



Biwabkos Consultants LLC

18756 W Luke Avenue

Litchfield Park, Arizona 8340-0018

www.biwabkos.com

623-522-8681

November 20, 2025

Harmoni Towers
 Attn: Chad Rumsey
 6210 Ardrey Krell Road Suite 375
 Charlotte, NC 28277

Re: Harmony WA0007224 Mossyrock – RF Supplemental – transmitter analysis

Mr. Rumsey,

I have been requested to review the list of antenna locations that were provided to me by Bill North.
 Enclosed is the list of transmitters that are on the website www.antennasearch.com based on the address of the proposed Harmoni Tower.

The antenna list is below.

Source	www.antennasearch.com	Frequency (MHz)	ERP (watts)	Latitude	Longitude	Structure Type	Structure Height (feet)
ID	Multiple Antennas - Carrier/Owner						
1	Deogoede Bulb Farms, Inc	152.2775, 152.3825	25, 25	46.5324	-122.5175	Building w/ Antenna	29.5
	Deogoede Bulb Farms, Inc	152.2775, 152.3825	50, 50	46.5324	-122.5175	Building w/ Antenna	29.5
	Deogoede Bulb Farms, Inc	153.17, 153.515, 158.22, 159.93, 159.96	5, 5, 5, 5, 5	46.5324	-122.5175		
2	Mossyrock School District	159.585, 159.69, 159.72, 160.005, 160.185	45, 45, 45, 45, 45	46.5325	-122.4847		
	Mossyrock School District	152.93, 153.11	45, 45	46.5325	-122.4847	Building w/ Antenna	24.9
3	City of Mossyrock	153.815	50	46.5288	-122.4817	Building w/ Antenna	26.2
	Lewis County Fire District #3	154.19, 155.685	150, 100	46.5288	-122.4817	Building	36.7
4	Mayfield Lake Youth Camp	151.655, 151.745	5, 5	46.5164	-122.4844		
	Mayfield Lake Youth Camp	151.655, 151.745	5, 5	46.5165	-122.4846		
	Single Antennas - Carrier/Owner						
5	Gerald T Girard	151.925	60	46.5421	-122.5309	Building	26.2
6	Lewis County Fire District #3	154.19	150	46.5609	-122.5165	Building	38.1

See below for a review of each location

Location 1:

DeGoede Bulb Farms, Inc

29.5' AGL structure height – multiple frequencies at location

Latitude: 46.5324

Longitude: -122.5175

Antennas mounted on rooftop tripods



Above is a screenshot from the Google Earth Street View and the transmitting antennas are located on the roof of the existing structures. This height is significantly lower than the proposed tower and they are farther South of the Verizon search ring and are lower in ground elevation by around 465' AMSL. This location does not meet the needs of the carrier.

Location 2:
Mossyrock School District
24.9 AGL structure height – multiple frequencies at location
Latitude: 46.5325
Longitude: -122.4847
Antenna mounted on short pole



Above is a screenshot from the Google Earth Street View and the transmitting antenna is located a short pole to the East of the school property. This height is significantly lower than the proposed tower and they it is farther South of the Verizon search ring and is lower in ground elevation by around 390' AMSL. This location does not meet the needs of the carrier.

Location 3:

City of Mossyrock / Lewis County Fire District #3

36.7 AGL structure height – multiple frequencies at location

Latitude: 46.5288

Longitude: -122.4817

Antenna mounted on short pole



Above is a screenshot from the Google Earth Street View and the transmitting antenna is located a short pole to the East of the school property. This height is significantly lower than the proposed tower and they are farther South of the Verizon search ring and is lower in ground elevation by around 390' AMSL. This location does not meet the needs of the carrier.

Location 4:

Mayfield Lake Youth Camp

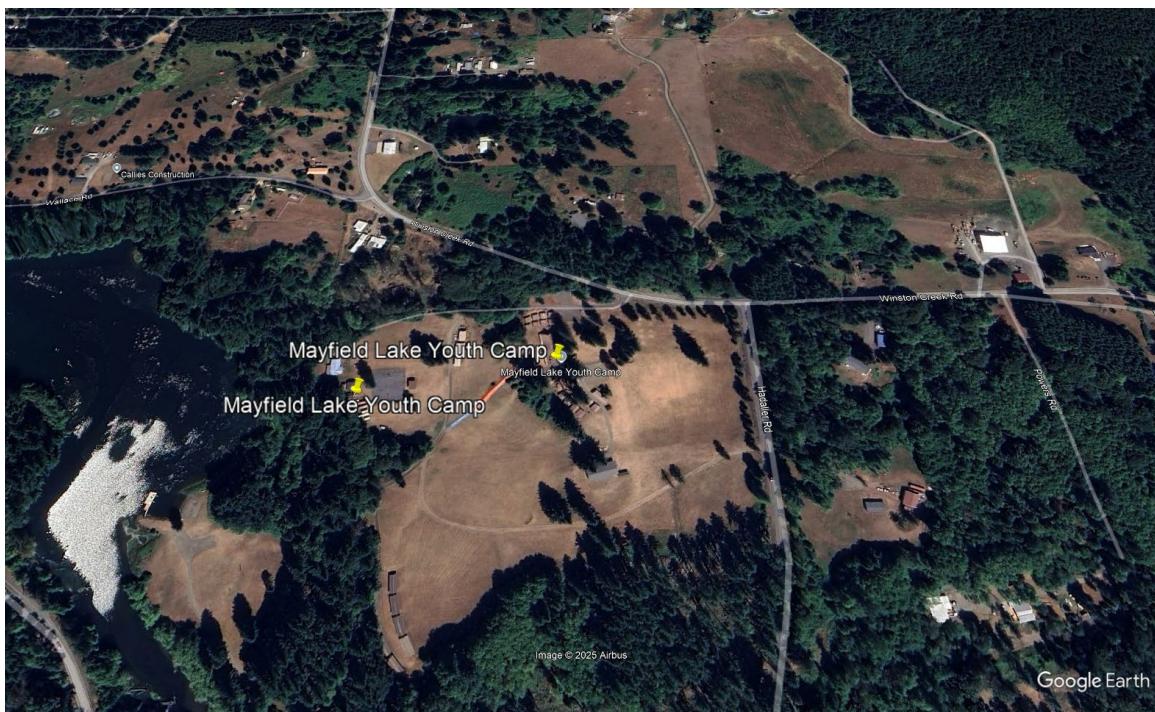
No height given— multiple frequencies at location

Coordinates on antennasearch.com incorrect

Latitude: 46.5019

Longitude: -122.5569

Unable to find exact location of antennas via Google Earth



Above is a screenshot from the Google Earth and unable to find exact location of antennas. This height is significantly lower than the proposed tower and they it is farther SW of the Verizon search ring and is lower in ground elevation by around 542' AMSL. This location does not meet the needs of the carrier.

Location 5:

Gerald T Girard

26.2 AGL – antennas mounted on roof – single frequency at location

Latitude: 46.5421

Longitude: -122.5309

Unable to find exact locations of antennas via Google Earth



Above is a screenshot from the Google Earth and unable to find exact location of antennas. This height is significantly lower than the proposed tower and they it is farther SW of the Verizon search ring and is lower in ground elevation by around 487' AMSL. This location does not meet the needs of the carrier.

Location 6:

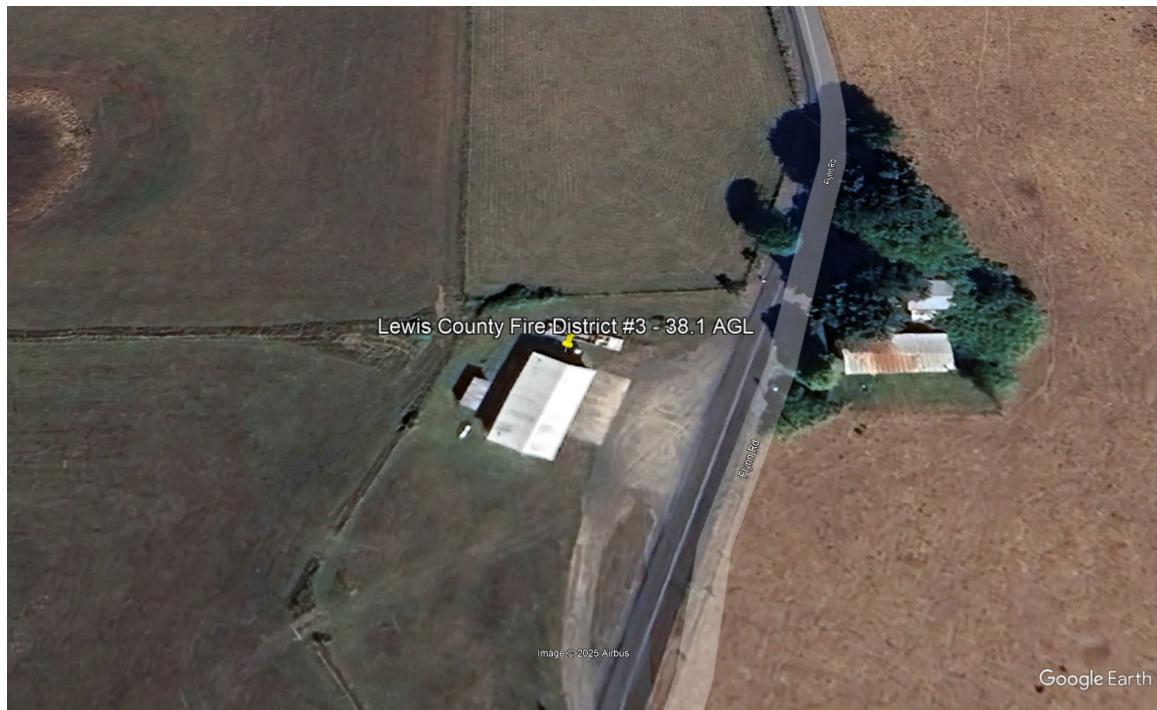
Lewis County Fire District #3

38.1 AGL– antennas mounted on roof – single frequency at location

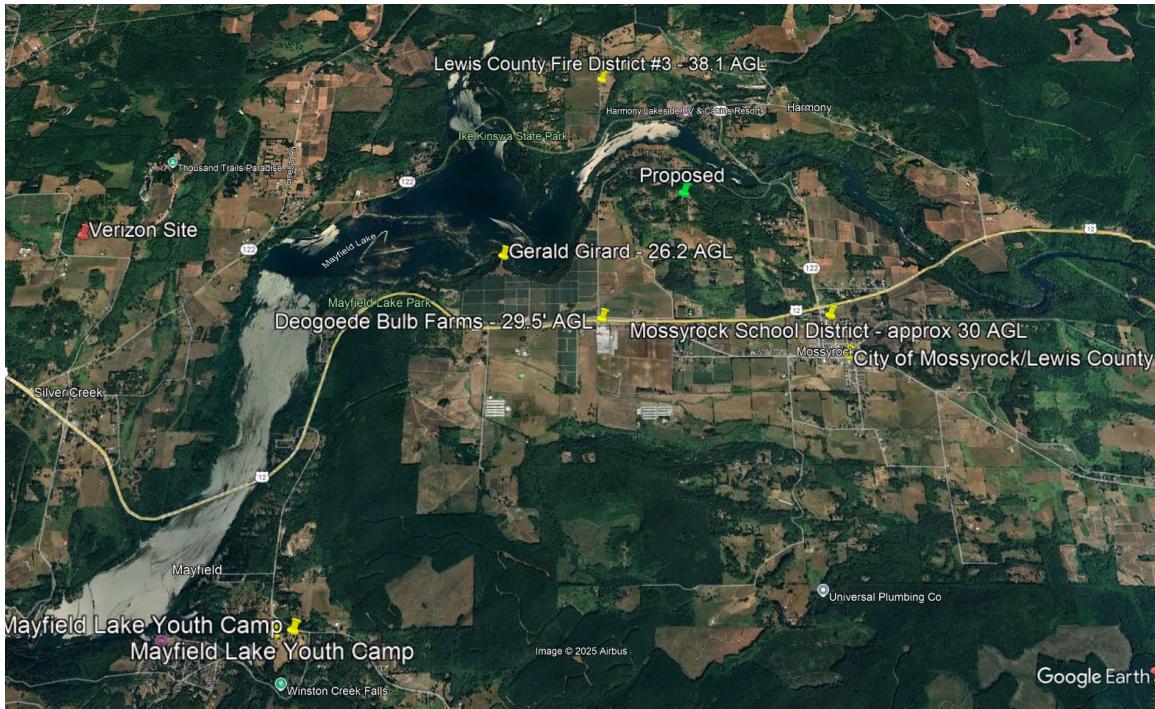
Latitude: 46.5609

Longitude: -122.5165

Unable to find exact locations of antennas via Google Earth



Above is a screenshot from the Google Earth and unable to find exact location of antennas. This height is significantly lower than the proposed tower and they it is farther NW of the Verizon search ring and is lower in ground elevation by around 443' AMSL. This location does not meet the needs of the carrier.



The locations brought up from antennasearch.com do not provide the level of service needed to resolve the carriers issues and in most cases are rooftops or short poles. The proposed site provides the coverage needed by the carrier.

Steven E Kennedy

COO & President
Biwabkos Consultants LLC

North G R O U P

P. O. Box 2449
Snohomish, WA 98291-2449
Phone (425) 876-2909
Fax (425) 671-0862
e-mail: billnorth@northgroup.net

MEMORANDUM

Date: October 21, 2025

To: Preston Pinkston
Lewis County Community Development
125 NW Chehalis Ave
Chehalis, WA 98532

From: Bill North
The North Group, Inc.

Subject: WCF25-0002 Harmoni Towers/Verizon Wireless
Mossyrock
Additional information

Please find the attached documents as supplemental information to include with application WCF25-0002.

The documents provide additional information in response to LCMC 15.50.025, 15.50.040.1.e, 15.50.040.2.d&e(iii)

The following documents are enclosed:

Mossyrock RF Design Analysis
Mossyrock NIER report

If you have any questions regarding the enclosed materials please feel free to contact me at 425.876.2909.



Bill North for Harmoni Towers and Verizon Wireless



Biwabkos Consultants LLC

RF Safety and NIER Analysis Report

October 20, 2025

Site: Mossyrock

MOSSYROCK, WA

Prepared for:

HARMONI TOWERS

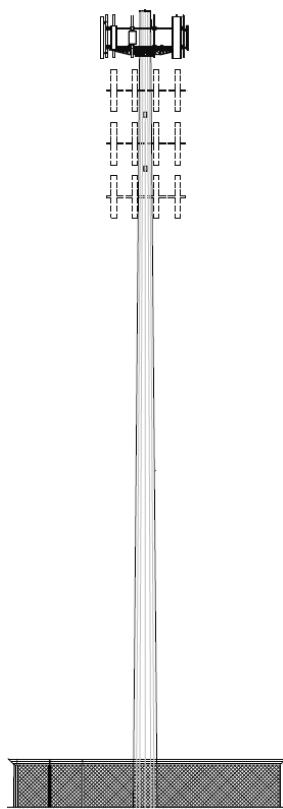


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1 Certification

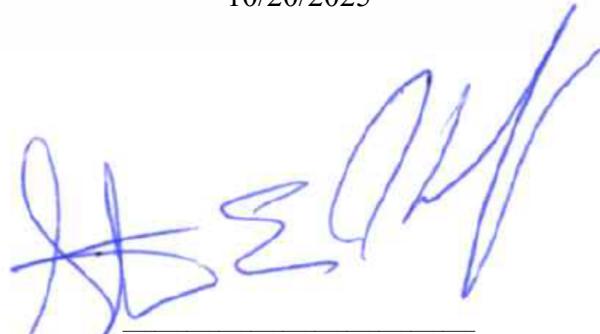
This report, prepared by Biwabkos Consultants LLC for **Harmoni Towers**, is intended to document compliance, and evaluate power density levels as outlined in the report. The computations, analysis, and resulting report and conclusions were based on applicable FCC guidelines and regulations for maximum permissible exposure to humans consistent with FCC 19-126 and OET-65.

Additionally, Biwabkos Consultants LLC certifies that the assumptions are valid, and that the data used within Biwabkos Consultants' control are accurate, including information collected as part of Biwabkos Consultants' field surveys (if applicable). Biwabkos Consultants LLC does not, however, certify the accuracy or correctness of any data provided to Biwabkos Consultants LLC for this analysis and report by Harmoni Towers.

I certify that the attached RF exposure analysis and report is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices:

Elizabeth Hillhouse

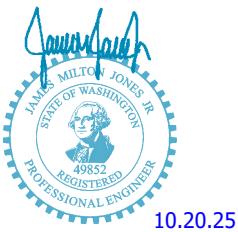
Report Prepared By
Elizabeth Hillhouse, RF Engineer
10/20/2025



Report Reviewed By
Steven Kennedy, Engineering Manager
10/20/2025

This analysis and report were completed by Elizabeth Hillhouse an RF Engineer. The analysis and report were also peer reviewed by Steven Kennedy an RF Engineer with over 35 years of experience in Wireless Network Engineering.

I certify that the attached RF analysis and report is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices:



2 Executive Summary

This report provides the results of an RF power density analysis performed for **Harmoni Towers** at site **MOSSYROCK** in accordance with the Federal Communications Commission (FCC) rules and regulations for RF emissions described in FCC 19-126

This report addresses RF safety for two classified groups defined by FCC 19-126: Occupational/ Controlled and General Population/ Uncontrolled. Based on the analysis, this site will be **Compliant** with FCC rules and regulations and Harmoni Towers' Signage and Barrier Policy since the mitigation details provided in Table 1 are implemented.

Minimum Required For Compliance						
Mitigation Information	NOTICE	CAUTION	WARNING	NOTICE	INFORMATION	
	Notice	Caution	Warning	Guidelines	Site Info	Barrier
Access Point	X			X	X	
Alpha						
Beta						
Gamma						
Delta						
Omni						

Notes/ Additional Compliance Requirements(s):
No Mitigation Required
Adding RF Guidelines, Site Info and Blue Notice signs on the Access Gate is recommended.

Table 1: Mitigation Requirements for Compliance

2.1 Conclusion and Recommendations:

- The results of the analysis indicate that the power density levels in the generally accessible areas on the Ground level will not exceed the FCC's MPE limit for both General Population and Occupational environment.
- The max theoretical cumulative % MPE (Occupational) is 1.3% inside the compound which is not accessible to the General Public.
- No mitigation is required.
- This site will operate in general compliance with FCC 19-126 and Harmoni Towers' Signage and Barrier policy.

3 Introduction

The purpose of this analysis and report is to evaluate the cumulative power density levels of all non-excluded antennas located on the Monopole and identify any areas of concern that require mitigation. This report also assesses the Monopole's compliance with FCC 19-126 ; "Guidelines for Human Exposure to Radio-frequency Electromagnetic Fields".

The power density simulation performed for this site utilized RoofView® analysis software. All antennas were assigned an operating frequency and transmit power and were deemed to be operating at 100% of their rated output power.

3.1 Site Description:

- **Site Name:** MOSSYROCK
- **Street Address:** 262 SKYVIEW DR MOSSYROCK, WA 98564
- **Latitude:** 46° 32' 44.85" N
- **Longitude:** 122° 30' 16.60" W
- **Structure Type:** Monopole
- **Structure Height:** 150' AGL
- **BTS Equipment Location:** Within the shelter inside the fenced-in compound.
- **Co-Locators/ Other Antennas:** Total of (3) co-locators and (27) antennas
- **Access:** Access is through a locked gate on the South-West side of the fenced-in compound.
- **Other Notes:** There are no other adjacent structures where the General Population would get within an unsafe distance.

3.2 Site Configuration Being Modeled:

- This site has (1) carrier with (3) sectors
- There is a total of (12) antennas
- Each sector supports various LTE carriers including, but not limited to 600 MHz, 700 MHz, 850 MHz, 1900 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3700 MHz, and 3800MHz frequencies.
- All LTE supports MIMO.

3.3 Assumptions:

- The fenced-in compound will remain locked and is not accessible to the General Population.

4 Predictive Analysis Details:

For purposes of this analysis, RoofView® was configured to provide an output based on the appropriate MPE limit(s) published in the FCC's guidelines. The antenna information was loaded into RoofView®, an MPE predictive analysis tool by Richard Tell and Associates, Inc.

4.1 Analysis Locations:

Number of Elevations Analyzed: 1

- The Ground level is accessible to the General Population outside the fenced-in compound and is accessible to the Occupational population within the fenced-in compound.

4.2 Antenna Inventory:

The following table contains the technical data used to simulate the power density that may be encountered with all antennas simultaneously operating at full rated power with the exception of any excluded antennas cited in this document. If Co-Locator antennas exist and specific antenna details could not be secured, generic antennas, frequencies, and Tx powers were used for modeling. The assumptions used are based on past experience with communications carriers.

ID	Name	(MHz) Freq	Trans Power	Trans Count	Mfg	Model	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir
VZA1A	L700	730.00000	40.0	4	Commscope	NNSS-65C-HG-R2B	146.0	Octoport	8.0	13.75	72;15
VZA2A	L1900	1960.00000	60.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	20.75	65;15
VZA2B	L2100	2150.00000	80.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	21.55	120;15
VZA3A	L3700	3700.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;15
VZA3B	L3800	3800.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;15
VZB1A	L700	730.00000	40.0	4	Commscope	NNSS-65C-HG-R2B	146.0	Octoport	8.0	13.75	72;135
VZB2A	L1900	1960.00000	60.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	20.75	65;135
VZB2B	L2100	2150.00000	80.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	21.55	120;135
VZB3A	L3700	3700.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;135
VZB3B	L3800	3800.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;135
VZC1A	L700	730.00000	40.0	4	Commscope	NNSS-65C-HG-R2B	146.0	Octoport	8.0	13.75	72;255
VZC2A	L1900	1960.00000	60.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	20.75	65;255
VZC2B	L2100	2150.00000	80.0	4	Ericsson	AIR3283	150.0	Multibeam	4.0	21.55	120;255
VZC3A	L3700	3700.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;255
VZC3B	L3800	3800.00000	5.0	64	Ericsson	AIR6419	151.5	Multibeam	2.6	22.85	65;255
VZC2B	L2100	2150.00000	80.0	4	JMA WIRELESS	MX10FRO860-03	66.0	Ten-Port	8.0	15.85	55.5;
VZC3A	L3700	3700.00000	5.0	64	Ericsson	AIR6419	68.7	Multibeam	2.6	22.85	65;
VZC3B	L3800	3800.00000	5.0	64	Ericsson	AIR6419	68.7	Multibeam	2.6	22.85	65;

Table 2- Antenna Inventory

4.3 RF Emissions Diagram(s)- All Transmitters:

The following Diagram(s) represent the theoretical spatially averaged Maximum Permissible Exposure (MPE) percentages that are expected for each study's elevation from all Transmitters.

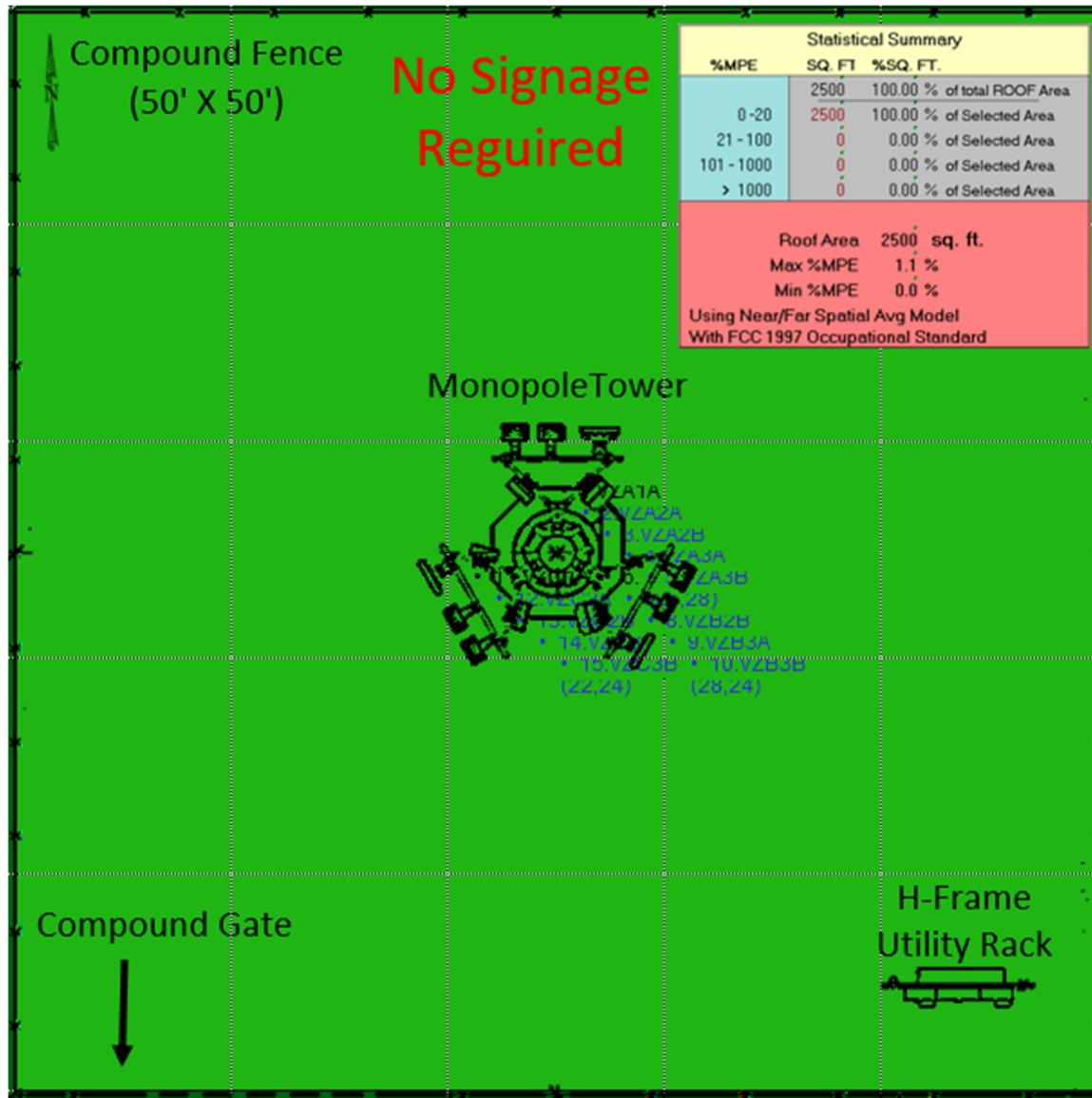


Diagram 1- MPE% (Occupational) for Ground Level

Green	≤ 20% Occupational Limit (≤ 100% General Population Limit)
Blue	> 20% through 100% Occupational Limit (> 100% General Population Limit)
Yellow	> 100% through 1000% Occupational Limit
Red	> 1000% Occupational Limit

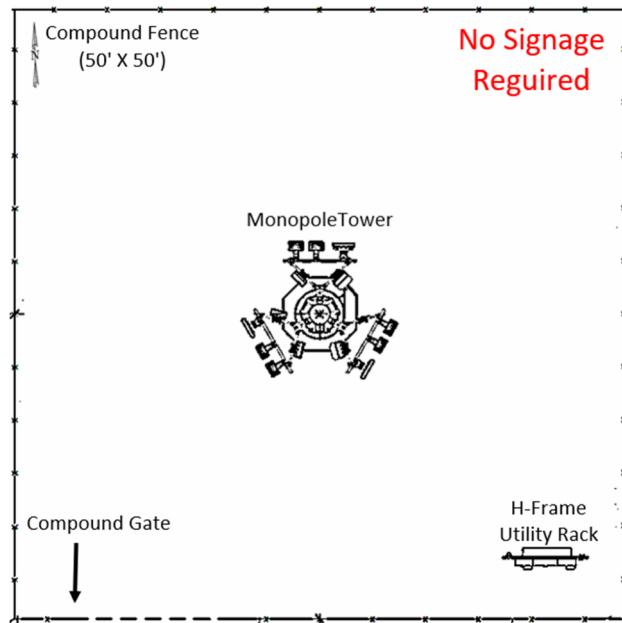
5 Signage/ Mitigation:

5.1 Signage/ Barrier Detail

Minimum Required For Compliance							
Mitigation Information	NOTICE	CAUTION	WARNING	Guidelines	Site Info	Barrier	Marker
	Notice	Caution	Warning	Guidelines	Site Info	Barrier	Marker
Access Point	X			X	X		
Alpha							
Beta							
Gamma							
Delta							
Omni							

Table 3-Mitigation Requirements for Compliance

Notes/ Additional Mitigation Details from Audit:
No Mitigation Required
Adding RF Guidelines, Site Info and Blue Notice signs on the Access Gate is recommended.



5.2 Signage/ Barrier Diagram

Conclusions and Recommendations:

- The results of the analysis indicate that the power density levels in the generally accessible areas on the Ground level will not exceed the FCC's MPE limit for both General Population and Occupational environment.
- The max theoretical cumulative % MPE (Occupational) is 1.3% inside the compound which is not accessible to the General Public.
- No mitigation is required.
- This site will operate in general compliance with FCC 19-126 and Harmoni Towers's Signage and Barrier policy.

Note: Modifications to the site; and/or increases in channel counts or power levels exceeding those listed in this report will require additional evaluation to determine compliance

6 Appendix A: FCC Compliance and RF Safety Policies

In August of 1997, the FCC published OET Bulletin 65 Edition 97-01 to regulate methods for evaluating compliance with FCC guidelines for human exposure to radiofrequency (RF) electromagnetic fields. The FCC guidelines for human exposure to RF electromagnetic fields incorporate two categories of limits; namely “Controlled” (a.k.a. Occupational) and “Uncontrolled” (a.k.a. General Public). The guidelines offer suggested methods for evaluating fixed RF transmitters to insure that the controlled and uncontrolled limits deemed safe by the FC for human exposure are not exceeded.

OET Bulletin 65 recommended guidelines are intended to allow an applicant to “make a reasonably quick determination as to whether a proposed facility is in compliance with the limits.” In addition, the guidelines offer alternate supplementary considerations and procedures such as field measurements and more detailed analysis that should be used for multiple emitter situations.

These guidelines define RF as emissions in the frequency range of 300 kHz to 100 GHz. The FCC define Maximum Permissible Exposure (MPE) limits within this frequency range based on limits recommended by the National Council on Radiation Protection and Measurement, the Institute of Electrical and Electronics Engineers (IEEE), and by the American National Standards Institute (ANSI).

The specific MPE limits defined by the FCC are as follows:

Limits for Occupational/Controlled Exposure					
Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/Cm^2]	Averaging Time E ^2, H ^2 or S [minutes]	
0.3 - 3.0	614	1.63	100*	6	
3.0 - 30	1842/f	4.89/f	900/f^2*	6	
30 - 300	61.4	0.163	1	6	
300 - 1,500	-	-	f/300	6	
1,500 - 100,000	-	-	5	6	

Limits for General Population/Uncontrolled Exposure					
Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/Cm^2]	Averaging Time E ^2, H ^2 or S [minutes]	
0.3 - 3.0	614	1.63	100*	30	
3.0 - 30	842/f	2.19/f	180/f^2*	30	
30 - 300	27.5	0.073	0.2	30	
300 - 1,500	-	-	f/1500	30	
1,500 - 100,000	-	-	1	30	

f = frequency

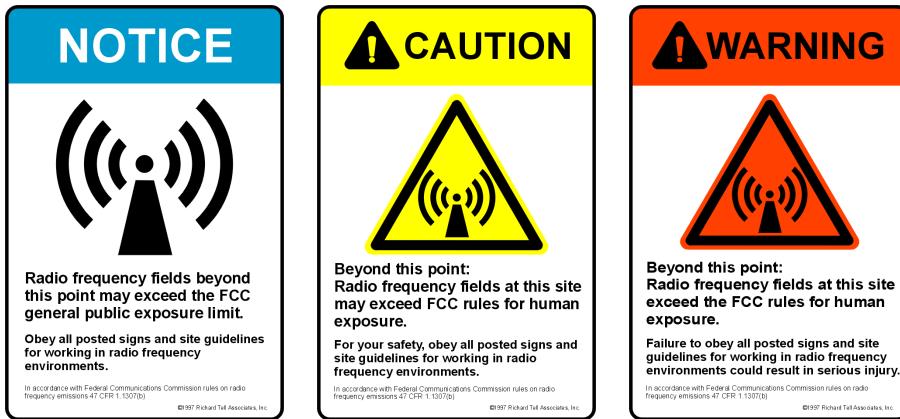
*Plane-wave equivalent power density

The FCC states that “Occupational/ Controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for Occupational/ Controlled exposure also apply in situations when an individual is transient through a location where Occupational/ Controlled limits apply provided he or she is made aware of the potential for exposure.”

For General Population/ Uncontrolled limits, the FCC states that “General Population/ Uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not fully be aware of the potential for exposure or cannot exercise control over their exposure.”

For purposes of this analysis, all limits are evaluated against the Power Density limits.

Typical guidelines for determining whether Occupational/ Controlled limits can be applied include insuring the environment (such as a rooftop) as limited/controlled access via locked doors or physical barrier that are preferably controlled by a landlord that is aware of the situation and can inform anyone going through the locked door of the existence of the RF emissions. Such notification/awareness is typically accomplished by means of signage on the door, or other access to the area of concern, as well as signage on or near the antennas. Examples of such signs include the following:



Standards for when to use each of the above signs for Occupational situations are as follows:

No sign required: <20% of Occupational MPE
Blue Sign, Notice: 20% to <100% of MPE
Yellow Sign, Caution: 100% to <1000% of MPE
Red Sign, Warning: >1000% of MPE

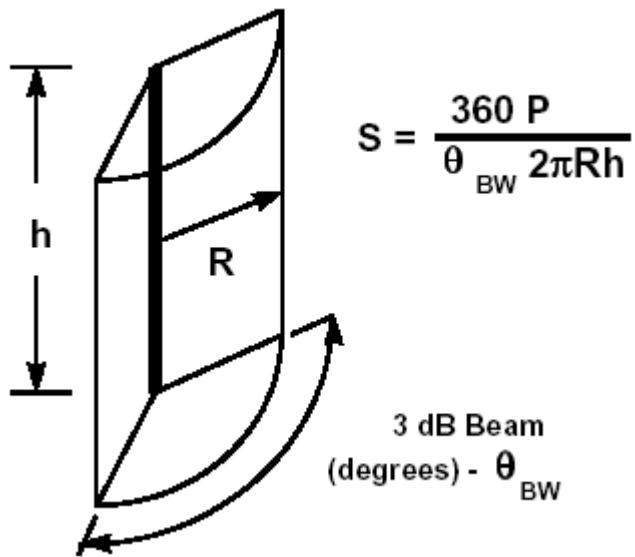
All MPE references are to the FCC Occupational limits.

7 Appendix B: Overview of RoofView® Functions and Assumptions

RoofView® is a tool developed and supported by Richard Tell Associates, Inc. to be used for analysis of RF field levels at telecommunications sites produced by antennas of the type commonly used in cellular, paging, SMR, PCS and two-way radio communications services. Although its name suggests that the tool is only for use in evaluating emissions for roof top applications, it can also be used to evaluate ground level effects of tower facilities.

RoofView® allows the user to apply near field, far field, or a combination of near and far field computational methods as desired by the user. For this analysis, near field computations are used for areas within the near field, and far field computations are used beyond the near field. Specific break points are dynamic based on the aperture of the antenna being analyzed.

The near field methodology is based on a cylindrical model that assumes the power into an antenna is distributed as a cylinder around the aperture of the antenna. Research by Richard Tell Associates, Inc. found that using such a model, along with corrections for height and antenna pattern, is very accurate, if not slightly conservative in estimating RF exposure. FCC Bulletin 65 recognizes the use of the cylindrical model for near field calculations. The following picture and corresponding equation summarizes the computations used by RoofView® on a bin-by-bin basis when the near field method is used:



Each bin's results are then also adjusted by spatially averaging the portion of a 6 foot tall human that intercepts the aperture over 6 feet. Once the antenna is completely above (or below) the height that corresponds to a 6 foot tall human, the cylindrical results are reduced

to 10% of their results and then dissipated inversely in proportion to the square of the distance.

Once bins being analyzed fall outside of the near field (as determined by a method and variable that is user-selectable; see below for method and variable used in this analysis), a far-field spatial average is calculated. Spatially averaged power density in the far-field is calculated by reducing the spatially averaged power density inversely, by the square of the distance from the antenna(s).

There are several input variables to RoofView® that can impact the results produced when evaluating specific cell sites. Those variables are summarized accordingly:

Standard

- FCC 1997 Occupational (default)
- FCC 1997 General Population (as applicable)

Model

- Near/Far Spatial Average

Uptime

- 100% (vary as applicable)

Near/Far Field Transition Method

- X ApHt

Near/Far Field Transition At Ht Factor

- 1.5

8 References

FCC (1997). “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields”; Federal Communications Commission; Office of Engineering and Technology, OET Bulletin 65, Edition 97-01, August.

Richard Tell Associates, Inc. (2003). RoofView® User Guide Version 4.15, Richard Tell Associates, Inc., February 10, 2003.

9 Limited Warranty

Biwabkos Consultants LLC warrants that this analysis was performed in good faith using the methodologies and assumptions covered in this report and that data used for the analysis and report were obtained by Biwabkos Consultants LLC employees or representatives via site surveys or research of Harmoni Towers available information. In the event that specific third party details were not available, best efforts were made to use assumptions that are based on industry experience of various carriers' standards without violating any confidential information obtained under non-disclosure terms.

Biwabkos Consultants LLC also warrants that this analysis was performed in accordance with industry acceptable standards and methods.

There are no other warranties, express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose, relating to this agreement or to the services rendered by Biwabkos Consultants hereunder. In no event shall Biwabkos Consultants be held liable to Harmoni Towers, or to any third party, for any indirect, special, incidental, or consequential damages, including but not limited to loss of profits, loss of data, loss of good will, and increased expenses. In no event shall Biwabkos Consultants be liable to Harmoni Towers for damages, whether based in contract, tort, negligence, strict liability, or otherwise, exceeding the amount payable hereunder for the services giving rise to such liability.

WIRELESS NETWORK CONSULTING

Harmoni WA0007224 Mossyrock

Verizon Harmony

Capacity Site

RF DESIGN ANALYSIS



2025

Certification

This analysis and report was completed by Steven Kennedy an Independent Radio Frequency Engineer with over 36 years of experience in Wireless Network Engineering.

I certify that the attached RF analysis and report is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices

A handwritten signature in blue ink, appearing to read "STEVEN E KENNEDY".

Steven E Kennedy

Coverage vs Capacity

- † **Capacity is providing bandwidth or processing capacity to service the customers in the area.**
 - Areas where large numbers of users are in a specific geographic areas
 - Areas where users are demanding higher data rates for services
 - Areas with a large amount of indoor users
- † **Coverage is providing service where service does not exist, calls drop, or “no service”.**
 - Areas where sites are farther apart
 - Areas where terrain or buildings block signals
 - Areas where indoor service is low or nonexistent

Objective of new site

Capacity

- Provide additional bandwidth for customers in the area surrounding the proposed site
- Provide better throughput for indoor users in the area
- Offload sites to the West and SE that are overloaded

Coverage

- Provide coverage in Mossyrock and North in the rural areas
- Provide coverage along Hwy 12 and feeder roads in the area

Why is this site important?

- 96% of Americans own a Cellular Phone
- 57% of American Homes rely exclusively on cellular phones
- 84% or more of 9-1-1 emergency calls are made from wireless devices

Proposed Site

† 150' Monopole

- 262 Skyview Drive Mossyrock, WA 98564
 - Latitude: 46.545793 N (NAD83)
 - Longitude: -122.504611 W (NAD83)
 - Ground Elevation: 1061.8' (NAVD88)
 - Anchor tenant is Verizon
- Antenna Centerline at 146' AGL

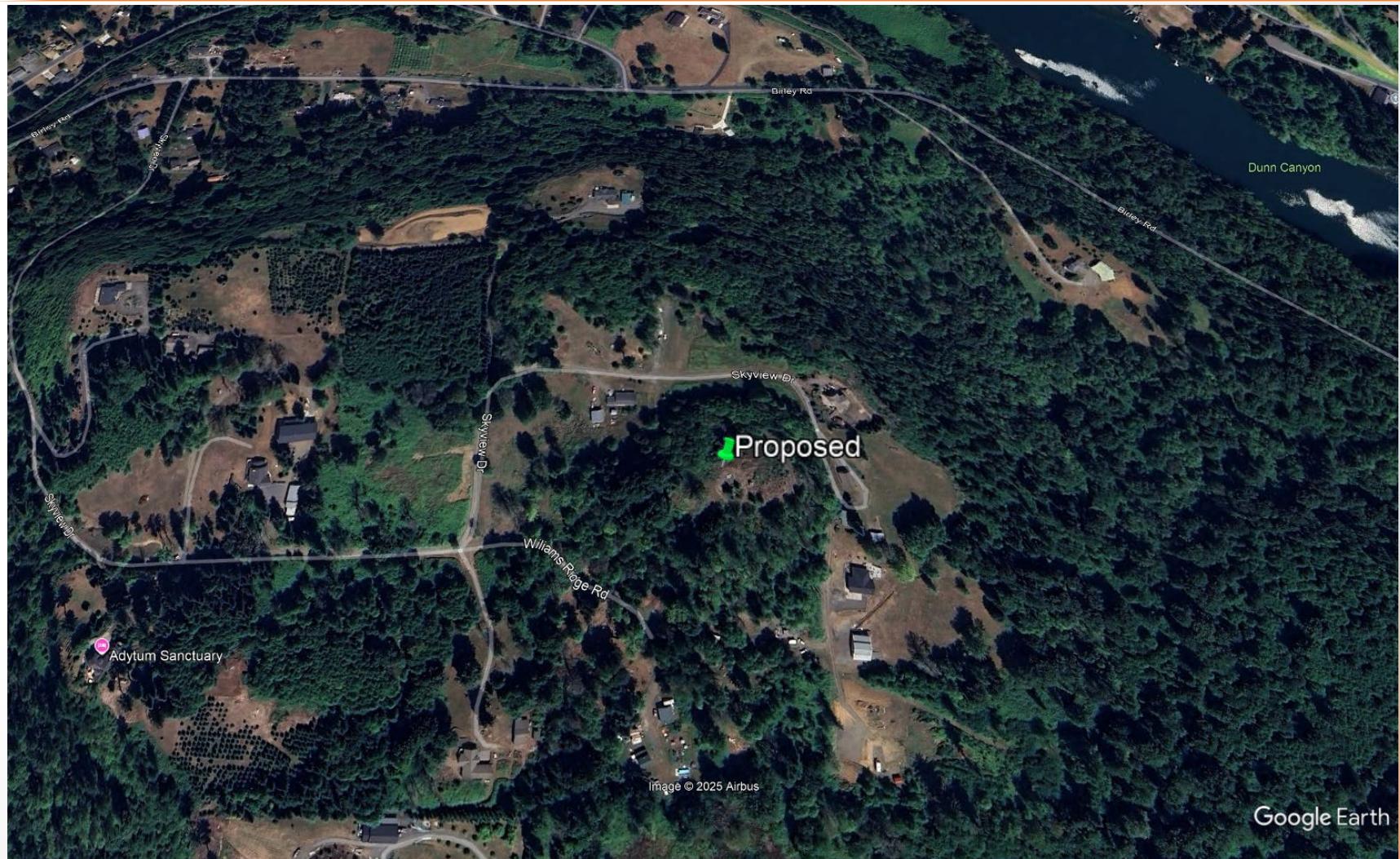
Why here?

- † Surrounding area has lack of quality services
- † All (3) carriers are lacking quality service in the area
- † Many of the users' mobiles are reporting low quality connections from Crowd Source (CellMapper and FCC broadband maps).
- † Significant growth in wireless network utilization in the rural areas of Washington.
- † Sites to the West and SE are over capacity (throughput limitations)
- † Coverage quality will increase in the area with the proposed tower

Tower Infrastructure

- † Lack of existing verticality around the proposed
- † Some structures are 2 stories high (approximately 24')
- † Area requires a tower structure to provide better service in the area
- † There are no vertical structures within the area of the proposed and it's coverage area

Zoom – proposed site



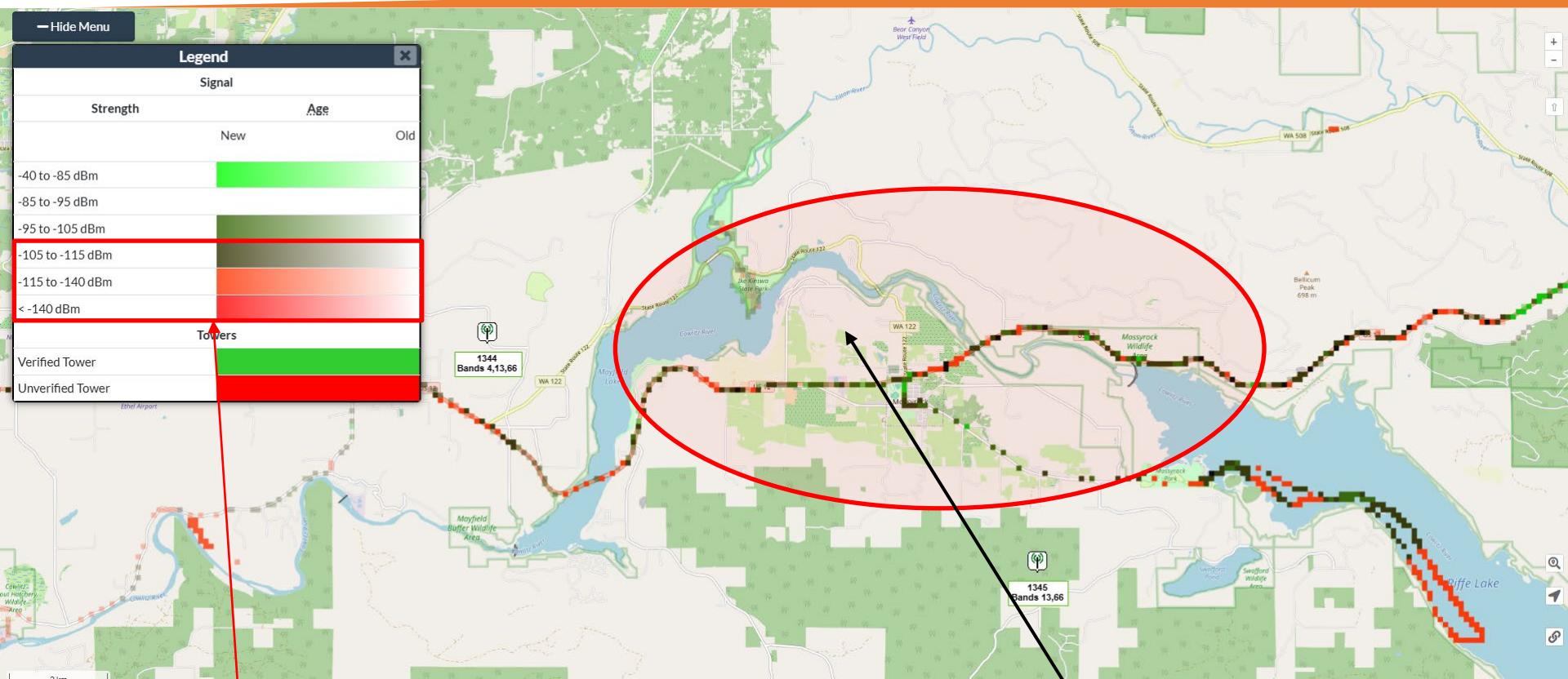
2025

Distance from proposed to Verizon neighbor sites



2025

Verizon CellMapper



Less than on Street Coverage

The area in the red circle is what the proposed site would impact

This area is showing less than in-vehicle/outdoor service in the area

2025

FCC Broadband Map

Verizon In-Vehicle Mobile

FCC National Broadband Map

Home Location Summary Provider Detail Area Summary Area Comparison Data Download About Broadband Funding Map

Environment: In Vehicle Mobile Percent Coverage Threshold: ≥ 75

Service Filters Data As Of Dec 31, 2024 (latest) (Last Updated: 9/30/25)

Fixed Broadband Mobile Broadband

FCC maps show a lack of coverage around the proposed

Proposed Site

Selected Providers

Provider	Technology	Action
Verizon Communications Inc.	4G LTE	<input checked="" type="button"/> <input type="button"/>
AT&T Inc.	4G LTE	<input checked="" type="button"/> <input type="button"/>
T-Mobile USA, Inc.	4G LTE	<input checked="" type="button"/> <input type="button"/>

Percentage of Area with Coverage

Provider	Technology	Percentage
Verizon Communi...	4G LTE	25
AT&T Inc.	4G LTE	35
T-Mobile USA, I...	4G LTE	18

Zoom Level: 11.44 Hex Level: 8

mapbox

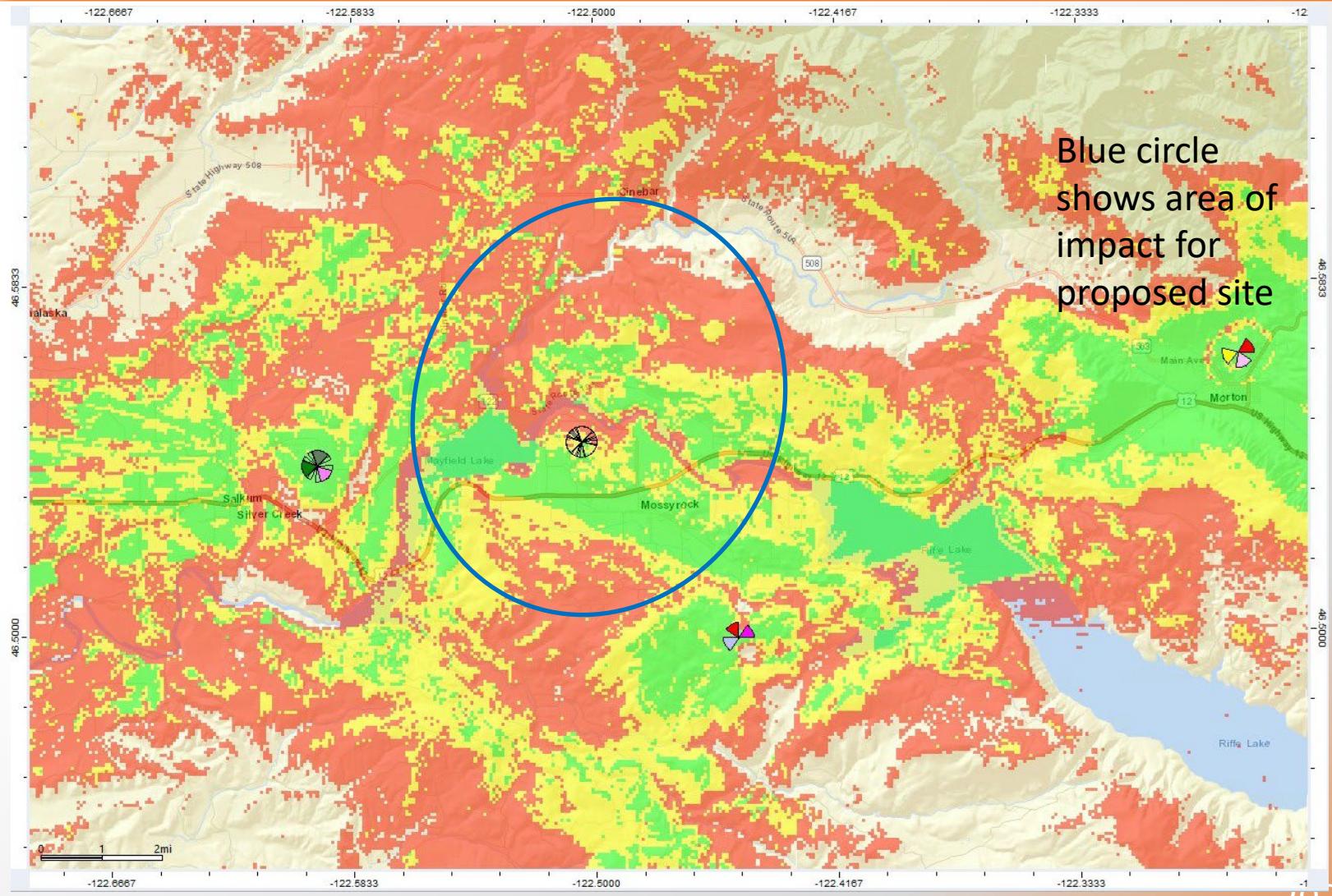
Source: <https://broadbandmap.fcc.gov/home> 2025

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Verizon RSRP

Current Coverage – 751 MHz

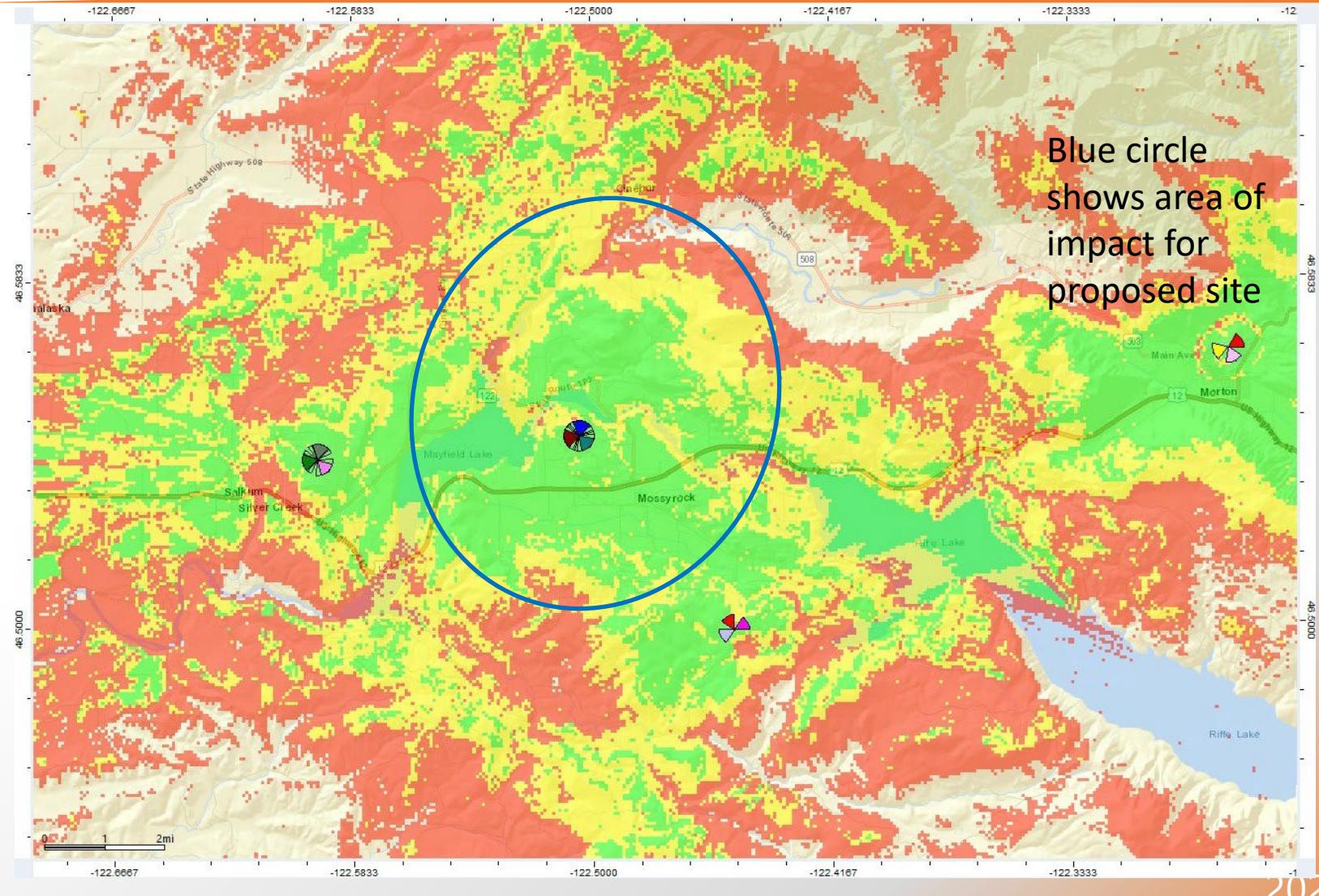
LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



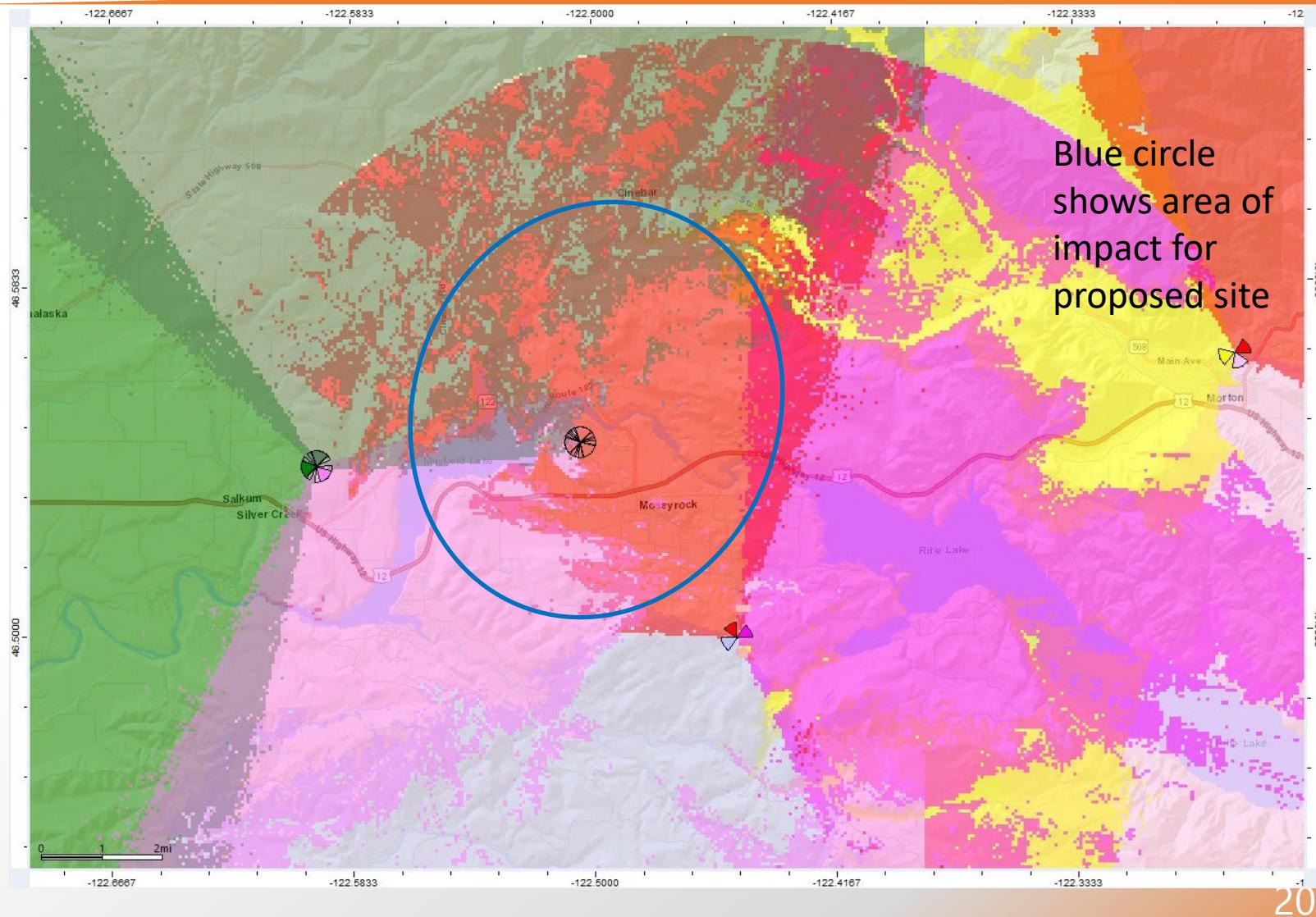
Verizon RSRP

Proposed Coverage - 751 MHz

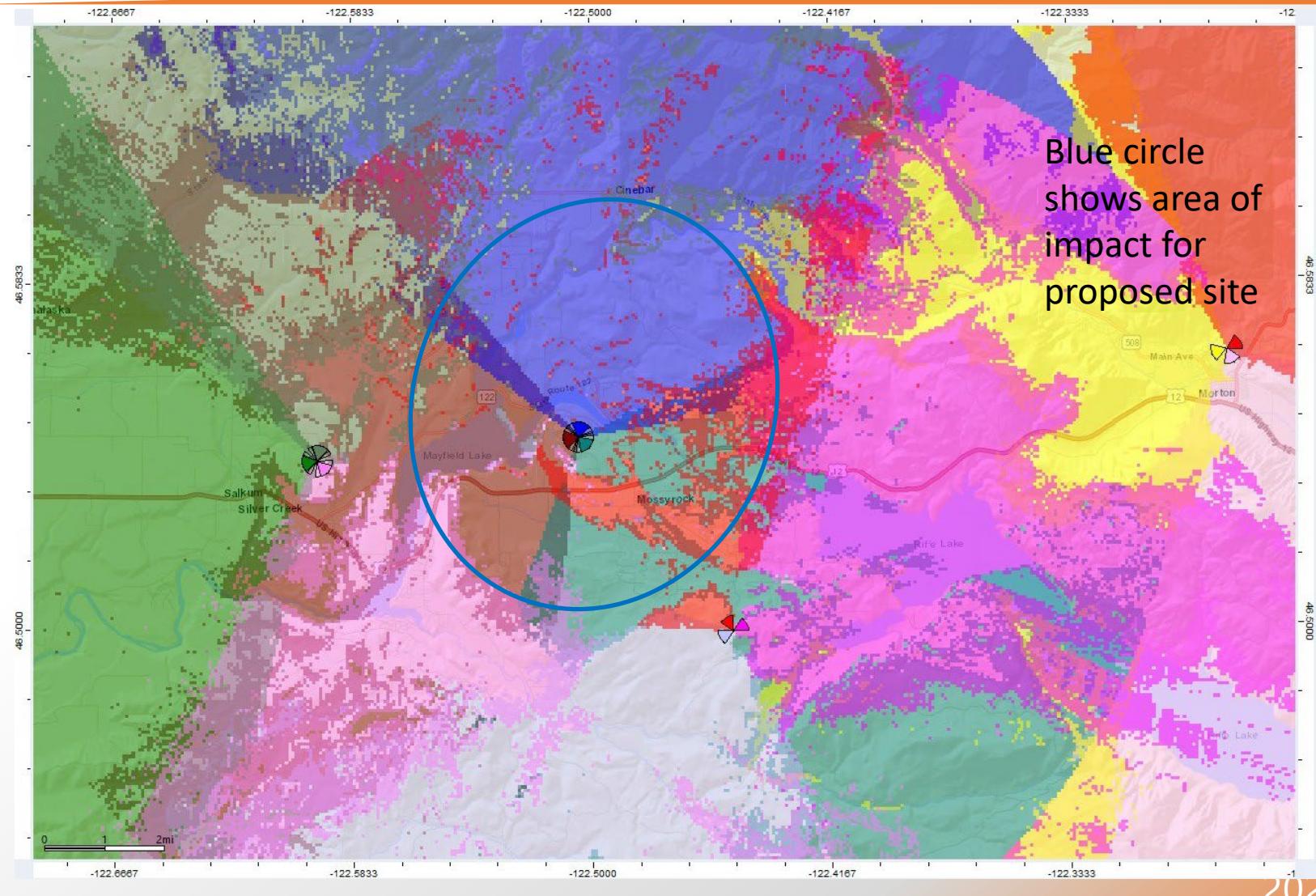
LEGEND	
Indoor >= -85 dbm	
In-Vehicle >= -95 dbm	
On-Street >= -106 dbm	



Verizon Current Best Server – 751 MHz



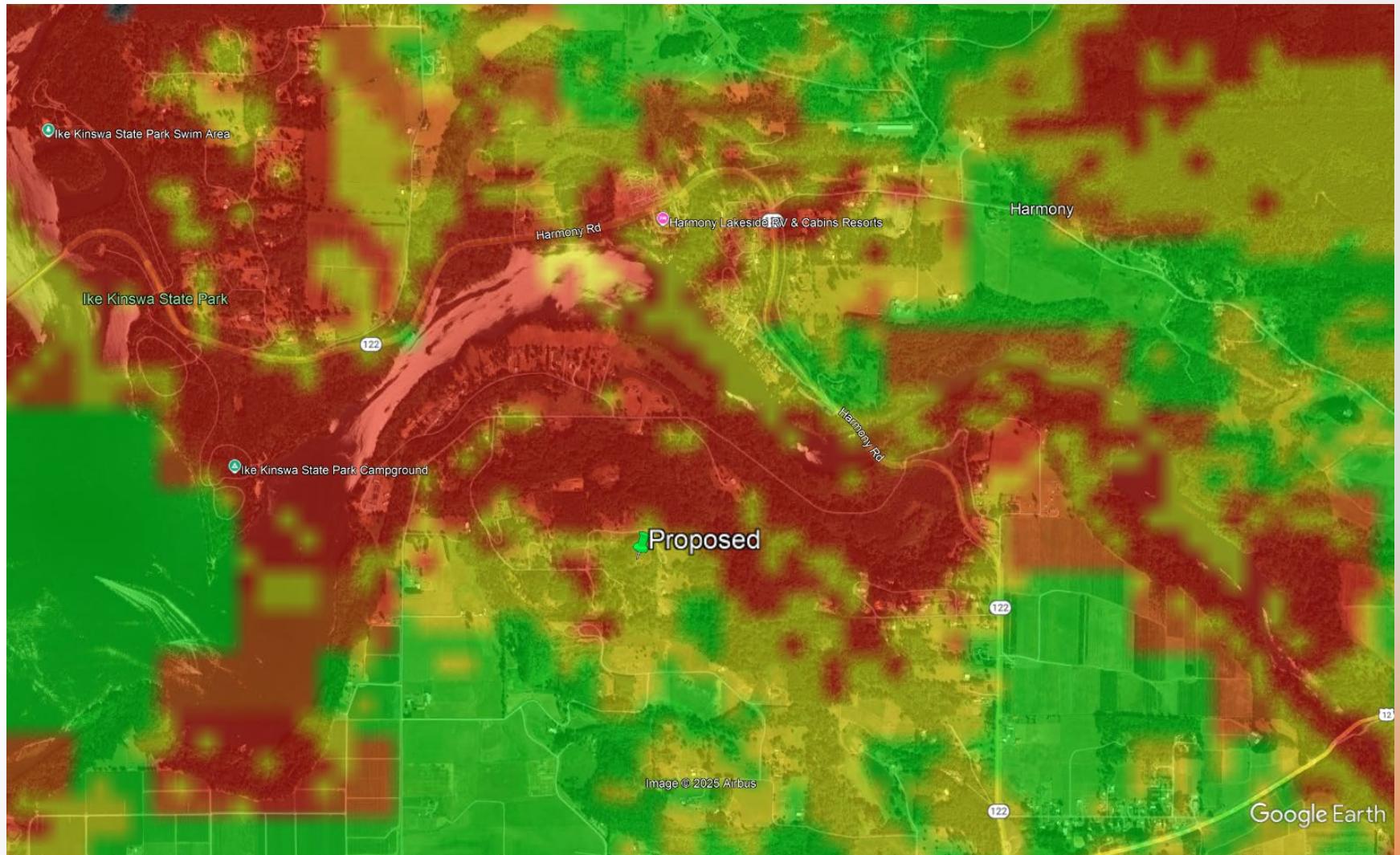
Verizon Proposed Best Server – 751 MHz



Verizon RSRP – 751 MHz

Current Coverage - zoomed

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm

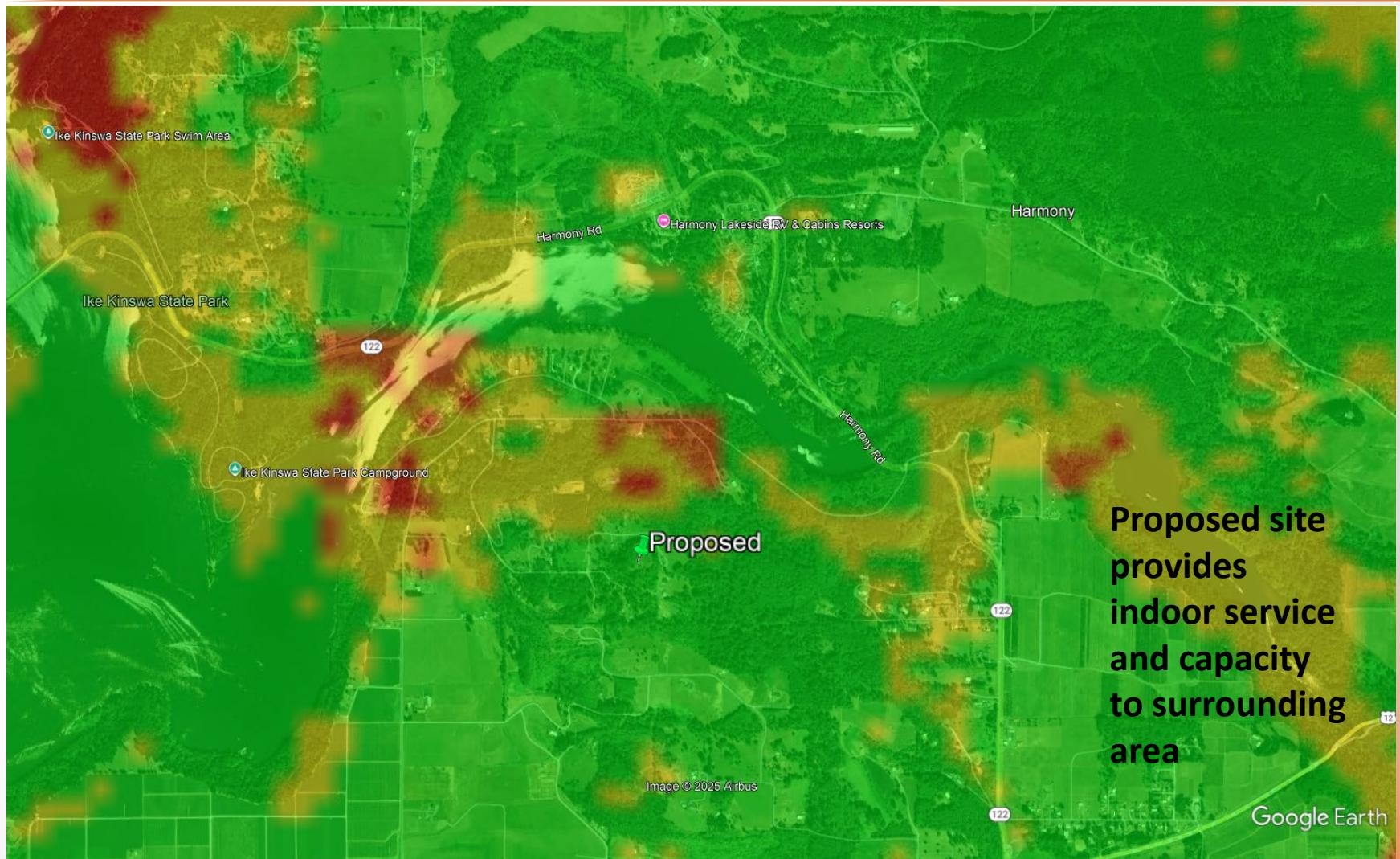


2025

Verizon RSRP – 751 MHz

Proposed Coverage - zoomed

LEGEND	
Green	Indoor ≥ -85 dbm
Yellow	In-Vehicle ≥ -95 dbm
Red	On-Street ≥ -106 dbm

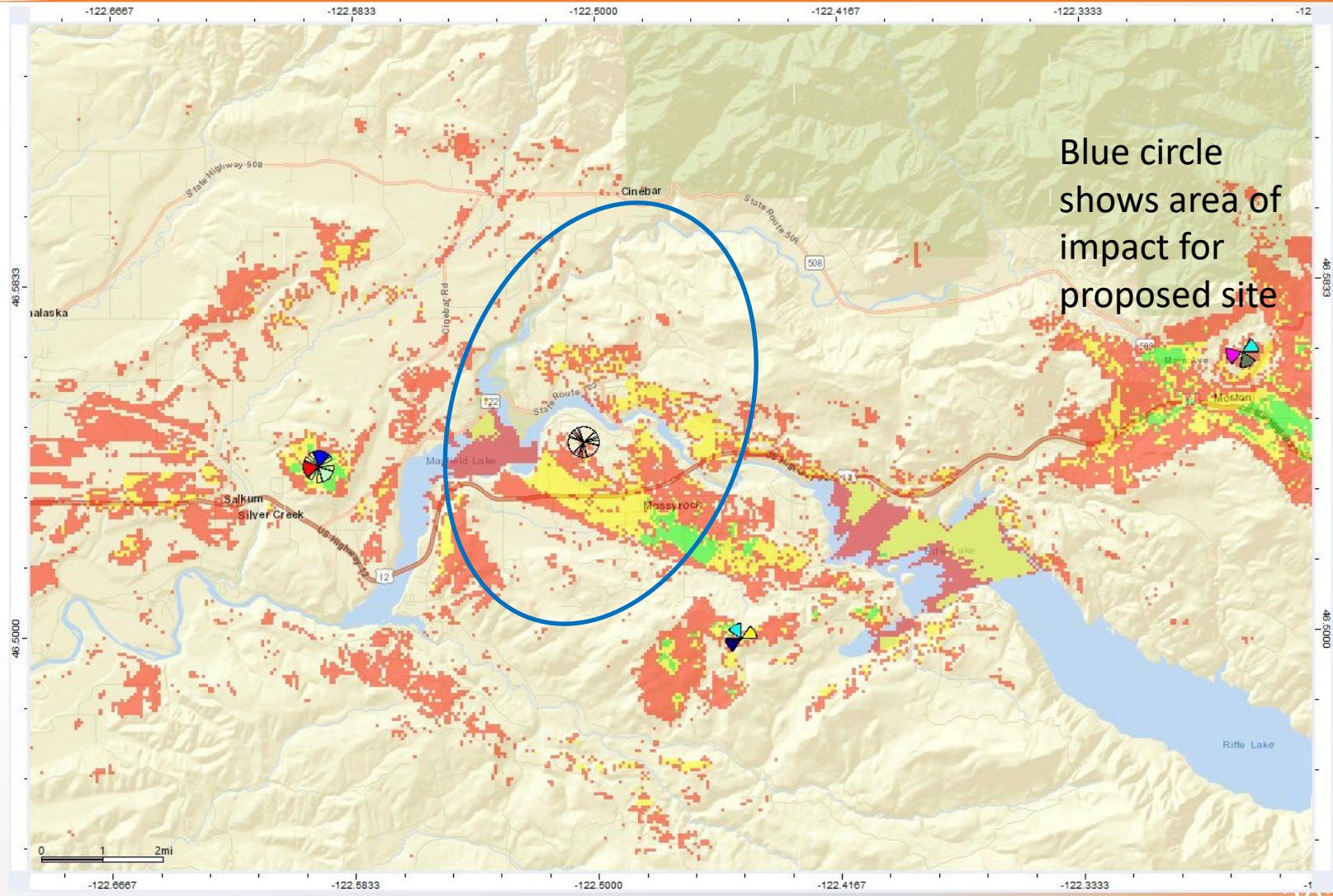


2025

Verizon RSRP

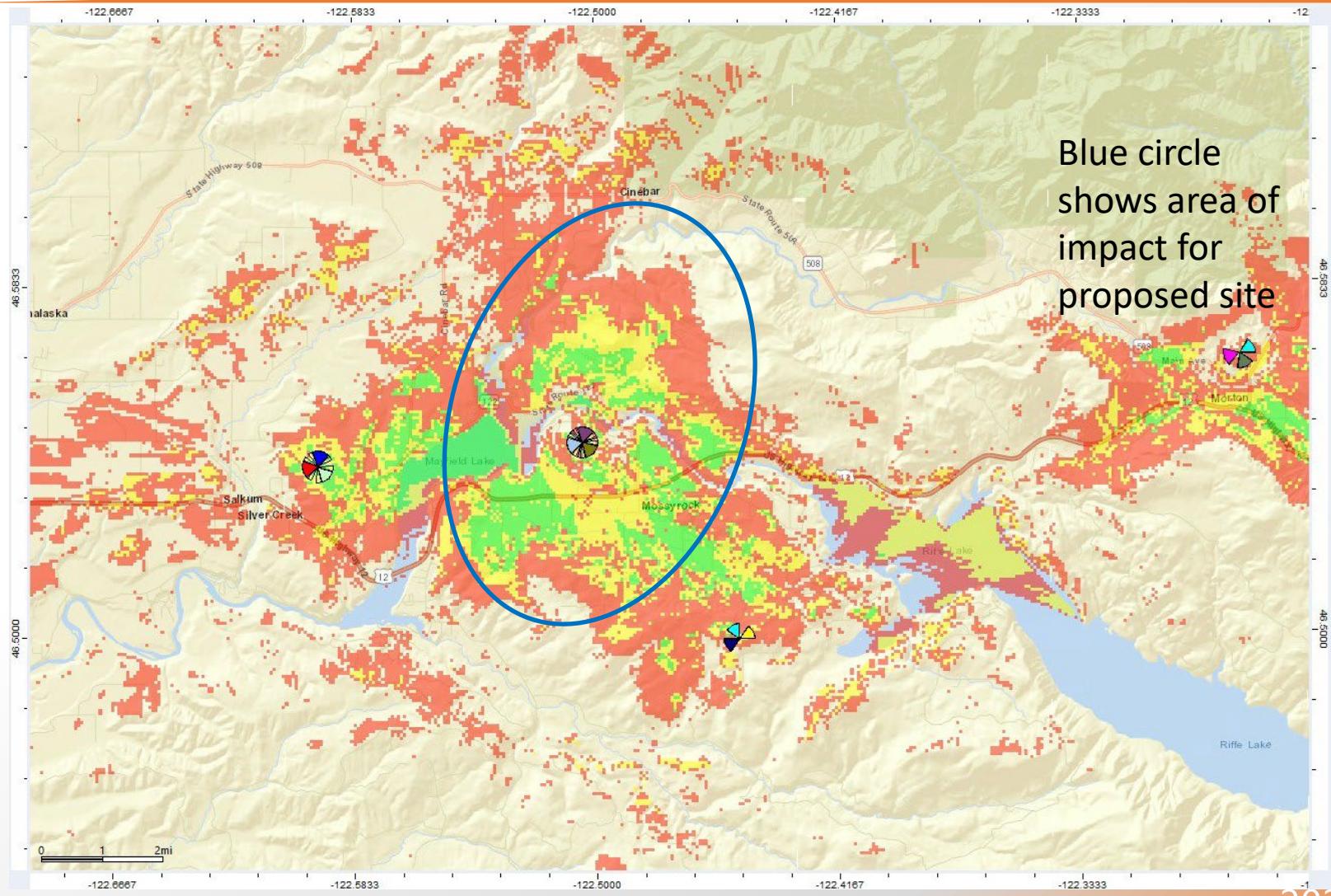
Current Coverage – 2120 MHz

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm

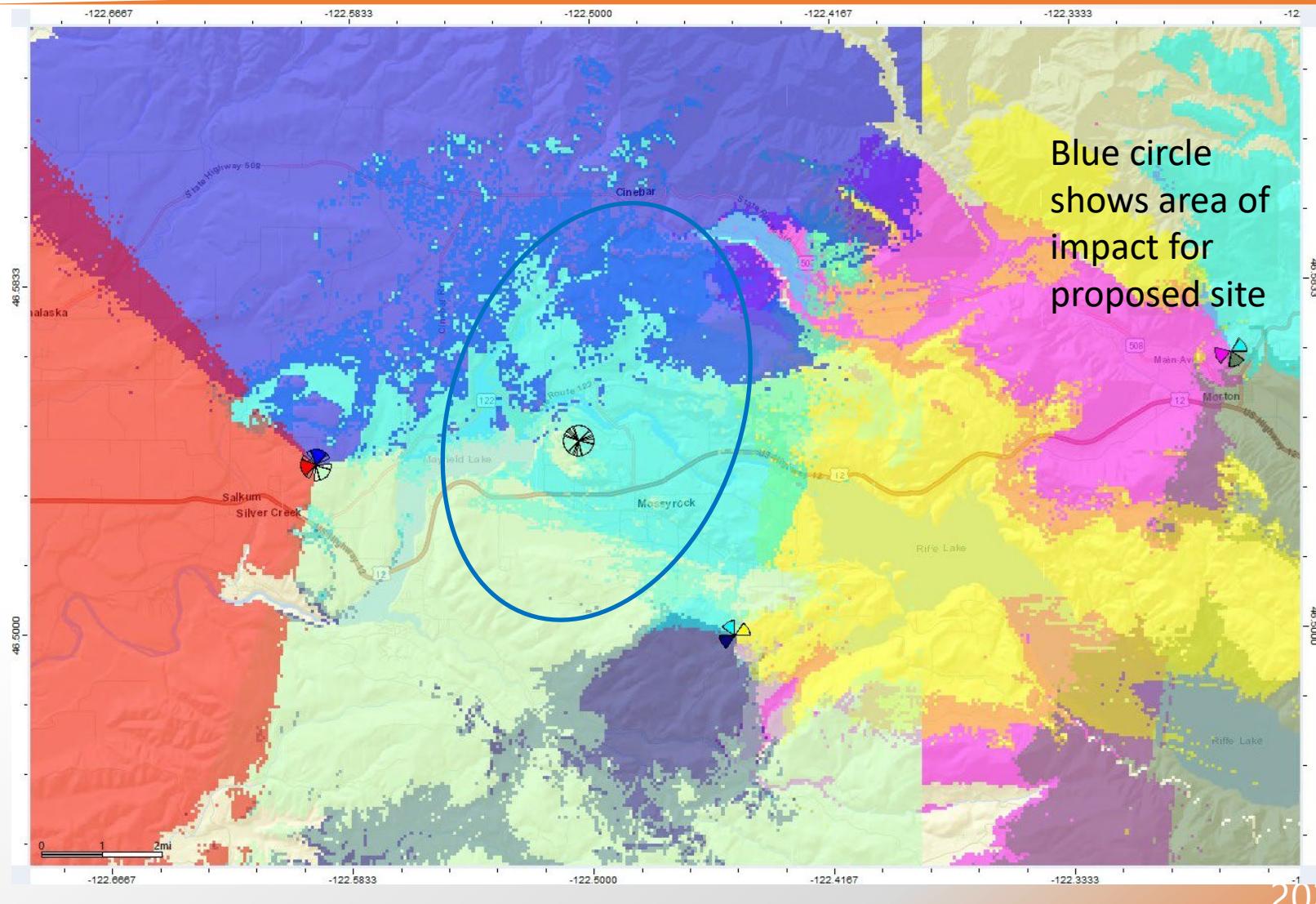


Verizon RSRP Proposed Coverage - 2120 MHz

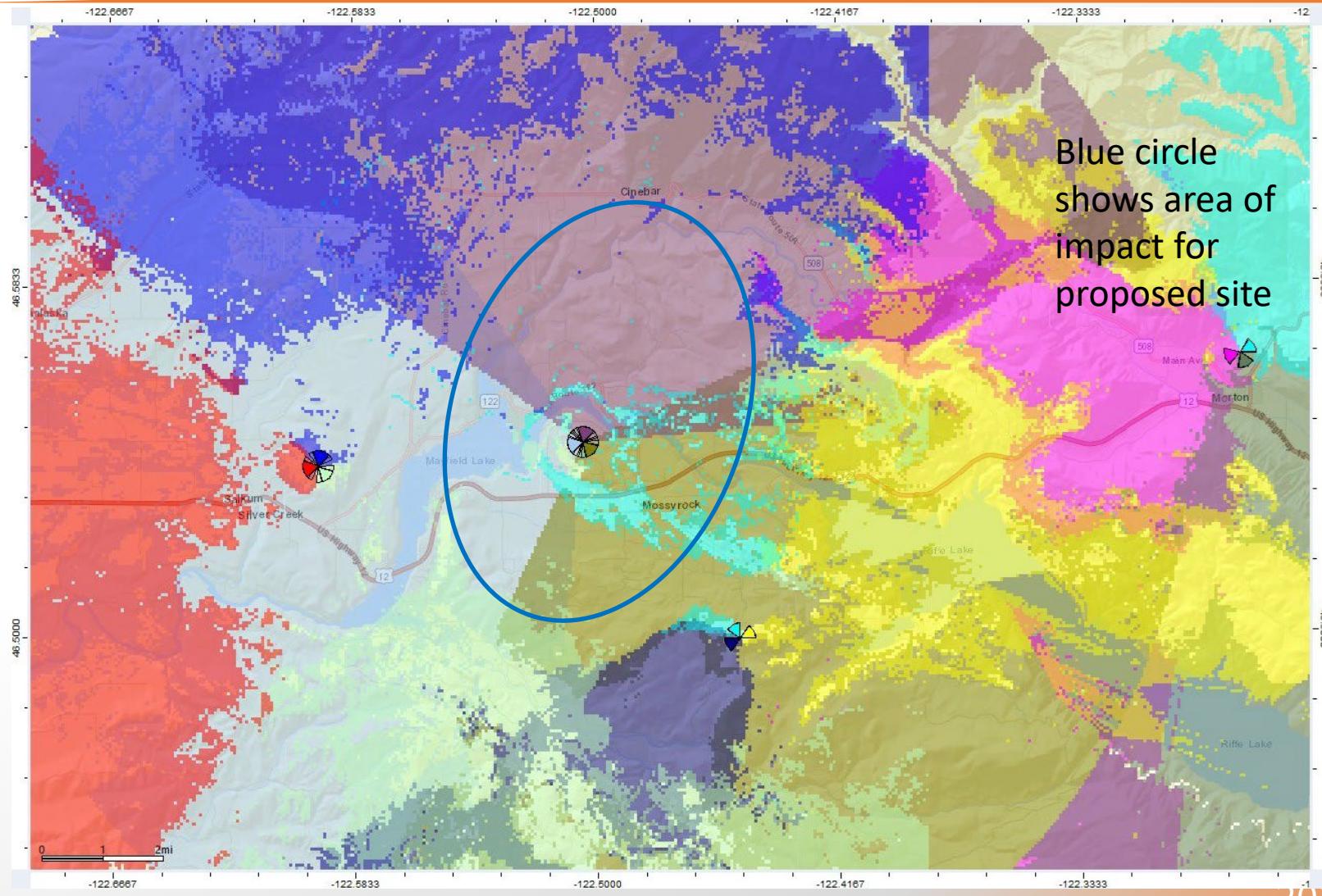
LEGEND	
Green	Indoor >= -85 dbm
Yellow	In-Vehicle >= -95 dbm
Red	On-Street >= -106 dbm



Verizon Current Best Server – 2120 MHz



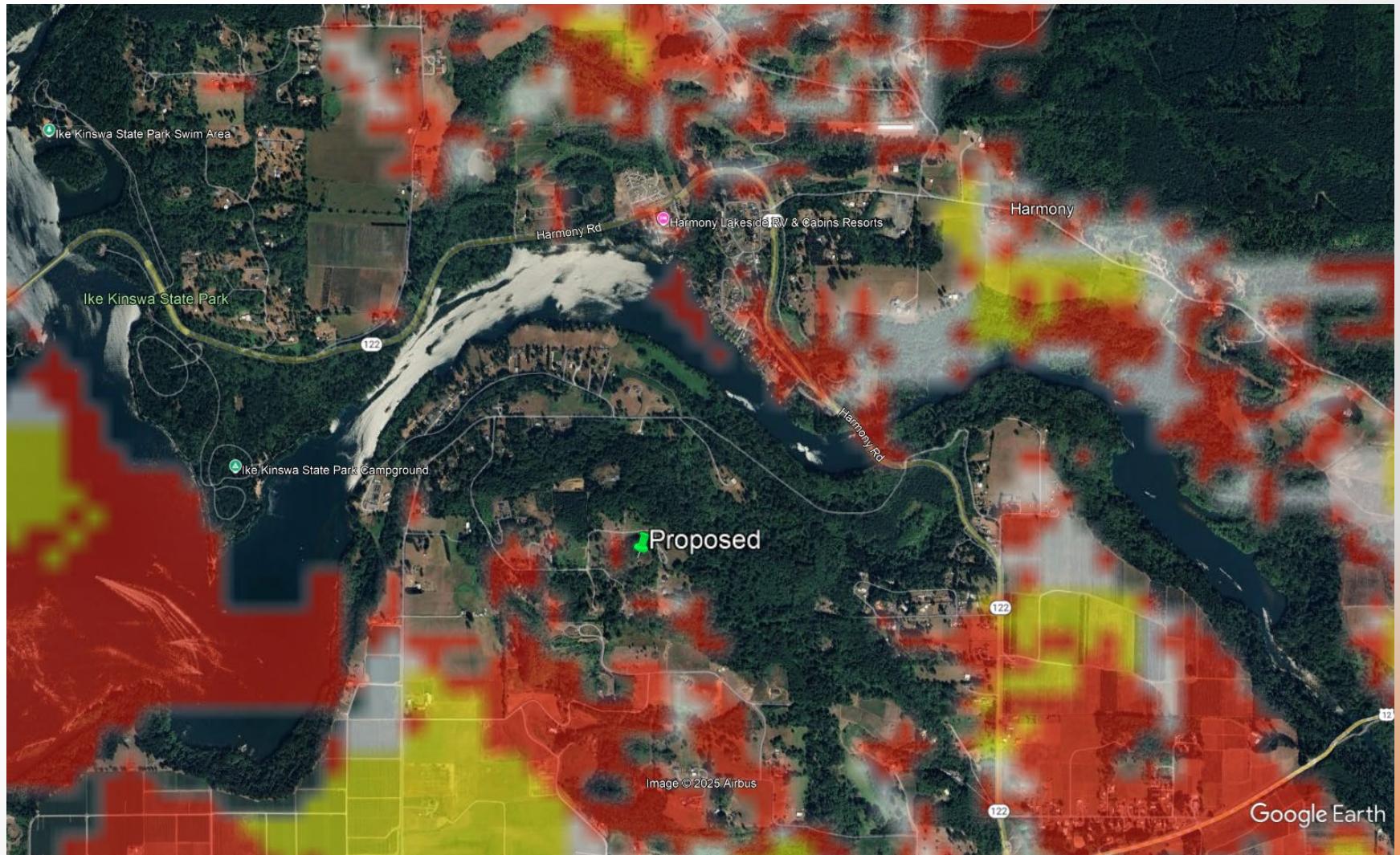
Verizon Proposed Best Server – 2120 MHz



Verizon RSRP – 2120 MHz

Current Coverage - zoomed

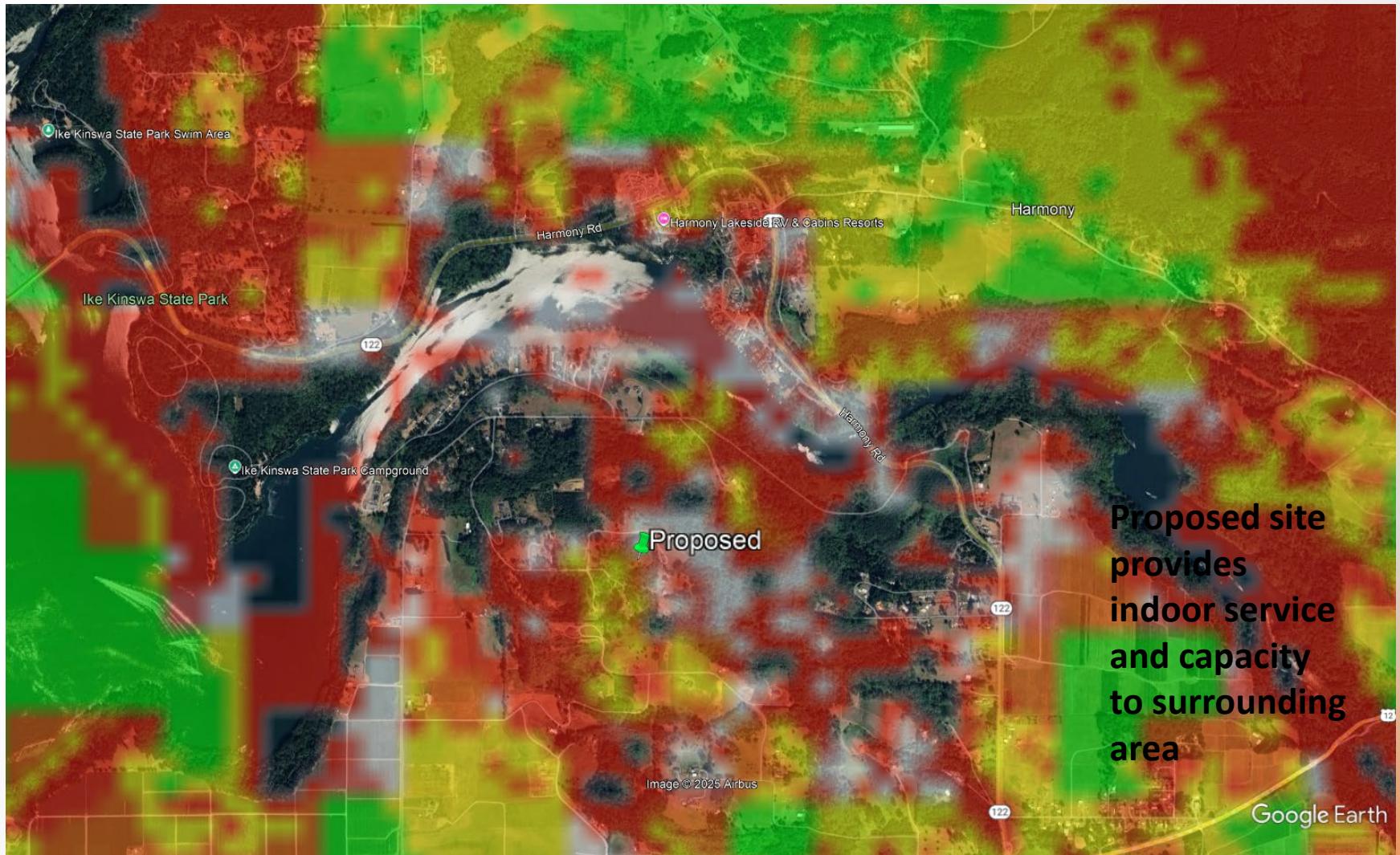
LEGEND	
	Indoor ≥ -85 dbm
	In-Vehicle ≥ -95 dbm
	On-Street ≥ -106 dbm



Verizon RSRP – 2120 MHz

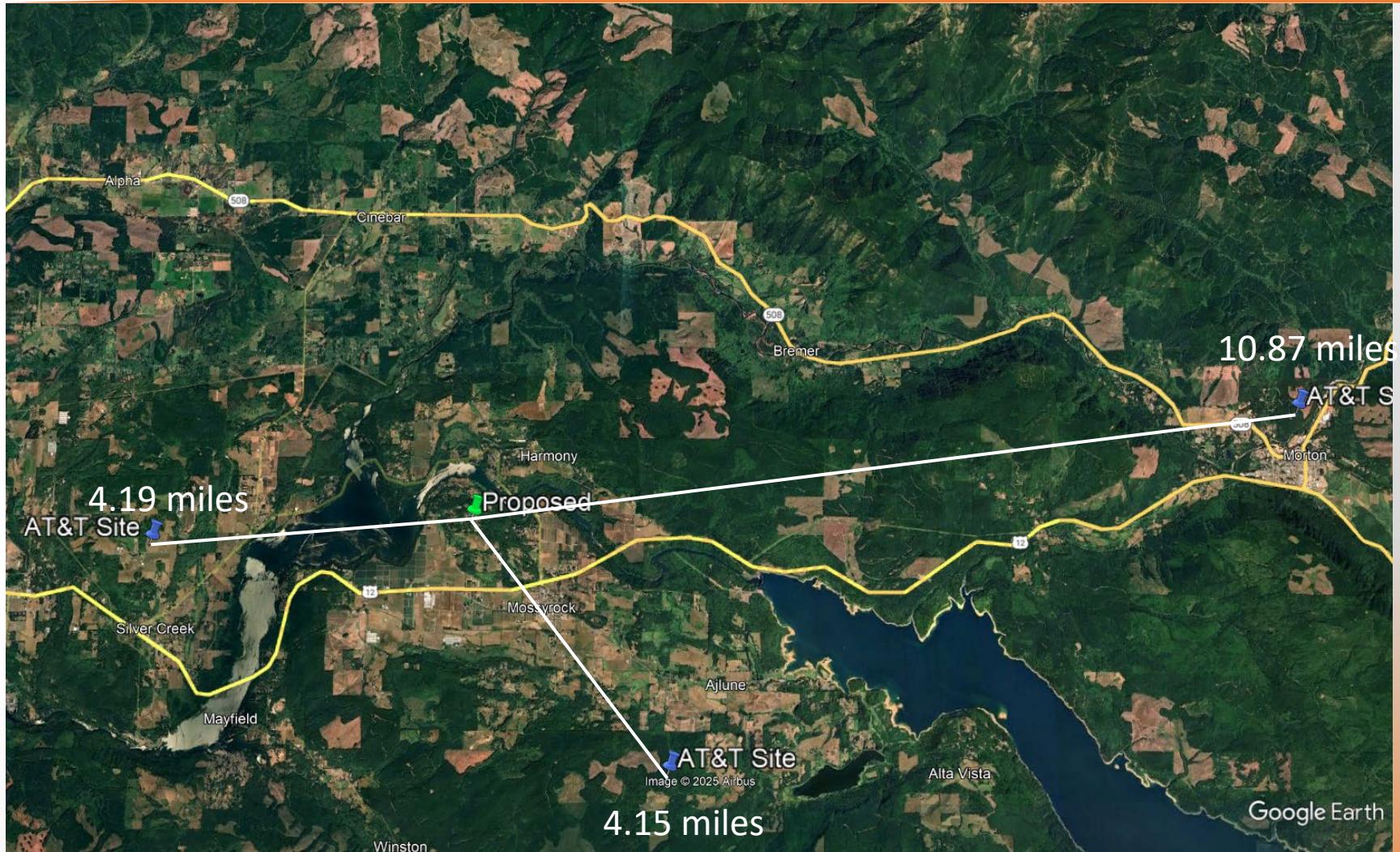
Proposed Coverage - zoomed

LEGEND	
Green	Indoor ≥ -85 dbm
Yellow	In-Vehicle ≥ -95 dbm
Red	On-Street ≥ -106 dbm



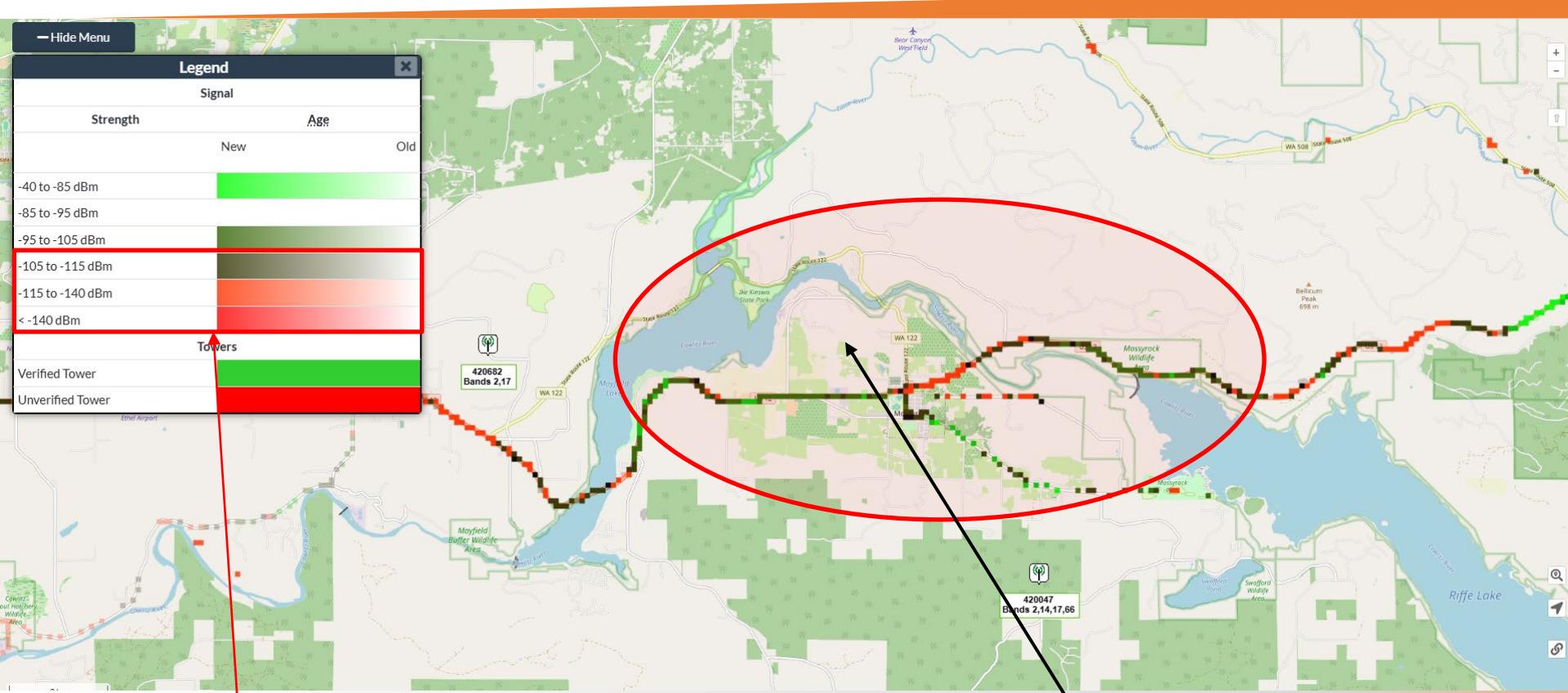
2025

Distance from proposed to AT&T neighbor sites



2025

AT&T CellMapper



Less than on Street Coverage

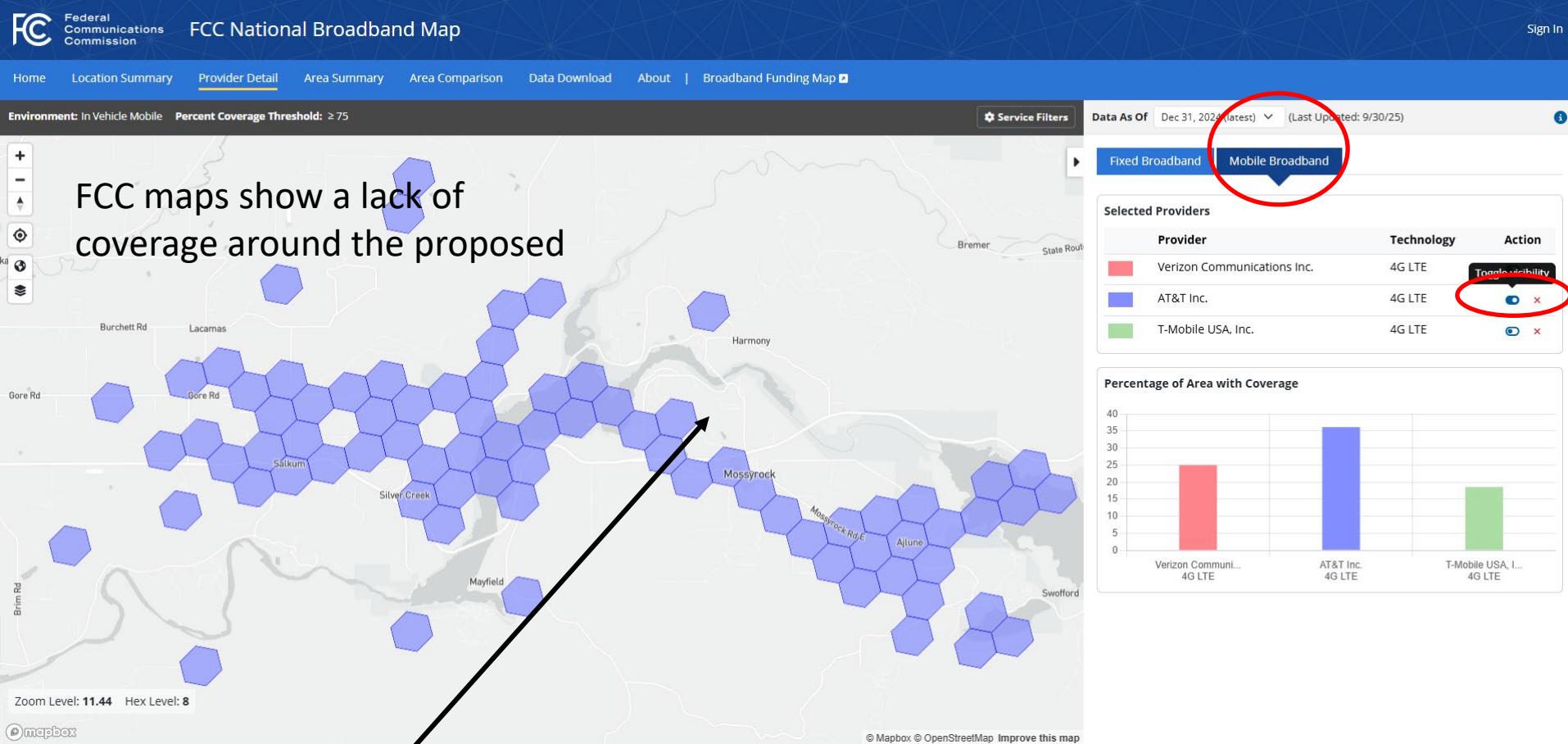
Proposed Site

The area in the red circle is what the proposed site would impact

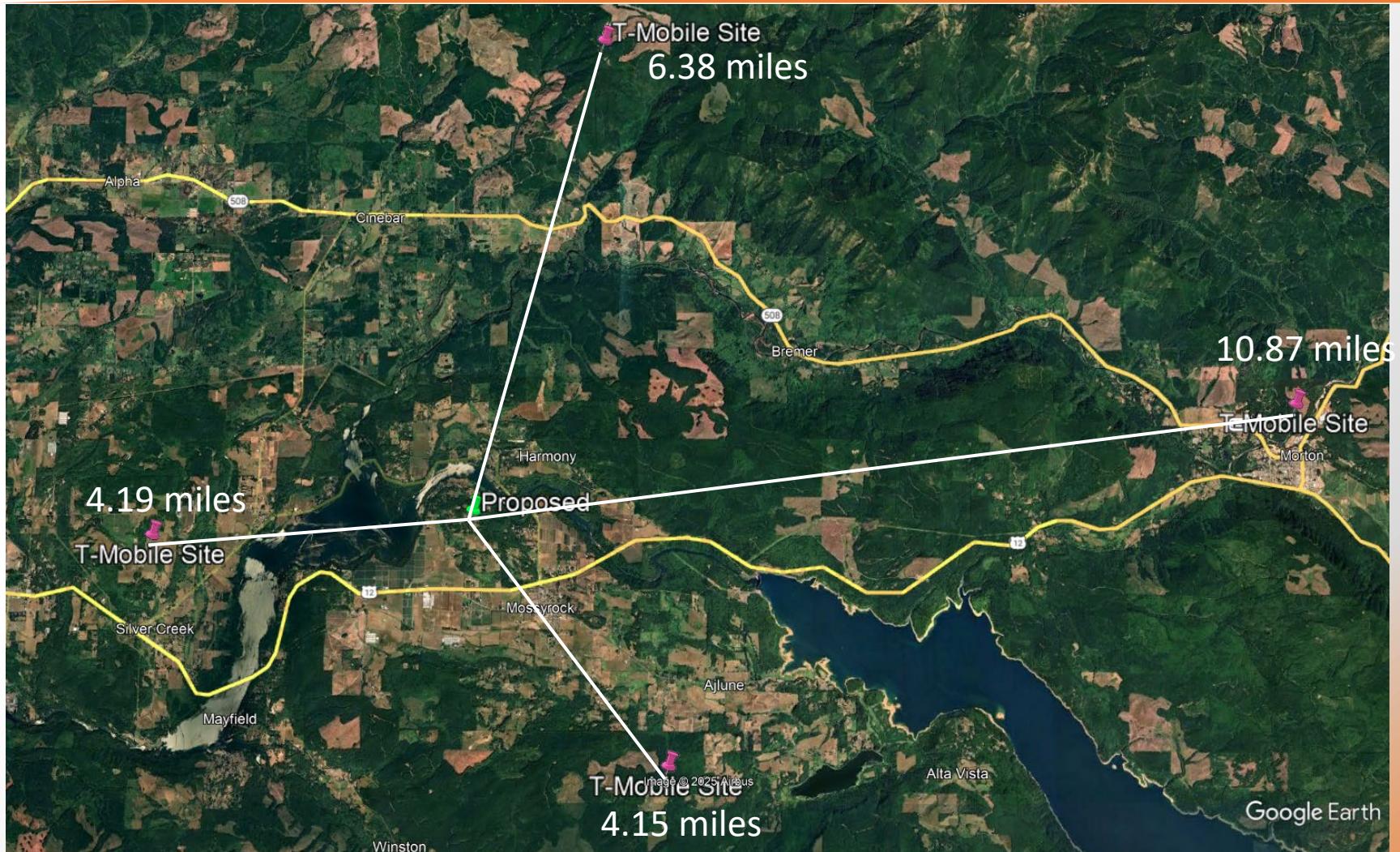
This area is showing less than in-vehicle/outdoor service in the area

FCC Broadband Map

AT&T In-Vehicle Mobile

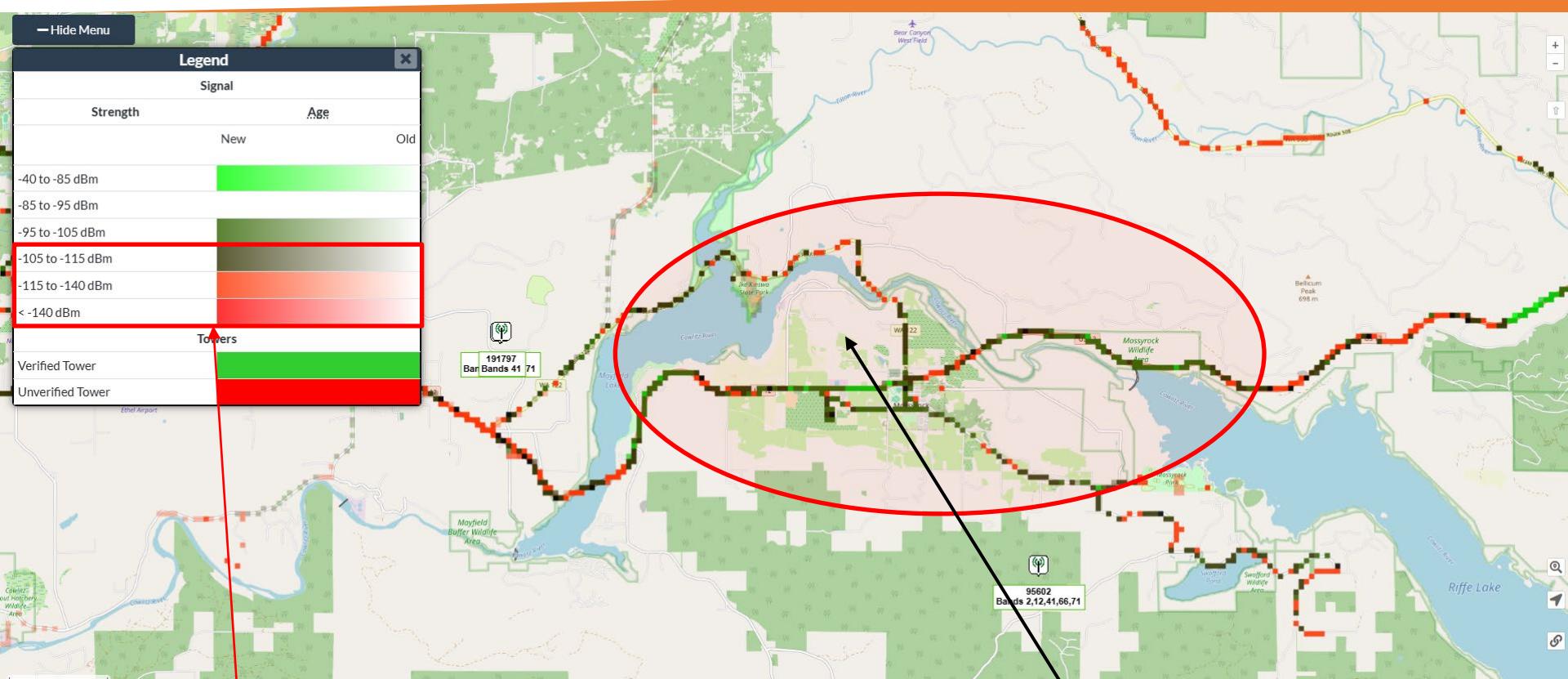


Distance from proposed to T-Mobile neighbor sites



2025

T-Mobile CellMapper



Less than on Street Coverage

Proposed Site

The area in the red circle is what the proposed site would impact

This area is showing less than in-vehicle/outdoor service in the area

FCC Broadband Map

T-Mobile In-Vehicle Mobile

FCC National Broadband Map

Home Location Summary Provider Detail Area Summary Area Comparison Data Download About | Broadband Funding Map

Environment: In Vehicle Mobile Percent Coverage Threshold: ≥ 75

Service Filters Data As Of Dec 31, 2024 (latest) (Last Updated: 9/30/25)

Fixed Broadband Mobile Broadband

FCC maps show a lack of coverage around the proposed

Proposed Site

Selected Providers

Provider	Technology	Action
Verizon Communications Inc.	4G LTE	<input checked="" type="checkbox"/> <input type="button" value="X"/>
AT&T Inc.	4G LTE	<input checked="" type="checkbox"/> <input type="button" value="X"/>
T-Mobile USA, Inc.	4G LTE	<input checked="" type="checkbox"/> <input type="button" value="X"/>

Percentage of Area with Coverage

Provider	Technology	Percentage
Verizon Communications Inc.	4G LTE	25
AT&T Inc.	4G LTE	35
T-Mobile USA, Inc.	4G LTE	20

Zoom Level: 11.44 Hex Level: 8

mapbox

Source: <https://broadbandmap.fcc.gov/home> 2025

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Conclusion / Recommendation

- † Poor service quality along Hwy 12 and Harmony Road as well as all feeder roads
- † A lack of throughput and quality along Hwy 12 and Harmony Road
- † A lack of quality throughput per subscriber in the area
- † The existing sites are over capacity and need offload from a new site
- † Other carriers have the same level of service in the area and the tower will most likely be collocated with other tenants who will need the height
- † **Recommend approval of the proposed tower at the height requested**