Tlingit & Haida

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Borough Assembly
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Public Input Question 1:
The biggest issue is regarding RF emissions impacting health, especially from those residing in the nearest neighborhood and potentially affecting the nearby childcare center, both very close to the new tower site. I've done some research that shows the most recent FCC studies were done decades ago which concluded that there is no evidence that there is a negative correlation between RF emissions kept at or below FCC limits and cancer or other health problems. However, decades-old scientific studies are sometimes very flawed. Are you willing to seek out independent studies to investigate further?

Tidal Network Response to Question 1:

That is an excellent question and a concern we take very seriously. The health and safety of the community, especially near the childcare center, is our absolute highest priority. We are always looking at the latest information.

You're right to ask about the age of studies. It's important to know that scientific understanding isn't based on a single, decade-old report. Instead, it's built on a global consensus from decades of ongoing research. Major independent health organizations like the World Health Organization (WHO), the American Cancer Society, and the FDA continuously review the entire body of evidence—thousands of studies—to update their guidelines. Their most recent reviews continue to find no established evidence of health risks from RF signals that are kept below the strict safety limits.

The key difference, which has been understood for a long time, is that RF signals are non-ionizing. This means they don't have enough energy to cause the kind of cell damage associated with X-rays or UV rays (The Sun). The safety limits are conservatively designed to protect against the only known effect, which is heating.

We are committed to transparency and would be happy to provide the community with a resource sheet linking to the most recent comprehensive reports from these independent international health and science organizations.

U.S. rules and engineering standards set conservative exposure limits for the General Population. Please see **Appendix A** for a detailed description that covers EME Safety, Regulatory Framework, General Public Safety vs. Occupational Limits, Safe Distances from Antennas, and Signage Requirements.

Tidal Network has existing processes to include independent engineering reviews. Each Tidal Network deployment is supported by a Theoretical Study for pre-planning (Included), a Post-Engineering EME study, and a Post-Installation EME testing process. Tidal Network engages RF engineering firm Pierson Wireless and

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Waterford Consultants to model the planned configuration under worst-case assumptions. Their report concludes the installation is compliant with FCC rules and identifies no hazardous conditions at publicly accessible locations; therefore, no mitigation is required under the modeled case.

https://www.fcc.gov/general/radio-frequency-safety-0

Public Input Question 2:

If, down the road, it can be proven that either the tower and or its tenants exceed those FCC limits, what plan do you have in place for remediation?

Tidal Network Response to Question 2:

We comply with all federal, state, and local requirements, best practices, industry standards, and safety regulations. Every site has an independent EME (Electromagnetic Energy) study, and we use standard, commercially available equipment that's widely deployed and well regulated. T&H would never implement a program that causes negative health consequences.

Our commitment is simple: we will always operate well within FCC public safety limits. We have a multi-layered plan to guarantee this.

1. Proactive Safety by Design: Before the tower is even turned on, an independent, third-party engineering firm runs a comprehensive computer model of the site. This model includes the signals from all potential tenants and confirms that the combined signal levels at any publicly accessible location, including the childcare center, sidewalks, and nearby homes—remain far below the general public limit.

2. Continuous Verification and Monitoring: As soon as the site goes live, we verify the model's accuracy with on-the-ground, real-world measurements using calibrated equipment. We also have a clear, posted RF safety plan on site.

3. Immediate Corrective Action Plan: In the extremely unlikely event that any measurement was to approach the public safety limit, we have a strict, immediate protocol. We can remotely reduce power, physically tilt the antennas to direct signals more precisely downward, and if necessary, disable a specific carrier's service. Our contracts with all tenants legally require their full cooperation, and repeated non-compliance results in suspension of their service until the issue is resolved and retested.

The FCC's Enforcement Bureau is responsible for making sure carriers and site owners comply with RF exposure limits. These limits are set out in federal law (47 CFR § 1.1310) and are among the most conservative in the world. If a site ever exceeds them, the FCC can require immediate corrective action, fine the operator, or even shut down transmissions until compliance is restored.

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Our prevention baseline:

Tidal Network designs and operates sites so public areas remain within FCC General Population limits. We do this through a three-stage verification cycle used at launch and repeat any time conditions change.

1. Initial theoretical engineering study (Worst-case modeling)

2. Final engineering study (As-built modeling)

3. Post-installation field testing (Third-party field testing of publicly accessible areas)

In the unlikely event FCC limits were exceeded, Tidal Network will issue a cease of operations notice to the tenants imposing the issue and will coordinate with the FCC to address applicable financial and operational penalties.

Public areas will not remain above FCC limits. If a future issue is detected, operations are curtailed first, a corrective plan is executed, and compliance is independently re-verified prior to returning to normal service.

Public Input Question 3:
Already in Petersburg's Service Area 1 there exist several cell towers. What was the reasoning behind your wanting to add yet another when the existing ones are not at their tenant capacities? Tidal Network very likely could have rented space from another tower owner to serve its target market.

Tidal Network's Response to Question 3:

Our first step in any new service area is always to investigate co-locating on existing structures. We did a thorough analysis of the existing towers in Service Area 1, and unfortunately, they could not meet the community's needs for a combination of reasons.

- **To Provide Better, More Reliable Coverage:** The primary goal is to fix service gaps and weak spots on specific streets and in certain neighborhoods. The existing towers' locations and heights would have left significant coverage holes or forced us to transmit at higher power levels, which we wanted to avoid.
- **A Better Long-Term Solution for the Community:** This modern tower is designed to accommodate multiple carriers from day one. By building one strategically placed tower that can serve future needs, we can consolidate demand and prevent the future clutter of multiple smaller towers or antennas being added throughout the neighborhood over time.
- **Safety and Future-Proofing:** Some of the older structures lacked the structural capacity to safely hold modern equipment for multiple tenants, which would have required costly and time-consuming reinforcement. This new tower is engineered to the latest safety standards and can support the technology needed today and for the next generation of services.

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We evaluated every existing tower in Service Area 1 and discussed colocation with the owners. While some space exists on paper, the long-term lease rates charged by hedge-fund-owned tower-leasing firms are not financially sustainable for Tlingit & Haida.

Tlingit & Haida's Tidal Network is building community-first infrastructure—engineered for local coverage, capacity, and resilience, with costs that the Tribe can sustain over time. This approach also lets us coordinate with local municipalities to enhance public-safety radio systems using shared telco infrastructure, rather than paying premium rents that leave less funding for critical telco infrastructure.

Public Input Question 4: (Property Value)
How much will this new tower negatively affect nearby neighborhood property values? If it was shown to do that in subsequent assessments, what would be the mechanism to address this?

Tidal Network Response to Question 4: (Property Value)
Research on proximity to wireless sites shows mixed results by market. Some studies report modest, localized price impacts in an immediate radius, while others find no statistically significant effect once broader market factors are controlled. We will not make blanket claims either way.

We absolutely understand that homeowners are concerned about protecting their property value, which is often their largest investment.

Independent national studies on this topic have shown mixed and often inconclusive results. While some studies have noted a potential temporary impact in the immediate vicinity, others have found no long-term effect, especially as reliable, high-speed wireless service has become an essential utility that new homebuyers expect.

Independent studies show results vary by market. In some places, visible towers may create short-term discounts in the immediate area, while in others, there's no measurable effect at all. What matters most is the overall housing market: in a rising market, even the worst-case impact usually just means prices don't climb as fast as nearby homes, not that they collapse.

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Appendix A – Electromagnetic Energy (EMC) Compliance and Safety Overview

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Electromagnetic Energy (EME) Compliance and Safety Overview

1. Introduction

This document provides a non-site-specific overview of EME (Electromagnetic Energy) safety and compliance for wireless telecommunications infrastructure.

This summary should be read in conjunction with the attached technical study titled "General Theoretical Analysis" (Waterford Consultants, April 1, 2025), which uses worst-case predictive modeling per FCC OET-65 to verify compliance with FCC MPE limits and documents mitigation triggers if needed.

2. What Is EME and Is It Safe?

EME is non-ionizing radiation produced by wireless communication systems that transmit voice and data. Unlike ionizing radiation (such as X-rays), EME cannot break molecular bonds or cause DNA damage at regulated levels.

EME from wireless systems is non-ionizing RF energy. U.S. exposure limits incorporate approximate 50-fold safety margin for the General Population tier, derived from health-protective thresholds and reaffirmed in FCC/IEEE guidance. When exposure levels are below the General Population limits, the science-based consensus of U.S. and international standards bodies is that such exposure is considered safe for continuous, everyday presence

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3. Summary of Regulatory Framework

The safety of human exposure to radiofrequency (RF) electromagnetic fields in the U.S. is governed by multiple authoritative standards and regulations:

- **Federal Communications Commission (FCC):** 47 CFR § 1.1307 and § 1.1310 define Maximum Permissible Exposure (MPE) limits for the general public and occupational workers.
- **OET Bulletin 65:** FCC Office of Engineering and Technology publication that provides guidelines for evaluating RF exposure.
- **IEEE C95.1-2019:** A consensus standard adopted widely for engineering assessments.
- **IEEE C95.3 and C95.7:** Guidance on RF exposure assessment and compliance protocols.
- **IEEE C95.2-2018:** Defines signage, zone demarcation, and behavioral safety standards.
- **ANSI/NEMA Z535 series:** Governs signage format, color coding, and wording for hazards.
- **OSHA 29 CFR 1910.145:** Mandates visibility, language, and sign format for occupational environments.

These standards differentiate between General Population (uncontrolled) exposure and Occupational (controlled) exposure conditions. Evaluations are performed using OET-65 methods and must consider cumulative exposure from all transmitters.

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4. General Public Safety vs. Occupational Limits

- General Public Exposure includes building occupants, pedestrians, and nearby residents.
- Occupational Exposure applies to maintenance workers, technicians, or tower climbers who are trained and equipped to understand EME safety.

Which tier applies where? Publicly accessible areas must meet the General Population limits. Occupational limits apply only in controlled work areas and only when trained personnel follow RF safety procedures (e.g., training, use of RF personal monitors, and—if needed—temporary power reductions, lockout/tagout, or scheduled deactivation).

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5. Safe Distances from Antennas

Under normal conditions:

- Ground-level exposure from a rooftop or tower-mounted antennas is negligible due to mounting height and directional beam patterns.
- Areas directly in front of antennas (near-field/boresight) may have higher fields; safe distances are set by antenna-specific modeling/labels.

Theoretical case reference: For the attached theoretical case, Waterford's worst-case modeling indicates no hazardous conditions in publicly accessible areas and no mitigation required.

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6. Signage Requirements

RF signage and access controls are required only where an accessible area could exceed 100% of the FCC General Population MPE; otherwise, RF signage is not required. Evaluations must consider cumulative exposure from all transmitters.

- **Blue Notice Signs:** Informational; EME sources present but exposure is safe.
- **Yellow Caution Signs:** May exceed General Population limit; access restricted to trained personnel.
- **Red Warning Signs:** May exceed Occupational limits; PPE and lockout/tagout may be required.

Signage Standards

- Must comply with ANSI Z535.2, IEEE C95.2-2018, and OSHA 29 CFR 1910.145.
- Signs must be legible at the boundary of any area where the General Population limit could be exceeded, consistent with OSHA; minimum character sizes should follow ANSI Z535 guidance for viewing distance.
- Signage must include:
    - RF energy advisory symbol
    - Hazard tier (Notice, Caution, Warning)
    - Safe behavior instructions (e.g., minimum distance, deactivation procedures)
    - Contact information for RF compliance coordination

Southeast Alaska - Infrastructure Enhancement

Tidal
NETWORK
CONNECTING COMMUNITY

Tidal Network Objectives in Southeast Alaska

Connect Communities through Shared Communications Infrastructure

1. Telecommunication Infrastructure Enhancement
2. New Broadband Service & Residential Internet Access

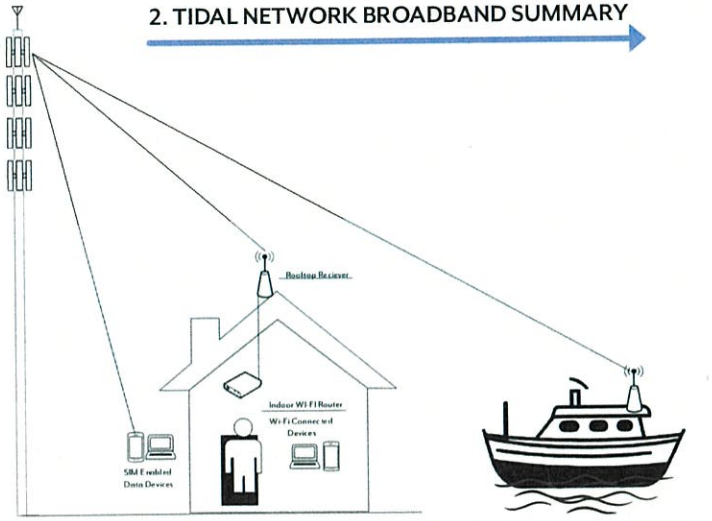
1. SHARED TELCO INFRASTRUCTURE SUMMARY

Public Safety and Community Radio System Shared Infrastructure

Dedicated Space for Cellular Network Operators

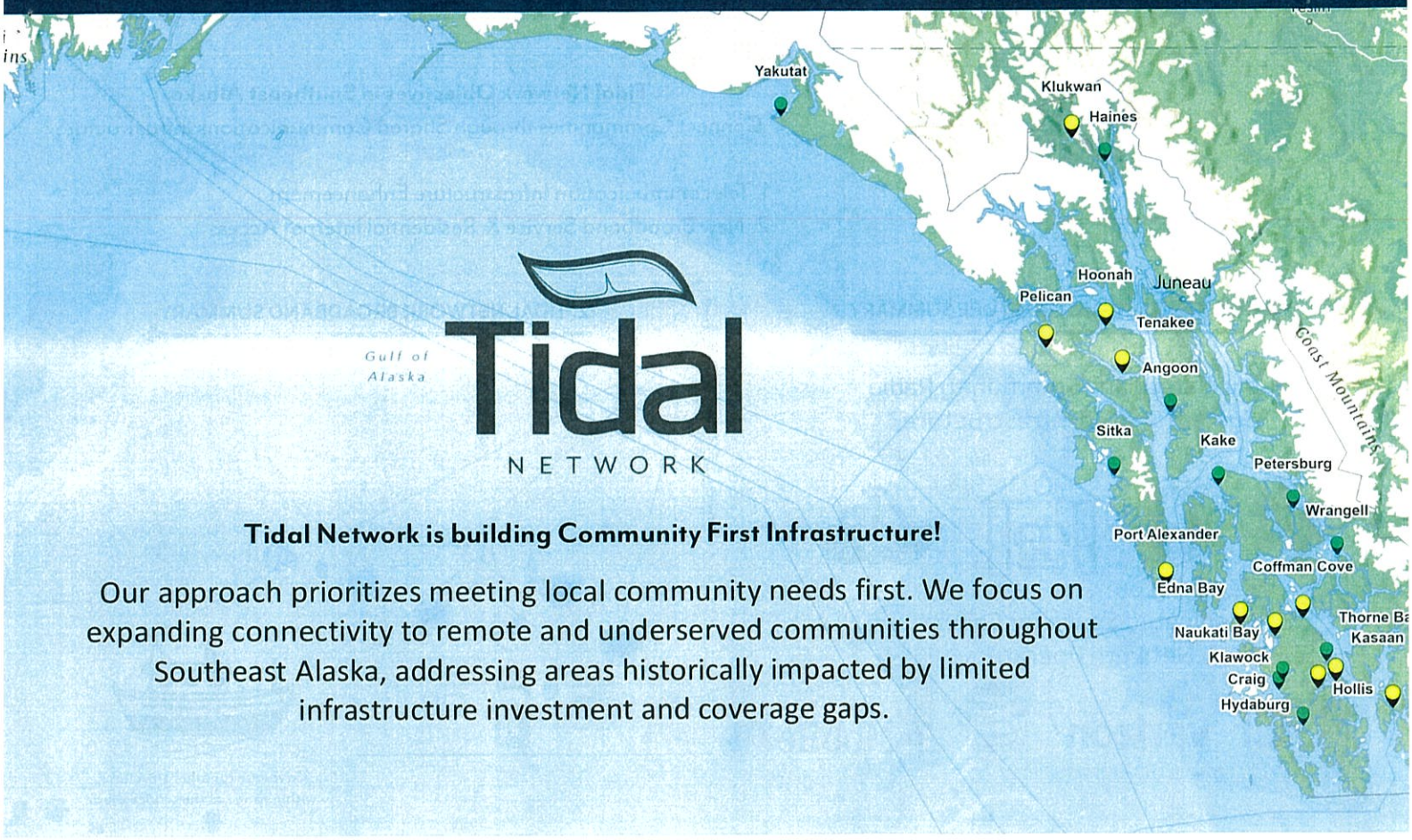
GCI verizon T-Mobile

2. TIDAL NETWORK BROADBAND SUMMARY



Coverage for other structures within range of the service area.

Tidal Network: Filling in the Gaps



Tidal
NETWORK

Tidal Network is building Community First Infrastructure!

Our approach prioritizes meeting local community needs first. We focus on expanding connectivity to remote and underserved communities throughout Southeast Alaska, addressing areas historically impacted by limited infrastructure investment and coverage gaps.

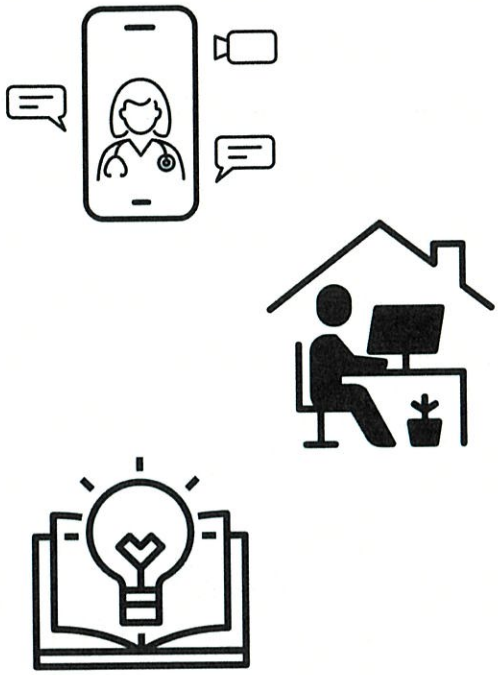
Community Benefits of Increased Coverage

Better broadband coverage supports students and families by making it easier for school-aged children to access online learning tools, complete homework, and stay connected with teachers—especially important in remote areas.

Improved connectivity opens doors to remote work and training, creating **career opportunities** without the need to leave the community.

Consistent service helps elders stay connected to healthcare, enabling telehealth appointments, medication reminders, and emergency communication—enhancing **independence and safety.**

Improved service strengthens emergency response, allowing faster coordination during natural disasters or health emergencies, and ensuring elders and vulnerable community members can reach help when needed.



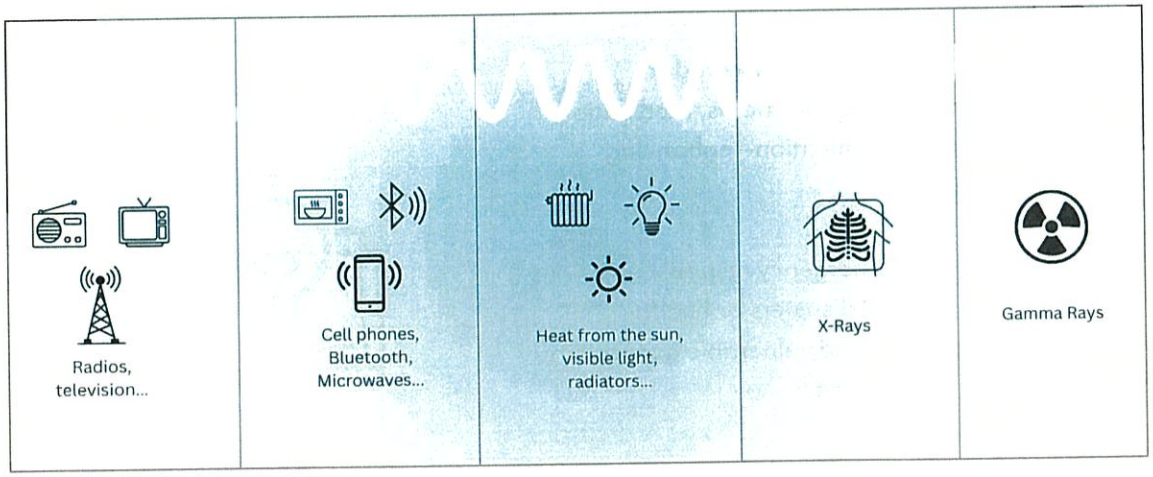
What is EMF?

The figure below shows the electromagnetic spectrum, which includes different types of electromagnetic radiation, ranging from low-energy radio waves to high-energy gamma rays.

Radiofrequency (RF) energy, such as that used in cell phones and communication towers, is on the low-energy end of the spectrum—**far below** visible light, X-rays, and gamma rays, meaning it **does not have enough energy to damage DNA or cause ionizing radiation effects.**

Everyday devices like **radios, microwaves, and Bluetooth** also use RF energy, and we are all exposed to these at much closer range than a cell tower—**without harmful effects**, according to decades of research and current scientific consensus.

Long Wavelength
Low Energy



Short Wavelength
High Energy

Compliance Requirements

Tidal Network must comply with federal regulations from agencies like the Federal Communications Commission, National Telecommunications and Information Administration, and the State Historic Preservation Office to ensure all construction meets national standards for **safety, environmental protection, and cultural resource preservation.**

Before building a tower, Tidal completes environmental reviews, cultural assessments, and Section 106 consultations with tribes and local stakeholders to ensure the project **respects local heritage and minimizes environmental impact.**