

# Bull Run Filtration Projects

## Land Use Applications

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### Section 2.B: Pipelines

### Design Review Application Narrative

**Bull Run Filtration Projects Land Use Applications**



**View of Pipelines Property Looking East along Lusted Road**

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## Introduction and Relation to Other Narrative Sections

This Section 2.B provides background information, findings, and analysis demonstrating that the pipelines meet applicable Design Review (DR) criteria found in MCC 39.8000 through 39.8050. Parking, dark sky lighting, and sign regulations follow the DR standards.

This section builds on information provided in the **Introduction** and **Section 2.A**, Pipelines Conditional Use Review. The information in **Section 2.B** complements the information in **Section 2.A**. Defined terms used in this Section 2.B are provided in the overall application **Introduction**. The DR plans relevant to this Section 2.B are found in Appendices A.2a, A.2b, and A.2c.

Under MCC 39.8020(B), Application of Regulations, the applicable DR standards are limited for both the finished water intertie and the balance of the pipelines, including appurtenances, since these facilities require fewer than four new parking spaces:

*Uses subject to Design Review that require the creation of fewer than four new parking spaces pursuant to MCC 39.6590 shall only be subject to the following Design Review approval criteria: MCC 36.8040(A)(1)(a) and (1)(c), (4) and (7), except when located in the RC, BRC, OR, OCI, PH-RC or SRC zone base zones.*

The proposed public utility use is narrow in scope, covering unstaffed facilities (pipelines and an intertie). Consistent with the Planning Director's determination in Case No. T3-2019-11560 (Appendix O.3), the proposal requires no parking. No portion of the proposal involves RC, BRC, OR, OCI, PH-RC or SRC base zones. Therefore, the review criteria are limited to those listed in MCC 39.8020(B). Thus, the applicable DR standards are MCC 36.8040(A)(1)(a) and (1)(c), (4) and (7).

### MCC 39.8040 Design Review Criteria

The proposed Bull Run pipelines will be buried underground. The subsurface elements of the pipeline are not visible and therefore do not have a relevant design to review as part of this DR. There are two features of the pipeline project that will be above ground and are included in the DR plans and are addressed in the findings below:

- The finished water intertie, which includes an above-ground electrical building; and
- Surface pipeline appurtenances such as air vents located at intervals along the pipelines.

These surface features are typical of the existing water system facilities in the area. The Water Bureau's existing facilities include three large-diameter water conduits, with appurtenances and interties, that have co-existed harmoniously with rural residential development, agriculture, and forestry in the area for more than 100 years. As discussed in greater detail below, these facilities blend into the landscape and are part of the existing landscape character.

*A. Approval of a final design review plan shall be based on the following criteria:*

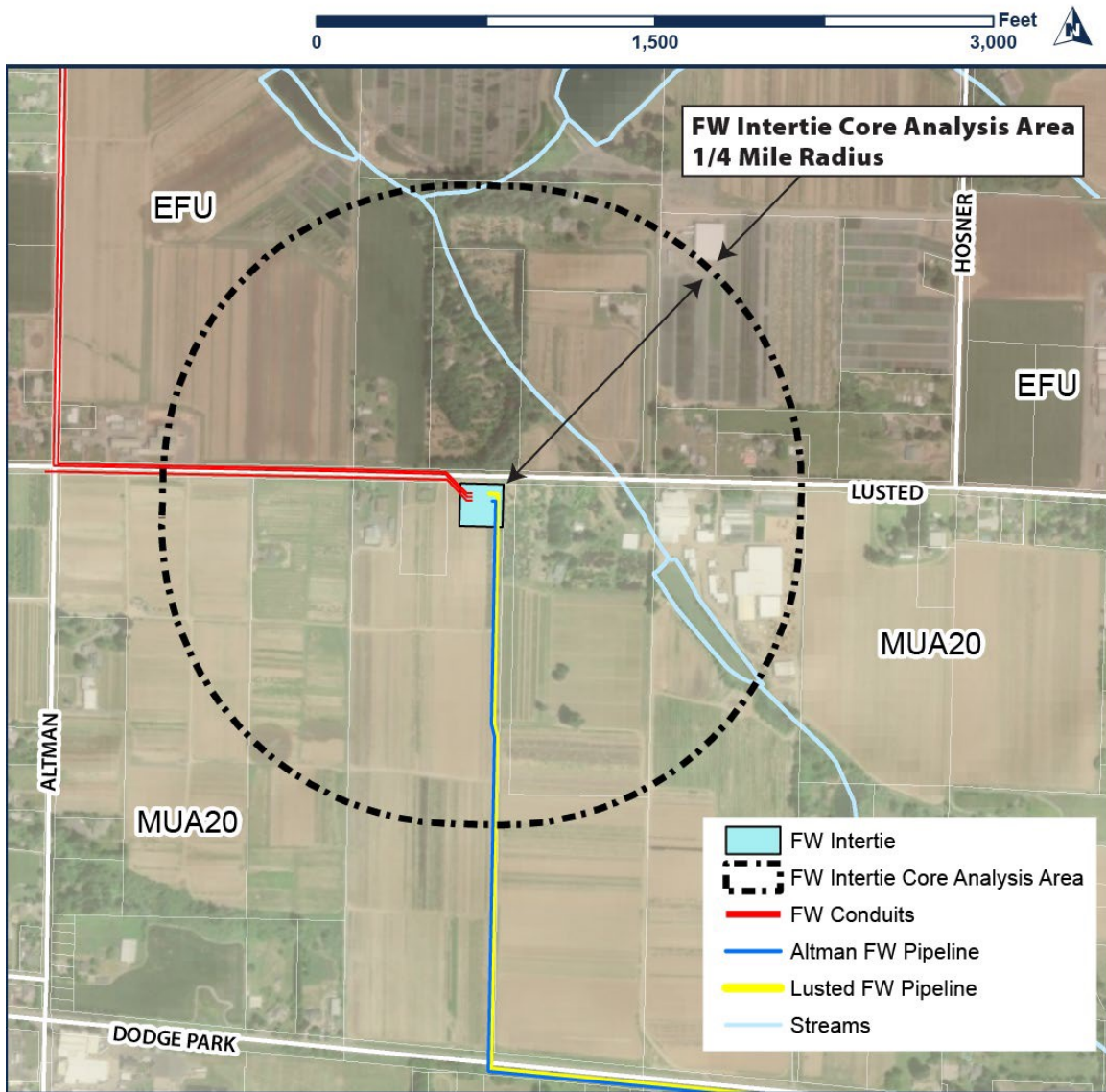
*1. Relation of Design Review Plan Elements to Environment.*

*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.*

**Response:**

**Finished Water Intertie**

The intertie is located on the south side of Lusted Road, approximately a quarter mile east of Altman Road (Figure 1). It avoids impacts on EFU-zoned land and SEC environmental areas to the north of the road. The intertie is designed as a below-grade concrete vault that connects two parallel pipelines with valves and interconnections to three pipelines that serve the existing downstream conduits. A small above-ground electrical building will house the necessary electrical and control panels for the intertie. A shed-style covered stairway access on the east side of the intertie structure will be 10-feet tall. A ventilation louvre on top of the vault will be 4.5-feet tall. The plan includes an access drive, security fence, and a landscape buffer.



**Figure 1. Finished Water Intertie Site with Zoning**

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The natural environment is characterized by rolling hills with grades climbing to the west and south of the intertie site and sloping gently down to the east and northeast. Agricultural (nursery) fields are common throughout the area and are interspersed with rural residential landscaped areas to the east and west. Groves of trees are located north of the site, across Lusted Road, and to the east, bordering a tree farm and residential landscapes. The groves screen views of the site from residential and farm areas to the north and east. The vegetation in the groves is dominated by evergreen trees, while the nursery fields are predominantly deciduous. Beaver Creek crosses Lusted Road approximately 500 feet east of the site, along a low-lying corridor that is channelized and piped in segments, becoming more wooded to the north (Figure 2, Image 6).

The buildings and structures with a visual relationship to the intertie site include residential dwellings and agriculture buildings to the west. The closest structure is a single-story, gable roofed residence with an attached garage that is approximately 150-feet west of the intertie and bordered by an evergreen hedge (Figure 2, Image 1). Further west is a two-story residence with hip roof and three barns with gable roofs set back from the road (Figure 2, Image 2). Just west of the residence is a pump house with a gabled, metal roof (Figure 2, Image 3). Across Lusted Road from the residence is another gabled roof residence with several outbuildings (Figure 2, Image 4) that sit on an embankment above the roadway and are partly obscured from view by vegetation. Directly north of the intertie, across Lusted Road, views to or from buildings are obscured by trees. To the northeast, an agricultural building, visible from the site, sits in a low-lying area 400 feet away. Beyond this structure is a single-story, gable-roofed residence and a large, metal-clad agricultural warehouse (Figure 2, Image 5). The property adjacent to the east contains an ornamental tree farm with a dwelling approximately 350-feet away, obscured from sight and buffered by dense evergreen and deciduous trees.



*Image 1*



*Image 2*



*Image 3*



*Image 4*



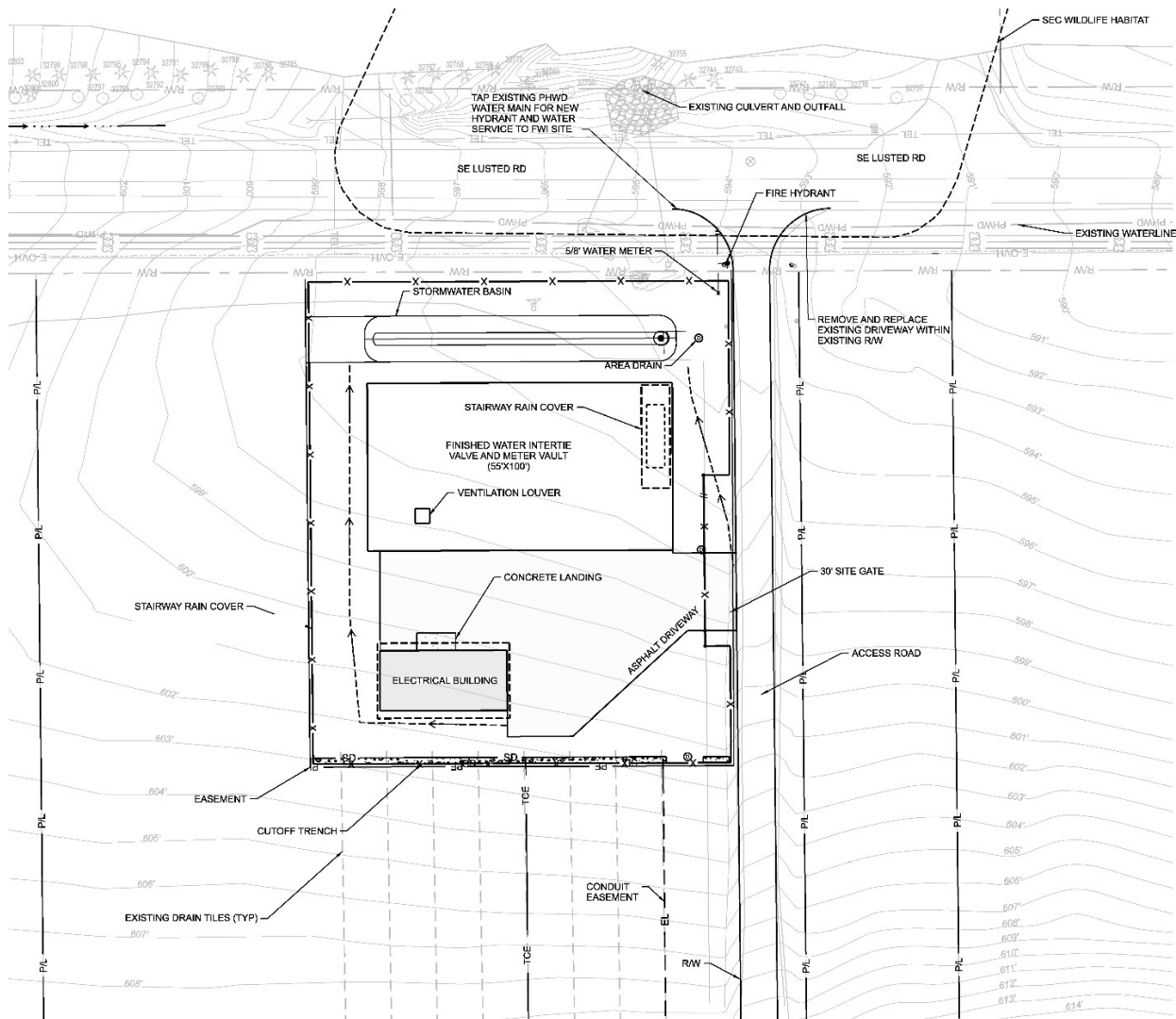
*Image 5*



*Image 6*

**Figure 2. Buildings, Structures, and Landscapes Visible in the Area**

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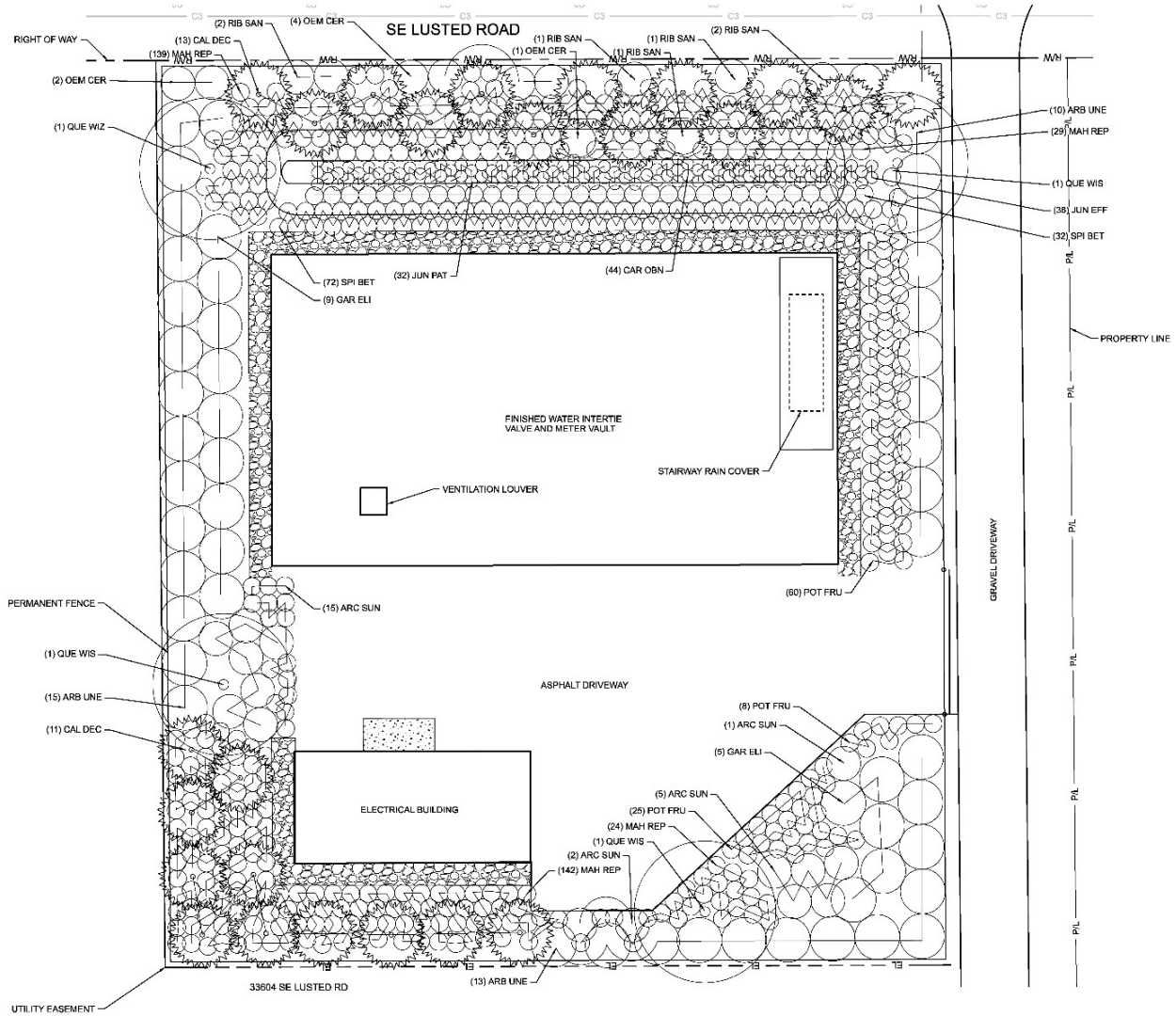
**Figure 3. Intertie with Access to Lusted Road**

The views of the proposed intertie will primarily be trees, with occasional glimpses through to the top of the electrical building when driving down Lusted Road from the west.

To minimize visual impacts, the intertie structure is designed as a below-grade concrete vault with only the vault cover, ventilation louvre, and covered vault stairwell visible from within the site. The intertie will include an above-ground electrical building to house the necessary electrical and control panels and emergency generator. The plan includes an access drive and security fence with gate. Overall, the site plan is designed to be low profile, with most facilities set below ground. The plan incorporates substantial landscaping to screen the building from view. The proposed intertie layout and landscape screening is shown in Figure 4. The electrical building elevations are shown on Figure 5.



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**Figure 4. Intertie Layout and Landscaping**

The proposed electrical building is approximately 800-square feet in area and single-story, with a height of 16 feet at the roof peak. The building is similar in size to a freestanding residential garage or small agricultural structure in the area. Notably, the footprint is approximately one-third the size of outbuildings allowed by right in the MUA-20 zone (e.g., 2,500 sf allowed under MCC 39.4310(F)(6)).



## Bull Run Filtration Projects Land Use Applications

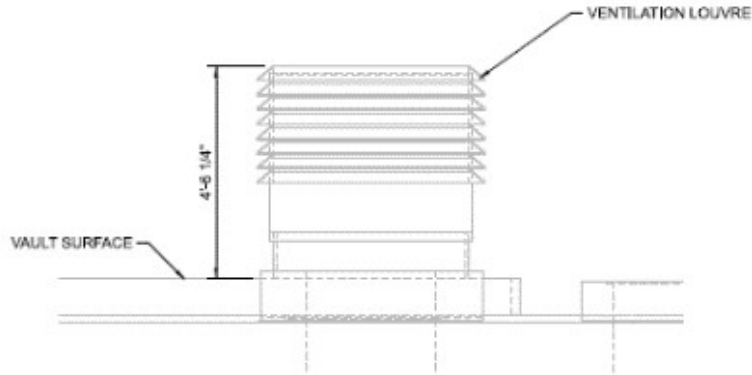


Figure 7. Ventilation Louvre Elevation

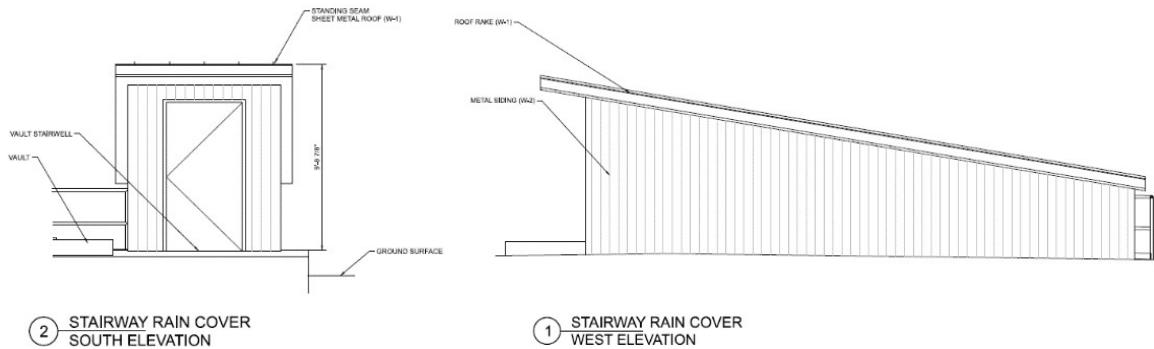


Figure 8. Stairwell Rain Cover Elevations

While the electrical building picks up cues from nearby buildings, the proposed landscaped buffers around the intertie will screen it from off-site views and help the intertie blend in with the surrounding natural environment. Vegetative screening will obscure views of the building from surrounding properties and Lusted Road (see Figures 9 through 12). Views toward the intertie from Lusted Road will primarily be of trees that serve as screening and provide an extension of the neighboring trees to the east. Similarly, across the street from the intertie to the north is a wooded area dominated by evergreen trees. To the south, the landscape transitions to fields of smaller trees (nursery stock). The noticeable natural features in the area are tree farms and trees. The relationship between these trees and trees buffering the intertie is harmonious.

The design of the intertie specifically addresses the visual impacts to the buildings and environment it relates to, by placing most of the facility underground, by minimizing and taking cues from nearby buildings and structures on building height, roofline and color, and by buffering and screening the boundaries of the site with dense landscaping that is similar to surrounding vegetation. For the reasons described above, the development will relate harmoniously to the natural environment, to existing buildings and structures within view of the intertie, and to the Lusted Road visual corridor.

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Figure 9. Rendering of View Looking East along Lusted Road



Figure 10. Rendering of View from Lusted Road



Figure 11. Rendering of View South along Existing Driveway



Figure 12. Rendering of View West along Lusted Road

### Pipeline Appurtenances

Pipeline appurtenances include air valves, drains, and access ways that function and look like existing Water Bureau infrastructure in the project area. They will be located at-grade or low to the ground along the pipeline route (examples of existing appurtenances are shown in Figures 13 and 14).



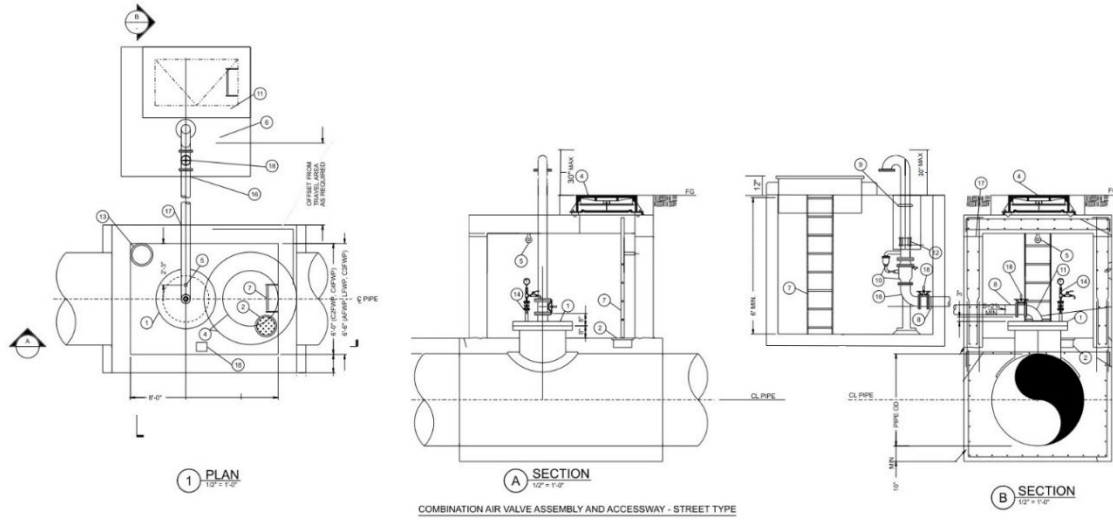
Figure 13. Existing Drain in Lusted Road ROW



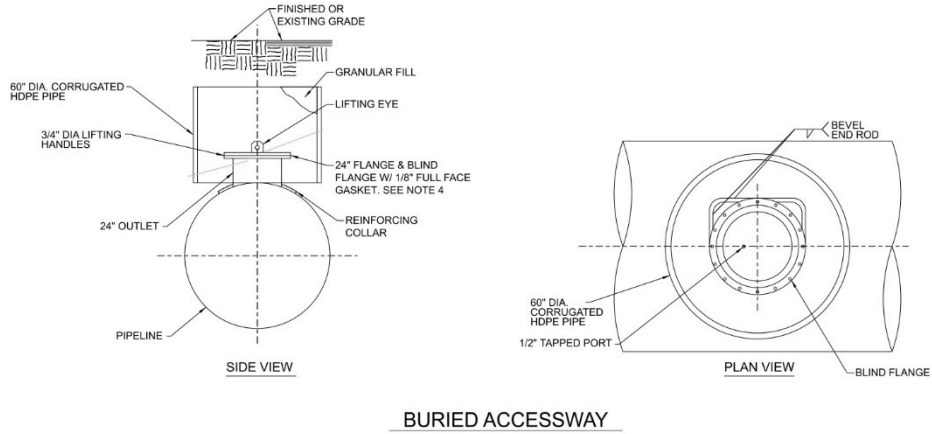
Figure 14. Example of Existing Air Vent and Access Vault (left) within Lusted Road ROW

Combination air valves are typically installed at high points along a pipeline in an underground vault with a 6- to 12-inch diameter “vent pipe” extending less than 30 inches above ground. Drains are typically installed at low points along the pipeline. Surface features for drains are limited to a pair of valve cans and an access lid installed to a small vault; these features are generally at grade. Access ways are at grade and are installed along pipelines approximately every 1,000 feet for maintenance purposes. Air vents are inspected monthly and drained annually; internal pipeline inspection using accessways occurs only once every 15 to 20 years. Appurtenance details are shown in Figures 15, 16, and 17.

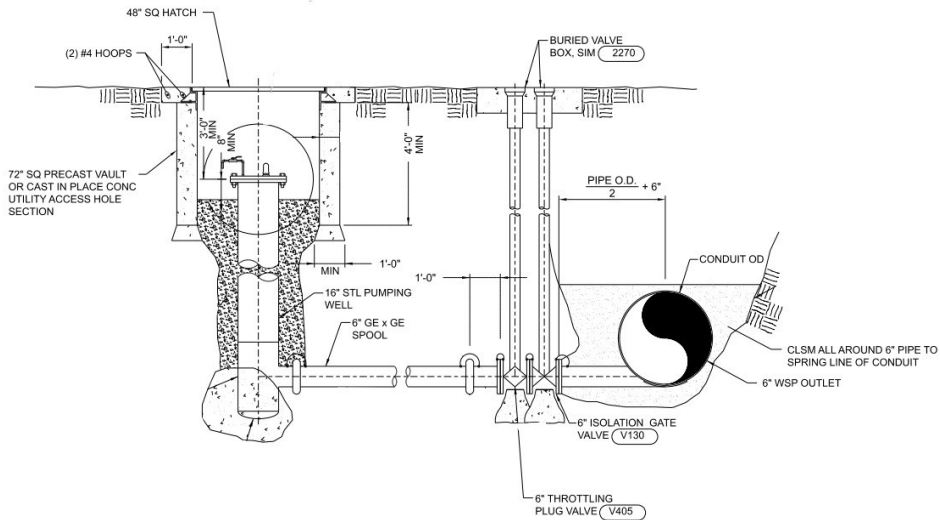
## Bull Run Filtration Projects Land Use Applications



**Figure 15. Combination Access Vault and Air Vent**



**Figure 16. Buried Accessway Details**



**Figure 17. Drain Details**

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The proposed appurtenances are typical of existing pipeline appurtenances and utility equipment in the area. Appurtenances such as vents, drains, and access vaults are found along each of the Water Bureau's existing water conduits. The proposed appurtenances function and look like existing Water Bureau infrastructure in the project area and are similar to utility equipment seen in typical county road ROWs, including existing fire hydrants, utility cabinets, and similar infrastructure.

The pipelines will generally be below the roadway and the appurtenances will be within the ROW but set back from the roadway. Roadside vegetation is predominantly grasses and blackberry thickets; where present, trees and shrubs are set back from the road and embankments. There are typically no structures along the pipeline alignment in the ROW except for pipeline appurtenances, power poles, and similar utilities. When crossing private lands, the pipelines generally follow existing access drives and proposed appurtenances are adjacent to these drives. Most appurtenances are at-grade and will not be visible except when standing over them. The air vents are set back from the road and low to the ground, with stand pipes less than 30 inches in height, a height similar to a cover crop such as wheat or barley, or shrubs that grow along the edge of road ROWs.

These appurtenances are a neutral grey color and are widely spaced in the road ROW. All appurtenances will be located more than 80 feet from existing residences. At this low profile and large distance, they are generally not visible from buildings and will have no impact on views.

For these reasons, the pipeline appurtenances will relate harmoniously to the natural environment, existing buildings, and the road's visual corridor.

- 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.*

### **Response:**

#### **Finished Water Intertie**

The low-profile intertie features an underground vault that is designed for efficiency and effectiveness. The vault is designed with isolation valves that allow any of the three flow-control valves to serve each of the downstream conduits with required flow to meet water demands. The vault maximizes the efficiency and effectiveness of the water distribution system, and as an underground structure with limited visual impacts, it will attractively serve its function.

An electrical control building provides a protected, above-ground home for an electrical control hub and backup generator serving the underground intertie vault. The small (19' x 41') building will be located on an approximately one half-acre easement adjacent to Lusted Road. The building is sized and designed to house the required features in contained control and generator rooms. The building's longer, east-west dimension runs parallel to the vault and allows vehicle circulation and maneuvering to both the north and east facades. The design team reduced the required size of the intertie site by eliminating proposed access roads that circumnavigated the vault.

The native landscape buffer and the building's scale, color, and materials create an attractive site. The blue color scheme, standing seam metal roof, and gray toned corrugated metal siding walls blend in with surrounding agricultural structures and homes in the core analysis area. The electrical building provides human scale with its small, one-level structure with eaves, and a maximum height of 16 feet at the gable ridge. The two egress doors, six-inch concrete landing, and low eave at the front façade of the building provide recognizable, human-scaled elements. The doors provide a visual cue of the two

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separate service spaces: the control and generator rooms. Both door and louver opening features provide visual relief and practical function to the electrical building for an asymmetrical but balanced view of each elevation. The landscaping serves to screen the intertie from view and provides shrubs and groundcover softening its scale.

This building has simple, utilitarian form, layout, and materials. Yet the functional elements of the building and the site property elements (landscaping, access drive, and vault structure) interrelate to one another in a cohesive site design. The proposed site design as a whole brings in recognizable elements from the neighboring properties along Lusted Road (gable roof, metal roof and siding materials, blue and grey hues, vegetation buffers) providing a visual order that complements the surrounding rural countryside.

For the reasons set forth above, the water intertie site and structural design effectively, efficiently, and attractively serves its function, and the elements are human-scaled, interrelated, and provide spatial variety and order.

### Pipeline Appurtenances

These appurtenances are located and designed for efficiency and effectiveness, with air vents and drains spaced according to the local topography, and access vaults located approximately every 1,000 feet to serve their maintenance purposes.

The air vents, the only above grade appurtenances, are located at high points along the pipeline system where venting is optimized, effectively and efficiently serving their function. The vents stand less than 30 inches high, the minimum height needed to maintain the necessary ground surface clearance. The limited height and surface area of the vents allows the vent to function efficiently and effectively for pipeline operation but minimizes the visual impacts of the vents.



Figure 18. Existing Roadside Vent

For these reasons, the pipeline appurtenances effectively, efficiently, and attractively serve their function. The vents and other appurtenances are sized and located to minimize impacts on residents, are interrelated with the pipeline, and are spaced as needed for pipeline operations which provides spatial variety and order.

Locating the appurtenances within the ROW and along existing access roads (on private lands) helps maintain order from a utility planning, construction, operation and maintenance standpoint.

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- 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.*

### Response:

#### Finished Water Intertie

As noted previously, the finished water intertie is located south of SE Lusted Road to avoid impacts to the natural landscape protected in the SEC zoned areas on the north of the road. No construction work is proposed within the protected forest habitat or other natural landscape features near the intertie. In addition, there are no established trees or shrubs at the intertie site; no trees or shrubs will need protection during construction. A substantial buffer of native vegetation is proposed around the intertie. The landscape plan, Figure 4 and Sheet LU-501 in Appendix A.2a, shows a mix of trees and shrubs proposed to buffer the intertie.

Similarly, there are no significant grade changes proposed with the intertie construction. Existing surface grades outside of the improved building, vault, and staging areas will be restored following construction.

For these reasons, the landscape and existing grade will be preserved to the maximum degree for the intertie site, considering development constraints and suitability of the landscape or grade to serve the functions of the intertie. Additionally, there are no trees and shrubs to be protected during construction.

#### Pipeline Appurtenances

As described above, the proposed pipeline appurtenances are small, widely-spaced, low-profile features along the pipelines located in ROW or on private property. The surface area of the vents, drains, and access vaults is typically less than 10 sf and outside of areas with trees or significant vegetation; the landscape at the appurtenance sites consists primarily of gravel road shoulders or roadside grasses, either within road ROWs or along private access drives. The existing grade at the appurtenance sites is flat to gently sloping; all finished grades around the appurtenances will be restored to existing conditions. The location and design of appurtenances are typical of existing utility equipment and pipeline appurtenances in the area, with minimal disturbance to the natural landscape and existing grades. Additionally, preservation and avoidance of natural landscape features in the SEC zones is documented in **Section 2.D**.

As provided above, the location and design of the above-ground appurtenances will preserve the landscape and existing grade to the maximum practical degree. Preserved trees and shrubs will be protected during construction.

- 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.*



**Response:**

**Finished Water Intertie**

The intertie structures and site will be buffered and screened with a dense planting of conifer trees and mixed shrubs, as shown in Figure 4 and illustrated in Figures 9 through 12. The vault with a shed style access stairway, electrical building, and access area are centrally located within the site. The electrical building is located in the southwest corner of the site. A 15 to 30-foot-wide buffer will be planted around the perimeter of the site to obscure views of the electrical building and vault structures from neighboring properties as well as from Lusted Road. The proposed landscape buffers will help the intertie blend in with the surrounding natural environment. Views toward the intertie from Lusted Road will primarily be of trees that serve as screening and provide an extension of the nearby trees to the east and north. The exterior lighting layout for the intertie has been designed with the rural site location, safety, security, and lighting trespass in mind. Appendix F.1 demonstrates that no light will be cast off site.

For these reasons, the site areas and structures are designed, located, buffered, and screened to avoid and minimize adverse impacts on the site and neighboring properties.

**Pipeline Appurtenances**

The proposed pipeline appurtenances include at-grade drains and vaults, and low, diminutive air vents that are typical of existing pipeline appurtenances and utility equipment in the area. These low-profile features are typically located in remote locations away from buildings and in or near existing rights-of-way or access drives. They are typically spaced a quarter mile or more apart and have no existing screening or buffering. Given the limited height of the vent pipe and the limited at grade surface area, these features are currently allowed in any front or side yard. In the 100 years or more that they have been part of the existing landscape, they have had no adverse impacts on neighboring properties. As a result, the proposed appurtenances have been located to minimize adverse impacts and do not need additional screening or buffering in order to satisfy this criterion.

For the reasons set forth above, the pipeline appurtenances have been designed and located to avoid or substantially minimize impacts within the pipeline corridor and on neighboring properties.

## MCC 39.8045 Required Minimum Standards<sup>1</sup>

### C. Required Landscape Areas

*The following landscape requirements are established for developments subject to design review plan approval:*

- 1. A minimum of 15% of the development area shall be landscaped; provided, however, that computation of this minimum may include areas landscaped under subpart 3 of this subsection.*

**Response:** The finished water intertie location is approximately 21,823 square feet, thus requiring a minimum of 3,273 square feet (15 percent) of landscaping. The Landscaping Plan for the intertie (Figure 4 and Sheet LU-501 in Appendix A.2a) shows that 9,770 square feet of landscaping is proposed (or 45 percent of intertie site).

Surface conditions along the pipelines will be restored to previous conditions following construction. The Landscape Plan for the pipeline alignments on private property (Sheet LU-501, Appendix A.2a) shows that landscaping will be restored along the length of the pipeline alignment and this area substantially exceeds 15 percent of the pipeline development area.

- 2. All areas subject to the final design review plan and not otherwise improved shall be landscaped.*

**Response:** The intertie site will be fully improved and will include extensive landscaping as described above and shown in Figure 4.

All disturbance area from pipeline construction will be landscaped outside of existing driveway and other improvements that will be restored to their previous condition. On the private land in the MUA-20 and RR zones, this area includes an existing access road, grasses, and other vegetation. Landscape Plans in Appendix A.2a (Sheets LU-200 to LU-207) illustrate the proposed landscaping.

- 3. The following landscape requirements shall apply to parking and loading areas...*

**Response:** The proposed utility is not a staffed facility and does not generate visitors or regular deliveries. There is no required parking and no formal parking or loading area is proposed. Service visits by Water Bureau staff will be limited to one trip per week (Traffic Impact Study, Appendix C.1). A paved access and turnaround area provides access to the site.

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<sup>1</sup> Under MCC 39.8020(B) and (C), the standards of 39.8045 are not directly applicable to the intertie or pipelines but are nonetheless satisfied and addressed here.

## Parking, Loading, Circulation, and Access

This section reviews the applicable standards of MCC 39.6500 through 39.6600.

### MCC 39.6505 General Provisions

*In the event of the erection of a new building or an addition to an existing building, or any change in the use of an existing building, structure or land which results in an intensified use by customers, occupants, employees or other persons, off-street parking, loading and traffic circulation and access (whether pedestrian, vehicular or otherwise) shall be provided according to the requirements of this Section Subpart...*

**Response:** The proposed intertie includes new structures, but it is not a staffed facility and will not be used by customers, occupants, or other persons. Maintenance staff will access the site for pipeline service and testing just once per week on average.

### MCC 39.6560 Access

- A. *Where a parking or loading area does not abut directly on a public street or private street approved under Part 9 of this Chapter, there shall be provided an unobstructed driveway not less than 20 feet in width for two-way traffic, leading to a public street or approved private street. Traffic directions therefore shall be plainly marked.*

**Response:** There are no required parking or loading areas at the intertie. Access to the site will nevertheless be provided along a 20-foot-wide existing farm driveway as shown in Figure 3. The driveway will allow for two-way traffic and provide access to SE Lusted Road.

### MCC 39.6565 Dimensional Standards

### MCC 39.6570 Improvements

### MCC 39.6585 Landscape and Screening Requirements

**Response:** There is no parking associated with the pipeline use as it is not a staffed facility. The only vehicles accessing the pipeline alignment will be work vehicles necessary for maintenance or repair situations, expected not to exceed one trip per week. Therefore, the above parking-related standards do not apply.

### MCC 39.6590 Minimum Required Off-Street Parking Spaces

- F. *Unspecified Uses. Any use not specifically listed above shall have the off-street parking space requirements of the listed use or uses deemed most nearly equivalent by the Planning Director.*

**Response:** MCC 39.6590 provides standards for minimum required off-street parking spaces. The proposed pipelines are not staffed facilities with customers, occupants, or employees and do not require parking. Similarly, the proposed intertie also is not a staffed facility with customers, occupants, or regular employees. Consistent with the Planning Director's findings for Sam Barlow High School (Case No. T3-2019-11560, Appendix O.3), no parking is required for this use.

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### Signs

The Gresham Fire District requires an address sign along the intertie frontage road. This directional sign is shown in Figure 19. The applicable standards are reviewed below.

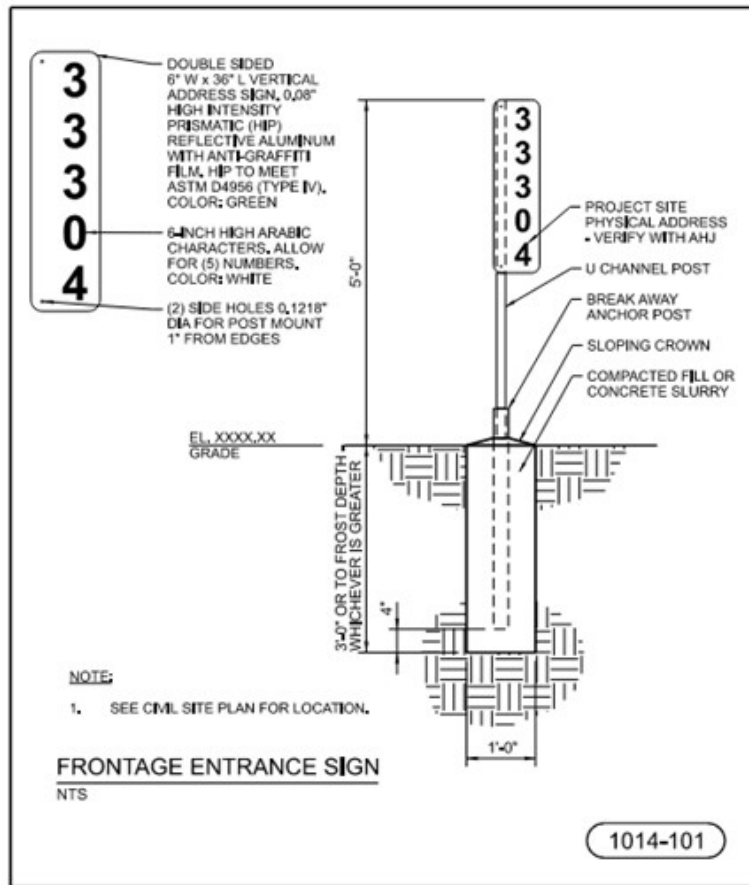


Figure 19. Intertie Address Sign

### MCC 39.6720 EXEMPT SIGNS

The following signs are exempt from the provisions of this Subpart, but may be subject to other portions of the County Zoning Code:

(D) Building numbers required by the applicable street naming and property numbering provisions in Multnomah County Code;

**Response:** The proposed sign is an address sign providing building numbers for the intertie, as required by the Gresham Fire District. It is therefore exempt.<sup>2</sup>

<sup>2</sup> While the sign is understood to be exempt, sign standards are nonetheless satisfied and addressed below.

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### MCC 39.6745 Signs Generally

*For all uses and sites in all zones except the LM, C-3 and MR-4 zones, the following types, numbers, sizes and features of signs are allowed. All allowed signs must also be in conformance with the sign development regulations of MCC 39.6780 through MCC 39.6820.*

*A. The following standards apply to Free Standing Signs:*

- 1. Allowable Area - Free standing signs are allowed .25 square feet of sign face area per linear foot of site frontage, up to a maximum of 40 square feet.*
- 2. Number - One free standing sign is allowed per site frontage.*
- 3. Height - The maximum height of a free standing sign is 16 feet.*
- 4. Extension into the Right-Of-Way - Free standing signs may not extend into the right-of-way.*

**Response:** The proposed sign is a directional sign at the intertie entrance, which is addressed in the findings under subsection D, below.

*B. The following standards apply to Signs Attached to Buildings.*

**Response:** These standards are not applicable.

*C. Sign Features. Permanent signs may have the following features:*

- 1. Signs may be indirectly illuminated downward onto the sign face.*
- 2. Electronic message centers are not allowed.*
- 3. Flashing signs are not allowed.*
- 4. Rotating signs are not allowed.*
- 5. Moving parts are not allowed.*

**Response:** The sign will not be illuminated. No electronic messages, flashing or rotating signs, or signs with moving parts are proposed.

*D. Additional Signs Allowed. In addition to the sign amounts allowed based on the site and building frontages, the following signs are allowed in all base zones for all usages:*

- 1. Directional signs pursuant to MCC 39.6805...*

**Response:** Figure 19 shows the proposed directional sign containing the property address. Its dimensions are approximately 8 inches wide by 24 inches long, and it stands five feet high.

### MCC 39.6780 Sign Placement

*A. Placement. All signs and sign structures shall be erected and attached totally within the site except when allowed to extend into the right-of-way.*

*B. Frontages. Signs allowed based on the length of one site frontage may not be placed on another site frontage. Signs allowed based on a primary building frontage may be placed on a secondary building frontage.*

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**Response:** The sign is within the site and next to the Lusted Road frontage.

C. *Vision Clearance Areas.*

- a. *No sign may be located within a vision clearance area as defined in subsection (C) (2) below. No support structure(s) for a sign may be located in a vision clearance area unless the combined total width is 12 inches or less and the combined total depth is 12 inches or less.*
2. *Location of vision clearance Areas - Vision clearance areas are triangular shaped areas located at the intersection of any combination of rights-of-way, private roads, alleys or driveways. The sides of the triangle extend 45 feet from the intersection of the vehicle travel area (See MCC 39.6820 Figure 2). The height of the vision clearance area is from three feet above grade to ten feet above grade.*

**Response:** The proposed address sign is located outside the vision clearance area as shown on the site plan in Appendix A.2b (Sheet LU-500).

- D. *Vehicle Area Clearances. When a sign extends over a private area where vehicles travel or are parked, the bottom of the sign structure shall be at least 14 feet above the ground. Vehicle areas include driveways, alleys, parking lots, and loading and maneuvering areas.*
- E. *Pedestrian Area Clearances. When a sign extends over private sidewalks, walkways or other spaces accessible to pedestrians, the bottom of the sign structure shall be at least 8-1/2 feet above the ground.*

**Response:** The entry sign does not extend over vehicle or pedestrian areas.

- F. *Required Yards and Setbacks. Signs may be erected in required yards and setbacks.*
- G. *Parking Areas.*

**Response:** The address sign is in the front yard.

### Exterior Lighting

This section reviews the proposed exterior lighting and compliance with Dark Sky Lighting Standards at the finished water intertie. No exterior lighting is proposed at other locations along the pipeline corridor.

#### MCC 39.6850 Dark Sky Lighting Standards

- A. *The purpose of the Dark Sky Lighting Standards in this Section is to protect and promote public health, safety and welfare by preserving the use of exterior lighting for security and the nighttime use and enjoyment of property while minimizing the obtrusive aspects of exterior lighting uses that degrade the nighttime visual environment and negatively impact wildlife and human health.*
- B. *The following exterior lighting is exempt from the requirements of paragraph (C) of this section...*

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**Response:** The exterior lighting proposed at the intertie meets the applicable standards of Subsection C below.

- 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.*

**Response:** Proposed exterior lighting will be fully shielded and directed downwards as documented in Appendix F.1, Exterior Site Lighting Analysis, which includes a Site Lighting Plan. The plan shows the location and shield types of proposed fixtures. Exterior lights will be a sharp cut-off type and designed to prevent light trespass outside the intertie site. The Lighting Plan shows two types of lights: Type M1 lights mounted to the side of the electrical building, and Type S1 pole mounted lights. The exterior lighting will be on switches to allow independent operation of the building and pole lights. Commonly, only the Type M1 luminaire would be energized in the evenings, whereas the pole mounted S1 lights would only be energized when needed for maintenance activities occurring at night, which would be seldom.

As documented in **Appendix F.1**, Exterior Site Lighting Analysis, when all the lights are energized, there is no light trespass outside of the boundary of the intertie site.