



THE MURRAY LAW FIRM PLLC

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March 4, 2019

Via Email cnadler@cnadlerlaw.com

Christian M. Nadler, Esq.

9 Mima Circle

Fairport, NY 14450

**Re: Rochester Gas & Electric Application for
Special Use Permit and Site Plan Approval
5850 Monks Road, Canandaigua, NY (Tax Map No. 153.-1-35)**

Dear Mr. Nadler:

We represent Rochester Gas & Electric ("RG&E") in furtherance of its applications for special approval, and development review to install a 100-foot tall public utility communications mast (the "Mast") at an existing substation that serves current and future electricity demands of the Town. This letter is being provided to you as RG&E's response to your January 23, 2019 letter. Your questions and RG&E's responses are set forth below:

1. Specific justifications for waivers from the setback and "fall zone" provisions of the Town's Special Use Permit requirements.

Town Code Section §220-65(L) provides that the Planning Board is authorized to waive any requirements under its zoning ordinance when reasonable. As set forth in its January 12, 2017 application, RG&E has requested waivers from §220-60(2), which provides that the minimum lot size shall be four acres; §220-60 (4) which provides that the minimum setback for each communications tower from any property line shall be the height of the tower to be erected plus 20 feet; and §220-60(9), which provides that a minimum radius of 2,000 feet must be maintained between any proposed tower and any existing tower.

There are no standards set forth in the Zoning Ordinance that state when an applicant shall be entitled to a waiver. Rather, the Zoning Ordinance simply provides that a waiver may be granted by the Planning Board when it is "reasonable" to do so. In that regards the RG&E provided the below justification for each waiver request in its January 12, 2017 correspondence:

(2) The minimum lot size shall be four acres.

RESPONSE: The antennas supported by the Mast must be hardwired into RG&E's substation located at 5850 Monks Road, which is a .92-acre parcel. This is to allow RG&E to remotely monitor the health of its electrical network in the area, and to remotely control

and optimize the use of its system capacity in real-time. Accordingly, it is not feasible to locate the Mast on any other parcel, and the applicant respectfully requests a waiver pursuant to §220-65(L) of the Town's code from the four-acre lot size requirement.

(4) The minimum setback for each communications tower from any property line shall be the height of the tower to be erected plus 20 feet.

RESPONSE: The height of the Mast is 100 feet, which results in a 120-foot setback requirement pursuant to this section. The Mast will be set back 40 feet from the northern property line, 100 feet from the western property line and 98 feet from the eastern property line. Because the width of the applicant's entire parcel is only 198 feet, there is no place where the Mast could be located and comply with the side yard setback requirement. Moreover, the existing substation infrastructure located in the center of the parcel prevents the Mast from being located in a place that would comply with both the front and rear set back requirements. For these reasons, the Applicant requests a waiver from this setback requirement pursuant to §220-65(L) of the Town's code.

(9) A minimum radius of 2,000 feet must be maintained between any proposed tower and any existing tower, whether located in the Town of Canandaigua or in an adjacent municipality.

RESPONSE: As previously stated, the Mast must be located at the site of RG&E's electrical substation to achieve its purpose of modernizing the electrical services in the surrounding area. An existing tower inventory search was not done because it is not feasible to locate the Mast on any other parcel. If another tower is located within 2000 feet of the site, the applicant requests a waiver from this provision pursuant to §220-65(L) of the Town's code.

In the absence of any standards for the Planning Board's issuance of a waiver, the Planning Board may choose to use the area variance standard as applicable to a provider of public utilities. As set forth in Matter of Consolidated Edison Company of New York, Inc. v. Hoffman (43 NY2d 598[1978]), the traditional "practical difficulties" test for an area variance does not apply. Rather, to be entitled to an area variance, an applicant for public utility infrastructure must show that the proposed infrastructure is a public necessity, in that it is "required to render safe and adequate service," and that there are "compelling reasons, economic or otherwise," which make it more feasible to install the proposed infrastructure than to employ an alternative.

Here, the installation of the Mast will support antennas that are needed by RG&E to upgrade its electricity delivery system to meet the policy goals of the US Department of Energy's (USDOE) Smart Grid Initiative. Specifically, the Mast will support RG&E's remote monitoring and automation control of its substation at the Site, functions that are currently nonexistent, and that will increase the reliability and efficiency of RG&E's electricity delivery system.

With respect the "compelling reasons" for the location of the tower, no feasible alternative site exists because the antennas supported by the Mast must be located at the substation that it will remotely monitor and control. Moreover, the installation of the Mast at the site will be consistent with the existing public utility substation infrastructure already present in the area. Accordingly, RG&E respectfully submits that the proposed Mast at the Site meets the requirements for granting an area variance to allow this public utility critical infrastructure.

2. Specific explanation of why the proposed cellular tower is a necessity.

RG&E proposes to install the Mast at Facility in furtherance its immediate need to upgrade its system monitoring and controls at the Site and basic and emergency communications in the area. More specifically, the Mast is needed by RG&E in order to support antennas required to upgrade its electricity delivery system to technological standards prescribed by the USDOE Smart Grid initiative. In this regard, the Mast will allow the Facility to support RG&E's remote monitoring and control of its substation at the Site, functions that are currently nonexistent, and that will increase the reliability, efficiency and security of RG&E's electricity delivery system. RG&E proposes to accomplish this by placing a WiMax antenna at the 100-foot level of the Mast, which will communicate with remote monitoring units that are installed on utility poles in the area surrounding the electrical substation. By creating a link between the WiMax antenna at the substation and the remote monitoring units, RG&E can monitor the health and efficiency of its electrical network in real time. In addition, the Microwave Antenna located at the Mast will allow RG&E integrate the data collected at the substation into its network by creating a wireless data link with RG&E's adjacent substations.

RG&E's need for modernizing its grid technologies arises from several factors, including but not limited to the Federal Government's adoption of a "Smart Grid" initiative. In December 2007, Congress passed, and the President approved, Title XIII of the Energy Independence and Security Act of 2007 (EISA). EISA provided the legislative support for DOE's smart grid activities and reinforced its role in leading and coordinating national grid modernization efforts. In particular, Sec. 1301 of EISA formalized a policy for the modernization of aging public utility infrastructure through the country. The text of Sec. 1301 is set forth below.

SEC. 1301. STATEMENT OF POLICY ON MODERNIZATION OF ELECTRICITY GRID.

It is the policy of the United States to support the modernization of the Nation's electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth and to achieve each of the following, which together characterize a Smart Grid:

- (1) Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid.
- (2) Dynamic optimization of grid operations and resources, with full cybersecurity.
- (3) Deployment and integration of distributed resources and generation, including renewable resources.
- (4) Development and incorporation of demand response, demand-side resources, and energy-efficiency resources.
- (5) Deployment of 'smart' technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation.
- (6) Integration of 'smart' appliances and consumer devices.
- (7) Deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning.
- (8) Provision to consumers of timely information and control options.

- (9) Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid.
- (10) Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.

The proposed installations at the Site address several of the policy goals set forth in Sec. 1301. The Mast will support the technology and antennas needed to modernize substation operations from analog to digital controls, which will allow the RG&E to monitor the health of the substation and remote devices that are served off the circuits serving the substation in real-time. This is especially important as more renewable energy power plants, such as photo-electric and wind-turbines come on line and have varying times power generation.

In addition, the Mast will support RG&E's digital land mobile communications network, which allow workers in the field to communicate directly with RG&E's service centers throughout the state during emergency periods where traditional lines of communication, such as cell phones or land-based phones, are not working. By insuring that RG&E employees can communicate with each other during such periods, the response time for work crews to find and repair damaged public utility infrastructure is reduced.

3. Specific explanation of the value that the proposed cellular tower will provide to RG&E customers.

As set forth above, RG&E customers will benefit from the installation of the proposed equipment at the Site insofar as the electrical grid in the area will become more reliable with respect to the time it takes to make repairs to damaged public utility infrastructure, and more efficient with respect to the ability of the RG&E balance the loading of utility lines as renewable energy sources come on-line.¹

4. Verification that there are no alternatives to the proposed cellular tower. This verification should include:

- a) Alternative Locations**
- b) Alternative methods of achieving the desired result**

Because the antennas supported by the Mast must be physically wired into the substation, there are no feasible alternative sites where the Mast may be located. Moreover, the technology used for the proposed grid modernization may only be achieved by using the proposed antennas supported on the Mast.

5. Provide GeoTech Report to MRB Group.

Insofar as the Planning Board has not yet approved the location of the proposed tower, it is respectfully requested that RG&E be allowed to provide a GeoTech report to the Building Department as a condition to the issuance of a building permit.

¹ As part of EISA, the Department of Energy published a document entitled "Smart Grid: An Introduction", a copy of which is enclosed with this letter. The Planning Board is respectfully referred to this document insofar as many of the benefits of Smart Grid technology are set forth therein.

6. Address the questions posed in the attached document entitled “Questions for Rochester Gas & Electric regarding Application for Special Use Permit and Site Plan Approval.”

In response to the Planning Board’s questions, RG&E has prepared a presentation to demonstrate (a) how the proposed project will fit into RG&E’s larger grid network; (b) how the proposed project will improve the reliability, efficiency and security of service to its customers; and (c) justification for the height and location of the proposed project. A copy of the presentation is enclosed with this correspondence. RG&E’s RF lead engineer, Peter Stritzinger, will be prepared to make a presentation and answer any questions that the Town may have at the Planning Board meeting.

Very truly yours,

THE MURRAY LAW FIRM, PLLC

/s/Joshua A. Silver

Joshua Silver

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Enclosures

Canandaigua Division Private Wireless Design for RF Networks

RF Network Build



AVANGRID

High Level Scope and Primary Elements

- Private Wireless Communications
- Vertical Infrastructure builds
- Land Mobile Radio for Operational Portable Coverage 3ft AGL
- Distribution Automation
- Substation Automation
- Advanced Metering Infrastructure
- Core Network Extension
 - VHF Spectrum – DMR Tier 3 Trunking/Simulcast LMR
 - PTP – Microwave
 - PTMP – WiMAX
 - AMI – Mesh Networking

Cyber Security Safe Guards

NERC CIP regulations

Private Network

Protocol Conversions

Encrypted Communication Links

State Wide Networks

VHF Spectrum – DMR Tier 3 Trunking/Simulcast LMR

Support for Operational Crews – Gas & Electric

Support for Low Bandwidth Data (substation RTU's or DA devices)

Common Interoperable platform for Regionalized Disaster Recovery efforts

PTP – Microwave

Core Network Extension

PTMP – WiMAX

Talk Out to Remote Automation Target Locations

AMI – Mesh Networking

Preparations for future metering applications

Anticipated Capital Project Completions

Expected Lifecycle ~10 years Technology 20 yrs Vertical Infrastructure

VHF LMR – Statewide project “Phase 1” Complete - Operational
3 years / 7 phases / Canandaigua Phase 1 – estimated completion
2020 Q4 – 21 Q2

PTP – Microwave

Equipment in hand waiting for vertical infrastructure
2019 – Q3

PTMP – WiMAX

Equipment in hand waiting for vertical infrastructure
2019 – Q3

AMI – Mesh Networking

Projected 2021

Quantifying Improvements

Hard Savings

- Proactively address poor performance or trouble indicators
- Identification of faults remotely
- Faster response times
- Quicker repairs
- Labor savings

Soft Savings

- Capital vs OPEX expense
- Greater Bandwidth delivery for application needs
- Deployability

Area Covered by Monks Rd RGE Station 143

Signal Type and Associated Antenna Height AGL

WiMAX 80' AGL to 25' AGL remotes
11.32mi²

VHF mounted - @ 100' RCV (Talk Into Base from Remote)
35.33mi²

Microwave Conceptual LOS achieved at 60' AGL to Bristol Tower

AMI Mesh mounted 25' AGL – TBD Rough “Guesstimate” 7mi²

Circuit 5143 Oakmont Rd 68mi – Customer Count 1036

Circuit 5145 Monks Rd / W of Seneca Pt Rd 39.4 Miles – CC 847

Circuit 5146 Monks Rd / W of Seneca Pt Rd 68.8 Miles – CC 1104

Alternatives Evaluated

Fiber – Excellent Scalability

- Lease – High Monthly recurring cost or Long Term IRU
- Own – Deployment Cost High, Construction Schedule
- S143 is not on existing IRU/FO route, No current Plans

Copper (Traditional Telco) – Poor Scalability

- Availability, Recurring Cost High, Problematic OSP

Microwave – Good Scalability

- Low to Moderate Deployment Cost,
- Excellent Capacity
- Hybrid TDM/IP capable
- Moderate Distance PTP LOS

Smart Grid Support

Improve Infrastructure to support Broadband Applications

Improve Field operations Communications

Meet all Current CIP requirements

Design Integrated Networks for multiple applications

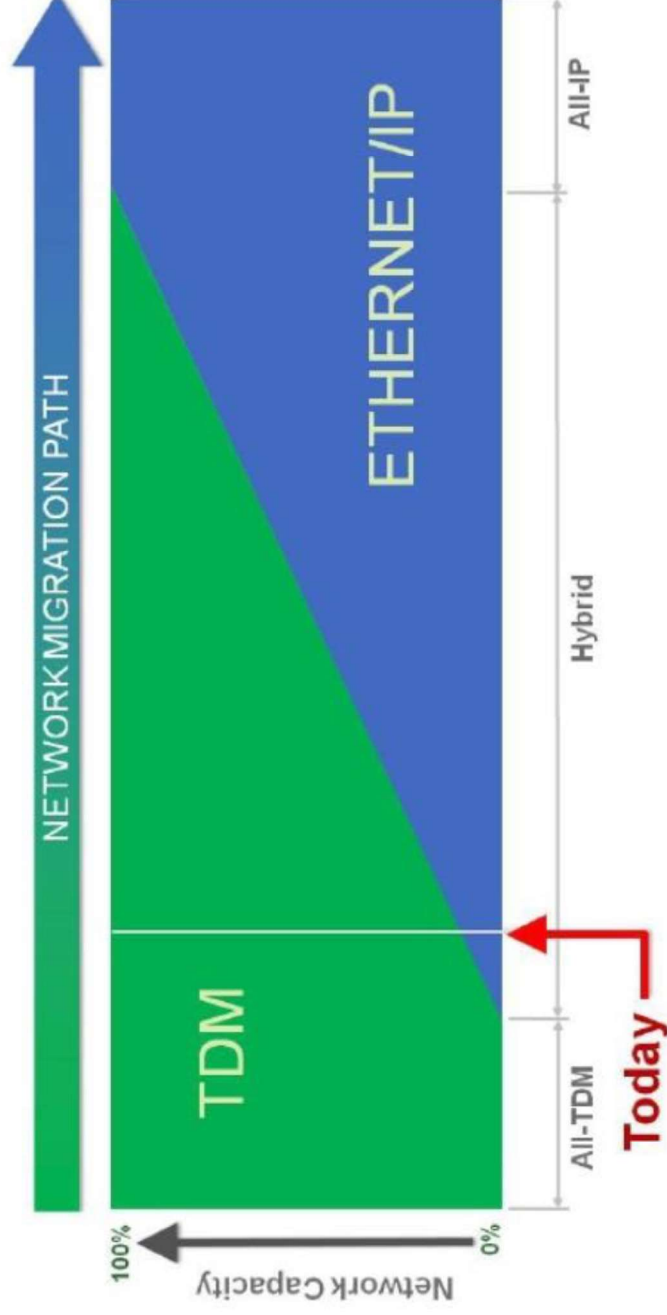
Avoid being stranded by leased fiber or Telco facilities operators

Maintain Full control of private communications system

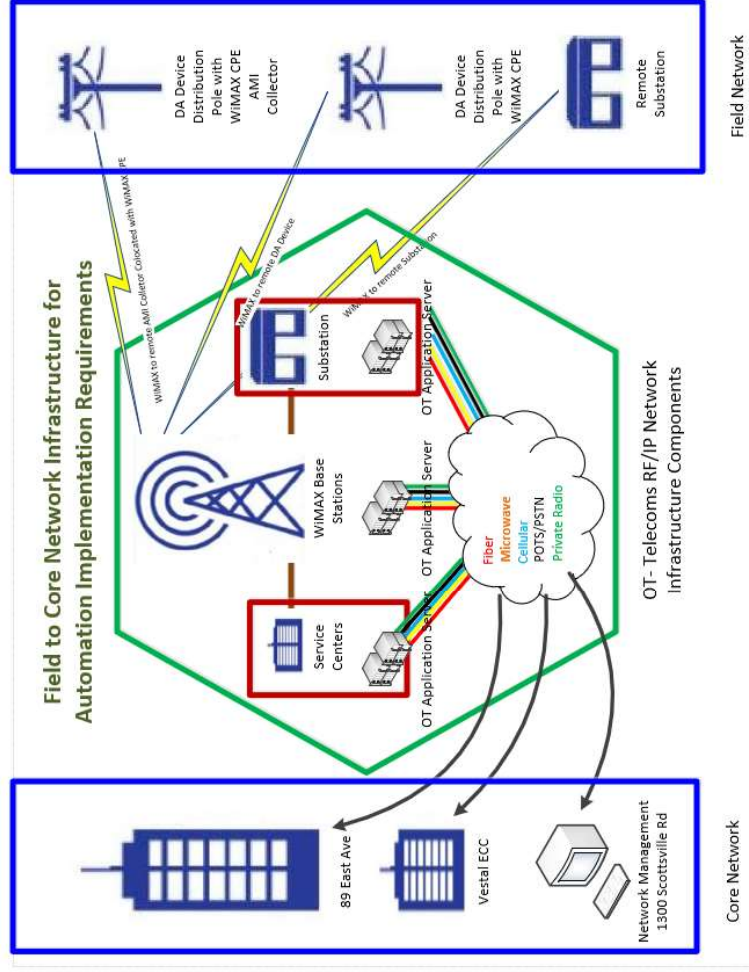
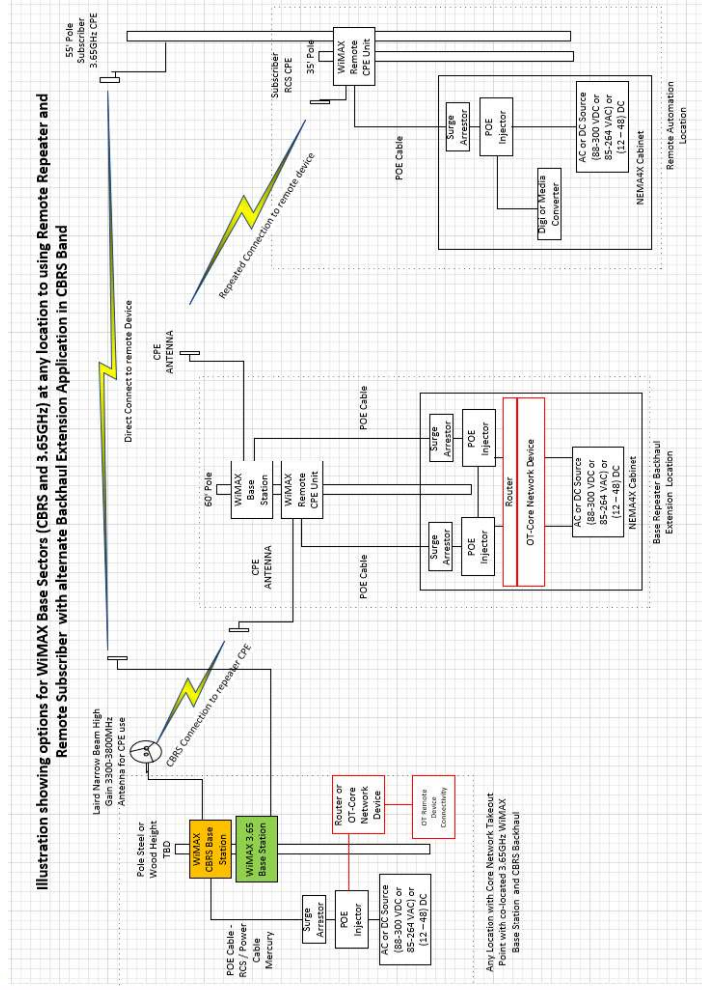
Maintain Alignment with Company strategies

Technology Migration

Moving from Legacy Analog Technology to Packet Based Digital Technologies



Technology Illustration



Business And NERC Confidential

Some Topics Redacted

Will provide edited information upon approval

Presentation Slide “Draft”



Canandaigua Sta 143 Telecoms Planning

Peter Stritzinger - AVANGRID



Wireless Communications for, Substation, and Distribution Automation, Land Mobile Radio, Advanced Metering Infrastructure, and Core Network Extension

Design of Broadband Wireless for Grid Reliability

Provide a Statewide Wireless RF Communication Design for:

- Distribution Automation
- Advanced Metering Infrastructure
- Core Network Extension
- VHF design for Land Mobile Radio

Requirements:

- Private Network for Critical Infrastructure
- Backhaul to support Edge technologies
- Highly Reliable 99.999%
- Cost Effective Deployability - weeks vs. months

Broadband Delivery minimal:

- 1Mbps to DA, AMI, LMR
- 3Mbps to substation
- 120Mbps Aggregation
- Latency < 250ms, Jitter < 0.01%

4G Wireless Broadband Technology Design for NLOS Distribution Automation :

- Detect Power Loss and Isolate / Locate
- Automatically Disconnect Failure Feed
- Line Sectionalization
- Connect Alternate Feed
- Restore from Fault (Automatic or Manual)

PTP Microwave Radio for:

- Wireless Backhaul Extension: Man Down Safety
- Scalability
- OPEX Reduction (Own vs Lease)
- Lowest total cost of ownership
- Significant Reduction in Backhaul Expense

VHF - DMR Tier 3 Trunking Simulcast Technology Design for Land Mobile Radio to:

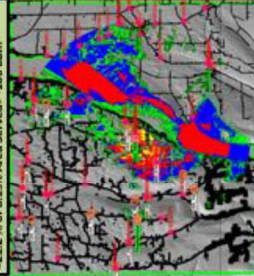
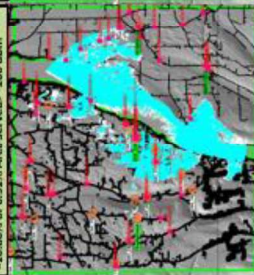
- Dispatch for Repair
- Man Down Safety
- Timely Decision Making
- Coordination / Interoperability among Field Operations
- Faster Fault locating and Restoration

AVANGRID Wireless Infrastructure Evaluation of Canandaigua Targets and Predicted Area Coverage

VHF Modeling

VHF 100' Talk in RX Area Coverage
3' remotes > -106 dBm
= 16.86% of 6.51% Area Served > -106 dBm

VHF 100' TX Area Coverage of
41,525 m²/3 Targets are 3' remotes
= 21.2 % of 8.19% Area Served > -106 dBm



Base Area Study Information	
Description	Data
Maximum value	-103.0
Minimum value	-105.0
All areas based on study grid cell counts in study area	195,837 m ²
Total valid signal area	35,324 m ²
Percent valid area	17.8% of total study area

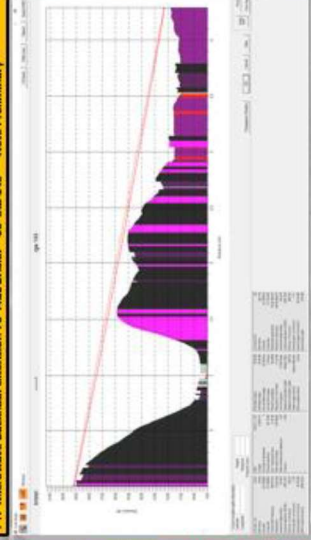
Base Area Study Information	
Description	Data
Maximum value	-103.0
Minimum value	-105.0
All areas based on study grid cell counts in study area	195,837 m ²
Total valid signal area	41,525 m ²
Percent valid area	21.2% of total study area

Base Area Study Information	
Description	Data
Maximum value	-103.0
Minimum value	-105.0
All areas based on study grid cell counts in study area	195,837 m ²
Total valid signal area	35,324 m ²
Percent valid area	17.8% of total study area

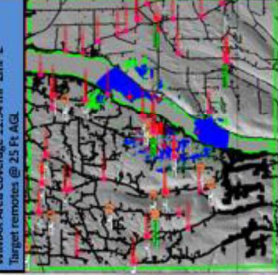
Base Area Study Information	
Description	Data
Maximum value	-103.0
Minimum value	-105.0
All areas based on study grid cell counts in study area	195,837 m ²
Total valid signal area	41,525 m ²
Percent valid area	21.2% of total study area

Microwave (PTP) and WiMAX (PTMP)

PTP Microwave Backhaul extension 70' AGL Bristol - 60' Sta 143 ** Note Preliminary**



WiMAX Area Coverage 11.34 m²/km² Targeted remotes @ 25 Ft AGL



Base Area Study Information	
Description	Data
Maximum value	-95.0
Minimum value	-108.0
All areas based on study grid cell counts in study area	195,837 m ²
Total valid signal area	11,340 m ²
Percent valid area	5.8% of total study area