To: Doug Beagle, City of Sumner

From: Natural Systems Design

Date: June 17, 2021

Re: Critical Areas Summary Memo, White River Restoration and Related Utilities Relocation, prepared for Resource, Wildlife, and Hazard Area (RWHA) review by City of Sumner

INTRODUCTION

Sumner Municipal Code (SMC) regulates critical areas, resource lands, wildlife habitat, and natural hazard areas within the City of Sumner, Washington. See SMC Chapter 16.40, and SMC Chapters 16.46 through 16.58 (collectively Sumner’s “critical areas ordinances”). “Critical areas” are those areas established as volcanic hazard areas, wetlands, flood hazard areas, fish and wildlife habitat areas, seismic hazard areas, landslide hazard areas, erosion hazard areas, and aquifer recharge areas (SMC 16.40.060).

The White River Restoration and related utilities relocation aspects of the White River Restoration Project (Project) require work within areas regulated by the City as critical areas. This critical areas summary memo is focused on the Project (Appendix A, Figure 1). The City anticipates construction of the utilities relocation components in 2022 as those aspects must be completed before the restoration aspects and the larger Project can be constructed. This memo has been prepared for the City of Sumner Planning Department’s use in considering a Resource, Wildlife, and Hazard Area (RWHA) approval for the Project actions (SMC 16.40.135 and 16.46.080).

BACKGROUND

Significant documentation has been previously prepared for the Project. The information in this memo has been compiled and summarized by NSD largely from the Project’s other regulatory application materials. The following attached documents (Appendix B, Supporting Documents) provide additional details relative to critical areas regulated by the City of Sumner as summarized herein:

1. JARPA Attachment 1, Permit Drawings
   a. JARPA Vicinity (V-sheets)
   b. JARPA Restoration (R-sheets)
   c. JARPA Utility (U-sheets)
4. KPG Geotechnical Data Report White River Restoration Utility Relocation Project, August 29, 2019

1 While BNSF is concurrently developing the Sumner Staging Tracks Project (BNSF Project), BNSF is not required to seek approval under the State Environmental Policy Act (SEPA) or critical areas authorization from the City for the BNSF Project. Consequently, the BNSF Project is not defined as part of the Project.
5. KPG. 2021. City of Sumner 24th St. E. Utility Relocation 90% Plan Set, prepared for City of Sumner, February 2021.
7. NSD Regulatory Floodplain Context, White River Restoration Project memo, prepared for City of Sumner, September 2, 2020

PROPOSED ACTIONS

The floodplain restoration will occur on a 203-acre portion of the former Sumner Meadows Golf Links golf course, as well as agricultural land south of the golf course (Appendix A, Figure 2; Appendix B, permit drawings Sheet V-2 and Sheets R-1 through R-5). The restoration will expand flood storage and reestablish geomorphic processes in this channelized reach of the White River. The Project will enable frequent activation of the floodplain, reestablish habitat-forming processes, and maintain those habitats over time, even with continued channel aggradation and climate change. Restoration will include increased flood storage capacity and instream habitat improvements along both banks of the lower White River. The restoration is proposed to improve habitat and water quality ecosystem functioning through development of a more resilient river channel and floodplain corridor that is connected with a diversity of restored native forest, side channels, and wetlands. The proposed restoration will also reduce flood risk by providing increased floodplain capacity and will restore native vegetation, including forested wetland, mixed coniferous and deciduous upland forest, and scrub-shrub plant communities. The restoration will improve rearing opportunities for salmonids by providing slower water habitats, increased channel complexity, increased number and depths of pools, and more frequently engaged floodplain food webs. The new channel network will be able to adjust to current and future sediment loads.

The restoration components of the Project are anticipated to require at least five construction seasons.

Restoration Actions

The restoration actions will lower the existing floodplain via grading to restore a more natural channel and floodplain configuration and allow for significant expansion of aquatic habitats. The new floodplain configuration will allow for dynamic channel processes to occur while maintaining stable boundaries to protect adjacent developments. New, more natural, channels will be installed for the Dieringer Tailrace and #9 Ditch (Appendix A, Figure 2). Twenty-one Engineered Log Jams (ELJs) will be installed in the White River channel and new side channels. Approximately 163 acres will be planted to restore native floodplain and riparian plant communities. Grading will occur along a small tributary “No-Name Creek” that enters the north end of the project area to expand floodplain connectivity.

The existing Sumner Link Trail will be rerouted along the east perimeter of the restoration site. Portions of the trail on the west side of the river will be relocated to be further away from the active channel. A new 16-foot-wide trail will be paved on the forested bench at the eastern end of the floodplain grading area. The trail will cross the Dieringer Tailrace on a single-span pedestrian bridge with pedestrian railings. The relocated Sumner Link Trail will connect to the existing trail, maintaining the north and south connection points.

In-water work will be necessary to complete the project. In-water work will include rerouting of the Dieringer Tailrace and #9 Ditch to natural flow paths, isolation of off-channel connection points with the existing White River channel, placement of ELJs, and installation of complex wood revetments on the White River. All in-water
work will occur within the designated in-water work window (July 1-August 31) with the exception of isolation cofferdam removal, which may occur until November 1.

As part of the project, the at-grade railroad crossing at 24th Street E will be closed permanently. The bridge at 148th Avenue E that crosses the Dieringer Tailrace will be removed.

Utilities Actions

An existing utility corridor that includes above and below ground lines occurs along 24th Street. Water, sewer, and gas lines are attached to the existing pedestrian bridge that are buried on the east side of the river. These lines will be modified and/or relocated to maintain their function upon completion of the Project (Appendix B, permit drawings, Sheets U-1 and U-2; see JARPA Attachment 5, Figure 3 for utility corridor locations; Appendix B, KPG City of Sumner, 24th St. E. Utility Relocation Plan Set and Golder 2019 Proposed HDD Plan and Profile Sheet).

Utility relocations include:

1. Existing Puget Sound Energy (PSE) overhead power lines will remain in their current corridor, but poles will be moved to maximize floodplain area, as some existing poles would interfere with project elements.
2. PSE gas lines will be installed in new conduit that will be directionally drilled below the White River and floodplain. The Horizontal Directional Drill (HDD) will be approximately 24.5 feet below the thalweg (lowest point) in the White River.
3. Water, sewer, and gas lines will be bored below the eastern floodplain from the east side of the 24th Street pedestrian bridge to locations east of the BNSF tracks.
4. As part of the sewer line relocation, an existing sewer pump station will be relocated to a location east of the BNSF tracks.

All underground utilities will be drilled deeper than their existing depths. Utility corridors will be planted with native shrubs that can be cleared and/or driven over if maintenance access is needed.

WORK WITHIN CRITICAL AREAS

Work within critical areas will result from direct disturbance associated with the construction of the habitat restoration elements and related required relocation of utilities. Unavoidable impacts to critical areas from both proposed actions will be offset by the significant functional uplift that is expected to occur within the restoration area. A Resource, Wildlife, and Hazard Area (RWHA) approval will be required for the project actions.

Work will occur within the following City-regulated critical areas:

1. Wetlands (Chapter 16.46)
2. Aquifer Recharge Area (Chapter 16.48)
3. Landslide and Erosion Hazard Area (Chapter 16.50)
4. Seismic Hazard Area (Chapter 16.52)
5. Volcanic Hazard Area (Chapter 16.54)
6. Wildlife Habitat Area (Chapter 16.56)
7. Flood Hazard Area (Chapter 16.58)
In preparing the below summary, NSD utilized the City’s critical areas maps available on the City’s website (https://sumnerwa.gov/about/aboutsumner/maps/), accessed on April 14 to April 16, 2021. NSD applied the project area boundary to these figures to illustrate the critical areas mapped within the project area (Appendix A, Figures).

**Wetlands**

Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands (SMC 16.46.030(28) Definitions).

The City of Sumner’s wetland inventory map illustrates wetlands only at the eastern extent of the utilities relocation work, specifically the HDD and the associated sewer pump station area along the eastern end of 24th Street East, east of the BNSF tracks (Appendix A, Figure 3). These wetlands are also reflected in the National Wetland Inventory map, which additionally illustrates wetlands north and south of the Dieringer Tailrace and maps the constructed landscape features (i.e., constructed golf course water features) north of the Tailrace as wetlands.

Multiple wetland investigations have occurred in support of the Project by Widener Associates and by Soundview Consultants. These investigations are summarized in the Widener Associates Wetland Investigation and Delineation Report (JARPA Attachment 2) which found that two wetlands (Wetlands N and O, Table 1) are located within the Project area; aquatic habitats in the form of the Dieringer Tailrace and the #9 Ditch, which both flow into the White River within the Project limits, and approximately 13,766 linear feet of other drainage ditches which are hydrologically connected to the Dieringer Tailrace or the White River via the #9 Ditch are also present within the Project area (Appendix B, Table 1 within JARPA Attachment 2).

### Table 1. Summary of Wetlands within Project Area

<table>
<thead>
<tr>
<th>WETLAND NAME</th>
<th>PROJECT ACTION AFFECTING WETLAND AND/OR BUFFER</th>
<th>COWARDIN VEGETATION CLASSIFICATION</th>
<th>WETLAND SIZE (ACRES)</th>
<th>REGULATORY CATEGORY PER WA STATE RATING SYSTEM</th>
<th>BUFFER WIDTH (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland N</td>
<td>Utilities relocation buffer impact</td>
<td>Palustrine scrub-shrub and emergent</td>
<td>0.83</td>
<td>III</td>
<td>60</td>
</tr>
<tr>
<td>Wetland O</td>
<td>Utilities relocation buffer impact</td>
<td>Palustrine scrub-shrub and emergent</td>
<td>5.9</td>
<td>III</td>
<td>60</td>
</tr>
</tbody>
</table>

1. Wetland category per wetland delineation report (Appendix B, JARPA Attachment 2)
2. Wetland buffer per wetland delineation report (Appendix B, JARPA Attachment 2) per SMC 16.46.150(A.4) and 16.46.150(A)-Table 1.
Impacts of Proposed Actions

The relocated pump station and associated sewer line connection east of the BNSF tracks along 24th Street East would not affect Wetland N (Category III) or Wetland O (Category III) directly but would impact the currently non-functional outer edge of Wetland N’s and O’s 60-foot buffers (approximately 0.45-acre total impact; 0.38-acre Wetland O buffer, 0.07-acre overlapping Wetland N and O buffer). The regulatory buffers in Figure 3 of the Wetland Delineation Report (Appendix B, JARPA Attachment 2) are depicted as extending over the existing pavement of 24th Street East, which would be repaved after the utility work is completed.

Of the total buffer impact, only 0.19-acre is vegetated, as there is a narrow strip of trees along the north edge of 24th Street East. The trees are isolated from both wetlands along the north side of the roadway, providing no buffer functions to the wetlands. There would be no functional change in the condition of Wetland N’s or O’s buffer, as the proposed condition (i.e., repaved road) would be the same as the existing non-functional existing condition (i.e., paved road).

Mitigation Sequencing

Consistent with SMC 16.46.140(A) and (B), the Project has taken affirmative and appropriate measures to minimize and compensate for unavoidable impacts and will result in no net loss of wetland, wetland buffer area and wetland function. The proposed actions have avoided impacts to Wetlands N and O through intentional siting of the new pump station and maintaining associated disturbance to the existing, already paved roadway already present as the non-functional northern buffer of Wetland O.

The proposed actions would reestablish approximately 163-acres of White River floodplain to a diverse mosaic of riparian forest and at least 3.96 acres of scrub-shrub and emergent wetlands with an associated mixture of water quality, hydrologic, and habitat functions. In so doing, the proposed actions would reestablish geomorphic connection and native vegetation communities in the White River’s Urban-Conservancy shoreline zone, would more than compensate for the approximately 0.45-acre of utility relocation-related impacts to the non-functional buffer of Wetlands N and O, and would restore approximately 12.64 acres of side channel habitat, as well as associated aquatic habitat functions to what is currently the Dieringer Tailrace and #9 Ditch.

The limited functions provided by the 14 constructed landscape features would also be replaced through the floodplain restoration actions. In total, the proposed actions are consistent with the provisions in the SMC 16.46.170 for minimizing and replacing wetlands impacts in that the proposed actions will result in no net loss of wetland area and function and have been designed to reestablish and protect wetland functions and values along this portion of the White River.

Aquifer Recharge Area

Aquifer recharge areas are areas within the city where the prevailing geologic conditions allow infiltration rates which create a high potential for contamination of groundwater resources or contribute to the replenishment of groundwater (SMC 16.48.050). Aquifer recharge areas are defined (SMC 16.48.060) as either:

A. Areas with the two highest DRASTIC zones which are rated 180 and above on the DRASTIC index range, as identified in Map of Groundwater Pollution Potential, Pierce County, Washington, National Water Well Association, U.S. Environmental Protection Agency; or

B. Wellhead protection areas designated for water supply wells and springs (pursuant to WAC 246-290-135) and located within the municipal boundary of the city of Sumner.
The entire Project lies within an Aquifer Recharge Area (DRASTIC zones rated 180 or greater) (Appendix A, Figure 4). The project actions would occur within the 5- and 10-year time-of-travel zones for the wellhead protection of the Sumner Springs and County Springs well/water source sites and the southern extent of the restoration actions along the White River would occur within the 10-year time-of-travel zone for the wellhead protection area of the Weber Springs well/water source site. “Wellhead protection area” is the area within the 10-year time-of-travel zone boundary of a group A public water system well, as delineated by the water system purveyor or its designee, pursuant to WAC 246-290-135 (SMC 16.40.060).

The floodplain restoration aspects of the proposed actions should be supportive of aquifer recharge in that they will reconnect the White River with its floodplain and thus with its underlying aquifer.

The project actions are not any of the types of land uses which require a hydrogeological assessment of the site (SMC 16.48.090), nor are they of the type or located within the specified 1-year time-of-travel zones for wellhead protection areas (SMC 16.48.100). The City will comply with SMC 16.48.070 regarding title notification for the parcels of the Project that lie within an Aquifer Recharge Area.

### Landslide and Erosion Hazard Area

Landslide and Erosion Hazard Areas are those areas subject to risk of mass movement. Such areas include, among others, slopes steeper than 25% (Type I Landslide Hazard Areas) and slopes steeper than 15% but less than 25% (Type II Landslide Hazard Areas) (SMC 16.50.050.A). Erosion hazard areas are those areas that are identified by the presence of vegetative cover, soil texture, slope, and rainfall patterns, or human-induced changes to such characteristics, which create site conditions which are vulnerable to excessive erosion. Erosion hazard areas are those areas that are classified as having moderate to severe, severe, or very severe erosion potential according to the Natural Resource Conservation Service (SMC 16.50.050.B).

The eastern extent of the utilities relocation work, specifically the HDD and the associated sewer pump station, are adjacent to, but outside of an area mapped as 15% Slopes or Greater-Less Than 25% Slopes, a Type 2 Landslide and Erosion Hazard Area Landslide and Erosion Hazard Area (Appendix A, Figure 5).

The proposed actions do not include construction of any facilities or structures in which people will reside or work; new impervious surfaces are confined to the relocated component of the Sumner Link trail, the relocated pump station and associated asphalt concrete paving on 24th Street East.

Even though the project actions will occur on flat ground outside of the mapped Landslide and Erosion Hazard area, the project actions will comply with the required performance standards (16.50.110) for actions in Type II Landslide Hazard Areas, specifically to control drainage and prevent erosion during construction and to revegetated temporarily disturbed areas of the utilities relocation work soon as possible following construction.

### Seismic Hazard Area

Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, fault rupture, or soil liquefaction (SMC 16.52.050). Seismic hazard areas are areas where the suspected risk of earthquake-induced landsliding, dynamic settlement, fault rupture, or ground deformation caused by soil liquefaction, is sufficient to require a further seismic hazard area review as set forth in SMC 16.52.090.

The entire Project area is mapped by the City of Sumner as a High Liquefaction Area and the eastern extent of the HDD and the associated sewer pump station are in an area also mapped as High Dynamic Settlement Hazard (Appendix A, Figure 6).
A geotechnical report has been prepared relative to the utilities relocation aspects of the project actions (KPG Geotechnical Data Report 2019). The KPG geotechnical report discussed the existing geologic, topographic, and hydrologic conditions on a site, including an evaluation of the ability of the soil and structure to withstand the anticipated earthquake ground shaking and subsequent effects, consistent with 16.52.090.A, and presents recommendations for reducing seismic risks associated with the underlying surficial geology, consistent with 16.52.090.B and C.

The proposed utility relocation actions have been designed consistent with the geotechnical report recommendations to mitigate seismic hazard risk to the relocated utilities. The restoration will not construct any structures or dwellings subject to geotechnical review to address seismic hazard requirements.

**Volcanic Hazard Area**

Volcanic hazard areas are areas within the city which show a likelihood of lahars, debris flows, and related flooding associated with volcanic activity from Mt. Rainier (SMC 16.54.050). The entire Project area is mapped as a Volcanic Hazard Area (Appendix A, Figure 7). The nature of the proposed actions, however, is such that they will have no effect, nor be affected by, the mapped volcanic hazard area.

The proposed actions do not include construction of any facilities or structures in which people will reside or work; the proposed actions do not include any critical facilities listed in SMC 16.54.090 which are prohibited from being in a volcanic hazard area. The City will comply with SMC 16.54.070 regarding title notification that the parcels of the Project lie within a volcanic hazard area.

**Wildlife Habitat Area**

Fish and wildlife habitat areas are those areas identified as being of critical importance to sustain needed habitats and species for the functional integrity of the ecosystem and which, if altered, may reduce the likelihood that the species will persist over the long term (SMC 16.56.050); these areas may include:

A. Designated critical habitat for federally or state-listed endangered, threatened, or sensitive species of fish, wildlife, or plants;

B. Areas containing priority habitat and species as identified by the Washington State Department of Fish and Wildlife that are of local importance;

C. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and wildlife habitat;

D. The portion of the special flood hazard area within 200 feet of the OHWM of any lake, river or stream;

E. Waters of the state, including all water bodies classified by the Washington State Department of Natural Resources water typing classification system as detailed in WAC 222-16-030;

F. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;

G. State natural area preserves and natural resource conservation areas and state wildlife areas as designated by either the Washington State Department of Natural Resources or the Washington State Department of Fish and Wildlife.

The proposed actions would occur almost entirely within the 100-year special flood hazard area (Appendix A, Figure 8) and largely within the 100- to 200-foot Urban Conservancy shoreline zone along the White River (Appendix A, Figure 9). Thus, the proposed actions would occur within areas designated by the SMC 16.56.070.
and .080 as requiring a Habitat Management Plan (HMP), namely on a ‘potential habitat site’ which contains or is within:

(A) 300 feet of documented habitat for threatened, endangered, or sensitive fish or wildlife species as identified by documents listed under SMC 16.56.060 (i.e., WDFW priority habitats and species program; WDNR Natural Heritage Program; WDNR Aquatic Resources Program);

(B) A wetland, wetland buffer, stream, or stream buffer; or

(C) The portion of the mapped special flood hazard area within 200 feet of the OHWM of any lake, river, or stream.

Habitat Management Plan

A complete habitat management plan (HMP) will be prepared as part of the review of the Project under the Sumner Shoreline Management Plan, consistent with the requirements of SMC 16.56.080 Habitat Management Plans. The below sections present summary information intended to provide sufficient detail for review of the Project under SEPA and for the City of Sumner Planning Department’s use in considering a Resource, Wildlife, and Hazard Area (RWHA) approval for the Project (per SMC 16.46.080).

It is anticipated that the Project would establish a contiguous buffer of undisturbed native vegetation of greater than 200 feet along the White River through the Project site, consistent with SMC 16.56.100 Buffers, and that the Sumner Link Trail and utility relocation components of the Project will be considered allowable uses in fish and wildlife buffers, per SMC 16.56.100(G).

Site Description and Habitat Functions

In summary, the Project site supports degraded floodplain habitat in the form of the former Sumner Links golf course greens and landscape features, agricultural areas, and associated ditches that bisect these areas and convey surface and groundwater to the White River. The Project area includes floodplain and floodway as mapped and regulated by FEMA and the City of Sumner. Existing impervious surfaces include golf cart pathways, parking lot, a section of the Summer Link Trail, 148th Avenue E, and a section of 24th Street E. A largely deciduous forested and scrub-shrub riparian zone is present as a typically a narrow, 60- to 100-foot zone along the channel, largely dominated by invasive and non-native vegetation species (e.g., Himalayan blackberry).

In their current condition, the Project site provides open water and grass/meadow habitat (e.g., golf course greens and landscape features), transitional meadow and shrub habitat, currently farmed agricultural areas, deciduous riparian forest along the river, and edge habitat where these habitats meet. These habitat types provide foraging, breeding, and resting/refuge/cover functions to a suite of urban-matrix adapted wildlife species ranging from resident and migratory birds, waterfowl (e.g., ducks, geese, herons), raptors (e.g. red-tailed hawk, bald eagles, Cooper’s hawk, Northern harrier), urban-interface adapted mammals (e.g., coyote, possum, raccoon, river otter, bats, moles and voles), and amphibians and reptiles that utilize open water/riverine/wetland and upland habitat edges (e.g., amphibians such as various species of frogs, salamanders, newts, and reptiles such as garter snakes).

The portion of the site north of the Dieringer Tailrace is periodically disturbed by passive recreational uses (e.g., walking, jogging, dog-walking). These activities, coupled with the proximity to the BNSF corridor and to paved and regularly trafficked roads, and the generally urbanized nature of the lower White River corridor near the project site, limit the extent and nature of wildlife habitat functions under existing conditions.

The aquatic habitats of the White River, Dieringer Tailrace, #9 ditch and associated tributaries, and the unnamed ditches on the site are degraded in terms of water quality, substrate, habitat complexity, and shoreline condition.
to the point that habitat restoration projects that create side channels, backwater, and off channel habitat for juvenile rearing and refuge was recommended at a regional level (Puyallup and Chambers Watersheds Salmon Recovery Lead Entity 2018). Habitat conditions include heavily modified planforms, steep channel slopes, culverts and flapgates/lids on culvert outfalls, trash racks, and managed flows (White River via Mud Mountain Dam; Dieringer Tailrace via Lake Tapps drainage). While some reaches of the #9 ditch still support native streambed cobbles and gravels, native riparian species, and areas with a largely native vegetative canopy (Jacobs 2020), overall aquatic habitat conditions are poor because of human activities, habitat loss, and the alteration of habitat forming processes.

**Inventory of Species and Habitats**

Numerous studies and ongoing monitoring by the Puyallup Tribe have documented the extent and nature of fish and wildlife use of the White River and the existing habitats within the project area, including the Biological Evaluation (JARPA Attachment 5) which specifically focused on Endangered Species Act (ESA) listed species and their designated critical habitat. Materials prepared for the Project’s federal permit application, specifically the alternatives analysis and cumulative impacts analysis, have also presented and considered the benefits of the proposed actions for the diversity of fish and wildlife and their habitats present in the vicinity of the project area.

These analyses have documented that the Lower White River and its associated currently isolated and degraded floodplain presently supports the following fish and wildlife species and habitats with a federal or state designation:

- **Endangered Species Act Listed Species and Critical Habitat in vicinity of proposed actions.**
  - Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*, Threatened) and Designated Critical Habitat
  - Bull Trout (*Salvelinus confluentus*, Threatened) and Designated Critical Habitat
  - Puget Sound Steelhead Trout (*Oncorhynchus mykiss*, Threatened) and Designated Critical Habitat

- **Washington State Priority Habitats and Species mapped in vicinity of proposed actions.**
  - Lower White River and Dieringer Tailrace – documented use by Chinook, bull trout, and steelhead trout, as well as Coho salmon (*Oncorhynchus kisutch*)
  - Freshwater emergent, scrub-shrub, and forested wetlands
  - Lower White River agricultural wetlands
  - Regular waterfowl concentration area

In addition, the #9 Ditch and Unnamed ditches and associated areas of the floodplain may support juvenile salmonids, as well as other native fish (e.g., sculpin, stickleback), native amphibians (e.g., Pacific chorus frog, red-legged frog, salamanders, and newts), and native reptiles (e.g., garter snake) which can utilize the degraded water quality and riparian conditions currently present.

White River Spring Chinook is the only remaining spring Chinook salmon stock found in the South Puget Sound region, having unique life history and genetic traits, and is considered to be the most genetically distinctive stock in central and south Puget Sound (Puyallup and Chambers Watersheds Salmon Recovery Lead Entity 2018). Some White River Spring Chinook spawning does occur in the upper and lower mainstem areas of the White River. Spring Chinook salmon can be found rearing in freshwater habitats throughout every month of the year. Chinook salmon spend three months to two years of their lives rearing in fresh water before migrating to the ocean, where they spend six months to seven years maturing.
Summary of Management Recommendations

The Project is consistent with the WDFW 2020 *Riparian Ecosystems* management recommendations for Restoration Actions in that it was developed at a watershed scale to connect and provide access to isolated habitat and to restore habitat-forming processes, reference condition vegetation communities, and a diverse interspersion of habitats across a large area (Windrope et.al., 2020). Because the Project has been specifically designed to facilitate the connection of the river with its floodplain and thus to restore the processes that develop and sustain complex habitats, they are also consistent the WDFW’s published management recommendations for birds that may utilize the waterfowl concentration area along the White River (e.g., cavity nesting ducks, great blue heron, harlequin duck) (Larsen et. al. 2004).

The aquatic habitat elements (e.g., 21 ELJs) and floodplain grading have been specifically designed to create a more natural channel morphology and improve floodplain connectivity (within the constraints of the infrastructure and development on adjacent parcels), including 12.64 acres of new side channels and open water habitat. The aquatic habitat elements have been designed to function at geomorphically important flows (i.e., 3,500 to 5,000 cfs), engaging the floodplain more frequently and at lower flows than under the current conditions. Wetland formation, coupled with inset floodplain benches and the formation of an anastomosed channel across the floodplain will improve rearing opportunities for salmonids by providing slower water habitats, increasing the number and depths of pools, and engaging floodplain food webs. The new channel network will be able to accommodate current and future sediment loads, and it will increase floodplain activation and inundation frequency.

Effects on Fish and Wildlife Habitat

The White River, the Dieringer Tailrace and #9 Ditch, as well as the unnamed ditches would all be affected by the proposed actions, as would approximately 40.5 acres of riparian buffer of the White River and approximately 1.8 acres of riparian buffer associated with the #9 Ditch. Floodplain grading and construction of temporary access roads will require clearing the 42.3 acres of riparian buffer of the White River and #9 Ditch in Years 1, 2, and 3 of construction. These buffers currently consist of grass and shrubs, including invasive and undesirable species. Areas of mature riparian forest were avoided where possible unless grading was necessary to meet floodplain function and riparian or side channel habitat goals.

The entire site, including the buffers, will be immediately stabilized, and reseeded in accordance with the temporary erosion and sediment control plan. Final planting of these areas will occur in Years 4 and 5 of construction (Appendix B, permit drawings Sheets R-13 through R-17). Water quality impacts during construction will be carefully controlled in accordance with construction BMPs and permit requirements.

These impacts to wildlife habitat areas and their associated buffers are necessary to complete the aquatic habitat restoration and floodplain and wetland reestablishment activities. Riverine floodplain conditions and associated water quality, floodplain connectivity, and flood storage capacity will all be improved in conjunction with the proposed actions as the river and its floodplain are reconnected and native vegetation is restored to the shoreline and floodplain (Appendix B, permit drawings Sheets R-19 through R-20). No bank armoring or channel straightening is proposed. The proposed actions are intended to improve conditions for all life stages for salmonids in the White River. Table 2 summarizes the Viable Salmonid Population (VSP) benefits by species:

Table 2. VSP Benefits by species for Lower White River Restoration Project
Over 125-acres of forest and nearly 3 acres of wetland will be reestablished in a diverse suite of species intended to restore native lower White River valley reference conditions. The anticipated wet forest community will include cascara, Oregon ash, Pacific crabapple, red alder, and western red cedar trees, with a diverse native understory dominated by willow, salmonberry, rose and twinberry. The anticipated scrub-shrub/emergent wetland community will include willows, skunk cabbage, small-fruited bulrush, and mannagrass (Appendix B, permit drawings Sheet R-18).

Restoration of the connection between the river and its floodplain, coupled with restoration of a forested floodplain condition, will over time restore habitat connectivity, increase the forested riparian corridor, and restore large wood recruitment to the river from the project site (Appendix B, permit drawings Sheets R-19 through R-20). The 12.64 acres of new side channels and open water habitat, coupled with the 21 ELJ and woody revetments will provide rearing and high-flow refuge habitat for juvenile salmon and other priority fish and wildlife species; the import and accumulation of gravel overtime may also ultimately promote the formation of spawning habitat (Table 3).

Mitigation Sequencing (Avoidance and Minimization)

As described above under Wetlands and Mitigation Sequencing, the development of the Project has included affirmative and appropriate measures to minimize and compensate for unavoidable impacts to wetlands and will result in no net loss of wetland area and function. The proposed actions have avoided impacts to Wetlands N and O through intentional siting of the new pump station and maintaining associated disturbance to within the existing paved roadway portion of the northern buffer of Wetland O.

Potential impacts to listed fish and wildlife species include construction noise, temporary vegetation clearing, temporary impacts to food source, and temporary increases in sedimentation and turbidity. The project design has been developed to minimize and/or avoid adverse impacts. These include scheduling during the proposed in-water work windows, using appropriate Best Management Practices (BMPs) such as erosion control methods and in-water isolation structures, disposing of all waste offsite, monitoring for turbidity and underwater noise during in-water work, and replanting of any disturbed vegetation with appropriate native riparian vegetation.

No compensatory mitigation for impacts to wildlife habitat areas or buffers is proposed per se. Consistent with SMC 16.56.090 Regulations, the Project will not result in extirpation or isolation of critical fish, wildlife, or plant species or their habitats. Rather, the Project actions are designed to reestablish and uplift wildlife habitat area, connectivity, structure, and function through reestablishing and restoring floodplain connectivity, floodplain
functions, instream habitat, and side channel connections, as well as a complex mosaic of wetland, riparian, and forested habitats along the White River.

The Project would reestablish approximately 163-acres of White River floodplain to a diverse mosaic of riparian forest and at least 3.96 acres of scrub-shrub and emergent wetlands with an associated mixture of water quality, hydrologic, and habitat functions. In so doing, the Project would reestablish geomorphic connection and native vegetation communities in the White River’s Urban-Conservancy shoreline zone, would compensate for the approximately 0.45-acre of utility relocation-related impacts to the non-functional buffer of Wetlands N and O, and would restore approximately 12.64 acres of side channel habitat, as well as associated aquatic habitat functions to what is currently the Dieringer Tailrace and #9 Ditch.

Consistent with SMC 16.56.100(A-C) Buffers, the Project will result in a shoreline buffer zone of greater than 200 feet of undisturbed native vegetation along the White River, expanding the functional buffer along the river from its current condition wherein typically a narrow, 60- to 100-foot zone along the channel is vegetated with trees and shrubs, and much of that area is dominated by invasive and non-native vegetation species (e.g., Himalayan blackberry). The Project will also therefore exceed the Sumner Shoreline Master Program riparian management zone standard of 100- to 200-feet for the Urban-Conservancy zone (SMP Table 4-2).

Similarly, public utility corridors, as well as large-scale public recreational facilities such as the relocated Sumner Link Trail, are allowed in fish and wildlife buffers, subject to SEPA review, notification to appropriate federal and state agencies, and replacement of the structure and function of the impacted habitat (SMC 16.56.100(G) Buffers, allowed uses).

**Specific Restoration Plan Measures, Effectiveness Evaluation, and Reporting**

Consistent with SMC 16.56.080(B.4) and (C.5), the final HMP will include details regarding planting and soil specifications, success standards, contingency plans, and an invasive species control plan.

The final HMP will detail the goals and objectives of the Project actions and the related evaluation of effectiveness of the proposed restoration measures and provisions for 10 years of annual monitoring (if determined to be necessary by the City or other regulatory agencies). It is anticipated that the Corps will require a monitoring and maintenance plan to track the restoration of temporarily disturbed areas and a project monitoring plan focused on evaluation of the proposed actions success in reengaging the floodplain.

**Long-Term Site Management and Protection**

Consistent with SMC 16.56.080(B.7) and (C.6), the final HMP will include details regarding the mechanisms by which the area of the Project, inclusive of the vegetation restored to the site, will be protected in perpetuity by the City as a buffer of undisturbed native vegetation along the White River. The Project will establish a protective buffer/“riparian management zone” of greater than 200-feet wide, exceeding riparian management zone standard of the 2020 Sumner Shoreline Master Program for the Urban-Conservancy Zone (SMP Table 4-2).

In the final HMP, the City will include details regarding the long-term management and protection of the site consistent with 16.56.100 Buffers by establishing a permanent protective easement, public or private land trust dedication, or similar protective mechanism as approved by the director, inclusive of an easement that grants the City continued access to the buffer for the placement of further conservation/restoration measures.

**Flood Hazard Areas**

As actions to provide channel and floodplain restoration, the Project would occur almost entirely within the 100-year special flood hazard area; the relocated pumpstation would be constructed along 24th Street East, east of the BNSF tracks in an area which is outside of both the 100-year and the 500-year special flood hazard areas.
Areas of special flood hazard per SMC 16.52.050(C) are also critical areas known as “frequently flooded areas” and are subject to the applicable provisions set forth in SMC 16.40 and SMC 16.56.

The current White River is regulated by the Mud Mountain Dam and the channel is now highly simplified, resulting in a lack of instream and off-channel habitats in a critically important section of river that supports six salmonid species, including three ESA listed salmonids (i.e., Chinook, bull trout, and steelhead trout). The current channel floodplain geometry does not represent a typical equilibrium condition for an alluvial channel in the Pacific Northwest west of the Cascades where overbank flows typically more frequently than every other year (Castro and Jackson 2001). Channelization of the Lower White River in the early 1900s has resulted in conditions where flows are typically confined within the active channel, relatively rarely spilling out onto the floodplain under the new regulated flow regime. Freshwater rearing sites with floodplain connectivity, log jams, side channels, and off channel refugia are all identified as Primary Constituent Elements of habitat which are either completely lacking or occur on a very low frequency within the Project area in the existing condition. The restoration of floodplain habitat has therefore been identified as a high priority for restoration in the Lower White River (Puyallup and Chambers Watersheds Salmon Recovery Lead Entity 2018).

Consistent with SMC 15.52.255 Encroachments, the proposed actions are components of a ‘floodplain habitat benefit project’ which will not increase the water surface elevation of the base flood by more than one foot at any point. No structures will be constructed in the floodway or within the mapped 100- or 500-year flood hazard areas. The City will comply with FEMA’s minimum floodplain management requirements as adopted by the City in SMC Chapter 15.52.
REFERENCES


