	A572 GR. 50 / ROUND	215.1#	225.9#
PART NO.	**DESCRIPTION**	**LENGTH**	**NOTES**	**BLK WT**	**GALV WT**
MATERIAL: A36 U.N.O.		**FINISH:** GALVANIZED		**HOLES:** AS NOTED	

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A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
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COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

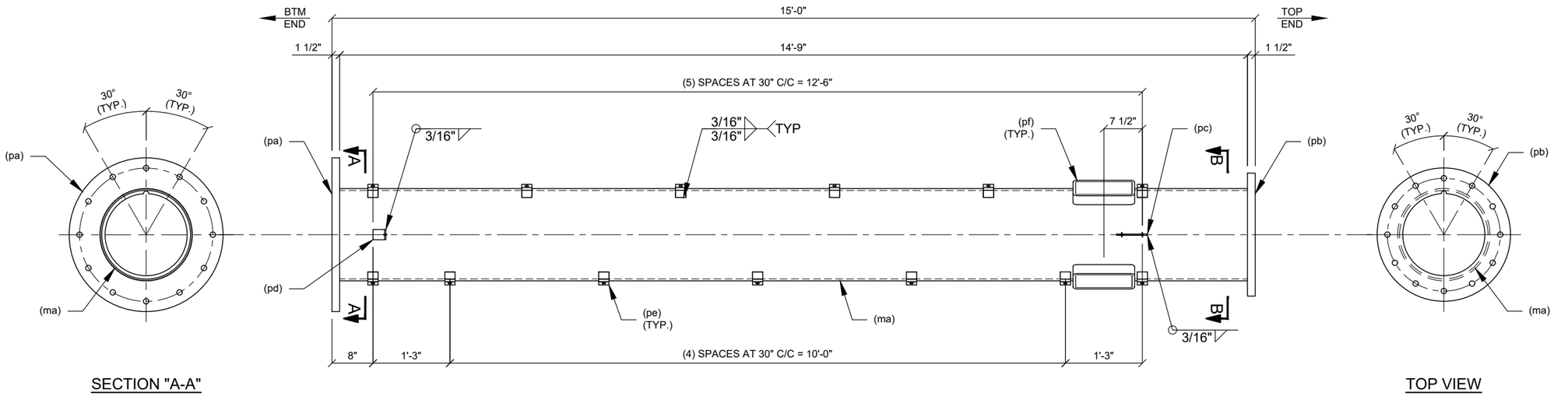
ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

TOP FLANGE & CAP PLATE
FABRICATION DETAILS

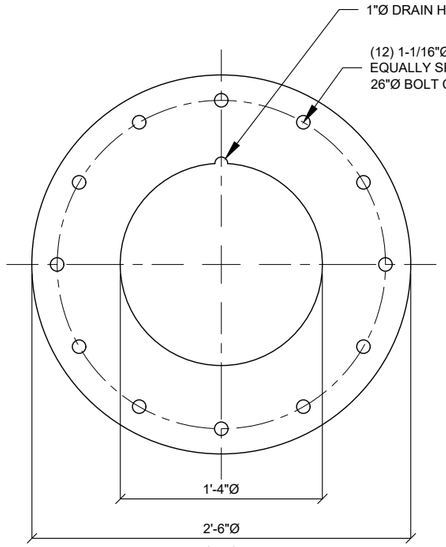
SHEET NUMBER:	REVISION:
Z-501	0



SECTION "A-A"

TOP VIEW

283562-2
18" OD PIPE EXTENSION WELDMENT



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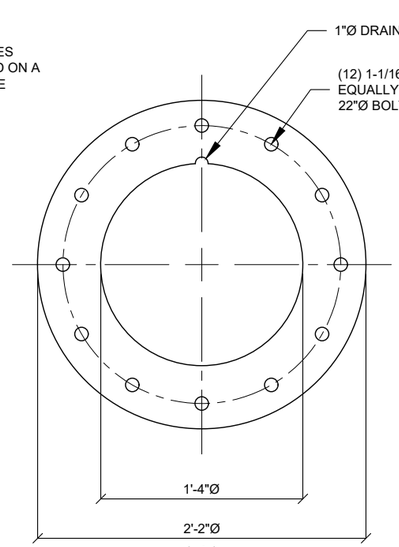

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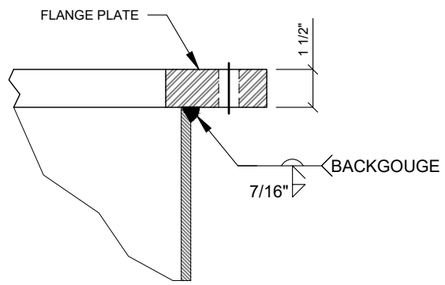
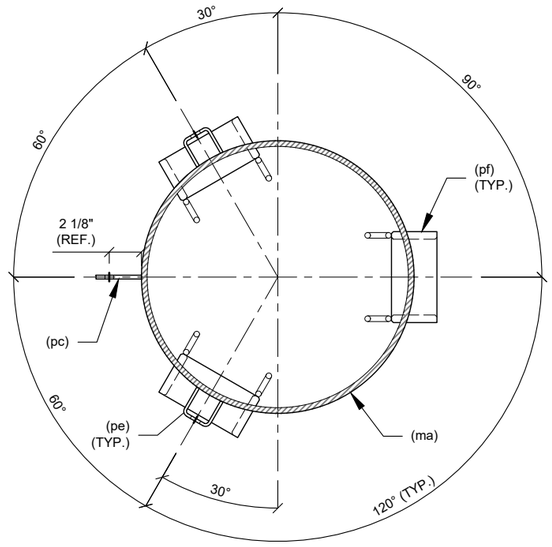


FLANGE PLATE WELD DETAIL
TYPICAL DETAIL



SECTION "B-B"

(pf)	3	PORTHOLE WELDMENT	0'-3"		Z-504	42.6#
(pe)	13	STEP BOLT BRACKET	0'-2"		Z-504	7.8#
(pd)	1	L 3" X 2 1/2" X 1/4"	0'-2"		Z-504	0.8#
(pc)	1	PL 1/4" X 3"	0'-6"		Z-504	1.3#
(pb)	1	PL 1 1/2" X 26"	2'-2"	A572 GR. 50 / ROUND	Z-502	140.1#
(pa)	1	PL 1 1/2" X 30"	2'-6"	A572 GR. 50 / ROUND	Z-502	215.0#
(ma)	1	18" OD X 0.375" PIPE	14'-9"	A53 GR. B / SC2E	Z-502	1041.2#
283562-2	1	18" OD PIPE EXTENSION WELDMENT	15'-0"		Z-502	1448.8#
PART NO.	**QTY**	**DESCRIPTION**	**LENGTH**	**NOTES**	**SHEET**	**BLK WT**
MATERIAL: A36 U.N.O.		**FINISH:** GALVANIZED	**HOLES:** AS NOTED		**GALV WT:**	1521.3#

AMERICAN TOWER®
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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

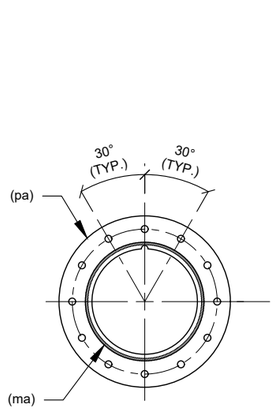
ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002

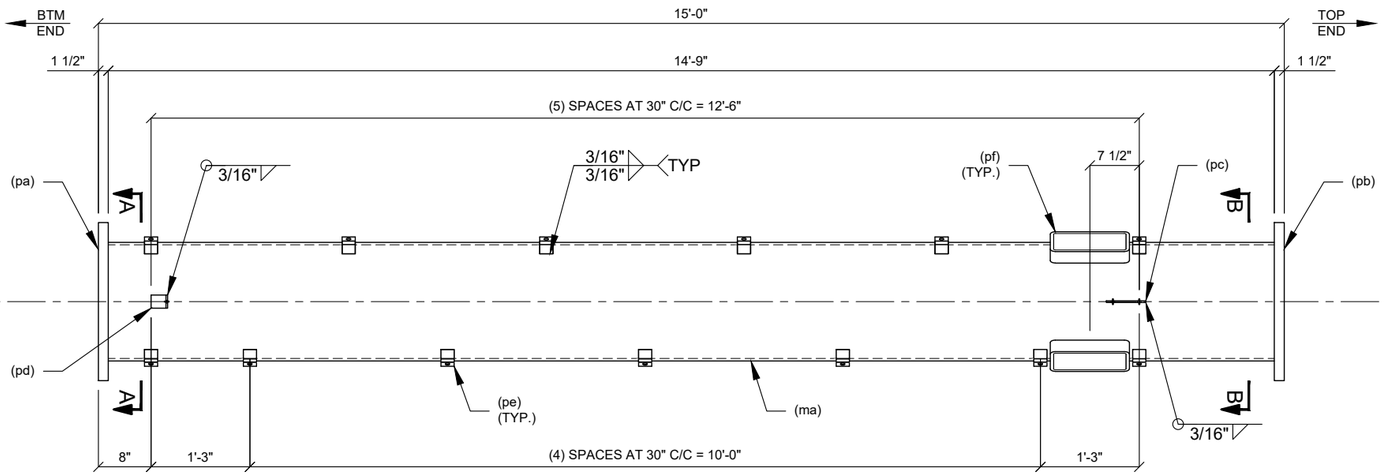
DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

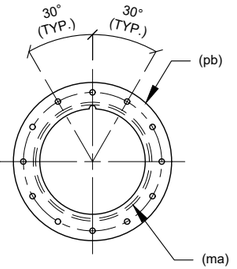
MONOPOLE EXTENSION WELDMENT
FABRICATION DETAILS
SECTION 4

SHEET NUMBER:	REVISION:
Z-502	0



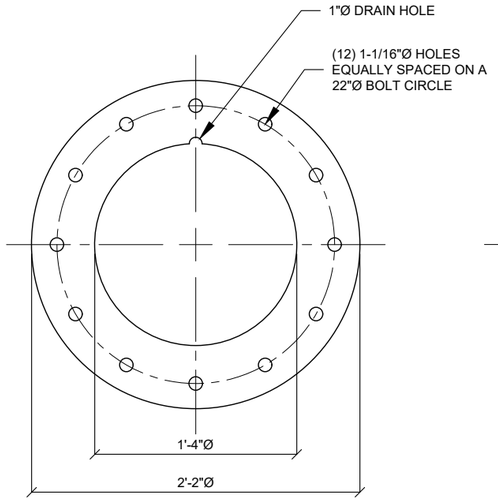
SECTION "A-A"





TOP VIEW

283562-3
18" OD PIPE EXTENSION WELDMENT



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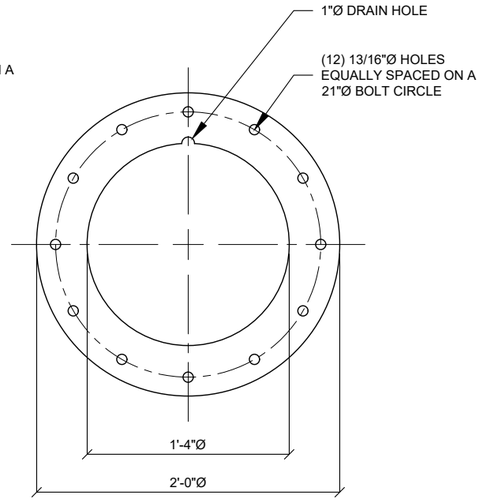

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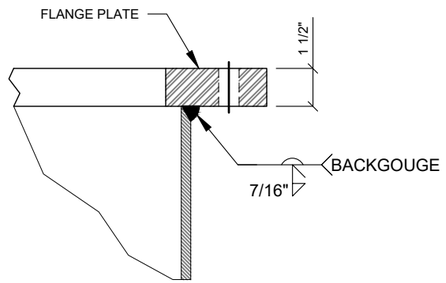
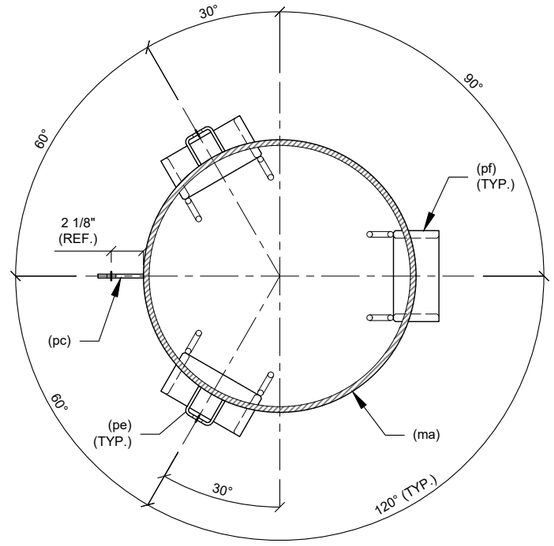


FLANGE PLATE WELD DETAIL
TYPICAL DETAIL



SECTION "B-B"

(pf)	3	PORTHOLE WELDMENT	0'-3"		Z-504	42.6#
(pe)	13	STEP BOLT BRACKET	0'-2"		Z-504	7.8#
(pd)	1	L 3" X 2 1/2" X 1/4"	0'-2"		Z-504	0.8#
(pc)	1	PL 1/4" X 3"	0'-6"		Z-504	1.3#
(pb)	1	PL 1 1/2" X 24"	2'-0"	A572 GR. 50 / ROUND	Z-503	106.7#
(pa)	1	PL 1 1/2" X 26"	2'-2"	A572 GR. 50 / ROUND	Z-503	140.1#
(ma)	1	18" OD X 0.375" PIPE	14'-9"	A53 GR. B / SC2E	Z-503	1041.2#
283562-3	1	18" OD PIPE EXTENSION WELDMENT	15'-0"		Z-503	1340.6#
PART NO.	**QTY**	**DESCRIPTION**	**LENGTH**	**NOTES**	**SHEET**	**BLK WT**
MATERIAL: A36 U.N.O.		**FINISH:** GALVANIZED	**HOLES:** AS NOTED		**GALV WT:**	1407.6#

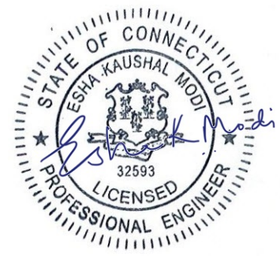
AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	02/22/21

ATC SITE NUMBER:
283562

ATC SITE NAME:
NORTH BLOOMFIELD CT
CONNECTICUT

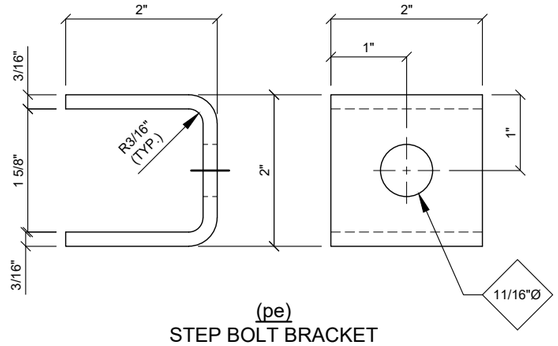
SITE ADDRESS:
1627 DAY HILL ROAD
BLOOMFIELD, CT 06002



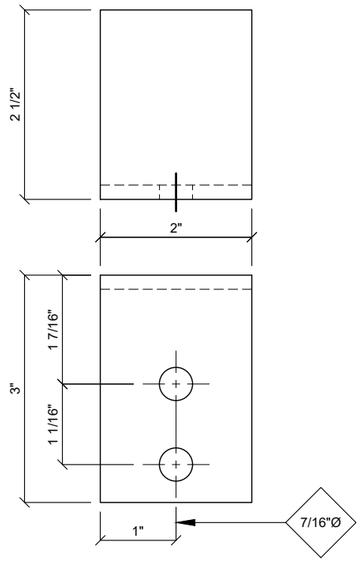
DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

MONOPOLE EXTENSION WELDMENT
FABRICATION DETAILS
SECTION 5

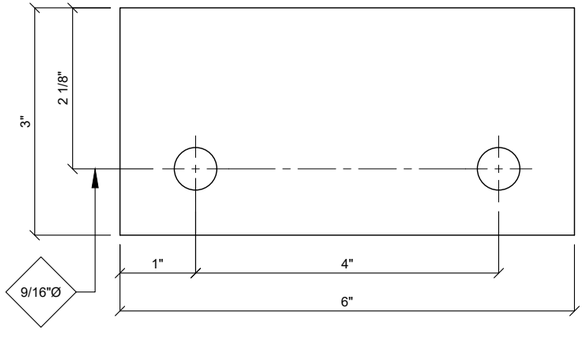
SHEET NUMBER:	REVISION:
Z-503	0



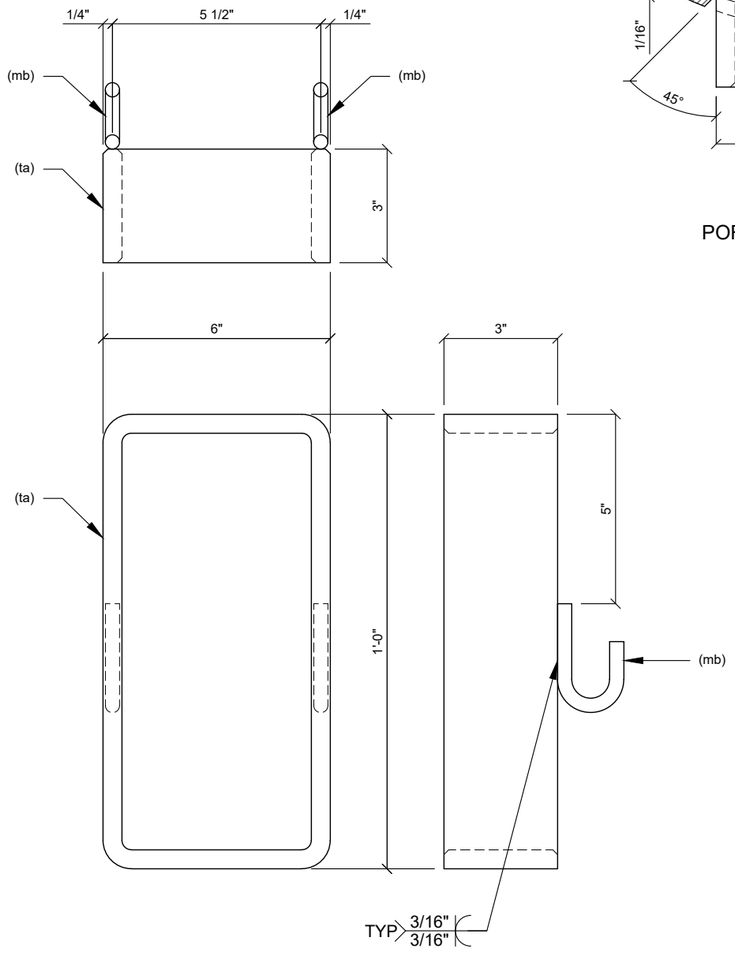
(pe)
STEP BOLT BRACKET



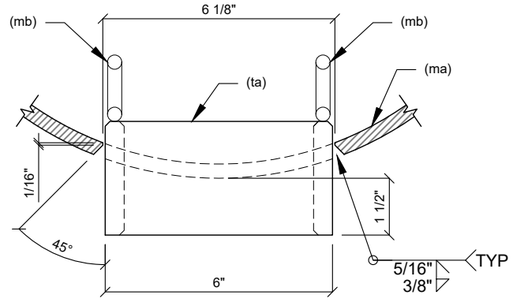
(pd)
SAFETY CLIMB STANDOFF BRACKET



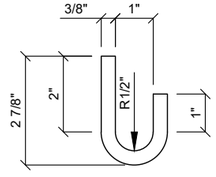
(pc)
SAFETY CLIMB TOP BRACKET



(pf)
PORTHOLE DETAIL
NOTE: CHAMFER ALL
INSIDE EDGES 1/8" (TYP.)



(pf)
PORTHOLE INSTALLATION
WELDING DETAIL



(mb)
KELLUM HOOK

(mb)	2	3/8"Ø SR	0'-5 1/16"		0.3#
(ta)	1	HSS 12" X 6" X 0.500"	0'-3"	A500 GR. B	13.9#
(pf)	1	PORTHOLE WELDMENT	0'-3"		14.2#
PART NO.	**QTY**	**DESCRIPTION**	**LENGTH**	**NOTES**	**BLK WT**
MATERIAL: A36 U.N.O.		**FINISH:** GALVANIZED	**HOLES:** N/A	**GALV WT:** N/A	

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REV.	DESCRIPTION	BY	DATE
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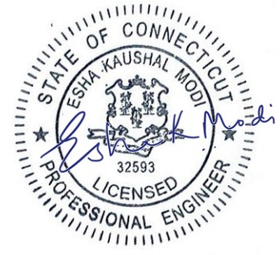

DRAWN BY:	BJK
APPROVED BY:	IPD
DATE DRAWN:	02/22/21
ATC JOB NO:	OAA761819_C6_03

MONOPOLE EXTENSION
WELDMENT FABRICATION
DETAILS (CONT'D)

SHEET NUMBER:	REVISION:
Z-504	0

Attachment 5

FAA Determination

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-ANE-142-OE
Prior Study No.
2012-ANE-1465-OE

Issued Date: 02/25/2021

Alyse Brussard
American Towers LLC - AB
10 Presidential Way
Woburn, MA 01801

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower NORTH BLOOMFIELD CT (283562)
Location:	Bloomfield, CT
Latitude:	41-52-35.42N NAD 83
Longitude:	72-44-30.62W
Heights:	179 feet site elevation (SE)
	145 feet above ground level (AGL)
	324 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 08/25/2022 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (816) 329-2525, or natalie.schmalbeck@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ANE-142-OE.

Signature Control No: 462993594-470692427 (DNE)
Natalie Schmalbeck
Technician

Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2021-ANE-142-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Verified Map for ASN 2021-ANE-142-OE

Attachment 6

Viewshed Analysis

Visual Assessment & Photo-Simulations

NORTH BLOOMFIELD CT
2627 DAY HILL ROAD
BLOOMFIELD, CT

Prepared in May 2021 by:
All-Points Technology Corporation, P.C.
567 Vauxhall Street Extension – Suite 311
Waterford, CT 06385

Prepared for AT&T

ALL-POINTS
TECHNOLOGY CORPORATION

VISUAL ASSESSMENT & PHOTO-SIMULATIONS

New Cingular Wireless PCS, LLC, d/b/a AT&T ("AT&T) is seeking approval for the extension of an existing wireless communications facility (the "Facility") at 2627 Day Hill Road in Bloomfield, Connecticut. At the request of AT&T, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the proposed Facility extension from within a 2-mile radius (the "Study Area") and prepared computer-generated photo-simulations depicting the extended Facility. The Study Area includes portions of the municipalities of East Granby, Simsbury, and Windsor.

Project Setting

The existing Facility is located on a ±11.8-acre property south of Day Hill Road and east of State Route 189 ("Tunxis Avenue"). The property is surrounded by residences to the west and south, and a combination of farmland and industrial development to the east and north. The municipal boundary between the Town of Bloomfield and the Town of Windsor forms the northern property boundary.

The topography within the Study Area consists of relatively level terrain with a ridgeline stretching south to north in the western portion. Ground elevations range from approximately 94 feet above mean sea level ("AMSL") in the northeastern portion of the Study Area to approximately 700 feet AMSL in the southwestern portion of the Study Area. Tree cover within the Study Area (consisting primarily of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 4,466 acres (or ±55.53%) of the 8,042-acre Study Area.

Project Undertaking

The Facility consists of an existing ±109' tall steel monopole tower and an associated fenced compound. AT&T is proposing to extend the existing tower by 30', bringing the top of the monopole to a height of ±139' above ground level ("AGL"). AT&T would install nine (9) panel antennas, six (6) remote radio heads ("RRHs"), and two (2) surge arrestors on a new frame at an approximate centerline height of 135' AGL. Related ground equipment would be placed within the existing Facility compound.

Please refer to the Site Drawings prepared by Hudson Design Group, LLC, Rev. 3, dated May 3, 2021, and provided under separate cover, for details regarding the proposed installation.

Methodology

APT used the combination of a predictive computer model, in-field analysis, and a review of various data sources to evaluate the visibility associated with the proposed Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout the entire Study Area, including private properties and other areas inaccessible for direct observations. The in-field analysis consisted of a balloon float and field reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory seasonal and year-round view locations, and provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

Preliminary Computer Modeling

To conduct this assessment, a predictive computer model was developed specifically for this project using ESRI's ArcMap GIS[1] software and available GIS data. The predictive model incorporates Project and Study Area-specific data, including the Site location, its ground elevation and the proposed Facility height, as well as the surrounding topography, existing vegetation, and structures (the primary features that can block direct lines of sight).

A digital surface model ("DSM"), capturing both the natural and built features on the Earth's surface, was generated for the extent of the Study Area utilizing State of Connecticut 2016 LiDAR[2] LAS[3] data points. LiDAR is a remote-sensing technology that develops elevation data by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the "returns" can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," "surface water" or "building." Derived from the 2016 LiDAR data, the LAS datasets contain the corresponding elevation point data and return classification values. The Study Area DSM incorporates the first return LAS dataset values that are associated with the highest feature in the landscape, typically a treetop, top of a building, and/or the highest point of other tall structures.

Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells[4] within the DSM that can be seen from an observer location. Cells

[1] ArcMap is a Geographic Information System desktop application developed by the Environmental Systems Research Institute for creating maps, performing spatial analysis, and managing geographic data.

[2] Light Detection and Ranging

[3] An LAS file is an industry-standard binary format for storing airborne LiDAR data.

[4] Each DSM cell size is 1 square meter.

where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto aerial photograph and topographic base maps. Since the DSM includes the highest relative feature in the landscape, isolated “visible” cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. It is recognized that these areas do not represent typical viewer locations and overstate visibility. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

The results of the preliminary analysis are intended to provide a representation of those areas where portions of the Facility may potentially be visible to the human eye without the aid of magnification, based on a viewer eye-height of five (5) feet above the ground and the combination of intervening topography, trees and other vegetation, and structures. However, the Facility may not necessarily be visible from all locations within those areas identified by the predictive model, which has its limitations. For instance, the computer model cannot account for mass density, tree diameters and branching variability of trees, or the degradation of views that occur with distance. As a result, some areas depicted on the viewshed maps as theoretically offering potential visibility of the Facility may be over-predictive because the quality of those views is not sufficient for the human eye to recognize the Facility or discriminate it from other surrounding or intervening objects.

Seasonal Visibility

Visibility also varies seasonally with increased, albeit obstructed, views occurring during “leaf-off” conditions. Beyond the variabilities associated with density of woodland stands found within any given Study Area, each individual tree also has its own unique trunk, pole timber and branching patterns that provide varying degrees of screening in leafless conditions which, as introduced above, cannot be precisely modeled. Seasonal visibility is therefore estimated based on a combination of factors including the type, size, and density of trees within a given area; topographic constraints; and other visual obstructions that may be present. Taking into account these considerations, areas depicting seasonal visibility on the viewshed maps are intended to represent locations from where there is a potential for views through intervening trees, as opposed to indicating that leaf-off views will exist from within an entire seasonally-shaded area.

Balloon Float and Field Reconnaissance

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a balloon float, vehicular and pedestrian reconnaissance, and photo-documentation. The balloon float and field reconnaissance were completed on April

8, 2021. The balloon float involved raising a brightly-colored, approximately 4-foot diameter, helium-filled balloon tethered to a string height of ±139 feet AGL[5] at the proposed Site. Weather conditions were favorable for the in-field activities with light winds and mostly clear skies.

APT conducted a Study Area reconnaissance by driving local and State roads and other publicly accessible locations to document and inventory where the balloon could be seen above and through the tree canopy and other visual obstructions. The primary purpose of the balloon float was to evaluate if new areas of visibility will occur as a result of the proposed extension.[6] Observations from the reconnaissance were also used to evaluate the results of the preliminary visibility mapping and identify any discrepancies in the initial modeling.

Photographic Documentation and Simulations

During the field reconnaissance, APT obtained photographs from representative locations for presentation in this report. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body[7] and Canon EF 24 to 105 millimeter ("mm") zoom lens. APT utilized a standard focal length of 50mm to present a consistent field of view.

Photographic simulations were generated to portray scaled renderings of the proposed Facility from 19 locations presented herein where the Facility may be recognizable. Using field data, site plan information and 3-dimensional (3D) modeling software, spatially referenced models of the extended Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo-simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs, which were ultimately composited and merged with the existing conditions photographs (using Photoshop image editing software). The scale of the subjects in the photograph (the balloon and existing tower) and the corresponding simulation (depicting the extended Facility) is proportional to their surroundings. Note that the balloon was flown from approximately 52 feet southwest from the centerline of the existing tower and therefore is not in direct vertical alignment with the monopole.

For presentation purposes in this report, the photographs were produced in an approximate 7-inch by 10.5-inch format. When reproducing the images in this format size, we believe it is important to present the largest view while providing key contextual landscape elements

[5] The bottom of the balloon represented the top of the monopole.

[6] In photo locations 19, 25 and 26, the balloon was not necessary to compare existing and proposed conditions.

[7] The Canon EOS 6D is a full-framed camera which includes a lens receptor of the same size as the film used in 35mm cameras. As such, the images produced are comparable to those taken with a conventional 35mm camera.

(existing developments, street signs, utility poles, etc.) so that the viewer can determine the proportionate scale of each object within the scene. Photographs presented in the attachment at the end of this report include documentation of existing conditions and photo-simulations of the modified Facility. The photo-simulations are intended to provide the reader with a general understanding of the different view characteristics associated with the Facility from various locations. Photographs were taken from publicly accessible areas and unobstructed view lines were chosen wherever possible.

The table on the following page summarizes the photographs and simulations presented in the attachment to this report, and includes a description of each location, view orientation, and distance from where the photo was taken relative to the proposed Facility. The photo locations are depicted on the photolog provided as an attachment to this report.

Table 1 – Photo Locations

Photo	Location	Orientation	Distance to Site	Visibility
1	Old Iron Ore Road – Windsor	West	± 1.89 Miles	Year Round
2	Day Hill Road at Great Pond Drive – Windsor	West	± 1.34 Miles	Not Visible
3	Day Hill Road - Windsor	West	± 0.94 Mile	Year Round
4	Blue Hills Avenue	Northwest	± 0.91 Mile	Not Visible
5	Blue Hills Avenue Extension - Windsor	West	± 0.57 Mile	Not Visible
6	Blue Hills Avenue Extension - Windsor	West	± 0.45 Mile	Year Round
7	Blue Hills Avenue Extension - Windsor	Southwest	± 0.35 Mile	Year Round
8	Waterside Crossing – Windsor	Southwest	± 0.39 Mile	Not Visible
9	Waterside Crossing – Windsor	Southwest	± 0.36 Mile	Year Round
10	Blue Hills Avenue Extension - Windsor	Southwest	± 0.32 Mile	Year Round
11	Blue Hills Avenue Extension at Tunxis Avenue	Southeast	± 0.42 Mile	Not Visible
12	Blue Hills Avenue Extension	Southeast	± 0.50 Mile	Seasonal
13	Blue Hills Avenue Extension	Southeast	± 0.69 Mile	Not Visible
14	Griffin Road North – Windsor	Southwest	± 0.58 Mile	Seasonal
15	Griffin Road North – Windsor	Southwest	± 0.67 Mile	Seasonal
16	Tunxis Avenue	Southeast	± 0.32 Mile	Seasonal
17	Tunxis Avenue	Southeast	± 0.28 Mile	Year Round
18	Tunxis Avenue	Southeast	± 0.13 Mile	Year Round
19	Tunxis Avenue	Northeast	± 0.14 Mile	Year Round
20	Tunxis Avenue	Northeast	± 0.19 Mile	Seasonal
21	Adams Road at Tunxis Avenue	Northeast	± 0.27 Mile	Not Visible
22	Adams Road	North	± 0.18 Mile	Seasonal
23	Day Hill Road at Griffin Road South – Windsor	West	± 0.47 Mile	Year Round
24	Day Hill Road – Windsor	West	± 0.33 Mile	Not Visible
25	Day Hill Road – Windsor	West	± 0.13 Mile	Year Round
26	Day Hill Road – Windsor	Southwest	± 347 Feet	Year Round
27	Day Hill Road – Windsor	Southeast	± 0.13 Mile	Seasonal
28	Day Hill Road	Southeast	± 0.14 Mile	Not Visible

Conclusions

As presented on the attached viewshed maps, views of the proposed extended Facility would not significantly increase the visibility of the existing tower within the Study Area. Predicted year-round visibility is estimated to increase from 63 acres to 91 acres. Predicted seasonal visibility of the proposed Facility is estimated to include an additional ±160 acres at the proposed extended tower height. Collectively, this represents less than a ±0.5 percent increase of predicted visibility in the 8,042-acre Study Area. Photo locations 7, 18 and 20 represent new areas of visibility where a portion of the extended Facility will be seen.

The slight increase in visibility will occur primarily to the north and east of the Facility in pockets within approximately one (1) mile of the existing tower. Photos 18, 19, 25 and 26 depict representative year-round views closest to the Facility. Photos 20, 22 and 27 depict representative seasonal views within the less than 0.25 mile of the Site. The minor increase in visibility (through either a new location or a change in the existing view due to the extended height) would not significantly alter the characteristics of the area.

Proximity to Schools And Commercial Child Day Care Centers

No schools or commercial child day care centers are located within 250 feet of the proposed Facility. Global Experience Magnet School is located approximately 0.60 mile to the southeast of the Site at 44 Griffin Road South in Bloomfield. No visibility is predicted from or in the vicinity of the school. The nearest commercial child care center, Educational Playcare Windsor West, is located at 1045 Day Hill Road in Windsor, approximately 1.94 miles to the east of the Site. A small area of year-round visibility is predicted in the vicinity of the child care center (Photo 1). Based on observations made during the balloon float, neither the existing Facility nor the proposed extended monopole is highly visible from this area.

Limitations

The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field review and reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the field review included light winds and mostly clear skies.

ATTACHMENTS

PHOTO LOG

Legend

Site | Visible | Seasonal | Not Visible | Municipal Boundary

1 inch = 1,300 feet

1,300 650 0 1,300 Feet

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**OLD IRON ORE ROAD - WINDSOR**	**WEST**	**+/- 1.89 MILES**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**OLD IRON ORE ROAD - WINDSOR**	**WEST**	**+/- 1.89 MILES**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**DAY HILL ROAD AT GREAT POND DRIVE - WINDSOR**	**WEST**	**+/- 1.34 MILES**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**DAY HILL ROAD - WINDSOR**	**WEST**	**+/- 0.94 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**DAY HILL ROAD - WINDSOR**	**WEST**	**+/- 0.94 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**BLUE HILLS AVENUE**	**NORTHWEST**	**+/- 0.91 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**WEST**	**+/- 0.57 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**WEST**	**+/- 0.45 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**WEST**	**+/- 0.45 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**SOUTHWEST**	**+/- 0.35 MILE**	**EXISTING TOWER NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**SOUTHWEST**	**+/- 0.35 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**WATERSIDE CROSSING - WINDSOR**	**SOUTHWEST**	**+/- 0.39 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**WATERSIDE CROSSING - WINDSOR**	**SOUTHWEST**	**+/- 0.36 MILE**	**YEAR ROUND**

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at&t

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**WATERSIDE CROSSING - WINDSOR**	**SOUTHWEST**	**+/- 0.36 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**SOUTHWEST**	**+/- 0.32 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**BLUE HILLS AVENUE EXTENSION - WINDSOR**	**SOUTHWEST**	**+/- 0.32 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**BLUE HILLS AVENUE EXTENSION AT TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.42 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**BLUE HILLS AVENUE EXTENSION**	**SOUTHEAST**	**+/- 0.50 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**BLUE HILLS AVENUE EXTENSION**	**SOUTHEAST**	**+/- 0.50 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**BLUE HILLS AVENUE EXTENSION**	**SOUTHEAST**	**+/- 0.69 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**GRIFFIN ROAD NORTH - WINDSOR**	**SOUTHWEST**	**+/- 0.58 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**GRIFFIN ROAD NORTH - WINDSOR**	**SOUTHWEST**	**+/- 0.58 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**GRIFFIN ROAD NORTH - WINDSOR**	**SOUTHWEST**	**+/- 0.67 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**GRIFFIN ROAD NORTH - WINDSOR**	**SOUTHWEST**	**+/- 0.67 MILE**	**SEASONAL**

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.32 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.32 MILE**	**SEASONAL**

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.28 MILE**	**YEAR ROUND**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.28 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.13 MILE**	**EXISTING TOWER NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**TUNXIS AVENUE**	**SOUTHEAST**	**+/- 0.13 MILE**	**YEAR ROUND**

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at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**TUNXIS AVENUE**	**NORTHEAST**	**+/- 0.14 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**TUNXIS AVENUE**	**NORTHEAST**	**+/- 0.14 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**TUNXIS AVENUE**	**NORTHEAST**	**+/- 0.19 MILE**	**EXISTING TOWER NOT VISIBLE**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**TUNXIS AVENUE**	**NORTHEAST**	**+/- 0.19 MILE**	**SEASONAL**

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
21	**ADAMS ROAD AT TUNXIS AVENUE**	**NORTHEAST**	**+/- 0.27 MILE**	**NOT VISIBLE**

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**ADAMS ROAD**	**NORTH**	**+/- 0.18 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**ADAMS ROAD**	**NORTH**	**+/- 0.18 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**DAY HILL ROAD AT GRIFFIN ROAD SOUTH - WINDSOR**	**WEST**	**+/- 0.47 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**DAY HILL ROAD AT GRIFFIN ROAD SOUTH - WINDSOR**	**WEST**	**+/- 0.47 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
24	**DAY HILL ROAD - WINDSOR**	**WEST**	**+/- 0.33 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	**DAY HILL ROAD - WINDSOR**	**WEST**	**+/- 0.13 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
25	**DAY HILL ROAD - WINDSOR**	**WEST**	**+/- 0.13 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
26	**DAY HILL ROAD - WINDSOR**	**SOUTHWEST**	**+/- 347 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
26	**DAY HILL ROAD - WINDSOR**	**SOUTHWEST**	**+/- 347 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

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PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
27	**DAY HILL ROAD - WINDSOR**	**SOUTHEAST**	**+/- 0.13 MILE**	**SEASONAL**

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PROPOSED

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
27	**DAY HILL ROAD - WINDSOR**	**SOUTHEAST**	**+/- 0.13 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

at&t

PHOTOGRAPHED ON 4/8/2021

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
28	**DAY HILL ROAD**	**SOUTHEAST**	**+/- 0.14 MILE**	**NOT VISIBLE**

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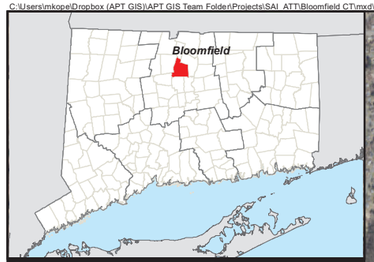
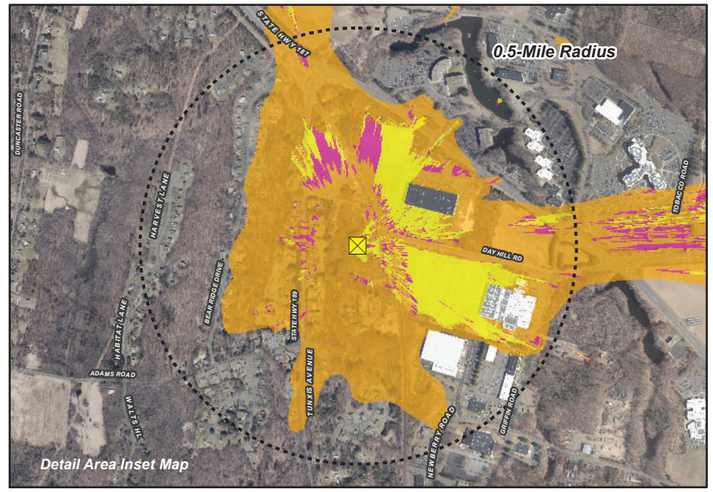


Statewide and Regional Overview Map



Detail Area Inset Map

Comparative Viewshed Analysis Map

Proposed Wireless Telecommunications Facility
North Bloomfield CT
1627 Day Hill Road
Bloomfield, Connecticut

Existing facility height is 109 feet AGL; Proposed facility height is 139 feet AGL.
Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres.
Map information field verified by APT on April 8, 2021
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: May 2021

Legend

- Proposed Site
- Study Area (2-Mile Radius)

Comparative Year-Round Visibility

- Year-Round Visibility - 109' AGL And 139' AGL (63
- Year-Round Visibility - 139' AGL Only (28 Additional Acres)
- Areas of Potential Seasonal Visibility - 120' AGL and/or 139' AGL (160 Acres)

Photo Locations (April 8, 2021)

- Year-Round
- Seasonal
- Not Visible
- Municipal Boundary
- Trail
- Scenic Highway
- DEEP Boat Launches
- Municipal and Private Open Space Property

Protected Open Space Property

- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The DSM captures the natural and built features on the Earth's surface.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

***Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.*

Limitations

This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM, 2019 digital aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

0.5 0.25 0 0.5 Miles

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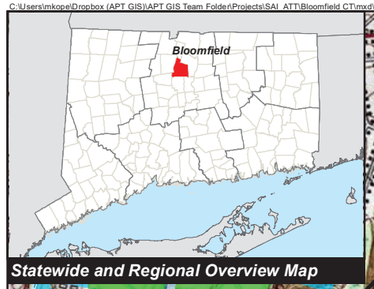
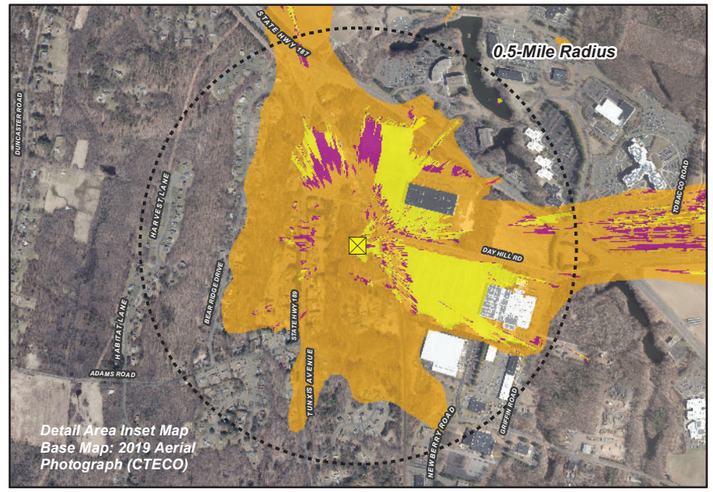


Statewide and Regional Overview Map



Comparative Viewshed Analysis Map

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North Bloomfield CT
1627 Day Hill Road
Bloomfield, Connecticut

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Forest canopy height is derived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres.
Map information field verified by APT on April 8, 2021
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Avon, CT (1984), Hartford North, CT (1992), Tariffville, CT (1984), and Windsor Locks, CT (1984)
Map Date: May 2021

Legend

- Proposed Site
- Study Area (2-Mile Radius)

Comparative Year-Round Visibility

- Year-Round Visibility - 109' AGL And 139' AGL (63
- Year-Round Visibility - 139' AGL Only (28 Additional Acres)
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- Trail
- Scenic Highway
- DEEP Boat Launches
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- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

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0.5 0.25 0 0.5 Miles

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Attachment 7

Avian Resources Evaluation

AVIAN RESOURCES EVALUATION

July 26, 2021

AT&T
550 Cochituate Road
Framingham, MA 01701

Re: Proposed Bloomfield Day Hill Road Facility
2627 Day Hill Road, Bloomfield, CT 06002
APT Project No. CT3387

New Cingular Wireless PCS, LLC, d/b/a AT&T ("AT&T") proposes to modify an existing monopole tower telecommunications facility (the "existing Facility") at 2627 Day Hill Road in Bloomfield, Connecticut (the "Site"). The proposed undertaking consists of extending an existing 109-foot-tall monopole tower from 109' to 139 feet, installing nine (9) panel antennas and associated equipment at an approximately centerline height of 135' above ground level ("AGL"), and adding a walk-in cabinet within the existing fenced compound. The Site is an approximately 11.8-acre parcel that is developed with multiple buildings and the existing Facility.

The purpose of this evaluation is to document the existing Facility's proximity to avian resource areas and its compliance with recommended guidelines of the United States Fish and Wildlife Service ("USFWS") for minimizing potential impacts to bird species from telecommunications towers.

On behalf of AT&T, All-Points Technology Corporation, P.C. ("APT") reviewed several publicly available sources of avian data for the state of Connecticut to provide the following information with respect to potential impacts on migratory birds associated with the proposed development. This desktop analysis and attached graphics identify avian resources and their proximities to the existing Facility. Resources within approximately three (3) miles of the Site are graphically depicted on the attached Avian Resources Map. Some of the data referenced herein are not located in proximity to the Site and are therefore not visible on the referenced map due to its scale. In those cases, the distances separating the Site from the resources are identified in the discussions below.

Proximity to Important Bird Areas

The National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. IBAs are sites that provide essential habitat for breeding, wintering, and/or migrating birds. To achieve this designation, an IBA must support species of conservation concern, restricted-range species, species vulnerable due to concentration in one general habitat type or biome, or species vulnerable due to their occurrence at high densities as a result of their congregatory behavior.[1] The closest IBA to the host Property is Northwest Park in Windsor, located approximately 2.2 miles to the northeast. This IBA consists of Protected Open Space with the Farmington River as its northern and western borders. Due to its distance from the Site, this IBA would not experience an adverse impact from the proposed modifications to the existing Facility.

Supporting Migratory Bird Data

The following analysis and attached graphics identify several additional avian resources and their proximities to the Site. Although these data sources may not represent habitat indicative of IBAs, they may indicate possible bird concentrations[2] or migratory pathways.

Critical Habitat

Connecticut Critical Habitats is a database developed by the Connecticut Department of Energy and Environmental Protection ("DEEP"), and available through the Connecticut Environmental Conditions Online (CT ECO)[3] website that depicts the classification and distribution of 25 rare and specialized wildlife habitats in the state. The compilation represents ecological information collected over many years by state agencies, conservation organizations and individuals. These habitats range in size from less than one acre to tens of acres in extent. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection, but may not necessarily be indicative of habitat for bird species. The nearest Critical Habitat to the proposed Facility is a palustrine floodplain forest area associated with the Farmington River, and located approximately 0.92 mile to the northeast. Due to the separating distance, this Critical Habitat would not experience an adverse impact from the proposed modifications to the existing facility.

[1] http://web4.audubon.org/bird/iba/iba_intro.html

[2] The term "bird concentrations" is found in the USFWS *Revised Voluntary Guidelines for communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* (September 27, 2013) analysis provided at the end of this document

[3] CT ECO is a partnership between the Connecticut Department of Energy and Environmental Protection and the University of Connecticut.

Avian Survey Routes and Points

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 and do not necessarily represent concentrations of avifauna or identification of critical avian habitats. 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 three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data is 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 to the host Property is the Granby Breeding Bird Survey Route located approximately 4.4 miles to the northeast. This ±24-mile-long bird survey route begins in New Hartford and makes its way through Barkhamsted, Granby, and East Granby before terminating in Suffield. Since bird survey routes represent randomly selected data collection areas, they do not necessarily represent a potential restriction to development projects.

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 200 affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites". In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, Poquonock, is located in Poquonock (Windsor), approximately 4.0 miles northeast of the proposed Facility.

Further, most hawks migrate during the day (diurnal) to take advantage of two theorized benefits: (1) diurnal migration allows for the use of updrafts or rising columns of air called thermals to gain lift without flapping, thereby reducing energy loss; and (2) day migrants can search for prey and forage as they migrate.

Based on the distance separating the existing Facility from the Poquonock Hawk Watch Site and hawk migration behavior occurring during the daytime under favorable weather conditions when thermals form, no adverse impacts to migrating hawks are anticipated from the proposed modifications to the existing Facility.

Bald Eagle Survey Route

Bald Eagle Survey Routes consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. Initiated by the National Wildlife Federation, this database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least four years and where at least four eagles were counted in a single year. The nearest Bald Eagle Survey Route is the Connecticut River Survey Route Number 3 that follows the Connecticut River from Route 291 to the Massachusetts State Line in South Windsor, Windsor, East Windsor, Windsor Locks, Enfield, and Suffield; it is located approximately 6.4 miles East of the Site.

Bald eagle migration patterns are complex, dependent on age of the individual, climate (particularly during the winter) and availability of food.[4] Adult birds typically migrate alone and generally as needed when food becomes unavailable, although concentrations of migrants can occur at communal feeding and roost sites. Migration typically occurs during the middle of the day (10:30–17:00) as thermals provide opportunities to soar up with limited energy expense; Bald Eagle migration altitudes are estimated to average 1,500 to 3,050 meters by ground observers.[5] Four adults tracked by fixed-wing aircraft in Montana averaged 98 km/d during spring migration and migrated at 200 to 600 meters above the ground (McClelland et al. 1996).[6]

The USFWS's *National Bald Eagle Management Guidelines* (May 2007) recommend a 660-foot buffer to bald eagle nests if the activity will be visible from the nest, with an additional management practice recommendation of retaining mature trees and old growth stands, particularly within 0.5 mile from water. No known bald eagle nests occur in the vicinity of the Facility.

Therefore, no adverse impacts to migrating bald eagles are anticipated with the proposed modifications to the existing facility. This conclusion is based on the 139-foot height of the extended Facility, eagle migration patterns during the daytime under favorable weather conditions when thermals form, and compliance with USFWS bald eagle management guidelines.

Flyways

The Site is located in Hartford County, approximately 68.7 miles north of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional primary migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland.

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[4] Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506 [Accessed 09/09/13].

[5] Harmata, A. R. 1984. Bald Eagles of the San Luis valley, Colorado: their winter ecology and spring migration. Ph.D. Thesis. Montana State Univ. Bozeman.

[6] McClelland, B. R., P. T. McClelland, R. E. Yates, E. L. Caton, and M. E. McFadden. 1996. Fledging and migration of juvenile Bald Eagles from Glacier National Park, Montana. J. Raptor Res. 30:79-89.

Smaller inland migratory flyways (secondary flyways) are often concentrated along major riparian areas as birds use these valuable stopover habitats to rest and refuel as they make their way further inland to their preferred breeding habitats. The Connecticut Migratory Bird Stopover Habitat Project (Stokowski, 2002)[7] identified potential flyways along the Housatonic, Naugatuck, Thames, and Connecticut Rivers. This study paralleled a similar earlier study conducted by the Silvio O. Conte National Fish & Wildlife Refuge (Neotropical Migrant Bird Stopover Habitat Survey[8]), which consisted of collection of migratory bird data along the Connecticut River and the following major Connecticut River tributaries: Farmington, Hockanum, Scantic, Park, Mattabesset, Salmon, and Eight Mile Rivers. Of these potential flyways, the nearest to the proposed Facility is the Connecticut River, located approximately 6.2 miles to the east. Farmington River riparian corridor, located 1.1 miles northwest of the proposed Facility, potentially forms a secondary flyway as birds move northward from the Connecticut River corridor during the spring migration. These major riparian corridors may provide secondary flyways as they likely offer more food and protection than more exposed upland sites, particularly during the spring migration.[9]

Siting of tower structures within flyways can be a concern, particularly for tall towers and even more particularly for tall towers with guy wires and lighting. The majority of studies on bird mortality due to towers focuses on very tall towers (greater than 1000 feet), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, do result in significant bird mortality (Manville, 2005).[10] Neither the existing Facility nor the proposed extended Facility is this type of tower, being an unlit, unguyed monopole structure. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds.[11] Studies of the mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet).[12]

No adverse impacts to migrating bird species are anticipated from the proposed modifications to the existing Facility, based on its design (unlit and unguyed) and 139-foot height. The design and height of the proposed Facility, combined with distance from the Site, would also mitigate the potential for migratory bird impacts should the Farmington River be used as a secondary flyway.

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[7] Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.

[8] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

[9] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey. http://www.science.smith.edu/stopoverbirds/Chapter5_Conclusions&Recommendations.html

[10] Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

[11] Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

[12] Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

Waterfowl Focus Areas

The Atlantic Coast Joint Venture ("ACJV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The ACJV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the Site is the Connecticut River and Tidal Wetlands Complex area, which is located approximately 18.1 miles to the southeast. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of this waterfowl focus area to the Site, no impact to migratory waterfowl would result from proposed modifications to the existing Facility.

DEEP Migratory Waterfowl Data

The DEEP 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 nearest migratory waterfowl area, located at the Connecticut River at the mouth of the Farmington River in Windsor, is approximately 5.5 miles to the southeast of the Site. The associated species are identified as American Black Duck, Mallard, Green Wing Teal, and Wood Duck. Based on the distance of this migratory waterfowl area to the Site, no impact to migratory waterfowl would result from the proposed modifications to the existing Facility.

DEEP Natural Diversity Data Base

DEEP's Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowners' rights whenever species occur on private property.

No known areas of state-listed species are depicted on the most recent DEEP NDDB maps in the location of the proposed Facility or within 0.25 mile of the Site. The nearest NDDB buffer area is ±0.7 mile southwest of the Site. Since the Facility is not located within a NDDB buffer area, consultation with DEEP is not required in accordance with their review policy or the Connecticut Siting Council's NDDB review policy.

Based on these factors, the proposed modifications to the existing Facility are not anticipated to adversely impact any federal or state threatened, endangered or species of special concern.

USFWS Communications Towers Compliance

In April 2018, the USFWS issued its *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning*. These suggested best practices were instituted to assist tower developers in designing their structures in a way that minimizes the risk to migratory birds and threatened and endangered species. The following avoidance and minimization measures, when used comprehensively, are recommended by USFWS to reduce the risk of bird mortality at communication towers. APT offers the following responses to each of the USFWS recommendations, which are abridged from the original document.

1. *Contact with USFWS Field Office. Communicate project plans to nearest USFWS Field Office.*

   As this is an existing telecommunications facility and no clearing or increase in the facility footprint is involved, project plans have not been provided to USFWS.

2. *Co-location. Co-locate communications equipment on existing communication towers or other structures (e.g., billboard, water and transmission tower, distribution pole, or building mounts). This recommendation is intended to reduce the number of towers across the landscape.*

   This is an existing tower that AT&T proposes to modify.

3. *Placement. All new towers should be sited to minimize environmental impacts to the maximum extent practicable.*

   a. *Place new towers within existing "antenna farms" (i.e., clusters of towers) when possible.*

      N/A – No new tower is proposed; an existing tower is utilized.

   b. *Select already degraded areas for tower placement.*

      This site is already developed with an existing telecommunications facility.

   c. *Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state or federal refuges, staging areas, rookeries, and Important Bird Areas), or in known migratory bird movement routes, daily movement flyways, areas of breeding concentration, in habitat of threatened or endangered species, key habitats for Birds of Conservation Concern or near the breeding areas ("leks") of prairie grouse.*

The Facility is not within wetlands, a known bird concentration area, migratory or daily movement flyway, or habitat of avian threatened/endangered species.

d. Towers should avoid ridgelines, coastal areas, wetlands or other known bird concentration areas.

The Facility is not located near ridgelines, coastal areas, wetlands, or other known bird concentration areas.

e. Towers and associated facilities should be designed, sited, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". In addition, several shorter, un-guyed towers may be preferable to one, tall guyed, lit tower.

The proposed modifications would stay within the footprint of the existing telecommunications facility compound. The facility would be a 139-foot-tall monopole structure (existing structure is 109 foot tall), which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard".

4. Construction. During construction, the following considerations can reduce the risk of take of birds:

a. Schedule all vegetation removal and maintenance (e.g., general landscaping activities, trimming, grubbing) activities outside of the peak bird breeding season to reduce the risk of bird take.

No tree clearing is required for this project, as all proposed work is within the existing facility footprint.

b. When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:

i. Surveys should be conducted no more than five days prior to the scheduled activity to ensure recently constructed nests are identified;

ii. Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance; and

iii. If active nests are identified within or in the vicinity of the project site, avoid the site until nestlings have fledged or the nest fails. If the activity must occur, establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present. The buffer should be a distance that does not elicit a flight response by the adult birds and can be 0.5 – 1 mile for hawks and eagles.

Not applicable. No tree clearing is required.

c. Prevent the introduction of invasive plants during construction to minimize vegetation community degradation by:

i. Use only native and local (when possible) seed stock for all temporary and permanent vegetation establishment; and

ii. Use vehicle wash stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

No landscaping or other vegetation plantings are proposed. No sensitive habitat areas exist at the Site.

5. Tower Design. Tower design should consider the following attributes:

a. Tower Height. It is recommended that new towers should be not more than 199 ft. above ground level (AGL). This height increases the mean free airspace between the top of the tower and average bird flight height, even in weather conditions with reduced cloud ceiling;

b. Guy Wires. We recommend using free standing towers such as lattice towers or monopole structures.
i. The minimum number of guy wires necessary should be used; and
ii. Guy wired towers that are proposed to be located in known raptor or waterbird concentrations areas, daily movement routes, major daytime migratory bird movement routes, staging areas, or stopover sites should have daytime visual markers or bird flight diverters installed on the guy wires to attempt to prevent daytime collisions.

c. Lighting System. Lights are a primary source of bird aggregation around towers, thus minimizing all light is recommended, including:
i. No tower lighting is the preferred option if Federal Aviation Administration (FAA) regulations and lighting standards (FAA 2015, Patterson 2012) permit.
ii. If taller (> 199 ft. 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.
iii. For some towers, the FAA can permit an Aircraft Detection Lighting System (ADLS), which maintains a communication tower of any height to be unlit until the ADLS radars detect nearby aircraft, at which time the tower lighting system is triggered to illuminate until the aircraft is out of radar range.
iv. If taller (> 199 ft. 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. Unless otherwise required by the FAA, only white or red flashing lights should be used at night, and these should follow FAA obstruction and marking standards with regards to the minimum number of lights, minimum intensity (< 2,000 candela), and minimum number of flashes per minute (i.e., longest duration between flashes and "dark phase"). Avoid using non-flashing warning lights at night (FAA 2015, Patterson 2012). Owners of existing towers lit with lighting systems that include non-flashing lights should submit plans to the FAA explaining how and when they will transition to the new standards.
v. Security lighting for on-ground facilities, equipment, and infrastructure should be motion- or heat-sensitive, down-shielded, and of a minimum intensity to reduce nighttime bird attraction and eliminate constant nighttime illumination while still allowing safe nighttime access to the site.

The proposed modifications to the existing Facility would consist of a 139-foot tall monopole structure which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard". Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer to eliminate constant nighttime illumination.

Summary and Conclusions

Based on the results of this desktop evaluation, no migratory bird species are anticipated to be impacted by the modifications to the proposed development. The Site is not proximate to an Important Bird Area and the proposed Facility would comply with the USFWS guidelines for minimizing the potential impacts to bird species.

Figures

- Avian Resources Map
- Connecticut Waterfowl Focus Areas Map

Avian Resources Map

Proposed Wireless
Telecommunications Facility
North Bloomfield CT
1627 Day Hill Road
Bloomfield, Connecticut

Proposed North Bloomfield CT Facility
Lat: 41 52 35.41
Long: 72 44 30.62
+/- 180' AMSL

Legend

- Proposed Facility
- Bald Eagle Site*
- Hawk Watch Site
- Important Bird Site*
- Important Bird Area
- Bald Eagle Survey Route*
- Breeding Bird Survey Route*
- Migratory Waterfowl (CTDEEP, 1999)*
- Protected Open Space (CTDEEP, 2011)
- Federal Open Space (CTDEEP, 2004)*

CT DEP Property (CT DEEP, 12/2010)

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

*None within mapped extents

Avian Source Information:
Bald Eagle Sites: U.S. Geological Survey, National Biological Information Infrastr, 2008, Midwinter Bald Eagle Counts, 1986-2005 (update 2008).
Hawk Watch Sites: Hawk Migration Association of North America (HMANA), Hawk Count website: http://hawkcount.org/sitesel.php?country=USA&stateprov=Connecticut
Migratory Waterfowl: CTDEEP 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: ESRI Shaded Relief

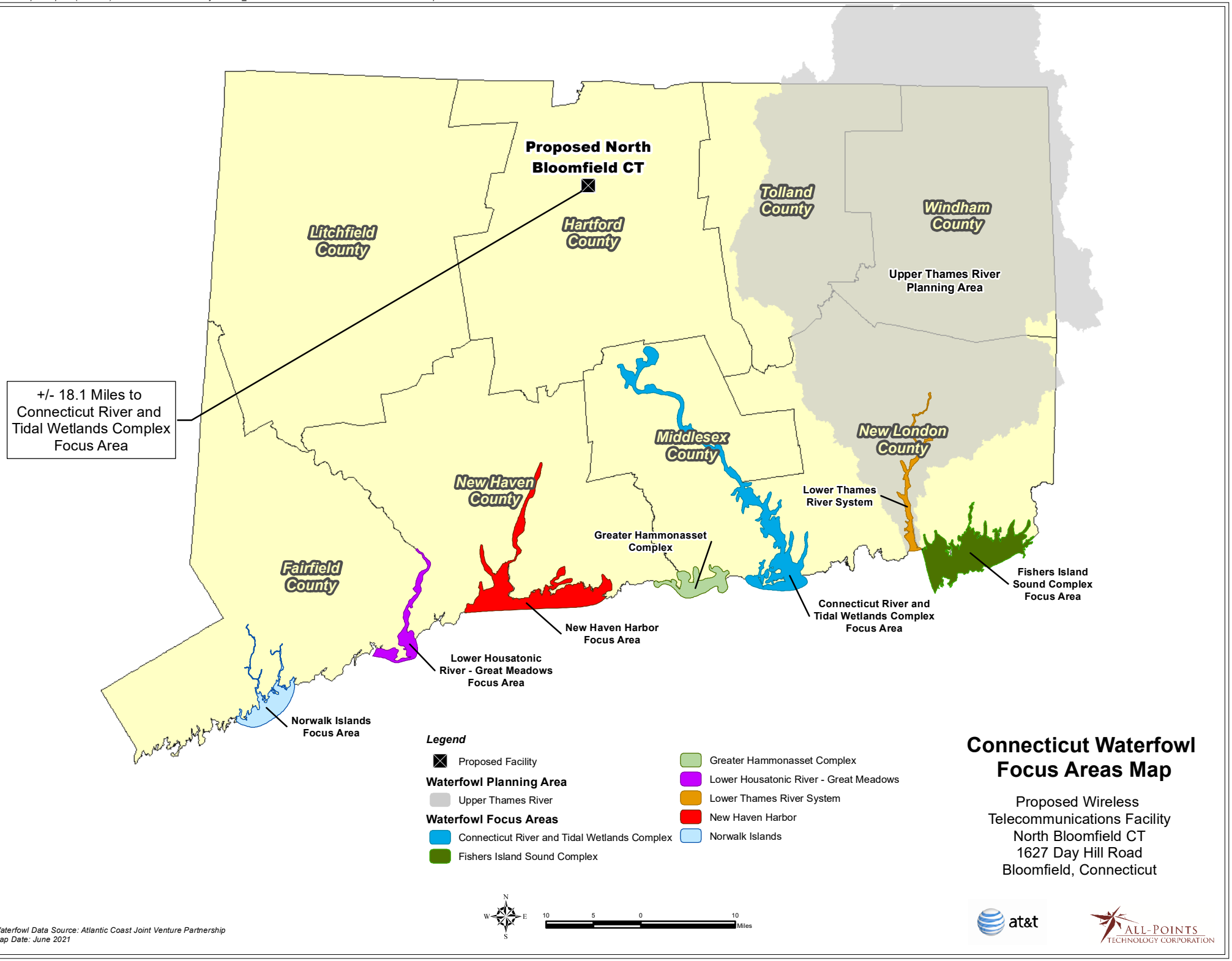
Map Date: June 2021

N W E S

0.5 0.25 0 0.5 Miles

at&t

ALL-POINTS TECHNOLOGY CORPORATION



Connecticut Waterfowl Focus Areas Map

Proposed Wireless Telecommunications Facility
North Bloomfield CT
1627 Day Hill Road
Bloomfield, Connecticut

Waterfowl Data Source: Atlantic Coast Joint Venture Partnership
Map Date: June 2021

at&t

ALL-POINTS TECHNOLOGY CORPORATION

Attachment 8

Historic Preservation Letter

Connecticut | Department of Economic and Community Development
State Historic Preservation Office

June 11, 2021

Ms. Steph Weitzel
BL Companies
2601 Market Place, Suite 350
Harrisburg, PA 17110

Subject: Proposed Telecommunications Facility Modification
2627 Day Hill Road
Bloomfield, CT
American Towers, LLC
ENV-21-0650

Dear Ms. Weitzel:

The State Historic Preservation Office is in receipt of the proposal for the above-referenced project, submitted for review and comment pursuant to the National Historic Preservation Act and in accordance with Federal Communications Commission regulations.

The proposed undertaking includes the extension of an existing 113 foot tall monopole to 139 feet, as well as the installation of nine panel antennas, three per sector, at a maximum height of 138 feet above ground level (AGL). Utilities are proposed to be routed to a new equipment area, measuring approximately 12 feet 6 inches by 20 feet, to be located at the base of the monopole, within an area previously disturbed by construction of the existing facility.

Directly adjacent to the compound are three buildings, over 50 years of age, that were not mentioned or evaluated for historic significance. As they are located within an area historically used for tobacco cultivation, and appear to have been used for agricultural purposes, they are potentially eligible for listing on the National Register of Historic Places. However, due to the intrusion of the existing facility, the proposed modifications will not further impact the buildings.

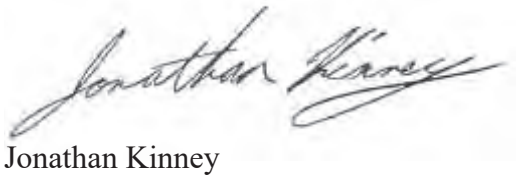
Based on the information provided to this office, the proposed scope of work will have no adverse effects to historic resources. However, please be advised in future to evaluate potential resources within the area of either direct or visual effects.

Department of Economic and Community Development

State Historic Preservation Office

The State Historic Preservation Office appreciates the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act and Section 106 of the National Historic Preservation Act. For further information please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,



Jonathan Kinney
Deputy State Historic Preservation Officer

Attachment 9

RF Emission Analysis

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

Calculated Radio Frequency Exposure

CT3387

Bloomfield Day Hill

2627 Day Hill Road, Bloomfield, CT

October 28, 2021

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of the AT&T antenna arrays on the existing monopole tower located at 2627 Day Hill Road in Bloomfield, CT. The coordinates of the tower are 41-52-35.4 N, 72-44-30.6 W.

AT&T is proposing the following:

1) Install nine (9) multi-band antennas (three per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network ("NPSBN").

This report considers the planned antenna configuration for AT&T[1] to derive the resulting % Maximum Permissible Exposure of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

[1] As referenced to AT&T's Radio Frequency Design Sheet dated 8/12/2020.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

R = Radial Distance = $\sqrt{\left(H^2 + V^2\right)}$

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Calculation Results

Table 1 below outlines the cumulative power density information for the AT&T equipment at the site along with the current installations by Verizon Wireless and T-Mobile. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	% MPE
AT&T	135	763	1	3541	0.0077	0.5087	1.50%
AT&T	135	723	1	3084	0.0067	0.4820	1.38%
AT&T	135	746	1	2625	0.0057	0.4973	1.14%
AT&T	135	885	1	2878	0.0062	0.5900	1.05%
AT&T	135	1900	1	4562	0.0099	1.0000	0.99%
AT&T	135	2100	1	8815	0.0191	1.0000	1.91%
AT&T	135	2300	1	5002	0.0108	1.0000	1.08%
T-Mobile	100	1900	2	1556	0.0127	1.0000	1.27%
T-Mobile	100	2100	2	2334	0.0190	1.0000	1.90%
T-Mobile	100	1900	1	584	0.0024	1.0000	0.24%
T-Mobile	100	2100	1	1556	0.0063	1.0000	0.63%
T-Mobile	100	600	2	789	0.0064	0.4000	1.61%
T-Mobile	100	700	2	433	0.0035	0.4667	0.76%
Verizon	110	1970	1	5000	0.0166	1.0000	1.66%
Verizon	110	869	1	3050	0.0101	0.5793	1.75%
Verizon	110	869	3	389	0.0039	0.5793	0.67%
Verizon	110	2145	1	7400	0.0246	1.0000	2.46%
Verizon	110	746	1	2200	0.0073	0.4973	1.47%
						Total	**23.47%**

Table 1: Carrier Information[2]

[2] Configuration of Verizon Wireless and T-Mobile equipment is based on the Connecticut Siting Council's Power Density Table dated 07/16/21

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level is **23.47% of the FCC General Population/Uncontrolled limit**.

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.

Reviewed/Approved By: Martin J. Lavin
Senior RF Engineer
C Squared Systems, LLC

October 28, 2021
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[3]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[3] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[4] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

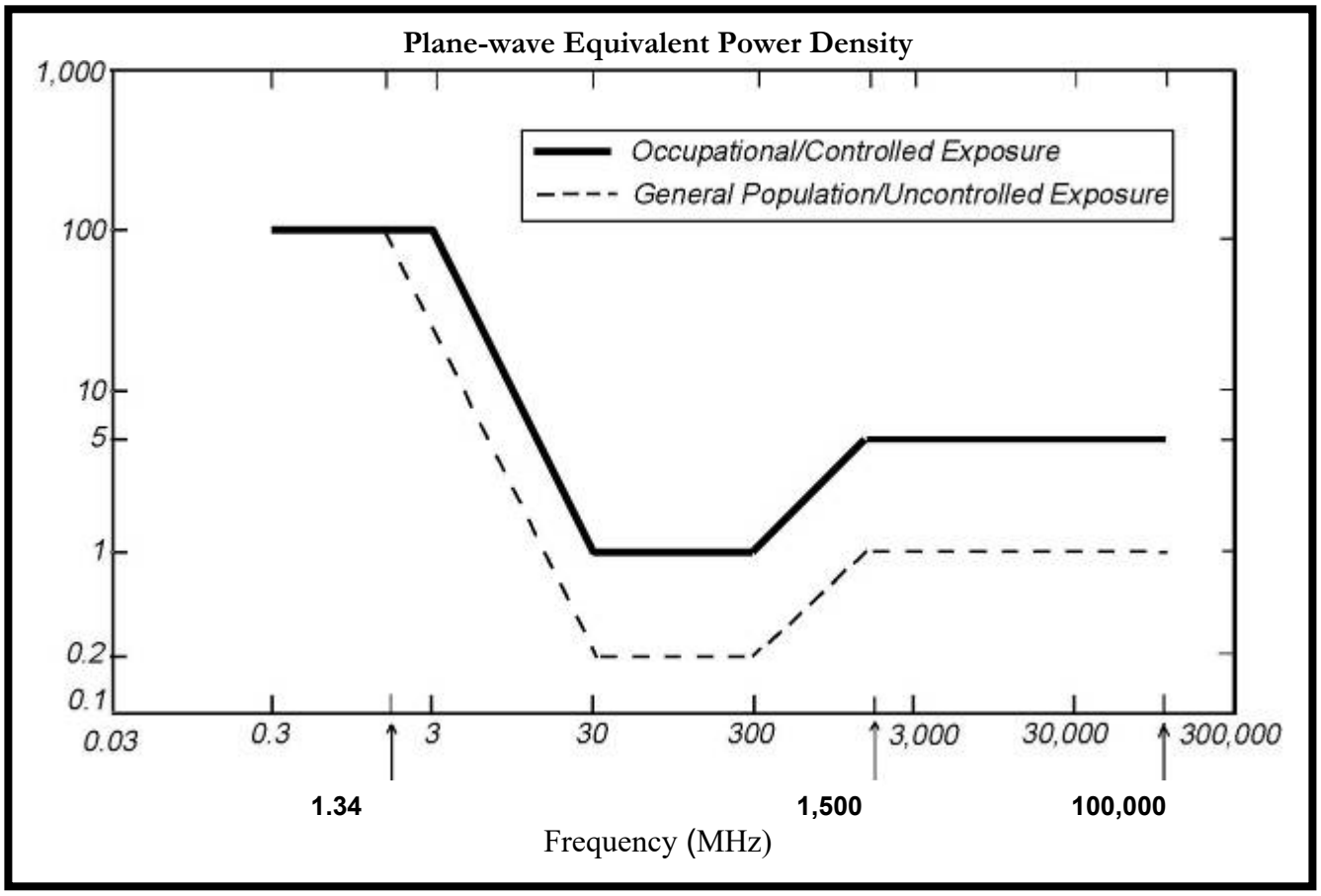
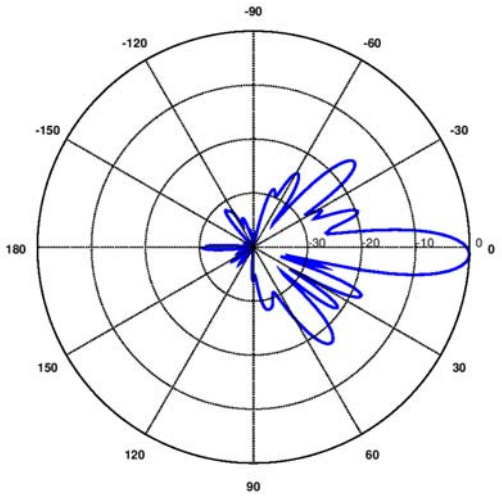


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

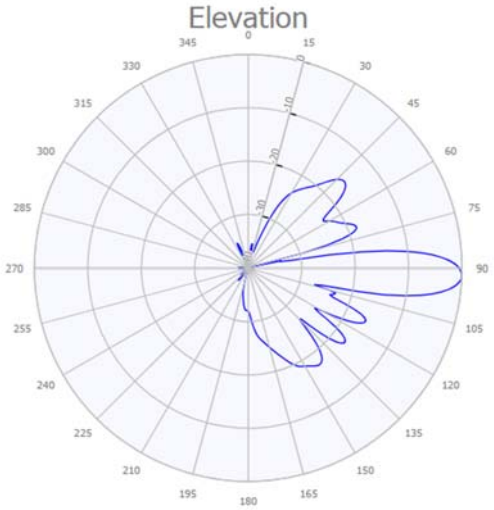
763 MHz

Manufacturer:	CCI Products
Model #:	TPA65R-BU8D
Frequency Band:	698 - 806MHz
Gain:	13.45 dBd
Vertical Beamwidth:	9.5°
Horizontal Beamwidth:	74°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” x 21.0” x 7.8”



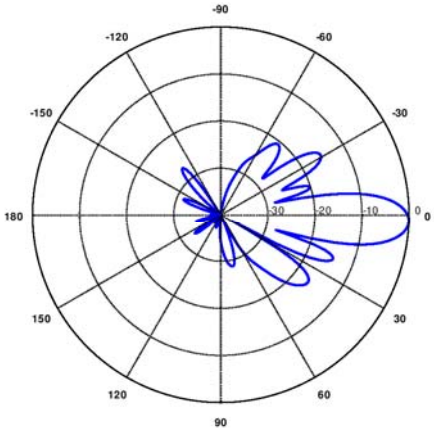
723 MHz

Manufacturer:	CCI Products
Model #:	HPA65R-BU8D
Frequency Band:	698 - 806MHz
Gain:	12.85 dBd
Vertical Beamwidth:	10.1°
Horizontal Beamwidth:	65°
Polarization:	Dual Linear 45°
Size L x W x D:	92.4” x 14.8” x 7.4”



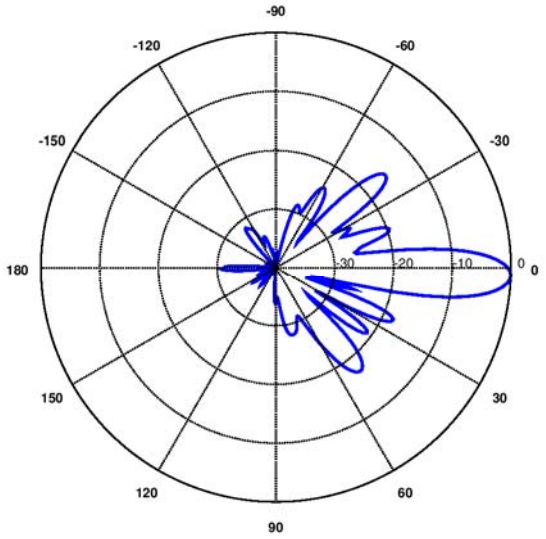
746 MHz

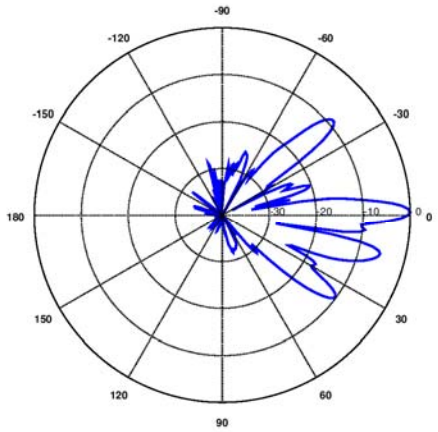
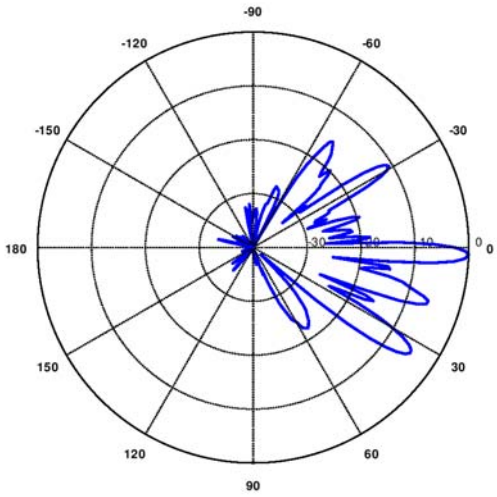
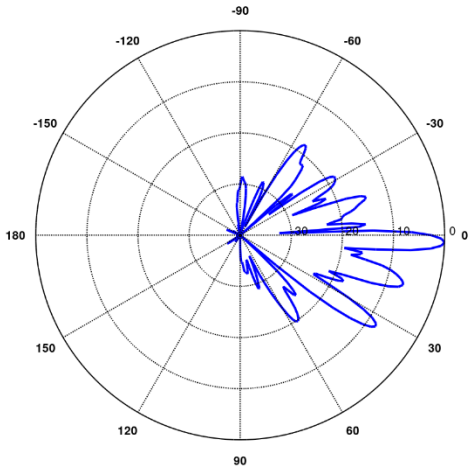
Manufacturer:	CCI Products
Model #:	DMP65R-BU8D
Frequency Band:	698 - 806MHz
Gain:	12.85 dBd
Vertical Beamwidth:	9.5°
Horizontal Beamwidth:	75°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” x 20.7” x 7.7”



885 MHz

Manufacturer:	CCI Products
Model #:	TPA65R-BU8D
Frequency Band:	824 - 896 MHz
Gain:	12.5 dBd
Vertical Beamwidth:	7.9°
Horizontal Beamwidth:	64°
Polarization:	Dual Linear 45°
Size L x W x D:	96.0” x 21.0” x 7.8”



1900 MHz Manufacturer: CCI Products Model #: DMP65R-BU8D Frequency Band: 1850-1990 MHz Gain: 14.5 dBd Vertical Beamwidth: 5.1° Horizontal Beamwidth: 68° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 20.7” x 7.7”	b 
2100 MHz Manufacturer: CCI Products Model #: TPA65R-BU8D Frequency Band: 1920-2180 MHz Gain: 16.15 dBd Vertical Beamwidth: 5.1° Horizontal Beamwidth: 66° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 21.0” x 7.8”	
2300 MHz Manufacturer: CCI Products Model #: HPA65R-BU8D Frequency Band: 2300 - 2400 MHz Gain: 15.95 dBd Vertical Beamwidth: 4.5° Horizontal Beamwidth: 60° Polarization: Dual Linear 45° Size L x W x D: 92.4” x 14.8” x 7.4”	

Attachment 10

RF Coverage Maps

Radio Frequency Analysis Report

CT3387
2627 Day Hill Road, Bloomfield, CT

October 21, 2021

C Squared Systems, LLC
65 Dartmouth Drive, A3
Auburn, NH 03032

Phone: (603) 644-2800
Fax: (603) 644-2801
Support@csquaredsystems.com

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List of Attachments

1. Overview

C Squared Systems was retained by New Cingular Wireless PCS, LLC ("AT&T") to evaluate an existing 110 foot wireless communications facility at 2627 Day Hill Road, Bloomfield, CT with an extension of 30 feet AGL, hereinafter referred to as "CT3387". The proposed tower extension would raise the height of the existing monopole from 110 feet AGL to 140 feet AGL, and AT&T would place its antennas at a centerline of 135' AGL.

AT&T is licensed by the FCC to provide wireless communications services throughout the State of Connecticut including the Town of Bloomfield where the proposed facility would be located. The proposed facility has been selected as suitable for implementation of the National Public Safety Broadband Network ("NPSBN"), while also addressing a substantial gap in 4G LTE coverage for AT&T's network.

This report addresses AT&T's need for the proposed wireless facility and confirms that there are no other suitable existing structures that could address the coverage gaps in their wireless communications network.

The coverage analysis completed by C Squared Systems confirms: AT&T has a gap in reliable service in Bloomfield, and that Candidate "CT3387" provides AT&T with coverage in that service gap. Included as attachments in this report are coverage maps detailing the existing network and expected coverage from the proposed facility, pertinent site information, terrain and network layout maps.

2. Technology Advances & Design Evolution

AT&T provides digital voice and data services using 3rd Generation (3G) UMTS technology in the 800 MHz and 1900 MHz frequency band, and advanced 4th Generation (4G) services over LTE technology in the 700 MHz and 1900 MHz frequency bands as allocated by the FCC. These data networks are used by mobile devices for fast web browsing, media streaming, and other applications that require broadband connections. The mobile devices that benefit from these advanced data networks are not limited to basic handheld phones, but also include devices such as smartphones, PDA's, tablets, and laptop air-cards. 4G LTE services and devices have enabled AT&T customers to have even faster connections to people, information, and entertainment.

AT&T will also deploy FirstNet services from this facility. FirstNet is a federal agency with a mandate to create a nationwide, interoperable public safety broadband network for first responders. First responders across the country currently rely on more than 10,000 separate radio networks which oftentimes do not interoperate with one another. By deploying a nationwide broadband public safety network built specifically to meet the communications needs of first responders, the FirstNet network will provide a solution to the decades-long interoperability and communications challenges first responders have experienced, and which was highlighted by the 9/11 Commission's 2004 Final Report.

FirstNet selected AT&T to build, manage and operate the National Public Safety Broadband Network ("NPSBN") using FirstNet's Band 14 spectrum (Call Sign WQQE234, 20 MHz of the 700 MHz spectrum), together with AT&T's own wireless network. Using a combination of new and existing wireless facilities, AT&T provides prioritized, preemptive wireless services for first responders across Connecticut, New England and nationwide, while also improving 4G LTE coverage for AT&T customers.

It is important to note that with AT&T's migration from 3G to 4G services come changes in the base station infrastructure and resultant changes in the operating thresholds required by the LTE network. In the past, AT&T has presented receive signal thresholds of -74 dBm for their in-building coverage threshold and -82 dBm for their in-vehicle coverage threshold. Those thresholds were based on network requirements to support 2G/3G data speeds and

past usage demand. Today, customers expect low latency and faster data speeds as evidenced by increasing data usage trends and customer demand.

AT&T's 4G LTE technology is designed to thresholds of -83 dBm and -93 dBm for their 700 MHz LTE and -86 dBm and -96 dBm for their 1900 MHz LTE.[1] The stronger thresholds (-83 dBm and -86 dBm) yield greater throughputs and improved customer experience. The -93 dBm and -96 dBm thresholds are the minimum acceptable levels required to meet customer expectations for 4G service.

3. Coverage Objective

There is a significant coverage deficiency in the existing AT&T wireless communications network along Griffin Rd and State Highways 187 and 189 and the neighboring residential and business/retail areas in Bloomfield, referred to herein as the "targeted area". A deficiency in coverage is evidenced by the inability to adequately and reliably transmit/receive quality calls and/or utilize data services offered by the network. Seamless reliable coverage provides users with the ability to successfully originate, receive, and maintain quality calls and data applications throughout a service area. Appropriate overlapping coverage is required for users to be able to move throughout the service area and reliably "hand-off" between cells to maintain uninterrupted connections.

AT&T is expanding and enhancing their 4G LTE high-speed wireless broadband services throughout New England by filling in existing coverage gaps and addressing capacity, interference, and high-speed broadband issues. In addition to improving 4G LTE coverage for AT&T customers, AT&T is also building, managing and operating the National Public Safety Broadband Network using FirstNet's 700 MHz Band 14 spectrum, in order to provide prioritized, preemptive wireless services for first responders across Connecticut, New England and nationwide.

Due to terrain characteristics and the distance between the targeted coverage area and the existing sites, AT&T's options to provide services in this area are quite limited (maps of the terrain in this area and the distance to neighboring AT&T sites from the proposed site are included as Attachments 1 & 2, respectively.). AT&T's network requires deployment of antennas throughout the area to be covered. These antennas are connected to receivers and transmitters that operate in a limited geographic area known as a "cell." AT&T's wireless network, including their wireless handsets and devices, operate by transmitting and receiving low power radio frequency signals to and from these cell sites. The signals are transferred to and from the landline telephone network and routed to their destinations by sophisticated electronic equipment. The size of the area served by each cell site is dependent on several factors, including the number of antennas used, the height at which the antennas are deployed, the topography of the land, vegetative cover and natural or man-made obstructions in the area. As customers move throughout the service area, the transmission from the portable devices is automatically transferred to the AT&T facility with the best connection to the device, without interruption in service provided that there is overlapping coverage from the cells.

In order to define the extent of the coverage gap to be filled, both propagation modeling and real-world drive testing has been conducted in the area of Bloomfield. Propagation modeling uses PC software to determine the network coverage based on the specific technical parameters of each site including, but not limited to, location, ground elevation, antenna models, antenna heights, and also databases of terrain and ground cover in the area. Drive testing consists of traveling along area roadways in a vehicle equipped with a sophisticated setup of test devices and receivers that collect a variety of network performance metrics. The data are then processed and mapped in conjunction with the propagation modeling to determine the coverage gaps.

[1] The threshold range differences between the 700 MHz and 1900 MHz frequency bands directly correlates to the type branch diversity receivers deployed in AT&T's receiver design.

Analysis of the propagation modeling and drive testing in Bloomfield reveal that AT&T's network is unreliable throughout much of the area due to gaps in coverage, and that there is a service deficiency as a result. In order to fill in these coverage gaps and improve the network reliability to Bloomfield, a new facility is needed in the area.

Included in this report are Attachments 1 through 5, which are explained below to help describe AT&T's 4G network deployment in and around Bloomfield, and the need for the proposed facility.

- Attachment 1: "*CT3387 Area Terrain Map"* details the terrain features around the area of deficient service being targeted by the proposed site in Bloomfield. These terrain features play a key role in determining site designs and dictating the unique coverage achieved from a given location. This map is included to provide a visual representation of the ridges and valleys that must be considered when siting a wireless facility. The darker green and blue shades correspond to lower elevations, whereas the orange, red and white shades indicate higher elevations.
- Attachment 2: "*CT3387 Neighbor Site Data"* provides site specific information of existing neighboring sites used to perform the coverage analysis provided in Attachments 1 and 4.
- Attachment 3: *" CT3387 Existing 700 MHz LTE Coverage" for the Current AT&T Network* depicts 700 MHz LTE coverage from existing sites and demonstrates that there are currently gaps in 700 MHz LTE coverage effecting service within the targeted area. The coverage shown is where the signal strengths are: > -83 dBm (minimum level required reliable, high quality service and performance at 700 MHz) and, > -93 dBm (minimum required for adequate level of service at 700 MHz). In an effort to provide the required levels of coverage to these areas, AT&T is proposing to install a wireless facility at the Day Hill Road location.
- Attachment 4: *" CT3387 Existing 700 MHz LTE Coverage with Proposed Site"* shows how this proposed site would fill in the existing coverage gaps and improve AT&T's 700 MHz LTE network.
- Attachment 5: *Connecticut DOT Average Annual Daily Traffic Data* – Bloomfield shows the available vehicular traffic volume data for the subject area from the Connecticut Department of Transportation. This data shows as many as 12,000 vehicles per day passing through Route 187 and 6,300 vehicles per day passing through Route 189 adjacent to the proposed site.

Table 1 below lists the coverage statistics compiled for the AT&T's 700 MHz 4G LTE network with the deployment of the Proposed Site.

	Incremental Coverage from Proposed Site (700 MHz)	
Population:[2]	(≥ -83 dBm)	120
	(≥ -93 dBm)	184
Business Pops: [3]	(≥ -83 dBm)	2,580
	(≥ -93 dBm)	895
Area (mi²):	(≥ -83 dBm)	0.81
	(≥ -93 dBm)	0.72
Roadway (mi):	Main (-93 dBm):	0.9
	Secondary (-93 dBm):	2.9
	Total (-93 dBm):	**3.8**

Table 1: Coverage Statistics

[2] Population figures are based upon 2010 US Census Block Data
[3] Employee population counts are based upon the 2011 U.S. Census Bureau LEHD database.

4. Conclusion

AT&T has identified an area of deficient coverage affecting a significant portion of Bloomfield CT, including key traffic corridors through the residential and business/retail areas of the Town. Candidate "CT3387" will bring the needed fill-in coverage to significant portions of Griffin Rd and State Highways 187 and 189 and the residential neighborhoods and business/retail areas in the vicinity of the proposed location

No existing structures were identified and available that would be able to satisfy the coverage requirements needed for this area.

As discussed in this report and depicted in the attached plots, the proposed interim AT&T site will provide a substantial portion of the coverage being lost to the "Target Area" while maintaining effective connectivity to the rest of AT&T's existing network. In addition to providing improved LTE service to AT&T's customers to throughout the targeted areas of Bloomfield, AT&T is providing enhanced services for first responders through the implementation of FirstNet's National Public Safety Broadband Network ("NPSBN").

5. Statement of Certification

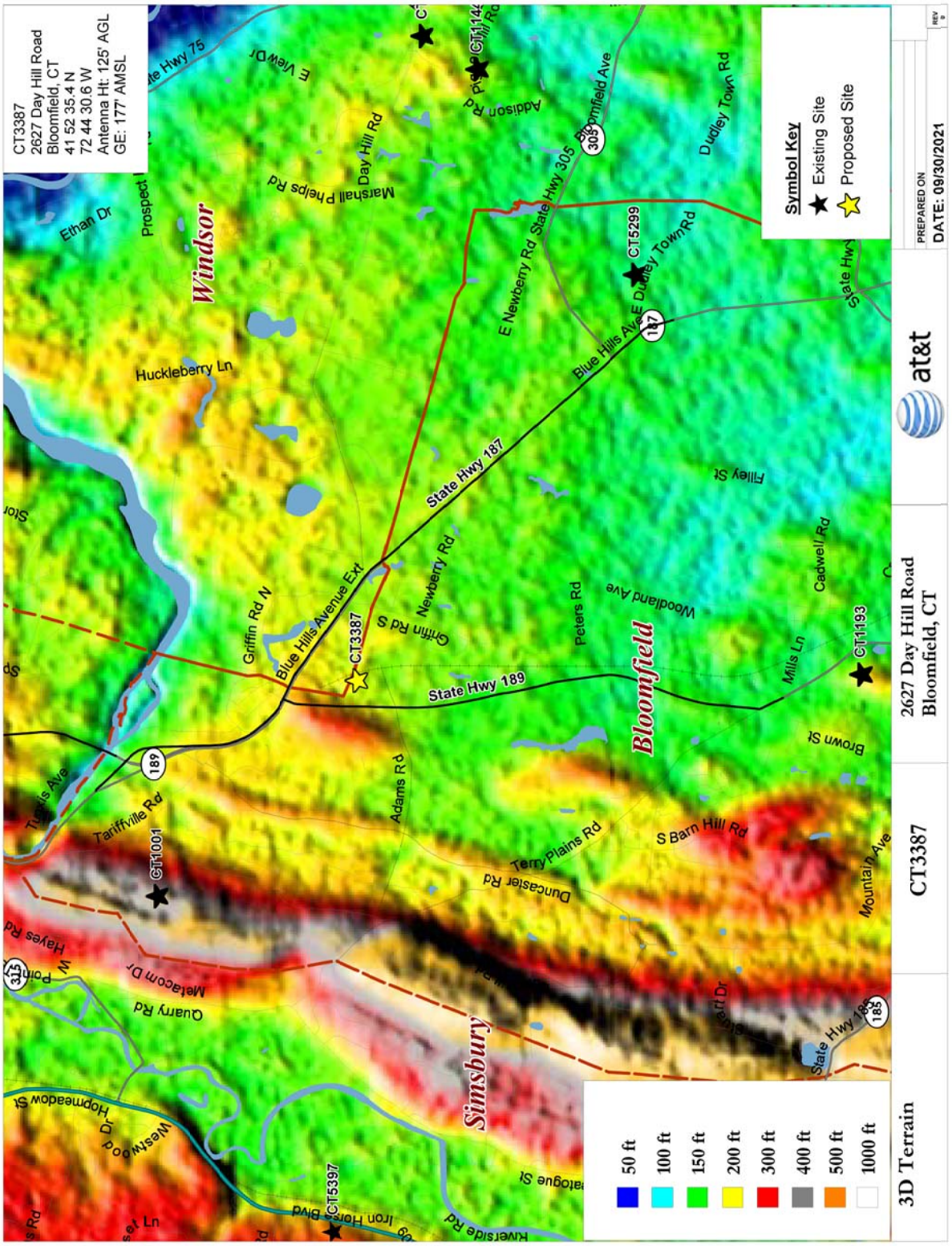
I certify to the best of my knowledge that the statements in this report are true and accurate.

October 21, 2021

Martin J. Lavin
C Squared Systems, LLC

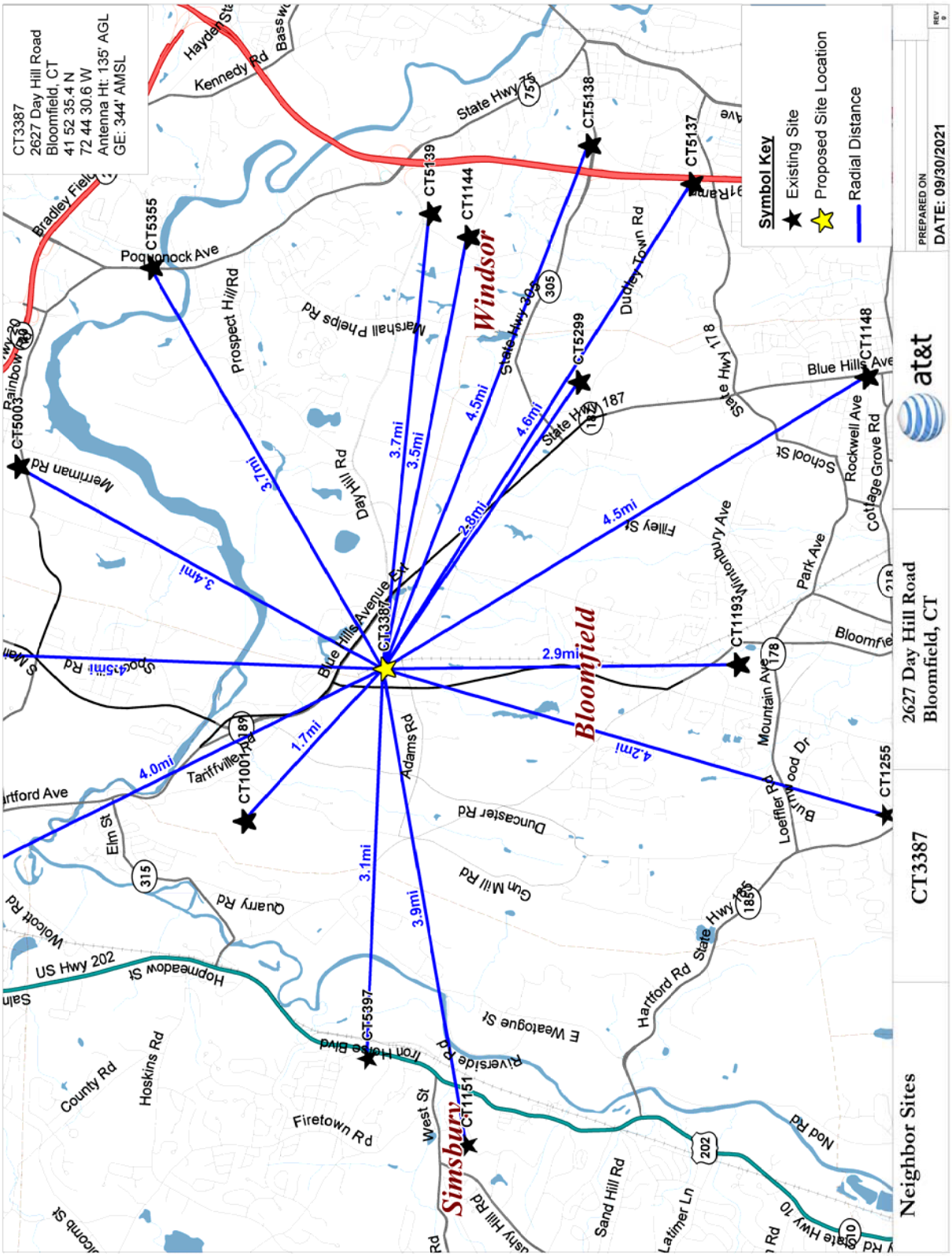
Date

6. Attachments

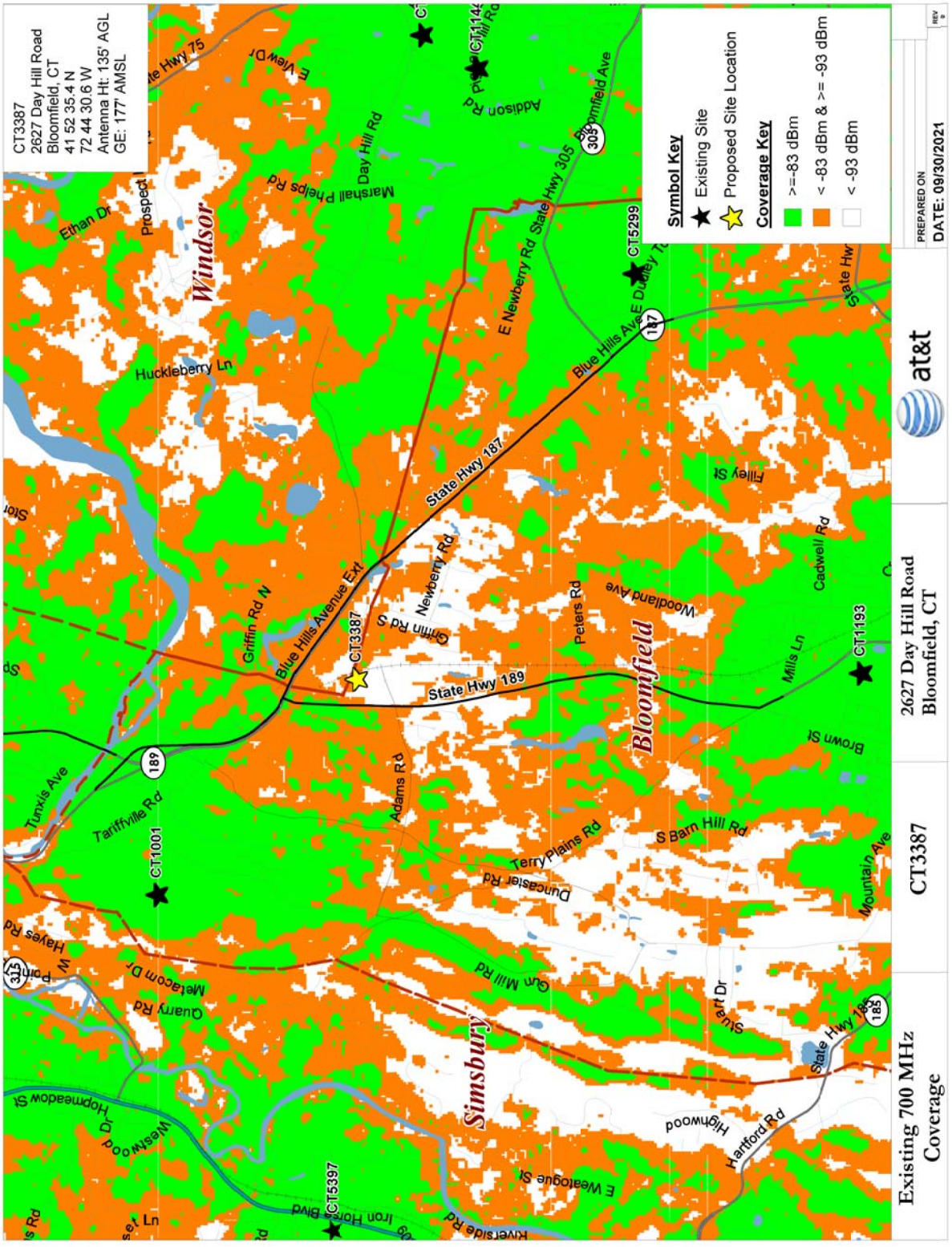


Attachment 1: CT3387 Area Terrain Map

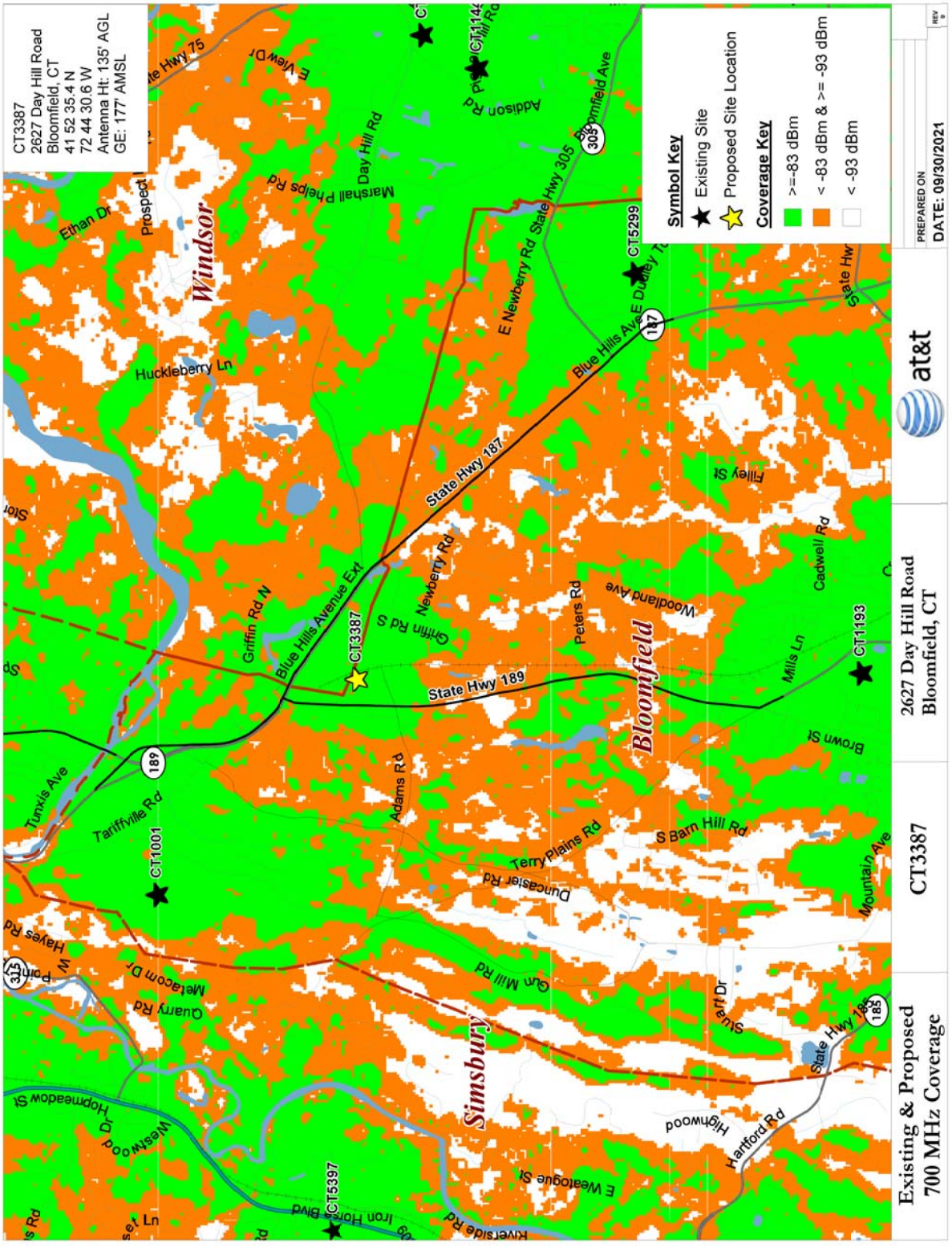
Site Name	Address	City/State	Location		Structure Type	Antenna Height (ft AGL)	Status
			Latitude	Longitude			
CT5003	750 Rainbow Road	Windsor	41.9193	-72.7104	Monopole	93	On-Air
CT5359	60 South Main Street	East Granby	41.9415	-72.7387	Monopole	77	On-Air
CT1144	482 Pigeon Hill Road	Windsor	41.8666	-72.6748	Self-Support	169	On-Air
CT5137	1170 Matianuck Avenue	Windsor	41.8405	-72.6665	Stealth Structure	100	On-Air
CT5138	340 Bloomfield Avenue	Windsor	41.8525	-72.6605	Monopole	148	On-Air
CT5139	99 Day Hill Road	Windsor	41.8711	-72.6711	Monopole	170	On-Air
CT1151	Grist Mill Road	Simsbury	41.8667	-72.8158	Monopole	150	On-Air
CT1193	28 Brewer Drive (Cemetery)	Bloomfield	41.8352	-72.7412	Monopole	100	On-Air
CT5299	22 East Dudley Town Road	Bloomfield	41.8537	-72.6973	Water Tank	125	On-Air
CT5397	871 Hopmeadow Street	Simsbury	41.8784	-72.8024	Self-Support	120	On-Air
CT5425	56 Floydville Road	East Granby	41.9286	-72.7761	Monopole	89	On-Air
CT1001	8 Hoskins Road	Bloomfield	41.8928	-72.7655	Self-Support	161	On-Air
CT1255	12 Burr Road	Bloomfield	41.8179	-72.7645	Monopole	107	On-Air
CT1148	1021 Blue Hills Avenue	Bloomfield	41.8201	-72.6965	Self-Support	98	On-Air
CT1330	324 Montevideo Road	Avon	41.81174	-72.798714	Self-Support	70	On-Air
CT3387	**2627 Day Hill Road**	**Bloomfield**	**41.8765**	**-72.74184**	**Monopole**	**135**	Proposed



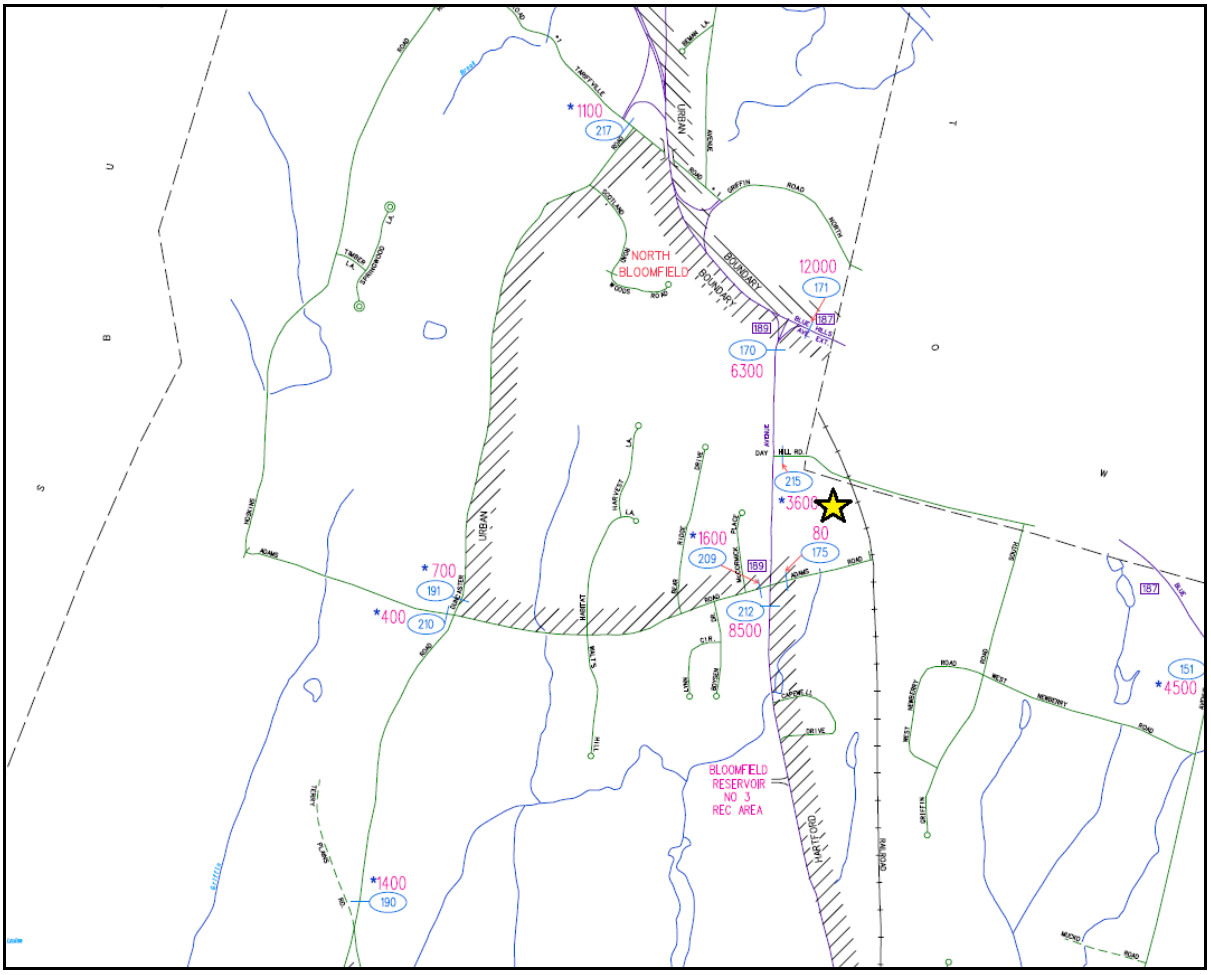
Attachment 2: CT3387 Neighbor Site Data



Attachment 3: CT3387 Existing 700 MHz LTE Coverage for the Current AT&T Network



Attachment 4: CT3387 Existing 700 MHz LTE Coverage with Proposed Site for the AT&T Network



Attachment 5: CT3387 Connecticut DOT Average Annual Daily Traffic Data – Bloomfield

Attachment 11

Abutters List

Sample Notice

Certificate of Service

GIS Map with Abutters Marked – Bloomfield

GIS Map with Abutters Marked - Windsor

Abutters List

Parcel ID	Physical Address	Owner Name	Mailing Address	City	State	Zip Code
5690	2627 Day Hill Road Bloomfield, CT 0606002	Riverbend Development Ct LLC & Griffin Industrial Realty, Inc.	204 West Newberry Road	Bloomfield	CT	06002
101559	2627 Day Hill Road Bloomfield, CT 06002	American Tower	P.O. Box 723597	Atlanta	GA	31139-000
5532	100 Adams Road Bloomfield, CT 06002	Radziewicz, Ronald E. & Kathleen M	100 Adams Road	Bloomfield	CT	06002
3031	1 Griffin Road S. Bloomfield, CT 06002	GRS Realty LLC	1 Griffin Road, S.	Bloomfield	CT	06002
2624	96 Adams Road Bloomfield, CT 06002	Giusani, Julia & Gray, Patricia G. & Giusani, Rocco	96 Adams Road	Bloomfield	CT	06002
561	368 Tunxis Avenue Bloomfield, CT 06002	Best, Jonas T. & Rosalind R.	368 Tunxis Avenue	Bloomfield	CT	06002
4324	370 Tunxis Avenue Bloomfield, CT 06002	Chiarillo, Lisa	370 Tunxis Avenue	Bloomfield	CT	06002
5118	372 Tunxis Avenue Bloomfield, CT 06002	Clemons-Jones, Kimberley & Jones, Philip	372 Tunxis Avenue	Bloomfield	CT	06002
5888	374 Tunxis Avenue Bloomfield, CT 06002	Ryans, Leo L., Jr.	374 Tunxis Avenue	Bloomfield	CT	06002
2588	376 Tunxis Avenue Bloomfield, CT 06002	Collins, Tamara	376 Tunxis Avenue	Bloomfield	CT	06002
6833	2645 Day Hill Road Bloomfield, CT 06002	Trzcinski, James E. & Renee M.	607 South Stone Street	West Suffield	CT	06093
8001	2643 Day Hill Road,Windsor, CT 06095	Trzcinski, James E. & Renee M.	607 South Stone Street	West Suffield	CT	06093
4590	378 Tunxis Avenue Bloomfield, CT 06002	Grant, Tarique	378 Tunxis Avenue	Bloomfield	CT	06002

2794	380 Tunxis Avenue Bloomfield, CT 06002	Green, Edward L. & Lorraine	380 Tunxis Avenue	Bloomfield	CT	06002
3092	382 Tunxis Avenue Bloomfield, CT 06002	Bryant, Meredith	382 Tunxis Avenue	Bloomfield	CT	06002
1855	98 Adams Road Bloomfield, CT 06002	Dickson, Lisa M. & Donald R.	98 Adams Road	Bloomfield	CT	06002
4167	92 Adams Road Bloomfield, CT 06002	Danforth, Christopher, Charles	92 Adams Road	Bloomfield	CT	06002
8007	2619 Day Hill Road Windsor, CT 06095	Town of Windsor	275 Broad Street	Windsor	CT	06095
8002	2630 Day Hill Road Windsor, CT 06095	Town of Windsor	275 Broad Street	Windsor	CT	06095
12652	2610 Day Hill Road Windsor, CT 06095	State of Connecticut, Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
12669	1995 Blue Hills Avenue Ex Windsor, CT 06095	Indus Development III, Inc.	204 West Newberry Road	Bloomfield	CT	06002
8000	2617 Day Hill Road Windsor, CT 06095	GRS Realty & Comma; LLC	1 Griffin Road, South	Bloomfield	CT	06002
8005	1985 Blue Hills Avenue Ex Windsor, CT 06095	Indus Development I, LLC	204 West Newberry Road	Bloomfield	CT	06002

brownrudnick

THOMAS J. REGAN
direct dial: 860.509.6522
tregan@brownrudnick.com

December 22, 2021

VIA CERTIFIED MAIL/
RETURN RECEIPT REQUESTED

[Insert Abutter/Official
Name and Address]

Re: New Cingular Wireless PCS, LLC ("AT&T") Modification and Extension of an Existing Wireless Telecommunications Facility and Installation of a Wireless Telecommunications Facility at 2627 Day Hill Road, Bloomfield, Connecticut

To Whom it May Concern:

On behalf of our client New Cingular Wireless PCS, LLC ("AT&T"), we are notifying you with respect to the above referenced matter and our client's intent to file a petition for a declaratory ruling with the State of Connecticut Siting Council (the "Siting Council") for approval to collocate a new wireless telecommunications facility (the "Facility") including nine (9) panel antennas at the 135' above ground level ("AGL") antenna centerline height on a thirty foot (30') tall extension (the "Extension") of the existing monopole (the "Monopole"), owned by American Tower at the above-referenced property. Connecticut law requires that record property owners of property abutting a parcel on which a wireless telecommunications facility is proposed be notified of an applicant's intent to file a petition with the Siting Council. A notice of this application and details of the proposal are included with this letter. The location, height and other details of the proposed Facility are subject to the review and potential alteration by the Siting Council under the provisions of Connecticut General Statutes §16-50g et seq. If you have any questions concerning this petition, please feel free to contact the Connecticut Siting Council or this office after December 22, 2021, at which time we anticipate that the petition will be on file.

Sincerely,

/s/ Thomas J. Regan
Thomas J. Regan, Esq.

Enclosure

NOTICE

Notice is hereby given, pursuant to Section 16-50j-40(a) of the Regulations of Connecticut State Agencies of a Petition being filed with the Connecticut Siting Council ("Siting Council") on or after December 22, 2021 by New Cingular Wireless PCS, LLC ("AT&T"). AT&T seeks a declaratory ruling that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required under Section 16-50k(a) of the Connecticut General Statutes ("C.G.S.") to modify an existing facility and collocate a new wireless telecommunications facility on an extension of the existing monopole.

The proposed telecommunications facility will be located on an existing monopole owned by American Tower at 2627 Day Hill Road, in the Town of Bloomfield and identified on the Town of Bloomfield's GIS as Parcel ID 453-62 and the Town of Bloomfield Assessor records as Parcel ID 453-62CELL(the "Site"). AT&T proposes to collocate a new wireless telecommunications facility consisting of nine (9) panel antennas at the 135' above ground level ("AGL") antenna centerline height on a thirty foot (30') tall extension (the "Extension") of the existing monopole (the "Monopole"). This Facility will work to allow for increased coverage, data capacity and speed within the coverage area of the proposed facility. By addressing network coverage and capacity, the proposed Facility will aid in reaching AT&T's goal of providing reliable wireless telecommunications services in and around the Town of Bloomfield and to all of Connecticut.

The Petition will provide additional details of the proposal and discuss AT&T's assertion that this Facility presents no significant adverse environmental effects. The location, height and other features of the proposal are subject to review and potential change under the provisions of Connecticut General Statutes Sections 16-50g et. seq.

Copies of the Petition will be available for review during normal business hours on or after December 22, 2021 at the following:

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Town Clerk of Bloomfield
Marguerite Phillips
800 Bloomfield Avenue
Bloomfield, CT 06002

or this office. A copy of the Petition will also be available on the Connecticut Siting Council website: https://www.ct.gov/cSc/site/default.asp under Pending Matters. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

Thomas J. Regan, Esq.
Brown Rudnick LLP
185 Asylum Street
Hartford, CT 06103

CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of December, 2021, a copy of the following letter and notice of the intended filing of a Petition with the Connecticut Siting Council for a declaratory ruling was sent by certified mail, return receipt requested, to the attached list of Federal, State and Town Officials:

Dated: December 22, 2021

Brown Rudnick LLP
Joseph A. Giammarco

Federal

FEDERAL COMMUNICATIONS COMMISSION 445 12TH STREET SW WASHINGTON, DC 29445	FEDERAL AVIATION ADMINISTRATION 800 INDEPENDENCE AVENUE SW WASHINGTON, DC 20591
U.S. SENATOR CHRISTOPHER MURPHY COLT GATEWAY 120 HUYSHOPE AVENUE, SUITE 401 HARTFORD, CT 06106	U.S. SENATOR RICHARD BLUMENTHAL 90 STATE HOUSE SQUARE, 10TH FLOOR HARTFORD, CT 06103
U.S. CONGRESSMAN – 1st DISTRICT JOHN B. LARSON 221 MAIN STREET, 2ND FLOOR HARTFORD, CT 06106	

State

THE HONORABLE WILLIAM TONG ATTORNEY GENERAL OFFICE OF THE ATTORNEY GENERAL 165 CAPITOL AVENUE HARTFORD, CT 06106	DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT, CULTURE AND TOURISM DAVID LEHMAN, COMMISSIONER 450 COLUMBUS BOULEVARD HARTFORD, CT 06103
DEPARTMENT OF PUBLIC HEALTH MANISHA JUTHANI, MD, COMMISSIONER 410 CAPITOL AVENUE HARTFORD, CT 06134	DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION PUBLIC UTILITIES REGULATORY AUTHORITY MARISSA PASLICK GILLETT, CHAIRMAN TEN FRANKLIN SQUARE NEW BRITAIN, CT 06051
COUNCIL ON ENVIRONMENTAL QUALITY PETER B. HEARN, EXECUTIVE DIRECTOR 79 ELM STREET, 6TH FLOOR HARTFORD, CT 06106	DEPARTMENT OF TRANSPORTATION JOSEPH GIULIETTI, COMMISSIONER 2800 BERLIN TURNPIKE P.O. BOX 317546 NEWINGTON, CT 06131
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION KATIE DYKES, COMMISSIONER 79 ELM STREET HARTFORD, CT 06106	DEPARTMENT OF AGRICULTURE BRYAN P. HURLBURT, COMMISSIONER 450 COLUMBUS BOULEVARD, SUITE 701 HARTFORD, CT 06103
OFFICE OF POLICY AND MANAGEMENT MELISSA MCCAW, SECRETARY 450 CAPITOL AVENUE HARTFORD, CT 06106	DEPARTMENT OF EMERGENCY SERVICES & PUBLIC PROTECTION DIVISION OF EMERGENCY MANAGEMENT AND HOMELAND SECURITY JAMES C. ROVELLA, COMMISSIONER 1111 COUNTRY CLUB ROAD MIDDLETOWN, CT 06457
STATE HISTORIC PRESERVATION OFFICER DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT 450 COLUMBUS BOULEVARD, 5TH FLOOR HARTFORD, CT 06103	OFFICE OF THE SECRETARY OF STATE DENISE W. MERRILL 165 CAPITOL AVENUE, SUITE 1000 HARTFORD, CT 06106
STATE HOUSE REPRESENTATIVE – DISTRICT 15 BOBBY G. GIBSON LEGISLATIVE OFFICE BUILDING, ROOM 4038	STATE SENATOR – DISTRICT 2 DOUGLAS MCCRORY LEGISLATIVE OFFICE BUILDING, ROOM 3100 300 CAPITOL AVENUE

300 CAPITOL AVENUE HARTFORD, CT 06107-1591	HARTFORD, CT 06107-1591
CAPITOL REGION COUNCIL OF GOVERNMENTS LYLE WRAY, EXECUTIVE DIRECTOR 241 MAIN STREET, 4TH FLOOR HARTFORD, CT 06106	

Towns

MAYOR DANIELLE WONG, TOWN OF BLOOMFIELD BLOOMFIELD TOWN HALL 800 BLOOMFIELD AVENUE BLOOMFIELD, CT 06002	JOSE GINER DIRECTOR OF PLANNING AND ZONING TOWN OF BLOOMFIELD BLOOMFIELD TOWN HALL 800 BLOOMFIELD AVENUE BLOOMFIELD, CT 06002
INLAND WETLANDS AND WATERCOURSES COMMISSION TOWN OF BLOOMFIELD ALAN BUDKOFSKY, CHAIR BLOOMFIELD TOWN HALL 800 BLOOMFIELD AVENUE BLOOMFIELD, CT 06002	TOWN CLERK MARGUERITE PHILLIPS TOWN OF BLOOMFIELD BLOOMFIELD TOWN HALL 800 BLOOMFIELD AVENUE BLOOMFIELD, CT 06002
ANNA POSNIAK TOWN CLERK TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095	ERIC BARZ, AICP TOWN PLANNER TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095
DONALD TRINKS, MAYOR TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095	HISTORIC DISTRICT COMMISSION TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095

CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of December, 2021, a copy of the following letter and notice of the intended filing of a Petition with the Connecticut Siting Council for a declaratory ruling was sent by certified mail, return receipt requested, to the attached list of abutting property owners:

Dated: December 22, 2021

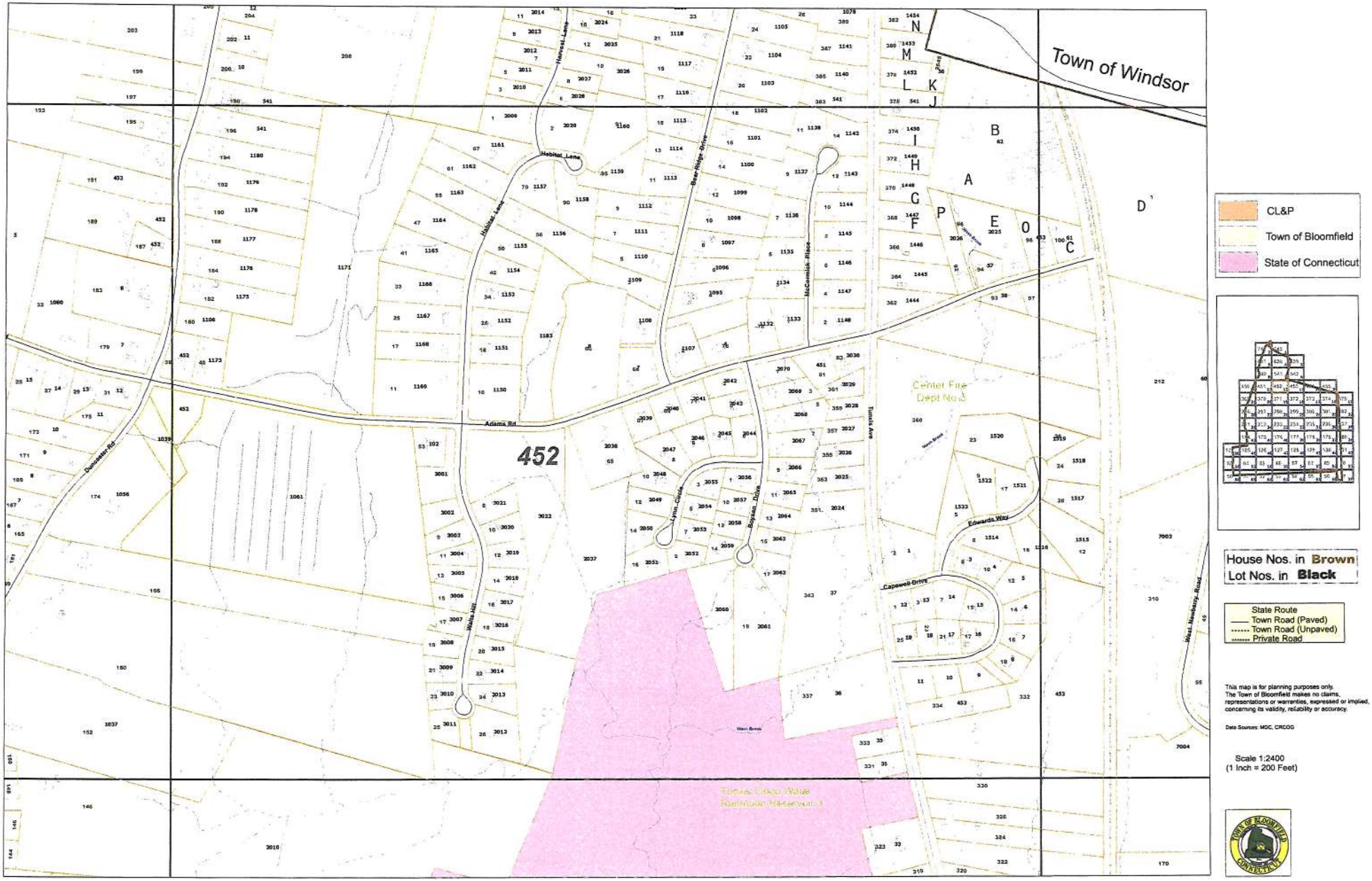
Brown Rudnick LLP
Joseph A. Giammarco

RIVERBEND DEVELOPMENT CT LLC & GRIFFIN INDUSTRIAL REALTY, INC. 204 WEST NEWBERRY ROAD BLOOMFIELD, CT 06002 **Subject Property: 2627 Day Hill Road Bloomfield, CT** Parcel ID: 5690 *Identified as parcel **A** on Abutters Map*	AMERICAN TOWER P.O. BOX 723597 ATLANTA, GA 31139-0000 Property Address: 2627 Day Hill Road Bloomfield, CT Parcel ID: 101559 *Identified as parcel **B** on Abutters Map*
RADZIEWICZ, RONALD E. & KATHLEEN M. 100 ADAMS ROAD BLOOMFIELD, CT Property Address: 100 Adams Road Bloomfield, CT Parcel ID: 5532 *Identified as parcel **C** on Abutters Map*	GRS REALTY LLC 1 GRIFFIN ROAD S. BLOOMFIELD, CT 06002 Property Address: 1 Griffin Road S Bloomfield, CT Parcel ID: 3031 *Identified as parcel **D** on Abutters Map*
GIUSANI, JULIA & GRAY, PATRICIA G. & GIUSANI, ROCCO 96 ADAMS ROAD BLOOMFIELD, CT 06002 Property Address: 96 ADAMS ROAD Bloomfield, CT Parcel ID: 2624 *Identified as parcel **E** on Abutters Map*	BEST, JONAS T. & ROSALIND R. 368 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address: 368 Tunxis Avenue Bloomfield, CT Parcel ID: 561 *Identified as parcel **F** on Abutters Map*
CHIARILLO, LISA 370 TUNXIS AVENUE	CLEMONS-JONES, KIMBERLEY& JONES, PHILIP

BLOOMFIELD, CT 06002 Property Address: 370 Tunxis Avenue Bloomfield, CT Parcel ID: 4324 *Identified as parcel G on Abutters Map*	372 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address: 372 Tunxis Avenue Bloomfield, CT Parcel ID: 5118 *Identified as Parcel H on Abutters Map*
RYANS, LEO L., JR. 374 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address: 374 Tunxis Avenue Bloomfield, CT Parcel ID: 5888 *Identified as parcel I on Abutters Map*	COLLINS, TAMARA B. 376 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address: 376 Tunxis Avenue Bloomfield, CT Parcel ID: 2588 *Identified as parcel J on Abutters Map*

TRZCINSKI, JAMES E. & RENEE M. 607 SOUTH STONE STREET WEST SUFFIELD, CT 06093 Property Address: 2645 Day Hill Road, Bloomfield, CT Parcel ID: 6833 *Identified as parcel K on Abutters Map* Property Address: 2643 Day Hill Road, Windsor, CT Parcel ID: 8001 *Identified as parcel Q on Abutters Map*	GRANT, TARIQUE 378 TUNXIS AVENUE, BLOOMFIELD, CT 06002 Property Address: 378 Tunxis Avenue, Bloomfield, CT Parcel ID: 4590 *Identified as parcel L on Abutters Map*
GREEN, EDWARD L. & LORRAINE 380 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address: 380 Tunxis Avenue, Bloomfield, CT Parcel ID: 2794 *Identified as parcel M on Abutters Map*	BRYANT, MEREDITH A. 382 TUNXIS AVENUE BLOOMFIELD, CT 06002 Property Address : 382 Tunxis Avenue, Bloomfield, CT Parcel ID: 3092 *Identified as parcel N on Abutters Map*
DICKSON, LISA M. & DONALD R. 98 ADAMS ROAD BLOOMFIELD, CT 06002 Property Address: 98 Adams Road, Bloomfield, CT Parcel ID: 1855 *Identified as parcel O on Abutters Map*	DANFORTH, CHRISTOPHER, CHARLES 92 ADAMS ROAD BLOOMFIELD, CT 06002 Property Address: 92 Adams Road, Bloomfield, CT Parcel ID: 4167 *Identified as parcel P on Abutters Map.*
TOWN OF WINDSOR 275 BROAD STREET WINDSOR, CT 06095 Property Address: 2619 Day Hill Road Windsor, CT Parcel ID: 8007 *Identified as parcel R on Abutters Map* Property Address: 2630 Day Hill Road, Windsor, CT Parcel ID: 8002 *Identified as parcel S on Abutters Map*	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION 2800 BERLIN TURNPIKE NEWINGTON, CT 06111 Property Address: 2610 Day Hill Road Windsor, CT Parcel ID: 12652 *Identified as parcel T on Abutters Map*
INDUS DEVELOPMENT III, INC. 204 WEST NEWBERRY ROAD BLOOMFIELD, CT 06002	GRS REALTY & COMMA; LLC 1 GRIFFIN ROAD, SOUTH BLOOMFIELD, CT 06002

Property Address: 1995 Blue Hills Avenue Ext., Windsor, CT Parcel ID: 12669 *Identified as parcel U on Abutters Map*	Property Address: 2617 Day Hill Road, Windsor, CT Parcel ID: 8000 *Identified as parcel V on Abutters Map*
INDUS DEVELOPMENT I, LLC 204 WEST NEWBERRY ROAD BLOOMFIELD, CT 06002 Property Address: 1985 Blue Hills Avenue Ext., Windsor, CT Parcel ID: 8005 *Identified as parcel W on Abutters Map*	


Town of Windsor
452
Adams Rd
Dunsaster Rd
Habitat Lane
Harvest Lane
Bear Ridge Drive
McCormick Place
Tunxis Ave
Center Fire Dept No. 3
Edwards Way
Capewell Drive
Lynn Circle
Boysen Drive
Wells Hill
West Newberry Road
CL&P
Town of Bloomfield
State of Connecticut
House Nos. in Brown
Lot Nos. in Black
State Route
Town Road (Paved)
Town Road (Unpaved)
Private Road
This map is for planning purposes only.
The Town of Bloomfield makes no claims, representations or warranties, expressed or implied, concerning its validity, reliability or accuracy.
Data Sources: MDC, CRCOG
Scale 1:2400
(1 Inch = 200 Feet)

-72.723483, 41.882530