STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:
APPLICATION OF MESSAGE CENTER MANAGEMENT, INC. (MCM) AND NEW CINGULAR WIRELESS (AT&T) FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A TELECOMMUNICATIONS TOWER FACILITY IN REDDING, CONNECTICUT

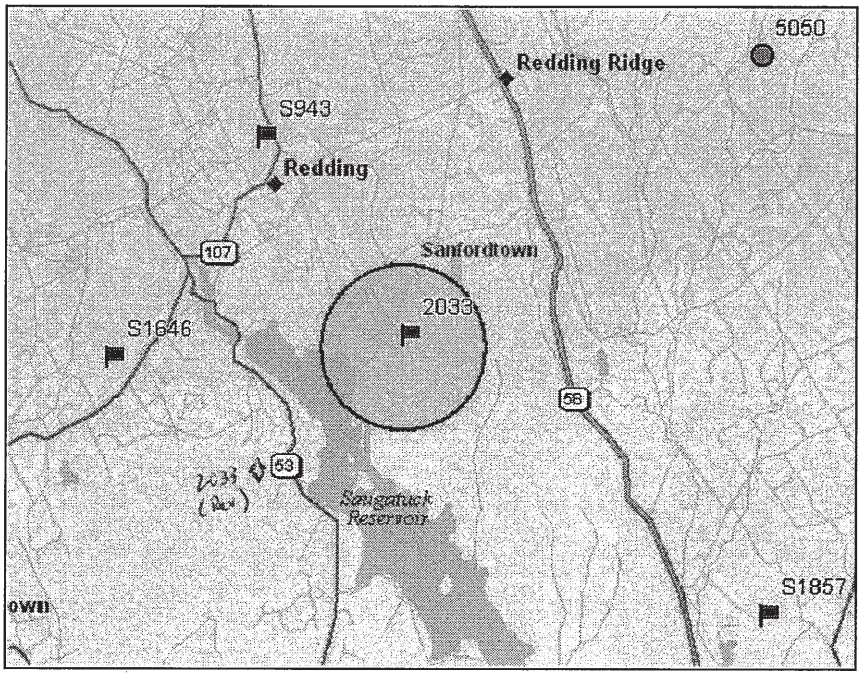
DOCKET NO. 449

July 3, 2014

RESPONSES OF MESSAGE CENTER MANAGEMENT
AND NEW CINGULAR WIRELESS
TO CONNECTICUT SITING COUNCIL PRE-HEARING QUESTIONS, SET I

Q1. When was New Cingular Wireless PCS, LLC's (AT&T) search ring first initiated for a tower in this area? What was the approximate radius of AT&T's search ring for this area? Provide the longitude and latitude coordinates of the center of the search ring. Show the search ring on a map.

A1. *The original search ring was issued in February, 2006, and the coordinates for the search ring center were as follows: 41-17-48N 73-22-01W. The approximate radius was ¾ mile. After an unsuccessful search over a two-year span, the search ring was adjusted southwest approximately 1.8 miles to a new center of 41-16-23.9N 73-23-31W in November, 2008. Finally, after the search ring lost funding in 2011, the search ring was re-activated in Feb/March 2013 and expanded northeast.*



Q2. Did AT&T investigate any raw land sites for a new tower? If yes, list those sites and the reason(s) such sites were rejected.

A2. Yes. *Please see AT&T's Search Summary included as Attachment 1.*

Q3. Of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners such as via first class mail?

A3. *Confirmation of delivery was received for all notices sent to abutting property owners.*

Q4. Would the tower be designed for EIA/TIA-222 structural standards version F, G, or both? What is the tower design wind speed for this area (Fairfield County)?

A4. *The tower would be designed in accordance with both the Electronic Industries Association Standard EIA/TIA-222-F and EIA/TIA-222-G "Structural Standards for Steel Antenna Towers and Antenna Support Structures" for Fairfield County. The more stringent of the two design iterations will be used. The tower will be designed to wind loads equivalent to a maximum 85 MPH fastest mile wind speed (REV F) and/or average basic 3-second wind gust of 100 MPH (REV G).*

Q5. Is EIA/TIA-222 version F (EIA version F) the current mandatory (minimum) standard in Connecticut because the Connecticut State Building Code currently adopts the 2003 International Building Code (2003 IBC) and the 2003 IBC adopts EIA version F? Explain.

A5. *TIA/EIA-222-F is the governing standard in the State of Connecticut for tower design because the CT Building Code is based on the 2003 International Building Code. Sections 1609.1.1 and 3108.4 of the CT Building Code specifically cite that wind loads for antenna and antenna supporting structures are exempt from the Code and are governed by TIA/EIA 222. In Section 35 of the Code References the 222 Rev-F is specifically cited as governing. Until the State adopts the 2006 IBC w/ 2007 Amendment or 2009 or 2012 IBC Code basis, TIA/EIA 222 REV F is the applicable standard. Notwithstanding, as presented in the response to interrogatory # 4 above, MCM will have the tower designed for both the REV F and REVG versions and use the more stringent of the two design standards.*

Q6. Would the tower's setback radius encroach on any adjoining properties? If so, state the distance of the encroachment and who owns these properties. Could the tower be designed with a yield point to ensure that the setbacks radius remains within the boundaries of the subject property?

A6. *Yes, the closest point from the 150' proposed tower to a property line is 21'± to the east. The easterly abutting property and owner is 194 Black Rock Turnpike (Parcel 23-35) N/F Dian Jennings Mayo (mailing address PO Box 53 Redding, CT 06876). The tower would be designed with a yield point at 129'± AGL to ensure that the tower's setback radius remains within the boundaries of the subject property.*

Q7. Would the tower and foundation be designed such that the tower could be expanded in height?

A7. *The proposed tower and foundation is currently designed for a height of 150'± AGL that does not accommodate expansion.*

Q8. How many additional wireless carriers could the proposed compound accommodate besides AT&T and Cellco Partnership d/b/a Verizon Wireless (Cellco)?

A8. *The proposed compound has been designed for two future carriers in addition to AT&T and Cellco Partnership, d/b/a Verizon Wireless.*

Q9. Would the proposed compound fence have barbed wire?

A9. *The compound fence as proposed will not have barbed wire. The fence fabric proposed is an anti-climb weave material (fence fabric has holes too small for a toe hold to allow climbing).*

Q10. Message Center Management's (MCM) cost data is listed on pages 28 and 29 of the Application. Does MCM's cost data add up to $333,000?

A10. *Yes.*

Q11. Is the existing lattice tower attached to concrete piers that extend above ground level? If yes, provide the actual tower height and the pier height to compute the total tower height in feet above ground level.

A11. *The existing concrete piers are 3"± AGL and the anchor bolts for the tower vary in height in order to level the tower and compensate for grade. The shortest anchor bolt height is approximately 2"± above the top of concrete pier. Therefore, the actual height of the existing lattice tower is 80'-5"± AGL (3" concrete reveal + 2" anchor bolt free boards + 80' tower height).*

Q12. What type of antenna mount will be used for the proposed antennas, e.g. low-profile platform?

A12. *The antennas are proposed to be mounted to the monopole with a full standard platform with railings (CommScope MTC-3607 and a CommScope MTC-3237 Kicker Support Kit included).*

Q13. Proposed specifications sheet(s) for the proposed antennas.

A13. *Please see the attached specification sheet for AT&T's panel antennas (CCI HPA-65R-BUU-H8).*

Q14. Would flush-mounted antennas or antennas attached to the tower at the proposed height via T-arms provide the required coverage? Would either configuration result in reduced coverage and/or necessitate greater antenna height with multiple levels of antennas? Explain.

A14. *T-Arms are an acceptable alternative if required, but the low-profile platform is preferred. Flush-mounted antennas would result in significantly reduced coverage or a significantly taller tower.*

Q15. Besides the proposed panel antennas, would AT&T install any remote radio heads or diplexers or other equipment on its antenna platform? Explain.

A15. *Yes. In addition to the 12 8-foot panel antennas, AT&T will install 21 RRU's and 4 surge suppressors.*

Q16. Would AT&T's equipment shelter have a light fixture installed on the outside wall? What type of lighting would be utilized? When would the light be on?

A16. *Yes. AT&T's equipment shelter includes two small motion-activated flood lights. Please see sample photo included as Attachment 2.*

Q17. What measures are proposed for the site to ensure security and deter vandalism? (This would include but not be limited to alarms, gates, locks, etc.)

A17. *In addition to the locked compound, AT&T's shelter is locked and remotely monitored for intrusion 24 hours a day. No vandalism or security concerns of the current facility is known and the Applicants would expect the operation of the fire department and its proximity to Black Rock Turnpike would offer some natural deterrence to theft and vandalism.*

Q18. AT&T's power density analysis is provided under Tab 4 of the Application. Does MCM have the power density data for the fire department antennas to be relocated onto the proposed tower? If yes, provide the power density analysis for the fire department antennas at the proposed antenna height(s).

A18. *The Redding Fire Department operates transmitters under 2 call signs at this tower: WNWN646 and WQKB457. There are 4 transmitters associated with WNWN646 and 2 transmitters associated with WQKB457. The maximum allowable ERP from the FCC license was assumed for each Fire Department transmitter. Under these absolute worst case assumptions, the composite %*

MPE is 21.21%, of which 14.75% is the existing Redding Fire Department transmitters.

Location	Carrier	Vertical Distance to Antenna (Ft.)	Operating Frequency (MHz)	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Street Level	AT&T UMTS	150	880	2	500	0.0173	0.5867	2.96%
	AT&T UMTS	150	1900	2	500	0.0173	1.0000	1.73%
	AT&T LTE	150	734	1	500	0.0087	0.4893	1.77%
	WNWN646	85	33	3	95	0.0164	0.2000	8.21%
	WNWN646	60	33	1	95	0.0117	0.2000	5.86%
	WQKB457	100	150	2	16.5	0.0013	0.2000	0.67%
							Total	**21.21%**

Q19. Which frequencies are AT&T licensed to utilize in Fairfield County?

A19. AT&T's licenses applicable to Fairfield County are as follows:

KNKA256 Cellular B-Band

KNLG502 PCS E Block

WPSL626 PCS A3 Block

WQGG892 PCS A4 Block

WPWV368 700 MHz Lower C

WQIZ617 700 MHz Lower E

WQJU459 700 MHz Lower B

Q20. Would AT&T provide 700 MHz, 850 MHz, and 1900 MHz service from the proposed tower? Would all three be provided initially or, for example, would 850 MHz and 1900 MHz be provided initially and 700 MHz would be provided in the future? Explain.

A20. *All three bands will be on the air when the site enters service.*

Q21. Would the proposed site be needed for coverage, capacity, or both? Explain.

A21. *Both. 700 and 850 MHz will be primarily for coverage, 1900 MHz will provide extra capacity.*

Q22. Are all frequencies used to transmit voice and data?

A22. *Yes, voice and data are on all frequencies.*

Q23. What is the lowest height at which AT&T's antennas could achieve its coverage objectives from the proposed site?

A23. *AT&T requires the requested height of 150' AGL in order to achieve all its coverage objectives for the proposed site.*

Q24. What is the signal strength for which AT&T designs its system? Also include in-vehicle and in-building thresholds if applicable.

A24. *For 700 MHz LTE, the design criteria are -83 and -93 dBm. For PCS LTE, the design criteria are -86 and -96 dBm. For 850 MHz, the coverage criteria are -74 and -82 dBm.*

Q25. What is the existing signal strength within the area AT&T is seeking to cover from this site?

A25. *For 700 MHz, the signal strength in the gap is between -93 dBm and -120 dBm. For PCS LTE, that frequency will be deployed in the near future. Signal strength in the gap that will be left by deploying PCS LTE on the existing sites is between -96 dBm and -120 dBm.*

Q26. Does AT&T have any statistics on dropped calls and/or ineffective attempts in the vicinity of the proposed facility? If so, what do they indicate? Does AT&T have any other indicators of substandard service in this area?

A26. *AT&T's dropped call data for the area where reliable service is needed, while proprietary, indicates elevated voice and data drops. In addition, data testing indicates that substandard or nonexistent data service is provided within the area identified as a need for this site.*

Q27. In the Radio Frequency Analysis Report (RF Report) under Tab 1 of the Application, AT&T included an existing coverage plot and an existing and proposed coverage plot for 850 MHz. Provide a similar plots for 700 MHz and 1900 MHz or other frequencies as applicable. Also provide a replacement existing coverage plot for 850 MHz identifying the proposed site location on the plot.

A27. *Please see plots included in Attachment 4.*

Q28. Of the existing sites noted on page 8 of the RF Report, indicate which ones that the proposed site would interact with to hand off signals. If AT&T's proposed facility would interact with any other sites not listed, include those also.

A28. The site is expected to handoff to the following existing sites:

CT2320
CT5050
CT5446
CT5515
CT2546

Q29. Provide propagation maps showing existing plus proposed coverage at an antenna height that is ten feet shorter than proposed for 700 MHz, 850 MHz, and 1900 MHz or as applicable.

A29. *Please see Attachment 5.*

Q30. Provide the lengths of the coverage gaps on the primary roads that AT&T is seeking to cover from the proposed site at the proposed frequencies, e.g. 700 MHz, 850 MHz, and 1900 MHz or as applicable.

A30. *Please see table below.*

	Existing 700 MHz LTE Coverage Gap		**Existing 850 MHz UMTS Coverage Gap**		**Existing 1900 MHz LTE Coverage Gap**	
Population:[1]	(≥-83 dBm)	7,745	(≥-74 dBm)	4515	(≥ -86 dBm)	8,100
	(≥-93 dBm)	5,703	(≥ -82 dBm)	5696	(≥ -96 dBm)	7,325
Area (mi^2):	(≥-83 dBm)	28.17	(≥ -74 dBm)	17.14	(≥ -86 dBm)	29.48
	(≥-93 dBm)	21.97	(≥ -82 dBm)	21.53	(≥ -96 dBm)	26.82
Roadway (mi):	Main:	16.74	Main:	11.14	Main:	19.01
	Secondary:	70.58	Secondary:	54.77	Secondary:	89.35
	Total:	87.32	**Total:**	65.91	**Total:**	108.36

Q31. Provide the lengths of the coverage gaps on the secondary roads that AT&T is seeking to cover from the proposed site at the proposed frequencies, e.g. 700 MHz, 850 MHz, and 1900 MHz or as applicable.

[1] Population figures are based upon 2010 US Census Block Data

A31. *See table included in A30.*

Q32. Provide the lengths of the coverage that AT&T would provide along primary roads from the proposed site at the proposed frequencies, e.g. 700 MHz, 850 MHz, and 1900 MHz or as applicable. Also provide such data assuming that the tower is ten feet shorter.

A32. *Please see table below as well as the chart included as Attachment 6.*

	Incremental 700 MHz LTE Coverage @ 150 feet		**Incremental 850 MHz UMTS Coverage @ 150 feet**		**Incremental 1900 MHz LTE Coverage @ 150 feet**	
Population:[2]	(≥-83 dBm)	406	(≥-74 dBm)	1761	(≥ -86 dBm)	156
	(≥-93 dBm)	939	(≥ -82 dBm)	2245	(≥ -96 dBm)	649
Area (mi²):	(≥-83 dBm)	1.19	(≥ -74 dBm)	7.39	(≥ -86 dBm)	0.51
	(≥-93 dBm)	3.64	(≥ -82 dBm)	9.81	(≥ -96 dBm)	2.28
Roadway (mi):	Main:	3.55	Main:	5.04	Main:	2.61
	Secondary:	7.46	Secondary:	27.39	Secondary:	6.00
	Total:	11.01	**Total:**	32.43	**Total:**	8.61

	Incremental 700 MHz LTE Coverage @ 140 feet		**Incremental 850 MHz UMTS Coverage @ 140 feet**		**Incremental 1900 MHz LTE Coverage @ 140 feet**	
Population:[3]	(≥ -83 dBm)	371	(≥ -74 dBm)	1409	(≥ -86 dBm)	143
	(≥ -93 dBm)	881	(≥ -82 dBm)	2195	(≥ -96 dBm)	613
Area (mi²):	(≥ -83 dBm)	1.06	(≥ -74 dBm)	5.97	(≥ -86 dBm)	0.44
	(≥ -93 dBm)	3.40	(≥ -82 dBm)	8.07	(≥ -96 dBm)	2.12
Roadway (mi):	Main:	3.35	Main:	3.12	Main:	2.50
	Secondary:	6.94	Secondary:	21.93	Secondary:	5.35
	Total:	10.29	**Total:**	25.05	**Total:**	7.85

Q33. Provide the lengths of the coverage that AT&T would provide along secondary roads from the proposed site at the proposed frequencies, e.g. 700 MHz, 850

[2] Population figures are based upon 2010 US Census Block Data
[3] Population figures are based upon 2010 US Census Block Data

MHz, and 1900 MHz or as applicable. Also provide such data assuming that the tower is ten feet shorter.

A33. *Please see A32 above.*

Q34. What is the predicted coverage footprint from the proposed site (in square miles), at each frequency used by AT&T? Also, provide such coverage footprints assuming that the tower is ten feet shorter.

A34. *Please see tables in A32 above.*

Q35. Does the fire department have an existing backup generator? Would the proposed tower facility share the existing generator at the fire department for backup power? Or if the existing generator would be replaced or upgraded, please indicate that as well. If the fire department's generator would be utilized for the proposed tower facility, provide the size of the generator in kilowatts.

A35. *While the fire department has a generator it is not recommended that it be shared. Please see memorandum from MCM's consultant included as Attachment 7.*

Q36. What is the fuel source, amount of fuel storage, and estimated run time for the backup generator before it would need to be refueled?

A36. *There is no permanent back-up generator currently planned due to space limitations and current usage of the Premises. Provisions are incorporated into the site design for the use of temporary portable generators in case of an outage.*

Q37. Would AT&T also provide battery backup to provide seamless uninterrupted power (in order to prevent a reboot condition) while the backup generator starts? If the generator fails to start, approximately how many hours could the battery backup power AT&T's equipment?

A37. *Battery back-up can provide power for approximately 4-6 hours, depending on the load to the system.*

Q38. Has AT&T considered using a fuel cell as a backup power source for the proposed site? Explain.

A38. *As set forth in the Siting Council's Feasibility Study in Docket 432 (Feasibility study of backup power requirements for telecommunications towers and antennas pursuant to Public Act 12-148), the type of backup power chosen for use at a facility is determined by facility constraints (such as space, weight restrictions, lease arrangements, zoning codes), environmental limitations and liabilities, capital and operating/maintenance costs, network functionality and fuel availability. Given the significant costs associated with fuel cells, they are not considered a viable option as a backup power source at this time.*

Q39. Identify the safety standards and/or codes which govern the equipment, machinery, or technology to be used or operated at the proposed facility.

A39. *OSHA and ET docket 93-62 and 47 CFR parts 1,2,15,42 and 97 as well as OET Bulletin 65, Edition 97-01.*

Q40. Will the proposed facility support text-to-911 service? Is additional equipment required for this purpose?

A40. *AT&T and this facility will be able to support text-to-911 service once this functionality is supported and requested by the Public Safety Answering Point (PSAP). AT&T is not aware that this functionality has yet been requested for this area.*

Q41. Is AT&T aware of any Public Safety Answering Points in the area of the proposed site that are able to accept text-to-911?

A41. *Please see A40 above.*

Q42. Provide the status of the Connecticut Department of Energy and Environmental Protection (DEEP) and the State Historic Preservation Office (SHPO) review of the proposed site.

A42. *DEEP responded in a June 25, 2014 letter that no negative impacts to State-listed species (RCSA Sec. 26-306) are anticipated from the proposed MCM activity. A copy of the letter is included in Attachment 8.*

MCM met with a representative of SHPO on Tuesday June 24, 2014 at the subject property to discuss the proposed development. Prior consultation with this agency included the submission of site plans, photo-simulations and other supporting documentation. The SHPO is currently evaluating the proposal and has issued no formal correspondence at this time.

Q43. Is the proposed site near an "Important Bird Area" as designated by the National Audubon Society?

A43. *No. The nearest Important Bird Area to the proposed site, The Nature Conservancy's Devil's Den Preserve in Weston and Redding, is located approximately 4.6 miles to the southwest. Please see analysis provided as Attachment 9.*

Q44. Would AT&T's proposed facility comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?

A44. *Yes. Please see analysis provided as Attachment 9.*

Q45. What, if any, stealth tower design options would be feasible to employ at this site?

A45. *Flush mounting is not deemed feasible as it would limit AT&T technically and/or require a much taller tower. The potential for a taller tower at this location, or one with additional loading such as a "monopine" style tower at this location is limited due to the size and extent of the foundation needed. A larger foundation may encroach into the existing lattice tower and foundation which needs to remain in place and be active until the new tower is built to maintain the Fire Department's level of emergency communication service.*

It should be noted that the overall "footprint" of visibility associated with the proposed facility is minimal. With the exception of views attained within less than 0.5 mile of the property, the proposed tower would be negligibly discernable at distances beyond one mile or through intervening trees and existing infrastructure. In MCM's opinion, consideration of stealth design options is not warranted in this specific instance. With the exception of abutting properties, views of the proposed tower are limited and sporadic in nature.

Q46. What is the cumulative noise level that MCM expects at the nearest property line from the proposed facility taking into account all four proposed air conditioning units (i.e. two for AT&T and two for Cellco)?

A46. *See attached Noise Evaluation Report prepared by HMB Acoustics LLC, dated June 25, 2014 provided in Attachment 10.*

Q47. Would any blasting be required to develop the site?

A47. *Blasting does not appear to be necessary for development of this site by MCM as the property is underlain by fill and glacial till.*

Q48. Is the proposed site located within a 100-year or 500-year flood zone? Provide a Federal Emergency Management Agency flood map with the proposed site identified on the map.

A48. *No, according to the Flood Insurance Rate Map, Fairfield County, Connecticut, Panel 265 of 626, Map Number 09001C0265F, effective date June 18, 2010, the proposed site is located outside of both the 100-year and 500-year flood hazard zones. The nearest flood hazard zone (500-year; shaded Zone X) to the proposed site is located 675± feet to the southwest. Please see Attachment 11.*

Q49. Provide a Functions and Values assessment of Wetland 1.

A49. *Please see assessment included as Attachment 12.*

CERTIFICATE OF SERVICE

I hereby certify that on this day, an original and fifteen copies of the foregoing were sent electronically and by overnight mail to the Connecticut Siting Council with copy to:

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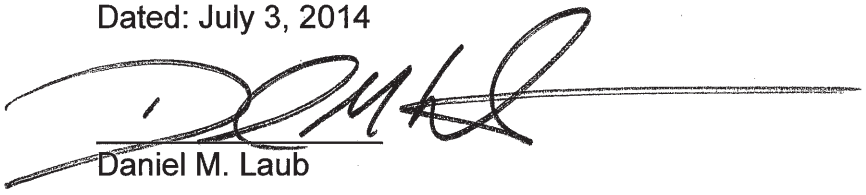
Dated: July 3, 2014



Daniel M. Laub

ATTACHMENT 1

Site Search Summary

In addition to the investigation of existing towers and facilities in the area, AT&T investigated or otherwise has knowledge of several locations for the construction of a new site or has some knowledge regarding investigation by others. The description of the individual sites investigated is summarized below. Where applicable, the reason for eliminating the property from consideration is also included. Following these descriptions is a map indicating the location of all sites investigated.

1. Address: 186 Black Rock Turnpike
Owner: Redding FD 1
Map/Lot: 23-72
Deed: Not Avail.
Zoning District: R-28
Lot Size: Approximately 0.84 Acres
41-18-35.8N 73-20-51.3W

This property is the candidate site.

2. Address: 12 Huckleberry Road)
Map/Lot: 38-10
Deed: 95/85
Owner: Welp
Zoning District: R-2
Lot Size: Approximately 6.32 Acres
41-17-12.5 N 73-21-41.8W

Proposed new tower on single family residential property. Owner was unresponsive.

3. Address: 18 Huckleberry Road
Map/Lot: 38-8
Deed: 340/1055
Owner: Vanoostendorp
Zoning District: R-2
Lot Size: Approximately 10 Acres
41-17-17.3 N 73-21-46.1W

Proposed new tower on single family residential property. Owner returned phone call & indicated he was not interested.

4. Address: 7 Sanfordtown Road
Map/Lot: 30-35
Deed: 88/76
Owner: Witte
Zoning District: R-2
Lot Size: Approximately 21.85 Acres
41-17-31.5N 73-22-22.5W

Proposed new tower on single family residential property. Owner was unresponsive.

5. Address: 271 Newtown Tpke.
Map/Lot: 30-94
Deed: 270/423
Owner: Wilhelmy
Zoning District: R-2
Lot Size: Approximately 36.63 Acres
41-17-58N 73-22-22.5W

Proposed new tower on single family residential property rejected by AT&T's radio frequency engineers.

6. Address: 478 Newtown Tpke., Weston (Morehouse Park)
Map/Block/Lot: 6/1/4
Deed: 281/779 & 289/527
Owner: Town of Weston
Lot Size: Approximately 32.56 Acres
41-15-47.6N 73-22-33W

Proposed stealth facility at the Town's recreation facility. Town was initially interested, but it was ultimately deemed unavailable due to restrictive use covenants and concerns about location in proximity to a watershed.

7. Address: 40 Dayton Road
Map/Lot: 43-56
Deed: 80/534
Owner: Town of Redding
Zoning District: R-2
Lot Size: Approximately 52.18 Acres
41-16-11N 73-23-35W

Proposed new tower on Town-owned, undeveloped parcel. Town was not interested in AT&T's proposal at this location.

8. Address: 55 Dorethy Road
Map/Lot: 43-73
Deed: 337/826
Owner: Granskog Family Investments
Zoning District: R-2
Lot Size: Approximately 110.14 Acres
41-16-7N 73-23-54.8W

Proposed new tower on undeveloped land rejected by AT&T's radio frequency engineers.

9. Address: 26 Giles Hill Road
Map/Lot: 31-49
Deed: 133/872
Owner: Fine
Zoning District: R-2
Lot Size: Approximately 164 Acres
41-17-46.5N 73-20-55W

Proposed new tower (by others) rejected by AT&T's radio frequency engineers.

10. Address: 36 Huckleberry Road
Map/Lot: 39-4
Deed: 216/948
Owner: Fine
Zoning District: R-2
Lot Size: Approximately 10.62 Acres
41-17-8N 73-21-28.7W

Proposed new tower (by others). Tower developer unsuccessful in leasing the property.

11. Address: 32 Giles Hill Road
Map/Lot: 39-3
Deed: 237/264
Owner: Reznar Revocable Trust
Zoning District: R-2
Lot Size: Approximately 5.95 Acres
41-16-55.5N 73-21-12W

Proposed new tower (by others). Parcel is landlocked by Nature Conservancy land.

12. Address: 40 Glen Road
Map/Lot: 37-13
Deed: 262/255
Owner: Aquarion Water Co. of CT
Zoning District: R-2
Lot Size: Approximately 186.43 Acres
41-17-13N 73-22-38W

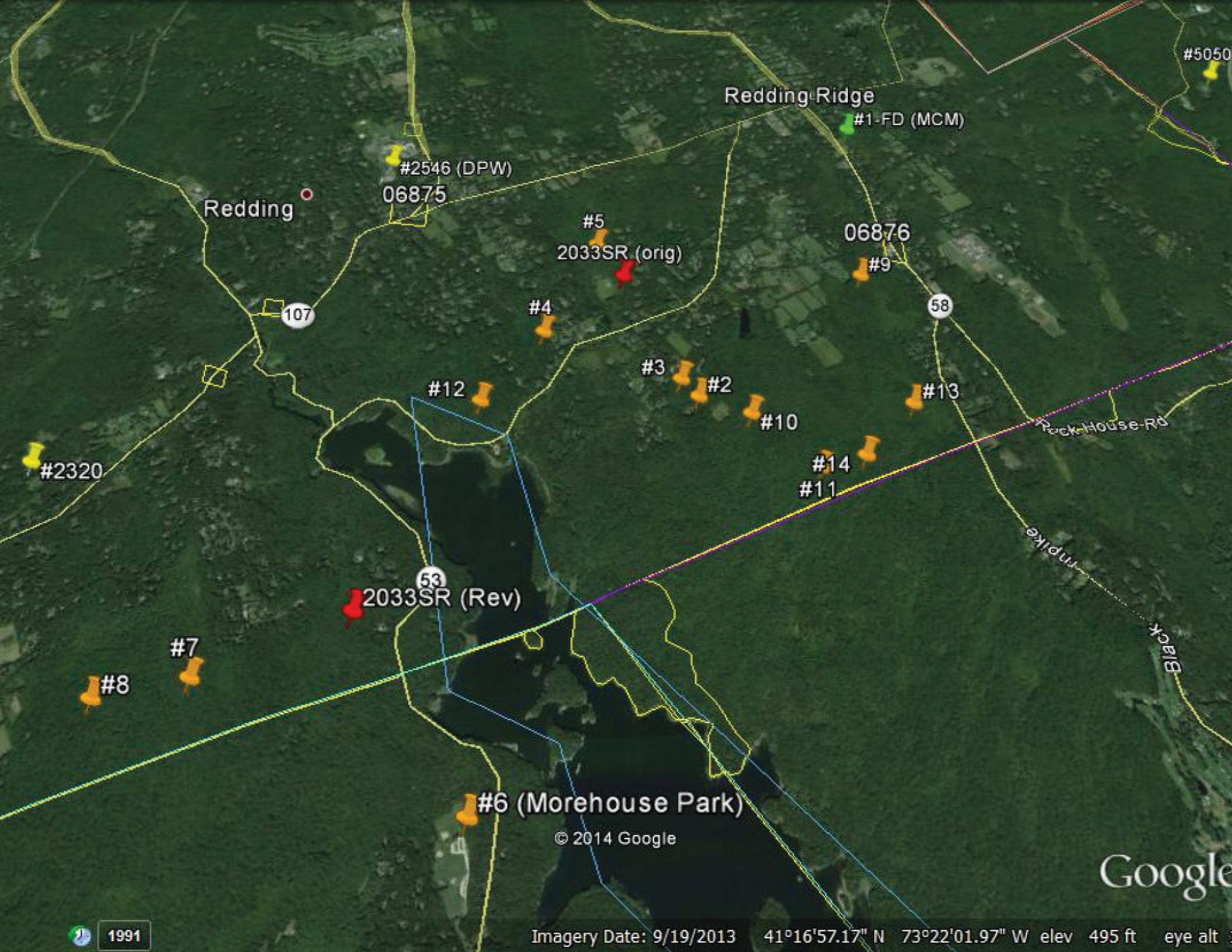
Proposed new tower on undeveloped land. Aquarion representative indicated they were not interested in developing property on this watershed land.

13. Address: 71 Black Rock Tpke.
Map/Lot: 31-59
Deed: 262/255
Owner: Aquarion Water Co. of CT
Zoning District: R-2
Lot Size: Approximately 160 Acres
41-17-11N 73-20-47W

Proposed new tower on undeveloped land. Aquarion representative indicated they were not interested in developing property on this watershed land.

14. Address: 38 Giles Hill Road
Map/Lot: 32-15
Deed: 370/382
Owner: Paltauf
Zoning District: R-2
Lot Size: Approximately 7.8 Acres
41-16-58N 73-21-1.2W

Proposed new tower (by others). Parcel requires an access easement from abutting property owner (Aquarion), who again expressed concern with watershed property.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Redding Ridge
#1-FD (MCM)
#2546 (DPW)
06875
Redding
#5
2033SR (orig)
06876
#9
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58
#3
#2
#12
#13
#10
Rock House Rd
#2320
#14
#11
53
2033SR (Rev)
#7
#8
#6 (Morehouse Park)
© 2014 Google
Google
1991
Imagery Date: 9/19/2013
41°16'57.17" N
73°22'01.97" W
elev
495 ft
eye alt

ATTACHMENT 2

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

Hexport Multi-Band Antenna Array

The CCI Hexport Multi-Band Antenna Array is an industry first 6-port antenna with full WCS Band Coverage. With four high band ports and two low band ports, our hexport antenna is ready for 4X4 high band MIMO.

Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.

Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.

Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2170 MHz and WCS 2300 MHz coverage in a single enclosure.

Benefits

- **Includes WCS Band**
- **Reduces tower loading**
- **Frees up space for tower mounted E-nodes**
- **Single radome with six ports**
- **All Band design simplifies radio assignments**
- **Sharp elevation beam eases network planning**

Features

- High Band Ports include WCS Band
- Four High Band ports with two Low Band ports in one antenna
- Sharp elevation beam
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Excellent PIM Performance
- A multi-network solution in one radome

Applications

- 4x4 MIMO on High Band and 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas
- Adding WCS Band without increasing antenna count

ISO 9001:2008
Quality Management Systems
Système de Qualité
www.ca.sgs.com

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

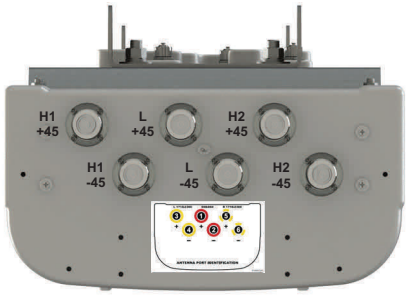
HPA-65R Multi-Band Antenna

Electrical Specifications

Frequency Range	2 X Low Band Ports which cover the full range from 698-894 MHz		4 X High Band Ports which cover the full range from 1710-2360 MHz			
	698-806 MHz	824-894 MHz	1850-1990 MHz	1710-1755/2110-2170 MHz	2305-2360 MHz	
Gain	15.3 dBi	16.2 dBi	17.1 dBi	16.3 dBi	17.4 dBi	17.7 dBi
Azimuth Beamwidth (-3dB)	65°	61°	62°	68°	64°	60°
Elevation Beamwidth (-3dB)	10.1°	8.4°	5.6°	6.2°	5.0°	4.5°
Electrical Downtilt	2° to 10°	2° to 10°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	< -17 dB	< -17 dB	< -19 dB	< -18 dB	< -18 dB	< -17 dB
Front-to-Back Ratio @180°	> 29 dB	> 28 dB	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio over ± 20°	> 28 dB	> 27 dB	> 28 dB	> 27 dB	> 28 dB	> 28 dB
Cross-Polar Discrimination (at Peak)	> 24 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Discrimination (at ± 60°)	> 16 dB	> 14 dB	> 18 dB	> 18 dB	> 18 dB	> 18 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
VSWR	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc
Input Power	500 Watts CW	500 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

Mechanical Specifications

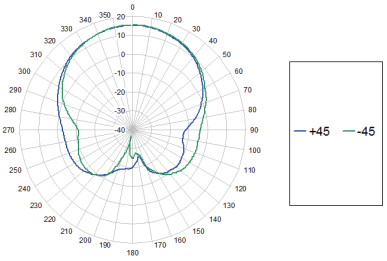
Dimensions (LxWxD)	92.4 x 14.8 x 7.4 inches (2348 x 376 x 189 mm)
Survival Wind Speed	> 150 mph
Front Wind Load	332 lbs (1479 N) @ 100 mph (161 kph)
Side Wind Load	193 lbs (860 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	13.0 ft^2 (1.2 m^2)
Weight (without Mounting)	68 lbs (31 kg)
RET System Weight	5.0 lbs (2.25 kg)
Connector	6; 7-16 DIN female long neck
Mounting Pole	2-5 inches (5-12 cm)



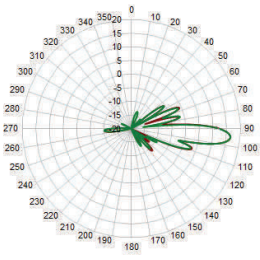
Bottom View

Rear View

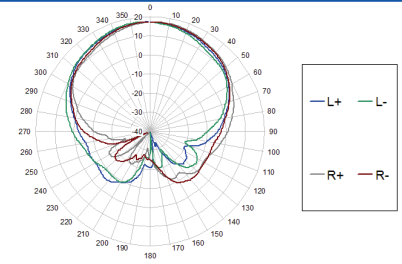
Antenna Patterns*



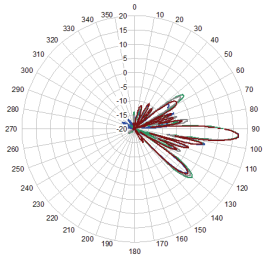
894 MHz Azimuth



Elevation 5°



1920 MHz Azimuth



Elevation 4°

*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciproducts.com. All specifications are subject to change without notice.

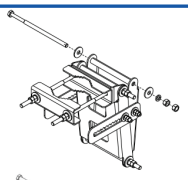
HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

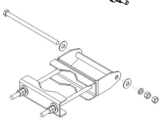
Ordering Information:

HPA-65R-BUU-H8	8 Foot Hexport Antenna with 65° Azimuth Beamwidth with Factory Installed Actuators (\3)
HPA-65R-BUU-H8-K	Complete Kit with Antenna, Factory Installed Actuators (3) and M03 Mounting Bracket
BSA-RET200	RET Actuator
BSA-M03	Mounting Bracket (Top & Bottom) with 0° through 10° Mechanical tilt Adjustment

M03 Top Mounting Bracket



M03 Bottom Mounting Bracket



RET [Remote Electrical Tilt] System

General Specification

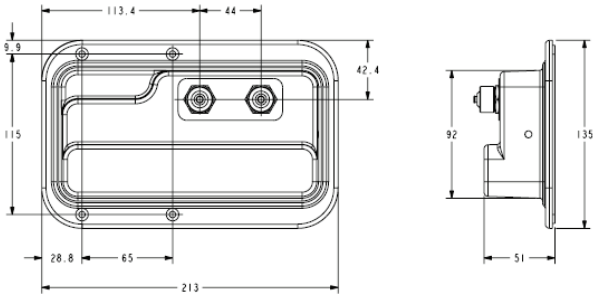
Part Number	BSA-RET200
Protocols	AISG 2.0
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40°C to +70°C

Electrical Specification

Interface Signal	Data | dc
Input Voltage Range	10-30 Vdc, Specifications at +24 VDC
Current consumption during tilting	120mA at Vin = 24V
Current consumption idle	55mA at Vin=24V
Hardware Interface	AISG - RS 485 A/B
Input Connector	1x8-pin Daisy Chain In Male
Output Connector	1x8-pin Daisy Chain Out Female

Mechanical Specification and Dimensions

Housing Material	ASA / ABS / Aluminum
Dimensions (H x W x D)	8 x 5 x 2 inches (213 x 135 x 51 mm)
Weight	1.5 lbs (0.68 kg)



Standards Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC 60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-2-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN60529 IP24

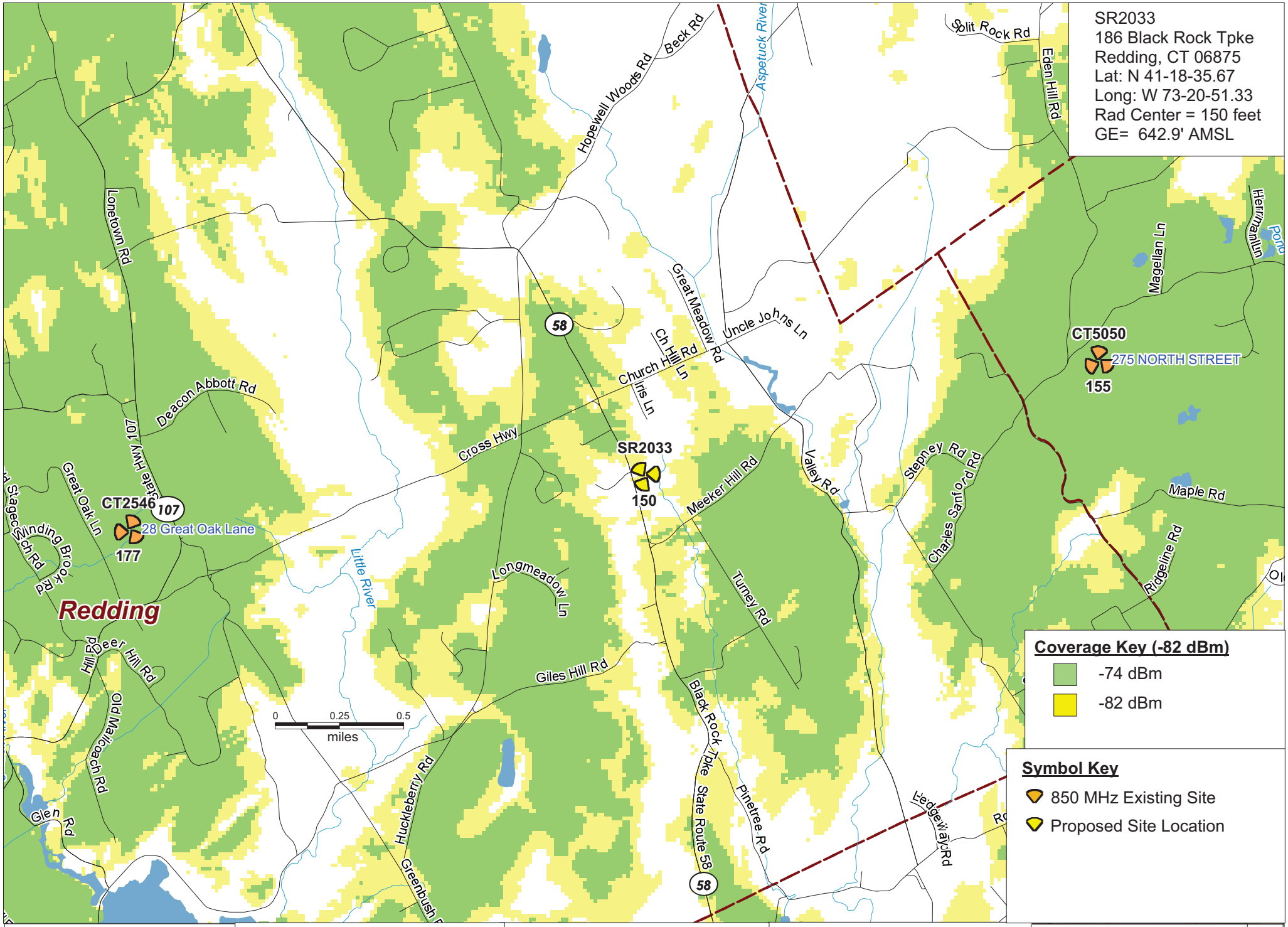
Regulatory Certification

AISG, FCC Part 15 Class B, CE, CSA US

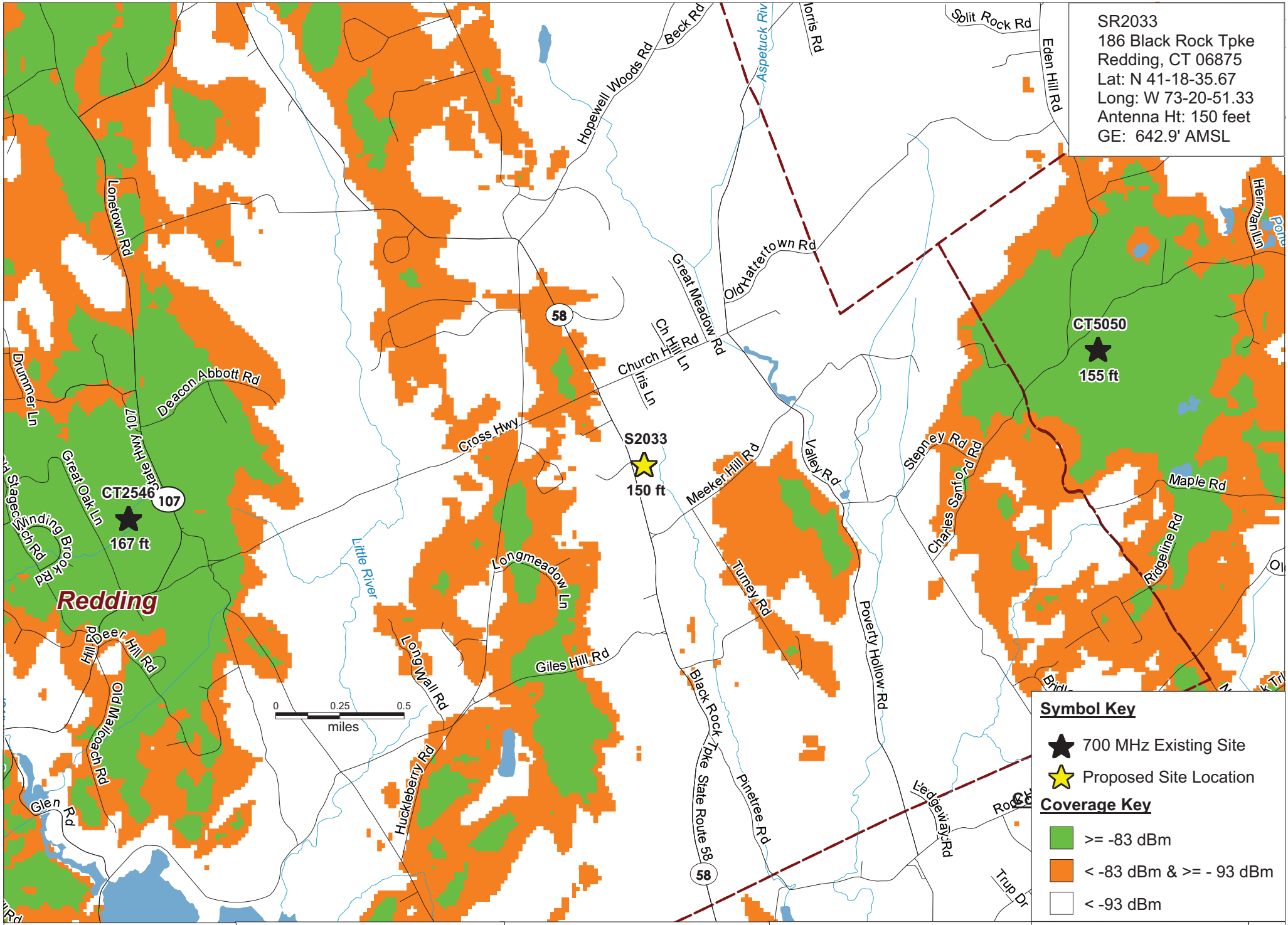
ATTACHMENT 3

AT&T motion-activated flood lights on shelter

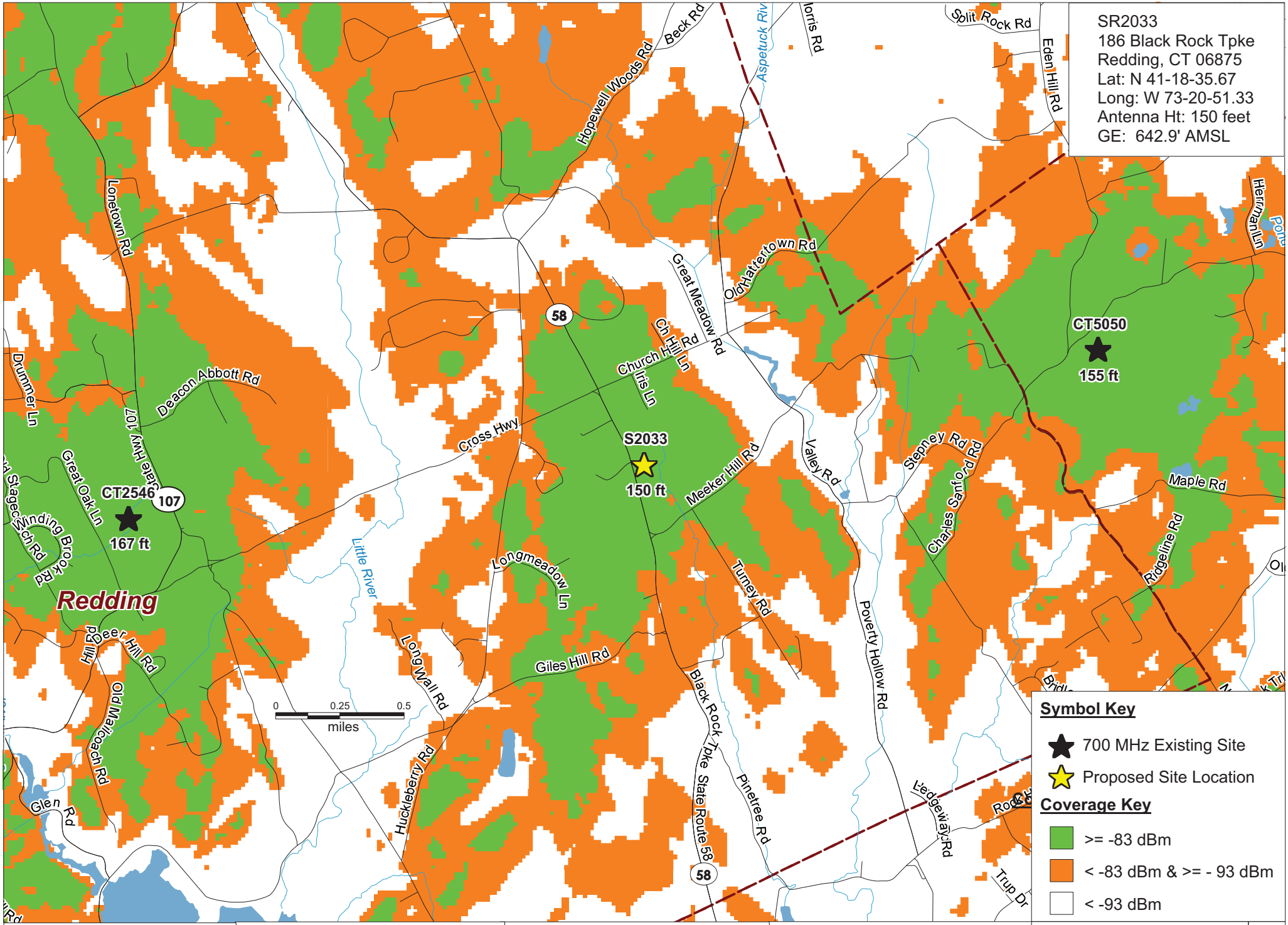
ATTACHMENT 4



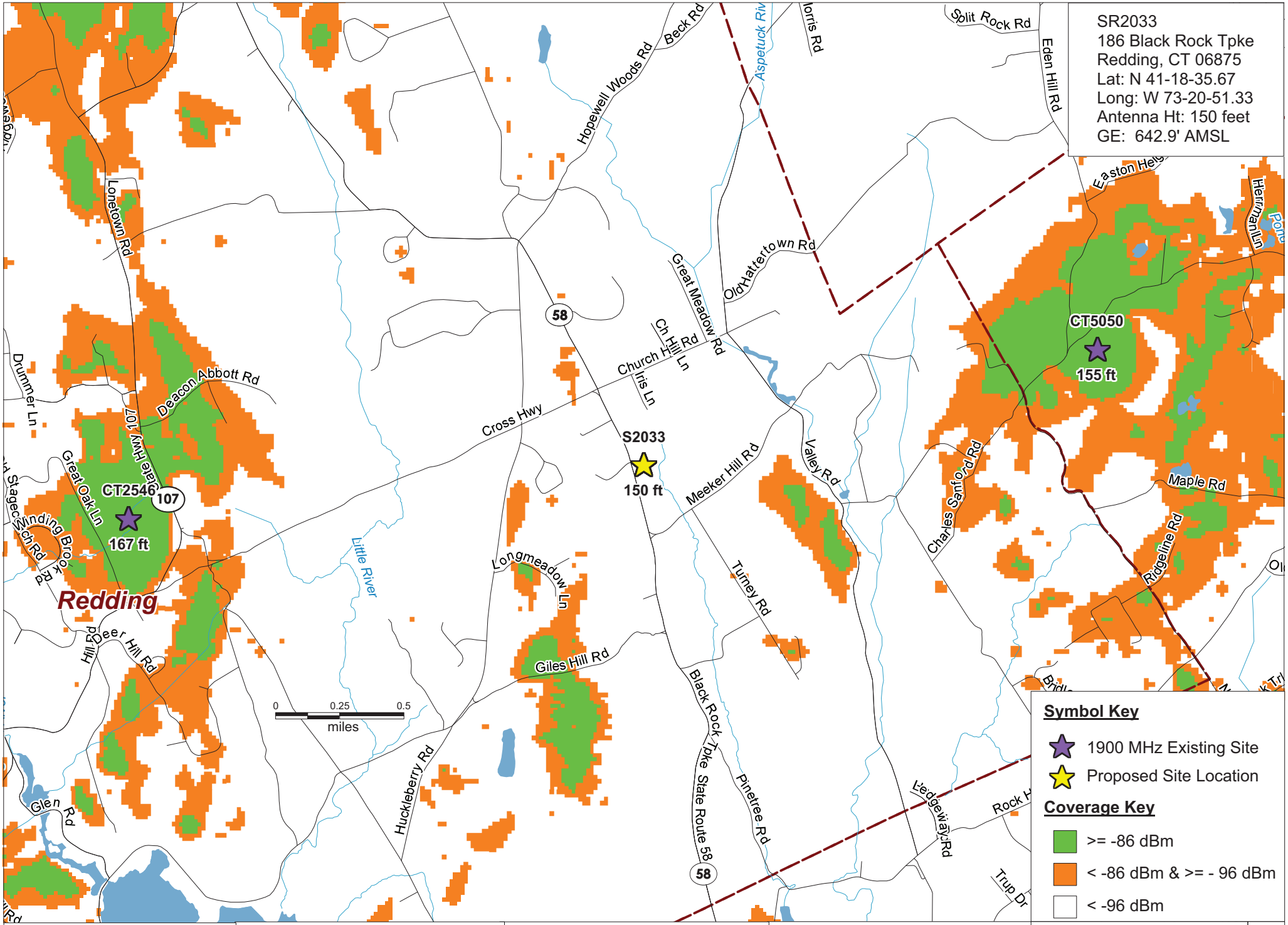
Existing Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/25/2014 REV 0



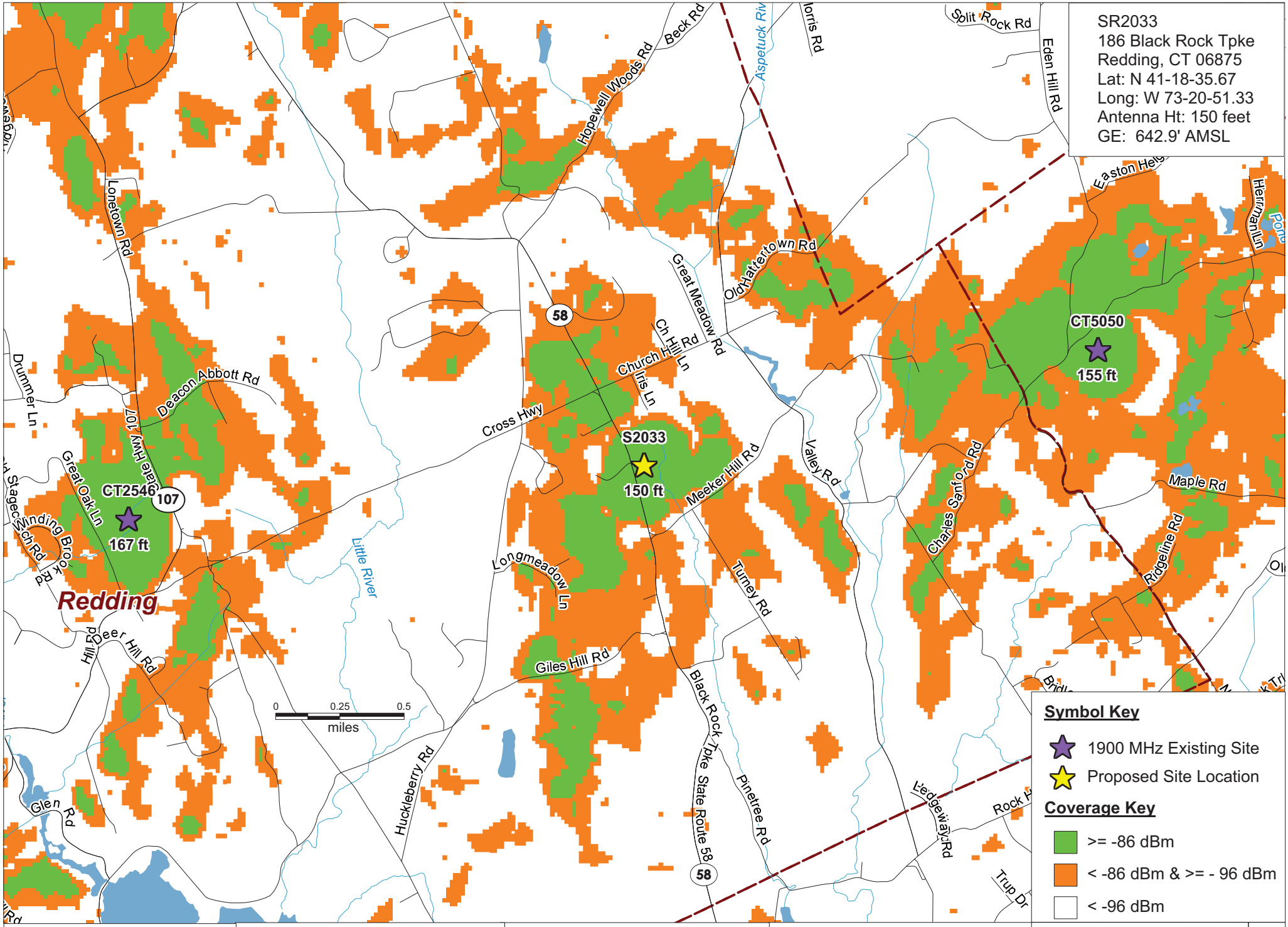
Existing 700 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0



Existing & Proposed 700 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0

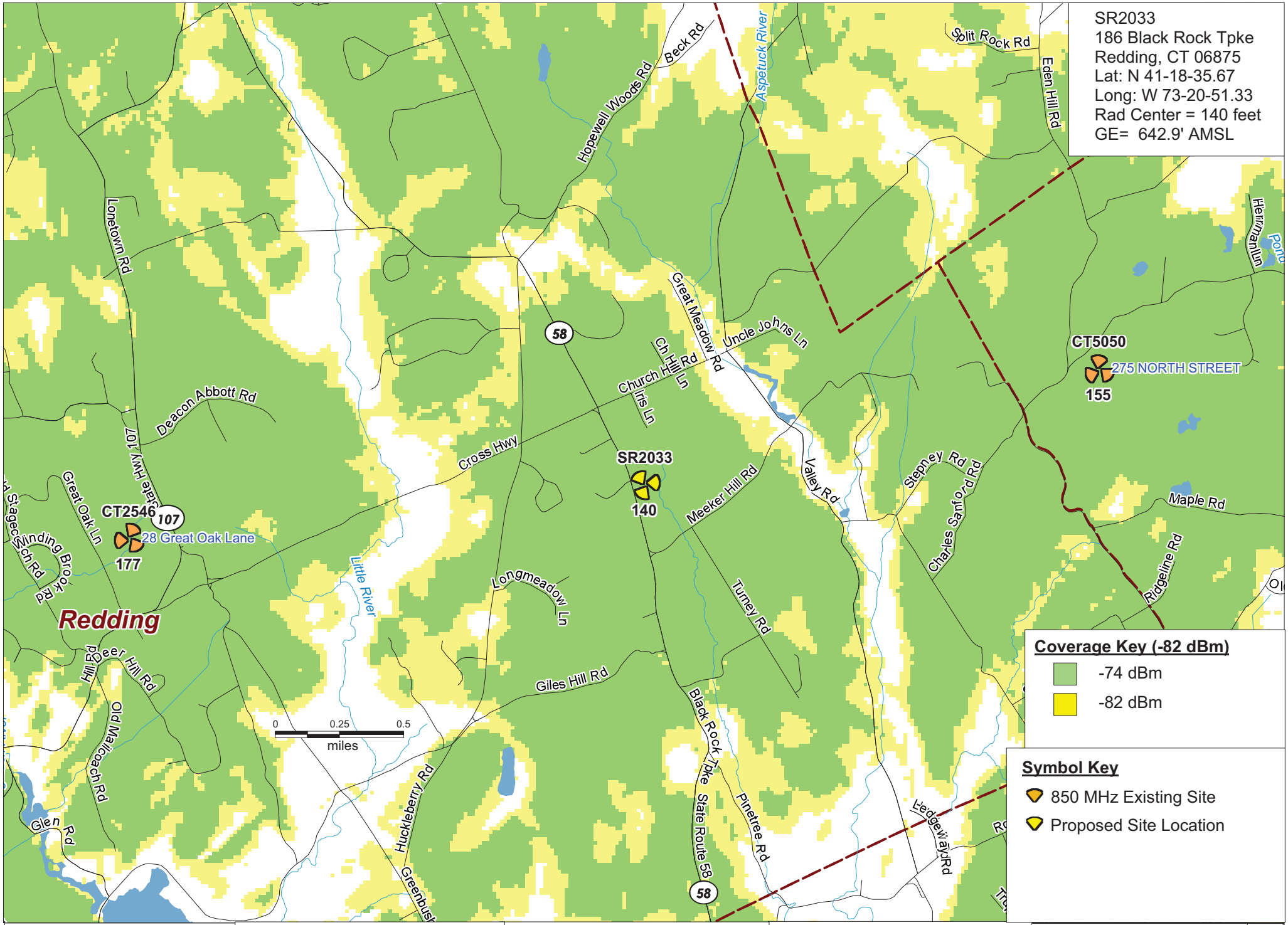


Existing 1900 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0

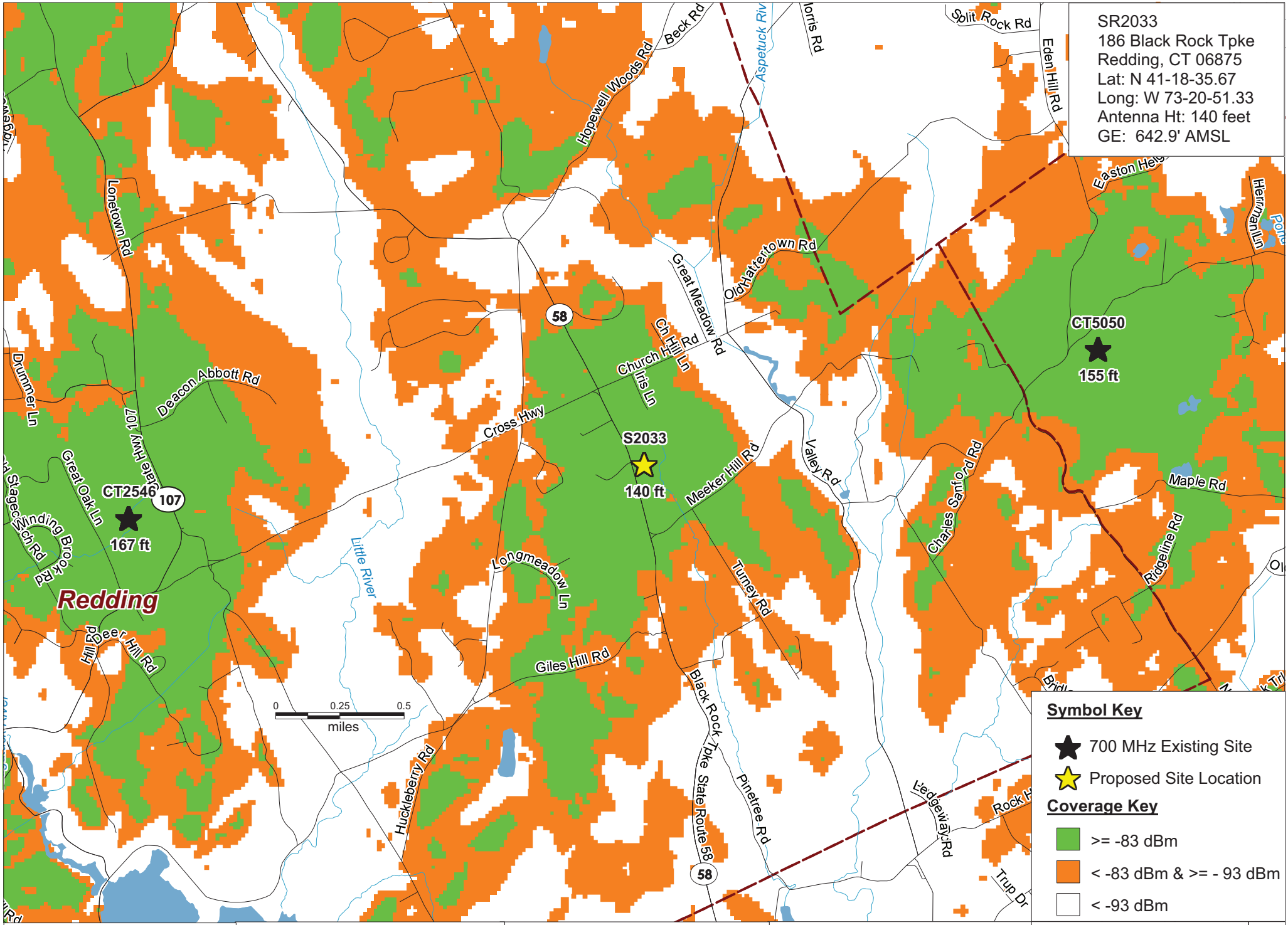


Existing & Proposed 1900 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0

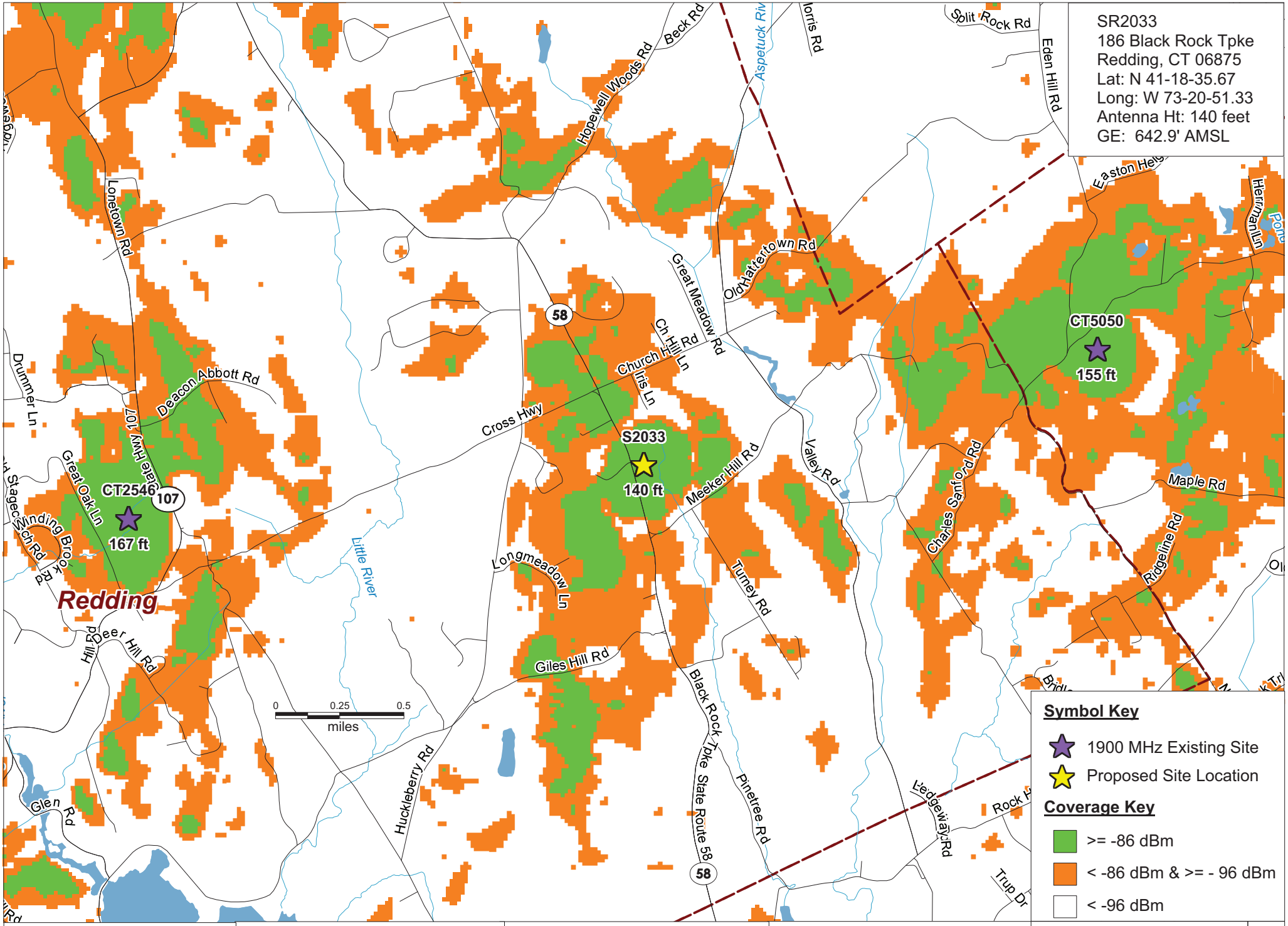
ATTACHMENT 5



Existing and Proposed Coverage at 140 feet	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/25/2014	REV 0



Existing & Proposed @ 140' 700 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0



Existing & Proposed @ 140' 1900 MHz LTE Coverage	SR2033 Redding, CT	186 Black Rock Tpke. Redding CT	at&t	PREPARED ON DATE: 06/19/2014 REV 0

ATTACHMENT 6

Incremental Coverage - 150 feet AGL @ 700 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	0.23
Church Hill Rd	0.35
Maple Rd	0.01
Newtown Tpke	0.41
Rock House Rd	0.41
Sport Hill Rd	0.65
State Hwy 58	1.44
Stepney Rd	0.05
Total (miles)	**3.55**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Barlow Dr	0.09
Beech Ln	0.05
Charles Sanford Rd	0.11
Church Hill Ln	0.15
Cross Hwy	0.40
Cross Pl	0.04
Deacon Abbott Rd	0.01
Eden Hill Rd	0.02
Farm Meadow Rd	0.34
Foundry Rd	0.08
Giles Hill Rd	0.37
Goodridge Rd	0.52
High Ridge Rd	0.33
Hopewell Woods Rd	0.45
Iris Ln	0.15
John Read Rd	0.06
Longmeadow Ln	0.12
Meadows Edge	0.04
Meeker Hill Rd	0.32
Middlebrook Pond Rd	0.14
N Park Ave	0.17
Old Hattertown Rd	0.43
Packer Brook Rd	0.33
Putnam Dr	0.06
Sherman Tpke	0.14
Silversmith Ln	0.16
South Ln	0.14
Storm Ridge Rd	0.11
Sullivan Dr	0.27
Sullivan Rd	0.06
Sunnyview Dr	0.03
Sunset Hill Rd	0.33
Towns End Rd	0.55
Turney Rd	0.15
Uncle Johns Ln	0.11
Valley Rd	0.47
Vista Dr	0.16
Total (miles)	**7.46**

Incremental Coverage - 140 feet AGL @ 700 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	0.17
Church Hill Rd	0.34
Newtown Tpke	0.39
Rock House Rd	0.41
Sport Hill Rd	0.65
State Hwy 58	1.37
Stepney Rd	0.02
Total (miles)	**3.35**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Barlow Dr	0.14
Charles Sanford Rd	0.11
Church Hill Ln	0.15
Cross Hwy	0.36
Cross Pl	0.04
Deacon Abbott Rd	0.01
Eden Hill Rd	0.02
Farm Meadow Rd	0.34
Giles Hill Rd	0.34
Goodridge Rd	0.43
High Ridge Rd	0.31
Hopewell Woods Rd	0.42
Iris Ln	0.15
John Read Rd	0.02
Longmeadow Ln	0.11
Meadows Edge	0.04
Meeker Hill Rd	0.32
Middlebrook Pond Rd	0.14
N Park Ave	0.16
Old Hattertown Rd	0.43
Packer Brook Rd	0.33
Putnam Dr	0.04
Sherman Tpke	0.12
Silversmith Ln	0.16
South Ln	0.14
Storm Ridge Rd	0.11
Sullivan Dr	0.25
Sullivan Rd	0.06
Sunnyview Dr	0.03
Sunset Hill Rd	0.31
Towns End Rd	0.54
Turney Rd	0.15
Uncle Johns Ln	0.07
Valley Rd	0.43
Vista Dr	0.16
Total (miles)	**6.94**

Incremental Coverage - 150 feet AGL @ 850 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	1.11
Hattertown Rd	0.70
Pinetree Rd	0.30
Rock House Rd	0.27
Sport Hill Rd	0.47
State Hwy 107	0.14
State Hwy 58	0.69
State Route 58	0.21
Stepney Rd	0.17
Westport Rd	0.98
Total (miles)	**5.04**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Abbotts Hill Rd	0.18
Adams Rd	0.73
Arthurs Ct	0.14
Barrows Rd	0.41
Bart Rd	0.05
Beck Rd	0.10
Bellevale St	0.02
Bibbons Rd	0.43
Blue Spruce Cir	0.01
Bohus Ln	0.04
Brookside Dr	0.03
Brushy Hill Rd	0.09
Burroughs Rd	0.17
Carmen Ln	0.00
Cedar Hill Ln	0.16
Cedar Hill Rd	0.38
Center Rd	1.17
Church Hill Ln	0.12
Church Hill Rd	0.22
Country Club Ln	0.03
Cross Hwy	0.53
Cross Pl	0.02
Dairy Ln	0.10
Davis Hill Rd	0.10
Deacon Abbott Rd	0.02
Deerfield Dr	0.03
Den Rd	0.13
Eden Hill Rd	0.45
Farm Meadow Rd	0.50
Flat Swamp Rd	0.09
Foundry Rd	0.29
Freeborn Rd	0.01
Giles Hill Rd	0.16
Goodridge Rd	0.60

Great Meadow Rd	0.35
Greenleaf Farms Rd	0.14
Hi Barlow Rd	0.06
Hickory Knoll Rd	0.21
High Ridge Rd	0.29
Hillcrest Ln	0.00
Hiram Hill Rd	0.09
Honeysuckle Hill Ln	0.05
Hopewell Rd	0.01
Hopewell Woods Rd	0.89
Iris Ln	0.15
John Read Rd	0.34
Kellers Farm Rd	0.31
Key Rock Rd	0.21
Knollcrest Rd	0.17
Lasky Dr	0.10
Ledgeway Rd	0.04
Ledgewood Dr	0.00
Lobdell Ln	0.14
Maple Rd	0.07
Merlins Ln	0.32
Middlebrook Pond Rd	0.30
Morehouse Rd	0.35
Morris Rd	0.24
Mount Nebo Rd	0.52
N Park Ave	0.12
Newtown Tpke	0.33
Northwood Dr	0.01
Oak Ridge Dr	0.51
Old Hattertown Rd	0.44
Old Purdy Station Rd	0.26
Old Sow Rd	0.29
Orchard Ln	0.12
Overlook Ave	0.06
Ox Hill Rd	0.23
Packer Brook Rd	0.17
Pheasant Ln	0.09
Phyllis Ln	0.18
Pocahontas Rd	0.04
Poverty Hollow Rd	2.15
Purdy Station Rd	0.24
Putnam Ave	0.06
Putnam Dr	0.03
Putnam Hill Dr	0.05
Saddle Ridge Rd	0.12
School Hill Rd	0.12
Sherman Tpke	0.44
Silver Hill Rd	0.53
Silversmith Ln	0.16
Split Rock Rd	0.36
Sport Hill Rd	0.57
Staples Rd	1.52
Stepney Rd	0.08
Stonewall Rdg	0.11

Storm Ridge Rd	0.11
Strobel Rd	0.02
Sullivan Rd	0.11
Sunny Ridge Rd	0.10
Sunset Hill Rd	0.11
Sweetbrier Trl	0.02
Towns End Rd	1.02
Tranquility Dr	0.21
Trup Dr	0.13
Turney Rd	0.02
Uncle Johns Ln	0.23
Valley Rd	2.26
Vista Dr	0.16
Vl Forge Rd	0.04
Vonas Way	0.16
Wiley Ln	0.04
Wilson Rd	0.08
Wood End Dr	0.32
Total (miles)	**27.39**

Incremental Coverage - 140 feet AGL @ 850 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	1.02
Hattertown Rd	0.50
Newtown Tpke	0.02
Pinetree Rd	0.23
Rock House Rd	0.20
Sport Hill Rd	0.14
State Hwy 107	0.14
State Hwy 58	0.44
State Route 58	0.20
Stepney Rd	0.04
Westport Rd	0.19
Total (miles)	**3.12**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Abbotts Hill Rd	0.17
Adams Rd	0.24
Arthurs Ct	0.11
Barrows Rd	0.35
Bart Rd	0.06
Beck Rd	0.09
Bellevale St	0.04
Bibbons Rd	0.21
Blue Spruce Cir	0.03
Brookside Dr	0.01
Brushy Hill Rd	0.01
Burroughs Rd	0.17
Carmen Ln	0.15
Cedar Hill Ln	0.04
Cedar Hill Rd	0.22
Center Rd	0.64
Church Hill Ln	0.12
Church Hill Rd	0.19
Country Club Ln	0.03
Cross Hwy	0.50
Cross Pl	0.02
Dairy Ln	0.10
Davis Hill Rd	0.10
Deacon Abbott Rd	0.02
Den Rd	0.13
Dorethy Rd	0.06
Eden Hill Rd	0.17
Farm Meadow Rd	0.50
Fieldstone Dr	0.04
Flat Swamp Rd	0.07
Foundry Rd	0.55
Giles Hill Rd	0.16
Goodridge Rd	0.60

Great Meadow Rd	0.28
Greenleaf Farms Rd	0.13
High Ridge Rd	0.29
Hillcrest Ln	0.02
Hiram Hill Rd	0.17
Hopewell Rd	0.01
Hopewell Woods Rd	0.87
Iris Ln	0.15
John Read Rd	0.34
Kellers Farm Rd	0.16
Key Rock Rd	0.20
Knollcrest Rd	0.17
Lasky Dr	0.08
Ledgewood Dr	0.04
Lobdell Ln	0.13
Maple Rd	0.07
Merlins Ln	0.15
Middlebrook Pond Rd	0.30
Morehouse Rd	0.11
Morris Rd	0.24
Mount Nebo Rd	0.41
N Park Ave	0.12
Newtown Ln	0.01
Newtown Tpke	0.41
Oak Ridge Dr	0.27
Old Hattertown Rd	0.44
Old Purdy Station Rd	0.14
Old Sow Rd	0.29
Orchard Ln	0.01
Overlook Ave	0.05
Ox Hill Rd	0.17
Packer Brook Rd	0.17
Pheasant Ln	0.00
Phyllis Ln	0.14
Pocahontas Rd	0.04
Poverty Hollow Rd	1.56
Purdy Station Rd	0.16
Putnam Ave	0.06
Putnam Dr	0.03
Putnam Hill Dr	0.05
Sanfordtown Rd	0.01
School Hill Rd	0.05
Sherman Tpke	0.54
Silver Hill Rd	0.33
Silversmith Ln	0.16
Split Rock Rd	0.36
Sport Hill Rd	0.49
Staples Rd	1.21
Stepney Rd	0.19
Stonewall Rdg	0.10
Storm Ridge Rd	0.11
Strobel Rd	0.05
Sullivan Rd	0.11
Sunny Ridge Rd	0.10
Sunset Hill Rd	0.11
Sweetbrier Trl	0.01
Thankful Bradley Rd	0.00
Towns End Rd	0.96
Tranquility Dr	0.11

Trup Dr	0.13
Turney Rd	0.02
Uncle Johns Ln	0.21
Valley Rd	1.51
Vista Dr	0.16
Vl Forge Rd	0.02
Vonas Way	0.16
Wiley Ln	0.04
Wilson Rd	0.07
Wood End Dr	0.30
Total (miles)	**21.93**

Incremental Coverage - 150 feet AGL @ 1900 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	0.23
Church Hill Rd	0.32
Newtown Tpke	0.31
Sport Hill Rd	0.47
State Hwy 58	1.16
Stepney Rd	0.12
Total (miles)	**2.61**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Barlow Dr	0.01
Beech Ln	0.02
Charles Sanford Rd	0.11
Church Hill Ln	0.05
Cross Hwy	0.62
Cross Pl	0.04
Deacon Abbott Rd	0.01
Farm Meadow Rd	0.23
Giles Hill Rd	0.15
Goodridge Rd	0.33
High Ridge Rd	0.40
Hopewell Woods Rd	0.28
Iris Ln	0.06
Longmeadow Ln	0.15
Meadows Edge	0.11
Meeker Hill Rd	0.24
Middlebrook Pond Rd	0.06
N Park Ave	0.10
Old Hattertown Rd	0.34
Orchard Dr	0.04
Packer Brook Rd	0.33
Sanfordtown Rd	0.26
Sherman Tpke	0.04
Silversmith Ln	0.16
South Ln	0.14
Storm Ridge Rd	0.10
Sullivan Dr	0.33
Sullivan Rd	0.06
Sunnyview Dr	0.05
Sunset Hill Rd	0.64
Towns End Rd	0.06
Turney Rd	0.28
Uncle Johns Ln	0.04
Valley Rd	0.16
Total (miles)	**6.00**

Incremental Coverage - 140 feet AGL @ 1900 MHz

Main Roads

Street Name	Covered Road Segment (Miles)
Black Rock Tpke	0.21
Church Hill Rd	0.32
Newtown Tpke	0.28
Sport Hill Rd	0.45
State Hwy 58	1.16
Stepney Rd	0.08
Total (miles)	**2.50**

Secondary Roads

Street Name	Covered Road Segment (Miles)
Beech Ln	0.02
Charles Sanford Rd	0.11
Church Hill Ln	0.05
Cross Hwy	0.58
Cross Pl	0.04
Farm Meadow Rd	0.22
Giles Hill Rd	0.12
Goodridge Rd	0.21
High Ridge Rd	0.37
Hopewell Woods Rd	0.21
Iris Ln	0.06
Longmeadow Ln	0.15
Meadows Edge	0.11
Meeker Hill Rd	0.24
N Park Ave	0.10
Old Hattertown Rd	0.34
Packer Brook Rd	0.32
Sanfordtown Rd	0.13
Sherman Tpke	0.04
Silversmith Ln	0.16
South Ln	0.14
Storm Ridge Rd	0.10
Sullivan Dr	0.30
Sullivan Rd	0.03
Sunnyview Dr	0.05
Sunset Hill Rd	0.61
Towns End Rd	0.06
Turney Rd	0.30
Uncle Johns Ln	0.04
Valley Rd	0.14
Total (miles)	**5.35**

ATTACHMENT 7

McPhee Electric Ltd.
505 Main Street
Farmington, CT 06032
Phone 860.677.9797
Fax 860.674.4892
www.mcpheeusa.com
License Number E1-125222

Message Center Management
40 Woodland Ave
Hartford Ct 06105

June 30, 2014

ATTN: **Virginia King**
PROJECT NAME: **Redding CT Fire House Generator Evaluation**

Dear Virginia,

McPhee Electric evaluated the size and condition of the existing Redding Fire Department generator and have determined that it **cannot accommodate** the additional cellular carrier's electric loads.

The Fire Department presently has a, 75-kw, 120/208-volt, 3-phase, propane generator located at the Fire Department building, capable of handling a maximum of 260 amps

McPhee Electric installed an electrical recording meter on the Fire Department main electrical service for a 6-day period to record total building amperage. During this time, the building had a maximum full load of 135-amps. This would leave only 125-amp available for the cellular carriers, which is not large enough.

To that end, we feel it is best that the cellular carriers have their own, independent generator.

Respectfully submitted

6/30/14

Douglas Barker
Manager, Cellular Division

File: MEL-3158-26

ATTACHMENT 8

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

June 25, 2014

Dean Gustafson
All-Points Technology Corporation, P.C.
3 Saddlebrook Dr
Killingworth, CT 06419
dgustafson@allpointstech.com

Project: Replacement of a Telecommunications Tower at MCM Site #CT505 Redding Ridge Facility at 186 Black Rock Turnpike in Redding
NDDB Determination No.: 201404987

Dear Dean Gustafson,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the proposed Replacement of a Telecommunications Tower at MCM Site #CT505 Redding Ridge Facility at 186 Black Rock Turnpike in Redding, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by June 25, 2015.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

ATTACHMENT 9

AVIAN RESOURCES EVALUATION

Date: July 2, 2014

Ms. Virginia King
Message Center Management, Inc.
40 Woodland Street
Hartford, CT 06105

APT Project No.: CT424312

Re: Proposed Redding Ridge Facility – CT 505
186 Black Rock Turnpike
Redding, Connecticut

Message Center Management, Inc. ("MCM") proposes to construct a new wireless telecommunications Facility ("Facility") at 186 Black Rock Turnpike in Redding, Connecticut (the "host Property"), identified as Tax Assessor Parcel ID # Map 23 Lot 72. The host Property consists of 0.624 acre and is currently developed with the Redding Fire District 1 fire station. An existing 80-foot lattice tower facility is located east of the fire station building. The area proposed for the replacement Facility encompasses the existing tower location and a maintained lawn area to the east. MCM proposes to remove the existing tower and install a 150-foot tall monopole within a 50-foot by 50-foot gravel compound area surrounded with an 8-foot tall chain link fence (the "Project"). Access to the Facility is proposed to extend off Black Rock Turnpike eastward over an existing paved driveway and parking area that serves the fire station.

This evaluation is provided in response to *Pre-hearing Questions Set One* submitted by the Connecticut Siting Council (the "Council") for Docket No. 449, specifically:

- Question #43 – *Is the proposed site near an "Important Bird Area" as designated by the National Audubon Society?*
- Question #44 – *Would AT&T's proposed facility comply with recommended guidelines of the United States Fish and Wildlife Service for minimizing the potential for telecommunications towers to impact bird species?*

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 host Property. Information within an approximate 2-mile radius of the host Property is graphically depicted on the attached Avian Resources Map. Some of the avian data referenced herein are not located in proximity to the Project area and are therefore not visible on the referenced map due to its scale. However, in those cases the distances separating the host Property 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. The 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 The Nature Conservancy's Devil's Den Preserve in Weston and Redding located approximately 4.6 miles to the southwest. This preserve is The Nature Conservancy's largest contiguous preserve in Connecticut, and is part of the largest tract of protected land in densely developed Fairfield County. Devil's Den supports large populations of Connecticut's forest interior nesting bird species. Due to its distance from the site, this IBA would not experience an adverse impact resulting from the proposed development of the Facility.

Supporting Migratory Bird Data

Beyond Audubon's IBAs, the following analysis and attached graphics also identify several additional avian resources and their proximities to the host Property. Although these data sources may not represent habitat indicative of important bird areas, they may indicate areas of possible bird concentrations[2] or migratory pathways.

Critical Habitat

Connecticut Critical Habitats depict the classification and distribution of 25 rare and specialized wildlife habitats in the state. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and individuals. Critical habitats range in size from areas less than one acre to areas that are 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, denoted as the Saugatuck River Floodplain forest located approximately 2.6 miles to the southwest. This habitat supports a population of Lizard's tail (*Saururus cernuus*), a State-listed Endangered plant. Based on the distance separating this resource from the proposed Facility, no adverse impacts are anticipated.

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. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird

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

[2] "bird concentrations" is related to the USFWS *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000) analysis provided at the end of this document

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 Long Hill Breeding Bird Survey Route (Route #18013) located approximately 3.2 miles to the northeast. This ±25-mile long bird survey route begins on the Easton/Trumbull town line and generally winds its way north through Monroe, Newtown, and Southbury before terminating in Roxbury. Since bird survey routes represent randomly selected data collection areas, they do not necessarily represent a potential restriction to development projects, including the proposed Facility.

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." Most Hawk Watch Sites are along principal migration corridors, routes that raptors regularly use during their long-distance movements. In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, Huntington State Park, is located in Redding, approximately 1.7 miles to the north of the proposed Facility.

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. Therefore, no adverse impacts to migrating hawks are anticipated with development of the Facility, based on the 1.7± mile separation distance to a principal migration corridor (Huntington State Park Hawk Watch Site) and hawk migration behavior occurring during the daytime under favorable weather conditions when thermals form.

Bald Eagle Site

Bald Eagle Sites consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. This survey was initiated in 1979 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 Site survey route to the host Property is located along the Housatonic River at the Shepaug Dam in the Town of Newtown approximately 10.4 miles northeast of the host Property.

Bald Eagle migration patterns are complex, dependent on age of the individual, climate (particularly during the winter) and availability of food.[3] 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 day (10:30–17:00) as thermals provide for opportunities to soar up with limited energetic expense.[4] Bald Eagle migration altitudes are estimated to average 1,500–3,050 m by ground observers.[4] Four adults tracked by fixed-wing aircraft in Montana averaged 98 km/d during spring migration and migrated at 200–600 m above ground (McClelland et al. 1996).[5]

Therefore, no adverse impacts to migrating Bald Eagle are anticipated with development of the Facility, based on the short (150-foot) height of the Facility and eagle migrate patterns during the daytime under favorable weather conditions when thermals form.

Flyways

The Project area is located in Fairfield County, approximately 12.5 ± 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 with the main endpoints of the flyway being the Canadian Maritimes and the region surrounding the Gulf of Mexico. 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. 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)[6] 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[7]), 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 host Property is the Housatonic River, located approximately 10 miles to the northeast. The Aspetuck River riparian corridor is located 0.5± mile northeast of the host Property. Although the Aspetuck River is not identified as a potential flyway, it potentially forms a secondary flyway as birds move inland from Long Island Sound

[3] 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].
[4] Harmata, A. R. 1984. Bald Eagles of the San Luis valley, Colorado: their winter ecology and spring migration. Phd Thesis. Montana State Univ. Bozeman.
[5] 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.
[6] Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.
[7] The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

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[8].

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)[9]. The proposed Facility is not this type of tower, being an unlit, unguyed monopole structure only 150 feet in height. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds[10]. Studies of 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)[11].

No adverse impacts to migrating bird species are anticipated resulting from the Project, based on the significant distance separating the host Property from the Atlantic Flyway and the Housatonic River potential flyway corridor. Potential impacts to migrating bird species possibly using the Aspetuck River as a secondary flyway are mitigated by the proposed tower's short (150-foot) height and the fact that the Facility would be unlit and unguyed.

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 host Property is the Norwalk Islands area, located approximately 8.5 miles to the southwest. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of these resources to the Project area, no direct impacts would occur from development of the proposed Facility.

CTDEEP Migratory Waterfowl Data

The Connecticut Department of Energy and Environmental Protection ("CTDEEP") 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

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

[9] 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.

[10] 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.

[11] 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.

species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

No migratory waterfowl areas are located within the Town of Redding. The nearest migratory waterfowl area (Ash Creek estuary and tidal wetlands in Fairfield, CT) is located approximately 12 miles to the southeast of the proposed Facility. The associated species are identified as American black duck, gadwall, mallard, and green wing teal. Based on its distance to the host Property, no impacts to migratory waterfowl habitat are anticipated to result from development of the proposed Facility.

CTDEEP Natural Diversity Data Base

CTDEEP'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 CTDEEP 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 landowner's rights whenever species occur on private property.

According to a June 25, 2014 letter from the CTDEEP NDDB, no negative impacts to State-listed species (RCSA Sec. 26-306) are anticipated to result from the Project.

USFWS Communications Towers Compliance

The U.S Fish and Wildlife Service ("USFWS") prepared its *Interim Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* (September 14, 2000), which recommends the 12 voluntary actions below be implemented in order to mitigate potential bird strikes that could result by the construction of telecommunications towers. With respect to Council's question 44, APT offers the following responses for each of the recommended actions below.

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

   Collocation opportunities on existing towers, buildings or non-tower structures are not available in the area while achieving the required radio frequency ("RF") coverage objectives of wireless service providers.

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

   The proposed Facility would consist of a 150-foot monopole structure which requires neither guy wires nor lighting.

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

   Multiple towers are not proposed as part of this Project. The existing 80-foot tower would be removed and replaced with the proposed Facility.

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

   There are no existing "antenna farms" in the area. The proposed Facility is not within wetlands, known bird concentration area, migratory or daily movement flyway, or habitat of threatened/endangered species. According to a June 25, 2014 letter from the CTDEEP NDDB, no negative impacts to State-listed species are anticipated from the proposed activity. The proposed Facility is located within existing developed and maintained lawn areas, approximately 50 feet east from the nearest wetland (edge of retaining wall to wetland flag 6). The proposed Facility will not result in a significant adverse impact to the wildlife habitat function (including avian habitat) being supported by this nearby wetland area provided appropriate erosion controls are installed and maintained during construction.

   In Connecticut, seasonal atmospheric conditions can occasionally produce fog, mist and/or low ceilings. However, high incidences of these meteorological conditions, relative to the region, are not known to exist in the vicinity of the host Property.

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

   The proposed Facility height (150 feet AGL) is less than 199 feet and would not require any aviation safety lighting.

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

   The proposed Facility would be free-standing and would not require guy wires or visual marking.

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

   The proposed Facility is sited, designed, and would be constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible. The host Property is currently developed with the Redding Fire District 1 fire station and an 80-foot lattice tower facility. The area proposed for the MCM Facility encompasses the existing tower location and a maintained lawn area to the east. Therefore, the proposed Project will not result in habitat fragmentation.

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

   The proposed tower construction area consists of developed and maintained lawn areas adjacent to the fire station building. No mature trees or vegetation will be disturbed or removed by the proposed development. Therefore, due to the lack of avian habitat, significant numbers of breeding, feeding, or roosting birds are not anticipated to use the proposed tower construction areas at the host Property.

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

   The proposed Facility has been designed in accordance with this guidance, as it could accommodate a total of four antenna platform positions and the Town's emergency communications system antennas. The proposed, free-standing Facility would be neither lighted nor guyed.

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

    Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer.

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

    With prior notification to MCM, USFWS personnel would be allowed access to the proposed Facility to conduct evaluations.

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

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

Summary and Conclusions

Based on the results of this desk-top evaluation, and in response to the Council's questions, the proposed Facility is not located near an Important Bird Area and 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
Redding Ridge
186 Black Rock Turnpike
Redding, Connecticut

Legend

- Proposed Facility
- Bald Eagle Site*
- Hawk Watch Site
- Bat Site*
- Important Bird Site*
- Important Bird Area
- Breeding Bird Survey Route
- Natural Diversity Database (CTDEEP, 6/2014)
- Critical Habitat (CTDEEP, 07/2009)
- Migratory Waterfowl (CTDEEP, 1999)*
- Preserved Open Space (CTDEEP, 1997)
- 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

**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, Audbon 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: 2012 aerial photograph (CTECO map service)

Map Date: July 2014

N W E S

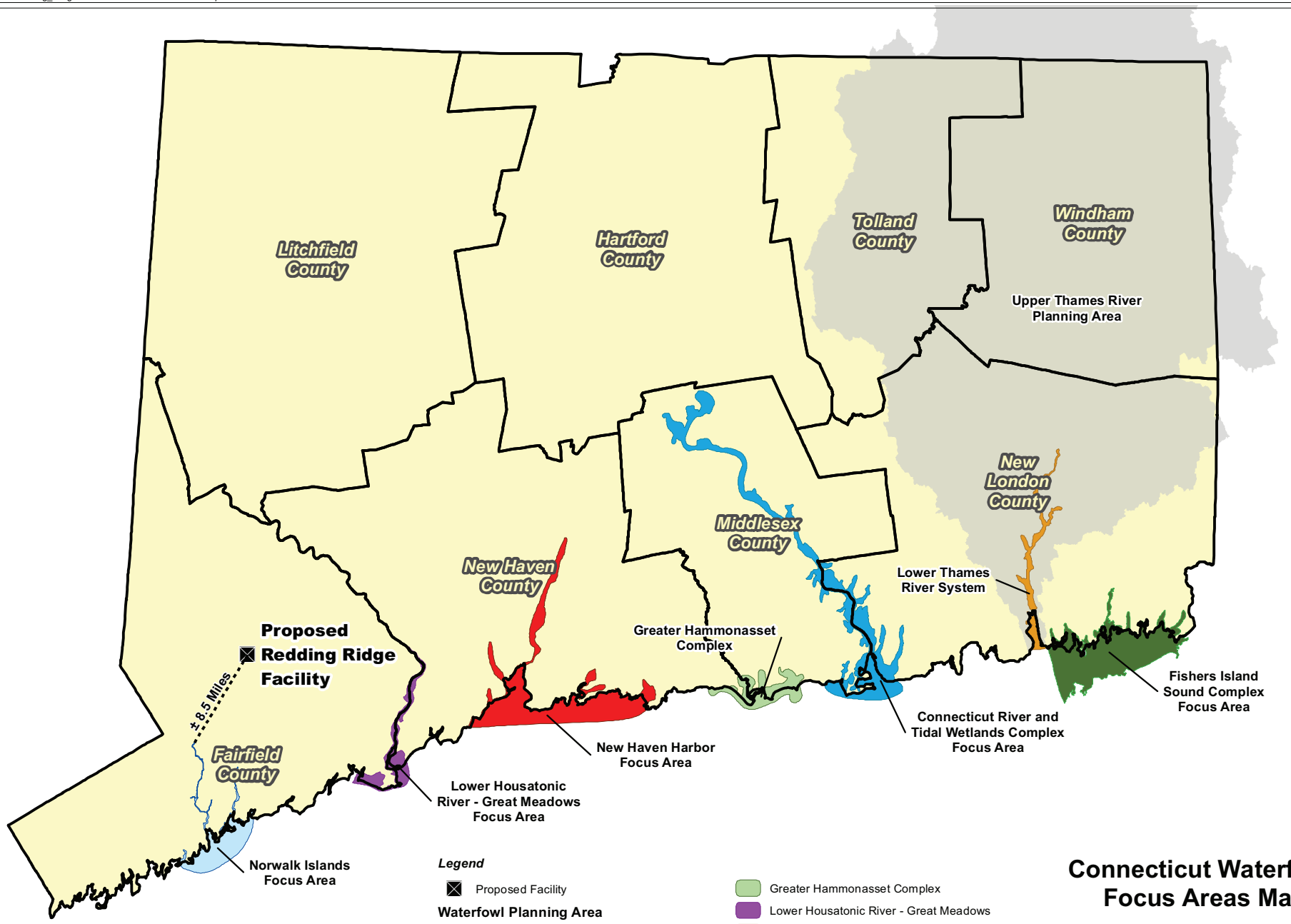
0.5 0.25 0 0.5 Miles

ALL-POINTS TECHNOLOGY CORPORATION

MCM Message Center Management

C:\GIS\Projects\MCM\Redding_Ridge\mxd\ReddingRidge_Avian_Resources.mxd

C:\GIS\Projects\MCM\Redding_Ridge\mxd\Waterfowl Focus Areas Map.mxd



Connecticut Waterfowl Focus Areas Map

Proposed Wireless Telecommunications Facility
Redding Ridge
186 Black Rock Turnpike
Redding, Connecticut

Waterfowl Data Source: Atlantic Coast Join Venture Partnership
Map Date: June 2014

ALL-POINTS TECHNOLOGY CORPORATION

MCM Message Center Management

ATTACHMENT 10

HMB

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

Noise Evaluation Report

Proposed
Telecommunications Facility
Redding Ridge
186 Black Rock Turnpike
Redding, Ct.

June 25, 2014

Prepared For:
Robert C. Burns, P.E.
Project Manager
All-Points Technology Corporation
3 Saddlebrook Drive
Killingworth, Ct.

Prepared By:
Allan Smardin
HMB Acoustics LLC
3 Cherry Tree Lane
Avon, Ct.

Introduction

A new telecommunications facility is being proposed in Redding Ridge - 186 Black Rock Turnpike - Redding, CT. The proposed facility will have two (2) prefabricated equipment shelters (each 12' x 20'), each outfitted with two (2) wall mounted 5 ton air-conditioning units. The purpose of this evaluation is to determine whether two air-conditioning units running simultaneously will comply with the State of CT. Noise Regulation.

Typically only one of the air-conditioning units operates at any one time on each equipment shelter (i.e. operate in a lead-lag configuration). This report and the noise regulations utilize a dBA scale. This scale is used because it closely approximates the response characteristic of the human ear to loudness and is the scale most commonly used in the measurement of community noise.

Noise Regulations

The State of CT. has enacted noise regulations which limit the amount of noise which may be transferred from one property to another. In pertinent part, the Regulations provide as follows: Daytime hours are between 7 a.m. and 10 p.m. local time. Nighttime hours are between 10 p.m. and 7 a.m. local time.

Noise level projections used to determine compliance with allowable noise levels are made from the noise Emitter to the nearest Receptor's property line. The allowable noise level is 55 dBA (daytime) and 45 dBA (nighttime) for both Residential Zone and Commercial Zone properties.

Noise Evaluation Results

The calculated noise level results are listed below and include one air-conditioner from each equipment shelter operating together. The noise levels were projected to the

property lines in four directions. The noise data takes into account the effect of acoustical shielding provided by structures on the property; and the effect of acoustical material on the chain link fence along the East property line, where applicable.

	2 Air-Conditioners Operating Simultaneously	
Property Line	Without Acoustical Shielding (dBA)	With Acoustical Shielding (dBA)
North	44	41
South	37	37
East	*53	45
West	40	28

* Not Compliant

Recommendations

In order to bring the Easterly facing air-conditioners into compliance, I recommend the following:

On the chain link fence, along the East property line, attach 8 foot high vinyl slats. In addition, use engineering controls on the wall mounted equipment shelter air-conditioners.

ATTACHMENT 11

C:\GIS\Projects\MCM\Redding_Ridge\mxd\ReddingRidge_FEMA.mxd

Legend

- Proposed Site Facility Location
- Approximate Subject Property
- Approximate Parcel Boundary
- Open Water

FEMA NFHL Flood Hazard

- 100-Year Flood Zone
- 500-Year Flood Zone
- Floodway

FEMA Flood Hazard

Proposed Wireless Telecommunications Facility
Redding Ridge
186 Black Rock Turnpike
Redding, Connecticut

Base Map Source: 2012 Aerial Photograph (CTECO)
Map Date: June 2014

150 75 0 150 Feet

MCM Message Center Management

ALL-POINTS TECHNOLOGY CORPORATION

ATTACHMENT 12

WETLAND EVALUATION REPORT

July 2, 2014

Message Center Management, Inc.
40 Woodward Street
Hartford, CT 06105

APT Project No.: CT424312

Re: Response to Interrogatory #49
CT Siting Council Docket 449
Proposed MCM Facility
186 Black Rock Turnpike
Redding, Connecticut

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by Message Center Management, Inc. ("MCM") at 186 Black Road Turnpike in Redding, Connecticut ("Site" or "Subject Property"). The Connecticut Siting Council's ("Council") pre-hearing question number 49 requested a functions and values assessment of a nearby wetland area identified by APT and discussed in our May 12, 2014 Wetland Investigation Report. The following evaluation of functions and values supported by this wetland is provided.

Site and Wetland Descriptions:

The Subject Property consists of 0.624 acre and is currently developed with the Redding Fire District 1 fire station complex. An existing 80-foot lattice tower, scheduled for removal, is located east of the fire station building. The area proposed for the replacement Facility encompasses the existing tower location and a maintained lawn area to the east. MCM proposes to install a 150-foot tall monopole within a 50-foot by 50-foot gravel compound area surrounded with an 8-foot tall chain link fence. Access to the Facility is proposed to extending eastward off Black Rock Turnpike over an existing paved driveway and parking area that serves the fire station. The Site is dominated by the fire station building and associated paved access drives/parking areas and landscaping along with upland forest which extends off the Subject Property to the north. Surrounding land features include the forest to the north, Black Rock Turnpike to the east, a cemetery to the south and forested hillside seep wetland system to the east. Land-use in the general vicinity consists primarily of residential development.

APT conducted an inspection of the Subject Property on March 24, 2014. One wetland area was delineated off Site just east of the Subject Property, identified as Wetland 1, consisting of a hillside seep forested wetland system associated with an interior seasonal intermittent watercourse that generally flows to the south. An intermittent watercourse was also identified north of the Subject Property originating from a stormwater culvert outfall from Black Rock Turnpike. Wetlands were marked with pink and blue plastic flagging tape numbered with the following sequence: WF 1-01 to 1- 10 and IWC 1 to 6.

Wetland Evaluation

There are many methods of evaluating wetlands, all incorporating different parameters to assess these resources. This study uses The *Highway Methodology Workbook Supplement, Wetland Functions and Values: A Descriptive Approach issued by the US Army Corps of Engineers New England District ("COE NED"), September 1999*. This evaluation provides a qualitative approach in which wetland functions can be considered primary, secondary, or unlikely to be provided at a significant level. Functions and values can be principal if they are an important physical component of a wetland ecosystem (function only), and/or are considered of special value to society, from a local, regional, and/or national perspective. The COE NED recommends that wetland values and functions be determined through "best professional judgment" based on a qualitative description of the physical attributes of wetlands and the functions and values exhibited.

Wetland 1 is classified as "headwater wetlands" due to its location in the highest reach of the watershed and association with a zero order intermittent watercourse; Wetland 1 provides a source of hydrology to form this zero order intermittent watercourse. This wetland appears to have a hydroperiod associated with spring runoff and groundwater exfiltration controlled by glacial till with dense fragipan. This likely results in hydrology that is more seasonal and ephemeral than downstream portions of the wetland system located farther to the south where a more extended hydroperiod and longer stream flow period occurs. As is typical of headwater type wetlands, the wetland's principal and secondary functions include water quality (nutrient and sediment removal/retention/transformation), groundwater discharge, floodflow alteration, production export and wildlife habitat. The degree to which these functions and values are supported is generally proportionally related to the size of the identified wetland. However, due to the wetland's location within a public water supply watershed of (Hemlock Reservoir watershed) and active source of public drinking water controlled by the Aquarion Water Company (PWSID #CT0150011), the hydrologic and water quality functions take on additional significance. The Aspetuck Reservoir (located just north of the Hemlock Reservoir and part of the same watershed), is located 4.25± mile south of the Site. Although Wetland 1 flows into and is associated with a larger continuous wetland system located to the south, the portion of Wetland 1 delineated just east of the Subject Property is the focus of this wetland values and functions evaluation. It is anticipated that greater function and value would be attributable to the wetland system further downstream to the south due to its larger size and expanse, increased hydrology, association with a higher order stream and greater diversity of vegetative species and structure.

A summary of the functions and values of Wetland 1 is provided below.

Biological Functions: Fish habitat is not supported due to the ephemeral hydrology and lack of sustained hydrology within the confines of the seasonal intermittent watercourse.

This wetland system provides wildlife habitat functions at a secondary level due to the limited diversity of habitat provided by this headwater wetland seep. The presence of non-native invasive plants in the shrub and herbaceous layers detracts from this wetland's ability to support this function at a principal level. The seasonal seepage may provide some staging habitat for certain herpetofauna, while a longer duration hydroperiod exists farther downstream within this wetland corridor on the adjoining parcel having the ability to support a greater diversity of herpetofauna.

Production export is provided at a secondary level from this wetland since it does not support a large diversity of vegetation, wildlife food sources or commercially used products.

Hydrologic Functions: The wetland provides some floodflow alteration but not at a principal level due to the relatively narrow form of this wetland, the moderate gradient and unrestricted outlet.

A principal function of Wetland 1 is groundwater discharge/recharge, which is likely cyclical depending upon time of year and level of precipitation.

Water Quality Functions: The wetland provides sediment, toxicant, and pathogen retention functions at a principal level. The wetland has the capacity to settle and retain sediments, toxicants and pathogens due to the hillside seep form of this wetland and opportunities are provided by the discharge of stormwater from Black Rock Turnpike and surrounding residential properties. This wetland system provides nutrient removal/nutrient retention/transformation at a principal level for similar reasons. The wetland did not contain signs of surface water retention with a moderate gradient to the south and braided seepage channels converging to create a main channel for a seasonal intermittent watercourse that flows to the south.

Sediment/shoreline stabilization functions are supported by this wetland in a secondary capacity; it is more of a function of the wetland farther downstream to the south where the zero order intermittent channel converges with other flows to become a first order intermittent watercourse and then a perennial stream approximately 0.5 mile south of the Site (west tributary to Aspetuck River).

Societal Values: The wetland system does not provide recreational value as the wetland area is restricted from public access. Educational value is limited due to lack of diversity of wetland habitats and restricted public access.

The Uniqueness/Heritage value considers the special value of a wetland in context with the overall landscape, cultural features, and rarity of wetland/habitat type in the local area. The wetland/habitat type is relatively common in the local area. According to a June 25, 2014 letter from the Connecticut Department of Energy and Environmental Protection ("CTDEEP") Natural Diversity Data Base ("NDDB"), negative impacts to State-listed species (RCSA Sec. 26-306) resulting from the proposed activity are not anticipated. Therefore, this wetland does not provide uniqueness/heritage value.

The wetlands adjacent to the Subject Property do not support Visual Quality/Aesthetics value since it is a common wetland type and does not provide any unique visual qualities.

A Wetland Function-Value Evaluation Summary Table and Office/Field Forms are attached.

Wetland Impact Analysis

Based on a review of the Site Plan prepared by APT (Sheet Nos. A-1 and SP-1, latest revision dates 05/13/14) no direct impact to wetlands is associated with the proposed MCM development. The east side of the proposed wireless communications compound is located approximately 53 feet from the nearest wetland edge. No temporary or permanent impacts associated with construction activities are anticipated provided sedimentation and erosion controls are designed, installed and maintained during construction in accordance with the *2002 Connecticut Guidelines For Soil Erosion and Sediment Control*. However, due to the relatively steep slope between the proposed development and nearby wetland, and given the wetland's location within a public water supply watershed, APT recommends that a wetland protection plan be implemented to avoid temporary wetland or water quality impacts. Details of the wetland protection plan are enclosed. Short term and long term secondary impacts to the nearby wetland area are mitigated by the following facts: the proposed Facility is located within the existing developed/disturbed footprint of the fire station and lattice tower facility; minimal grading is required with the use of the proposed retaining wall; and, impacts to mature vegetation and trees are avoided. Long term secondary impacts to wetland resources possibly associated with the operation of the Facility are minimized by the fact the development is unmanned, it minimizes the creation of impervious surfaces with the use of a gravel compound and short gravel access drive (±25 linear feet), majority of the access already exists through the fire station's paved access and parking area, minimal traffic is generated by the Facility, and no significant stormwater is anticipated to be generated by the proposed development. Provided these recommendations are implemented, it is APT's opinion that the proposed MCM development will not result in a likely adverse impact to wetland resources.

If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 984-9515 or via email at dgustafson@allpointstech.com.

Sincerely,

All-Points Technology Corporation, P.C.

Dean Gustafson
Senior Wetland Scientist

Enclosures

Wetland Function-Value Evaluation Summary Table

&

Field/Office Wetland Function-Value Evaluation Form

Wetland Function-Value Evaluation Summary Table

Total area of wetland	>2 ac.	Human Made?	No	Is wetland part of a wildlife corridor?	Yes	or a "habitat Island"?	No	Wetland ID	Wetland 1 (WF 1-01 to 1-10; IWC 1 to 6)
Adjacent land use	Undeveloped forest, residential, municipal			Distance to nearest roadway or other development		50± feet to fire station		Latitude/ Longitude	41.309942° N, -73.347587° W
Dominant wetland systems present	Palustrine Forest			Contiguous undeveloped buffer zone present		No		Prepared by	D. Gustafson Date 7/2/14
Is the wetland a separate hydraulic system?	No	If not, where does the wetland lie in the drainage basin?		headwater wetland				Wetland Impact Type:	None Area None SF
How many Tributaries contribute to the wetland?	none; headwater wetland system	Wildlife & vegetation diversity/abundance	Yes					Corps manual wetland delineation Completed?	Yes

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Values(s)	Comments
Groundwater Recharge/Discharge	✓	☐	1,2,5-8, 10-13	P	headwater wetland contributes to base flow of IWC and is located within a public water supply watershed
Floodflow Alteration	✓	☐	2, 5, 9, 11, 13, 14	S	wetland's flood storage capacity is limited due to moderate gradient and unrestricted outlet
Fish and Shellfish Habitat	☐	✓	1, 8, 17		fisheries habitat is not provided by the seasonal intermittent watercourse due to limited hydroperiod
Sediment/Toxicant Retention	✓	☐	1-4, 6-11, 13-15	P	typical function of headwater wetland system
Nutrient Removal	✓	☐	3, 4, 7, 9-12, 14	P	typical function of headwater wetland system
Production Export	✓	☐	1, 2, 4, 10, 11, 13	S	function is limited due to general lack of vegetation species and structure diversity
Sediment/Shoreline Stabilization	✓	☐	1-4, 7, 9, 14	S	bordering forested wetland system to the seasonal intermittent watercourse provides bank stabilization
Wildlife Habitat	✓	☐	2, 6, 8, 11, 16-18	S	wildlife habitat value of wetland is diminished by surrounding development and invasive plants
Recreation	☐	✓	5, 6		public access is restricted to the wetland
Educational/Scientific Value	☐	✓	5, 13		limited value due to lack of public access
Uniqueness/Heritage	☐	✓	5, 7, 10, 18, 19		none
Visual Quality/Aesthetics	☐	✓	8, 11		public access restricted
Endangered Species Habitat	☐	✓	1, 2		no rare species identified by state or federal agencies
Other	☐	✓			

* Refer to Field / Office Wetland Function-Value Evaluation Form for number considerations.

3 Saddlebrook Drive
Killingworth, Connecticut 06419
860 663-1697

Field / Office Wetland Function-Value Evaluation Form

Date(s):	June 19, 2014		Project Location:	186 Black Rock Turnpike, Redding, CT	
Inspector(s):	Dean Gustafson, PSS		Wetland ID:	Wetland 1 (WF 1-01 to 1-10 ; IWC 1 to 6)	
Corps Delineation:	Yes ✓	No ☐	CT Delineation	Yes ✓	No ☐
Wetland Area:	>2 acres		Proposed Impact:	Type:None	Area:None
Created Wetland:	Yes ☐	No ✓	Adjacent Land Use:	Undeveloped Forest and Residential	
Dominate System:	PFO		Nearest Roadway:	Ledges Road & Old Stagecoach Road	
Wildlife Corridor:	Yes ✓	No ☐	Habitat Island:	Yes ☐	No ✓
Tributaries:	none; headwater wetland		Buffer Condition:	Undeveloped - Forested & Developed	
Site Photo(s):			Species List(s):	Refer to Wetlands Delineation Report	
One wetland area was delineated off Site just east of the Subject Property, identified as Wetland 1, consisting of a hillside seep forested wetland system associated with an interior seasonal intermittent watercourse that generally flows to the south. An intermittent watercourse was also identified north of the Subject Property originating from a stormwater culvert outfall from Black Rock Turnpike.					

GROUNDWATER RECHARGE/DISCHARGE FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Public or private wells occur downstream of the wetland.	✓	☐	✓
2. Potential exists for public or private wells downstream of the wetland.	✓	☐	☐
3. Wetland is underlain by stratified drift.	☐	✓	☐
4. Gravel or sandy soils present in or adjacent to the wetland.	☐	✓	☐
5. Fragipan does not occur in the wetland.	✓	☐	☐
6. Fragipan, impervious soils, or bedrock does occur in the wetland.	✓	☐	✓
7. Wetland is associated with a perennial or intermittent watercourse.	✓	☐	✓
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.	✓	☐	✓
9. Wetland is associated w/ a watercourse but lacks a defined outlet/contains a constricted outlet.	☐	✓	☐
10. Wetland contains only an outlet, no inlet.	✓	☐	☐
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.	✓	☐	✓
12. Quality of water associated with the wetland is high.	✓	☐	☐
13. Signs of groundwater discharge are present (e.g., springs).	✓	☐	✓
14. Water temperature suggests it is a discharge site.	☐	✓	☐
15. Wetland shows signs of variable water levels	☐	✓	☐
16. Piezometer data demonstrates discharge.	☐	✓	☐
Comments: headwater wetland contributes to base flow of zero order intermittent watercourse and is located within a public water supply watershed			

FLOODFLOW ALTERATION FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Area of this wetland is large relative to its watershed.	☐	✓	☐
2. Wetland occurs in the upper portions of its watershed.	✓	☐	✓
3. Effective flood storage is small or non-existent upslope of or above the wetland.	☐	✓	☐
4. Wetland watershed contains a high percent of impervious surfaces.	☐	✓	☐
5. Wetland contains hydric soils which are able to absorb and detain water.	✓	☐	☐
6. Wetland exists in a relatively flat area that has flood storage potential.	☐	✓	☐
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.	☐	✓	☐
8. During flooding wetland retains higher volumes of water than under normal/average rainfall conditions.	☐	✓	☐
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.	✓	☐	☐
10. During a storm, this wetland may receive and detain excessive flood water from a nearby watercourse.	☐	✓	☐
11. Valuable properties, structures, or resources are located in/near floodplain downstream of the wetland.	✓	☐	☐
12. The watershed has a history of economic loss due to flooding.	☐	✓	☐
13. This wetland is associated with one or more watercourses.	✓	☐	☐
14. This wetland watercourse is sinuous or diffuse.	✓	☐	☐
15. This wetland outlet is constricted.	☐	✓	☐
16. Channel flow velocity is affected by this wetland.	☐	✓	☐
17. Land uses downstream are protected by this wetland.	☐	✓	☐
18. This wetland contains a high density of vegetation.	☐	✓	☐
Comments: wetland's flood storage capacity is limited due to moderate gradient and unrestricted outlet			

FISH AND SHELLFISH HABITAT (FRESHWATER) FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Forest land dominant in the watershed above this wetland.	✓	☐	☐
2. Abundance of cover objects present.	☐	✓	☐
STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE			
3. Size of this wetland is able to support large fish/shellfish populations.	☐	✓	☐
4. Wetland is part of a larger, contiguous watercourse.	☐	✓	☐
5. Sufficient open water size/depth so as not to freeze solid and retain some open water during winter.	☐	✓	☐
6. Stream width (bank to bank) is more than 50 feet.	☐	✓	☐
7. Quality of watercourse associated with wetland is able to support healthy fish/shellfish populations	☐	✓	☐
8. Streamside vegetation provides shade for the watercourse.	✓	☐	☐
9. Spawning areas are present (submerged vegetation or gravel beds).	☐	✓	☐
10. Food is available to fish/shellfish populations within this wetland.	☐	✓	☐
11. Anadromous fish barrier(s) absent from stream reach associated with this wetland.	☐	✓	☐
12. Evidence of fish is present.	☐	✓	☐
13. Wetland is stocked with fish.	☐	✓	☐
14. The watercourse is persistent.	☐	✓	☐
15. Man-made streams are absent.	☐	✓	☐
16. Water velocities are not too excessive for fish usage.	☐	✓	☐
17. Defined stream channel is present.	✓	☐	☐
Comments: fisheries habitat is not provided by the seasonal intermittent watercourse due to limited hydroperiod			

FISH AND SHELLFISH HABITAT (MARINE) FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.	☐	✓	☐
2. Suitable spawning habitat is present at the site or in the area.	☐	✓	☐
3. Commercially or recreationally important species are present or suitable habitat exists.	☐	✓	☐
4. The wetland/waterway supports prey for higher trophic level marine organisms.	☐	✓	☐
5. The waterway provides migratory habitat for anadromous fish.	☐	✓	☐
6. Essential fish habitat (1996 amendments to the Magnuson-Stevens) Fishery & Conservation Act present	☐	✓	☐
Comments: marine fisheries habitat is not supported by this wetland			

SEDIMENT/TOXICANT/PATHOGEN RETENTION FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Potential sources of excess sediment are in the watershed above the wetland.	✓	☐	✓
2. Potential or known sources of toxicants are in the watershed above the wetland.	✓	☐	✓
3. Opportunity for sediment trapping by slow moving water/deepwater habitat is present in wetland.	✓	☐	☐
4. Fine grained mineral or organic soils are present.	✓	☐	✓
5. Long duration water retention time is present in this wetland.	☐	✓	☐
6. Public or private water sources occur downstream.	✓	☐	✓
7. The wetland edge is broad and intermittently aerobic.	✓	☐	✓
8. The wetland is known to have existed for more than 50 years.	✓	☐	☐
9. Drainage ditches have not been constructed in the wetland.	✓	☐	☐
STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE			
10. Wetland is associated with an intermittent or perennial stream or a lake.	✓	☐	✓
11. Channelized flows have visible velocity decreases in the wetland.	✓	☐	☐
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.	☐	✓	☐
13. No indicators of erosive forces are present. No high water velocities are present.	✓	☐	☐
14. Diffuse water flows are present in the wetland.	✓	☐	✓
15. Wetland has a high degree of water and vegetation interspersion.	✓	☐	✓
16. Dense vegetation provides sediment trapping/signs of sediment accumulation are present.	☐	✓	☐
Comments: typical functions associated with headwater wetland system			

NUTRIENT REMOVAL/RETENTION/TRANSFORMATION FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wetland is large relative to the size of its watershed.	☐	✓	☐
2. Deep water or open water habitat exists.	☐	✓	☐
3. Overall potential for sediment trapping exists in the wetland.	✓	☐	✓
4. Potential sources of excess nutrients are present in the watershed above the wetland.	✓	☐	✓
5. Wetland saturated for most of the season. Ponded water is present in the wetland.	☐	✓	☐
6. Deep organic/sediment deposits are present.	☐	✓	☐
7. Slowly drained fine grained mineral or organic soils are present.	✓	☐	✓
8. Dense vegetation is present.	☐	✓	☐
9. Emergent vegetation and/or dense woody stems are dominant.	✓	☐	☐
10. Opportunity for nutrient attenuation exists.	✓	☐	✓
11. Vegetation diversity/abundance sufficient to utilize nutrients.	✓	☐	✓

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE			
12. Waterflow through this wetland is diffuse.	✓	☐	✓
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.	☐	✓	☐
14. Water moves slowly through this wetland.	✓	☐	✓
Comments: typical functions associated with headwater wetland system			

PRODUCTION EXPORT (Nutrient) FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wildlife food sources grow within this wetland.	✓	☐	☐
2. Detritus development is present within this wetland	✓	☐	✓
3. Economically or commercially used products found in this wetland.	☐	✓	☐
4. Evidence of wildlife use found within this wetland.	✓	☐	☐
5. Higher trophic level consumers are utilizing this wetland.	☐	✓	☐
6. Fish or shellfish develop or occur in this wetland.	☐	✓	☐
7. High vegetation density is present.	☐	✓	☐
8. Wetland exhibits high degree of plant community structure/species diversity.	☐	✓	☐
9. High aquatic vegetative diversity/abundance is present.	☐	✓	☐
10. Nutrients exported in wetland watercourses (permanent outlet present).	✓	☐	✓
11. “Flushing” of relatively large amounts of organic plant material occurs from this wetland.	✓	☐	✓
12. Wetland contains flowering plants that are used by nectar-gathering insects.	☐	✓	☐
13. Indications of export are present.	✓	☐	☐
14. High production levels occurring with no visible signs of export (assumes export is attenuated).	☐	✓	☐
Comments: function is limited due to general lack of vegetation species and structure diversity			

SEDIMENT/SHORELINE STABILIZATION FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Indications of erosion or siltation are present.	✓	☐	☐
2. Topographical gradient is present in wetland.	✓	☐	☐
3. Potential sediment sources are present up-slope.	✓	☐	☐
4. Potential sediment sources are present upstream.	✓	☐	☐
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.	☐	✓	☐
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.	☐	✓	☐
7. Wide wetland (>10’) borders watercourse, lake, or pond.	✓	☐	☐
8. High flow velocities in the wetland.	☐	✓	☐
9. The watershed is of sufficient size to produce channelized flow.	✓	☐	☐
10. Open water fetch is present.	☐	✓	☐
11. Boating activity is present.	☐	✓	☐
12. Dense vegetation is bordering watercourse, lake, or pond.	☐	✓	☐
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.	☐	✓	☐
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).	✓	☐	✓
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.	☐	✓	☐
Comments: bordering forested wetland system to the seasonal intermittent watercourse provides bank stabilization			

WILDLIFE HABITAT FUNCTION

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wetland is not degraded by human activity.	☐	✓	☐
2. Water quality of watercourse/pond/lake associated w/ wetland meets/exceeds Class A or B standards.	✓	☐	☐
3. Wetland is not fragmented by development.	☐	✓	☐
4. Upland surrounding this wetland is undeveloped.	☐	✓	☐
5. > 40% of wetland edge bordered by upland wildlife habitat at least 500 ft in width.	☐	✓	☐
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.	✓	☐	✓
7. Wildlife overland access to other wetlands is present.	☐	✓	☐
8. Wildlife food sources are within this wetland or are nearby.	✓	☐	☐
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.	☐	✓	☐
10. Two or more islands or inclusions of upland within the wetland are present.	☐	✓	☐
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.	✓	☐	☐
12. > 3 acres shallow permanent open water (< 6.6 feet deep), including in/adjacent streams present.	☐	✓	☐
13. Density of the wetland vegetation is high.	☐	✓	☐
14. Wetland exhibits a high degree of plant species diversity.	☐	✓	☐
15. Wetland exhibits high degree plant community structure diversity (tree/shrub/vine/grasses/mosses)	☐	✓	☐
16. Plant/animal indicator species are present. (List species for project)	✓	☐	☐
17. Animal signs observed (tracks, scats, nesting areas, etc.)	✓	☐	☐
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.	✓	☐	☐
19. Wetland contains or has potential to contain a high population of insects.	☐	✓	☐
20. Wetland contains or has potential to contain large amphibian populations.	☐	✓	☐
21 Wetland has a high avian utilization or its potential.	☐	✓	☐
22. Indications of less disturbance-tolerant species are present.	☐	✓	☐
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).	☐	✓	☐
Comments: wildlife habitat value of wetland is diminished by surrounding development and invasive plants			

RECREATION (Consumptive and Non-Consumptive) VALUE

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wetland is part of a recreation area, park, forest, or refuge.	☐	✓	☐
2. Fishing is available within or from the wetland.	☐	✓	☐
3. Hunting is permitted in the wetland.	☐	✓	☐
4. Hiking occurs or has potential to occur within the wetland.	☐	✓	☐
5. Wetland is a valuable wildlife habitat.	✓	☐	☐
6. The watercourse, pond, or lake associated with the wetland is unpolluted.	✓	☐	☐
7. High visual/aesthetic quality of this potential recreation site.	☐	✓	☐
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.	☐	✓	☐
9. Watercourse associated w/ wetland is wide & deep enough to accommodate canoeing and/or non-powered boating.	☐	✓	☐
10. Off-road public parking available at the potential recreation site.	☐	✓	☐
11. Accessibility and travel ease is present at this site.	☐	✓	☐
12. The wetland is within a short drive or safe walk from highly populated public and private areas	☐	✓	☐
Comments: public access is restricted to the wetland			

EDUCATIONAL/SCIENTIFIC VALUE

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wetland contains or is known to contain threatened, rare, or endangered species.	☐	✓	☐
2. Little or no disturbance is occurring in this wetland.	☐	✓	☐
3. Potential educational site contains a diversity of wetland classes & are accessible/potentially accessible.	☐	✓	☐
4. Potential educational site is undisturbed and natural.	☐	✓	☐
5. Wetland is considered to be a valuable wildlife habitat.	✓	☐	☐
6. Wetland is located within a nature preserve or wildlife management area.	☐	✓	☐
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).	☐	✓	☐
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.	☐	✓	☐
9. Potential educational site is within safe walking distance or a short drive to schools.	☐	✓	☐
10. Potential educational site is within safe walking distance to other plant communities.	☐	✓	☐
11. Direct access to perennial stream at potential educational site is available.	☐	✓	☐
12. Direct access to pond or lake at potential educational site is available.	☐	✓	☐
13. No known safety hazards exist within the potential educational site.	✓	☐	☐
14. Public access to the potential educational site is controlled.	☐	✓	☐
15. Handicap accessibility is available.	☐	✓	☐
16. Site is currently used for educational or scientific purposes.	☐	✓	☐
Comments: limited value due to lack of public access			

UNIQUENESS/HERITAGE VALUE

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Upland surrounding wetland is primarily urban.	☐	✓	☐
2. Upland surrounding wetland is developing rapidly.	☐	✓	☐
3. > 3 acres of shallow permanent open water (< 6.6 feet deep), including streams, occur in wetlands.	☐	✓	☐
4. Three or more wetland classes are present.	☐	✓	☐
5. Deep and/or shallow marsh or wooded swamp dominate.	✓	☐	☐
6. High degree of interspersion of vegetation and/or open water occur in this wetland.	☐	✓	☐
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.	✓	☐	☐
8. Potential educational site is within a short drive or a safe walk from schools.	☐	✓	☐
9. Off-road parking at potential educational site is suitable for school buses.	☐	✓	☐
10. No known safety hazards exist within this potential educational site.	✓	☐	☐
11. Direct access to perennial stream or lake exists at potential educational site.	☐	✓	☐
12. Two or more wetland classes are visible from primary viewing locations.	☐	✓	☐
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) visible from primary viewing locations.	☐	✓	☐
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.	☐	✓	☐
15. Large area of wetland dominated by flowering plants/plants that seasonally turn vibrant colors	☐	✓	☐
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.	☐	✓	☐
17. Overall view of the wetland is available from the surrounding upland.	☐	✓	☐
18. Quality of the water associated with the wetland is high.	✓	☐	☐
19. Opportunities for wildlife observations are available.	✓	☐	☐
20. Historical buildings are found within the wetland.	☐	✓	☐
21. Presence of pond or pond site and remains of a dam occur within the wetland.	☐	✓	☐

22. Wetland is within 50 yards of the nearest perennial watercourse.	☐	✓	☐
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.	☐	✓	☐
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.	☐	✓	☐
25. Wetland is known to be a study site for scientific research.	☐	✓	☐
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.	☐	✓	☐
27. Wetland has local significance because it serves several functional values.	☐	✓	☐
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.	☐	✓	☐
29. Wetland is known to contain an important archaeological site.	☐	✓	☐
30. Wetland is hydrologically connected to a state or federally designated scenic river.	☐	✓	☐
31. Wetland is located in an area experiencing a high wetland loss rate.	☐	✓	☐
Comments: none			

VISUAL QUALITY/AESTHETICS VALUE

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Multiple wetland classes are visible from primary viewing locations.	☐	✓	☐
2. Emergent marsh and/or open water are visible from primary viewing locations.	☐	✓	☐
3. A diversity of vegetative species is visible from primary viewing locations	☐	✓	☐
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.	☐	✓	☐
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.	☐	✓	☐
6. Visible surrounding land use form contrasts with wetland.	☐	✓	☐
7. Wetland views absent of trash, debris, and signs of disturbance.	☐	✓	☐
8. Wetland is considered to be a valuable wildlife habitat.	✓	☐	☐
9. Wetland is easily accessed.	☐	✓	☐
10. Low noise level at primary viewing locations.	☐	✓	☐
11. Unpleasant odors absent at primary viewing locations.	✓	☐	☐
12. Relatively unobstructed sight line exists through wetland.	☐	✓	☐
Comments: public access restricted			

ENDANGERED SPECIES HABITAT VALUE

CONSIDERATIONS/QUALIFIERS	Y	N	Principal
1. Wetland contains or is known to contain threatened or endangered species.	☐	✓	☐
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.	☐	✓	☐
Comments: no rare species identified by state or federal agencies			

Wetland Protection Plan

WETLAND PROTECTION PROGRAM

Portions of the proposed MCM Redding Ridge Facility's compound are located in close proximity (±53 feet) to a wetland area. In addition, the MCM Redding Ridge Facility is located within the public water supply watershed of the Hemlock Reservoir and active source of public drinking water maintained by the Aquarion Water Company (PWSID #CT0150011). As a result, the following protective measures shall be followed to help avoid degradation of the nearby wetland system or water quality that could affect this public water supply watershed. These protective measures satisfy recommendations from the Drinking Water Section ("DWS") of the Department of Public Health as specified in a June 27, 2014 letter.

It is of the utmost importance that the Contractor complies with the requirement for the installation of protective measures and the education of its employees and subcontractors performing work on the project site. These measures will also provide protection to a nearby wetland system. This protection program shall be implemented regardless of time of year the construction activities occur. All-Points Technology Corporation, P.C. ("APT") will serve as the Environmental Monitor for this project to ensure that wetland protection measures are implemented properly. The Contractor shall contact Dean Gustafson, Senior Environmental Scientist at APT and Aquarion Water Company personnel, at least 5 business days prior to the pre-construction meeting. Mr. Gustafson can be reached by phone at (860) 984-9515 or via email at dgustafson@allpointstech.com.

Should this project receive approval from the Connecticut Siting Council, Aquarion Water Company should be contacted during the Development and Management Plan review process to solicit comments on the scope of the MCM Redding Ridge Facility project.

The wetland protection program consists of several components: use of appropriate erosion control measures to control and contain erosion while avoiding/minimizing wildlife entanglement; periodic inspection and maintenance of isolation structures and erosion control measures; education of all contractors and sub-contractors prior to initiation of work on the site; protective measures; and, reporting.

1. **Erosion and Sedimentation Controls**

    a. Plastic netting used in a variety of erosion control products (i.e., erosion control blankets, fiber rolls [wattles], reinforced silt fence) has been found to entangle wildlife, including reptiles, amphibians, birds and small mammals. No permanent erosion control products or reinforced silt fence will be used on the MCM project. Temporary Erosion control products will use either erosion control blankets and fiber rolls composed of processed fibers mechanically bound together to form a continuous matrix (net less) or netting composed of planar woven natural biodegradable fiber to avoid/minimize wildlife entanglement.

    b. Installation of conventional silt fencing shall be performed by the Contractor prior to any earthwork. APT will inspect the work zone area prior to and following barrier installation to ensure erosion controls are properly installed.

    c. The fencing will consist of non-reinforced conventional erosion control woven fabric, installed approximately six inches below surface grade and staked at seven to ten-foot intervals using four-foot oak stakes or approved equivalent. In addition to required daily inspection by the Contractor, the fencing will be inspected for tears or breeches in the fabric following installation and at either on a weekly or biweekly inspection frequency by APT. If inspections are performed on a biweekly basis, such inspections will also include inspections following storm events of 0.25 inch or

greater. Inspections will be conducted by APT throughout the course of the construction project.

d. The extent of the barrier fencing will be as shown on the site plans. The Contractor shall have additional barrier fencing should field conditions warrant extending the fencing as directed by APT.

e. All silt fencing and other erosion control devices shall be removed within 30 days of completion of work and permanent stabilization of site soils so that reptile and amphibian movement between uplands and wetlands is not restricted. If fiber rolls/wattles, straw bales, or other natural material erosion control products are used, such devices will not be left in place to biodegrade and shall be promptly removed after soils are stable so as not to create a barrier to migrating wildlife. Seed from seeding of soils should not spread over fiber rolls/wattles as it makes them harder to remove once soils are stabilized by vegetation.

2. Contractor Education

a. Prior to work on site, the Contractor shall attend an educational session at the pre-construction meeting with APT. This orientation and educational session will consist of an introductory meeting with APT to understand the environmentally sensitive nature of the development site and the need to follow Protective Measures as described in Section 3 below.

b. The Contractor will be provided with cell phone and email contacts for Aquarion Water Company personnel to immediately report any releases of sediment or fuel or hazardous material releases.

3. Petroleum Materials Storage and Spill Prevention

a. Certain precautions are necessary to store petroleum materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill due to the project's location in proximity to sensitive wetlands and within the Hemlock Reservoir public water supply watershed.

b. A spill containment kit consisting of a sufficient supply of absorbent pads and absorbent material will be maintained by the Contractor at the construction site throughout the duration of the project. In addition, a waste drum will be kept on site to contain any used absorbent pads/material for proper and timely disposal off site in accordance with applicable local, state and federal laws.

c. The following petroleum and hazardous materials storage and refueling restrictions and spill response procedures will be adhered to by the Contractor.

i. Petroleum and Hazardous Materials Storage and Refueling

1. Refueling of vehicles or machinery shall occur a minimum of 100 feet from wetlands or watercourses and shall take place on an impervious pad with secondary containment designed to contain fuels.

2. Any fuel or hazardous materials that must be kept on site shall be stored on an impervious surface utilizing secondary containment a minimum of 100 feet from wetlands or watercourses.

ii. Initial Spill Response Procedures

1. Stop operations and shut off equipment.
2. Remove any sources of spark or flame.
3. Contain the source of the spill.
4. Determine the approximate volume of the spill.
5. Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby waterways or wetlands.
6. Ensure that fellow workers are notified of the spill.

iii. Spill Clean Up & Containment

1. Obtain spill response materials from the on-site spill response kit. Place absorbent materials directly on the release area.
2. Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.
3. Isolate and eliminate the spill source.
4. Contact Aquarion Water Company personnel and Connecticut Siting Council along with other appropriate local, state and/or federal agencies, as necessary.
5. Contact a disposal company to properly dispose of contaminated materials.

iv. Reporting

1. Complete an incident report.
2. Submit a completed incident report to Aquarion Water Company and the Connecticut Siting Council.

4. Herbicide and Pesticide Restrictions

a. The use of herbicides and pesticides at the proposed wireless telecommunications facility is strictly prohibited.

5. Reporting

a. Monthly inspection reports (brief narrative and applicable photos) will be submitted to the Connecticut Siting Council for compliance verification.