

**PROJECT NARRATIVE
NON-ADMINISTRATIVE VARIANCE APPLICATION
US-WA-7001 EVERGREEN POINT – SCHOOL DIST (T-MOBILE SE02481B)**

Submitted to the City of Medina, Washington
Planning Department

Applicant: VB BTS II, LLC (“Vertical Bridge”)
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Co-Applicant: T-Mobile West LLC (“T-Mobile”)
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Property-Owner: Bellevue School District 405
Contact: Jack McLeod
12111 NE 1st St
Bellevue, WA 98005

Project Address: 7800 NE 28th St
Medina, WA 98039

Description & Tax Lot: GPS Coordinates: 47.636558, -122.238294
Parcel No. 242504-9104

Zoning Classification: Public (Parks and Public Spaces)

Technology Associates EC INC. submits this application on behalf of VB BTS II, LLC ("Vertical Bridge") and T-Mobile West, LLC ("T-Mobile"), collectively referred to as the "Applicants," and the underlying property owner.

Vertical Bridge is an infrastructure provider to T-Mobile. Infrastructure providers, such as Vertical Bridge, specialize in developing, constructing, leasing, and maintaining the physical components for wireless networks, including cellular towers. Infrastructure providers lay the physical groundwork that supports wireless communication networks. Wireless carriers, such as T-Mobile, lease space on this infrastructure to house their equipment and offer wireless services to end users. Through strategic partnerships with wireless carriers, Vertical Bridge allows the opportunity for multiple carriers to collocate onto a single support structure and reduces the physical footprint of wireless facilities in the community.

1. T-MOBILE'S PROPOSED IMPROVEMENTS IN MEDINA BROADLY

T-Mobile has comprehensively reviewed its wireless service challenges in the City of Medina (the "City"), its customers' demands for improved capacity and coverage, and the existing wireless infrastructure located in the City, including facilities owned by both T-Mobile and others. Overall, T-Mobile's existing service is limited due to constraints on existing facilities and limited opportunities to place new facilities in the City. Currently:

- Much of the City does not have reliable, in-building signal levels to support T-Mobile Home Internet and other voice/data services
- T-Mobile's network capacity is significantly limited, undermining network speeds and overall reliability of T-Mobile service within the City

Broadly, T-Mobile seeks to improve existing wireless infrastructure without proposing a new tower in Medina, thereby limiting the overall visual impact and disruption to the community. T-Mobile is flexible on design options for upgrading its existing facilities to accommodate additional frequencies and technologies, and it sought input from the Medina City Council in May. The Applicants' proposed design is based, in part, on Councilmembers' reactions to the design options presented.

The project proposed with this application is a critical part of T-Mobile's broader service plan for Medina. The existing site only operates at two frequencies today (700 MHz and 2100 MHz). To meet its coverage objectives, T-Mobile must upgrade this existing site, adding antennas, frequencies,¹ and new technologies such as 5G, while still meeting the City's requirements and expectations for concealment and stealthing. Importantly here, it is technically infeasible for T-Mobile's upgrades to be physically contained within the existing canister, such as the existing

¹ T-Mobile has Federal Communications Commission ("FCC") Licenses for seven frequency bands to provide service in Medina; at this time, the constrained, existing facility designs only support two out of seven frequency bands.

stealth design, without expanding the canister to at least 80” diameter, which will make the facility unnecessarily visually imposing. In contrast, with the proposed monopine design, T-Mobile may add and conceal its new antennas and equipment in a way that visually blends into the existing trees close nearby, which provide a screen when viewed from one side and a backdrop when viewed from another.

The Applicants are proposing a monopine manufactured by Solar Communications International (“SCI”), which offers a high-end design with a generous branch density of greater than three branches per foot. SCI’s on-staff architect and crews will install the branching to ensure the proposed camouflage is effective.

2. PROJECT OVERVIEW

Vertical Bridge is proposing to upgrade an existing wireless facility that was approved by the city of Medina in 2017 under special use permit and non-administrative variances in PL-16-034 & PL-16-036 (the “Facility”). This upgrade is required for T-Mobile to improve coverage and add new frequencies and technologies to the Facility, thereby providing improved and additional wireless service to customers in the surrounding area. The current structure type (a monopole with a 36-inch canister design) has physical constraints that can only conceal the existing 3G/4G frequencies/technologies and do not allow for any upgrades or additions of new frequencies or technologies. To accommodate T-Mobile’s installation of antennas and ancillary equipment needed to provide planned additional and improved services, Vertical Bridge is proposing to replace the existing 65’ stealth canister pole with a replacement 65’ monopine pole with a 70’ overall height including the branches.

The Applicants intend for its application for the modification of the WCF to include the following documents (collectively, “Applicants’ Application”):

- Attachment 1—Project Narrative (this document)
- Attachment 2—Statement of Code Compliance
- Attachment 3 - Non-administrative Variance Checklist and Application
- Attachment 4—Signed property owner declaration of agency
- Attachment 5—Proof of ownership – Deed
- Attachment 6— Site Plan
- Attachment 7—Plan Set
- Attachment 8—Photographic Simulations
- Attachment 9—Mailing Label Maps
- Attachment 10—Mailing labels in word format
- Attachment 11—NIER Report
- Attachment 12— FCC Licenses

- Attachment 13— RF need letter from RF engineer & Coverage Objective and Engineering Justification
- Attachment 14— Map of all T-Mobile facilities in and surrounding Medina
- Attachment 15— City of Medina pre-application correspondence
- Attachment 16— Original land use decisions – staff report and hearing examiner approval (SUP PL-16-034 and Variance PL-16-036)
- Attachment 17 – Letter from T-Mobile to Mayor and City Council in response to council meeting comments.

As shown in Applicants' Application for the special use permit, this proposed project meets all applicable provisions of the City of Medina Unified Development Code, Chapter 16.37, governing wireless communications facilities, except for the height variance sought through this application. The project will also comply with all other applicable state and federal laws and regulations. Moreover, the proposal is the least intrusive means of meeting T-Mobile's coverage objectives for this service area. Accordingly, the Applicants respectfully request the City of Medina to approve this project as proposed, subject only to the City's standard conditions of approval.

3. PROPOSED PROJECT DETAILS

3.1. Location

Detailed information regarding the subject property and existing lease area is included in **Attachment 7 – Plan Set**, to Applicants' application.

3.1.1. Subject property. The subject property of this proposal is located at 7800 NE 28th Street in the City of Medina (the "Property"). The Property is owned by Bellevue School District 405. The Property is zoned as Public (Parks and Public Spaces) and is currently used primarily as a school/church, with the secondary use of a wireless communications facility.

3.1.2. Lease area.

- The 35' x 25' lease area is existing as approved under special use permit and non-administrative variances PL-16-034 & PL-16-036 (the "Lease Area"). There is no expansion proposed to this existing lease area.
- The Lease Area is surrounded by a 6' tall chain link fence with non-reflective black privacy slats. The Lease Area is accessed via an existing locked 10' wide double swing gate that matches the fence. The existing fence and gate are as approved under special use permit and non-administrative variances PL-16-034 & PL-16-036 and will not be modified under this proposed project.

3.1.3. Access and parking. The existing 12' wide gravel driveway/easement for ingress/egress and parking/access is as approved under special use permit and non-administrative variances PL-16-034 & PL-16-036, and it will not be modified by this proposal.

3.2. Wireless Facilities and Equipment

Specifications for the facilities outlined below, including a site plan, can be found in **Attachment 6 – Site Plan** and **Attachment – 7 Plan Set**, provided with Applicants' Application.

3.2.1. Support structure design. Applicants are proposing to modify the existing Facility by removing the existing 65' stealth pole and replacing it with a 65' monopine (70' overall height w/ branches) to allow for technology and frequency upgrades at the Facility. See non-administrative variance application package for height increase. This is, and will remain, an unmanned wireless facility.

The current Facility is out-of-date and needs to be upgraded to all the current T-Mobile licensed frequencies and technologies, including 5G, to provide the best coverage, performance, and experience to wireless handset customers in the surrounding area, as well as provide new services to Medina customers, including T-Mobile home internet, which gives community members more options in providers for their home internet service.

The current standard for T-Mobile technologies requires a significantly larger footprint of antennas and remote equipment to provide those additional technologies and this amount of equipment cannot be installed in the existing small stealth canister of the existing structure. Additionally, a larger replacement canister to accommodate the proposal is not practical as that canister would have to have an unreasonably large diameter that would defeat the purpose of being visually aesthetically pleasing, if it were even structurally feasible to do so.

To accommodate T-Mobile's needed upgrade, Applicants are proposing to replace the existing canister pole with a new monopine faux tree pole. This design will successfully maintain the code requirement of being concealed while allowing the currently proposed, and any future upgrades to the Facility, to be made without the need for continuous replacement of the support structure and its visual profile. Additionally, this monopine will allow for future collocating carriers to consolidate at this structure with their required 5G footprint as well, a requirement of Medina's code, without the physical constraints and limitations of a canister, while in contrast, attempting a canister solution of any kind would take lower space away and make the pole not suitable for future collocations and/or consolidation as required by Medina code. See **Attachment 13— RF need letter from RF engineer & Coverage Objective and Engineering Justification** for additional information.

3.2.2. Antennas and accessory equipment

- The monopine will contain T-Mobile 5G and LTE 4G antennas and equipment (7 antennas, 8 remote radio units, 3 hybrid trunk cables, and all associated equipment and hardware).
- The proposed T-Mobile antenna centerlines are 61'-0" and 63'-6" and the proposed T-Mobile antenna tip height is 65'-0".
- All appurtenances will be painted green to match and blend in with the monopine, and antennas will be covered in a tree "sock," which is a sleeve that mimics foliage (similar to a ghillie suit) that breaks up the shape of antennas to allow them to blend in with the surrounding tree branches. *See Attachment 8 – Photographic Simulations* for visual detail. All paint will have an anti-glare finish.
- Sufficient space will be made available on the monopine as required for future collocations as required by City's code.

3.2.3. Ground equipment.

- The replacement tower and all ground equipment will be constructed within the existing Lease Area. There is no proposed disturbance outside the existing approved lease area footprint or expansion of the Lease Area.
- The base station equipment is currently located in an existing 12' x 8' equipment building as approved under special use permit and non-administrative variances PL-16-034 & PL-16-036 and modifications to that equipment will remain within the equipment building. There are no outdoor equipment cabinets associated with this project.
- The existing generator is being removed from the site to accommodate the replacement pole. The existing generator was approved in 2021 under B-21-094 & M-21-057 without separate land use having been required.

3.3. Additional Details

3.3.1. Landscaping. Landscaping within the Lease Area was previously approved under PL-16-034 & PL-16-036. The landscaping will not be modified or impacted by this proposal.

3.3.2. Lighting. There is no existing or proposed lighting associated with the Facility. The structure is not required to be lit under Federal Aviation Administration guidelines, and there is no other lighting proposed.

3.3.3. Geohazard Area. The existing previously identified geohazard area is shown on the plans and addressed in the associated SEPA submittal package documentation. This project does not impact the geohazard buffer area.

4. T-MOBILE NETWORK COVERAGE AND SERVICES

4.1. Overview—T-Mobile 4G & 5G Coverage

T-Mobile is upgrading and expanding its wireless communications network to support the latest 4G LTE and 5G technology. 4G and 5G stand for “4th Generation” and “5th Generation” and LTE stands for “Long Term Evolution.” These acronyms refer to the ongoing process of improving wireless technology standards, now in its 5th generation. With each generation comes improvement in speed and functionality – 4G LTE offers speed up to ten times faster than 3G, and 5G can deliver speeds up to 20 Gbps in ideal conditions. That’s nearly 200 times faster than the 4G network.

Most American consumers currently experience wireless connectivity on 4G networks – and are aware of the profound impact on daily life that has occurred from this connectivity. The emerging standard in voice and data telecommunications – 5G – is poised to transform America’s reliance on densely populated wireless infrastructure.

5G is the latest iteration of cellular technology. While 5G technology operates on the same radio signals as current 4G/4G LTE networks, it is engineered to transmit data more efficiently. That means superior speeds and support for more connected devices than ever before. The ultra-low latency of 5G means quick response times during data-demanding activities.

There are several components of 5G wireless technology and separate bands of wavelength spectrum used to build a 5G network – low-band (<1GHz), mid-band (1-6GHz), and high-band millimeter wave (“mmWave”) (24 GHz and higher):

- **Low-Band Extended Range 5G.** Low-band 5G frequencies are also known as the “coverage layer.” Low-band 5G refers to frequencies below 1 GHz used to roll out substantial 5G coverage as quickly as possible. One example is the 600 MHz spectrum deployed by T-Mobile nationwide. A low-band cell site can cover hundreds of square miles and deliver a downlink data rate from 30-75 Mbps download—ideal for uses like streaming HD video. Because low-band signals easily pass through buildings, they offer solid coverage indoors and outdoors and are an effective way to connect parts of rural America where even fixed broadband speeds don’t always meet national benchmarks.
- **Mid-Band 5G.** Mid-range frequencies (spanning 1 GHz and 6 GHz) strike a balance between coverage and capacity. Mid-band 5G base stations can transmit and receive high-capacity signals over fairly large areas, and they can represent an ideal mix of performance for the bulk of 5G traffic in metropolitan areas.
- **High-Band mmWave 5G.** High-band 5G uses millimeter-wave (mmWave) frequency bands. High-band is a very specialized part of the 5G offering. Functioning over a shorter radius, it’s particularly useful in urban areas and busy venues like stadiums and shopping malls. High-band can simultaneously provide many high-speed connections focused on an area of just a block or two, from a small cell site mounted close to street level.

Using these frequencies together can help T-Mobile’s 5G network deliver the increased connectivity, reliability, speeds, and security the public demands. T-Mobile is proposing to deploy low band – 600 and 700 MHz – and mid-band – 1900 and 2100 MHz, as well as 2.5 GHz (Ultra Capacity) – at this Facility for its added 5G service and upgraded 4G service in the area.

After completion of this upgrade, the Facility will be an integral part of T-Mobile’s statewide and nationwide communications network. See **Attachment 13 – RF need letter from RF Engineer & Coverage Objective and Engineering Justification**.

3.2 Coverage Objectives for Proposed Facility

The upgraded Facility proposed herein meets T-Mobile’s coverage objectives providing in-vehicle and in-building wireless coverage within a geographic area not adequately served by T-Mobile’s network. Specifically, this proposed upgrade to T-Mobile’s WCF is intended to add capacity to T-Mobile’s existing wireless coverage in the vicinity, add Ultra Capacity service at Band N41/2.5 GHz, and add L600 to the low band to increase wider coverage in the overall area. This will also allow T-Mobile to provide the option of home internet to residential customers, giving the community members more choices of service providers.

T-Mobile has established a need for service in this geographic area, as determined by market demand, coverage requirements for a specific geographic area, and the need to provide continuous coverage from one site to another in a particular geographic region. The specific coverage objective was determined through a combined analysis of customer complaints, service requests, and radio frequency engineering design. This upgraded Facility will allow for uninterrupted wireless service in the targeted coverage area with fewer dropped calls, improved call quality, and improved access to additional wireless services that the public now demands. This includes emergency 911 calls throughout the area (See **Attachment 13 – RF need letter from RF Engineer & Coverage Objective and Engineering Justification**).

5. SEARCH RING

Not applicable. This project upgrades an existing wireless facility that was approved under special use permit and non-administrative variances (PL-16-034 & PL-16-036). There are no siting requirements and no alternative sites analysis required to upgrade an existing wireless facility.

6. SITING ANALYSIS

Not applicable. This project upgrades an existing wireless facility that was approved under special use permit and non-administrative variances (PL-16-034 & PL-16-036). There are no siting requirements and no alternative sites analysis required to upgrade an existing wireless facility.

7. APPLICABLE LAW

7.1. Local Codes

Pursuant to the pre-application meeting held September 13, 2023, the modification to the existing Facility/tower replacement described herein are subject to a Non-Administrative

Special Use Permit (overall approval of the modifications), a Non-Administrative Variance (for the height increase created by the monopine branches), and a separate SEPA determination, and the project must comply with the criteria in the City code’s Title 16 – Unified Development Code, Chapter 16.37, Wireless Communication Facilities. See **Attachment 2—Statement of Code Compliance** for Applicants’ demonstration of compliance with the applicable code.

7.2. State Law

The project is subject to a SEPA determination (determination made by the City). Please see SEPA Checklist submitted by Applicants. The City adopted a Determination of Nonsignificance for the original construction of the project (PL-16-035).

7.3. Federal Law

Federal law, primarily found in the Telecommunications Act of 1996 (“Telecom Act”), acknowledges a local jurisdiction’s zoning authority over proposed wireless facilities but limits the exercise of that authority in several important ways.

7.3.1. Local jurisdictions may not materially limit or inhibit. The Telecom Act prohibits a local jurisdiction from taking any action on a wireless siting permit that “prohibit[s] or [has] the effect of prohibiting the provision of personal wireless services.” 47 U.S.C. § 332(c)(7)(B)(i)(II). According to the FCC Order adopted in September 2018,² a local jurisdiction’s action has the effect of prohibiting the provision of wireless services when it “materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.”³ Under the FCC Order, an applicant need not prove it has a significant gap in coverage; it may demonstrate the need for a new wireless facility in terms of adding capacity, updating to new technologies, and/or maintaining high quality service.⁴

While an applicant is no longer required to show a significant gap in service coverage, in the Ninth Circuit, a local jurisdiction clearly violates section 332(c)(7)(B)(i)(II) when it prevents a wireless carrier from using the least intrusive means to fill a significant gap in service coverage. *T-Mobile U.S.A., Inc. v. City of Anacortes*, 572 F.3d 987, 988 (9th Cir. 2009).

- **Significant Gap.** Reliable in-building coverage is now a necessity and every community’s expectation. Consistent with the abandonment of land line telephones and reliance on only wireless communications, federal courts now

² *Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling and Third Report and Order, WT Docket No. 17-79, WC Docket No. 17-84, FCC 18-133 (rel. Sept. 27, 2018); 83 Fed. Reg. 51867 (Oct. 15, 2018), *affirmed in part and vacated in part*, *City of Portland v. United States*, 969 F.3d 1020 (9th Cir. 2020), *cert. denied*, 594 U.S. ___, 141 S.Ct. 2855 (June 28, 2021)(No. 20-1354) (“FCC Order”).

³ *Id.* at ¶ 35.

⁴ *Id.* at ¶¶ 34-42.

recognize that a “significant gap” can exist based on inadequate in-building coverage. See, e.g., *T-Mobile Central, LLC v. Unified Government of Wyandotte County/Kansas City*, 528 F. Supp. 2d 1128, 1168-69 (D.Kan. 2007), *affirmed in part*, 546 F.3d 1299 (10th Cir. 2008); *MetroPCS, Inc. v. City and County of San Francisco*, 2006 WL 1699580, *10-11 (N.D. Cal. 2006).

- **Least Intrusive Means.** The least intrusive means standard “requires that the provider ‘show that the manner in which it proposes to fill the significant gap in service is the least intrusive on the values that the denial sought to serve.’” 572 F.3d at 995, *quoting MetroPCS, Inc. v. City of San Francisco*, 400 F.3d 715, 734 (9th Cir. 2005). These values are reflected by the local code’s preferences and siting requirements.

7.3.2. Environmental and health effects prohibited from consideration. Also under the Telecom Act, a jurisdiction is prohibited from considering the environmental effects of RF emissions (including health effects) of the proposed site if the site will operate in compliance with federal regulations. 47 U.S.C. § 332(c)(7)(B)(iv). The Applicants have included with this application a Non-Ionizing Electromagnetic Radiation Report (NIER report) demonstrating that the proposed Facility will operate in accordance with the FCC’s RF emissions regulations. See **Attachment 11 NIER Report**. Accordingly, this issue is preempted under federal law and any testimony or documents introduced relating to the environmental or health effects of the proposed Facility should be disregarded in this proceeding.

7.3.3. No discrimination amongst providers. Local jurisdictions also may not discriminate amongst providers of functionally equivalent services. 47 U.S.C. § 332(c)(7)(B)(i)(I). A jurisdiction must be able to provide plausible reasons for disparate treatment of different providers’ applications for similarly situated facilities.

7.3.4. Shot Clock. Finally, the Telecom Act requires local jurisdictions to act upon applications for wireless communications sites within a “reasonable” period of time. 47 U.S.C. § 332(c)(7)(B)(ii). The FCC has issued a “Shot Clock” rule to establish a deadline for the issuance of land use permits for wireless facilities. 47 C.F.R. § 1.6001, *et seq.* According to the Shot Clock rule for “macro” wireless facilities, a reasonable period of time for local government to act on all relevant applications is 90 days for a collocation, with “collocation”⁵ defined to include an attachment to any existing structure regardless of whether it already supports wireless, and 150 days for a new structure.

The Shot Clock applies to all authorizations required for siting a wireless facility, including the building permit, and all application notice and administrative appeal periods.

⁵ 47 C.F.R. § 1.6002(g).

Pursuant to federal law, the reasonable time period for review of this application is 150 days.