MEMORANDUM

To: Jesse Winterowd, AICP, PMP
From: Anita Smyth, MS, SPWS
Date: May 16, 2022
Subject: Distribution Main Wildlife Conservation Plan

Introduction

The Portland Water Bureau (Water Bureau) proposes to construct the Bull Run Pipeline Project that will construct new pipelines from the existing raw water conduits to the proposed filtration facility and then tie into the existing finished water (FW) conduit system downstream of the proposed filtration facility. The Lusted Road Distribution Main (distribution main) currently supplies water to local water customers and five wholesale water districts. Once the filtration facility is online, the water supply to this distribution main will need to receive water from the filtration facility. A proposed new gravity-feed main will extend the existing distribution main to the new finished water (FW) pipelines.

The proposed distribution main through the Significant Environmental Concern – habitat (SEC-h) overlay zone shown on Figure 1 is the subject of this memo.[1] The alignment for this segment passes through the Lusted Hill Treatment Facility (Lusted Hill) property and adjacent land, connecting with the existing main located outside the SEC-h zone (Figure 2).

The project team evaluated the area and determined the optimal strategy to eliminate impacts to the SEC-h zone. The distribution main will be constructed entirely in the Cottrell Road ROW before turning east into the Lusted Hill site. In the SEC-h zone at Lusted Hill, open trench construction is limited to the Lusted Hill driveway and parking lot areas, and then follows an adjacent cleared utility corridor area east to a bore pit (Figures 3 and 4). From the bore pit, the proposed distribution main will be bored underground along an existing disturbed utility corridor (Figure 3) parallel to existing Conduit 3, avoiding additional impacts to this SEC-h zone.

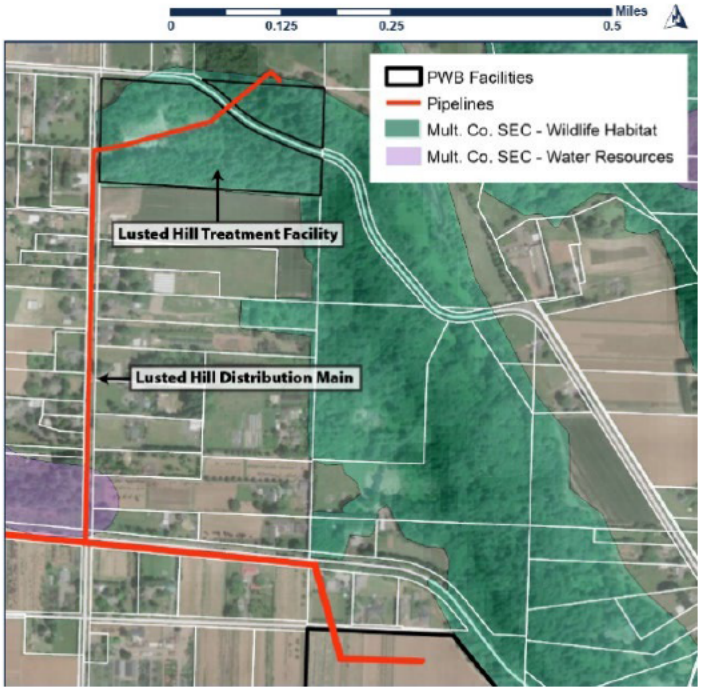

Figure 1. Lusted Road Distribution Main alignment

[1] The distribution main is located within right of way where it crosses the SEC-wr zone and is therefore exempt under MCC 39.5515(A)(24).

The combination of siting construction within already-developed areas and trenchless construction methods avoids impacts to protected forest resources within the SEC-h zone. However, the alignment must transit the SEC-h zone and therefore requires an SEC review.

To meet the County's SEC-h requirements, the Water Bureau has prepared a Wildlife Conservation Plan, pursuant to Multnomah County Code (MCC) 39.5860(C). This memo presents the Wildlife Conservation Plan and responds to the SEC approval criteria.

Within the SEC-h zone, the proposed project activities include:

- Entry bore pit at connection with existing main (all work outside SEC-h zone)
- Trenchless bore to exit pit
- Exit bore pit for pipeline (within existing cleared area/utility corridor)
- Open cut from exit pit through driveway and parking area to Cottrell Road

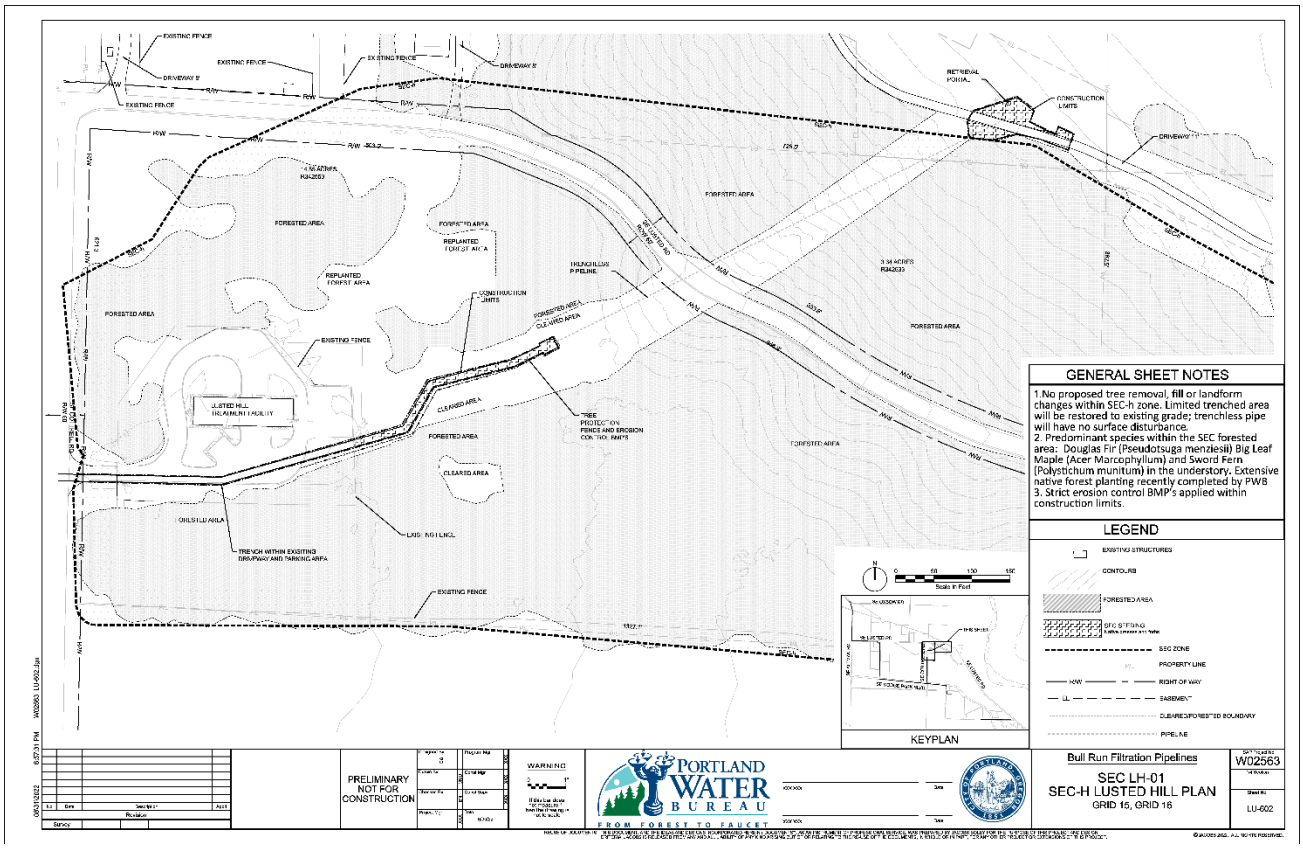

Figure 2. Distribution main alignment through SEC-h zone

Of these activities, the exit bore pit and the open cut from exit pit through the parking lot and driveway are the only surface disturbance proposed within in the SEC-h zone. The remaining activities are outside the SEC-h zone or deep below ground. The site is accessible and no trees or vegetation within the SEC-h zone are proposed to be disturbed to construct the distribution main.

Wildlife Conservation Plan

The entry bore pit has been located north of the SEC-h zone; it is within the existing utility easement through which Conduit 3 passes. The bore pit has been located to the north of the SEC-h zone to avoid temporary impacts from the necessary excavation. The existing easement also lacks trees, so the co-location of utilities will avoid longer-term impacts from tree removal. Boring eliminates surface disturbance within the northern 600 feet of the SEC-h zone as well.

The receiving pit lies within the SEC-h overlay zone in an existing cleared area (Figure 3). From this location, the pipe will be trenched to the existing driveway and parking area (Figure 3 and 4). While these elements lie within the overlay zone, no natural resources will be disturbed from construction activities.

The proposed Wildlife Conservation Plan shows that all trees and forested areas within the SEC-h zone are protected. There will be no tree or vegetation disturbance and no impacts to protected SEC-h habitat resources (Figure 3 and 4).

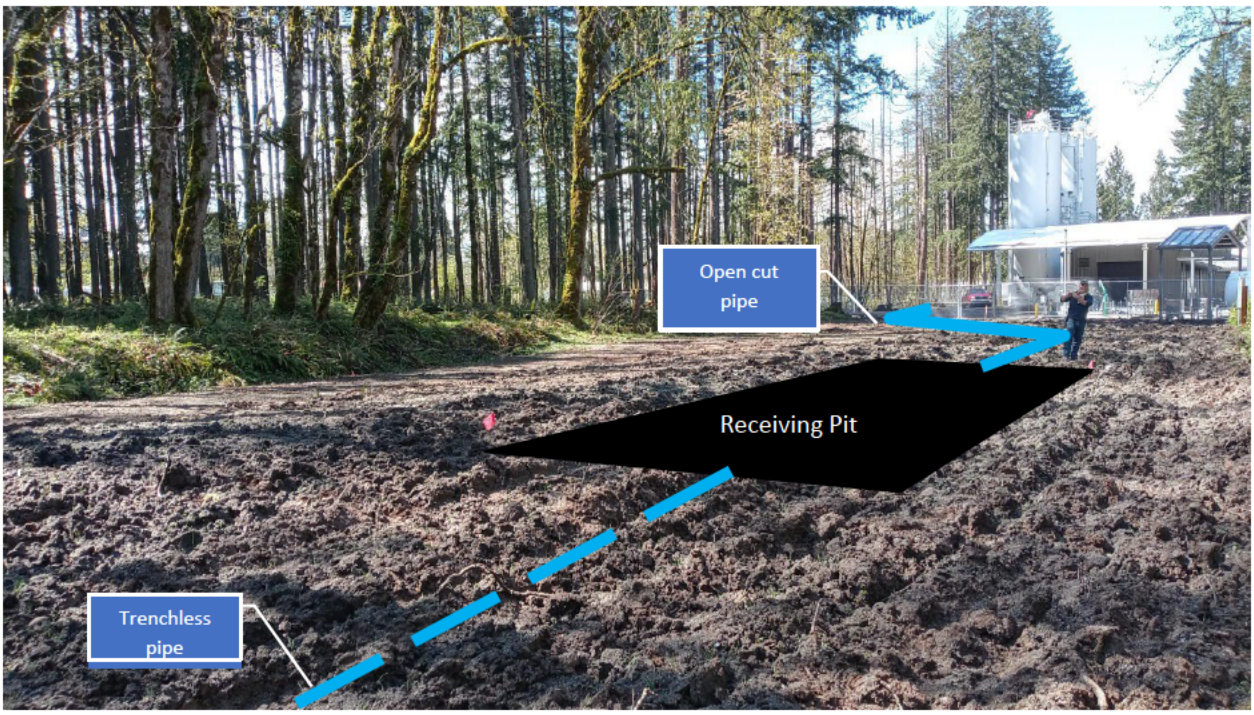

Figure 3: Looking west at the main receiving pit and pipe alignments at the Lusted Hill work area, including existing cleared utility corridor area in the foreground

Figure 4: Distribution main through Lusted Hill parking area looking east

Forest Areas and Habitat Conditions

Winterbrook's professional environmental scientist, Anita Smyth, MS, SPWS conducted a survey of habitat conditions and forested/non-forested areas of the site. The field study area included the existing developed areas, the utility corridor, and existing cleared areas.

<u>Forest/Non-Forest Areas</u>

Forested and non-forested areas within the SEC-h zone were documented using on-site investigations and aerial photo interpretation. As stated in MCC 39.5860(A)(1):

> ...a forested area is defined as an area that has at least 75 percent crown closure, or 80 square feet of basal area per acre, of trees 11 inches DBH and larger, or an area which is being reforested pursuant to Forest Practice Rules of the Department of Forestry. A non-forested "cleared" area is defined as an area which does not meet the description of a forested area and which is not being reforested pursuant to a forest management plan.

Figure 2 identifies the forested and cleared areas in the vicinity of the bore pit and pipeline construction zone and across the width of the SEC-h zone.

<u>Habitat Conditions</u>

Habitat conditions in the SEC-h overlay affected by this segment of the project are confined to the existing utility easement and the parking lot and driveway associated with Lusted Hill. The paved areas support no habitat values, as they are entirely unvegetated. As seen in Figure 3 and 4 above, the easement has been disturbed by activities authorized by land use case T3-2019-11784 and is also unvegetated at this time. That land use authorization includes a revegetation plan to restore herbaceous vegetation cover (woody vegetation is avoided to avoid future root conflict with the pipelines).

Outside of the easement and developed areas, the SEC-h overlay zone contains a mature mixed mesic forest dominated by Douglas fir (*Pseudotsuga menziesii*) and bigleaf maple (*Acer macrophyllum*) with occasional red alder (*Alnus rubra*). In the understory, planting efforts have established a shrub community including Saskatoon serviceberry (*Amelanchier alnifolia*), Pacific

ninebark (*Physocarpus capitatus*), and snowberry (*Symphoricarpos albus*), infiltrated somewhat by Himalayan blackberry (*Rubus armeniacus*). The dominant herbaceous species are swordfern (*Polystichum munitum*) and creeping buttercup (*Ranunculus repens*) with lesser amounts of lady fern (*Athyrium filix-femina*), brackenfern (*Pteridium aquilinum*), sedges (*Carex leptopoda, C. hendersonii*), Pacific bleedingheart (*Dicentra formosa*) and other common forest forbs.

Habitat values within the proposed work area are currently low, with no existing vegetation present. Limiting factors for habitat include forest fragmentation and proximity to Lusted Road, which passes through the SEC-h zone. The forest habitat adjacent to the proposed pipe alignment provides forage, cover, movement corridor, and nest sites for birds and small mammals. The interior of the forest includes more diverse structural elements such as snags and downed logs.

Low Impact Design

To minimize wildlife habitat impacts and tree removal, all construction activities will either utilize trenchless construction techniques to avoid all surface disturbance or will be constructed in areas that are currently paved or cleared.

The proposed subsurface main will travel in a driveway, parking lot, and utility corridor that are already disturbed from prior activity. The bore alignment is in a cleared utility corridor and is at sufficient depth that it will not interface with the soil surface or tree root zones within the SEC-h zone. No direct or indirect impacts are proposed to trees, forest, or habitat subject to the SEC-h overlay requirements.

Overall, the proposal avoids all forest habitat disturbance, including any encroachment or fragmentation of forest habitat areas. All temporary disturbance areas within the SEC-h zone will be revegetated with native plantings as shown on Figure 2. In summary, the project will have no impact on protected SEC-h resources.

Review of SEC-h Approval Criteria

MCC 39.5860(C)
Wildlife Conservation Plan. An applicant shall propose a wildlife conservation plan if one of two situations exist.

(1) The applicant cannot meet the development standards of subsection (B) because of physical characteristics unique to the property. The applicant must show that the wildlife conservation plan results in the minimum departure from the standards required in order to allow the use;

<u>Response</u>: The distribution main must cross through the SEC-h zone to reach the existing main located in a Water Bureau easement northeast of Lusted Hill. The project objectives and unusual physical characteristics of the site – including the existing cleared utility corridor and Water bureau

infrastructure – mean that for the distribution main to connect to the existing pipe, the standards related to distance from the road and property lines cannot be met. Therefore, a Wildlife Conservation Plan is proposed. The proposal is the minimum departure from the subsection (B) standards in order to allow the use, as the distribution main must cross the SEC-h zone that covers the entirety of the Lusted Hill site in order to reach the existing distribution main connection. This *Distribution Main Wildlife Conservation Plan* shows that all trees and forested areas within the SEC-h zone are protected and the plan meets the applicable standards below.

(3) Unless the wildlife conservation plan demonstrates satisfaction of the criteria in subsection (C)(5) of this section, the wildlife conservation plan must demonstrate the following:

> ***(a) That measures are included in order to reduce impacts to forested areas to the minimum necessary to serve the proposed development by restricting the amount of clearance and length/width of cleared areas and disturbing the least amount of forest canopy cover.***

Response: The proposed underground distribution main will have no impacts to forested areas or to forest canopy cover. The main was specifically designed to avoid all such impacts:

- Extending east from Cottrell Road, the main will be located beneath the existing Lusted Hill driveway and parking area;
- The main will extend north from the parking area within an existing cleared area to a jacking pit in an existing utility corridor; and
- The main will be bored below the SEC-h zone for the northern 600-foot section.

Thus, there is no proposed clearance of forest vegetation and the existing forest canopy cover within the SEC-h zone will be fully preserved. Therefore, impacts to forested areas have been reduced to the minimum necessary – as impacts are at zero. This standard is met.

> ***(b) That any newly cleared area associated with the development is not greater than one acre, excluding from this total the area of the minimum necessary accessway required for fire safety purposes.***

Response: No newly cleared areas are proposed. This standard is met.

> ***(c) That no fencing will be built and existing fencing will be removed outside of areas cleared for the site development except for existing cleared areas used for agricultural purposes.***

Response: No new fencing is proposed at the site. Fencing standards do not apply "where needed for security of utility facilities" (MCC39.5860(B)(6)(f)). This standard is met.

> ***(d) That revegetation of existing cleared areas on the property at a 2:1 ratio with newly cleared areas occurs if such cleared areas exist on the property.***

Response: No newly cleared areas are proposed within the SEC-h resource area; therefore, no revegetation is required. This standard does not apply.

The Water Bureau is actively reforesting the cleared areas of the LHTP site that do not serve existing development (Figure 4). Three acres of the site have been revegetated since 2018.

Figure 4. Forest plantings and invasive plant clearing at Lusted Hill

(e) That revegetation and enhancement of disturbed stream riparian areas occurs along drainages and streams located on the property.

Response: The SEC-h resource at this location is an upland forest. There are no stream riparian areas within the subject SEC-h zone. Therefore, this standard does not apply to this proposal.

Summary

By utilizing existing paved areas, an existing utility corridor, and trenchless construction techniques, impacts to the site's protected SEC-h forested habitat areas are fully avoided. Construction of the underground distribution main will result in no significant or long-term detrimental impacts to wildlife habitat functions.