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HEARINGS OFFICER DECISION

Community Use Conditional Use, Design Review, Forest Development Standards, Exception to Secondary Fire Safety Zone and two Variances

Case File: T3-2018-10227

Hearings Officer: Dan R. Olsen

Hearing Date, Time, & Place:

June 8, 2018 at 9:00 am Room 103 at the Land Use
Planning Division office located at 1600 SE 190th
Avenue, Portland, OR 97233

Summary: Portland Water Bureau is requesting approval of a Community Service Conditional Use, Design Review, Forest Development Standards, Variances, and Exception to Secondary Fire Safety Zone Permits for a new microwave radio tower facility on a property within the Commercial Forest Use Zone -3.

Location: No Site Address,
Tax Lot 02500, Township 1 South, Range 6 East, W.M.
Tax Account #R996200030 Tax ID # R343058

Applicant(s): Robert Goldie **Property Owner(s):** Portland Water Bureau

Base Zone: Commercial Forest Use – 3 (CFU-3)

Property Size: 240 Acres



Applicable Approval Criteria: Multnomah County Code (MCC): MCC 35.2030: CFU Conditional Use, MCC 35.2056: Forest Practices Setbacks and Fire Safety Zones, MCC 35.2061: Forest Development Standards for Dwellings and Structures, MCC 35.2075: CFU-3 Lot of Record, MCC 35.2110: Exception to Secondary Fire Safety Zone, MCC 35.6000-35.6020: Community Service Conditional Use, MCC 35.6100 – 35.6130: Radio and Television Transmission Towers, MCC 35.7000 -35.7060: Design Review, and MCC 35.4100 – 35.4210: Off-Street Parking and Loading, and MCC 35.7600 – 35.7615 Variance.

HEARING OFFICER DECISION

Hearings Officer: I provided the statutorily required notices. I indicated that I had had no ex parte contacts, had no conflicts of interest and had not conducted a site visit. I asked for but received no procedural or other objections.

George Plummer, Staff Planner, provided the staff report. He clarified that the applications are for a new tower facility that replaces an existing communication system that had no tower. He noted that the U.S Forest Service supports the applications.

Appearing for the applicant was Robert Fraley, a Senior Planner with the City of Portland. Also available for the applicant were Scott Howes and Bob Ochs. Mr. Fraley explained that this project replaces the existing passive system with a more resilient communications system serving the Water Bureau and emergency communications generally. This is the only location providing a clear line of site. He noted that the Bureau has fire management and suppression agreements with the Forest Service and the Department of Forestry. There was no objection to the recommended conditions of approval.

There was no opposition testimony.

I find that the Staff Report and materials on which it relies demonstrate that the applicant has met its burden of proof regarding compliance with the applicable standards, subject to compliance with the conditions of approval recommended by Staff. Accordingly, the Staff Report is adopted as my Findings and Conclusions and the application is **Approved with conditions** as follows:

1. Approval for this Community Service Permit is based on the submitted written narrative(s) and plan(s). No work shall occur under this permit other than that which is specified within these documents or within subsequent land use permits. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.
2. This land use permit expires two years from the date the decision is final if (a) development action has not been initiated; (b) building permit has not been issued as required. The property owner may request to extend the timeframe within which this permit is valid, as provided in MCC 37.0690.

3. The property shall maintain the tower so that it continues to meet federal, state and County non-ionizing electromagnetic radiation standards. The background radiation shall be measure prior to operation of the tower to establish base line data and periodic measurement shall be made to confirm the new source meets the required standards. [MCC 35.6125 (A)]
4. The towers shall be painted green from base to tree line, with the remainder painted silver or have a galvanized finish. [MCC 35.6115(C)(1)]
5. Prior to issuance of County Land Use Planning signoff on the plans for the building permit, the applicant shall demonstrate that the project qualifies as a Minimal Impact or obtain a Grading and Erosion Control permit. The applicant shall show erosion control measures sufficient to ensure that visible or measureable erosion does not leave the site shall be maintained during development. [MCC 35.2060(I), MCC 35.4550(A)].
6. The property owner shall establish and maintain a minimum of two parking spaces for maintenance of the tower. [MCC 35.6115(D)]
7. Prior to building tower, the property owner or representative shall apply for and obtain a building permit for the tower and equipment accessory building. The equipment accessory building shall be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. The property owner shall ensure that a final inspection for its construction is completed prior to its operation. [MCC 35.2105 (B)(1)].
8. The property owner shall establish and maintain a primary fire safety zone and a secondary fire safety zone. [MCC 35.2056(D)]
 - A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. All trees within this primary fire safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.
 - A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District. [MCC 35.2056(D)]

Findings of Fact

FINDINGS: Written findings are contained herein. The Multnomah County Code (MCC) criteria and Comprehensive Plan Policies are in **bold** font. Staff analysis and comments are identified as ‘**Staff:**’ and address the applicable criteria. Staff comments may include a conclusionary statements recommendations in *italic*.

1. PROJECT DESCRIPTION

Staff: Portland Water Bureau is requesting approval of a Community Service Conditional Use, Design Review, Forest Development Standards, Variances, and Exception to Secondary Fire Safety Zone Permits for a new microwave radio tower facility on a property within the Commercial Forest Use Zone -3.

The applicant is requesting to replace and to construct with a more updated 195-foot-tall Microwave Radio and Telecommunications Tower and accessory equipment shed replacing an older microwave communication system to improve the communication network including phone, computer communication and other data transfer. The purpose of the new tower is to increase security and communication between the City of Portland’s Bureau of Water Works facilities in-town, at their Bull Run facility, and at the existing Lusted Hill Site.

Application was submitted on March 30, 2018 (Exhibit A.1). The application was deemed complete on April 30, 2018 (Exhibit C.1). Notice of Public Hearing was mailed on May 17, 2018 (Exhibit C. The Public Hearing notice is on June 8, 2018. The hearing is on Day 39 of the application.

2. PROJECT AND PROPERTY DESCRIPTION

Staff: The 240-acre Camp Creek property is located within the Bull Run Watershed (Exhibit B.3) with the proposed tower site about a mile to the southwest of the Bull Run Reservoir 1 (Exhibit A.3, pages 7 and 8). The Bull Run Watershed has been used by the City of Portland and the greater region for a drinking water supply since 1895. The entire watershed has been managed under increasing levels of protection since it was established as a Forest Reserve in 1892. In 2001, the protection was extended by federal law. The Bull Run Watershed Management Unit is approximately 102 square miles in size. The Watershed is carefully managed and maintained to sustain and supply drinking water to a quarter of Oregon’s population.

The proposed tower site is in a large densely forested area of primarily Douglas fir, western hemlock, western red cedars and dense understory vegetation (Exhibit A3, page 8)). The Bull Run Watershed access is highly related allowing access to only those who have official access approved such as Water Bureau staff, US Forest Service staff, scientists, etc. related to the forest and watershed use of the management unit.

The proposed tower location is on the top of a ridge which provides an optimal location with a clear line-of-sight to Lookout Point tower, Bear Creek House, and Headworks Treatment Facility. This site is the only location on City Property within the watershed that can meet the clear line-of-sight standard. The site is rounded top of the ridge, relatively level allowing for 30-foot Primary Fire Safety Zone surrounding the site and reducing the risk of wildfire damage (Exhibit A.2).

3. BASE ZONE CRITERIA

3.1. Conditional Uses (Community Service Uses)

MCC 35.2030: The following uses may be permitted when found by the approval authority to satisfy the applicable standards of this Chapter:

(A) The following Community Service Uses pursuant to all applicable approval criteria, including but not limited to the provisions of MCC 35.2045, 35.2050, 35.2056, 35.2061, 35.6000 through 35.6010, and 35.6100 through 35.6230:

* * *

(11) Radio and television transmission towers subject to the definitions, restrictions and standards in CFU-3 and CFU-4: 35.6015(A)(15) and 35.6100 through 35.6130 and wireless communications facilities when found to satisfy the requirements of MCC 35.6175 through 35.6188.

Staff: The applicant is proposing a new microwave tower. Microwave is a type of radio wave transmission. Findings for the listed code sections are in the following Section 4 of this staff report. *These standards are met.*

3.2. Use Compatibility Standards

MCC 35.2045 Specified uses of ... MCC 35.2030 (A)... may be allowed upon a finding that:

(A) The use will:

- (1) Not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding forest or agricultural lands;
- (2) Not significantly increase fire hazard, or significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel;

Staff: There is no farming in the area. The surrounding forest, 102 square miles of the Bull Run Watershed, has been managed as a forested watershed providing drinking water to the City of Portland since 1985. The proposed tower will help in the management of the Watershed Management Unit of the forest. The tower will not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding.

The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring that fire safety zones be established and maintained. *The proposal meets these standards through implementing a recommended condition of approval.*

(B) A statement has been recorded with the Division of Records that the owner and the successors in interest acknowledge the rights of owners of nearby property to conduct forest operations consistent with the Forest Practices Act and Rules, and to conduct accepted farming practices.

Staff: This standard is met through the federal act for Bull Run Watershed Management Unit which directs management which is consistent with Forest Practices Act and Rules for the subject

property and surrounding properties all owned by the City or Federally owned. *This standard is met.*

3.2. Forest Practices Setbacks and Fire Safety Zones

3.2.1. MCC 35.2056: The Forest Practice Setbacks and applicability of the Fire Safety Zones is based upon existing conditions, deviations are allowed through the exception process and the nature and location of the proposed use. The following requirements apply to all structures as specified:

Use Description of use and location	Forest Practice Setbacks		Fire Safety Zones Requirements (FSZ)
	Front Property Line Adjacent to County Maintained Road (feet)	All Other Setbacks (feet)	
Other Accessory structures	30	130	Primary & Secondary required
Other Structures	30	130	Primary & Secondary required

Staff: The proposed tower location exceeds the 130-foot setback from all property line except eastern property line for which the application includes a Variance request (see Section 5 of this Staff Report). *This standard is met through the approval of a Variance.*

3.2.2. MCC 35.2056(A) Reductions to a Forest Practices Setback dimension shall only be allowed pursuant to approval of an adjustment or variance.

Staff: The application includes a variance request to reduce the 130-foot Forest Practices Setback to 30 feet. See Section 5 of this Staff Report for the finding addressing the variance request.

3.2.3. MCC 35.2056(B) Exception to the Secondary Fire Safety Zone shall be pursuant to MCC 35.2110 only. No reduction is permitted for a required Primary Fire Safety Zone through a nonconforming, adjustment or variance process.

Staff: The application includes a request for an Exception to the Secondary Fire Safety Zone. The findings for the exception request See Section 3.5 of this Staff Report. Staff finds in Section 3.2.4. (D)(2) that the subject property and the adjacent property while under different ownership are managed together as part of the Bull Run Watershed Management Unit which in essence acts like a tract in the same ownership. The adjacent property can be managed with a Secondary Fire Safety Zone. The Exceptions criteria and standards are included in case the Hearings Officer finds that the management unit status does meet the standards of Section 3.2.4. MCC 35.2056(D)(2) and (5) requiring a Secondary Fire Safety Zone be established and maintained.

3.2.4. MCC 35.2056(D) Fire Safety Zones on the Subject Tract

(1) Primary Fire Safety Zone

(a) A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. Trees within this safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted

silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.

(b) On lands with 10 percent or greater slope the primary fire safety zone shall be extended down the slope from a dwelling or structure as follows:

Staff: The slope is less than 10 percent for the first thirty feet surrounding the tower. Exhibit A.3, Figure 7, Page 23 shows primary fire safety zone incorrectly drawn (the 30-foot primary must be around all building and the exterior of the tower not from a center point). While the figure is incorrectly drawn it shows there is enough area to meet the 30-foot primary fire safety zone. Staff recommends an on-going condition of approval that the primary fire safety zone be met and maintained on the property. *The proposal meets these standards through implementing recommended condition of approval that the primary fire safety zone be established and maintained on the property.*

(2) Secondary Fire Safety Zone

A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District. The secondary fire safety zone required for any dwelling or structure may be reduced under the provisions of 35.2110.

Staff: Exhibit 1.3, Figure 7, Page 23 also shows a secondary fire safety zone incorrectly drawn. The secondary fire safety zone is located 100 feet in all direction out from the outer edge of the 30-foot primary fire safety zone. The tower is located a sufficient distance from all property lines except the eastern property line, for a full secondary fire safety zone to be maintained on the property for the tower except for in the eastern, south-eastern and north-eastern directions. A secondary fire safety zone must be maintained on the subject property or subject ownership or an Exception to the Secondary Fire Safety Zone approval must be obtained.

While the applicant has requested an Exception to the Secondary Fire Safety Zone (findings in Section 3.5 of this staff report), staff finds that while the City owns the subject property and the US Forest Service (USFS) owns the adjacent (east) property, they are within the same management unit (Bull Run Watershed Management Unit) managed together. Given they are in the same management, it is staff's understanding that a secondary fire safety zone could be met and maintained just as if the property was in the same ownership. Staff recommends an on-going condition of approval that the secondary fire safety zone be established and maintained. *The proposal meets these standards through implementing recommended condition of approval that the secondary fire safety zone be established and maintained on the property.*

* * *

(5) Required Primary and Secondary Fire Safety Zones shall be maintained by the property owner in compliance with the above criteria listed under (1) and (2).

Staff: The primary and secondary fire safety zones are required to be maintain (see previous finding). Staff recommends an on-going condition of approval that the primary and secondary fire safety zones zone be maintained according to MCC 35.2056D) (1) and D (2) standards. The proposal meets these standards through implementing the recommended condition of approval. *The proposal meets these standards through implementing recommended condition of approval that the primary and secondary fire safety zones be established and maintained on the property.*

3.3. Development Standards for Structures

3.3.1. MCC 35.2061: ... structures shall comply with the approval criteria in (B) through (D) below except as provided in (A). All exterior lighting shall comply with MCC 35.0570:

Staff: The proposal does not meet (A) thus must comply with the approval criteria in (B) through (D) below.

3.3.2. (B) ...accessory buildings (or similar structures) greater than 100-feet from the existing dwelling shall meet the following standards in (1) and (3) or (2) and (3):

Staff: There is no dwelling associated with the subject property, thus the proposed structure and buildings must meet following standards in (1) and (3) or (2) and (3).

3.3.2.1. (1) The structure shall satisfy the following requirements:

- (a) To meet the Forest Practices Setback, the structure shall be located a minimum of 30-feet from a front property line adjacent to a county maintained road and 130-feet from all other property lines;**
- (b) The structure shall be located in a cleared area of at least 10,000 square feet that meets the tree spacing standards of a primary fire safety zone;**
- (c) The entirety of the development site is less than 30,000 square feet in total cleared area, not including the driveway;**
- (d) The structure is sited within 300-feet of frontage on a public road and the driveway from the public road to the structure is a maximum of 500-feet in length;**
- (e) The local Fire Protection District verifies that their fire apparatus are able to reach the structure using the proposed driveway; or**

Staff: There is no County maintained road as required in subsection (a), there is a 130-foot minimum front yard setback for which a variance is requested. Thus, the development must meet standards in (2) and (3).

3.3.2.2. (2) The structure shall satisfy the following requirements:

- (a) It has the least impact on nearby or adjoining forest or agricultural lands and satisfies the standards in MCC 35.2056;**
- (b) Adverse impacts on forest operations and accepted farming practices on the tract will be minimized;**
- (c) The amount of forest land used to site the dwelling or other structure, access road, and service corridor is minimized;**
- (d) Any access road or service corridor in excess of 500 feet in length is demonstrated by the applicant to be necessary due to physical limitations unique to the property and is the minimum length required; and**

Staff: There is no farming in the area. All adjoining lands are owned by the US Department of Agriculture (USFS) or the Portland Water Bureau and are managed by the Bull Run Watershed Management Unit as a 102 square mile watershed which has provided drinking water to the City of Portland and surrounding area since 1985. The proposed tower is a tool used in the management of the Watershed Management Unit of the forest and the management of the drinking water deliverance facilities. The tower will not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding lands.

The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring the maintaining the fire safety zones. The impacts have been minimized. *The proposal meets these standards through implementing recommended condition of approval.*

The amount of forest land used to site the structure, access road, parking and primary fire safety zone is minimized to about half an acre. The access for the site is taken from a Bull Run Watershed Management Unit existing management road that dead-ends at the east property. The access road to the site is about 30 long, is less than 500 feet in length. *The proposal meets these standards.*

- 3.3.2.3. (3) The risks associated with wildfire are minimized. Provisions for reducing such risk shall include:**
- (a) Access roadways shall be approved, developed and maintained in accordance with the requirements of the structural fire service provider that serves the property. Where no structural fire service provider provides fire protection service, the access roadway shall meet the Oregon Fire Code requirements for fire apparatus access**
 - (b) Access for a pumping fire truck to within 15 feet of any perennial water source of 4,000 gallons or more within 100 feet of the driveway or road on the lot. The access shall meet the fire apparatus access standards of the Oregon Fire Code with permanent signs posted along the access route to indicate the location of the emergency water source;**

Staff: The access for the site is taken from a Bull Run Watershed Management Unit existing management road which is used an access road for USFS fire crews. The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring the maintaining the fire safety zones. There is no perennial water source of 4,000 gallons or more within 100 feet of the driveway or road on the lot, thus this standard is not applicable. The impacts have been minimized. *The proposal meets these applicable standards through implementing recommended condition of approval.*

- 3.3.3. (C) The structure shall:**
- (1) Comply with the standards of the applicable building code ...**

Staff: A condition of approval can require a building permit to be obtained. Staff recommends a condition of approval that a building permit to be obtained. *The proposal meets these standards through implementing the recommended condition of approval.*

3.4. Lot of Record

MCC 35.2075 (A) In addition to the Lot of Record definition standards in MCC 35.0005, for the purposes of this district a Lot of Record is either:

- (1) A parcel or lot which was not contiguous to any other parcel or lot under the same ownership on February 20, 1990, or**
- (2) A group of contiguous parcels or lots:**
 - (a) Which were held under the same ownership on February 20, 1990; and**
 - (b) Which, individually or when considered in combination, shall be aggregated to comply with a minimum lot size of 19 acres, without creating any new lot line.**

Staff: *This standard is met.*

3.5. Exception to Secondary Fire Safety Zone

Staff: See finding under Section 3.2.3. of this Staff Report, MCC 35.2056(B).

3.5.1. MCC 35.2110(A) The secondary fire safety zone for dwellings and structures may be reduced pursuant to the provisions of 35.2110 (B) when:

- (1) The tract on which the dwelling or structure is proposed has an average lot width or depth of 330 feet or less, or**
- (2) The dwelling or structure is proposed to be located within 130 feet of the centerline of a public or private road serving two or more properties; or**
- (3) The proposed dwelling or structure is proposed to be clustered with a legally existing dwelling or structure.**

MCC 35.0005: Definitions

Lot – A unit of land created by a subdivision of land, see definition in MCC 35.7705.

Depending upon the context in which the term appears in this Chapter, a Lot may also mean a lot, parcel (result of partitioning), unit of land (lawfully created by deed or land sale contract) or area of land owned by or under the lawful control and in the lawful possession of one distinct ownership.

Private Road – A private accessway built on a separate lot from the lots it serves, connecting more than one property to the local public road system and each lot using the private road for access has an undivided interest in the private road.

Public Road– A road over which the public has a right of use that is a matter of public record. County roads, city streets, state highways, federal roads and local access roads are all public roads.

Staff: The applicant proposes measuring the development site (Exhibit A.3, page 123) using the “330-foot width or depth of 330 feet or less” versus “average lot width or depth.” The code is clear that it is lot width or depth not the development site. The applicant also presents a case for the within 130 of a public road standard (Exhibit A.10)

The road accessing the property is a federal road, thus a public owned road by definition a public road. The Bull Run Watershed is closed to the general public, without permission it cannot be entered. The road can be used by the public whom have business or other authorization to enter the Bull Run Watershed. The proposed tower and accessory structures are to be located about 30 feet from the centerline of the access road. Staff finds that the road threshold criterion is met, thus an Exception is allowed.

3.5.2. MCC 35.2110 (B) Exceptions to secondary fire safety zones shall only be granted upon satisfaction of the following standards:

- (1) If the proposed secondary fire safety zone is between 50 and 100 feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban– Wildland Interface Code Section 505 Class 2 Ignition Resistant Construction as adopted August, 1996, or as later amended, or**
- (2) If the proposed secondary fire safety zone is less than fifty feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, and**

Staff: The proposed tower and accessory structures will a secondary fire safety zone will be less than 50 feet (if one on the adjacent property is not included, under Section 3.2.3. of this Staff Report). The applicant states, “the proposed accessory equipment building will be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction.” The tower and all other structures and building need to meet the Fire Code Section 504 Class 1 Ignition Resistant Construction as well. A condition of approval can require all structures and building meet the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. *The standard is met through implementing a recommended condition of approval.*

- (3) There shall be no combustible fences within 12 feet of the exterior surface of the dwelling or structure; and**

Staff: The applicant states that, “no combustible fences are proposed on the property.” *This standard is met*

* * *

- (6) All accessory structures within the fire safety zone setbacks required by MCC 35.2056, and all accessory structures within 50 feet of a dwelling, shall have a central monitored alarm system.**

Staff: There is no dwelling. The proposed accessory equipment building within the fire safety zone setbacks required by MCC 35.2056, is proposed to be equipped with a central monitored alarm system. *This standard is met*

- (7) All accessory structures within 50 feet of a building shall have exterior walls constructed with materials approved for a minimum of one-hour-rated fire-resistive construction, heavy timber, log wall construction or constructed with noncombustible materials on the exterior side.**

Staff: The applicant states, “The proposed lattice tower is considered the primary use and structure onsite and will not burn.” Staff concurs that the tower will be the primary use and structure. The applicant states the equipment building, “has concrete sides and roof and meets the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction standards. *This standard is met*

(8) When a detached accessory structure is proposed to be located so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches of the ground, with exterior wall construction in accordance with Section 504.5 of the International Fire Code Institute Urban– Wildland Interface Code Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, or underfloor protection in accordance with Section 504.6 of that same publication.

Staff: None of the proposed structures will be located over descending slope surface greater than 10 percent. *This criterion is not applicable.*

4. COMMUNITY SERVICE CONDITIONAL USE

4.1. Radio Transmission Tower Community Service Use

MCC 35.2030(B)(11): Radio and television transmission towers subject to the definitions, restrictions and standards in MCC 35.6010, 35.6015 (A) (8) and 35.6100 through 35.6130 and wireless communications facilities when found to satisfy the requirements of MCC 35.6175 through 35.6188.

Staff: The applicant is proposing a new microwave tower. Microwave is a type of radio wave transmission. It will be used for Portland Water Bureau communication and data transfer related to the management of the Water Bureau Bull Run facilities and for the management of the Bull Run Watershed Management Unit. The Findings for MCC 35.6010, 35.6015 (A)(8) and 35.6100 through 35.6130 follow in this Section 4 of the staff report. Wireless communications facilities sections are related to cellular towers, not microwave radio towers, thus MCC 35.6175 through 35.6188 do not need to be addressed. *The applicable standards are met.*

4.2. Community Service Approval Criteria

MCC 35.6010 In approving a Community Service use, the approval authority shall find that the proposal meets the following approval criteria, except for transmission towers, which shall meet the approval criteria of MCC 35.6100 through 35.6125.

Staff: Findings for MCC 35.6100 through 35.6125 follow. *These standards are met*

4.3. Community Service Uses

MCC 35.6015 (A) Except as otherwise limited in the EFU, CFU and OR districts, the following Community Service Uses and those of a similar nature, may be permitted in any district when approved at a public hearing by the approval authority. Allowed Community Service Uses in the EFU, CFU and OR districts are limited to those uses listed in each respective district.

(8) Radio and television transmission towers.

- (a) VHF and UHF television towers, FM radio towers, two-way radio, common carrier, and cellular telephone towers, and fixed point microwave towers are permitted in any district,**

Staff: The property is in the CFU District thus it must meet the standards listed under Subsection 4.1 (above) of this staff report. *This standard is met.*

4.4. Application Requirements

MCC 35.6110 An application for approval of a Community Service designation for a radio or television transmission tower shall contain at least the following information before it is complete:

- 4.4.1. (A) Site plan or plans to scale specifying the location of towers(s), guy anchors (if any), transmission building and/or other accessory uses, access, parking, fences, landscaped areas, and adjacent land uses. Such plan shall also demonstrate compliance with MCC 35.6115 (I) and 35.6115 (J).**

Staff: The submitted plans show the necessary items Exhibit A.2 through Exhibit A.10. The plan demonstrates compliance with MCC 35.6115(I) and 35.6115(J) [see Subsection 4.5 of this staff report]. *These standards are met.*

- 4.4.2. (B) Landscape plan to the scale indicating size, spacing and type of plantings required in 35.6115 (B).**

Staff: The site is surrounded by forested land which screens the tower area from the public view. *No landscape plan is needed.*

- 4.4.3. (C) Report from a professional engineer licensed in the State of Oregon, documenting the following:**

- (1) Tower height and design, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design. A cross-section of the tower structure shall be included.**
- (2) Total anticipated capacity of the structure, including number and types of antennas which can be accommodated.**
- (3) Evidence of structural integrity of the tower structure as required by the Building Official.**
- (4) Failure characteristics of the tower and demonstration that site and setbacks are of adequate size to contain debris.**
- (5) Ice hazards and mitigation measures which have been employed, including increased setbacks and/or deicing equipment.**

Staff: The application includes a set of engineered plans and a report by a professional engineer licensed in the State of Oregon, Jeffery E Garassman, PE. The application addresses these items in Exhibit A.2, Exhibit A.3 p34, Exhibit A.3 Appendix F p87-106 and Exhibit A.3 Appendix G p107-116.

A condition of approval can require that building permit is obtained and inspection completed to meet the standard that evidence of structural integrity of the tower structure as required by the Building Official. The thirty-foot setback should be sufficient to contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS (adjacent property owner is USFS), signed the submitted "Property Owner Consent of Variance Request" form for a variance to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *The proposal meets these standards through implementing the recommended condition of approval.*

4.4.4. (D) Statements from the F.A.A, O.S.A.D., and F.C.C., that the standards of MCC 35.6115 (G) are met or the required good faith, timely effort it achieve such responses.

Staff: These statements are included as Exhibit A.3 Appendix D p.76, Exhibit A.5 and Exhibit A.6. *This standard is met.*

4.4.5. (E) Written authorization from adjoining property owners, if needed, under MCC 35.6115 (J).

Staff: The tower is not a guy wired tower as covered in MCC 35.6115(J). *Standard not applicable.*

4.4.6. (F) Responses to the applicable Comprehensive Plan Policies.

Staff: The applicable Comprehensive Plan Policies require a Septic Review Certification to determine there is no impacts as stated on Exhibit A.12. Comprehensive Plan Policies also requires a Fire District Review of the proposed development (Exhibit A3 Appendix D p.79,). *These standards are met.*

4.5. Approval Criteria for New Transmission Towers

MCC 35.6115 New transmission towers in rural districts permitted under MCC 35.6015 (A) (8) (a) or (b) may be allowed, based on findings by the approval authority that the following criteria are met.

- 4.5.1. (A) The site is of a size and shape sufficient to provide the following setbacks:**
- (1) For a tower located on a lot abutting an urban residential district or a public property or street, except a building-mounted tower, the site size standards of MCC 35.6115 (I) and 35.6115 (J) are met as to those portions of the property abutting the residential or public uses.**
 - (2) For all other towers, the site shall be of sufficient size to provide the setback required in the underlying district between the base of the tower, accessory structures and uses, and guy anchors, if any, to all abutting property lines.**

Staff: The proposed tower is on a parcel that abuts public property (USFS) and a USFS road. See finding MCC 35.6115 (I) below, MCC 35.6115 (J) is not applicable because there are no guy-wires. *These standards are addressed later as noted or are not applicable.*

4.5.2. (B) The required setbacks shall be improved to meet the following landscaping standards to the extent possible within the area provided:

- (1) Landscaping at the perimeter of the property which abuts streets, residences, public parks or areas with access to the general public other than the owner of such adjoining property. Such landscaping plan shall demonstrate the following:**
- (a) For towers 200 feet tall or less, a buffer area no less than 25 feet wide shall commence at the property line. At least one row of evergreen shrubs shall be spaced not more than five feet apart. Materials should be of a variety which can be expected to grow to form a continuous hedge at least five feet in height within two years of planting. At least one row of evergreen trees or shrubs, not less than four feet height at the time of planting, and spaced not more than 15 feet apart, also shall be provided. Trees and shrubs in the vicinity of guy wires shall be of a kind that would not exceed 20 feet in height or would not affect the stability of the guys, should they be uprooted, and shall not obscure visibility of the anchor from the transmission building or security facilities and staff.**
- * * *
- (c) In lieu of these standards, the approval authority may allow use of an alternate detailed plan and specifications for landscape and screening, including plantings, fences, walls and other features designed to screen and buffer towers and accessory uses. The plan shall accomplish the same degree of screening achieved in (a) and (b) above, except as lesser requirements are desirable for adequate visibility for security purposes and for continued operation of existing bona fide agricultural or forest uses, including but not limited to produce farms, nurseries, and tree farms.**

Staff: The application requests a Variance to the forest practices setbacks and an Exception to the secondary fire safety zones. The 30-foot setback is also the Primary Fire Safety Zone which limits vegetation. The subject property and the adjacent property are both in the Bull Run Watershed Management Unit and are managed together with miles of other properties. The adjacent property provides acreage of dense screening vegetation. *The proposal meets these standards through the Bull Run Watershed Management Unit.*

- 4.5.3. (C) The applicant shall demonstrate that the tower can be expected to have the least visual impact on the environment, taking into consideration technical, engineering, economic and other pertinent factors. Towers clustered at the same site shall be of similar height and design, whenever possible. Towers shall be painted and lighted as follows:**
- (1) Towers 200 feet or less in height shall have a galvanized finish or be painted silver. If there is heavy vegetation in the immediate area, such towers shall be painted green from base to treeline, with the remainder painted silver or given a galvanized finish.**
- (2) Towers more than 200 feet in height shall be painted in accordance with regulations of the Oregon State Aeronautics Division.**
- (3) Towers shall be illuminated as required by the Oregon State Aeronautics Division. However, no lighting shall be incorporated if not required by the Aeronautics Division or other responsible agency.**
- (4) Towers shall be the minimum height necessary to provide parity with existing similar tower supported antenna, and shall be freestanding where the negative visual effect is less than would be created by use of a guyed tower.**

Staff: The proposed tower is 195 feet in height. The tower is designed to be the minimum needed height. A condition of approval can require the following:

- (1) The proposed tower is less than 200 feet in height. There is heavy vegetation in the area, thus must be painted green to top of tree line.
- (2) Does not apply 195 feet tall less than 200.
- (3) The tower shall be illuminated if required by the Oregon State Aeronautics Division, however the letter from the Aeronautics Division (Exhibit A.6) does not require lighting. No lighting shall be incorporated if not required by the Aeronautics Division or other responsible agency.
- (4) The 195 feet is minimum necessary for the microwave dish to be above the tree line and to have line-of-sight to the other towers it will receive and send communication to and from.

The proposal meets these standards through implementing recommended condition of approval.

4.5.4. (D) A minimum of two parking spaces shall be provided on each site; an additional parking space for each two employees shall be provided at facilities which require on-site personnel, provided additional parking may be required in accordance with MCC 35.4100 to 35.4220 if the site serves multiple purposes.

Staff: The site has two proposed parking spaces. *This standard is met.*

4.5.5. (E) The applicable policies of the Comprehensive Plan are met.

Staff: Findings for the applicable policies of the Comprehensive Plan are made previously in Sub-section 4.4 (F) of this staff report. *This standard is met.*

4.5.6. (F) The NIER standards of MCC 35.6125 are met.

Staff: Findings for the NIER standards of MCC 35.6125 are made in Section 4.7 (below) of this staff report. *This standard is met.*

4.5.7. (G) The following agency coordination standards are met:

- (1) **A written statement provided by the applicant from the appropriate official in the Federal Aviation Administration that the application has not been found to be a hazard to air navigation under Part 77, Federal Aviation Regulations, or a statement that no compliance with Part 77 is required;**
- (2) **A written statement provided by the applicant from the appropriate official in the Oregon State Aeronautics Division that the application has been found to comply with the applicable regulations of the Division, or a statement that no such compliance is required; and,**
- (3) **A written statement provided by the applicant from the appropriate official in the Federal Communications Commission that the application complies with the regulations of the Commission or a statement that no such compliance is necessary.**
- (4) **The statements in (1) through (3) may be waived when the applicant demonstrates that a good faith, timely effort was made to obtain such responses but that no such response was forthcoming, provided the applicant conveys any response received; and further provided any subsequent response that is received is conveyed to the approval authority as soon as possible.**

Staff: The applicant has submitted the required statements which are included as Exhibits A.5 and A.6 *This standard is met.*

4.5.8. (H) For a proposed tower in the EFU, CFU and MUA-20 districts, the following restrictions on accessory uses shall be met:

- (1) Accessory uses shall include only such buildings and facilities necessary for transmission function and satellite ground stations associated with them, but shall not include broadcast studios, offices, vehicle storage areas, nor other similar uses not necessary for the transmission function.**
- (2) Accessory uses may include studio facilities for emergency broadcast purposes or for other special, limited purposes found by the approval authority not to create significant additional impacts nor to require construction of additional buildings or facilities exceeding 25 percent of the floor area of other permitted buildings.**

Staff: The proposed tower is located in the CFU district. Equipment necessary for tower operation will be placed in a building adjacent to the tower. No other building is proposed. Broadcast studios, offices, vehicle storage areas, nor are other similar uses proposed. *This standard is met.*

4.5.9. (I) Site size and tower setbacks:

- (1) The site shall be of a size and shape sufficient to provide an adequate setback from the base of the tower to any property line abutting an urban residential district, public property, or public street. Such setback shall be sufficient to:**
 - (a) Provide for an adequate vegetative, topographic or other buffer, as provided in MCC 35.6115 (C) and 35.6115 (B),**
 - (b) Preserve the privacy of adjoining residential property,**
 - (c) Protect adjoining property from the potential impact of tower failure and ice falling from the tower by being large enough to accommodate such failure and ice on the site, based on the engineer's analysis required in MCC 35.6110 (C) (4) and (5), and**
 - (d) Protect the public from NIER in excess of the standard of MCC 35.6125 (A).**
- (2) A site is presumed to be of sufficient size when it:**
 - (a) Meets the requirements of (1) (c) and (d) above,**
 - (b) Provides a setback equal to 20 percent of the height of the tower to any property line abutting an urban residential district, public property, or public street, and**
 - (c) Provides a setback equal to or exceeding the rear yard setback required for the adjoining property where the adjoining property is not in an urban residential district nor a public property or a public street.**
- (3) Placement of more than one tower on a lot shall be permitted, provided all setback, design and landscape requirements are met as to each tower. Structures may be located as close to each other as technically feasible, provided tower failure characteristics of the towers on the site described in MCC 35.6110 (C) (4) will not lead to multiple failures in the event that one fails.**
- (4) Structures and uses associated with the transmission use other than the transmission tower shall be located to meet the setbacks required in MCC 35.6020.**

Staff: The adjacent property is owned by the US Forest Service and is managed along with the subject property by the Bull Run Watershed Management Unit as forestlands. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted "Property Owner Consent of Variance Request" form for a variance request to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *These standards are met.*

5.5.10 (J) Guy setbacks:

- (1) For a guyed structure, the site shall be of a size and shape sufficient to provide an adequate setback from a guy anchor to any property line abutting an urban residential district, public property or public street in addition to the size required to comply with 35.6115 (I). Such setback shall be adequate to provide a vegetative, topographic or other buffer sufficient to obscure view to the anchor from such adjoining properties.**
- (2) A site is presumed to be of sufficient size when it provides:**
 - (a) A setback of at least 25 feet between a guy anchor and any property line abutting an urban residential district or public property or street, and**
 - (b) A setback equal to or exceeding the rear yard setback required for the adjoining property where the adjoining property is not a public property or street nor in an urban residential district.**
- (3) A guy anchor may be located on an adjoining property when:**
 - (a) The owner of the adjoining property on which it is to be placed authorizes it in writing, and**
 - (b) The guy anchor meets the requirements of (1) or (2) above as to all other adjoining property lines.**
- (4) Guy anchors may be located within required landscape areas.**
- (5) A guy from a tower which was previously approved under any ordinance may be extended to an adjacent site if the guy anchor will comply with MCC 35.6115 (J) (3) as determined by the Planning Director.**

Staff: No guy wire are proposed. *This standard is not applicable.*

4.6. Design Review

MCC 35.6120 The use shall comply with the design review provisions of MCC 35.7000 to 35.7060. This may be implemented as a condition of approval.

Staff: Findings for design review provisions of MCC 35.7000 to 35.7060 are in Sections 5 and 6 of this staff report. *This standard is met.*

4.7. Radiation Standards

Non-ionizing electromagnetic radiation standards.

Staff: The applicant addresses the non-ionizing electromagnetic radiation in Exhibit A.3 (Appendix G pages 107 to 116).

4.7.1 MCC 35.6125 (A) No source of non-ionizing electromagnetic radiation shall hereinafter be operating, which causes the general population to be exposed to radiation levels exceeding the mean squared electric (E²) or mean squared magnetic (H²) field strengths, or their equivalent plan wave free space power density, as specified in Table 1.

- (1) For near field exposures, measurements of the mean squared electric and magnetic field strengths are especially important to determine compliance with the standards in columns 2 and 3 of Table 1. For convenience, mean squared electric or magnetic field strengths may be specified as the equivalent plane-wave power density. At higher frequencies (e.g., above 30-300 MHz), measurement of mean-squared**

magnetic field strength may not be necessary if it can be reliably inferred from measurements of either mean squared electric field strength or equivalent plane-wave power density.

- (2) In the event the federal government promulgates mandatory or advisory standards more stringent than those described herein, the more stringent standards shall apply.
- (3) These standards are adapted from the American National Standards Institute's American National Standard C95.1-1982, Safety Levels with Respect to Human Exposure to Electromagnetic Fields (300 kHz to 100 GHz). This ANSI standard's documentation should be consulted to help resolve any future questions about the basis or interpretation of the standards in this section.
- (4) Similarly, the latest revision of ANSI's American National Standards Institute's American National Standard C95.3, Techniques and Instrumentation for the Measurement of Potentially Hazardous Electro-magnetic Radiation at Microwave Frequencies, is incorporated here by reference as one source of acceptable methods for measuring non-ionizing radiation levels in determining compliance with this standard.
 - (a) For all measurements made to ensure compliance with this section, evidence shall be submitted showing that the instrument or instruments used were calibrated within the manufacturer's suggested periodic calibration interval; that the calibration is by methods traceable to the National Bureau of Standards; a statement that the measurements were made in accordance with good engineering practice; and a statement or statements as to the accuracy of the results of the measurements.
- (5) The standards adopted herein shall be periodically reviewed by the Multnomah County Health Officer, in light of any new scientific knowledge as to the effects on the general population of non-ionizing electro-magnetic radiation; and these standards may hereafter be raised, lowered or otherwise changed as the County shall require by amendment of this section. The first such reports shall be delivered on or before January 1, 1984.
- (6) For average times less than 0.5 hour, the allowed power density P in $\mu\text{w}/\text{cm}^2$ as a function of averaging time (in hours is given by $P = k/(\text{ where in turn } K \text{ is equal to } 1/2 \text{ times the allowed power density for averaging times of } 0.5 \text{ hour and greater.}$

Staff: The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G in which Smyth states, "The prediction for worst-case general population NIER exposure at 1.5 meters (4.92126 feet) above ground-level is well below the limits defined in the Multnomah County Code MCC35.6125 and is shown in the blue section of Table 1" referring to the Table in Exhibit A.3, Appendix G, Page 107. Smyth further addresses installation standards, "All Transmitting antennas shall be installed in a manner as set forth by the manufacturer and by Federal Communications Commission (FCC) OET Bulletin 65 as meeting the current American National Institute (ANSI) C95.1 standard and Multnomah County MCC 35.6125 standard for nonionizing electromagnetic radiation (NIER)." A condition can require that the tower be maintained to meet the standards in this code for NIER. *Staff recommends a condition of approval that the facility be maintained in a manner that continues to meet the standards in this code for NIER.*

- 4.7.2. (B) All existing sources of non-ionizing electro-magnetic radiation in the frequency spectrum, 100 kHz to 300 GHz, except those exempted be-low, are within 120 days of the enactment of this section, hereby required to register with the County and provide the**

following information for each individual source on forms provided by the Planning Director.

- (1) Name and address of owner of transmitter and/or antenna.
- (2) Name and address of owner of property on which the transmitter and/or antenna is located.
- (3) Location of transmitter.
- (4) Location of antenna by geographic coordinates by either latitude and longitude or state plane coordinates.
- (5) Output frequency of transmitter.
- (6) Type of modulation and class of service.
- (7) Power output of transmitter (average and peak).
- (8) Power input to antenna.
- (9) Manufacturer, type, manufacturer's model number of antenna and a copy of the antenna radiation patterns.
- (10) Gain of antenna with respect to an isotopic radiator.
- (11) Polarization of radiation from antenna.
- (12) Height of antenna above ground.
- (13) Horizontal and radial distance of antenna to nearest point on property line and to nearest habitable space regularly occupied by others than immediate family or employees of transmitter and/or antenna owner and/or operator.
- (14) Elevation above mean sea level of ground at the antenna location and the points specified in (B)(13).
- (15) The call letters assigned to the source.
- (16) Date of installation of present transmitter, and date of installation of the associated antenna, date of installation of the structure, if any, on which the antenna is located.
- (17) Any sources not so registered shall be regarded as a new source and any registered source with different essential technical characteristics than those of (B) (3) through (B) (13) above as a changed existing source.

Staff: This standard is not applicable. It was required for existing sources of non-ionizing electromagnetic source to registered with the County with 120 days. The information is also required for new proposed sources per Subsection D below (Section 4.7.3 of this staff report). The information has been provided in the submittal.

- 4.7.2. MCC 35.6125 (C) After August 19, 1982, no installation of a new source of non-ionizing electromagnetic radiation or changes in an existing source which in any way causes increases in the NIER or radiation pattern of the NIER source shall occur without first obtaining a Community Service use designation or modification thereof, unless otherwise provided herein.**

Staff: This request is a Community Service Use. *This standard is met.*

- 4.7.3. MCC 35.6125 (D) The application for the use shall be on forms provided by the Planning Director, and shall show:**
- (1) The information required under (1) through (16) of subpart (B) above.

Staff: The application form is included as Exhibit A.1. The application submittal includes the required information under (1) through (16) of subpart (B) above in the application submittal. *This standard is met.*

- (2) **The measured existing nonionizing radiation levels at the nearest point on the property lines of the predicted maximum radiation from the source, and the nearest point regularly occupied by other than the immediate family and/or employees of the transmitter owner and/or operator.**
- (a) **These measurements shall be made at a height of 1.5 meters above the ground or at the greater height if habitation occurs at a greater height with lesser radial distance to the source.**
 - (b) **If the measured level is equal to or less than 1/5 of the limits, the measurement shall be made for the continuous period 6 a.m., to 6 p.m., on a regular business day.**
 - (c) **If the measured level is greater than 1/5 of the limits, the measurement shall be made for a continuous period of 168 hours.**
 - (d) **If there exists an operational situation which would cause higher levels to occur at some other time than the intervals of (b) or (c) above, the measurement shall be made during that time.**
 - (e) **These measurements may be made by whatever means the registered professional engineer under whose direction and supervision they are made deems appropriate. The effects of contributing sources of frequency below the lower frequency limit of broadband instruments may be appropriate separate single instant measurements of the contribution due to these sources. Further, levels below 20 microwatts/cm² or the minimum sensitivity of the instruments used, whichever is lesser, shall be deemed zero for further computational purposes.**

Staff: See finding in Section 4.7.1 above and Exhibit A.3, Appendix G. There is no existing transmitter at the site. *This standard is met.*

- (3) **The calculated average levels at the three points specified in (D) (2) after installation of the new source, including both the background and the new source.**
- (4) **The calculated levels at the boundaries of other sources at which the new source may cause a detectable increase in level.**
- (5) **The calculated level at the predicted point of maximum radiation off of the property on which the new source is located caused by the new source along with the measured background NIER at this point. This measurement shall meet the requirements of (D) (2).**
- (6) **The geographic coordinates (latitude and longitude or state plane coordinates) of each point of measurement and/or calculation shall be furnished.**

Staff: An Oregon State Registered Engineer will need to confirm that these code subsections are met, that background levels have been documented. The Engineer will need to take a background reading before the proposed facility is operated and then readings afterward. A condition of approval can require the tower to continue to meet the standards. *This standard can be met through a condition of approval.*

4.7.4. MCC 35.6125 (E) A Community Service use designation or modification thereof may be granted if the levels calculated in MCC 35.6125 (D), including the existing measured background, do not exceed the limits set forth in MCC 35.6125 (A), and if a new tower is required, the siting standards of this section are met. However, if the calculated levels, including existing measured background at any point specified in MCC 35.6125 (D) exceed

one-third of the maximum levels of MCC 35.6125 (A), then, the approval shall be conditional upon measurements made after the new source is installed showing that the maximum levels of MCC 35.6125 (A) are not exceeded. If the calculated levels exceed the maximum level of MCC 35.6125 (A), the application shall be denied.

Staff: The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G which confirms that this code subsection is met. A condition of approval can require the applicant to submit a statement from a register engineer that this subsection is met. *This standard is met.*

MCC 35.6125 (F) All commercial intermittent sole source emitters of less than 1 KW average output are exempt from the measurement requirements of MCC 35.6125 (D) if they comply with the separation requirement of MCC 35.6125 (F) and all other requirements of this section. Prior to issuance of a building permit for a tower to support an antenna associated with one of these uses, the Planning Director shall determine that the antenna meets the following requirements:

- (1) For an effective radiated power (ERP) of less than 100 watts the highest current point of the antenna is located at least ten feet and all portions of the antenna three feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.**
- (2) For an ERP greater than 100 watts, but less than 1,000 watts, the highest current point of the antenna is at least 15 feet and all portions of the antenna at least six feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.**
- (3) For an ERP equal to or greater than 1,000 watts, but less than 10 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.**

Frequency	Minimum Distance from Highest Current Portion	Minimum Distance from Any Portion
<7 MHz	11 feet	5 feet
7 - 30 MHz	$f/0.67$ feet	$f/1.5$ feet
30 - 300 MHz	45 feet	20 feet
300 -1500 MHz	$780 / \sqrt{f}$ feet	$364 / \sqrt{f}$ feet
>1500 MHz	20 feet	10 feet
Where f is frequency in megahertz.		

- (4) For an ERP equal to or greater than 10 kW, but less than 30 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source, and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.

Frequency	Minimum Distance from Highest Current Portion	Minimum Distance from Any Portion
<7 MHz	17.5 feet	8 feet
7 - 30 MHz	$f/0.4$ feet	$f/0.91$ feet
30 - 300 MHz	75 feet	33 feet
300 -1500 MHz	$1300 / \square f$ feet	$572 / \square f$ feet
>1500 MHz	34 feet	15 feet

Staff: The applicant states the new microwave dish is not exempt. The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G in which Smyth has provided this information and included a statement that the code is met. These standards are met.

5. VARIANCE APPROVAL CRITERIA

5.1. Purpose

5.1.1. MCC 35.7601 (A) The regulations of this Zoning Code Chapter are designed to implement the Policies of the Comprehensive Framework Plan and each Rural Area Plan. However, it is also recognized that because of the diversity of lands and properties found in the county there should be a zoning provision that permits justifiable departures from certain Zoning Code dimensional standards where literal application of the regulation would result in excessive difficulties or unnecessary hardship on the property owner.

MCC 35.7601 (B) To address those situations, modification of the dimensional standards given in MCC 35.7606 may be permitted if the approval authority finds that the applicant has satisfactorily addressed and met the respective approval criteria in MCC 35.7611, Adjustments, or 35.7616, Variances. If an Adjustment or Variance request is approved, the approval authority may attach conditions to the decision to mitigate adverse impacts which might result from the approval.

Staff: The application request includes two Variances requests. The first Variance request is to reduce forest practices setback of 130 feet to 30 feet along the east property line. Forest setbacks are measured to the property line even if the adjacent property is owned or managed by the same party (on the other hand fire safety zones are measured to the same ownership tract).

The second Variance request is for a tower siting standard under MCC 35.6115 (I)(2)(b) to reduce the required setback from the east property line from 20 percent of the proposed tower height or 39 feet to 30 feet.

- 5.1.2. MCC 35.7601 (D) The Variance review process differs from the Adjustment review by providing a mechanism by which a greater variation from the standard than 40 percent may be approved for certain zoning dimensional requirements. The Variance approval criteria are based upon the traditional variance concepts that are directed towards consideration of circumstances or conditions on a subject property that do not apply generally to other properties in the same vicinity.**

Staff: The applicant is requesting a reduction of the forest practices setback reduction of greater than 40 percent which is a Variance review.

5.2. Scope

MCC 35.7606 (A) Dimensional standards that may be modified under an Adjustment review (modified no more than 40 percent) are yards, setbacks, forest practices setbacks, buffers, minimum front lot line length, flag lot pole width, cul-de-sac length, cul-de-sac turnaround radius, and dimensions of a private street, except the following:

* * *

- (3) Reduction of yards/setback/buffer/resource protection setback requirements within the Large Fills, Mineral Extraction, and Radio and Television Transmission Towers Code Sections and any increase to the maximum building height shall only be reviewed as Variances;**

Staff: The applicant's second Variance request is for a tower siting standard under MCC 35.6115 (I)(2)(b) to reduce the required setback from the east property line from 20 percent of the proposed tower height or 39 feet to 30 feet. Under MCC 35.7606(A)(3) reductions of setbacks required by the radio tower code sections are reviewed as a Variance not an Adjustment.

MCC 35.7606 (B) Dimensional standards that may be modified under a Variance review are yards, setbacks, forest practices setbacks, buffers, minimum front lot line length, building height, sign height, flag lot pole width, cul-de-sac length, cul-de-sac turnaround radius, and dimensions of a private street, except the following:

- (1) Reduction of resource protection setback requirements within the Significant Environmental Concern (SEC) and Willamette River Greenway (WRG) overlay districts; and**
(2) Modification of fire safety zone standards given in Commercial Forest Use districts; and

Staff: The applicant is requesting a reduction of the forest practices setback reduction of greater than 40 percent which is a Variance review. The secondary fire safety zone modification cannot be modified under Adjustment or Variance review (see Sections 3.2.4 and 3.5.1 of this staff report for findings regarding the reduction of the secondary fire safety zone through an Exception).

5.3. Variance Approval Criteria

The Approval Authority may permit and authorize a variance from the dimensional standards given in MCC 35.7606 upon finding that all the following standards in (A) through (F) are met:

5.3.1. MCC 35.7616 (A) A circumstance or condition applies to the property or to the intended use that does not apply generally to other property in the same vicinity or zoning district. The circumstance or condition may relate to:

- (1) The size, shape, natural features and topography of the property, or**
- (2) The location or size of existing physical improvements on the site, or**
- (3) The nature of the use compared to surrounding uses, or**
- (4) The zoning requirement would substantially restrict the use of the subject property to a greater degree than it restricts other properties in the vicinity or district, or**
- (5) A circumstance or condition that was not anticipated at the time the Code requirement was adopted.**
- (6) The list of examples in (1) through (5) above shall not limit the consideration of other circumstances or conditions in the application of these approval criteria.**

Staff: The proposed site is at the top of a rounded ridge with a shallow slope (see applicant's description in Exhibit A.3, Pages 49 - 51). Due to the topographic elevation of the site it is a unique site for placement of the proposed tower. The site's elevation allows the 195-foot tower height to provide a line-of-site for communication with the other towers. The proposed site is ideal due to its height and being a relatively flat in the area for building the tower. The shallow slope surrounding the site allows for at least area 30 feet surrounding the site, providing a good primary fire safety zone. To the north, west and south, the topography drops off significantly just beyond the 30-foot primary fire safety zone. To meet the eastern setbacks, the variances are requested for, would push the tower site out over the steep slopes reducing the height of the tower and resulting in a difficult possible unfeasible building site. Such an area would result in a substantially increase area in the required primary fire safety zone which would increase impacts to a large forested area and still increasing the risk of wildfire damage. The proposed site reduces impact on the forest. An additional benefit of the proposed site is that it is located in an area easily accessed via a USFS road and the ground height ideal for the proposed 195-foot tower to provide line-of-site to existing communication facilities. *This criterion is met.*

5.3.2. MCC 35.7616 (B) The circumstance or condition in (A) above that is found to satisfy the approval criteria is not of the applicant's or present property owner's making and does not result solely from personal circumstances of the applicant or property owner. Personal circumstances include, but are not limited to, financial circumstances.

Staff: The circumstances that make this site uniquely ideal are not of the applicant's or present property owner's making. The site provides all the necessary siting standards for the proposed tower. The site is unique in that it provides clear line-of-sight to all the other towers needed for the communication perimeters. There is no other site that can provide the siting perimeters needed. Other sites would be at a lower elevation, require addition road development, tree clearing and would significantly reduce signal transmission in and out of the watershed as well as additional expense. The physical features of the site are existing and are not a self-imposed hardship. *This criterion is met.*

5.3.3. MCC 35.7616 (C) There is practical difficulty or unnecessary hardship to the property owner in the application of the dimensional standard.

Staff: The practical difficulty or unnecessary hardship to the property owner in the application of the dimensional standard would result pushing the tower site onto the steep slope which is not feasible. The practical difficulty or unnecessary hardship of other sites include being at a lower elevation with less efficient communications, require addition road development, tree removal and would significantly reduce signal transmission in and out of the watershed as well as additional expense. There are no other sites in the watershed that meet the needs for the communications necessary to safely manage the Water Bureau facilities or the Bull Run Watershed. Any other location results in a practical difficulty or unnecessary hardship to the property owner. *This criterion is met.*

5.3.4. MCC 35.7616 (D) The authorization of the variance will not be materially detrimental to the public welfare or injurious to property in the vicinity or zoning district in which the property is located, or adversely affects the appropriate development of adjoining properties.

Staff: Authorization of the variance will not be materially detrimental to the public welfare. The site is located in a remote forest location in the Bull Run Watershed. The construction phase will be managed to protect the watershed. The variance will not be injurious to property in the vicinity because these properties are managed together as the Bull Run Watershed Management Unit. The Adjacent property is owned by the USFS. The thirty-foot setback should be sufficient for contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted “Property Owner Consent of Variance Request” form for a variance to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *This criterion is met.*

5.3.5. MCC 35.7616 (E) The Variance requested is the minimum necessary variation from the Code requirement which would alleviate the difficulty.

Staff: The limited amount, the narrowness of shallow sloped area at the top of the ridge on the property forces the proposed tower site to have a setback reduced to 30 feet as the minimum necessary variation from the Code requirement which would alleviate the difficulty. *This criterion is met.*

5.3.6. MCC 35.7616 (F) Any impacts resulting from the variance are mitigated to the extent practical. That mitigation may include, but is not limited to, such considerations as provision for adequate light and privacy to adjoining properties, adequate access, and a design that addresses the site topography, significant vegetation, and drainage.

Staff: The properties are managed together as the Bull Run Watershed Management Unit. The Adjacent property is owned by the USFS. The thirty-foot setback should be sufficient for contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted “Property Owner Consent of Variance Request” form for a variance to the setback. The adjacent area is a forested area thus privacy is not a concern. The 30-foot area around tower will provide adequate light. Adequate access is provided by USFS network of roads. The tower is designed for the topography of the proposed site. The proposed site will minimize the number of trees to be removed for the fire safety zone. The amount of proposed impervious surface is minimal, below the amount the code

require to be engineered. Given the vast forest surrounding there should be no issue with storm water drainage. *This criterion is met.*

6. DESIGN REVIEW CRITERIA

MCC 35.7050 (A) Approval of a final design review plan shall be based on the following criteria:

(1) Relation of Design Review Plan Elements to Environment.

- (a) The elements of the design review plan shall relate harmoniously to the natural environment and existing buildings and structures having a visual relationship with the site.**
- (b) The elements of the design review plan should promote energy conservation and provide protection from adverse climatic conditions, noise, and air pollution.**
- (c) Each element of the design review plan shall effectively, efficiently, and attractively serve its function. The elements shall be on a human scale, interrelated, and shall provide spatial variety and order.**

Staff: The applicant addresses this code section in Exhibit A.3 Pages 44-46. The property is forested in all directions from the proposed tower location except to the east. The property is part of the Bull Run Watershed Management Unit with miles on all sides of the property within the management area. The forest acts as a buffer from all the property lines. Entrance to the watershed is by authorization only, public access is limited. The proposed tower relates harmoniously to the natural environment given the size related to the vastness of the forest.

The tower is an improved design over older towers and other communication facilities being decommissioned which should save energy. The design requires little maintenance, it is designed to operate remotely, and reducing the number of vehicle trips older towers required. The proposed tower is a stronger design to better withstand natural forces. The only noise will be from a propane fueled generator which will be buffered because it is located in the accessory equipment building which will buffer the sounds from the site. There is no power to the site thus propane is needed to power the site which is a relatively clean burning alternative to power the tower.

With the vast forested buffer, site effectively, efficiently, and attractively serve its function. The elements of the site are on a human scale, interrelate and provide spatial variety and order. The site is functional and well screened from public view. *These standards are met.*

(2) Safety and Privacy - The design review plan shall be designed to provide a safe environment, while offering appropriate opportunities for privacy and transitions from public to private spaces.

Staff: The site will have a security fence. The site is quite private due to the being in the Bull Run Watershed with vast forested buffers. *These standards are met.*

(3) Special Needs of Handicapped - Where appropriate, the design review plan shall provide for the special needs of handicapped persons, such as ramps for wheel-chairs and braille signs.

Staff: Accessibility relates to the rest of the development on the site as an employer. Towers are required to have two parking spots with no handicap requirement with enough space to accommodate a handicap employee. *This standard is met.*

- (4) Preservation of Natural Landscape - The landscape and existing grade shall be preserved to the maximum practical degree, considering development constraints and suitability of the landscape or grade to serve their functions. Preserved trees and shrubs shall be protected during construction.**

Staff: The subject property currently is heavily vegetated with a number of large trees along Cottrell and Lusted Roads. The site is an existing cleared area. Given the vast forested buffer of the watershed management area, no addition landscape planting is needed. The existing lack of vegetation in the first 30 feet surrounding the tower, providing a primary fire safety zone, is a good safety measure to prevent damage should there be a wildfire on-site in the future. The watershed is managed to maintain the forest.

- (5) Pedestrian and Vehicular circulation and Parking - The location and number of points of access to the site, the interior circulation patterns, the separations between pedestrians and moving and parked vehicles, and the arrangement of parking areas in relation to buildings and structures, shall be de-signed to maximize safety and convenience and shall be harmonious with proposed and neighboring buildings and structures.**

Staff: The site provides for safe circulation and parking, given there will just be two vehicles maximum on site at one time. *This standard is met.*

- (6) Drainage - Surface drainage and storm-water systems shall be designed so as not to adversely affect neighboring properties or streets. Systems that insure that surface run-off volume after development is no greater than before development shall be provided on the lot.**

Staff: There will be no stormwater drainage resulting from the tower. Stormwater impervious roof surface from the small equipment shed will need to meet the standard of no increased flow off-site for up to a 10 year/24-hour storm. The applicant will need to submit a Storm Water Certification form completed that an Oregon Registered Professional Engineer, prior to issuing building permit sign-off. *This standard is met.*

- (7) Buffering and Screening - Areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking, and similar accessory areas and structures shall be designed, located, buffered or screened to minimize adverse impacts on the site and neighboring properties.**

Staff: The property is forested in all directions from the proposed tower location except to the east. The property is part of the Bull Run Watershed Management Unit with miles on all sides of the property within the management area. The forest acts as a buffer from all the property lines. Entranced to the watershed is by authorization only, public access is limited. The property is forested in all directions from the proposed tower location. The closest point that the general public (without permission) has access is miles away. *This standard is met.*

(8) Utilities - All utility installations above ground shall be located so as to minimize adverse impacts on the site and neighboring properties.

Staff: There are no utilities proposed. *This standard has been met.*

(9) Signs and Graphics - The location, texture, lighting, movement, and materials of all exterior signs, graphics or other informational or directional features shall be compatible with the other elements of the design review plan and surrounding properties.

Staff: No signage or graphics are proposed. *This standard is not applicable.*

7. DARK SKY LIGHTING STANDARDS

MCC 35.0570(C): The following standards apply to all new exterior lighting supporting a new, modified, altered, expanded, or replaced use approved through a development permit and to all existing exterior lighting on property that is the subject of a development permit approval for enlargement of a building by more than 400 square feet of ground coverage.

- (1) The light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. "Fully shielded" means no light is emitted above the horizontal plane located at the lowest point of the fixture's shielding. Shielding must be permanently attached.**
- (2) The lighting must be contained within the boundaries of the Lot of Record on which it is located. To satisfy this standard, shielding in addition to the shielding required in paragraph (C)(1) of this section may be required.**

Staff: A condition of approval can require any lighting related to the tower the light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. These requirements are exempted for lighting required by a federal, state, or local law or rule, when such lighting cannot comply with both the law or rule and these standards in paragraph (C) of this section. Lighting required by the FAA is exempt from these standards. *This standard will be met through the building permit zoning review plans signoff.*

Based on the above-adopted findings, the application is approved with conditions.

Dan R. Olsen

Dan. R. Olsen
Hearings Officer
Date: June 12, 2018

This decision may be appealed to the Land Use Board of Appeals within 21 days of the date of mailing as provided in MCC 37.0540 and the Oregon Revised Statutes.

- 'A' Applicant's Exhibits
- 'B' Staff Exhibits
- 'C' Procedural Exhibits

Exhibit #	# of Pages	Description of Exhibit	Date Received/ Submitted
A.1	1	Application Form	3/30/18
A.2	2	Site Maps	3/30/18
A.3	128	Narrative Addressing Code and Appendix	3/30/18
A.4	3	Tower Details and Elevation Drawings	3/30/18
A.5	3	Federal Aviation Administration (FAA) letter of Determination of No Hazard to Air Navigation dated 4/19/2018	4/19/18
A.6	1	Oregon Department of Aviation addressing the tower dated March 27, 2018	4/19/18
A.7	8	Revised Narrative	4/20/18
A.8	1	Email from Portland Water Bureau staff	4/23/18
A.9	1	Property Owners Consent of Variance Request signed by Jim DeMaagd, Forest Supervisor, Mt. Hood National Forest	4/23/18
A.10	2	Addendum to Narrative addressing Exception to Secondary Fire Safety Zone requirements	4/23/18
'B'	#	Staff Exhibits	Date
B.1	1	County Assessment Property Information	NA
B.2	1	County Assessment Tax Map with Property Highlighted	NA
B.3	1	Map of the Bull Run Watershed	NA
'C'	#	Administration & Procedures	Date
C.1	1	Complete Letter (Day 1)	4/30/18
C.2	4	Notice of Hearing	5/17/18
'D'	#	Comments Received (if needed)	Date
		No Comments Received	
'H'	#	Hearing Exhibits	Date
H.1	1	Hearing Sign-in sheet	6/8/18