

February 22, 2017

Via Hand Delivery

John Elsesser, Town Manager
Town of Coventry
1712 Main Street
Coventry, CT 06238

**Re: Submission of Technical Information Concerning a Proposal to Construct a
Wireless Telecommunications Facility off Folly Lane, Coventry, Connecticut**

Dear Mr. Elsesser:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”), in its proposal to construct a new wireless telecommunications facility on an approximately 24.2-acre parcel south off Folly Lane in Coventry, Connecticut (the “Property”). For the purposes of this filing, the proposed telecommunications facility is known as Cellco’s “Coventry NW Facility”. The Coventry NW Facility would be located on the southerly portion of the Skungamaug Golf Course parcel.

This Technical Report is submitted pursuant to Connecticut General Statutes (“Conn. Gen. Stat.”) § 16-50(g), which establishes local input requirements for the siting of a wireless telecommunications facility under the jurisdiction of the Connecticut Siting Council (the “Council”). This statutory provision requires the submission of technical information to officials in the municipality where a proposed facility will be located and any municipality within 2,500 feet of the proposed facility location.

Correspondence and/or communications regarding the information contained in this report should be addressed to:

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108
Attn: Anthony Befera

15874957-v1

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A copy of all such correspondence or communications should also be sent to Cellco's attorneys:

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

Cellco intends to submit an application to the Council for a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction, maintenance and operation of a wireless telecommunications facility at the Property. The Coventry NW Facility would interact with Cellco's existing cell sites in Coventry, Mansfield and Tolland, Connecticut.

The Coventry NW Facility would provide improved coverage and capacity relief to Cellco's network in northerly portions of Coventry and southerly portions of Tolland, including portions of Routes 195 and 44, as well as Goose Lane and other local roads in the area. Coverage plots showing service from Cellco's existing cell sites in the area, alone and together with the proposed Coventry NW Facility are included in Attachment 1. These plots show areas of coverage from Cellco's existing cell sites in the area (purple shading), existing gaps in reliable wireless service, and the coverage footprint from the proposed Coventry NW Facility (lighter purple shading) in each of Cellco's licensed frequencies. The Coventry NW Facility will also off-load voice and data traffic from Cellco's existing Coventry North cell site (Alpha and Gamma sectors) and Mansfield North cell site (Gamma sector), which are currently operating at or above their respective capacity limits.

Cell Site Information

The proposed Coventry NW Facility would be located in the northerly portion of an approximately 24.2-acre parcel south off Folly Lane and is owned by John Motycka. The Property is located in Coventry's General Residential Zone – 80 district and is part of the Skungamaug Golf Course facility. The Coventry NW Facility compound is proposed to be installed adjacent to the existing golf course maintenance buildings.

The proposed wireless facility will consist of a 140-foot monopole tower located within a 40' x 60' fenced compound. Cellco will install nine (9) panel-type antennas on a low-profile antenna platform, at the top of the tower. Cellco's antennas will extend above the top of the tower to an overall height of 143 feet above ground level ("AGL"). Cellco will also install nine (9) remote radio heads ("RRHs") behind its antennas. Equipment cabinets and a propane-fueled

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back-up generator would be located on a 12' x 26' elevated steel platform and canopy structure, located to the west of the tower. A 500 gallon propane tank will be installed in the southeasterly corner of the compound. Access to the Coventry NW Facility would extend from Folly Lane over an existing gravel driveway serving the golf course maintenance buildings and materials storage area. Project plans for the Coventry NW Facility are included in Attachment 2.

Connecticut Siting Council Jurisdiction

Municipal jurisdiction over the siting of the proposed telecommunications facility described in this report is pre-empted by provisions of the Public Utilities Environmental Standards Act ("PUESA"), Conn. Gen. Stat. § 16-50g *et seq.* The PUESA gives exclusive jurisdiction over the location, type and modification of telecommunications towers, to the Council (Conn. Gen. Stat. § 16-50x(a); 16-50i(a)(6)). Accordingly, the telecommunications facility described in this report is exempt from the Town's land use regulations.

Upon receipt of an application, the Council will assign a docket number and, following a completeness review, set a hearing date. At that time, the Town may choose to become an intervenor or party in the proceeding. Other procedures followed by the Council include serving the applicant and other participants with interrogatories, holding a pre-hearing conference, and conducting a public hearing. The public hearing would be held at a location in the Town. Following the public hearing, the Council will issue findings of fact, an opinion and a decision and order. Prior to construction, the Council will also require the Applicant to submit a development and management plan ("D&M Plan") which is, in essence, a final site development plan showing the details of the facility incorporating any conditions imposed by the Council. These procedures are also outside the scope of the Town's jurisdiction and are governed by the Connecticut General Statutes, the Regulations of Connecticut State Agencies, and the Council's Rules of Practice. If the Council approves the cell site described in this report, Cellco will submit to the Building Official an application for approval of a local building permit. Under Section 16-50x of the General Statutes, which provides for the exclusive jurisdiction of the Council, the building official must honor the Council's decision.

Municipal Consultation Process

Pursuant to Section 16-50l of the General Statutes, Town officials are entitled to receive technical information regarding the proposed telecommunications facility at least ninety (90) days prior to the filing of an application with the Council. This Technical Report is provided to the Town in accordance with these provisions and includes information on the need for improved reliable wireless service in the area; the location of existing wireless facilities in and around Coventry; details of the proposed facility; the location of alternative sites considered and

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rejected; the location of schools and commercial day care facilities in the area and the aesthetic impacts of the facility on those schools and day care facilities, if any; a description of the site selection process; and a discussion of potential environmental effects associated with the proposed facility.

Not later than sixty (60) days after the initial consultation meeting, the municipality may, in cooperation with Cellco, hold a public information hearing on the facility proposal. If such a hearing is held, the applicant must notify all abutting landowners and publish notice of the hearing in a newspaper of general circulation in the municipality, at least fifteen (15) days prior to the hearing.

Not later than thirty (30) days after the initial consultation meeting, the municipality may present the prospective applicant with alternative sites, including municipal parcels, for its consideration. If not previously considered, these alternatives will be evaluated and discussed in its application to the Council.

Pursuant to Section 16-50(l)(e) of the General Statutes, Cellco must provide a summary of the Town's comments and recommendations, if any, to the Council within fifteen (15) days of the filing of an application.

Need for the Proposed Wireless Facility

The proposed Coventry NW Facility described in this Technical Report is needed so that Cellco can provide enhanced wireless voice and data services in northern portions of Coventry and southerly portions of Tolland, Connecticut including portions of Routes 195 and 44, Goose Lane and local roads in the area. The Coventry NW Facility will also provide capacity relief to Cellco's existing Coventry North and Mansfield North cell sites which are currently operating at or above their respective capacity limits.

Environmental Effects

In our experience, the primary impact of a wireless facility such as the proposed Coventry NW Facility is visual. The visual impact of the proposed facility will vary from place to place around the site location, depending upon factors such as vegetation, topography, distance from the tower, and the location of buildings in the sight-line of the cell site.

To more fully assess the visual impact of the Coventry NW Facility, Cellco's consultant, All-Points Technology Corporation ("APT") has prepared a Preliminary Visual Assessment for the proposed tower at the Coventry NW Facility. This analysis indicates that a majority of the

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year-round visibility of the proposed 140-foot tower would be limited to locations within one (1) mile or less of the proposed tower location. Year-round views of the top of the tower, above the tree line, encompass an area of approximately 103 acres. Seasonal views, when the leaves are off the trees, may occur over a larger, approximately 253 acre area, around the tower site. (*See Attachment 3*).

Pursuant to the provisions of Conn. Gen. Stat. § 16-50p(a)(3)(G), new telecommunications facilities must be located at least 250 feet from schools (defined in C.G.S. §10-154a) and commercial day care facilities (defined in C.G.S. §19a-77(a)(1)) unless the location selected is acceptable to the Town's chief elected official or the Council finds that the facility will not have a substantial adverse effect on the aesthetics or scenic quality of the neighborhood where the school or commercial day care use is located. The proposed Coventry NW Facility is not located within 250 feet of any building containing a school or commercial day care facility.

Based on field surveys, Cellco has determined that the construction of the Coventry NW Facility will have no direct impact on inland wetlands or watercourses, within or near the tower compound. Cellco anticipates that all other physical environmental effects associated with the proposed facility would be minimal.

Radio Frequency Emissions

The Federal Communications Commission ("FCC") has adopted a standard (the "Standard") for exposure of radio frequency ("RF") emissions from telecommunications base stations like the Coventry NW Facility. To ensure compliance with the Standard, Cellco has performed a worst-case RF emissions calculation for the proposed facility according to the methodology described in FCC Office of Science and Technology Bulletin No. 65 ("OST Bulletin 65"). This calculation is a conservative, worst-case approximation of RF emissions at the closest accessible point to the antenna (i.e., the base of the tower), and with all antennas transmitting simultaneously on all channels at full power. The worst-case calculated RF emissions level for Cellco's antennas at the top of the proposed 140-foot tower would be 33.73% of the FCC Standard. (*See Attachment 4*). Actual RF emissions levels from this facility will be far less than this "worst-case" approximation.

Scenic Natural Historic or Recreational Impacts

To further assess the environmental impacts of the proposed facility, Cellco is working with its consultant team to prepare a National Environmental Policy Act ("NEPA") Environmental Screening Checklist (the "NEPA Checklist") and other related environmental

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reviews to determine if the facility will have any significant adverse environmental effects. The NEPA Checklist will include information from the Environmental and Geographic Information Center of the Connecticut Department of Energy and Environmental Protection (“DEEP”), the U.S. Fish and Wildlife Service (“USFWS”) and the State Historic Preservation Officer (“SHPO”). Copies of the DEEP, USFWS and the SHPO determinations will also be submitted as a part of the Council Application.

Site Search Process

Included in Attachment 5 of this Technical Report is a summary of Cellco site search efforts in Coventry. Cellco refers to this report as its Site Search Summary. The Site Search Summary describes Cellco’s typical site search process, the need for improved service in northern Coventry and southern Tolland and how the Skungamaug Golf Course parcel was selected. As discussed, Cellco investigated several locations on the golf course parcels and determined that the area near the golf course maintenance buildings would be most suitable for the proposed tower site, would not disrupt current use of the golf course property and would have minimal impact on surrounding residential uses.

Tower Sharing

As stated above, Cellco intends to build a tower that is capable of supporting its antennas and those of two (2) additional wireless telecommunications providers, and municipal emergency service providers, if a need exists. The provision to share the tower is consistent with the intent of the General Assembly when it adopted Conn. Gen. Stat. § 16-50aa and with Council policy. The availability of space on the proposed tower may reduce, if not eliminate, the need for additional towers in Coventry for the foreseeable future.

Conclusion

This Technical Report is submitted in accordance with Conn. Gen. Stat. § 16-50l which requires Cellco to supply the Town with information regarding its proposed Coventry NW Facility. This report includes information regarding the site selection process, public need, and the potential environmental impacts of the facility. Cellco submits that its proposed Coventry NW Facility would not have any significant adverse environmental effects. Moreover, Cellco submits that the public need for high quality wireless service, and a competitive framework for providing such service has been determined by the FCC to be in the public interest and that such public need far outweighs any perceived environmental effects of the proposed facility.

Robinson + Cole

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Please contact me if you have any additional questions regarding the proposed facility.

Sincerely,



Kenneth C. Baldwin

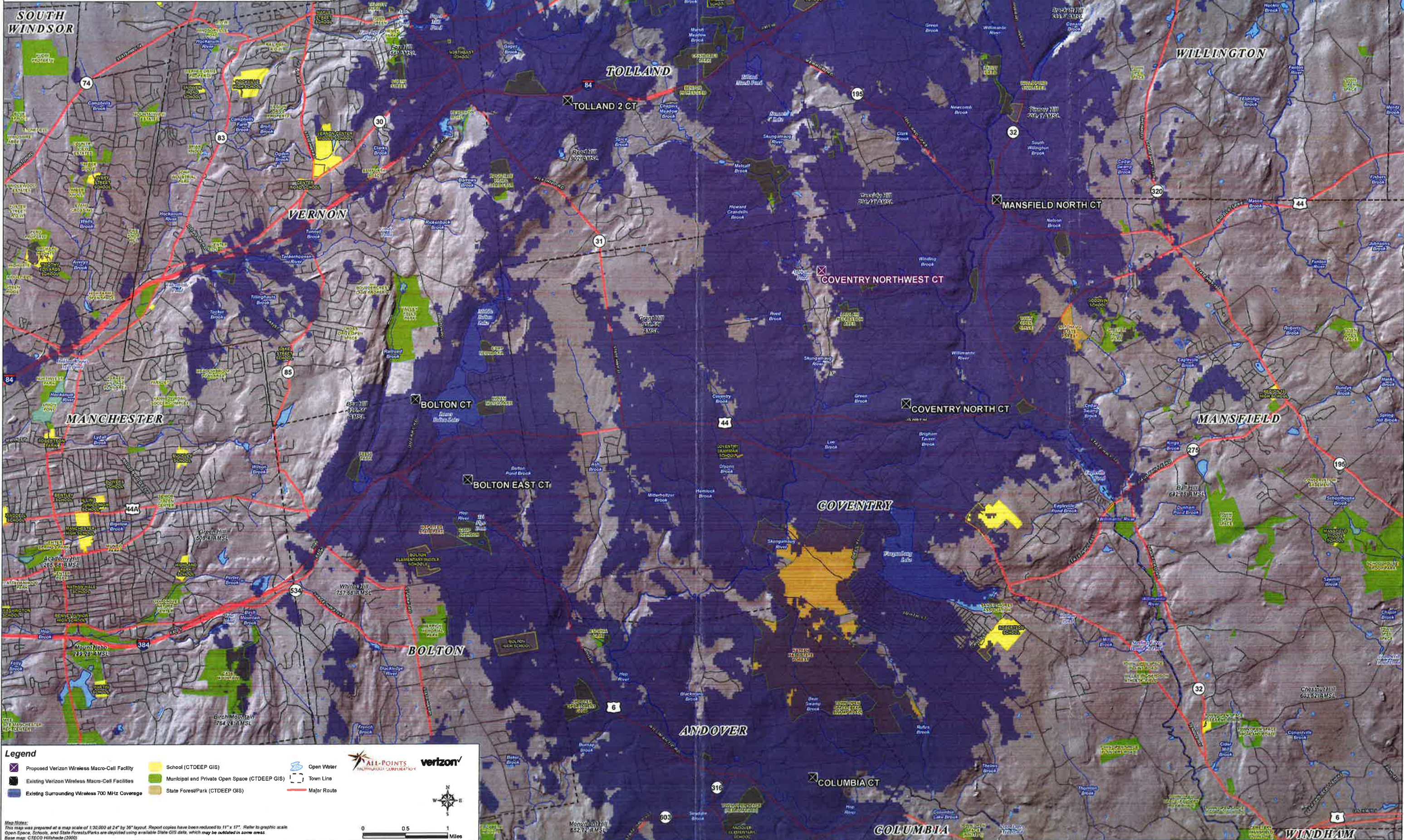
KCB/kmd
Enclosures
Copy to:

Ray Giglio, Chairman, Coventry Planning and Zoning Commission (*via Hand Delivery*)
Lori Mathieu, Chairperson, Coventry Inland Wetlands Commission (*via Hand Delivery*)
Anthony Befera
Elizabeth Jamieson

ATTACHMENT 1

**Existing Verizon Wireless 700 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Macro-Cell Facility
- School (CTDEEP GIS)
- Existing Verizon Wireless Macro-Cell Facilities
- Municipal and Private Open Space (CTDEEP GIS)
- Existing Surrounding Wireless 700 MHz Coverage
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Route

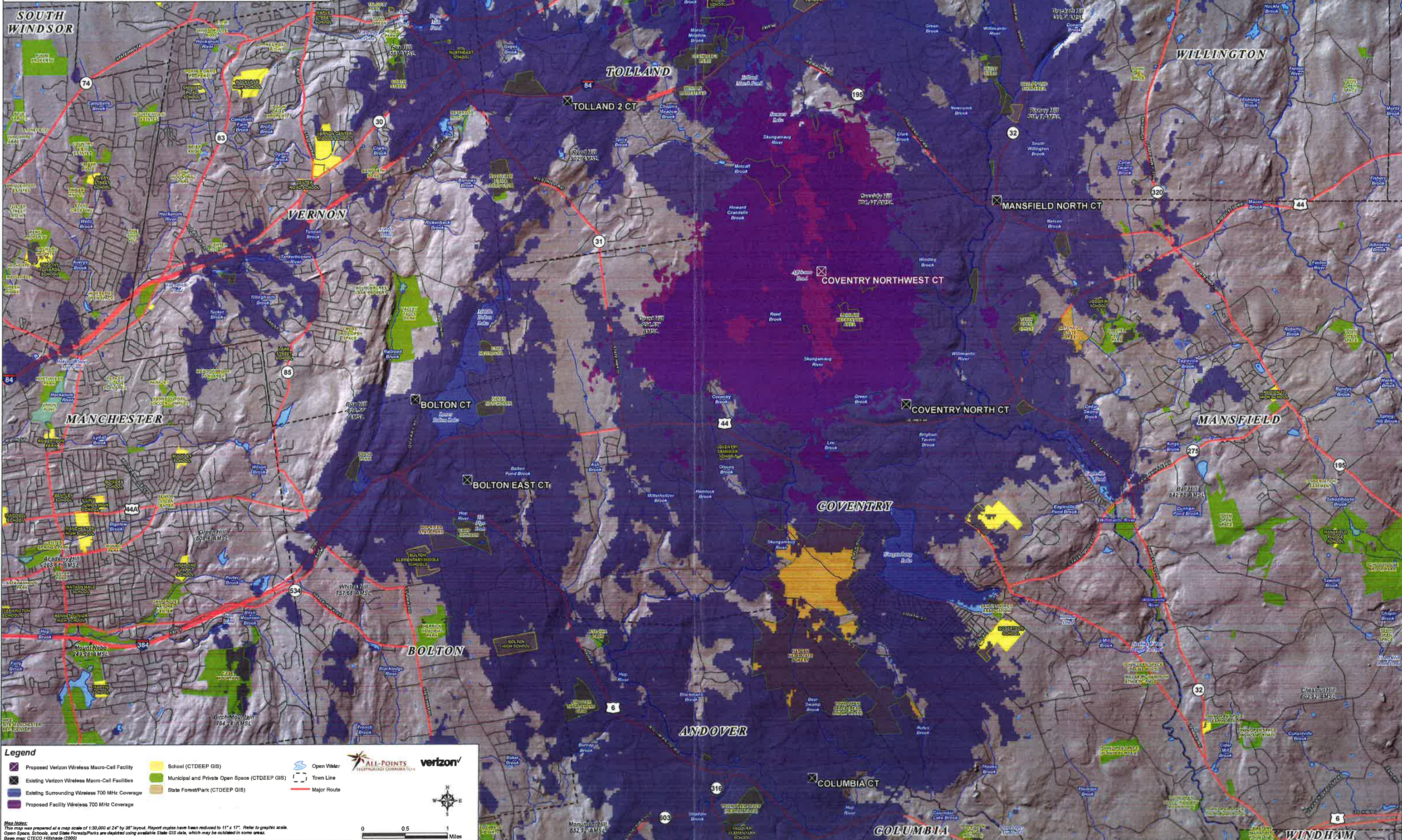
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale. Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas. Base map: CTECO Hillshade (2000).

Scale: 0 0.5 1 Miles

Logos: ALL-POINTS TECHNOLOGICAL CORPORATION, verizon

**Proposed Verizon Wireless 700 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Macro-Cell Facility
- School (CTDEEP GIS)
- Open Water
- Existing Verizon Wireless Macro-Cell Facilities
- Municipal and Private Open Space (CTDEEP GIS)
- Town Line
- Existing Surrounding Wireless 700 MHz Coverage
- State Forest/Park (CTDEEP GIS)
- Major Route
- Proposed Facility Wireless 700 MHz Coverage

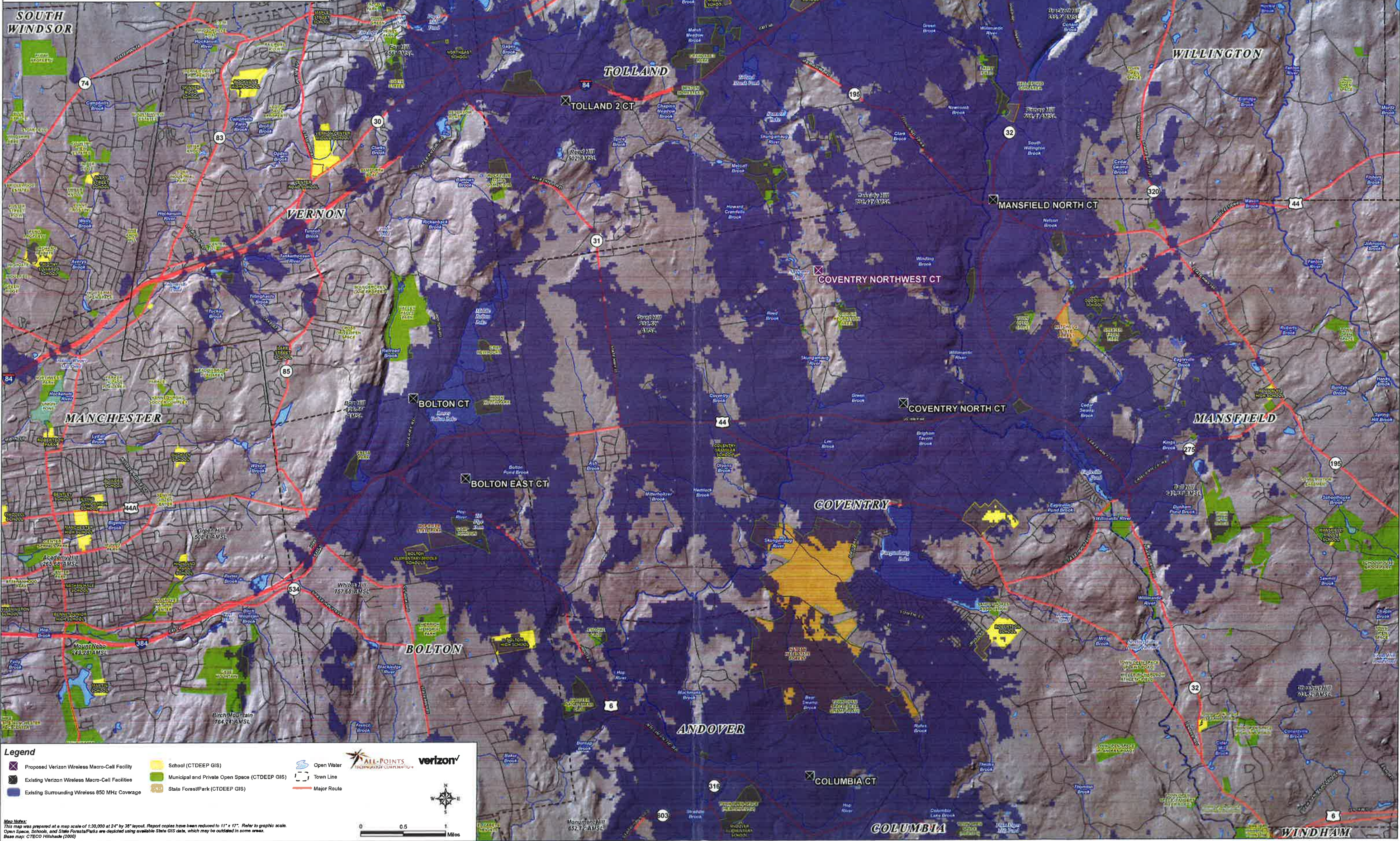
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTDEEP Hillshade (2000)

Scale: 0 0.5 1 Miles

Logos: ALL-POINTS TECHNOLOGY CORPORATION, verizon

**Existing Verizon Wireless 850 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage plot assumes 55% site loading on the Celco system
Coverage is depicted at a signal threshold of -85 dBm



Legend

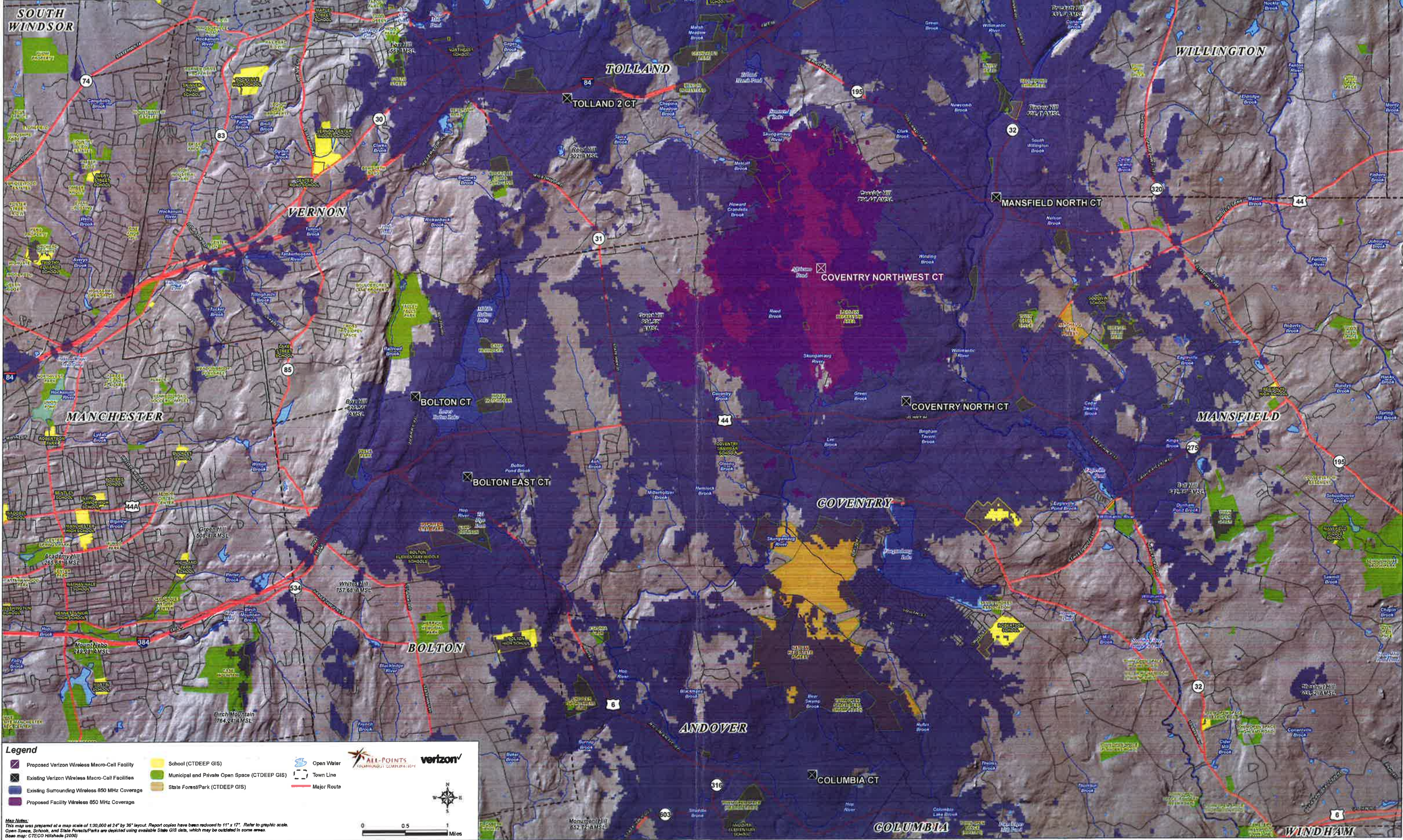
- X Proposed Verizon Wireless Macro-Cell Facility
- Existing Verizon Wireless Macro-Cell Facilities
- Existing Surrounding Wireless 850 MHz Coverage
- School (CTDEEP GIS)
- Municipal and Private Open Space (CTDEEP GIS)
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Route

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forest/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2000)

0 0.5 1 Miles

**Proposed Verizon Wireless 850 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



Legend

- Proposed Verizon Wireless Macro-Cell Facility
- Existing Verizon Wireless Macro-Cell Facilities
- Existing Surrounding Wireless 850 MHz Coverage
- Proposed Facility Wireless 850 MHz Coverage
- School (CTDEEP GIS)
- Municipal and Private Open Space (CTDEEP GIS)
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Routes

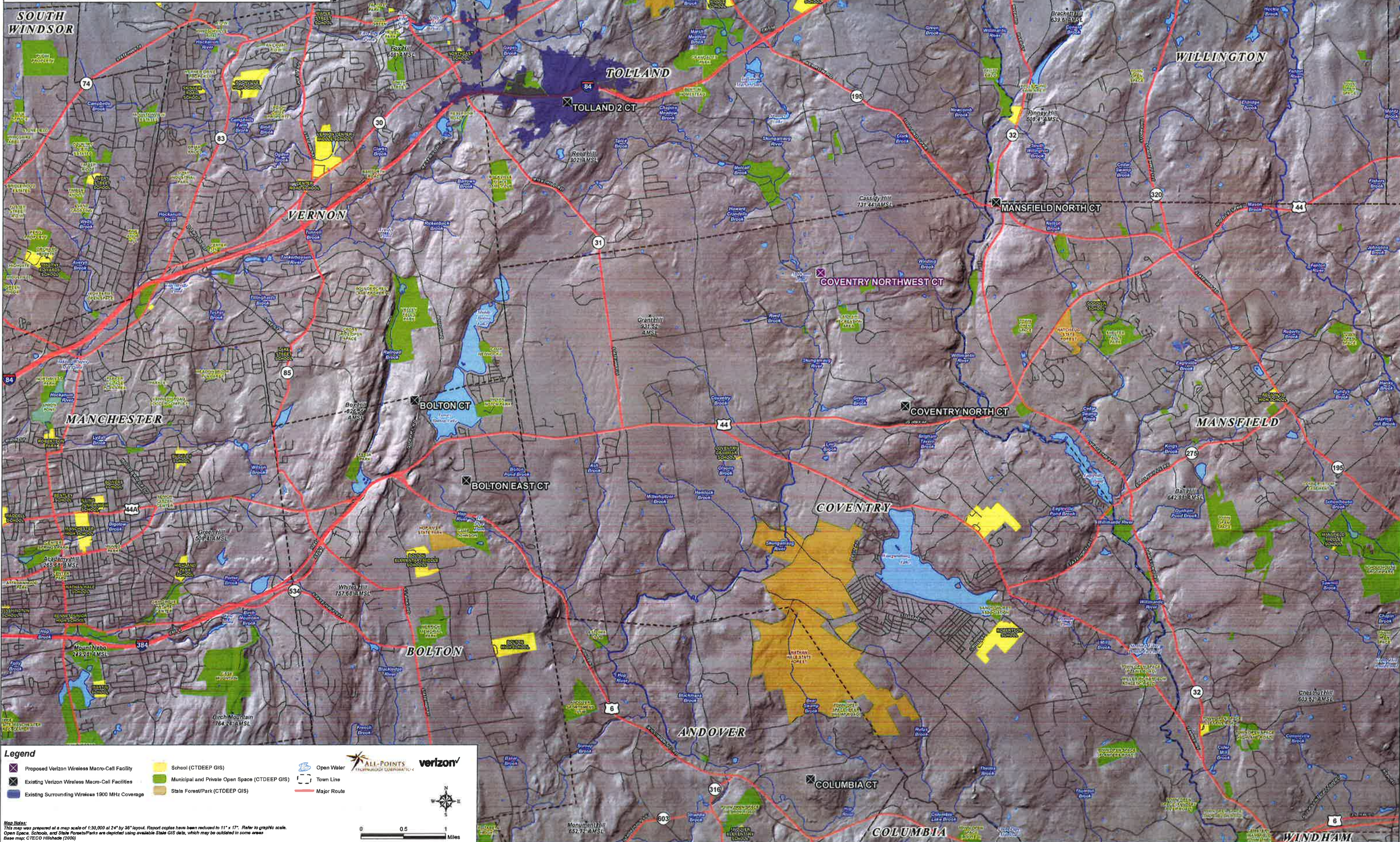
Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, School, and State Forest/Park are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hitshade (2000)

Scale: 0 0.5 1 Miles

Logos: ALL-POINTS COMMUNICATIONS, verizon

**Existing Verizon Wireless 1900 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



Legend

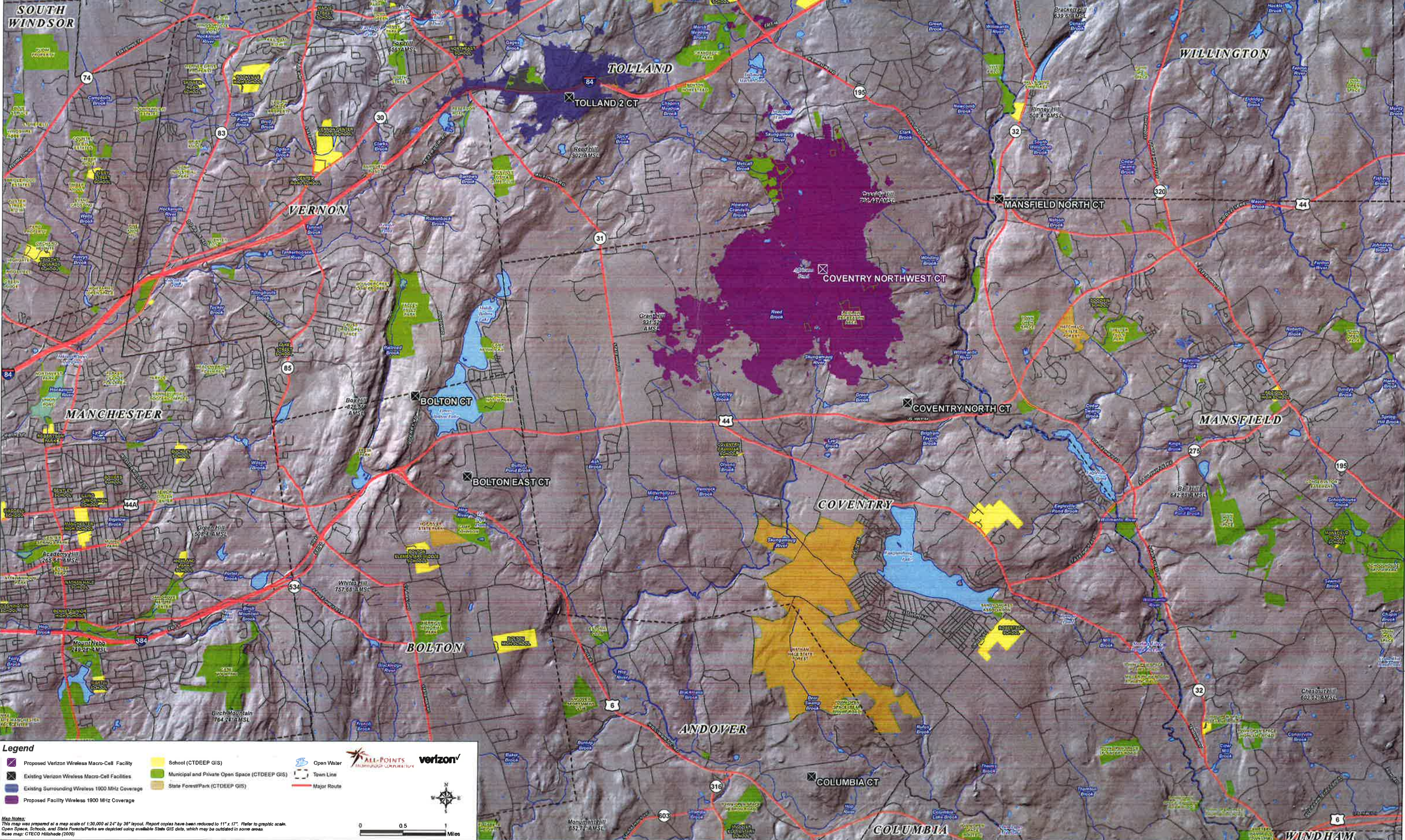
- Proposed Verizon Wireless Macro-Cell Facility
- Existing Verizon Wireless Macro-Cell Facilities
- Existing Surrounding Wireless 1900 MHz Coverage
- School (CTDEEP GIS)
- Municipal and Private Open Space (CTDEEP GIS)
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Route

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTEDD Hillsshade (2000)

0 0.5 1 Miles

**Proposed Verizon Wireless 1900 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



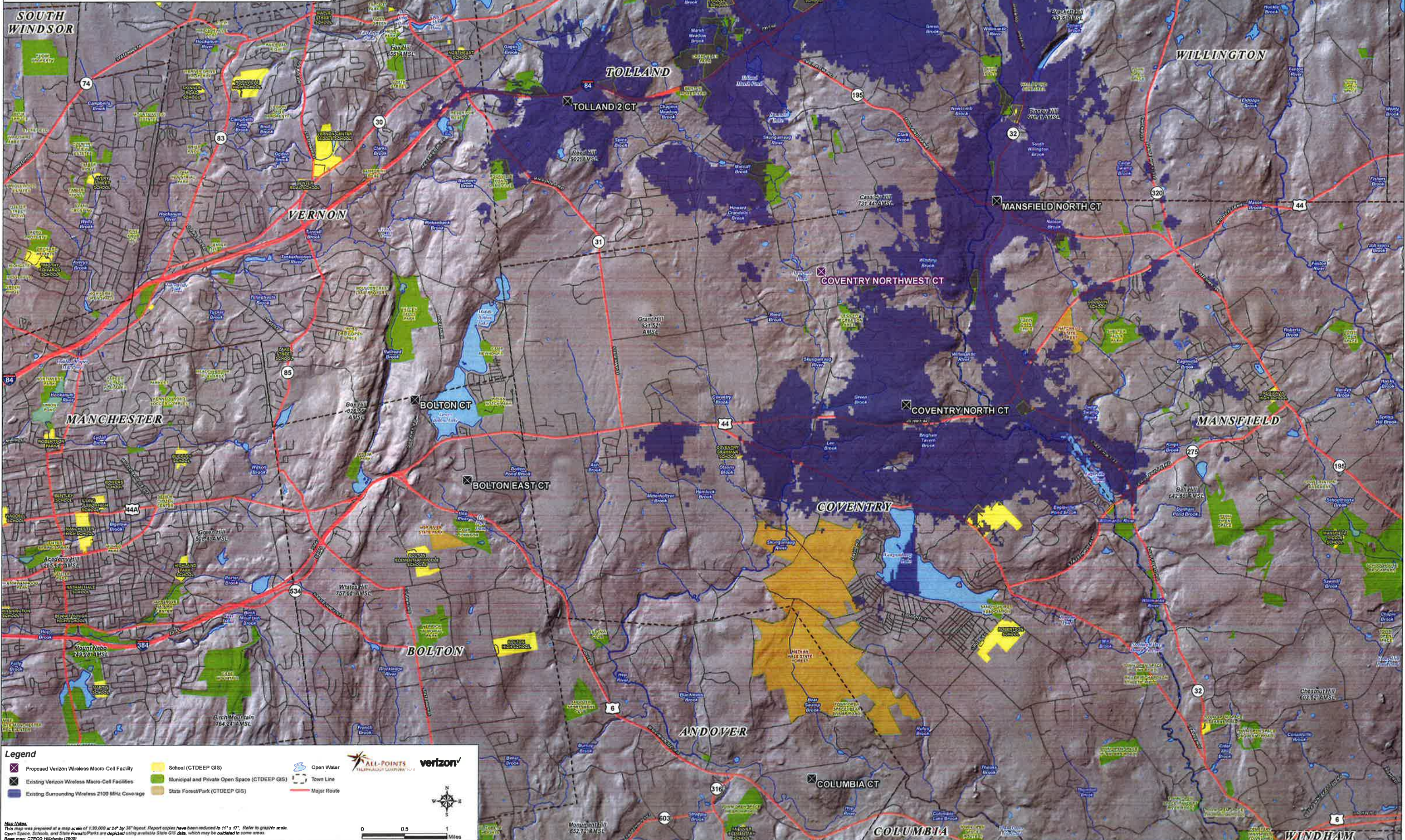
Legend

- Proposed Verizon Wireless Macro-Cell Facility
- School (CTDEEP GIS)
- Open Water
- Existing Verizon Wireless Macro-Cell Facilities
- Municipal and Private Open Space (CTDEEP GIS)
- Town Line
- Existing Surrounding Wireless 1900 MHz Coverage
- State Forest/Park (CTDEEP GIS)
- Proposed Facility Wireless 1900 MHz Coverage
- Major Route

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECD Hillshade (2006)

**Existing Verizon Wireless 2100 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Macro-Cell Facility
- Existing Verizon Wireless Macro-Cell Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- School (CTDEEP GIS)
- Municipal and Private Open Space (CTDEEP GIS)
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Route

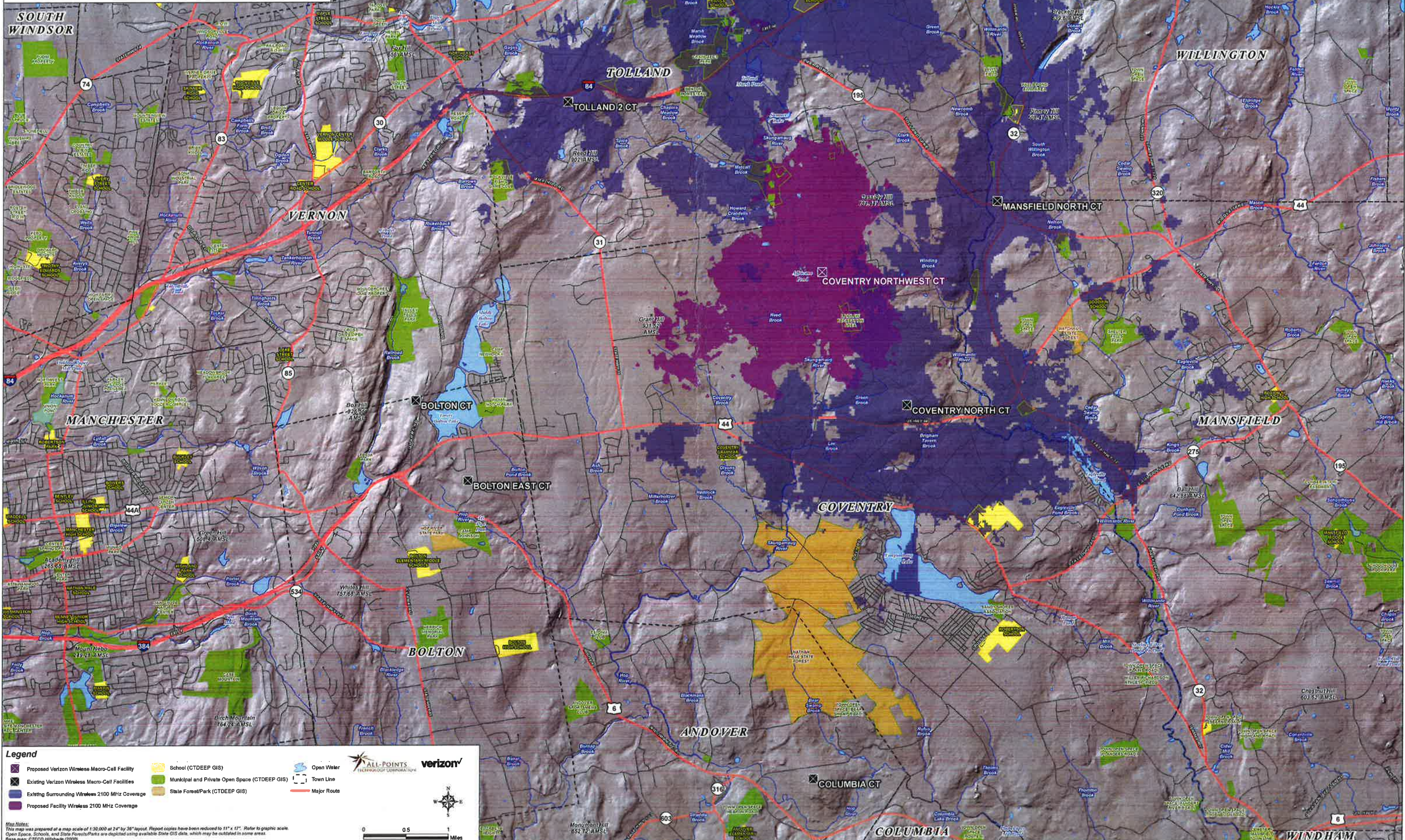
Map Notes:
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 Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
 Base map: CTECO Hillshade (2009)

Scale: 0 0.5 1 Miles

Logos: ALL-POINTS, verizon

**Proposed Verizon Wireless 2100 MHz Coverage
Coventry, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)**

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Macro-Cell Facility
- Existing Verizon Wireless Macro-Cell Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- School (CTDEEP GIS)
- Municipal and Private Open Space (CTDEEP GIS)
- State Forest/Park (CTDEEP GIS)
- Open Water
- Town Line
- Major Route

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
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Base map: CTECD Hillshade (2009)

ALL-POINTS TECHNOLOGY CORPORATION **verizon**

0 0.5 1 Miles

ATTACHMENT 2

CELLCO PARTNERSHIP

d.b.a. **verizon** wireless

WIRELESS COMMUNICATIONS FACILITY

COVENTRY NORTHWEST CT

FOLLY LANE COVENTRY, CT 06238

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon



1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



Daniel P. Haman

CHECKED BY: DJR

APPROVED BY: DPH

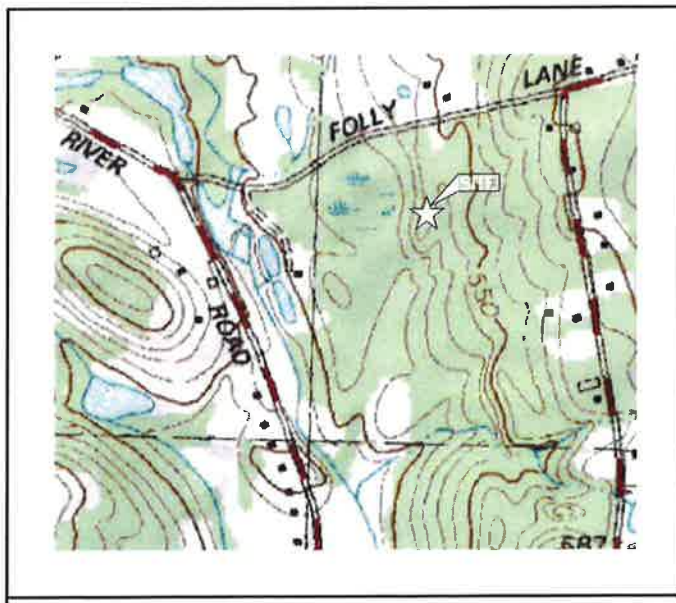
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/03/17	REVISED PER COMMENTS	SLY
1	12/14/16	REVISED PER COMMENTS	SLY
0	10/21/16	ISSUED FOR REVIEW	JES

SITE NAME:
COVENTRY NORTHWEST CT

SITE ADDRESS:
FOLLY LANE
COVENTRY, CT. 06238

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



VICINITY MAP SCALE: N.T.S.

DIRECTIONS TO SITE:
99 E RIVER DR, EAST HARTFORD, CT 06108
HEAD EAST ON E RIVER DR
TURN LEFT ONTO CT-2 E RAMP
MERGE ONTO I-84 E
TAKE EXIT 68 FOR CT-195 TOWARD TOLLAND/MANSFIELD
TURN RIGHT ONTO CT-195 S (SIGNS FOR MANSFIELD/UNIVERSITY OF CONNECTICUT)
TURN RIGHT ONTO GOOSE LN
SLIGHT RIGHT ONTO FOLLY LN
TURN LEFT, FOLLY LANE, COVENTRY, CT 06238

CONSULTANT TEAM

PROJECT ENGINEER
HUDSON DESIGN GROUP, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

SURVEYOR
NORTHEAST SURVEY CONSULTANTS
116 PLEASANT ST. SUITE 302
EASTHAMPTON, MA 01027
TEL: 1-(413)-203-5144

PROJECT SUMMARY

SITE NAME: COVENTRY NORTHWEST CT
SITE ADDRESS: FOLLY LANE
COVENTRY, CT 06238
PROPERTY OWNER: JOHN MOTCYKA
104 FOLLY LANE
COVENTRY, CT 06238
APPLICANT: CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS
99 EAST RIVER DRIVE
EAST HARTFORD, CT 06108
SITE ACQUISITION CONTACT: STEPHEN SCHADLER
STRUCTURE CONSULTING GROUP
99 EAST RIVER DRIVE, 9TH FL
EAST HARTFORD, CT 06108
LEGAL/REGULATORY COUNSEL: KENNETH C. BALDWIN ESQ.
ROBINSON + COLE LLP
(860)275-8345
LATITUDE: N 41° 49' 26.39"
LONGITUDE: W 72° 20' 53.74"

SCOPE OF WORK INFO.

VERIZON WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS ON PROPOSED TELECOMMUNICATION SITE:

- NEW 60'x40' FENCED COMPOUND WITHIN PROPOSED 100'x100' LEASE AREA. ON EXISTING PARCEL OF LAND.
- NEW PANEL ANTENNAS: (3) ANTENNA PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) ANTENNAS.
- NEW RRHs: (3) RRHs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (9) RRHs
- NEW JUNCTION BOXES: (2) JUNCTION BOX TOTAL.

ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED VERIZON MONOPOLE.

- NEW EQUIPMENT CABINETS: (2) CABINETS WITH GENERATOR ON PROPOSED 12'x26' EQUIPMENT STEEL PLATFORM. ITEMS LISTED ABOVE TO BE INSTALLED WITHIN THE PROPOSED 40'x60' FENCED COMPOUND.
- NEW POWER AND TELCO SERVICES WILL BE ROUTED UNDERGROUND FROM EXISTING UTILITY POLE TO PROPOSED ELECTRICAL METER AND HOFFMAN BOX ON PROPOSED H-FRAME.
- FINAL UTILITY ROUTING TO BE DETERMINED/VERIFIED BY UTILITY COMPANIES.

LEGEND

---	PROPERTY LINE - SUBJECT PARCEL
---	ABUTTERS PROPERTY LINE
---	EXISTING CONTOUR LINE
~	TREE LINE
-x-	BARBED WIRE FENCE REMAINS
---	OVERHEAD WIRE
-o-	EXISTING RAIL FENCE
---	WETLAND FLAG LINE
□ 1-22	WETLAND FLAG NUMBER
●	CONIFEROUS TREE
○	DECIDUOUS TREE
⊙	STONE PILE
⊙	TOWER CONTROL POINT
●	WELL
⊙	UTILITY POLE
---	PROPOSED CONTOUR LINE
TOW	TOP OF WALL
BOW	BOTTOM OF WALL
▨	EXISTING BUILDING

NOTE:
DELINEATION OF WETLAND RESOURCE AREA
WAS PERFORMED BY MATTHEW GUSTAFSON,
REGISTERED SOIL SCIENTIST, ALL-POINTS
TECHNOLOGY., P.C. ON AUGUST 27, 2015

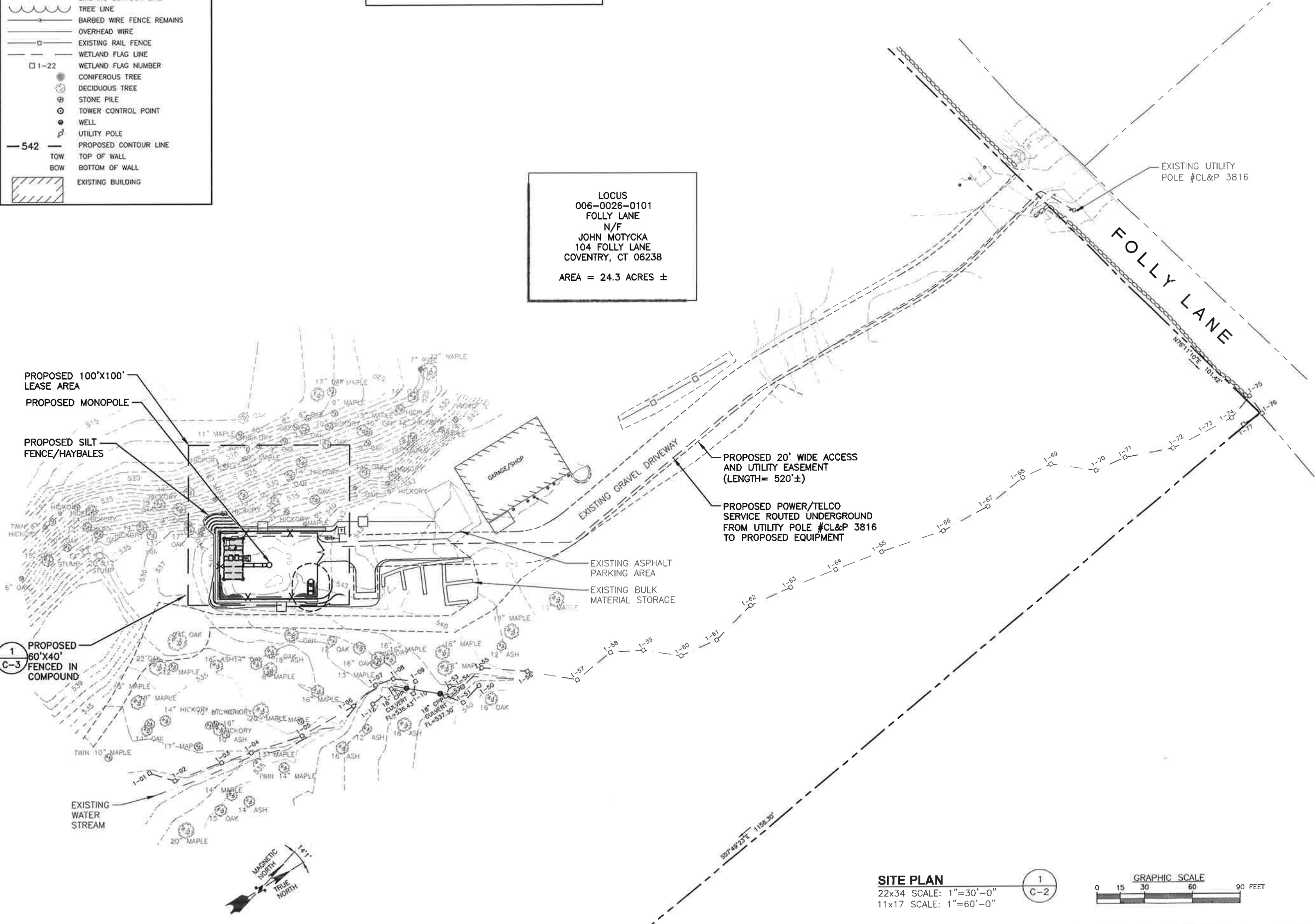
LOCUS
006-0026-0101
FOLLY LANE
N/F
JOHN MOTYCKA
104 FOLLY LANE
COVENTRY, CT 06238
AREA = 24.3 ACRES ±

PREPARED FOR: CELCO PARTNERSHIP D.B.A.



Hudson
Design Group LLC

1400 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586



Daniel P. Hamm

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	01/03/17	REVISED PER COMMENTS	SLY
1	12/14/16	REVISED PER COMMENTS	SLY
0	10/21/16	ISSUED FOR REVIEW	JES

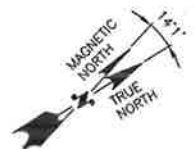
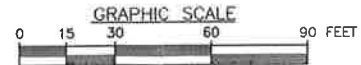
SITE NAME:
**COVENTRY
NORTHWEST CT**

SITE ADDRESS:
FOLLY LANE
COVENTRY, CT. 06238

SHEET TITLE
SITE PLAN

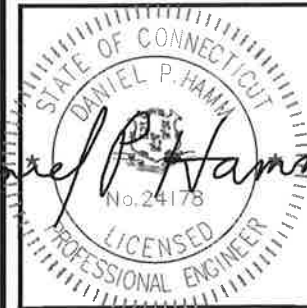
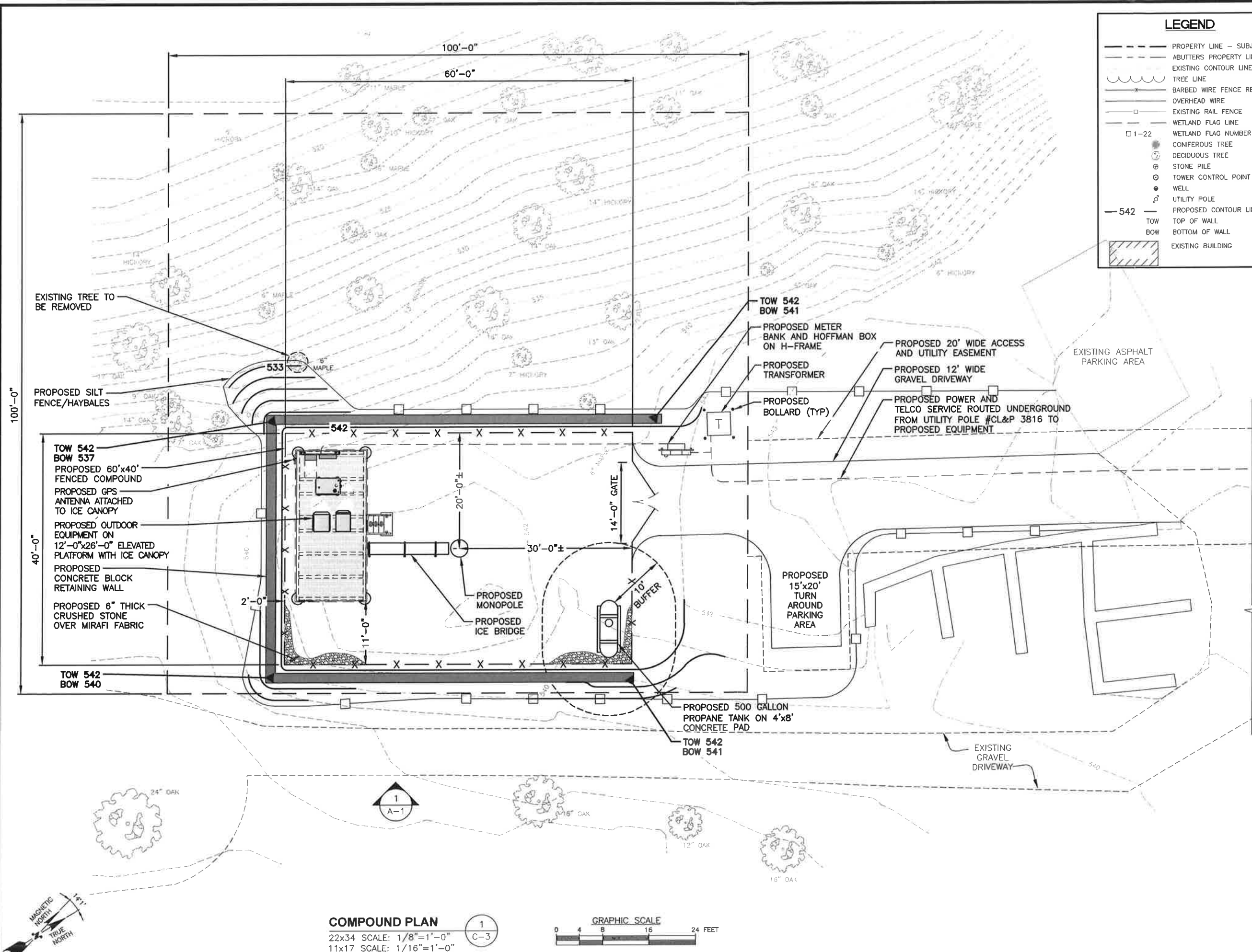
SHEET NUMBER
C-2

SITE PLAN
22x34 SCALE: 1"=30'-0"
11x17 SCALE: 1"=60'-0"



LEGEND

- PROPERTY LINE - SUBJECT PARCEL
- - - ABUTTERS PROPERTY LINE
- - - EXISTING CONTOUR LINE
- ~ ~ ~ TREE LINE
- BARBED WIRE FENCE REMAINS
- OVERHEAD WIRE
- EXISTING RAIL FENCE
- WETLAND FLAG LINE
- 1-22 WETLAND FLAG NUMBER
- CONIFEROUS TREE
- DECIDUOUS TREE
- ⊙ STONE PILE
- ⊙ TOWER CONTROL POINT
- WELL
- ⊙ UTILITY POLE
- 542 PROPOSED CONTOUR LINE
- TOW TOP OF WALL
- BOW BOTTOM OF WALL
- ▨ EXISTING BUILDING



CHECKED BY: DJR
 APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	01/03/17	REVISED PER COMMENTS	SLY
1	12/14/16	REVISED PER COMMENTS	SLY
0	10/21/16	ISSUED FOR REVIEW	JES

SITE NAME:
COVENTRY NORTHWEST CT

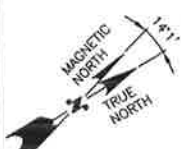
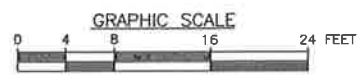
SITE ADDRESS:
 FOLLY LANE
 COVENTRY, CT. 06238

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
C-3

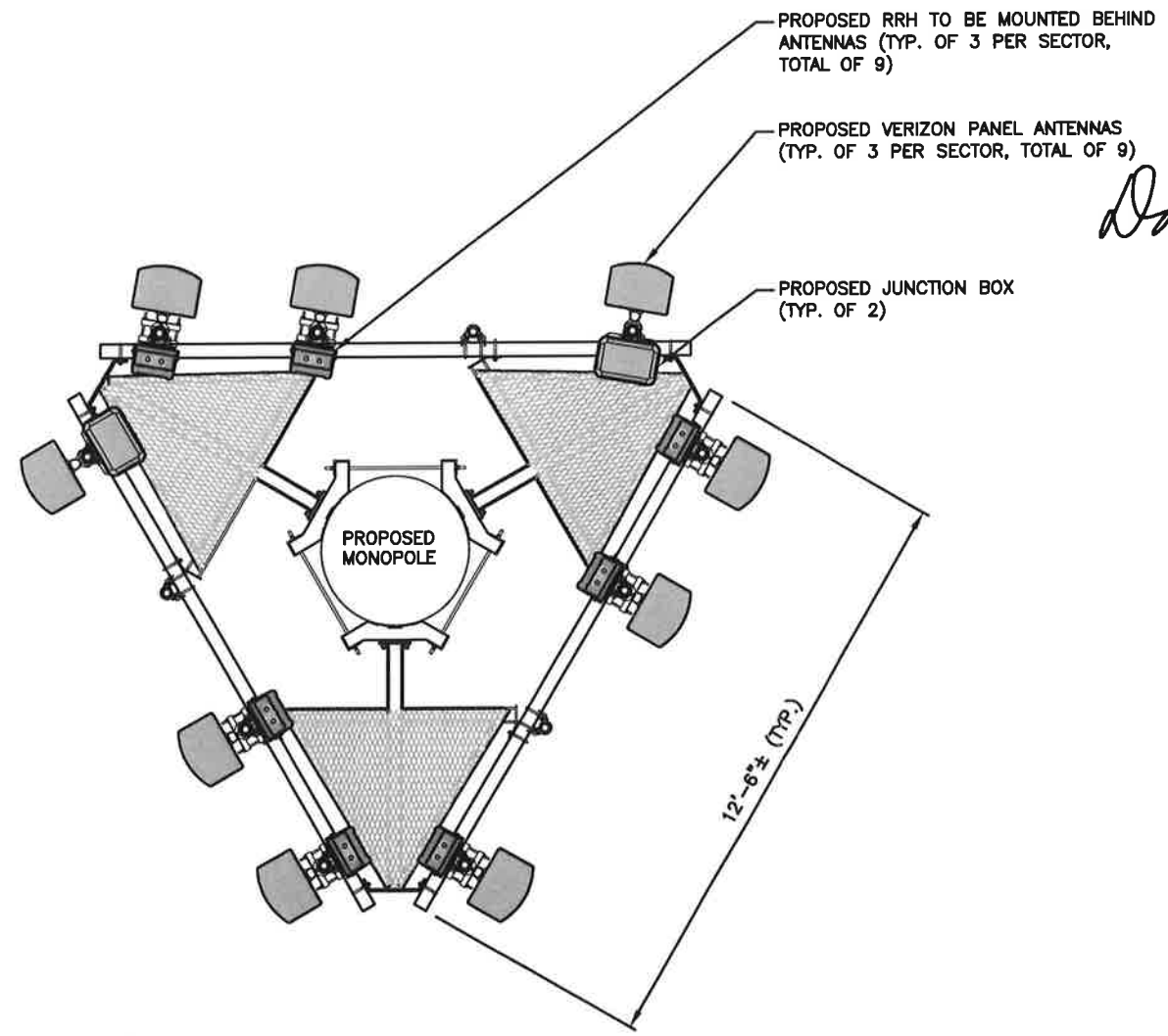
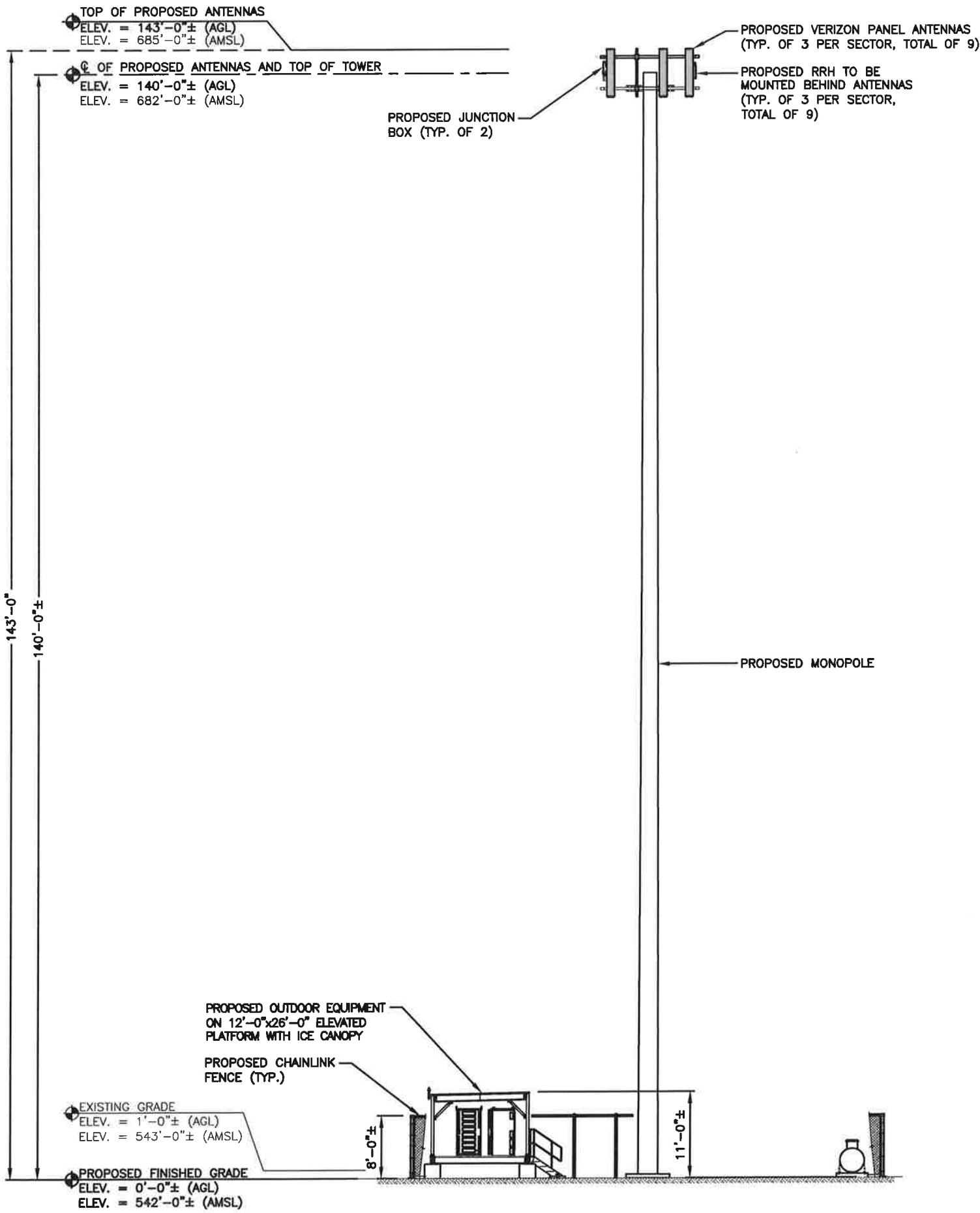
COMPOUND PLAN
 22x34 SCALE: 1/8"=1'-0"
 11x17 SCALE: 1/16"=1'-0"

1
 A-1
 C-3

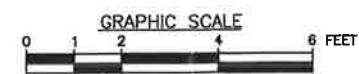


NOTE:
 1. PROPOSED NEW TOWER AND FOUNDATION DESIGN BY OTHERS
 2. VERIFY AZIMUTHS W/ RF ENGINEER.

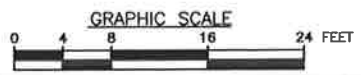
TOWER NOTES:
 1.) TOWER ELEVATION IS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO TOWER MANUFACTURER DRAWINGS FOR COMPLETE INSTALLATION AND BILL OF MATERIAL INFORMATION.
 2.) TOWER MINIMUM DESIGN SPECIFICATIONS SHALL BE IN ACCORDANCE WITH ANSI/TIA/EIA 222-G "STRUCTURAL STANDARDS FOR SUPPORTING STRUCTURES AND ANTENNAS, REVISION G" AND GOVERNING FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS
 3.) TOWER MANUFACTURER SHALL BE RESPONSIBLE FOR DESIGN AND STRUCTURAL COMPONENTS OF THE TOWER.
 4.) FINAL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE LOCAL UTILITIES.



ANTENNA PLAN
 22x34 SCALE: 1/2"=1'-0"
 11x17 SCALE: 1/4"=1'-0"



WEST ELEVATION
 22x34 SCALE: 1/8"=1'-0"
 11x17 SCALE: 1/16"=1'-0"



PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



Hudson Design Group, LLC
 1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090
 N. ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

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

Daniel P. Hamm

CHECKED BY: DJR

APPROVED BY: DPH

SUBMITTALS

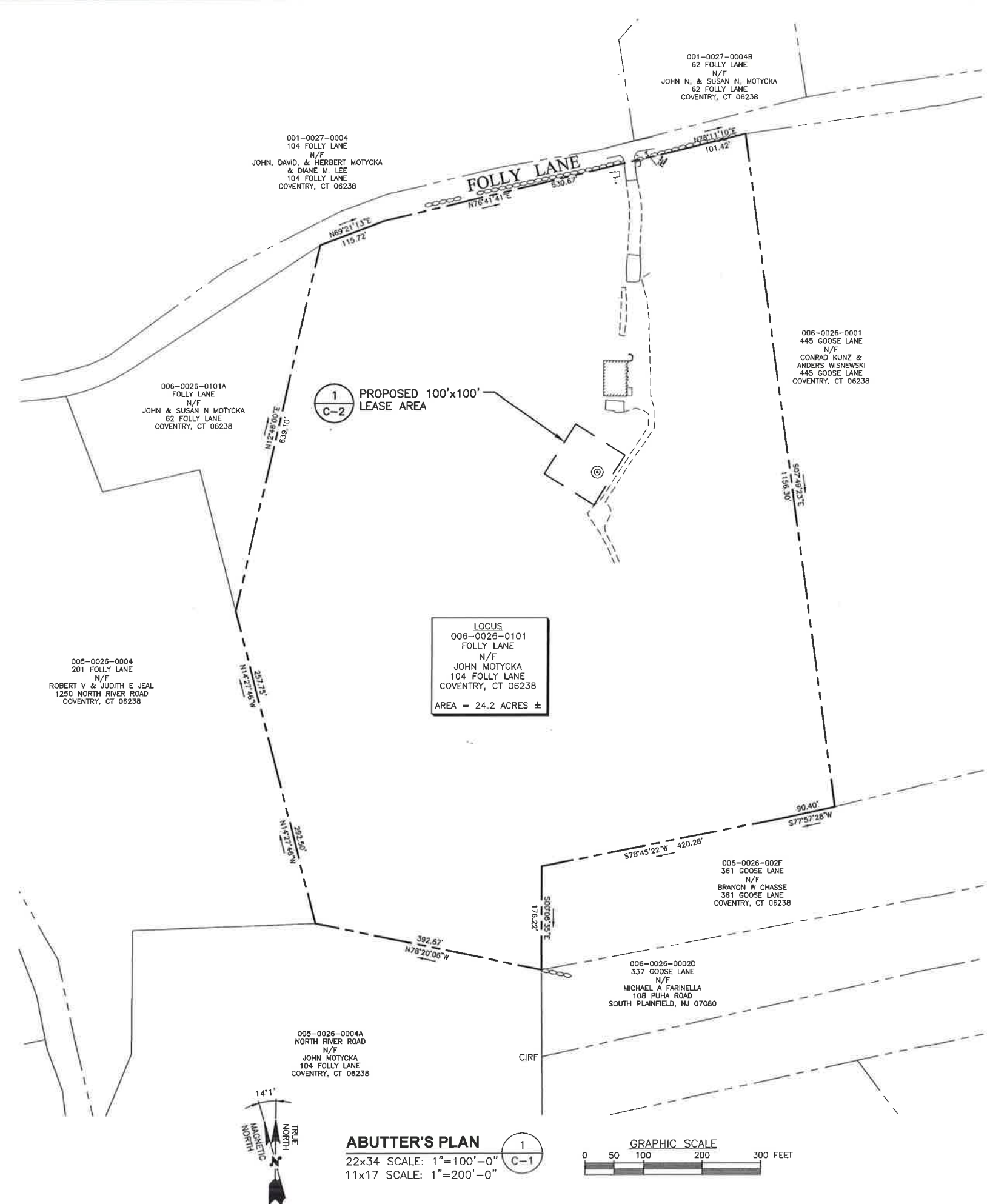
REV.	DATE	DESCRIPTION	BY
2	01/03/17	REVISED PER COMMENTS	SLY
1	12/14/16	REVISED PER COMMENTS	SLY
0	10/21/16	ISSUED FOR REVIEW	JES

SITE NAME:
COVENTRY NORTHWEST CT

SITE ADDRESS:
 FOLLY LANE
 COVENTRY, CT. 06238

SHEET TITLE
ELEVATION

SHEET NUMBER
A-1



SOURCE:
 NORTHEAST SURVEY CONSULTANTS,
 ABUTTERS PLAN AND EXISTING
 CONDITIONS DATED 10/07/16

LEGEND

---	PROPERTY LINE - SUBJECT PARCEL
---	ABUTTERS PROPERTY LINE
---	EXISTING CONTOUR LINE
~ ~ ~	TREE LINE
---	BARBED WIRE FENCE REMAINS
---	OVERHEAD WIRE
---	EXISTING RAIL FENCE
---	WETLAND FLAG LINE
□ 1-22	WETLAND FLAG NUMBER
●	CONIFEROUS TREE
○	DECIDUOUS TREE
⊙	STONE PILE
⊙	TOWER CONTROL POINT
⊙	WELL
⊙	UTILITY POLE
---	PROPOSED CONTOUR LINE
---	TOP OF WALL
---	BOTTOM OF WALL
▨	EXISTING BUILDING

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

1600 OSGOOD STREET
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STATE OF CONNECTICUT
 DANIEL P. HAMM
 No. 24178
 LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DJR
 APPROVED BY: DPH

SUBMITTALS

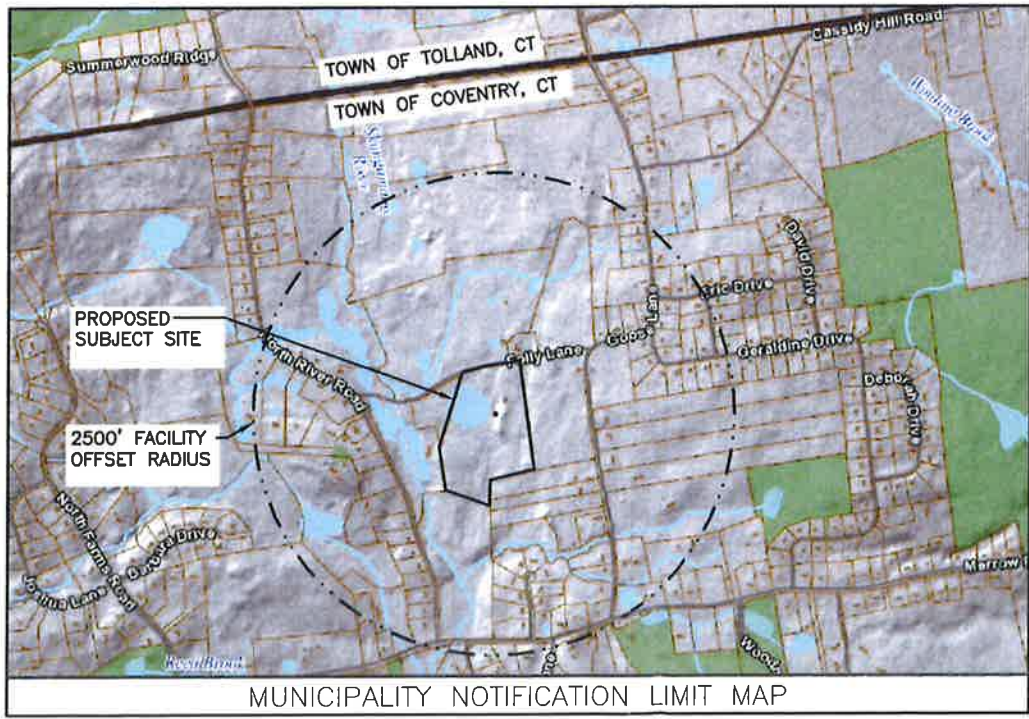
REV.	DATE	DESCRIPTION	BY
2	01/03/17	REVISED PER COMMENTS	SLY
1	12/14/16	REVISED PER COMMENTS	SLY
0	10/21/16	ISSUED FOR REVIEW	JES

SITE NAME:
**COVENTRY
 NORTHWEST CT**

SITE ADDRESS:
 FOLLY LANE
 COVENTRY, CT. 06238

SHEET TITLE
ABUTTER'S PLAN

SHEET NUMBER
C-1



ABUTTER'S PLAN
 22x34 SCALE: 1"=100'-0"
 11x17 SCALE: 1"=200'-0"



ATTACHMENT 3



PRELIMINARY VISUAL ASSESSMENT

To: Verizon Wireless
99 East River Drive
East Hartford, Connecticut

Date: February 13, 2017

Re: Proposed Telecommunications Facility
Folly Lane
Coventry, Connecticut

From: Michael Libertine

Cellco Partnership d/b/a Verizon Wireless (“Verizon”) has identified a proposed location for development of a new wireless telecommunications facility (“Facility”) off Folly Lane in Coventry, Connecticut. The proposed Facility would include a 140-foot tall monopole¹ within a 40-foot by 60-foot fenced compound in the north central portion of the property (“Site”).

At the request of Verizon, All-Points Technology Corporation, P.C. (“APT”) has prepared preliminary viewshed mapping to evaluate the visibility associated with the proposed Facility. To conduct this assessment, a predictive computer model was developed specifically for this project. The predictive model provides an initial estimate of potential visibility throughout a pre-defined Study Area, in this case a two-mile radius surrounding the proposed Facility location.

Computer modeling tools were used to predict those areas where at least the top of the Facility is estimated to be visible including TerrSet, an image analysis program developed by Clark Labs at Clark University. Project- and Study Area-specific data were incorporated into the computer model, including the Site location, its ground elevation and the proposed Facility height, as well as the surrounding topography and existing vegetation, which are the primary features that can block direct lines of sight.

Information used in the model included LiDAR²-based digital elevation data and customized land use data layers developed specifically for this analysis. The LiDAR-based Digital Elevation Model represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the year 2010 and has a horizontal resolution of one (1) meter (3.28 feet) and a vertical horizontal resolution of less than one meter. In addition, multiple land use data layers were created from the Natural Resources Conservation Service (through the USDA) aerial photography (1-meter resolution, flown in 2012 [leaf-on] and 2016 [leaf off]) using IDRISI image processing tools. The IDRISI tools develops light reflective classes defined by statistical analysis of individual pixels, which are then grouped based on common reflective values such that distinctions can be made automatically between deciduous and coniferous tree species, as well as grassland, impervious

¹ Verizon Wireless intends to install its antennas at centerline heights of 140 feet above grade, which would place the highest point of the facility at 143 feet above grade.

² LiDAR is an acronym for Light Detection and Ranging. It is a technology that utilized lasers to determine the distance to an object or surface. LiDAR is similar to radar, but incorporates laser pulses rather than sound waves. It measures the time delay between transmission and reflection of the laser pulse.

surface areas, surface water and other distinct land use features. This information is manually cross-checked with the recent USGS topographic land characteristics to quality assure the imaging analysis.

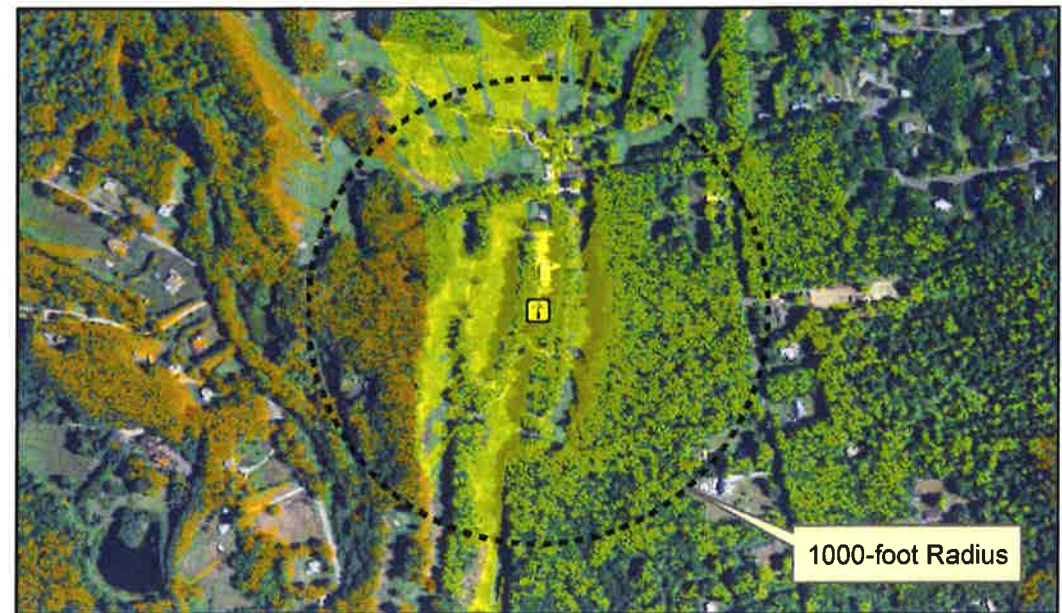
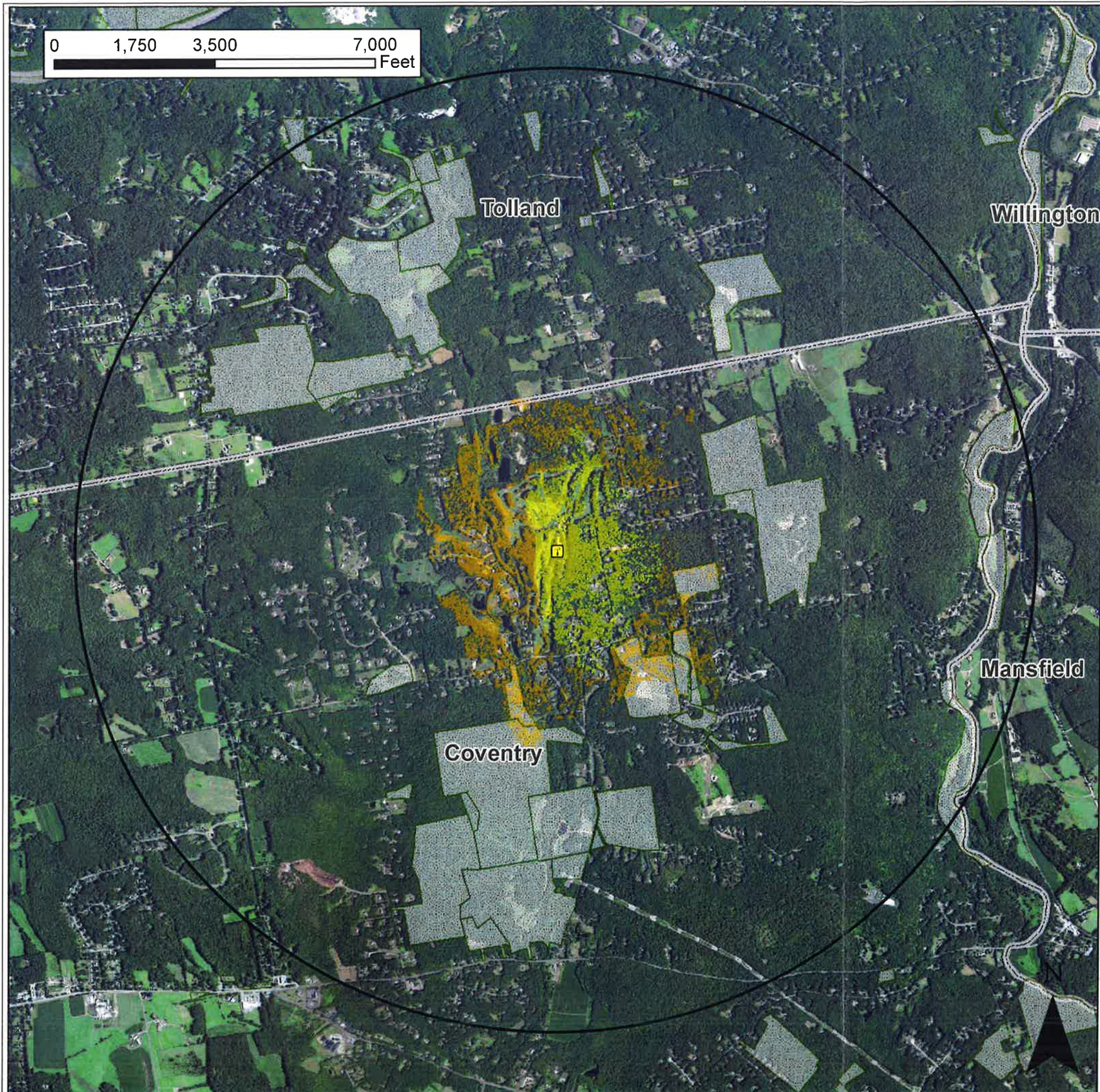
With these data inputs, the model is then queried to determine where the top of the Facility can be seen from any point(s) within the Study Area, given the intervening existing topography and vegetation. The results of the preliminary analysis are depicted on the attached map and are intended to provide 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 5 feet above the ground and the combination of intervening topography and tree canopy (year-round) and tree trunks (seasonally, when the leaves are off the deciduous trees). The shaded areas of predicted visibility shown on the map denote locations from within the Study Area which the proposed Facility may potentially be visible year-round (in yellow) above the tree canopy and/or seasonally, through the trees (during “leaf-off” conditions; depicted in orange). The Facility however may not necessarily be visible from all locations within those shaded areas. It is important to note that the computer model cannot account for mass density, the height, diameter and branching variability of the trees, or the degradation of views that occur with distance. In addition, each point – or pixel - represents about one meter in area, and thus is not predicting visibility from all viewpoints through all possible obstacles. Although large portions of the predicted viewshed may theoretically offer visibility of the Facility, because of these unavoidable limitations the quality of those views may not be sufficient for the human eye to recognize the tower or discriminate it from other surrounding objects. Visibility also varies seasonally with increased, albeit obstructed, views occurring during “leaf-off” conditions. Beyond the density of woodlands found within the given Study Area, each individual tree has its own unique trunk, pole timber and branching pattern characteristics that provide varying degrees of screening in leafless conditions which cannot be adequately modeled. Thus, modeling for seasonal variations of visibility generally over-predicts the viewshed in “leaf-off” conditions, even when incorporating conservative constraints into the model (i.e., assuming each tree is simply a vertical pole of varying width, depending upon species, with no distinct branching pattern). Therefore, field verification remains an important component for cross-checking the model’s initial results.

The preliminary viewshed mapping results indicate that visibility associated with the proposed Facility would generally be limited to locations within one mile or less of the Site. On a purely quantitative basis, the proposed Facility is predicted to be visible year-round from some locations within an approximate 103-acre area. Seasonal views through the intervening pole timber and branches are anticipated to occur over some locations within an area measuring 253± acres.

The map provides a preliminary basis for understanding the extent of visibility that may occur throughout the Study Area, but it does not address the character of those potential views. Note that the results of the computer model have not been field verified. The variability in tree heights combined with the model’s sensitivity typically result in the initial model to be over-predictive of the Facility’s viewshed.

Our preliminary results will be field-verified via a balloon test to supplement and fine tune the results of the preliminary computer modeling. The balloon test activities consist of raising an approximately four-foot diameter, helium-filled balloon tethered to the proposed Facility height. Once the balloon is secured, APT performs a Study Area reconnaissance by driving along the local and State roads and inventorying those locations where the balloon is seen above/through the trees. Visual observations will be used to evaluate the results of the preliminary viewshed mapping and identify any discrepancies in the initial modeling. During the field activities, APT will also photo-document areas where the balloon can be seen and will prepare photographic simulations from several vantage points to depict scaled renderings of the proposed Facility. This information will be included in Verizon's application to the Connecticut Siting Council for a Certificate of Environmental Compatibility and Public Need.

Attachments



Preliminary Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
Coventry NW – Folly Lane, Coventry, CT

This Visibility Analysis map relies solely on computer modeling and interpretation of aerial photographs and topographic maps. The information presented herein has not been field verified.







NOTES

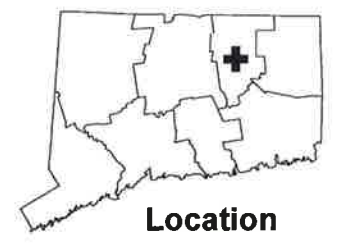
- Viewshed analysis conducted using Clark University's TerrSet.
- Areas of potential visibility are calculated based on facility location and height, Study Area topography, and Study Area vegetation.
- Proposed facility height is 143 feet AGL.
- Forest canopy height is derived from lidar data.
- Study area encompasses a two-mile radius and includes 8,042 acres of land.

DATA SOURCES

- Digital elevation model (DEM) derived from lidar data obtained from NOAA which has a raster resolution of 0.3 m and horizontal accuracy of 1 meter or less.
- Forest areas are generated with TerrSet (Clark University) image processing from 2012 and 2016 NRCS/NAIP digital orthophotos with 1-foot pixel resolution.
- Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP and the towns.

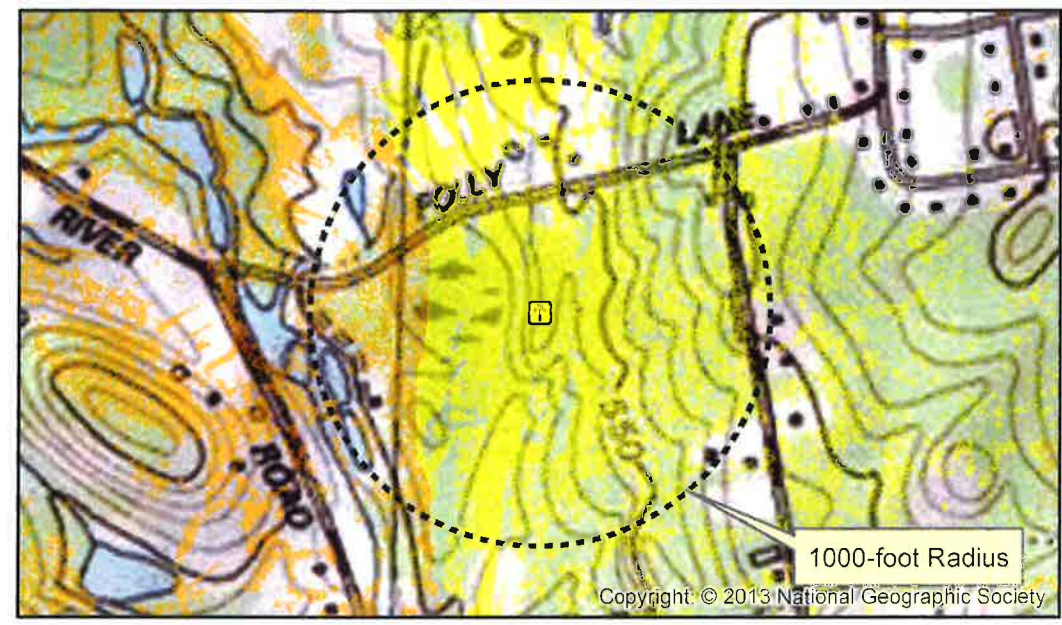
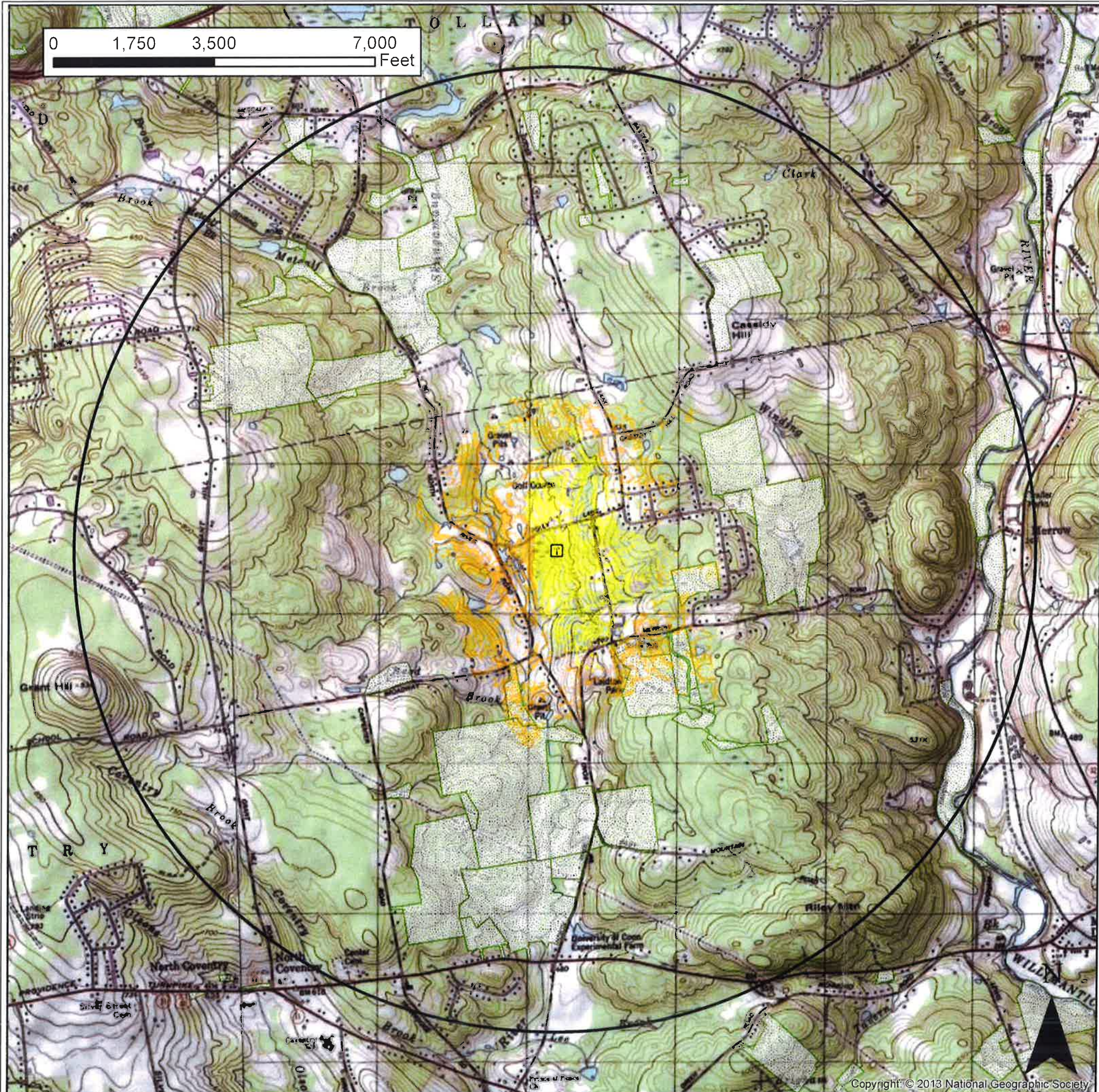
Legend

-  Proposed Tower
-  Predicted Seasonal Visibility (253 Acres)
-  Predicted Year-Round Visibility (103 Acres)
-  Towns
-  2-Mile Study Area
-  Open Space



Location





Preliminary Viewshed Map – Topo Base

Proposed Wireless Telecommunications Facility
Coventry NW – Folly Lane, Coventry, CT

This Visibility Analysis map relies solely on computer modeling and interpretation of aerial photographs and topographic maps. The information presented herein has not been field verified.

NOTES

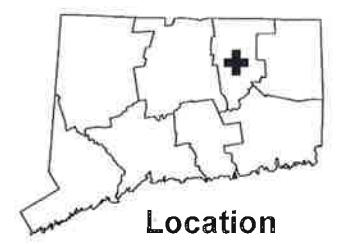
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- Areas of potential visibility are calculated based on facility location and height, Study Area topography, and Study Area vegetation.
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Legend

-  Proposed Tower
-  Predicted Seasonal Visibility (253 Acres)
-  Predicted Year-Round Visibility (103 Acres)
-  Towns
-  2-Mile Study Area
-  Open Space



Location



ATTACHMENT 4

General Power Density

Site Name: Coventry Northwest, CT
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW PCS	1970	1	3208	3207.608	140	0.0589	1.0	5.89%
VZW Cellular	869	9	317	2849.919	140	0.0523	0.5793333333	9.03%
VZW AWS	2145	1	6987	6987	140	0.1282	1.0	12.82%
VZW 700	746	1	1625	1625	140	0.0298	0.4973333333	6.00%

Total Percentage of Maximum Permissible Exposure 33.73%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
 mW/cm² = milliwatts per square centimeter
 ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 5

Cellco Partnership d/b/a Verizon Wireless
Folly Lane
Coventry, Connecticut

Coventry NW Facility

Site Search Summary

Section 16-50j-74(j) of the Regulations of Connecticut State Agencies requires the submission of a statement that describes “the narrowing process by which other possible sites were considered and eliminated.” In accordance with this requirement, descriptions of the general site search process, the identification of the applicable search area and the alternative locations considered for development of the proposed Coventry NW telecommunications facility are provided below.

Site Search Process

To initiate its site selection process in an area where wireless service problems have been identified, Cellco first establishes a “site search ring” or “site search area”. In any search ring or search area, Cellco seeks to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of the cell site, while at the same time maximizing the quality and reliability of service provided. These objectives are achieved by initially locating existing towers and other sufficiently tall structures within and near a site search area. If any are found, they are evaluated to determine whether they are capable of supporting Cellco’s telecommunications antennas and related equipment at a location and elevation that satisfies its technical requirements. A copy of Cellco’s Search Area Map for the Coventry NW Facility is attached.

The list of available locations may be further reduced if, after preliminary negotiations, the property owners withdraw a site from further consideration. From among the remaining locations, the proposed sites are selected by eliminating those that have greater potential for adverse environmental effects and fewer benefits to the public (i.e., those requiring taller towers; those with substantial adverse environmental impacts, or located in densely populated areas; and those with limited ability to share space with other public or private telecommunications service providers). It should be noted that in any given site search, the weight afforded to factors considered in the selection process will vary depending upon the availability and nature of sites within the search area.

Need for the Coventry NW Facility

Cellco currently maintains six (6) wireless telecommunications facilities within approximately five (5) miles of the proposed Coventry NW Facility. These facilities are identified as Cellco’s Coventry North, Bolton East, Bolton, Tolland 2, Tolland and Mansfield North cell sites. Cellco’s Coventry North facility consists of antennas on a tower at 400 Riley Mountain Road in Coventry. Cellco’s Bolton East facility consists of antennas on a tower at 49 South Road in Bolton. Cellco’s Bolton facility consists of antennas on a tower at 130 Vernon

Road in Bolton. Cellco's Tolland 2 facility consists of antennas on a tower at 208 Reed Road in Tolland. Cellco's Tolland facility consists of antennas on a tower at 56 Ruops Road (a/k/a Barbara Road) in Tolland. Cellco's Mansfield North facility consists of antennas on a tower at 1725 Stafford Road in Mansfield. These existing facilities currently provide wireless service in the area around the proposed Coventry NW Facility location.

Even with the service provided by these existing facilities, Cellco is experiencing significant gaps in wireless service in northerly portions of Coventry and southerly portions of Tolland and along portions of Routes 195 and 44 and Goose Lane in the area. Cellco's existing Coventry North facility (Alpha and Gamma sectors) antennas and Mansfield North (Gamma sector) antennas are also currently operating at or near their capacity limits, resulting in a significant reduction in reliable wireless service in the area.

There are no other existing towers or other sufficiently tall structures available in the Coventry NW search area that would satisfy Cellco service objectives. Construction of a new tower, therefore, is required to resolve Cellco's existing wireless service problems. Cellco established its Coventry NW search area and focused exclusively on the Skungamaug Golf Course parcel as the primary candidate for development of a new tower site. The golf course parcel is, conveniently, located directly within Cellco's search area.

Coventry NW Search Area Map



Google

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