RESOLUTION NO. 5369-18

A RESOLUTION GRANTING A VARIANCE TO THE SEPARATION REQUIREMENTS OF WIRELESS COMMUNICATION FACILITIES (VAR17-00001).

WHEREAS, Acom Consulting submitted an application for a variance from the 1,500 foot separation requirement between wireless facilities in order to locate a wireless facility at 10290 SW Tualatin Road ; and

WHEREAS, a hearing was held before the Planning Commission, which granted the variance on January 18, 2018; and

WHEREAS, Spectrasite Communications (a subsidiary of American Tower) filed a request for review (appeal) with Council; and

WHEREAS, the Council held a de novo review and public hearing on April 9, 2018, at which the appellant requested the record be left open for seven (7) days; and

WHEREAS, the record closed on April 16, 2018, and the applicant subsequently filed its written response on April 23, 2018;

WHEREAS, the Council entered into deliberation on May 14, 2018 and voted to approve the variance.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. Findings. The Council adopts the findings, which are attached as Exhibit A, and incorporated by reference, and finds the applicant proved compliance with both TDC 33.024(1)(a) and (b).

Section 2. The Council grants the variance application (VAR17-0001), which is attached as Exhibit B, and incorporated by reference.

Section 3. This resolution is effective upon adoption.

ADOPTED by the City Council this 29th day of May, 2018.

CITY OF TUALATIN, OREGON

BY _____
Mayor

APPROVED AS TO FORM:

BY: _____
City Attorney

ATTEST:

BY _____
City Recorder

POR DURHAM WIRELESS COMMUNICATION FACILITY (WCF)

VARIANCE APPLICATION (VAR-17-0001)

ATTACHMENT A: ANALYSIS AND FINDINGS

The issue before the Tualatin City Council is consideration of a Variance (VAR) request for a Wireless Communication Facility (WCF) separation that would allow the construction of a new 100-foot-tall monopole within 1,500 feet of an existing WCF. American Tower Company (ATC) operates the existing tower located at 10699 SW Herman Road which is approximately 800 feet southwest of the proposed WCF location. The proposed WCF would be located at 10290 SW Tualatin Road (Tax Map/Lot: 2S1 23B 000800) on a property owned by Tote 'N Stow which operates as a storage facility for recreational vehicles. The proposed WCF is intended to accommodate wireless antennas and related equipment from two carriers, Verizon Wireless (Verizon) and T-Mobile.

Tualatin Development Code (TDC) 73.470(9) does not allow a new WCF tower within 1,500 feet of an existing tower unless a variance is granted pursuant to TDC 33.025(1). TDC 33.025(1) allows for a variance under two separate and independent grounds. First; TDC 33.025(1)(a) allows for a variance if the existing WCF within 1,500 feet cannot accommodate the proposed wireless facilities and provide the necessary wireless capacity or coverage the proposed WCF is intended to provide. Second, TDC 33.025(1)(b) allows for a variance if the proposed WCF location includes tall, dense evergreen trees that will screen at least 50% of the proposed WCF from the RL District or from a small lot subdivision in the RML District. The Applicant requested approval of the Application under both TDC 33.025(1)(a) and (b).

The Planning Commission initially considered the Application and held multiple public hearings on the matter. The Planning Commission unanimously approved the Application under both TDC 33.025(1)(a) and (b) as set forth in the Planning Commission's Resolution No. TDC-609-17.

ATC filed an appeal of the Planning Commission's decision pursuant to TDC 31.078. Pursuant to TDC 31.078(8), the City Council reviewed the Planning Commission decision de novo.

The City Council conducted a public hearing for the appeal on April 9, 2018 and accepted written and oral testimony from staff and the parties. At ATC's request, the City Council left the record open pursuant to ORS 197.763(6) to allow the parties to submit additional written evidence and argument, and the Applicant's final written argument.

On May 14, 2018, the City Council deliberated and rendered a decision. After considering all of the evidence and arguments in the record, the City Council concluded that the Applicant satisfied both TDC 33.025(1)(a) and (b) based on the substantial evidence in the record. Accordingly, the City Council rejects ATC's appeal and approves the Application for the reasons set forth in this Analysis and Findings.

Section 33.025 – Criteria for Granting a Variance for a Wireless Communication Facility.

No variance to the separation or height requirements for wireless communication facilities shall be granted by the Planning Commission unless it can be shown that the following criteria are met. The criteria for granting a variance to the separation or height requirements for wireless communication facilities shall be limited to this section, and shall not include the standard variance criteria of Section 33.020, Conditions for Granting a Variance that is not for a Sign or a Wireless Communication Facility.

(1) The City may grant a variance from the provisions of TDC 73.470(9), which requires a 1500-foot separation between WCFs, providing the applicant demonstrates compliance with (a) or (b) below.

(a) coverage and capacity.

(i) It is technically not practicable to provide the needed capacity or coverage the tower is intended to provide and locate the proposed tower on available sites more than 1,500 feet from an existing wireless communication facility or from the proposed location of a wireless communication facility for which an application has been filed and not denied. The needed capacity or coverage shall be documented with a Radio Frequency report;

Findings: The Applicant demonstrated that it is technically not practicable to provide the needed capacity or coverage the proposed WCF is intended to provide and locate the proposed tower on available sites more than 1,500 feet from an existing wireless communication facility. Figures C-1 and C-2 below show Verizon's capacity and coverage objectives for this site. Figure C-1 shows existing conditions and Figure C-2 shows the conditions with the proposed site. Attachment D, p.23 & 139-47.

Before proposing this new site, the Applicant and Verizon did extensive research looking for opportunities in the area to collocate on existing towers, buildings or other structures. In order to meet Verizon's coverage and capacity objectives, it is necessary to site the wireless facilities within the search ring provided by Verizon's Radio Frequency (RF) department. Moving outside this search ring is technically not practicable and has adverse effects on providing the needed coverage and capacity objectives the tower is intended to provide, which include nearby high-traffic residential areas to the North. Siting outside the search ring can also create interference with other nearby network sites where coverage may overlap. Verizon's RF department provided a search ring that designated the area in which the wireless facilities could be located in order to provide the needed capacity and coverage for this site, as shown in Figure C-3 below. As noted in TDC 33.025(1)(a)(iii) below, there are no available buildings, light or utility poles, water towers or other structures with adequate height to meet the capacity and coverage objectives in the search ring area. Attachment D, p.135-37.

Although there are no existing towers within the search area, the ATC tower is located relatively close to the search ring area and is within a 1,500-foot radius of the proposed WCF site. The Applicant and Verizon evaluated whether or not the ATC tower could accommodate the wireless facilities and satisfy the capacity and coverage objectives. The Applicant demonstrated that the ATC tower would not provide the needed capacity and coverage objectives due to lack of sufficient height and signal interference that would be caused by the existing tall trees located on the site as noted in Verizon's "RF Usage and Facility Justification" report. Additionally, T-Mobile intends to collocate a wireless facility on the proposed WCF and it determined that the existing ATC tower will not meet their coverage and capacity requirements either, as noted in the letter from T-Mobile RF. ATC acknowledged that the ATC tower cannot accommodate these two wireless facilities and provide the intended wireless capacity or coverage under the existing circumstances. There are no other existing towers located in or around the search area. Attachment D, p.135, 148-53.

The Applicant also evaluated locating the proposed WCF tower within an area inside the search ring and outside the 1,500-foot radius of the ATC tower. No sites in this area are practicable because they are not available, are not feasible alternatives because they would require locating a new tower in another part of the ML zone closer to residential areas and there is no existing screening, and/or are in the RML or RMH zone, where a WCF is prohibited or requires a conditional use permit, height limitations apply, and it would be very visible to nearby residential areas. ATC did not challenge these conclusions or identify an

alternative site within the search ring area that were available and practicable to provide the needed capacity or coverage. Attachment D, p.135-38.

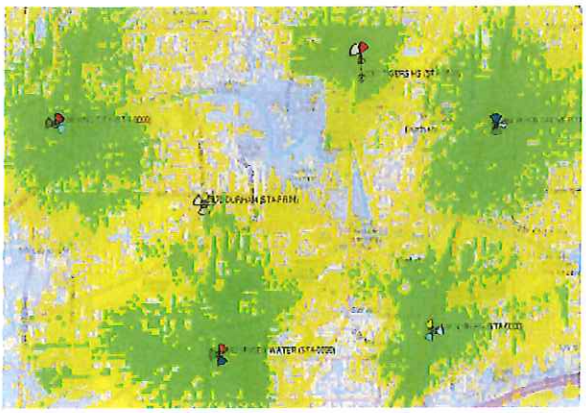


Figure C-1: Existing Coverage

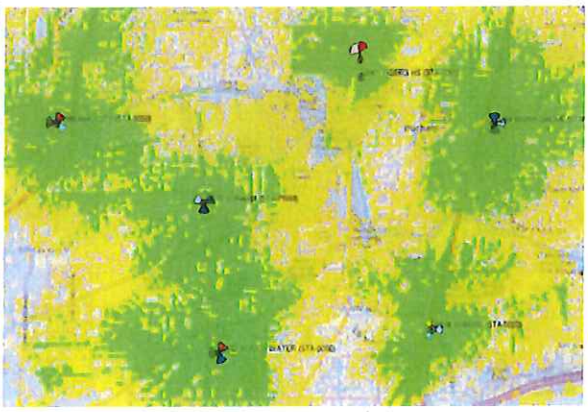


Figure C-2: Proposed Coverage

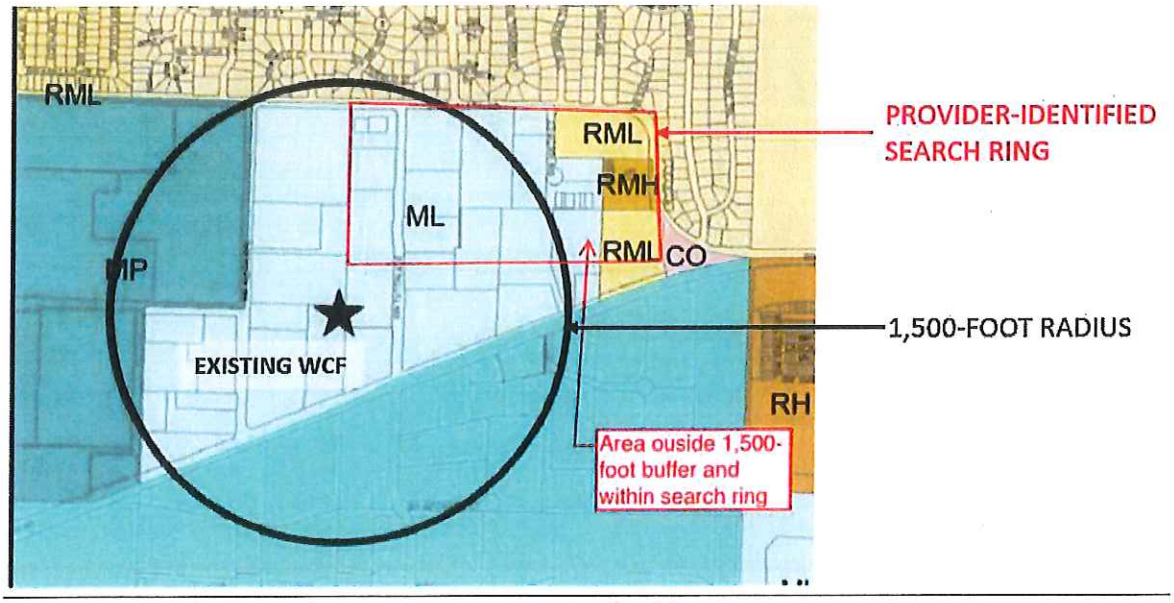


Figure C-3: Search Ring and 1,500-Foot Separate Overlap Map

For these reasons, the City Council finds that this criteria is met.

(ii) The collocation report, required as part of the Architectural Review submittal, shall document that the existing WCFs within 1500 feet of the proposed WCF, or a WCF within 1500 feet of the proposed WCF for which application has been filed and not denied, cannot be modified to accommodate another provider; and

Findings: The Applicant demonstrated that the ATC tower cannot be modified to accommodate the Verizon and T-Mobile wireless facilities and satisfy their capacity and coverage needs. As previously noted, there is no dispute among the parties that the existing ATC tower cannot accommodate the wireless facilities and provide the intended wireless capacity or coverage due to lack of sufficient height and signal

interference from the surrounding trees. The only way to address these deficiencies is to increase the height of the ATC tower and/or remove the surrounding trees that will cause the signal interference. The ATC tower cannot be modified to resolve these deficiencies in a manner consistent with TDC 33.025(1)(a)(ii) for the following reasons.

The ATC tower is a 130-foot monopole tower that required a height variance when it was originally proposed because it exceeded the 100-foot height limitation. The City Council approved the variance to allow for a 130-foot ATC tower pursuant to Resolution No. 3672-50, dated January 24, 2000, and its attached findings. Since the ATC tower already exceeds the allowed height, any increase in height would require another variance approval. Attachment C, p.28; Attachment D, p.37-46.

Neither TDC 73.470(9), which contains the 1,500-foot separation requirement, nor TDC 33.025(1)(a)(ii) require an applicant to consider modifications to an existing tower that have not yet submitted for additional land use permits or approvals in order to make those modifications. The City Council does not interpret TDC 33.025(1)(a)(ii) as requiring the Applicant to rule out existing towers that could accommodate the wireless facilities, but for which no application for modification has been submitted or filed. The code requires only for the applicant to consider those towers in existence, and those which have pending applications. It would be almost impossible to rule out any existing tower under such an interpretation since theoretically the existing tower owner could request a variance for virtually any modification even if it was highly unlikely the City would ever approve such a variance. Attachment B, p.5-6.

To the extent an applicant is required to consider an existing tower that needs additional land use permits or approvals, it is expressly limited to those towers for which the required application has already been filed. TDC 73.470(9) defines the types of "wireless communication facility monopoles" that must be considered for purposes of satisfying the tower separation requirement as follows: "For purposes of this section, a wireless communication facility monopole shall include wireless communication facility monopole for which the City has issued a development permit, or for which an application has been filed and not denied." (Emphasis added). Similarly, TDC 33.025(1)(a)(i) requires an applicant to demonstrate that it is technically not practicable to collocate from "an existing wireless communication facility or from the proposed location of a wireless communication facility for which an application has been filed and not denied." (Emphasis added). This language demonstrates that the City Council intended to limit the types of towers that must be considered to those that either have the necessary permits or have already filed for the necessary permits. ATC never filed a land use application for an additional antenna or an increase in height. Verizon and T-Mobile have existing coverage and capacity gaps that need to be addressed and have no assurance that ATC will file or obtain the required variance approval. TDC 73.470(9) and TDC 33.025(1) were not intended to give existing tower operators such broad authority to force carriers to wait until the operator can file for and see if it is possible to obtain the necessary approvals to modify the existing tower. Attachment B, p.5-6.

The City Council rejects ATC's claim that it would not be required to obtain City approval to increase the height of the 130-foot tower because the City approved the ATC tower at 146 feet. ATC's claim is inconsistent with the express language of the City Council's Resolution and findings approving the ATC tower, which expressly limits the height of the tower to 130-feet and only allows for an additional 16 feet for the antenna. ATC admits that it would be required to increase the height of the tower to accommodate the two wireless facilities in this case and neither wireless facility proposal includes a 16-foot whip antenna. Moreover, ATC claimed that it could accommodate the wireless facilities with a 150-foot tower, not a 146-foot tower. Attachment A, p.2; Attachment B, p.4-5; Attachment D, p.37-46.

The City Council finds Section 6409 of the Middle Class Tax Relief and Job Creation Act (Spectrum Act) permits a carrier to increase the height of an existing tower by "10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater." 14 C.F.R.

1.40001(b)(7)(i). Ten percent (10%) of 130 feet is 13 feet, not 20 feet. More importantly, ATC is only allowed to increase the height of the tower necessary to accommodate "one additional antenna array." Additionally, the Spectrum Act cannot be used to force the City to agree to a taller ATC tower because the City is the owner of the property where it is located. The Spectrum Act only affects the regulation of these towers and does not apply to local jurisdictions acting in their proprietary capacity. As the property owner, the City is entitled to deny or condition any ATC request to increase the height of the ATC tower in its discretion. Attachment B, p.4-5; Attachment C, p.30-31.

Additionally, ATC cannot accommodate Verizon's coverage and capacity objectives because Verizon already rejected a 150-foot tower. The Applicant submitted a RF Usage and Facility Justification analysis prepared by a Verizon RF engineer. The Verizon RF engineer's analysis concluded that, even if the height of the ATC Tower was increased, it still would not satisfy Verizon's coverage and capacity objectives, in particular the residential area north of SW Tualatin Rd which is the primary area of concern for this new facility. Although ATC submitted its own analysis, that analysis is not as reliable because it was prepared by a Principal Sales Engineer as opposed to an RF engineer, ATC has not spoken with Verizon about the coverage and capacity objectives for this site, does not have access to all of the same network data and other proprietary information as Verizon's RF engineers do, and it cannot speak for Verizon. Verizon's RF Usage and Facility Justification analysis represents Verizon's position on this matter and it clearly states that the ATC Tower, even if increased in height, will not work. Verizon's RF analysis is the most reliable and relevant evidence on this issue. Attachment B, p.3-4; Attachment D, p.47, 60-67.

The City Council rejects ATC's claim that the Application should be denied because T-Mobile indicated a willingness to switch to ATC's tower shortly before the record was closed. T-Mobile's two sentence Letter of Intent to Enter Tenant License Agreement, dated April 9, 2018, the same date as the appeal hearing, is perfunctory and is missing material terms, and does not even state the required height of the ATC Tower necessary to achieve T-Mobile's coverage and capacity objectives. Moreover, the Application can only be denied if the ATC tower can accommodate both Verizon and T-Mobile, and Verizon has not changed its position that the ATC tower cannot satisfy its capacity and coverage objectives. Attachment B, p.3; Attachment D, p.60-67.

Although ATC appears to have abandoned this argument in its appeal, the City Council rejects ATC's claim before the Planning Commission that it could accommodate the wireless facilities on the ATC tower by removing the trees on the ATC tower site. The variance approval for the ATC tower relied heavily on the screening effect of the surrounding trees to justify the variance to the height standard, and therefore ATC would be required to seek additional City approval, through Architectural Review, or seek a new variance to remove additional trees. Since the removal of all of these screening trees would undermine the key justification for granting the variance in the first place, it is highly unlikely that ATC could obtain the approval necessary to remove all of these trees. ATC has not applied to obtain removal of any trees "[i]t is necessary to remove the tree to construct proposed improvements based on Architectural Review approval, building permit, or approval of a Subdivision or Partition Review," nor are the trees diseased or damaged. *See* TDC 34.230(1). ATC also needs the City to consent as the landowner to the removal of these trees. Finally, ATC suggested that it may be possible to top or significantly trim the trees in order to remove the portion of the trees that are interfering with RF signals. This proposal is not feasible because topping or significantly trimming the trees will look terrible, significantly undermining the visual screening that the trees currently provide, and would also require a modification to the variance approval and consent of the City and adjacent property owner. Attachment D, p.37-46, 58-59, 68-75 & 175.

Originally, ATC argued that the ATC Tower could accommodate two additional carriers by removing the screening trees located within a 155-foot radius of the ATC Tower and seeking a variance to increase the

height of the ATC Tower by 20 feet. After it became apparent that removing the screening trees was neither desirable nor feasible, ATC changed its position at the last Planning Commission hearing and argued that it could accommodate two additional carriers without removing the screening trees. In its written appeal, ATC changed its position again and claimed that it could accommodate two additional carriers by increasing the height of the ATC Tower to 166 feet and was entitled to this increase under the Spectrum Act. When it became apparent that ATC could not increase the tower to 166 feet, ATC claimed it could accommodate two additional carriers by increasing the ATC Tower to only 150 feet. It appears from the constant evolution of ATC's position that ATC does not currently have a plan to accommodate additional antenna. Attachment B, p.2-3.

The Applicant provided argument and evidence to support these conclusions. The mere fact that ATC was unable to overcome the Applicant's argument and evidence does not mean that the Planning Commission shifted the burden of proof to ATC. The Planning Commission simply concluded that the Applicant's legal arguments and evidence were more persuasive. Attachment C, p.31.

For these reasons, the City Council finds that this criteria is met.

(iii) There are no available buildings, light or utility poles, or water towers on which antennas may be located and still provide the approximate coverage the tower is intended to provide.

Findings: There is no dispute that there are no available buildings, light or utility poles, or water towers with adequate height to meet the capacity and coverage objectives of the wireless facilities in or around the search ring area. Additionally, the City Council notes that the maximum structure height (outside of flagpoles and WCFs) in the ML zone is 50 feet. Attachment D, p.136 & 157.

For these reasons, the City Council finds that this criteria is met.

For all of the reasons provided in this section, the City Council finds that the Application satisfied TDC 33.025(1)(a).

(b) site characteristics. The proposed monopole location includes tall, dense evergreen trees that will screen at least 50% of the proposed monopole from the RL District or from a small lot subdivision in the RML District.

Findings: The Applicant demonstrated that the proposed location for the WCF includes tall, dense evergreen trees that will screen at least 50% of the WCF from the Low Density Residential (RL) planning district in the area. This criteria is an independent basis for approving the variance and does not require the Applicant to demonstrate that the ATC tower is not a viable option. Based on the photosims and related information regarding the property and surrounding area, the City Council concluded that the proposed location has tall, dense evergreen trees that will screen at least 50% of the proposed tower from the residential districts and therefore complies with TDC 33.025(1)(b).

The subject property is bound on the north by a RL planning district, directly on the east, west and south by a ML planning district. The surrounding area to the east includes a Medium Low Density (RML) planning district, but there are no small lot subdivisions in this RML district and therefore it is not relevant under TDC 33.025(1)(b). Attachment D, p.5-7 & 10-11.

The Applicant provided several photosims prepared by a professional consultant who performed a balloon test. The balloon test ensures that the height and location depicted in the photosims are accurate. The photosims were taken in early January, in the dead of winter when deciduous trees do not have their leaves, in order to show a worst case scenario. The Applicant sought input from the City staff before it

performed the photosims, in particular the number and vantage points for the photosims. The Applicant provided five photosims from various vantage points in these locations, some of which are closer to the site and some further away, based on its consultation with the City staff. Attachment D, p.10-18.

These photosims demonstrate that the proposed location for the WCF includes tall, dense evergreen trees that will screen at least 50% of the WCF. Photosim #1 shows that looking south from the RL planning district toward the site tall evergreens completely block the photosim of the property. Photosim #2 is from the ML planning district and although the criterion does not require screening from ML this photo shows there are tall evergreens and other dense trees along the eastern property line. Photosim #3 was taken from the RMH and RML area to the east, which shows that evergreens are present and other tall trees but the monopole is not as well screened as from other vantage points. However, RMH and RML area are not relevant vantage points under TDC 33.025(1)(b). Photosim #4 is from the border of the RL and ML planning districts, and in these photos evergreens are not as prevalent as the other vantage points but the tower is only somewhat visible beyond an existing industrial building. Photosim #5 is taken from the RL planning district looking southeast. Evergreens are present in this photo as well as other tall trees that help screen the majority of the tower. The photo simulations of the proposed monopole in photosims #1, #4 and #5 are most applicable given that the criterion is specific to screening from an RL district or an RML district with a small lot subdivision. These photosims show that overall at least 50% of the WCF will be screened by tall dense evergreen trees from the RL planning district. Attachment B, p.5-6; Attachment D, p.10-18.

The purpose and intent of TDC 33.025(1)(b) is to allow a variance if the visual impact of the proposed tower is minimized on residential zoned properties due to screening from trees. So the key criteria or perspective for TDC 33.025(1)(b) is the residential zoned properties. This interpretation is particularly relevant in this case given how far the residential properties are from the proposed tower. In light of this distance, the trees immediately around the proposed WCF are less significant than they would be if the tower was being proposed immediately adjacent to a RL District. Nonetheless, there are numerous tall, dense evergreen trees located on the subject property, particularly on the north end of the property where the vast majority of the RL District is located, as shown in the Applicant's detailed tree inventory (Durham Tree Inventory). Attachment B, p.6-8 & 10-21; Attachment C, p.33.

The City Council rejects ATC's claim that there are no tall, dense evergreen trees located on the subject property where the tower will be located. Dan Zike, Manager of the Tote-N-Stow property where the Applicant's WCF is proposed, disputed that claim at the appeal hearing. As the property manager, Mr. Zike knows the subject property better than ATC. The Applicant also provided the Durham Tree Inventory that shows numerous tall, dense evergreen trees located on the subject property, particularly on the north end of the property where the vast majority of the RL District is located. The Durham Tree Inventory shows that there are tall, dense evergreen trees along the entire northern boundary of the property and a second set of tall, dense evergreen trees toward the middle of the property between the proposed tower and RL District. Additionally, there are tall, dense evergreen trees along portions of the eastern boundary of the property that will screen the tower from the RL District to the north-east of the property. The Durham Tree Inventory demonstrates that there are numerous tall, dense evergreen trees located on the subject property. Attachment B, p.6-8 & 10-21; Attachment C, p.33; Attachment D, p.10-18.

The City Council rejects ATC's claim that the City cannot consider the screening impacts of the buildings in the surrounding area. While the Applicant must demonstrate that there are tall evergreen trees in the location that provide screening, the buildings are part of the landscape that factors into the visual impacts. If less than 50% of the proposed tower is not visible from a particular vantage point due to topography, elevation, buildings or other structures, TDC 33.025(1)(b) does not require the City to ignore or discount these

surrounding features. These features are part of the existing landscape that the City must consider in evaluating the visual impact of the proposed tower and the extent to which the surrounding trees screen the tower.

The City Council rejects ATC's claim that the photosims are insufficient. TDC 33.025(1)(b) does not require a specific type or amount of photosims. The City staff signed off on the Applicant's photosims and the Planning Commission concluded that they were sufficient. ATC failed to provide any information about its photosims, submitted for the first time at the appeal hearing, and even ATC's own photosims demonstrates that at least 50% of the proposed tower will be screened from the RL District. Attachment B, p.7-8; Attachment C, p.33.

The City Council rejects ATC's claim that the trees that provide screening should be disregarded because they are not evergreen. Mr. Zike's testimony and the Durham Tree Inventory shows that there are numerous evergreen trees that will provide screening. Additionally, the photosims undermine ATC's claim because they were taken in early January, in the dead of winter when deciduous trees do not have their leaves. Therefore, the photosims show a worst case scenario. The fact that the trees provide more than 50% screening even in the middle of the winter demonstrates that ATC's argument is incorrect. Attachment B, p.7-8; Attachment C, p.33; Attachment D, p.10-18.

The City Council rejects ATC's claim that the Applicant did not demonstrate "exceptional or extraordinary circumstances" to justify the variance request pursuant to TDC 33.020. TDC 33.020 is not an applicable approval criteria and it expressly provides that it is not applicable to WCF variance requests. The fact that the City expressly excluded WCF variance requests from TDC 33.020 demonstrates that the City did not want to impose this variance criteria on WCFs. Attachment B, p.4-5

For these reasons, the City Council finds that this criteria is met and the Application satisfied TDC 33.025(1)(b).

SUMMARY OF ANALYSIS AND FINDINGS

Based on the application materials, written and oral testimony from the parties and the analysis and findings presented above, VAR-17-0001 meets all of the criteria set forth in both TDC 32.025(1)(a) and (b), "Criteria for Granting a Variance for a Wireless Communication Facility." Therefore, the City Council rejects ATC's appeal and approves the Application for the reasons set forth in this Analysis and Findings.

Attachment B

City of Tualatin
www.tualatinoregon.gov

"NECESSARY PARTIES" MARKED BELOW

NOTICE OF APPLICATION SUBMITTAL

☐ ANNEXATION ☐ CONDITIONAL USE PERMIT ☐ PLAN TEXT AMENDMENT
☐ ARCHITECTURAL REVIEW ☐ PLAN MAP AMENDMENT ☒ OTHER: VARIANCE

CASE/FILE: VAR17-0001 (Community Development Dept.: Planning Division)

PROPOSAL	To request a variance from the 1,500-foot separation requirement between wireless communication facilities (WCFs) pursuant to Tualatin Development Code (TDC) 73.490(9).

PROPERTY					
☐ n/a	**Name of Application**	POR DURHAM			
	Street Address	10290 SW Tualatin Rd			
	Tax Map and Lot No(s).	2S1 23B 000800			
	Planning District	Light Manufacturing (ML)	**Overlays** ☐	**NRPO** ☐	**Flood Plain** ☐
	Previous Applications	AR86-21	**Additional Applications:**		**CIO** INDUSTRIAL

DATES				CONTACT	
Receipt of application	05/19/2017	**Deemed Complete**	10/02/2017		**Name:** Charles H. Benson III
Notice of application submittal			10/02/2017		**Title:** ASSOCIATE PLANNER
Project Status / Development Review meeting			03/23/2017		**E-mail:** CBENSON@tualatin.gov
Comments due for staff report			10/23/2017		**Phone:** 503-691-3029
Public meeting: ☐ ARB ☒ TPC ☐ n/a			11/16/2017		
City Council (CC) ☒ n/a					

City Staff
- ☒ City Manager
- ☒ Building Official
- ☒ Chief of Police
- ☒ City Attorney
- ☒ City Engineer
- ☒ Community Development Director
- ☒ Community Services Director
- ☒ Economic Development liaison
- ☒ Engineering Associate*
- ☒ Finance Director
- ☒ GIS technician(s)
- ☒ IS Manager
- ☒ Operations Director*
- ☒ Parks and Recreation Coordinator
- ☒ Planning Manager
- ☒ Street/Sewer Supervisor
- ☒ Water Supervisor

Neighboring Cities
- ☐ Durham
- ☐ King City Planning Commission
- ☐ Lake Oswego
- ☐ Rivergrove PC
- ☐ Sherwood Planning Dept.
- ☐ Tigard Community Development Dept.
- ☐ Wilsonville Planning Division

Counties
- ☐ Clackamas County Dept. of Transportation and Development
- ☒ Washington County Dept. of Land Use and Transportation (ARs)
- ☐ Washington County Long Range Planning (LRP) (Annexations)

Regional Government
- ☒ Metro

School Districts
- ☐ Lake Oswego School Dist. 7J
- ☐ Sherwood SD 88J
- ☒ Tigard-Tualatin SD 23J (TTSD)
- ☐ West Linn-Wilsonville SD 3J

State Agencies
- ☐ Oregon Dept. of Aviation
- ☐ Oregon Dept. of Environmental Quality (DEQ)
- ☐ Oregon Dept. of Land Conservation and Development (DLCD) (via proprietary notice)
- ☒ Oregon Dept. of State Lands: Wetlands Program
- ☒ Oregon Dept. of Transportation (ODOT) Region 1
- ☐ ODOT Maintenance Dist. 2A
- ☐ ODOT Rail Division
- ☐ OR Dept. of Revenue

Utilities
- ☒ Republic Services
- ☒ Clean Water Services (CWS)
- ☒ Comcast [cable]*
- ☒ Frontier Communications [phone]
- ☒ Northwest Natural [gas]
- ☒ Portland General Electric (PGE)
- ☒ TriMet
- ☒ Tualatin Valley Fire & Rescue (TVF&R)
- ☒ United States Postal Service (USPS) (Washington; 18850 SW Teton Ave.)
- ☐ USPS (Clackamas)
- ☒ Washington County Consolidated Communications Agency (WCCCA)

Additional Parties
- ☒ Tualatin Citizen Involvement Organization (CIO)

***Paper Copies**

- ☐ *1.032: Burden of Proof*
- ☐ *31.071 Architectural Review Procedure*
- ☐ *31.074 Architectural Review Application Review Process*
- ☐ *31.077 Quasi-Judicial Evidentiary Hearing Procedures*
- ☐ *Metro Code 3.09.045 Annexation Review Criteria*
- ☐ *32.030 Criteria for Review of Conditional Uses*
- ☐ *33.020 Conditions for Granting a Variance that is not a Sign or a Wireless Communication Facility*
- ☐ *33.022 Criteria for Granting a Sign Variance*
- ☐ *33.024 Criteria for Granting a Minor Variance*
- ☒ *33.025 Criteria for Granting a Variance*
- ☐ *34.200 Tree Cutting on Private Property without Architectural Review, Subdivision or Partition Approval, or Tree Removal Permit Prohibited*
- ☐ *34.210 Application for Architectural Review, Subdivision or Partition Review, or Permit*
- ☐ *34.230 Criteria (tree removal)*
- ☐ *35.060 Conditions for Granting Reinstatement of Nonconforming Use*
- ☐ *36.160 Subdivision Plan Approval*
- ☐ *36.230 Review Process (partitioning)*
- ☐ *36.330 Review Process (property line adjustment)*
- ☐ *37.030 Criteria for Review (IMP)*
- ☐ *40.030 Conditional Uses Permitted (RL)*
- ☐ *40.060 Lot Size for Conditional Uses (RL)*
- ☐ *40.080 Setback Requirements for Conditional Uses (RL)*
- ☐ *41.030 Conditional Uses Permitted (RML)*
- ☐ *41.050 Lot Size for Conditional Uses (RML)*
- ☐ *41.070 Setback Requirements for Conditional Uses (RML)*
- ☐ *42.030 Conditional Uses Permitted (RMH)*
- ☐ *42.050 Lot Size for Conditional Uses (RMH)*
- ☐ *42.070 Setback Requirements for Conditional Uses (RMH)*
- ☐ *43.030 Conditional Uses Permitted (RH)*
- ☐ *43.060 Lot Size for Conditional Uses (RH)*
- ☐ *43.090 Setback Requirements for Conditional Uses (RH)*
- ☐ *44.030 Conditional Uses Permitted (RH-HR)*
- ☐ *44.050 Lot Size for Conditional Uses (RH-HR)*
- ☐ *44.070 Setback Requirements for Conditional Uses (RH-HR)*
- ☐ *49.030 Conditional Uses (IN)*
- ☐ *49.040 Lot Size for Permitted and Conditional Uses (IN)*
- ☐ *49.060 Setback Requirements for Conditional Uses (IN)*
- ☐ *50.020 Permitted Uses (CO)*
- ☐ *50.030 Central Urban Renewal Plan – Additional Permitted Uses and Conditional Uses (CO)*
- ☐ *50.040 Conditional Uses (CO)*
- ☐ *52.030 Conditional Uses (CR)*
- ☐ *53.050 Conditional Uses (CC)*
- ☐ *53.055 Central Urban Renewal Area – Conditional Uses (CC)*
- ☐ *54.030 Conditional Uses (CG)*
- ☐ *56.030 Conditional Uses (MC)*
- ☐ *56.045 Lot Size for Conditional Uses (MC)*
- ☐ *57.030 Conditional Uses (MUCOD)*
- ☐ *60.040 Conditional Uses (ML)*
- ☐ *60.041 Restrictions on Conditional Uses (ML)*
- ☐ *61.030 Conditional Uses (MG)*
- ☐ *61.031 Restrictions on Conditional Uses (MG)*
- ☐ *62.030 Conditional Uses (MP)*
- ☐ *62.031 Restrictions on Conditional Uses (MP)*
- ☐ *64.030 Conditional Uses (MBP)*
- ☐ *64.050 Lot Size for Permitted and Conditional Uses (MBP)*
- ☐ *64.065 Setback Requirements for Conditional Uses (MBP)*
- ☐ *68.030 Criteria for Designation of a Landmark*
- ☐ *68.060 Demolition Criteria*
- ☐ *68.070 Relocation Criteria*
- ☐ *68.100 Alteration and New Construction Criteria*
- ☐ *68.110 Alteration and New Construction Approval Process*
- ☐ *73.130 Standards*
- ☐ *73.160 Standards*
- ☐ *73.190 Standards – Single-Family and Multi-Family Uses*
- ☐ *73.220 Standards*
- ☐ *73.227 Standards*
- ☐ *73.230 Landscaping Standards*
- ☐ *73.300 Landscape Standards – Multi-Family Uses*
- ☐ *73.310 Landscape Standards – Commercial, Industrial, Public and Semi-Public Uses*
- ☐ *73.320 Off-Street Parking Lot Landscaping Standards*
- ☐ *73.470 Standards*
- ☐ *73.500 Standards*

City of Tualatin

www.tualatinoregon.gov

APPLICATION FOR VARIANCE

Information		
Name: Reid Stewart		Title: Consultant/Agent
Company Name: Acom Consulting, Inc.		
Current address: 4015 SW Battaglia Avenue		
City: Gresham	State: OR	ZIP Code: 97080
Phone: 503.720.6526	Fax: N/A	Email: reid.stewart@acomconsultinginc.com

Applicant		
Name: Brandon Olsen		Company Name: Lendlease (US) Telecom Holdings LLC c/o PI Tower Development LLC
Address: 909 Lake Carolyn Parkway		
City: Irving	State: TX	ZIP Code: 75039
Phone: 503.951.7515	Fax: N/A	Email: brandon.olsen@pitowers.com
Applicant's Signature: See attached LOA		Date:

Property Owner		
Name: TOTE-N-STOW INC. - Joana Freedman		
Address: 10290 SW Tualatin Road		
City: Tualatin	State: OR	ZIP Code: 97062
Phone: 503.692.3930	Fax: N/A	Email:
Property Owner's Signature: See attached LOA		Date
(Note: Letter of authorization is required if not signed by owner)		

Architect		
Name: Rick Matteson		
Address: 5200 SW Meadows Road, Suite 150		
City: Lake Oswego	State: OR	ZIP Code: 97035
Phone: 425.209.6723	Fax: N/A	Email: rick.matteson@acomconsultinginc.com

Landscape Architect		
Name: N/A		
Address:		
City:	State:	ZIP Code:
Phone:	Fax: N/A	Email:

Engineer		
Name: TBD		
Address:		
City:	State:	ZIP Code:
Phone:	Fax: N/A	Email:

Project		
Project Title: POR Durham		
Address: 10290 SW Tualatin Road		
City: Tualatin	State: OR	ZIP Code: 97062
Brief Project Description: New 100' monopole associated with new wireless communications facility		
Proposed Use: Wireless communications facility		

Value of Improvements: $130,000

AS THE PERSON RESPONSIBLE FOR THIS APPLICATION, I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION ABOVE, ON THE FACT SHEET, AND THE SURROUNDING PERTY OWNER MAILING LIST IS CORRECT. I AGREE TO COMPLY WITH ALL APPLICABLE CITY AND COUNTY ORDINANCES AND STATE LAWS REGARDING BUILDING CONSTRUCTION AND LAND USE.	
Applicant's Signature:	Date:

Office Use		
Case No:	Date Received:	Received by:
Fee: Complete Review:	Receipt No:	
Application Complete as of:	ARB hearing date (if applicable):	
Posting Verification:	6 copies of drawings (folded)	
1 reproducible 8 ½" X 11" vicinity map	1 reproducible 8 ½" X 11" site, grading, LS, Public Facilities plan	
Neighborhood/Developer meeting materials		

APPLICATION FOR
VARIANCE

UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY AT:

10290 SW Tualatin Road
Tualatin, OR 97062

Prepared By

Acom
CONSULTING, INC

Date
October 03, 2017

Project Name
POR Durham

Applicant:	Lendlease (US) Telecom Holdings LLC c/o PI Tower Development LLC 909 Lake Carolyn Parkway Irving, TX 75039
Co-Applicant:	Verizon Wireless (VAW), LLC dba, Verizon Wireless 5430 NE 122nd Avenue Portland, OR 97230
Representative:	Acom Consulting, Inc. Reid Stewart 5200 SW Meadows Road, Suite 150 Lake Oswego, OR 97035
Property Owner:	Tote 'N Stow, Inc. 10290 SW Tualatin Road Tualatin, OR 97062

Project Information:	
Site Address:	10290 SW Tualatin Road, Tualatin, OR 97062
Parcel:	2S123B000800
Parcel Area:	3.63 acres
Zone Designation:	ML (Light Manufacturing Planning District)
Existing Use:	Storage Facility
Project Area:	1,200 square foot lease area (25' x 48' fenced equipment area)

Chapter 33: Variances

Section 33.025 – Criteria for Granting a Variance for a Wireless Communication Facility.

No variance to the separation or height requirements for wireless communication facilities shall be granted by the Planning Commission unless it can be shown that the following criteria are met. The criteria for granting a variance to the separation or height requirements for wireless communication facilities shall be limited to this section, and shall not include the standard variance criteria of Section 33.020, Conditions for Granting a Variance that is not for a Sign or a Wireless Communication Facility.

(1) The City may grant a variance from the provisions of TDC 73.470(9), which requires a 1500-foot separation between WCFs, providing the applicant demonstrates compliance with (a) or (b) below.

(a) coverage and capacity.

(i) It is technically not practicable to provide the needed capacity or coverage the tower is intended to provide and locate the proposed tower on available sites more than 1,500 feet from an existing wireless communication facility or from the proposed location of a wireless communication facility for which an application has been filed and not

denied. The needed capacity or coverage shall be documented with a Radio Frequency report;

Response: Verizon Wireless, the co-applicant, has done extensive research looking at opportunities in the area to collocate on existing towers or buildings, as that is always a preferred option when available. If an existing tower or structure is not available at the specified height or not attainable because of space constraints or unreliable structural design, then Verizon Wireless will propose a new tower. In this instance, there is one existing tower, the ATC tower, which is located outside of the search area designated as usable by Verizon Wireless' RF department, but within the 1,500-foot radius of the proposed facility. This tower is not viable as a solution to meet their coverage and capacity objectives due to the existing trees that would cause interference. There are no other existing towers available to collocate on within the area of interest thus a new tower is being proposed, which will in turn be available for other providers to collocate on in the future.

In order to meet the Verizon's coverage and capacity objectives, it is necessary to site a tower within the search ring provided by Verizon's RF department as shown below. Moving outside this search ring is technically not practicable and has adverse effects on providing the needed coverage and capacity objectives the tower is intended to provide, which include nearby high-traffic residential areas to the North. Siting outside the search ring can also create interference with other nearby network sites where coverage may overlap.

The Applicant is requesting a variance to the 1,500-foot tower separation requirement. There is an existing 146-foot ATC monopole support structure outside of the search ring, approximately 750 feet to the SW of the proposed support tower, located at 10699 SW Herman Road. Per the tower owner, there is currently available space on the tower at the 100-foot level, however this is not high enough to avoid interference from multiple trees surrounding the tower and still meet coverage and capacity objectives to the North, as detailed in the attached RF Usage and Facility Justification Report and RF Engineer Interference Letter.

Locating the tower within the search ring and outside the 1,500-foot radius of the nearby existing ATC tower is also not a desirable alternative as it would mean locating in another part of the ML zone without existing screening or in the RML or RMH zone, where a conditional use permit would be required and where it would be very visible to nearby residential areas.

In addition, T-Mobile has also indicated that they intend on co-locating on the proposed WCF, if approved, as the existing ATC tower to the SW will not meet their coverage and capacity requirements either as noted in the attached Letter from T-Mobile RF.

(ii) The collocation report, required as part of the Architectural Review submittal, shall document that the existing WCFs within 1500 feet of the proposed WCF, or a WCF within 1500 feet of the proposed WCF for which application has been filed and not denied, cannot be modified to accommodate another provider; and,

Response: The only existing monopole tower located within 1,500 feet of the proposed location cannot be modified as it is not designed to be extended to the necessary height required to avoid interference from the tall trees currently surrounding the tower. The existing tower would need to be removed and replaced with a new tower at least 20-30 feet taller to avoid interference unless the trees were to be removed or reduced in height to approximately the 100-foot level or lower.

Topping the trees would create undesirable visual impacts to nearby residential areas, whereas the proposed location is well screened to nearby residential areas to the North and does not require the removal or trimming of any existing trees. The topped trees would also create a negative visual impact on their own, as over a third of the height would need to be removed to avoid interference.

(iii) There are no available buildings, light or utility poles, or water towers on which antennas may be located and still provide the approximate coverage the tower is intended to provide.

Response: No available buildings, light or utility poles, or water towers with adequate height to meet coverage objectives are located in the geographical search ring necessary to provide coverage. See Search Ring and ½ mile radius maps below.

(b) site characteristics. The proposed monopole location includes tall, dense evergreen trees that will screen at least 50% of the proposed monopole from the RL District or from a small lot subdivision in the RML District.

Response: Application has demonstrated compliance with Section 33.025(1)(a) above, however proposed location also meets this requirement and includes tall, dense evergreens trees that will screen at least 50% of the proposed monopole from adjacent residential areas. The proposed support tower is sited in the least intrusive location possible to cover the gap in coverage and capacity.

(2) The City may grant a variance to the maximum allowable height for a WCF if the applicant demonstrates:

(a) It is technically not practicable to provide the needed capacity or coverage the tower is intended to provide at a height that meets the TDC requirements. The needed capacity or coverage shall be documented with a Radio Frequency report; and,

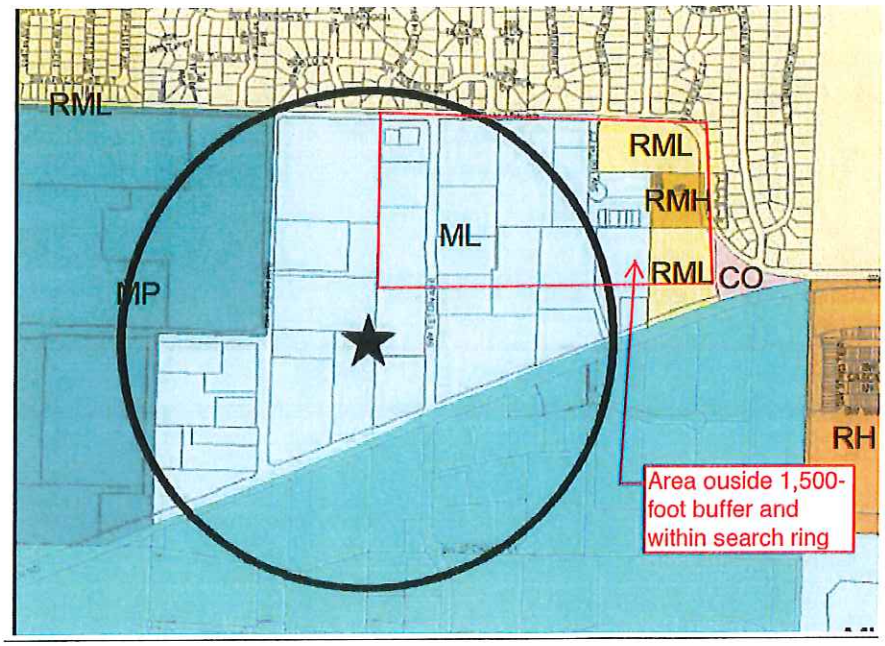
(b) The collocation report, required as part of the Architectural Review submittal, shall document that existing WCFs, or a WCF for which an application has been filed and not denied, cannot be modified to provide the capacity or coverage the tower is intended to provide.

Response: Not applicable – Applicant is not requesting a variance to the maximum allowable height for the proposed WCF.

Acom CONSULTING, INC

VERIZON SEARCH RING

EXISTING TOWER 1,500' RADIUS WITH VERIZON SEARCH RING OVERLAP



Acom CONSULTING, INC

½ MILE RADIUS OF PROPOSED TOWER

RF Usage and Facility Justification

Durham

Prepared by Verizon Wireless Walid Nasr

Jun 14, 2017

verizon

Introduction:

There are two main drivers that prompt the need for a new cell site. One is coverage and the other is capacity.

Coverage is the need to expand wireless service into an area that either has no service or bad service. The request for service often comes from customers or emergency personnel. Expansion of service could mean improving the signal levels in a large apartment complex or new residential community. It could also mean providing new service along a newly built highway.

Capacity is the need for more wireless resources. Cell sites have a limited amount of resources to handle voice calls, data connections, and data volume. When these limits are reached, user experience quickly degrades. This could mean customers may no longer be able to make/receive calls nor be able to browse the internet. It could also mean that webpages will be very slow to download.

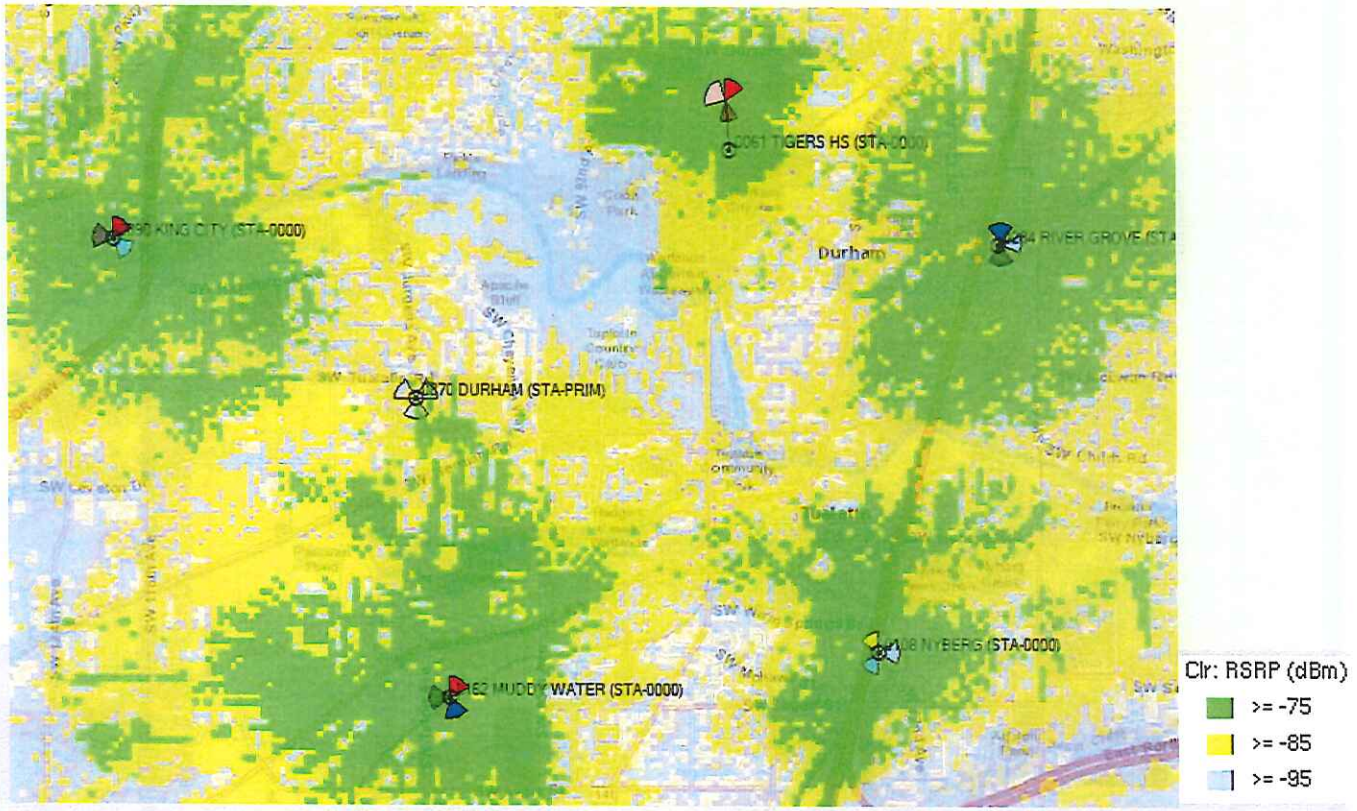
verizon

Capacity is the amount of resources a cell site has to handle customer demand. We utilize sophisticated programs that use current usage trends to forecast future capacity needs. Since it takes an average of (1-3) years to complete a cell site project, we have to start the acquisition process several years in advance to ensure the new cell site is in place before the existing cell site hits capacity limits.

Location, Location, Location. A good capacity cell site needs to be in the center of the user population which ensures even traffic distribution around the cell. A typical cell site is configured in a pie shape, with each slice (aka. sector) holding 33% of the resources. Optimal performance is achieve when traffic is evenly distributed across the 3 sectors.

Coverage Area of Existing Site

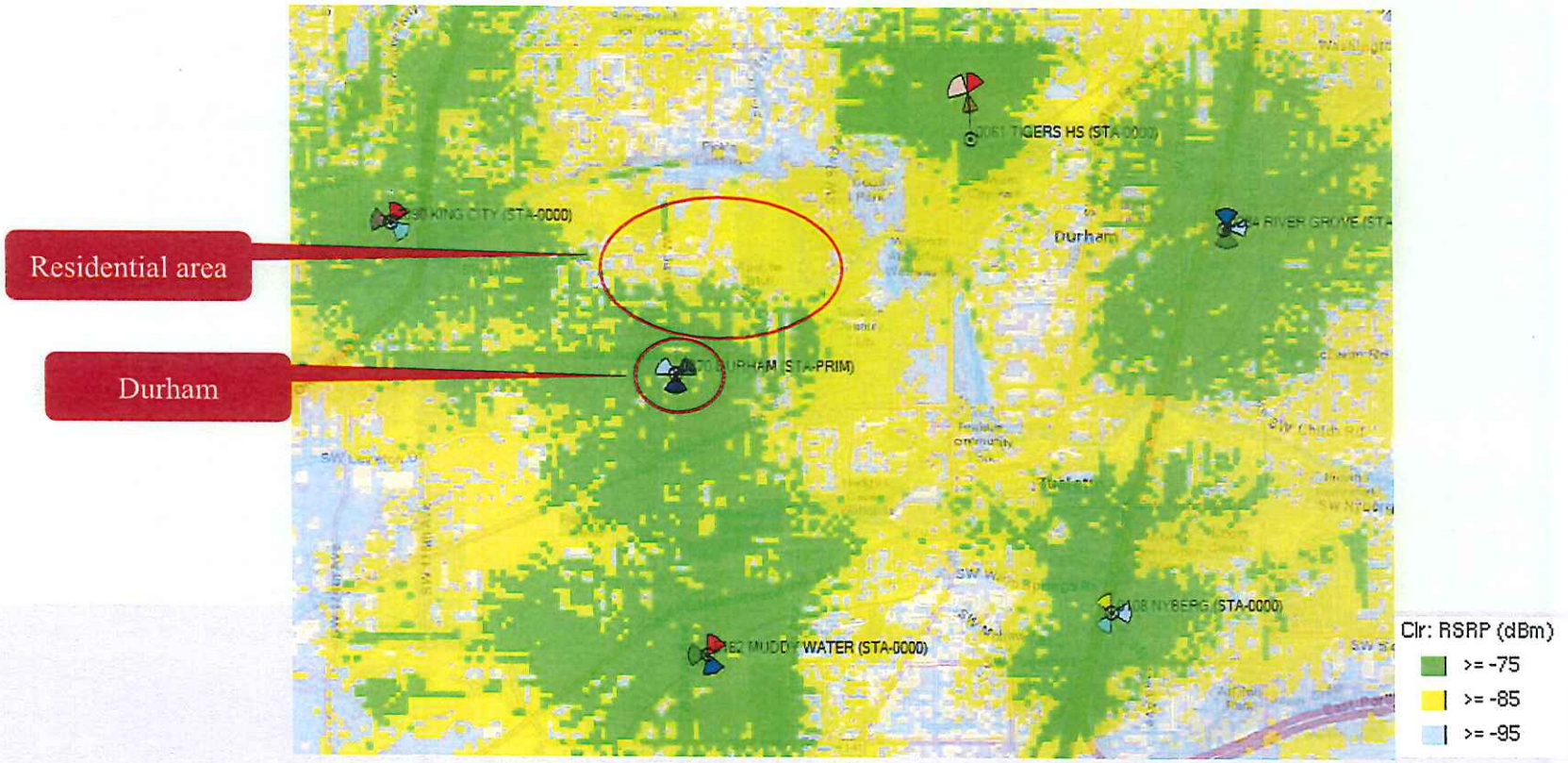
The proposed Durham site is a capacity site. This site will offload the existing sites King City, Muddy Water, TigerHS.



verizon

Coverage Area Offloaded by New Site

The proposed Durham site is a capacity site. This site will offload the existing sites King City, Muddy Water, TigerHS.



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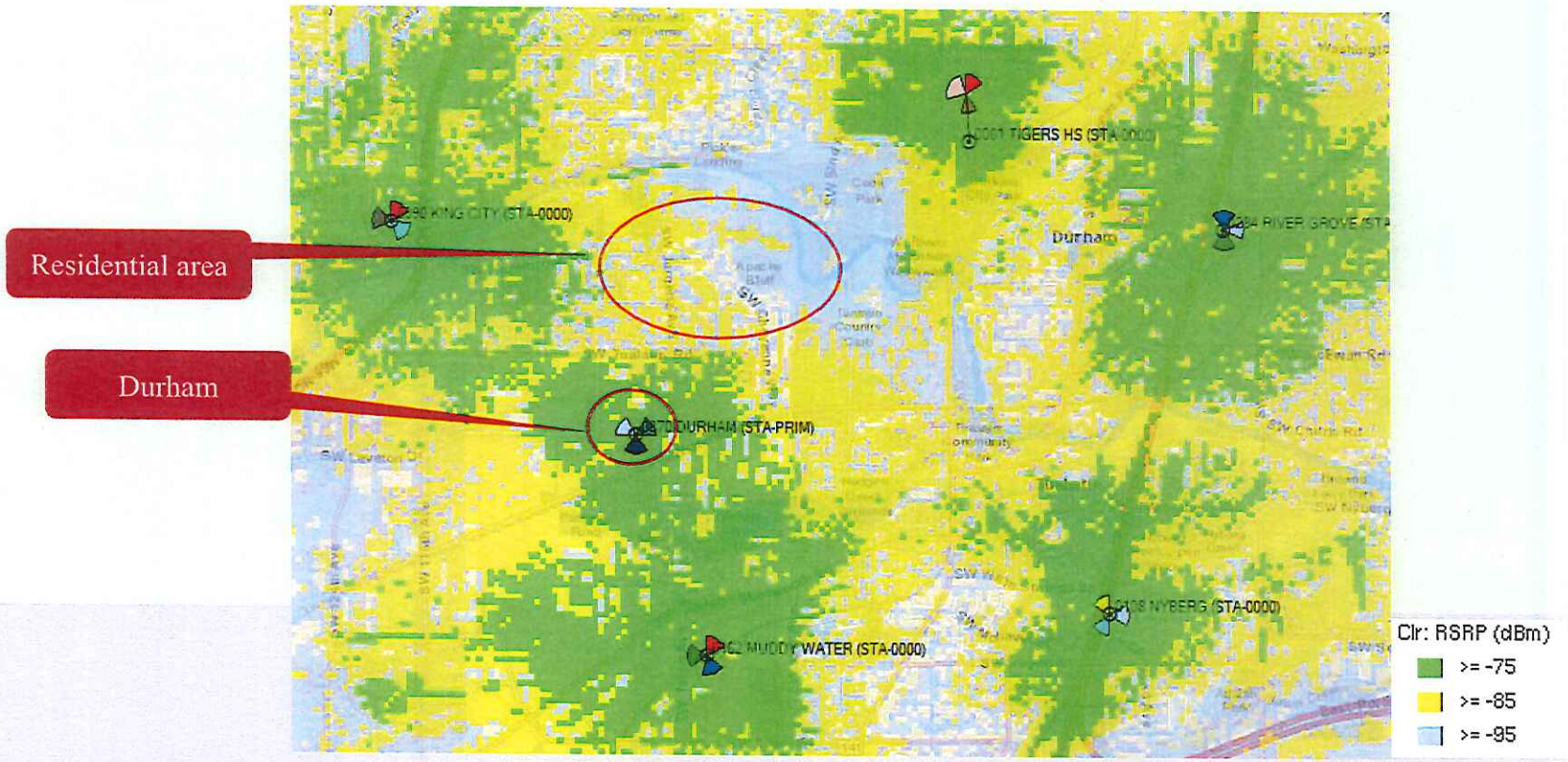
Coverage Area Offloaded by New Site at New Proposed Location

The proposed Durham site is a capacity site. This site will offload the existing sites King City, Muddy Water, TigerHS.

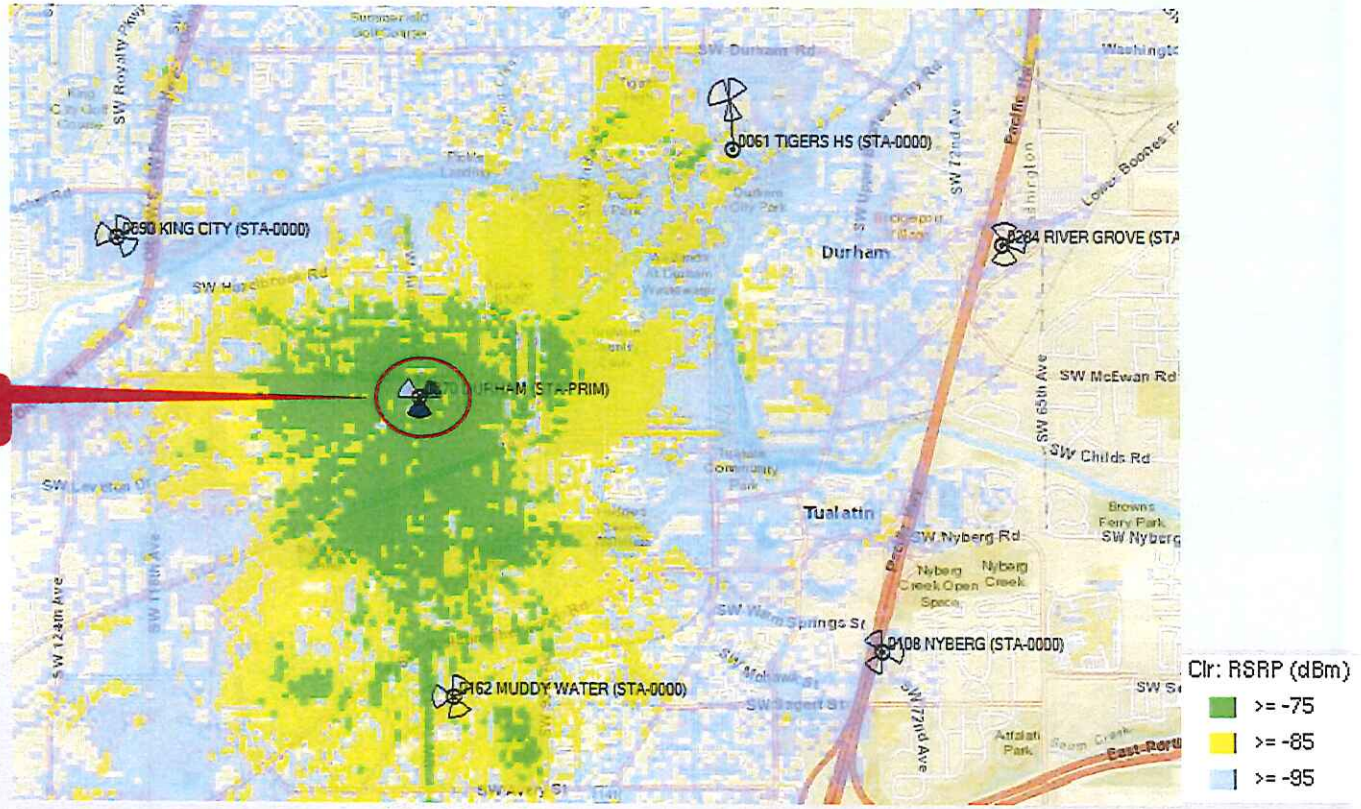


Marginal coverage in residential area due to surrounding trees at existing ATC tower

verizon

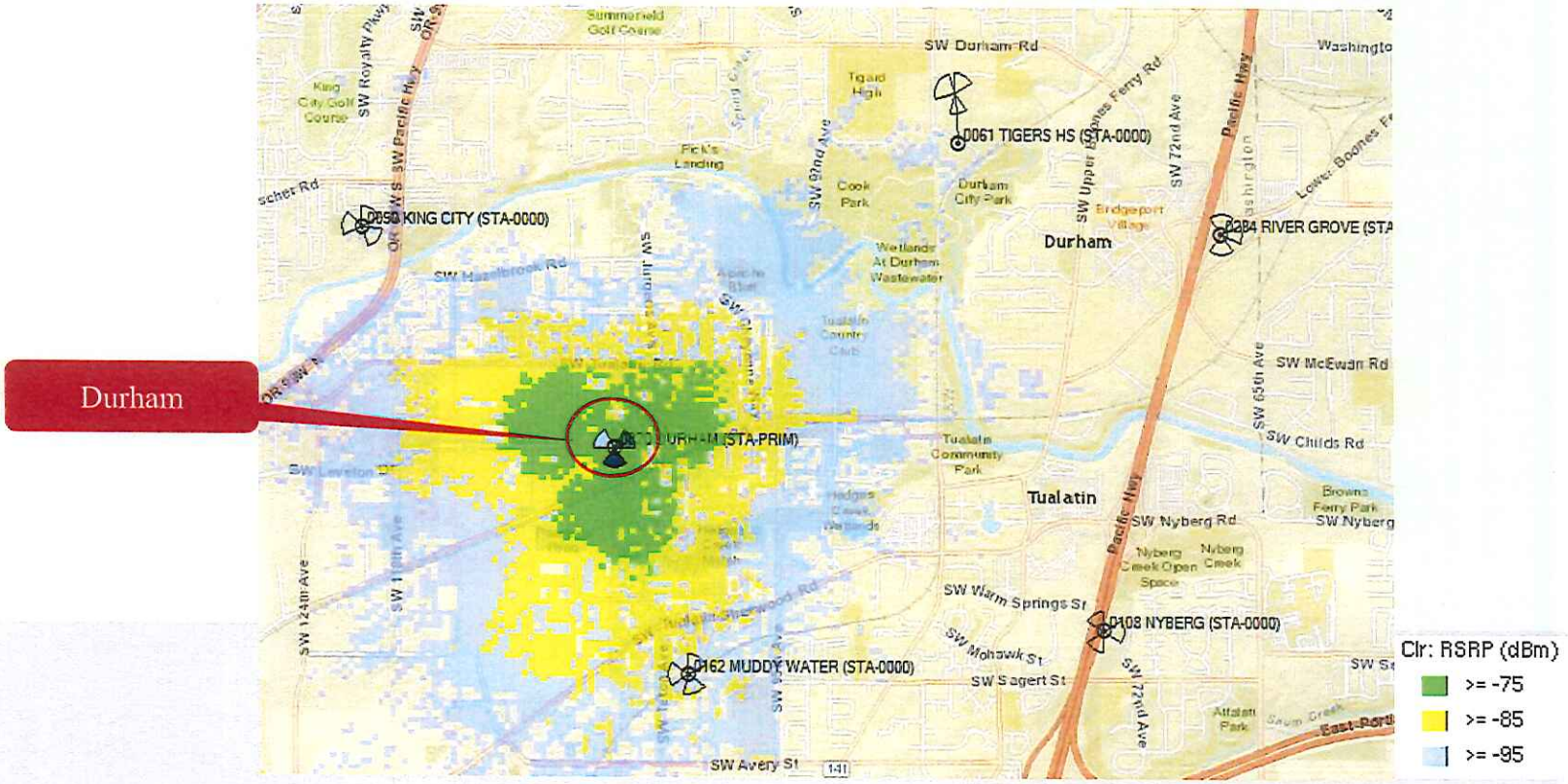
Coverage with Durham Site

Durham



verizon

Coverage with Durham Site at New Proposed Location



verizon

Need Case for: Durham

Summary: The existing sites King City, Muddy Water, TigerHS cannot carry the data traffic that exists in the area it serves.

Detail below:

- Exact data about sites is proprietary and cannot be disclosed due to competitive reasons.

- The existing cell sites King City, Muddy Water, TigerHS are forecasted to reach capacity in the near future.

- The new cell site Durham will provide additional resources to existing sites. It will take some users off of existing sites, which will alleviate the capacity constraint.

- This will improve customer experience (faster webpage downloads and fewer drop calls).

- Without the new site Durham, existing sites in area will reach capacity which will negatively impact customer's ability to make/receive calls and browse the internet.

Andrew H. Thatcher
Environmental Health Physics

July 13, 2017

To:
Acom Consulting, Inc.
5200 SW Meadows Rd
Suite 150
Lake Oswego, OR 97035

Acom consulting has requested that I review the existing antenna site at 10699 SW Herman Road, Tualatin OR, and evaluate the interference potential due to the existing tree canopy as shown in Figure 1. In performing this evaluation I'll review the basics of wireless transmission, what cellular technology can compensate for and what results in a deficient site. Included in the review is Verizon's propagation models[1] for both their proposed Durham site and the existing ATC tower.

In a perfect world for wireless transmission, an un-attenuated radio signal would be sent by the antenna and received by the user without any interference. This is rarely the case as buildings, hills and trees all combine to make the signals propagate along multiple pathways. The three primary components of signal propagation paths are reflection, diffraction and scattering. Reflection occurs from large smooth surfaces such as roadways or buildings. Diffraction occurs when a large object is in the direct line of sight path, such as a hill or building. Scattering occurs when the radio waves contact objects similar or smaller than the wavelength of the frequency of interest. For wireless transmission that can be from 700 MHz (~17" wavelength) to 2100 MHz (~6" wavelength). Scattering would be the dominant interaction with trees while all sources of interference serve to attenuate the signal to some degree with each interaction.

So the presence of trees creates scattering which causes signal distortion in addition to signal attenuation. The transmitted signals received by the end user (a person's cell phone) will consist not only of the original (un-attenuated) signal but also several secondary signals traveling on different paths. These multi-path signals, since they are a result of scattering (since we're concerned with the effects of trees), travel a longer signal path and therefore arrive at an end user (cell phone) later than the original un-attenuated signal. These late signal arrivals become interference and can result in distortion of the original signal. This type of distortion is frequency dependent with greater distortion occurring at higher frequencies. Multi-path signals are a common occurrence in our environment but such multi-path signals are due to stationary objects such as homes, rooftops, and even trees at a distance. Such distortions can readily be corrected due to the use of a RAKE[2] receiver in the phone. However, for a tree canopy in a near field environment such as in Figure 1 the obstruction is not constant but in fact continuously

[1] Propagation modeling provided by W. Nasr, Verizon RF Engineer, 7/5/2017.
[2] Briefly, RAKE receivers are used in the receiver phones of Code Division Multiple Access (CDMA) systems. The receiver collects and treats each time shifted version of the original signal as an independent signal and then combines them into a single signal provided the delay is not too long.

522 NORTH E ST • TACOMA, WA • 98403
PHONE: 253.617.1449 • THATCHER.DREW@COMCAST.NET

changing. The result is scattered signals that may be stronger than direct signal due to signal attenuation since the tree canopy density is not uniform and the signals going through the tree will be attenuated differently. Further, the motion of the trees with wind presents a continuously changing foliage density that results in selective signal fading with time. For the tree canopy shown in Figure 1, the near field environment could easily result in signal attenuation of 10 dB to as much as 20 dB. Combine this attenuation with the constantly changing signal fading environment and the result in a constantly changing delay (due to wind) that the RAKE receiver would have difficulty separating as noise. Reviewing Figure 1 again and one can see that the antennas are near the tops of the trees so the tree movement would include swaying of the trees in addition to individual branch movements.

Figure 2 is the predicted propagation to the residential location of interest from the existing antenna located within the trees. Figure 3 shows the same residential area with the antenna located in the proposed location. Both figures are provided to support the previous qualitative analysis. The figures show that the Reference Signal Received Power (RSRP) is at least 10 dBm lower for each location. Note that this analysis does not consider the effect of wind.

Trees at a distance from the antennas may present acceptable interference as the overall impact could be managed. For antennas placed well beneath the tree canopy in a near field environment affecting all three radiating sectors, it would be difficult to envision a wireless network that could compensate for these factors, the presence of wind, and remain effective in terms of capacity for the site and successful integration with the surrounding wireless sites. The attenuation and scattering of the signal through the trees would result in a lower transmitted power level that could not be improved by increasing the power as that would only serve to also increase the power of the multipath signals. In short, such a setup in the trees would present a problem regardless of the transmitted power level.

To summarize, the existing ATC tower is not a suitable antenna site without substantial modification based on the information provided in this report.

Figure 1: Photo of existing tower surrounded by a dense tree canopy in a near field environment

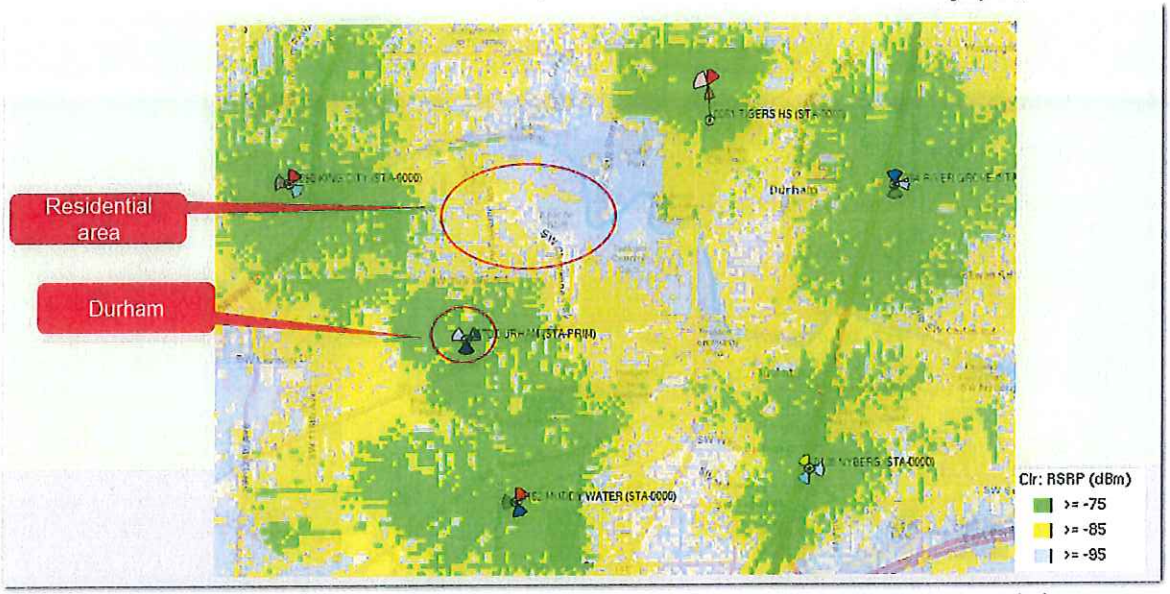


Figure 2: Predicted propagation model showing the residential area of interest from the existing antenna.

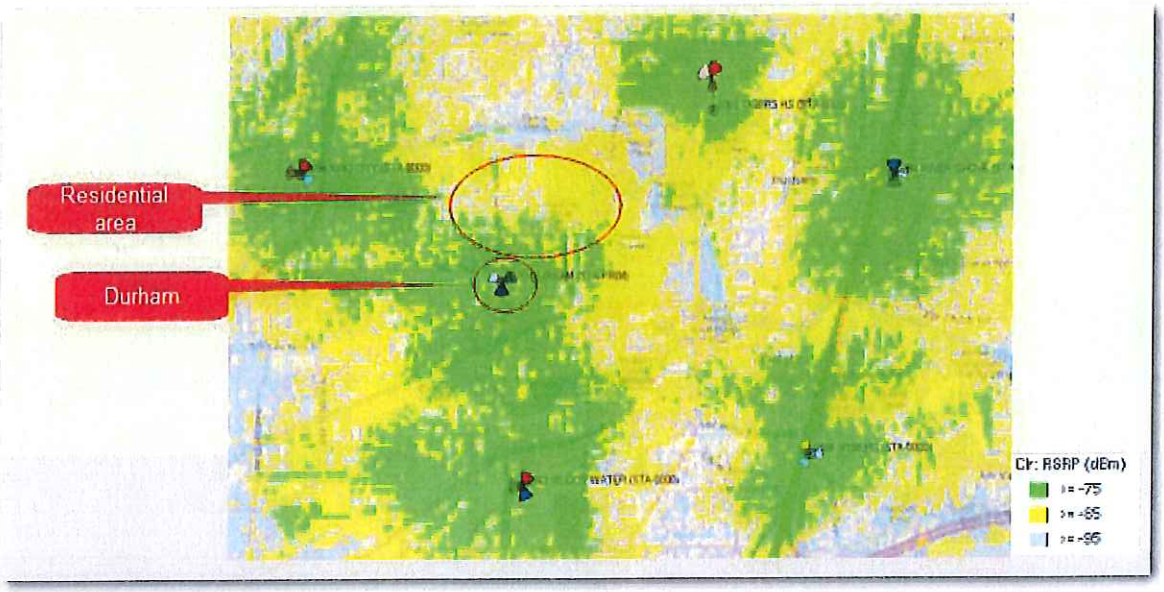


Figure 3: Predicted propagation model showing the RSRP for the residential area of interest with the proposed antenna location.

Qualifications

I am a member of the IEEE, the Institute of Electrical and Electronics Engineers as well as a member of the Health Physics Society. I am a board certified health physicist with a masters in health physics from the Georgia Institute of Technology. I have over 29 years of experience in the evaluation of both ionizing and non ionizing radiation sources. I am a consultant to the ACGIH Threshold Limit Values for Physical Agents Committee as well as a non ionizing subject matter editor for the Health Physics Journal.

Regards,

Andrew H. Thatcher, MSHP, CHP

T-Mobile

September 12, 2017

RE: PI Tower Development Project OR-Tualatin-Durham / 10290 SW Tualatin Road

To Whom It May Concern:

T-Mobile West LLC has been seeking to address a significant gap in network coverage in and around the subject vicinity. After assessing the viability of the existing infrastructure in the area, we have identified the proposed PI Tower Development wireless telecommunications facility to be located at 10290 SW Tualatin Rd in Tualatin, Oregon, as the only candidate that will address and eliminate this network gap in coverage. As a result, once the site is completed, T-Mobile intends to proceed with entering into a lease agreement with PI Tower Development and ultimately install equipment on site.

Best regards,

Julio Brown
Sr. RF Engineer
T-Mobile West LLC
Portland, Oregon

T-Mobile USA, Inc.
Fax: (503) 736-3014
1500 NE Irving St., Suite 530
Portland, OR 97232