



City of Bellevue
Department of Planning & Community Development
Land Use Division Staff Report

Proposal Name: ClearWire @ Bellevue High School

Proposal Address: 10416 SE Wolverine St (at the intersection of 107th Ave SE and SE 10th St)

Proposal Description: Application to replace an existing 60' wood Puget Sound (PSE) utility pole within City of Bellevue right of way with a new 81' glu-laminate wood pole. Three wireless antenna panels and two microwave antennas will be flush mounted at the top of the pole. Associated ground-mounted wireless facility equipment will be located 12' from the pole within the right of way and screened with vegetation. The mechanical equipment box will be 30" in height, 3'6" wide and 2'11" deep. The mechanical box will be painted dark green.

File Number: 06-105993-LA

Planner: Leah Hyatt, Assistant Planner

Applicant: ClearWire

Decisions Included: Administrative Conditional Use Approval (Process II, Land Use Code 20.30E)

State Environmental Policy Act Threshold Determination: Determination of Non-Significance (DNS)
Carol V. Helland
Carol V. Helland, Environmental Coordinator

Director's Decision: Approval with Conditions
Carol V. Helland for
Matthew A. Terry, Director of Planning & Community Development

Notice of Application Date: August 10, 2006
Decision Publication Date: September 6, 2007
Project and SEPA Appeal Deadline: February 20, 2007

For information on how to appeal the project, visit the Permit Center at City Hall or call (425) 452-6864. Appeal of the decision must be received in the City Clerk's office by 5 p.m. on the date noted for the appeal deadline. —

I. Request/Proposal Description

Application to replace an existing 60' wood Puget Sound (PSE) utility pole with a new 81' glu-laminate wood pole. Three wireless antenna panels and two microwave antennas will be flush mounted at the top of the pole. Associated ground-mounted wireless facility equipment will be located 12' from the pole and screened with vegetation. The mechanical equipment box will be 30" in height, 3'6" wide and 2'11" deep. The mechanical box will be painted dark green. Both the antenna and the equipment will be located within the right of way adjacent to 10416 SE Wolverine Way, specifically the rear entrance to Bellevue High School off of 107th Ave SE. Refer to the attached maps and plans for location and project design information. A complete set of plans can be found in the project file at City Hall.

II. Site Description and Context

The proposed site is zoned R-4 (Zoning Map attached) and is adjacent to Bellevue High School and a single family neighborhood zoned R-10, R-4 and R-3.5. An Administrative Conditional Use is required since the pole would exceed the maximum building height of the district. The Land Use Code permits wireless communications facilities to exceed the maximum building height allowed to a maximum 21' height increase, subject to approval of an Administrative Conditional Use (LUC 20.20.195.C).

The subject site for both the antenna is the public right of way adjacent to 10416 SE Wolverine Way.

III. Environmental Impacts of the Proposal

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The attached Environmental Checklist adequately discloses expected environmental impacts associated with the project. The City codes and requirements, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, Building Code and other construction codes adequately mitigate expected environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

IV. Public Comments

The City initially notified the public of this proposal on August 10, 2006 with mailed notice and publication in the *Weekly Permit Bulletin* and King County Journal and a public information sign was installed that same day.

The City received comments regarding this proposal (see attachments) and has summarized the issues below.

Issue: The proposed replacement pole is not compatible with the exiting character of the neighborhood and is over height.

Response: The proposed replacement pole will be 21' taller than the existing utility pole which is the minimum necessary for effective functioning of the providers network (Engineer's Certificate attached).

Issue: The use will be materially detrimental to uses and the property in the immediate vicinity.

Response: The replacement pole will be located on two streets that dead-end on the north side of Bellevue High School along 107th Ave SE within the public right of way. The applicant has specially designed the equipment cabinet to comply with the City of Bellevue's Land Use Code for equipment cabinets located in the right of way. The new pole will be constructed of wood laminate to match as best as possible the existing wood utility poles along 107th Ave SE. The pole height will be the minimum necessary to provide coverage and capacity requirements. The antennas will be flush mounted at the top of the pole. The antennas will be painted to match the replacement pole. The proposed antenna style, attachment method, and paint treatment will result in a facility which meets all applicable code requirements. All associated equipment will be screened from view with shrubs (see plan sheet L01) which will result in increased landscaping.

V. Applicable Decision Criteria / Findings and Conclusions

Compliance with the decision criteria of Land Use Code Section 20.30E.140 is discussed below.

A. The administrative conditional use is consistent with the Comprehensive Plan.

Finding: The proposal is consistent with Bellevue's Comprehensive Plan regarding wireless communications facilities. The Comprehensive Plan policies listed below are especially relevant to the City's decision on this application:

1. UT-40: Require the reasonable screening, and/or architecturally compatible integration of all new above ground facilities.

2. UT-4: Protect Bellevue's aesthetic quality and infrastructure investment from unnecessary degradation caused by the construction of telecommunication infrastructure.
3. UT-43: Encourage consolidation on existing facilities where reasonably feasible and where such consolidation leads to fewer impacts than would construction of separate facilities.
4. UT-53: Require all utility equipment support facilities to be aesthetically compatible with the area in which they are placed by using landscape screening and/or architecturally compatible details and integration.
5. UT-55: Require the placement of personal wireless communication facilities in a manner that minimizes the adverse impacts on adjacent land uses.
6. UT-59: Recognize that personal communication facilities will be deployed in all areas of the City to provide coverage and capacity consistent with the changing use of wireless technology. Minimize the intended impacts, particularly the visual impacts of, personal wireless communication facility towers, lattice towers and structures by utilizing criteria for design and location of such facilities that appropriately balance the need for wireless services and the impacts of the necessary facilities.

ClearWire's proposal is consistent with Bellevue's Comprehensive Plan policies regarding such facilities. ClearWire is proposing to place all conduit inside a glu-laminate pole while the antennas will be flush mounted to the pole and painted to match. The 30" equipment cabinet will be painted green and screened with landscaping. No other co-location opportunities were available other than the utility pole that was chosen. A Verizon monopole over 700' to the NE was considered but would not have been able to provide coverage to much of the coverage gap. The proposed location represents the least impact while still achieving ClearWire's coverage and capacity needs as summarized in criterion E below. See Conditions of Approval in Section VII

B. The design is compatible with and responds to the existing or intended character, appearance, quality of development and physical characteristics of the subject property and immediate vicinity;

Finding: To ensure that the facility is compatible with property in the immediate vicinity, the proposal incorporates the following measures:

1. The new pole will be constructed of wood laminate to match as best as possible the existing wood utility poles along 107th Ave SE. The pole height will be the minimum necessary to provide for effective functioning of the system, as well as meet ClearWires's capacity and coverage requirements for this service area.
2. The antennas will be flush-mounted at the top of the pole. The antennas will be painted to match the replacement pole. The proposed antenna style, attachments method, and paint treatment result in a facility which is as low-profile in appearance as possible.
3. The equipment will be screened from view with shrubs. In order to provide compatibility with the adjacent groundcover, the applicant shall install salal around the new shrubs.

C. The administrative conditional use will be served by adequate public facilities including streets, fire protection, and utilities.

Finding: ClearWire's proposal is consistent with this decision criteria. The replacement pole and associated equipment will be located within the public right of way which is served by public facilities including streets, fire protection, and utilities.

D. The administrative conditional use will not be materially detrimental to uses or property in the immediate vicinity of the subject property; and

Finding: ClearWire's proposal is consistent with this decision criteria. Significant measures were taken to ensure that the proposed design is not materially detrimental to uses or property in the immediate vicinity of the subject property. Specially, ClearWire specially designed the equipment cabinet to comply with the City of Bellevue's Land Use Code as it pertains to equipment cabinets located within the public right of way. Since the proposed facility is located adjacent to the south side of Bellevue High School very little car or pedestrian traffic is expected.

E. The administrative conditional use complies with the applicable requirements for a wireless communication facility as provided by the Land Use Code (20.20.195), including location and design preferences.

Finding: ClearWire's proposal is consistent with this decision criteria. The proposal meets all specific Land Use Code requirements applicable to non-exempt wireless communication facilities per Land Use Code 20.20.195B, D 1-9 as summarized below:

1. **Height:** The pole height will be increased by 21' (i.e. from the existing 60' to 81'). Although the proposed pole height exceeds the maximum height allowed within a residential district it is within the maximum allowed for non-exempt WCF in a residential land use district. The additional height is the minimum necessary for effective functioning of the provider's network, as certified by the provider's licensed engineer.

2. **WCF Location and Design**

a. **Preferred Location (LUC 20.20.195.D.2.a):** The proposal is located within the R-4 single-family zoning district, which is the fourth location preference (least preferred) out of four location preferences according to the siting criteria of LUC 20.20.195.D.20.a. However, while non-residential property would be a preferred location, no such option exists given the coverage requirements for this application which is entirely within a single-family residential area. An additional difficulty is the fact that the majority of the coverage gap is on a ridge above commercial areas (see below) while the ridge is zoned entirely residential.



A monopole (Verizon) is located on the property of Bellevue High School approximately 700' away; the school declined to lease any of their property for Clearwire's equipment cabinet

and the pole is not tall enough to reach the houses south of Bellevue High School. This monopole does not work from a coverage perspective.

The applicant's engineer has certified that this location is necessary to meet Clearwire's coverage and capacity needs for this area. No other residential sites were considered since this site seemed like the best option available within the search ring. There are no drive test maps since the wireless broadband internet service is targeted for homes, not cellular phone use on the roadway.

- b. Preferred System Design (LUC 20.20.195D.2.b):** The requirements for wireless communication facilities encourage co-locating on existing facilities versus building new monopoles. This proposal is consistent with this intent since it is a co-location on an existing PSE pole. The proposal represents the second most preferred system design alternative (co-located on utility poles, light standards and signal supports) under LUC 20.20.195D.2.b.

Clearwire's engineer has certified that the mechanical equipment is the minimum size necessary to support operation of the facility.

- c. Minimizing Adverse Impacts LUC 20.20.195D.2.c):** Application of the location and design hierarchies as described above results in a proposal that minimizes the adverse impacts of the facility, considering the search ring as a whole. In addition, the applicant has provided a letter from the radio frequency engineer that states that the facility complies with Radio Frequency Emission Guidelines set forth by the Federal Communications Commission (letter attached).
- 3. Dispersal Limits:** Wireless communication facilities (WCF) proposed within the public right-of-way and within 520' of another WCF in the public right-of-way or on city-owned property require full Conditional Use approval. However, there are no other wireless facilities within the public right-of-way within 520' of the proposed location.
- 4. Development Standards:** An accessory ground-mounted wireless facility equipment cabinet will be located approximately 12' away from the pole within the right-of-way and screened with vegetation. The mechanical box will be 30" in height, 3'6" wide and 2'11" deep. The mechanical box will be painted dark green. The existing fence

on the property line will screen the mechanical box from the neighbors to the south. New plantings around the mechanical box will help screen it from passers-by along SE 10th Street. The replaced PSE utility pole will be a glu-laminate wood pole that encloses the conduit to the antennas that will be flush mounted and painted to match.

5. **Radio Frequency Emissions:** Attached is a letter from Clearwire's radio frequency engineer stating that the facility will comply with the radio frequency emission standards adopted by the Federal Communications Commission.
6. **Setback Requirements for Freestanding Wireless Communication Facilities:** Since the antennae are being co-located on an existing PSE utility pole, their location in relation to the property line is acceptable. And, the mechanical equipment will be located within a mechanical box located within the right-of-way so there is not a setback issue with regard to structures on private property.
7. **Independent Technical Review:** No such review was deemed necessary for this application.
8. **Removal of Abandoned Antennas and Towers:** Abandoned facilities shall be removed.
9. **Removal Upon Under-grounding:** The applicant shall remove the facility if PSE removes the pole and electrical lines are undergrounded.

See Conditions of Approval in Section VII

VI. Decision

After conducting the various administrative reviews associated with this proposal, including applicable land use consistency, SEPA, and City Code and Standard compliance reviews, the Director of Planning & Community Development does hereby **APPROVE** the proposal subject to the following conditions:

VII. Conditions of Approval

- 1. Disturbance:** The applicant shall fully restore, to the satisfaction of the City of Bellevue, any areas disturbed and/or damaged during construction or future maintenance of either the WCF or its associated equipment structure.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.195.D.4.c

- 2. Completion of Work:** The facility shall not be activated until all work included in the project scope and shown on the plans and specifications is completed.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.40.425

- 3. Removal of Abandoned Sites:** The owner of this facility shall provide the Director with copies of any notice of intent to cease operations that is provided to the Federal Communications Commission (FCC). All WCFs and the associated equipment shall be removed by the facility owner within 90 days of the date it ceases to be operational, or if the facility falls into disrepair and is not maintained. Disrepair includes structural features, paint, or general lack of maintenance, which could result in safety or visual impacts.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.195.D.8

- 4. Replacement Pole:** The proposed replacement pole shall be located within 10 feet of the existing pole.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.195.B.1.a.2

- 5. Existing Radio System & Interference:** If this telecommunications system causes interference problems with any of the existing radio systems for the City of Bellevue, this system will be required to immediately shut down until the interference can be removed or corrected.

Reviewer: Adrian Jones, 425-452-6032
Authority: FCC 90.672

- 6. Flush-mount**

The distance between pole and panel antennas shall not exceed 18".

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.195A.2.d and 20.20.195A.e

- 7. Removal Upon Undergrounding:** The facility shall be removed at no expense to the City if co-located on an electrical system facility or utility support structure that is subsequently undergrounded.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.195.D.9

- 8. Landscaping Assurance Device:** Prior to approval of an antenna permit, the applicant shall provide a landscape assurance device (assignment of savings or letter of credit) for 150% of the fair market value of labor and materials for any required landscaping not installed at final inspection. It shall also cover 20% of the fair market value of labor and materials for landscape maintenance for a period of one year from date of final inspection.

Reviewer: Leah Hyatt, 425-452-6834
Authority: LUC 20.20.520.K.1 and 2, and 20.20.520.L.1 and 2

Attachments

- Exhibit A – Deployment Map
- Exhibit B – Coverage Map
- Exhibit C – Radio Frequency Engineer Certification of Need and Compliance
- Exhibit D – Site Zoning and Adjoining Zoning Maps
- Exhibit E – Search Area Map
- Exhibit F – Radio Frequency Analysis of Alternative Sites

EXHIBIT A

CLEARWIRE DEPLOYMENT MAP

EXHIBIT B
COVERAGE GAP



This map shows the extent of the gap in coverage in the neighborhood.

EXHIBIT C

**RADIO FREQUENCY ENGINEER CERTIFICATION OF
NEED AND COMPLIANCE**



LETTER OF CERTIFICATION IN SUPPORT OF A WIRELESS COMMUNICATION FACILITIES (WCF) PERMIT

INTRODUCTION

This engineering statement is prepared to certify compliance with the requirements of LUC 20.20.195.D.1 and D.4.d respectively and to describe the search ring as required in 20.20.195.D.2, in support of a WCF application by ClearW^{re} for a permit to operate a wireless broadband service in the city of Bellevue, WA. ClearW^{re} proposes to locate its transmission system at an existing site in Bellevue as described below.

Site Name:	Utility Pole, PSE ISLL/5
ClearW ^{re} Site ID:	WA-SEA042b
Site Address:	107 th Ave SE and SE 10 th Street
City, State:	Bellevue, WA
Structure Height:	60' AGL
Max Antenna Height:	81' AGL

SYSTEM DESCRIPTION

ClearW^{re} intends to construct and operate a wireless broadband service in the FCC licensed services known as the Broadband Radio Service ("BRS") and Educational Broadband Service ("EBS"). These services operate in the 2500 – 2690 MHz band and ClearW^{re} will either own or lease a portion of this spectrum in the Seattle area. In addition, ClearW^{re} will utilize at some base station sites point-to-point microwave to backhaul data to the central office or POP location. These point-to-point links will operate in both licensed and unlicensed bands allocated by the FCC for these services. All of the equipment utilized by ClearW^{re} has received FCC type acceptance approval and therefore meets all requirements for operation within the appropriate bands.

The architecture of the ClearW^{re} RF system is very similar to a typical PCS system. ClearW^{re} will install base station sites in a cellular architecture. These sites will typically be separated by 1 to 2 miles. This separation distance can vary significantly depending on terrain, ground clutter (foliage, buildings, etc.) and the available structure heights in the desired coverage area. The base station sites will typically have omnidirectional coverage created by the use of 3 to 4 directional antennas on a tower or rooftop.

The technology used by ClearW^{re} to deliver the broadband service to consumers is manufactured by NextNet Wireless. This technology is a non-line-of-sight ("NLOS") technology and uses a multi-carrier OFDM modulation scheme. OFDM technology allows subscriber units to be placed inside the home or office. However, NLOS operation also requires the ClearW^{re} system design incorporate sufficient margins in the RF link budget to accommodate the wide variation in path attenuation. Path attenuation in a NLOS application at 2500 MHz is very dependent on the building material, thickness, orientation and other characteristics. In addition, another characteristic of the OFDM system is the need to use more frequencies in the cell layout. Therefore, the spacing of cells and the orientation of the antennas becomes very critical in the overall system design.



LUC 20.20.195.D.1 HEIGHT COMPLIANCE

Requirement:

"Any request to exceed the height allowed for exempt WCF pursuant to subsection B of this section shall be the minimum necessary for effective functioning of the provider's network, as certified by the provider's licensed engineer."

The structure height is 60 feet above ground level ("AGL"). The ClearW^{re} antenna arrays will be mounted on an extension at the top of the utility pole to increase the top of the antennas to a maximum of 81' AGL. This minimum height is necessary in order to clear the transmission lines and achieve the desired coverage at this location based on the surrounding terrain, ground clutter and coverage from other sites.

LUC 20.20.195.D.2 LOCATION AND DESIGN COMPLIANCE

Requirement:

"The applicant shall submit maps certified by the provider's licensed engineer indicating the geographic area within which a facility must be located to meet an identified coverage or capacity need. For purposes of this section, this map is called the "search ring."

a. Within the search ring, the applicant shall demonstrate consideration of the following preferred locational hierarchy: 1) nonresidential land use districts not providing transition, 2) nonresidential transition areas, 3) multifamily (R-20 and R-30) land use districts, and 4) park sites and all other residential land use districts.

b. Within the search ring, the applicant shall demonstrate consideration of the following preferred facility design hierarchy: 1) attached to public facility structures, building mounted, or integrated with utility support structures, 2) co-located on utility poles, light standards, signal supports, existing WCF support structures or existing communication, broadcast and relay towers, and 3) freestanding WCF support structures.

c. The applicant shall demonstrate that application of the above hierarchies results in a proposal that minimizes the adverse impacts of the WCF, considering the search ring as a whole. If a location or design lower on the hierarchy leads to fewer impacts than a location or design more preferred in the hierarchy, then the less impactful location or design is preferred."

Attached as Exhibit 1 are maps depicting the desired ClearW^{re} coverage area. The top map shows the predicted RF coverage without the addition of the herein proposed site. The bottom map depicts the expected improvement in coverage by the addition of this site. Included on the maps are the other ClearW^{re} proposed base station sites in the immediate area and the predicted coverage from these sites as well. The assumptions used in the RF coverage prediction were reviewed and found to be reasonable based on ClearW^{re}'s business goals. The propagation model, fade margins, terrain and clutter resolution, equipment performance specifications and other design variables in the software model were all found to be consistent with the technology being used and the operating frequencies. As can be seen from Exhibit 1, the addition of the herein proposed site fills a significant void in the coverage area sought by ClearW^{re}.

The site chosen by ClearW^{re} is an existing utility pole in Bellevue. This site complies with the preferred facility design hierarchy of attaching to an existing public utility structure and thus minimizes the impact of the WCF. The antenna mounting height will extend beyond the structure height as described above.



LUC 20.20.195.D.4.d EQUIPMENT COMPLIANCE

Requirement:

“WCF equipment shall be the minimum size necessary to support operation of the WCF as certified by the provider’s licensed engineer. Where multiple WCFs are proposed to be located in close proximity, WCF equipment may be required to be consolidated in one WCF equipment housing structure.”

The equipment used by ClearW^{re} is of a size typical for the deployment of a broadband wireless system and point-to-point microwave system in the bands of operation described above. All of the equipment will be located inside of an equipment cabinet, typically 30” in height, and located on a small concrete pad in the city right-of-way.



CERTIFICATION OF ENGINEER

I, James Cornelius, P.E., am a Professional Engineer licensed in the Commonwealth of Virginia and my credentials are a matter of record with the Federal Communications Commission. The foregoing analysis was prepared by me or under my direct supervision. The information contained herein is true and correct to the best of my knowledge.

A handwritten signature in black ink, appearing to read "James Cornelius", is written over a horizontal line.

James Cornelius, P.E.

A handwritten date "11-29-05" is written in black ink over a horizontal line.

Date

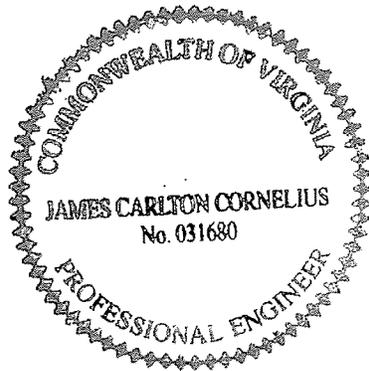
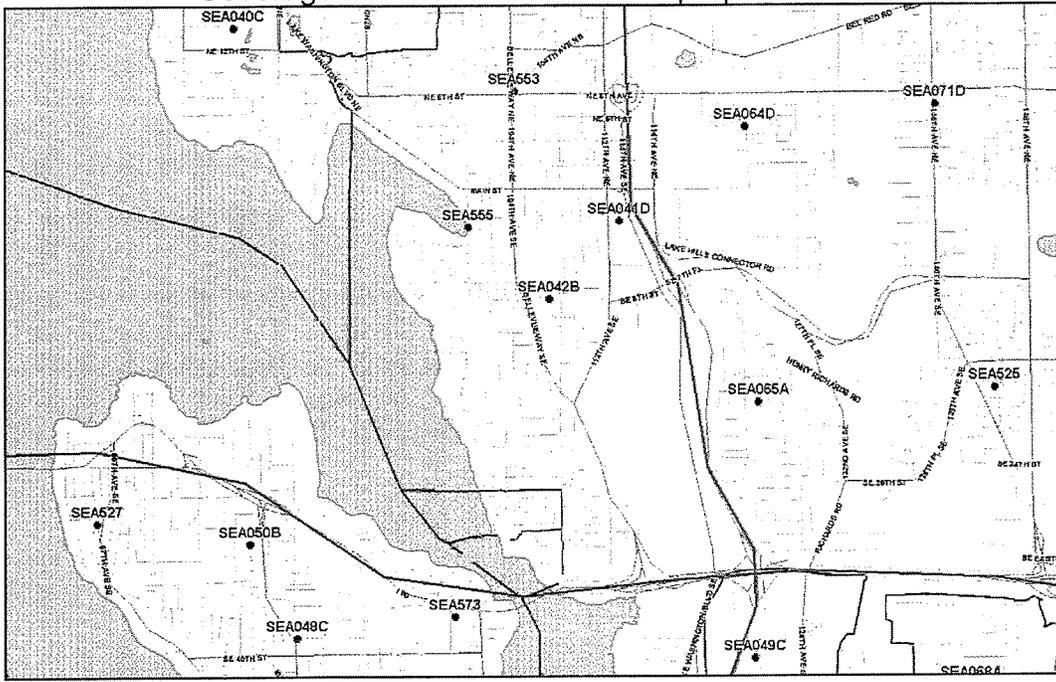
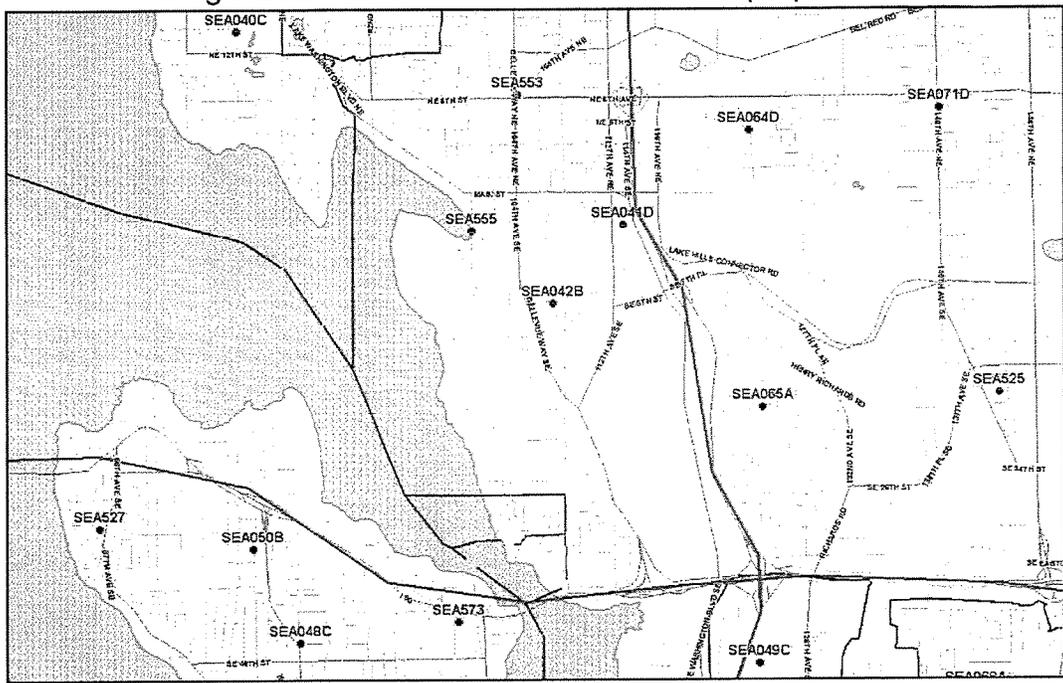


Exhibit 1
Coverage area without the herein proposed site



Coverage area with the addition of the herein proposed site



Note: Predicted RF coverage shown in yellow is based on ClearW^ore design parameters in order to achieve NLOS penetration throughout the market area.

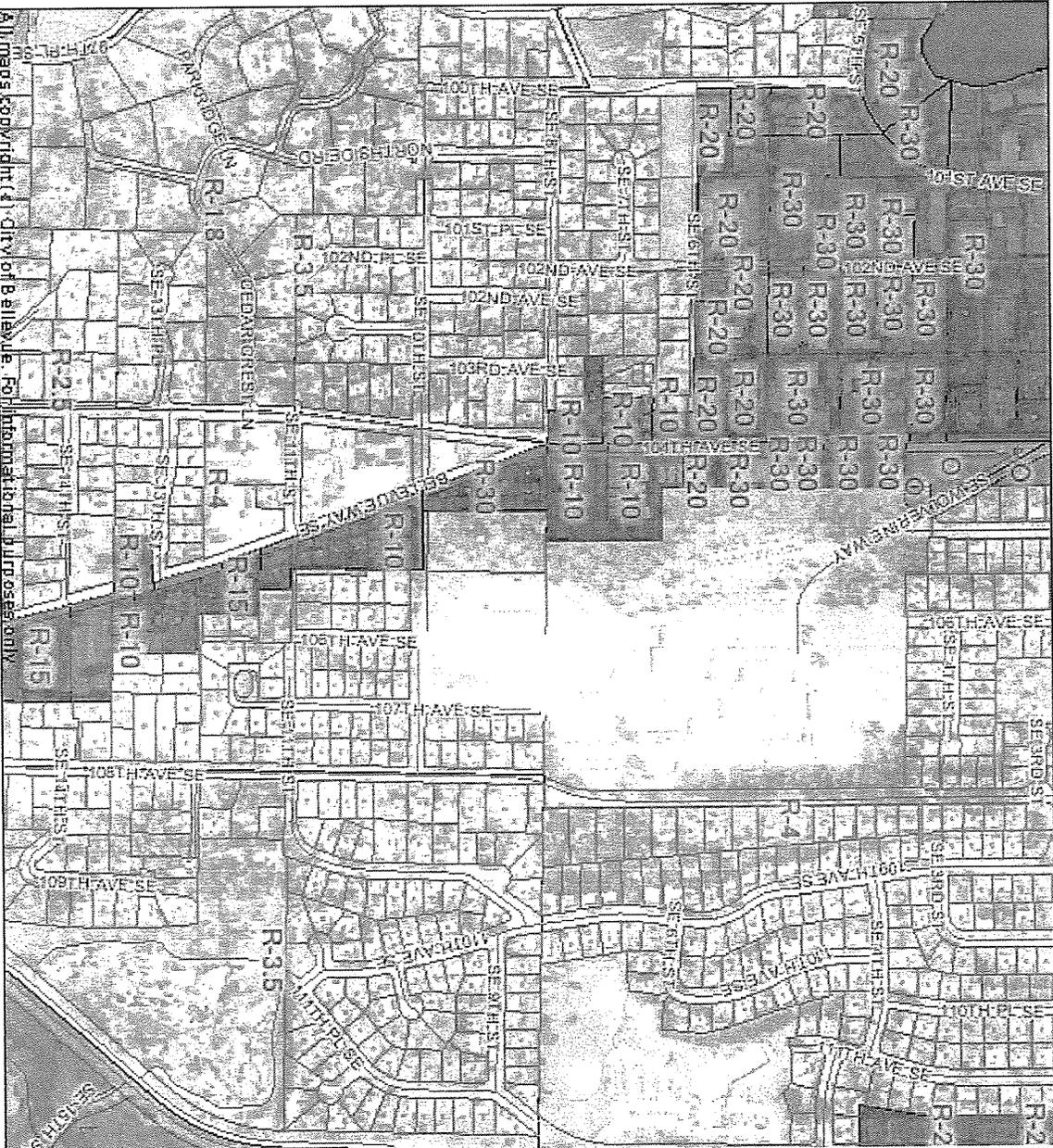
EXHIBIT D

SITE ZONING AND ADJOINING ZONING MAPS

WA-SEA042 Clearwire Bellevue High School

Legend

- Selected Parcels
- Highways
- Streets
- Trails
- Parks
- Address Locations
- Parcels
- Zoning
- Single Family
- Multi Family
- Office
- Commercial
- Light Industrial
- Evergreen Highways
- Institutional
- Lakes
- 2004 Aerial Photo
- Regional City Limits
- City of Bellevue
- King County
- Other Cities

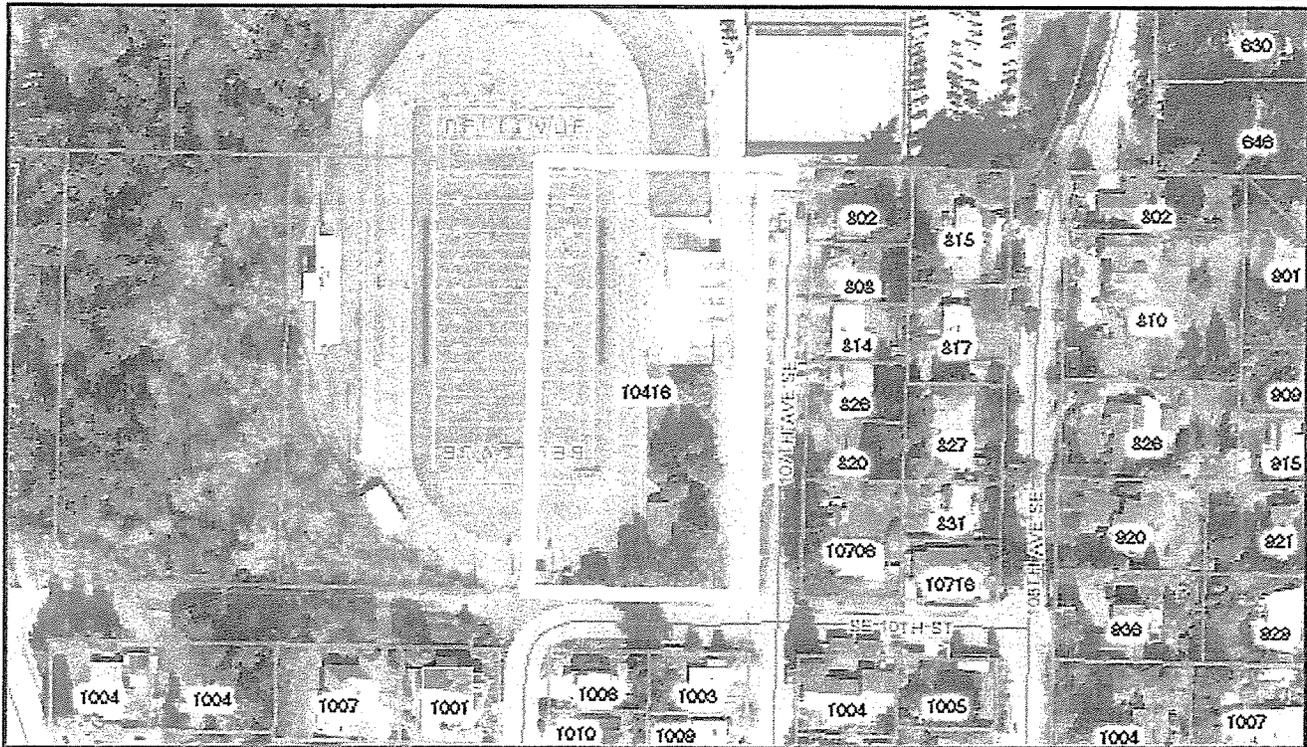


3/28/2007
 eGov Alliance Online Map
 service

CITY OF Bellevue

City of Bellevue: Zoning Report

No Site Address



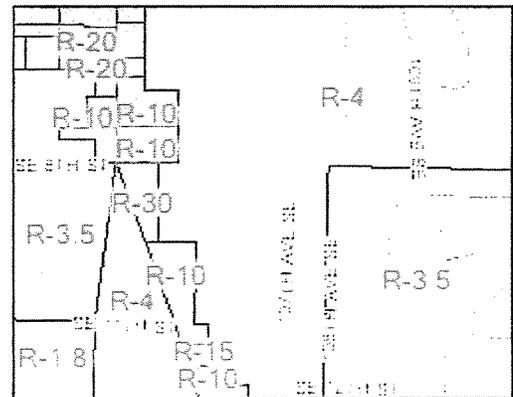
City Zoning Information

Bellevue Comp Plan **SF-H ()**
 Bellevue Zoning **R-4 ()**

Note: Parcels may have multiple zoning designations. Please consult a Land Use Planner in Development Services to confirm zoning at this parcel.

King County Assesments Information

Appraised Land Value **\$812,000**
 Appraised Improvement Value **\$0**
 Total Value **\$812,000**



Legend

City Tax Lot Information

Section: **5**
 Quarter Section: **NW**
 Township ID: **24**
 Range: **5**
 Approximate Lot SqFt **98,445**
 Approximate Lot Acres **2.264235**

Selected
Parcels

Zoning

- Single Family
- Multi Family
- Office
- Commercial
- Light Industrial
- Evergreen
Highlands
- Institutional

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EXHIBIT E

SEARCH AREA MAP

Market Name: Seattle

Search Ring Number: SEA042

Search Ring Radius: 0.25 mi

Lat/Long: 47 36 14.56 / -122 11 57.51

Required Height: Approx 75 to 80 ft (Must clear tree canopy)

Area polygon:

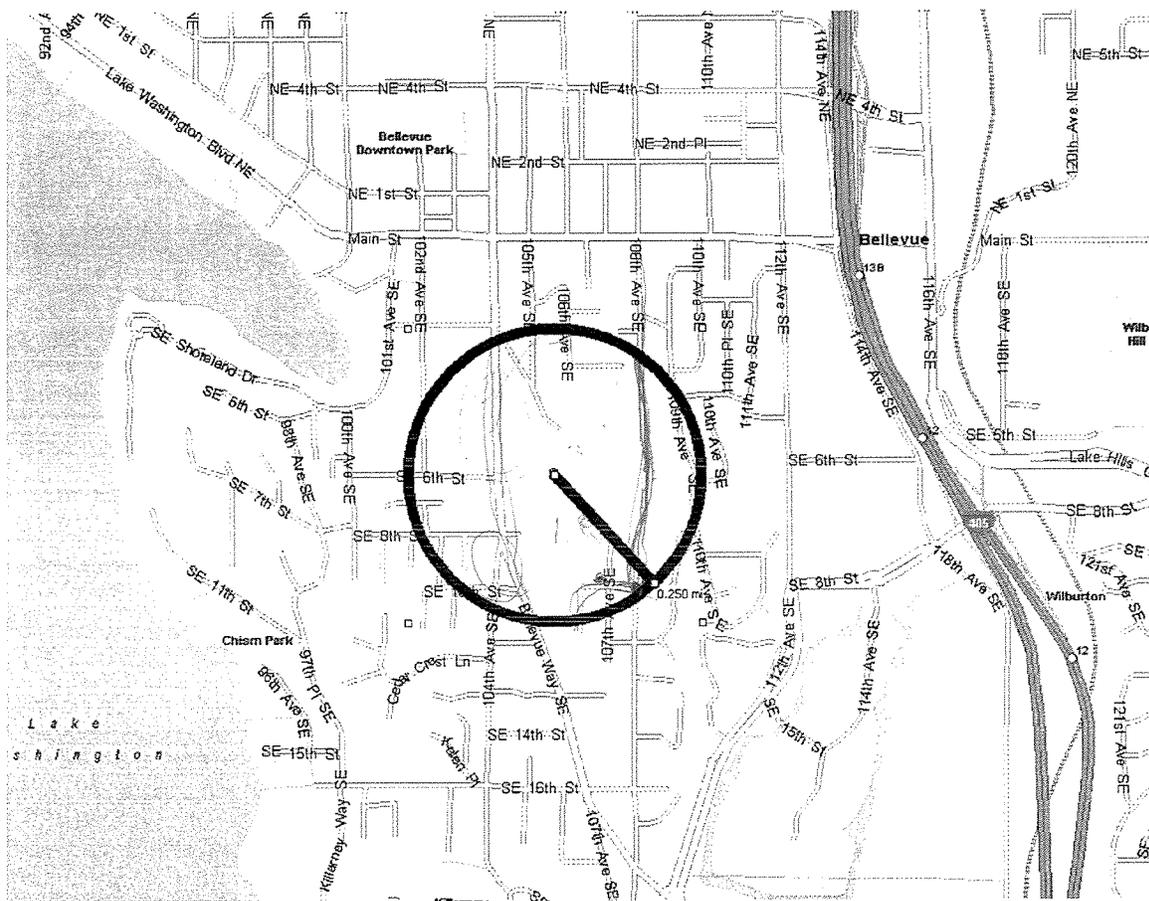


EXHIBIT F

RADIO FREQUENCY ANALYSIS OF ALTERNATE SITES



Mr. Mike Upston, AICP
Senior Planner
City of Bellevue
Planning and Community Development
450 110th Ave NE
Bellevue, WA 98009

RE: 06-105992 CA and 06-105993 LA Clearwire WA-SEA042-B Bellevue High School

Dear Mr. Upston:

Clearwire has proposed a wireless communication facility at 10416 SE Wolverine Way. The proposed facility would provide a new option for wireless broadband service to the residents in and around Bellevue. The Clearwire network is unlike any other provider of broadband coverage, allowing customers to connect to a single broadband network from multiple points. With the installation of the facility at this location at the needed antenna height, residents would be able to access the Clearwire network from home, as well as any other location where Clearwire service is currently available.

As an alternative to its current pending application at the Bellevue High School, Clearwire has been requested by you to assess instead installing alternate unmanned wireless communication facilities in other land use zones to meet our coverage objective. In order to determine the potential for providing coverage in the neighborhood from these alternate locations, multiple sites were identified and a coverage analysis was performed to determine the feasibility of providing coverage.

Providing coverage to this area is challenging due to many factors. The lack of non-residential properties and existing towers restrict alternatives available for all wireless service providers. In addition, the area close to the Bellevue High School sits on a hill that slopes downward in all 4 directions, and is ideal in terms of ground elevation and height in providing good quality service. Alternate locations considered have the disadvantage of losing elevation height.

The map below shows the layout of the topographical features of the area including the locations of the multiple alternatives to WA-SEA042 Bellevue High School. The Bellevue High School PSE candidate at an elevation of 172 ft is shown with a yellow dot. The alternatives considered are shown with a red dot. Green dots indicate surrounding Clearwire sites.

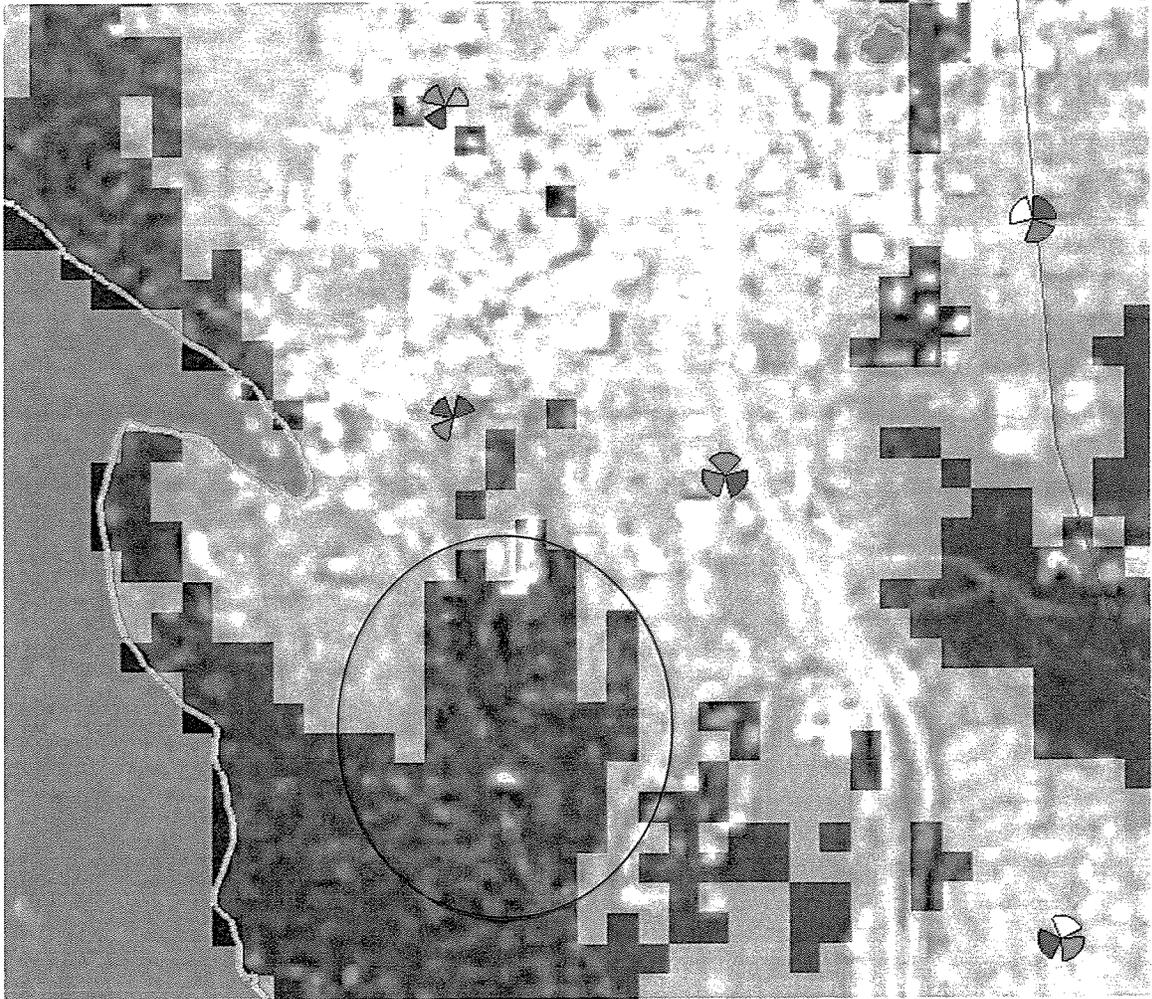


Specific examples of site locations in each area were identified and evaluated for coverage and quality.

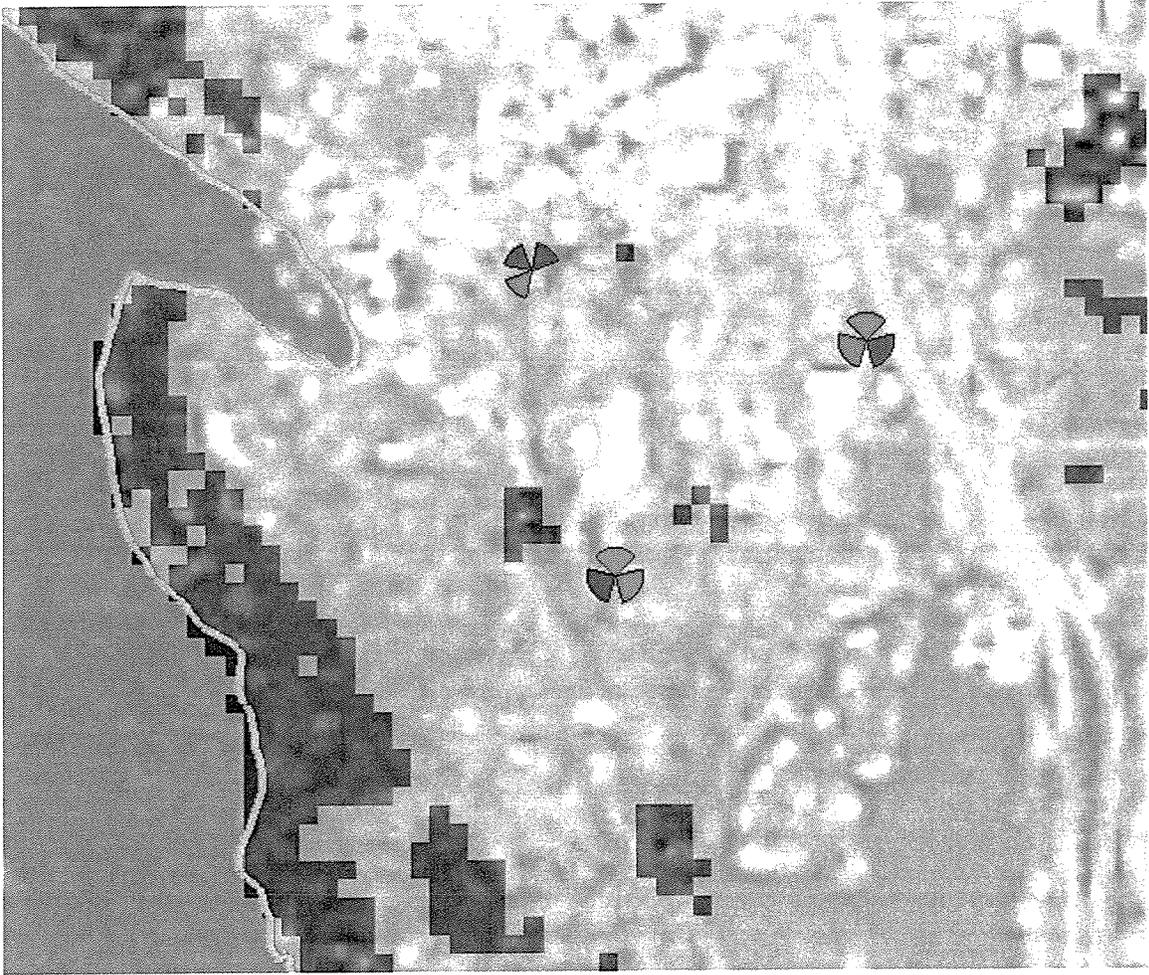
- 1) Mixed Use zoned areas around Main St;
- 2) NB zone located close to Bellevue Way SE and 108th Ave SE.
- 3) Collocation on Verizon Pole.

The following sample sites were evaluated:

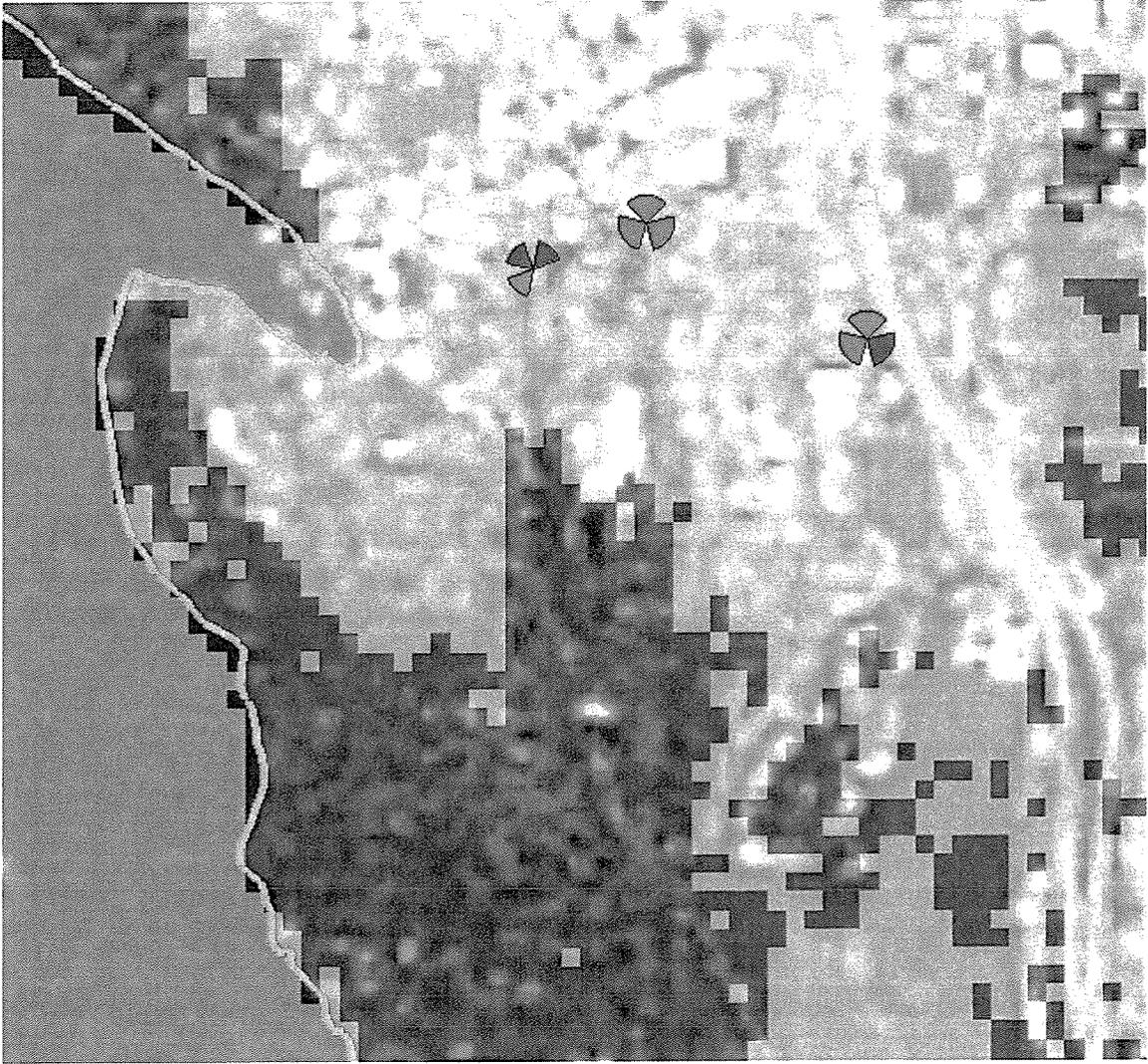
- **Mixed Use zoned areas around Main St**
10777 Main St is the tallest structure in the area at a height of 55 ft. The AMSL at this location is 122 ft.
- **NB zone located close to Bellevue Way SE and 108th Ave SE**
1649 108th Avenue SE. The building height is 15' with a top antenna height of 25'. The AMSL at this location is 72 ft.
- **Area close to Verizon Pole.**
Existing Monopole located at 130 105th Ave SE with an available height of 80 ft at an AMSL of 174 ft.



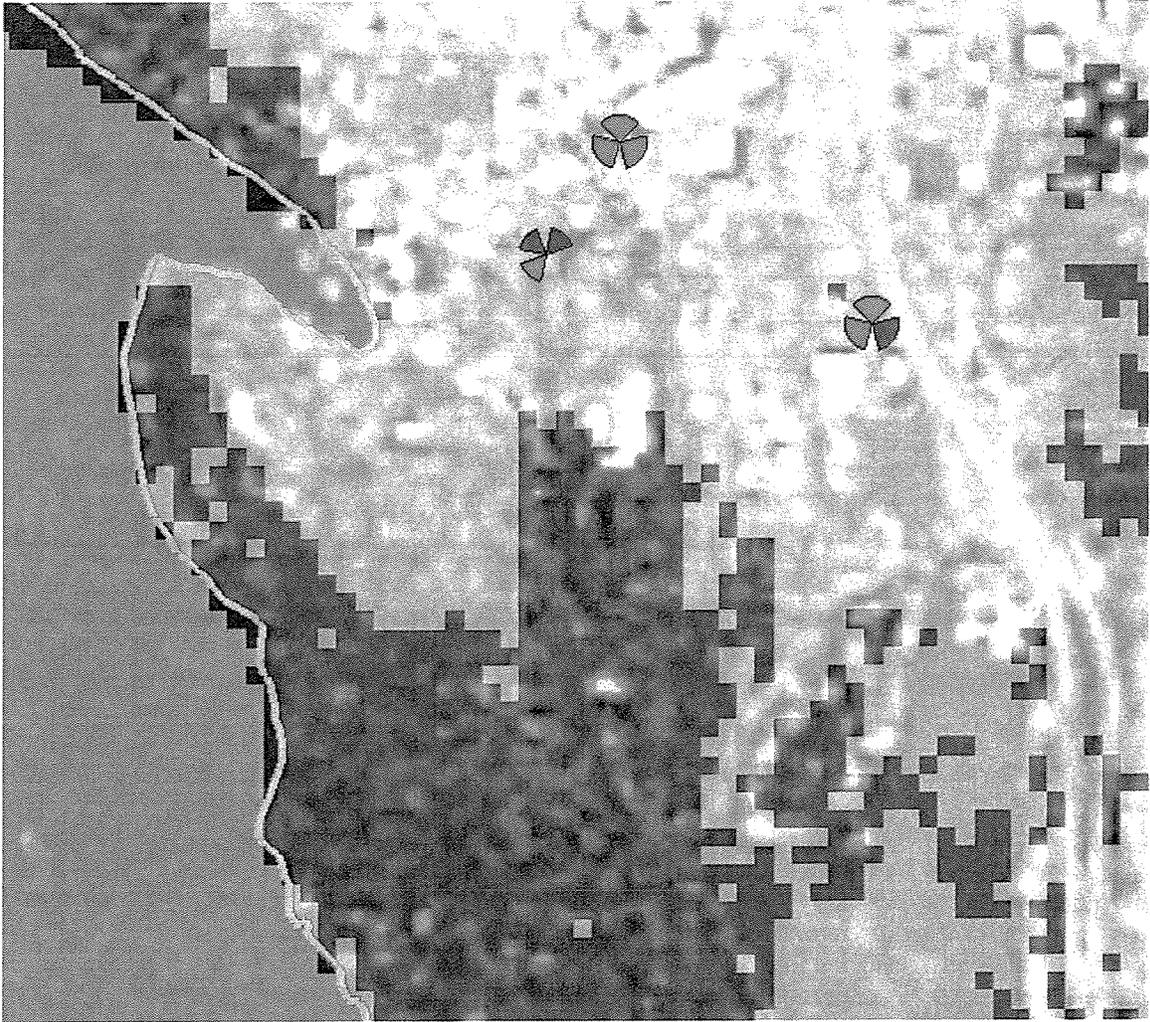
This map shows the extent of the gap in coverage in the neighborhood.



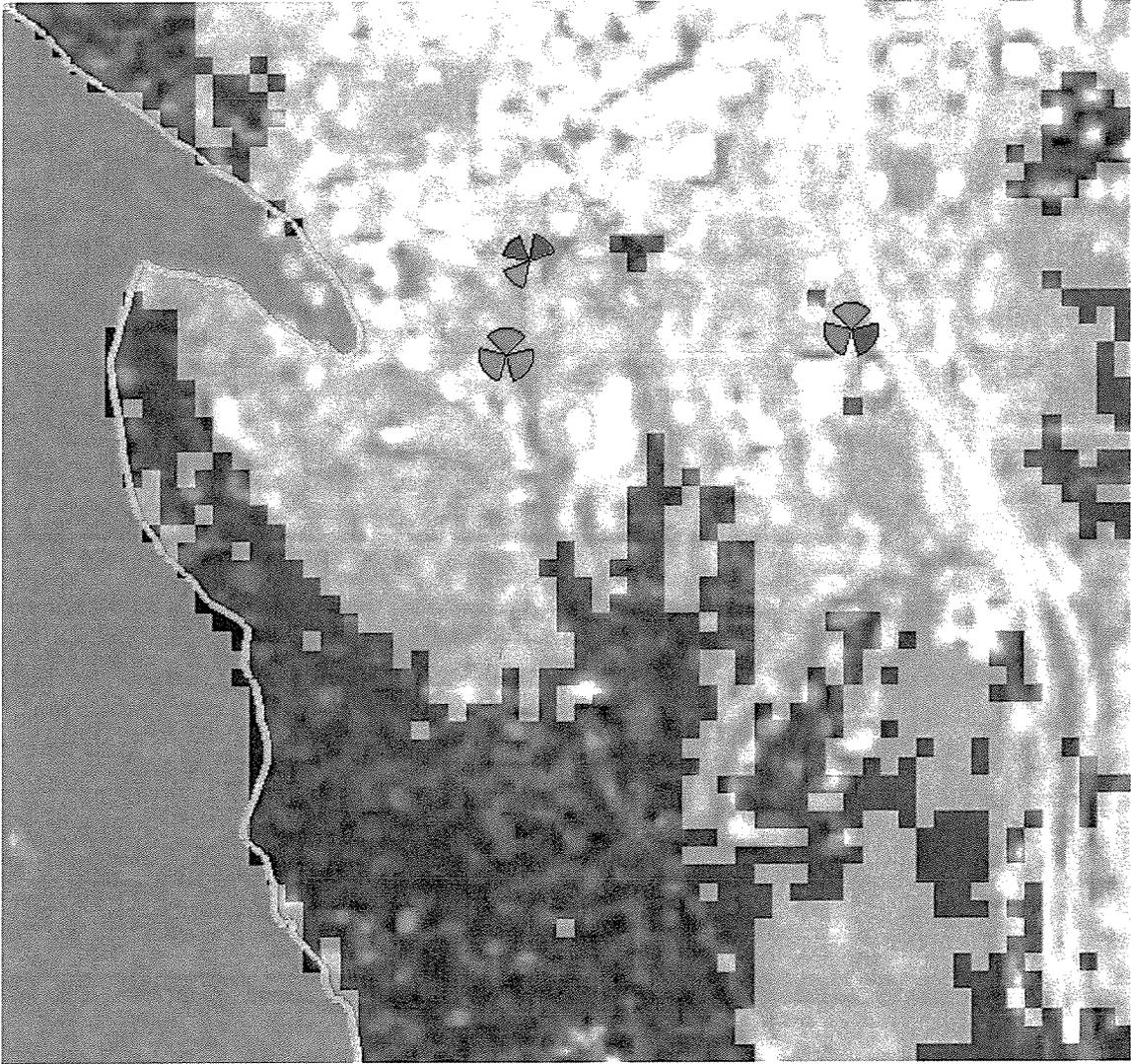
This map shows coverage with PSE Bellevue High School proposed facility.



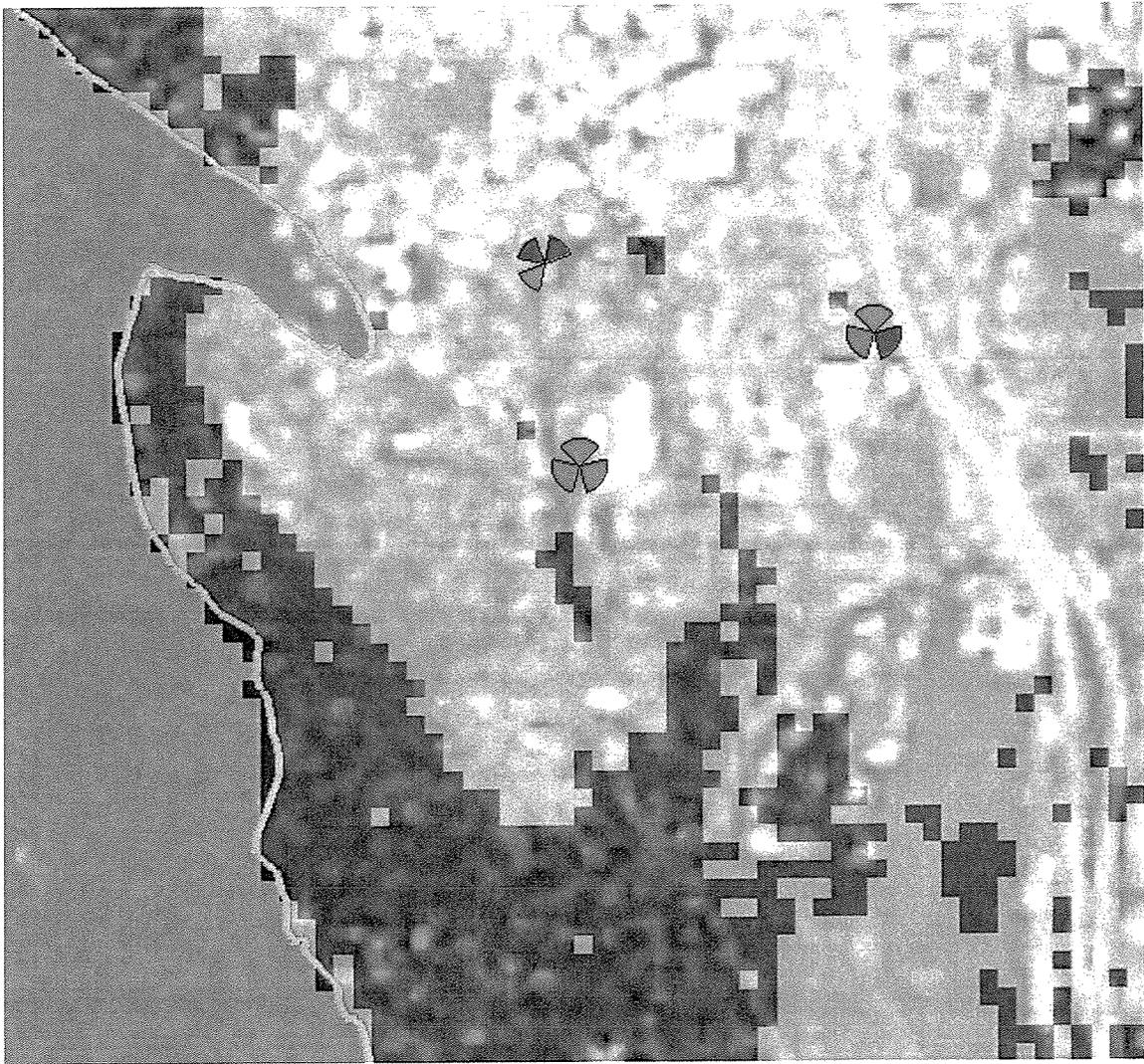
This map shows coverage provided by a location at 10777 at Main at 66 ft.



This map shows coverage provided by a location at Aria at Main at 60 ft.



This map shows coverage provided by a location at office at 410 Bellevue Way.



This map shows coverage provided by a location from Verizon pole at 80 ft. Actual coverage will be less than the prediction here since 80 ft. puts us below the tree line.