GeoEngineers
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Tacoma, Washington 98402
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January 12, 2024

KPFF Consulting Engineers, Inc.
1601 5th Avenue, Suite 1600
Seattle, Washington 98101

Attention: Justin Mathews, PE

Subject: Floodplain Ordinance Compliance Assessment
KCHA Flood Control Improvements
Illahee and Sandpiper East
Bellevue, Washington
File No. 1329-022-03

INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) prepared this letter to document compliance with the City of Bellevue Floodplain Ordinance requirements for the King County Housing Authority (KCHA) Culvert Replacement and Flood Control Improvement Project at Sandpiper East Apartments. The project is located in Bellevue, Washington (Figure 1, Vicinity Map), and includes replacement of the northern of two driveway crossing structures associated with road access to the apartments on either side of Kelsey Creek. This letter addresses potential project impacts to base flood elevations (BFEs) of Kelsey Creek near the project site shown on the vicinity map (Figure 1). BFEs refer to the modeled water surface elevations (WSEs) associated with the 1 percent annual chance flow event, also known as the 100-year flow and the base flood. We prepared this letter to specifically address the City of Bellevue ordinance regarding impacts to effective BFEs within a regulatory floodplain (Bellevue 2023).

The project is funded from two King County grant programs, Waterworks and King County Flood Control District Urban Stream restoration. The removal of the culvert, construction of the bridge and related habitat enhancements are scheduled for construction in the 2024 in-water work window (July 15 to September 16). The project also qualifies for a Washington Department of Fish and Wildlife (WDFW) Fish Habitat Enhancement Hydraulic Project Approval (FHEHPA) which is included as an attachment to this letter (Appendix A, WDFW Fish Habitat Enhancement Hydraulic Project Approval). The FHEHPA exempts the project from local permitting requirements under Washington Administrative Code (WAC) 220-660-050 and State Environmental Policy Act (SEPA) under WAC 197-11-835 but requires review under the local City of Bellevue floodplain ordinance 20.25H.180.B.1.

Project Description

The Sandpiper East – North Crossing project is located at 1312 139th Avenue NE, in Bellevue, Washington, within King County and in Section 27 of Township 25 N and Range 5 E of the Willamette Meridian (Figure 1). The project site is located within a suburban residential area. Kelsey Creek flows south through the project crossing. Downstream of the project site, within the Sandpiper East Apartments, Kelsey Creek flows through another crossing (south crossing) associated with road access to the apartments. The south crossing is not part of this proposed project. GeoEngineers published a preliminary report (GeoEngineers 2024). The preliminary report provides a detailed description of hydrologic calculations, hydraulic modeling, and proposed conditions.

CITY OF BELLEVUE FLOODPLAIN ORDINANCE REQUIREMENTS

The project sites are shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Appendix B, Flood Insurance Rate Map Number 53033CV003B) panel 53033C0657G with an effective date of August 19, 2020 (FEMA 2020a). The project sites are located within a Zone AE Special Flood Hazard Area (SFHA) as shown on the attached flood insurance rate map. Kelsey Creek also includes a regulatory floodway through the project sites. The effective FIRM panel SFHA boundaries and BFEs were based on detailed engineering methods as reported in the Flood Insurance Study (FIS) 53033CV001B for King County, Washington, and Incorporated Areas with a date of August 19, 2020 (2020b). Therefore, effective BFEs are available for comparison to assess compliance with the land use ordinance.

FEMA does not recognize a proposed bridge as an insurable structure under the National Flood Insurance Program (NFIP). Therefore, elevation certificate requirements are not applicable for this proposed action. Bridge crossings and their associated substructure are considered intrusions under the City of Bellevue Land Use Code as related to compliance with the code.

City of Bellevue Floodplain Development Codes

The following is a list of applicable City of Bellevue Land Use Code as related to the project.

- **20.25H.180.B.1** – An intrusion over a frequently flooded area is allowed if;
    - the intrusion is located a minimum of 1 foot above the BFE,
    - the intrusion does not alter the configuration of the frequently flooded area,
    - the intrusion maintains the existing vegetation of the frequently flood area, and
    - the intrusion does not encroach into the regulatory floodway.
- **20.25H.180.B.2** – The proposed bridge is not considered an insurable structure and is not subject to this ordinance compliance requirement.
- **20.25H.180.B.4** – No rise in the BFE is allowed due to intrusion in the regulatory floodplain Our interpretation is that detailed engineering methods, such as the use of a Hydrologic Engineering Center – River Analysis System (HEC-RAS) hydraulic model, may be used to demonstrate no-rise due to the proposed intrusion.

HYDRAULIC MODELING SUMMARY

GeoEngineers developed existing and proposed conditions hydraulic models for the Sandpiper East project site, using the one-dimensional (1D) United States Army Corps of Engineers (USACE) HEC-RAS version 6.1.0 hydraulic modeling program (USACE 2021).

Peak Flow Estimates

GeoEngineers used the 1-percent annual chance flood calculated using the basin transfer method as detailed in the Hydraulics Report (GeoEngineers 2024). The calculated 1-percent annual chance flood is equal to 632 cubic feet per second (cfs), which is larger than the FIS reported 1-percent annual chance flow of 447 (cfs) (FEMA 2020a).

Hydraulic Model Summary

The Sandpiper East hydraulic model developed by GeoEngineers includes approximately 500 feet of the Kelsey Creek channel, extending approximately 60 feet upstream of the project crossing and 115 feet downstream of the downstream crossing. The model was run using a steady state regime, utilizing normal depth with a slope of 1.2 percent as the downstream boundary condition for both the existing and proposed conditions models at both project sites. The FEMA section AE was included in the existing and proposed conditions models within the project reach. Additional details on the development of the hydraulic model are found in the Hydraulics Report (GeoEngineers 2024).

Hydraulic Model Results

We calculated BFEs associated with the 1 percent annual chance flood for the existing and proposed conditions models at 10 representative cross sections to assess compliance with City of Bellevue Ordinance 20.25H.180.B.4 (Bellevue 2023). To demonstrate compliance, we modeled BFEs at cross sections shown in Figure 2, Existing Conditions Hydraulic Model Plan View and Figure 3, Proposed Conditions Hydraulic Model Plan View. The BFEs reported in Table 1 reflect average WSE at each section location for existing and proposed conditions. The difference in BFE represents the proposed condition BFE minus the existing condition BFE. Cross sections are compared at representative locations along the proposed alignment shown Figure 2 and Figure 3. Due to the re-alignment of the proposed channel, not all existing cross sections are located in the same location as proposed cross sections. Table 1 presents a subset of cross sections that have matching locations between existing and proposed.

TABLE 1. COMPUTED WATER SURFACE ELEVATIONS

100-Year Water Surface Elevation (feet)			
Cross Section (Proposed Alignment)	**Existing Conditions**	**Proposed Conditions**	**Change in WSE**
487	166.8	163.8	-3.0
457 (Upstream Bridge/Culvert Face)	164.8	161.4	-3.4
451 (FEMA XS AE)	164.8	161.3	-3.5
420 (Downstream Bridge/Culvert Face)	161.2	161.0	-0.2
396	160.9	160.7	-0.2
367	160.7	160.6	-0.2
347	160.8	160.5	-0.4
327	160.5	160.2	-0.3
307 (End of Proposed Grading))	160.1	160.1	-0.1
224	159.7	159.7	0.0

Notes:

[1] Difference in BFE represents the Proposed Conditions BFE minus the Existing BFE.

As shown in Table 1 and Figure 3, the removal of the undersized culvert reduces the backwater and results in a reduction in the 100-year WSE upstream of the crossing under proposed conditions of up to 3.5 feet. The installation of a larger hydraulic opening increases the total conveyance through the crossing, reducing backwater. Downstream of the proposed crossing, a decrease in WSE is observed under proposed conditions ranging from 0.1 to 0.4 feet. Downstream of the grading limits the 100-year WSE is approximately equal. There is minimal difference in the top width of the inundated channel at the 100-year under proposed conditions. There is low risk to adjacent property or structures as the channel is confined.

CONCLUSIONS

GeoEngineers evaluated the impacts of the proposed project to the BFE by comparing the modeled proposed conditions to effective FEMA conditions. The proposed project is compliant with City of Bellevue Land Use as described;

- **20.25H.180.B.1**
  - The proposed bridge provides more than the minimum 1-foot of freeboard,
  - The proposed bridge and channel modifications do not alter the configuration of the frequently flooded area. The modifications have been approved through a FHEHPA,
  - the intrusion maintains the existing vegetation of the frequently flooded area since Kelsey Creek is currently within a culvert that is covered by road fill, and
  - The proposed bridge does not encroach into the regulatory floodway, the abutments have been located outside of the floodway.
- **20.25H.180.B.4** – Hydraulic modeling analysis as summarized in Table 1 demonstrate that the BFE is not expected to increase in the project reaches due to proposed bridge construction.

LIMITATIONS

We have prepared this letter for KPFF Consulting Engineers, Inc. for the KCHA Sandpiper East North Culvert replacement project.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in the field of hydrology and hydraulics in this area at the time this letter was prepared. The conclusions, recommendations, and opinions presented in this letter are based on our professional knowledge, judgment, and experience. No warranty or other conditions, expressed or implied, should be understood.

Any electronic form, facsimile, or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments should be considered a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

REFERENCES

City of Bellevue (Bellevue). 2023 October Part 20.25H Critical Areas overlay District. *City of Bellevue Land Use Code*. Bellevue, Washington: Code Publishing Company.

Federal Emergency Management Agency (FEMA). 2020a. Flood Insurance Rate Map 53033C06557G. *FEMA National Flood Insurance Rate Program*. United States of America: US Department of Homeland Security Federal Emergency Management Agency. August 19, 2022.

Federal Emergency Management Agency (FEMA). 2020b. *Flood Insurance Study for King County, Washington and Incorporated Areas, FIS 53033CV001B.* US Department of Homeland Security, Federal Emergency Management Agency.

GeoEngineers, Inc. (GeoEngineers). 2024. *Hydraulic Engineering Basis of Design Report for KCHA Flood Control Improvements Sandpiper East - North Crossing, Washington.* Tacoma, Washington: GeoEngineers, Inc. GEI File No. 1329-022-03.

US Army Corp of Engineers (USACE). 2021. *HEC RAS River Analysis System V.6.1.*

Please feel free to contact me if you have any questions or concerns regarding this project.

Sincerely,
GeoEngineers, Inc.

1/12/2024

Ryan S. Carnie, PE, CFM
Senior Water Resources Engineer

FOR

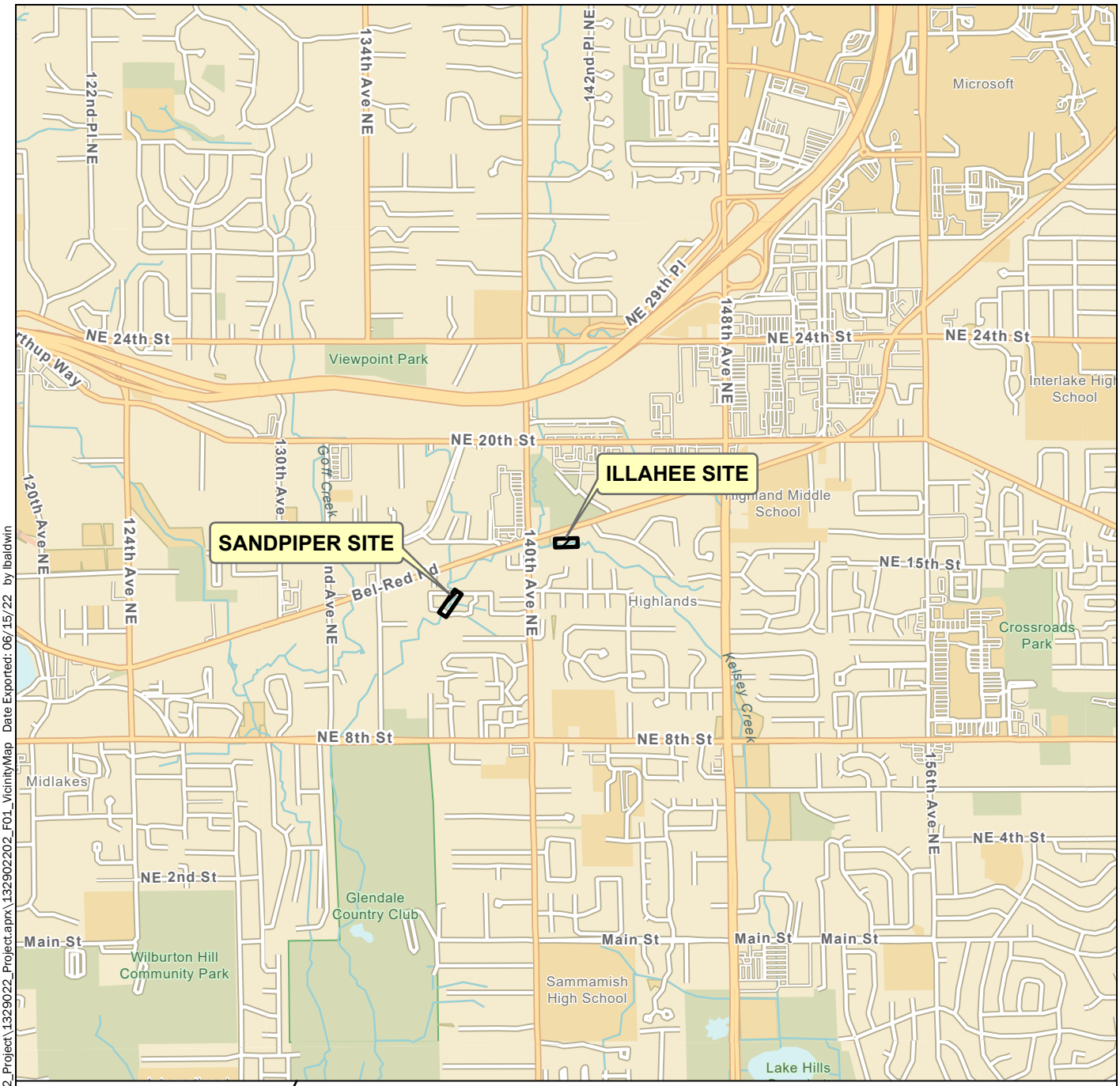
Alex Pederson, EIT
Staff River Engineer

Jospeh O. Callaghan, MS, CESCL, PWS
Principal

RSC:AP:JOC:tlm

Attachments:
Figure 1. Vicinity Map
Figure 2. Existing Conditions Hydraulic Model Plan View
Figure 3. Proposed Conditions Hydraulic Model Plan View
Appendix A. WDFW Fish Habitat Enhancement Hydraulic Project Approval
Appendix B. Flood Insurance Rate Map Number 53033CV003B

One copy submitted electronically



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ESRI

Projection: NAD 1983 UTM Zone 10N

Vicinity Map

King County Housing Authority Flood Control Improvements
Bellevue, Washington

GeoEngineers

Figure 1

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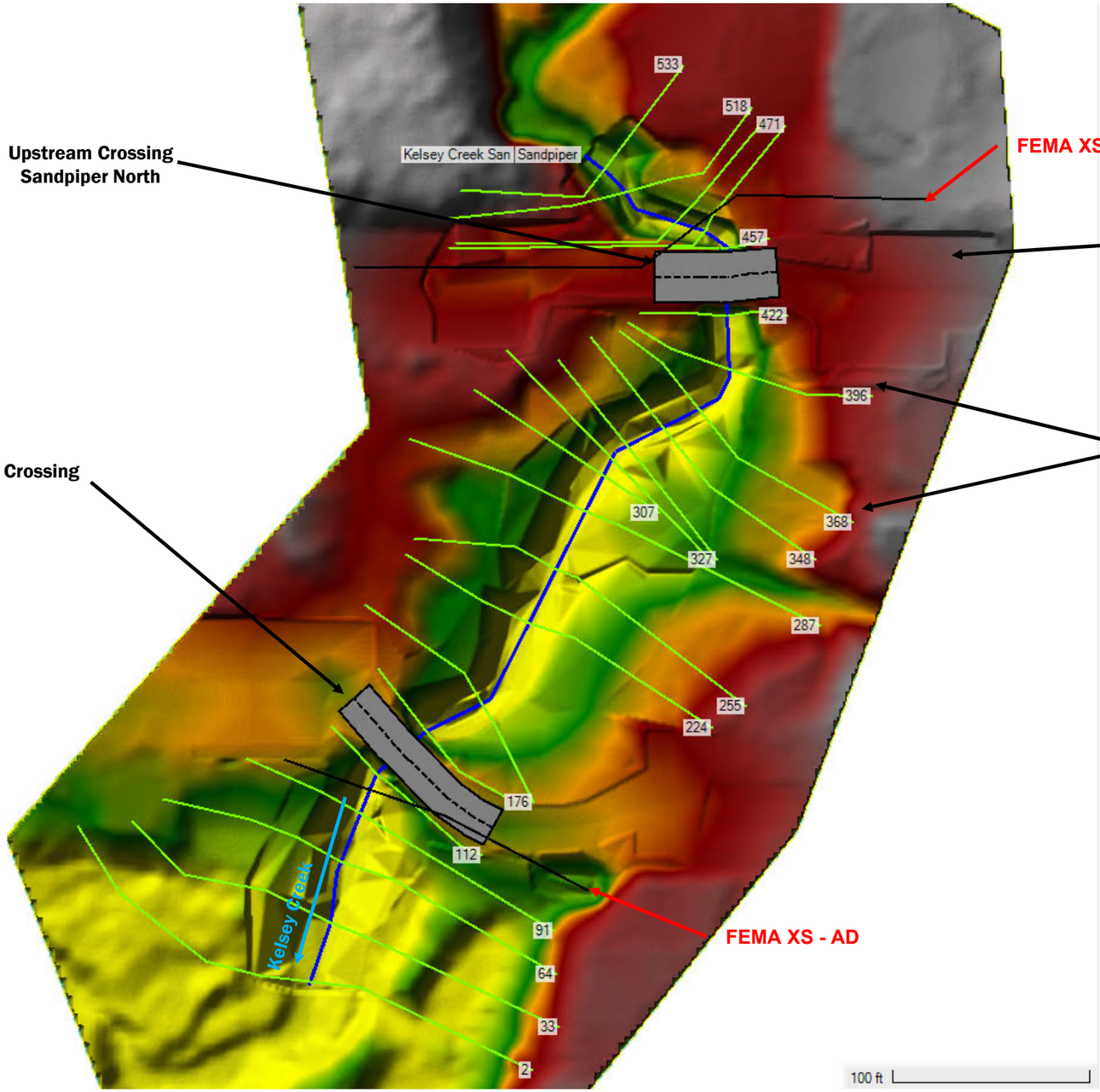

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Data Source: HEC-RAS version 6.1

N
W E
S

Not to Scale

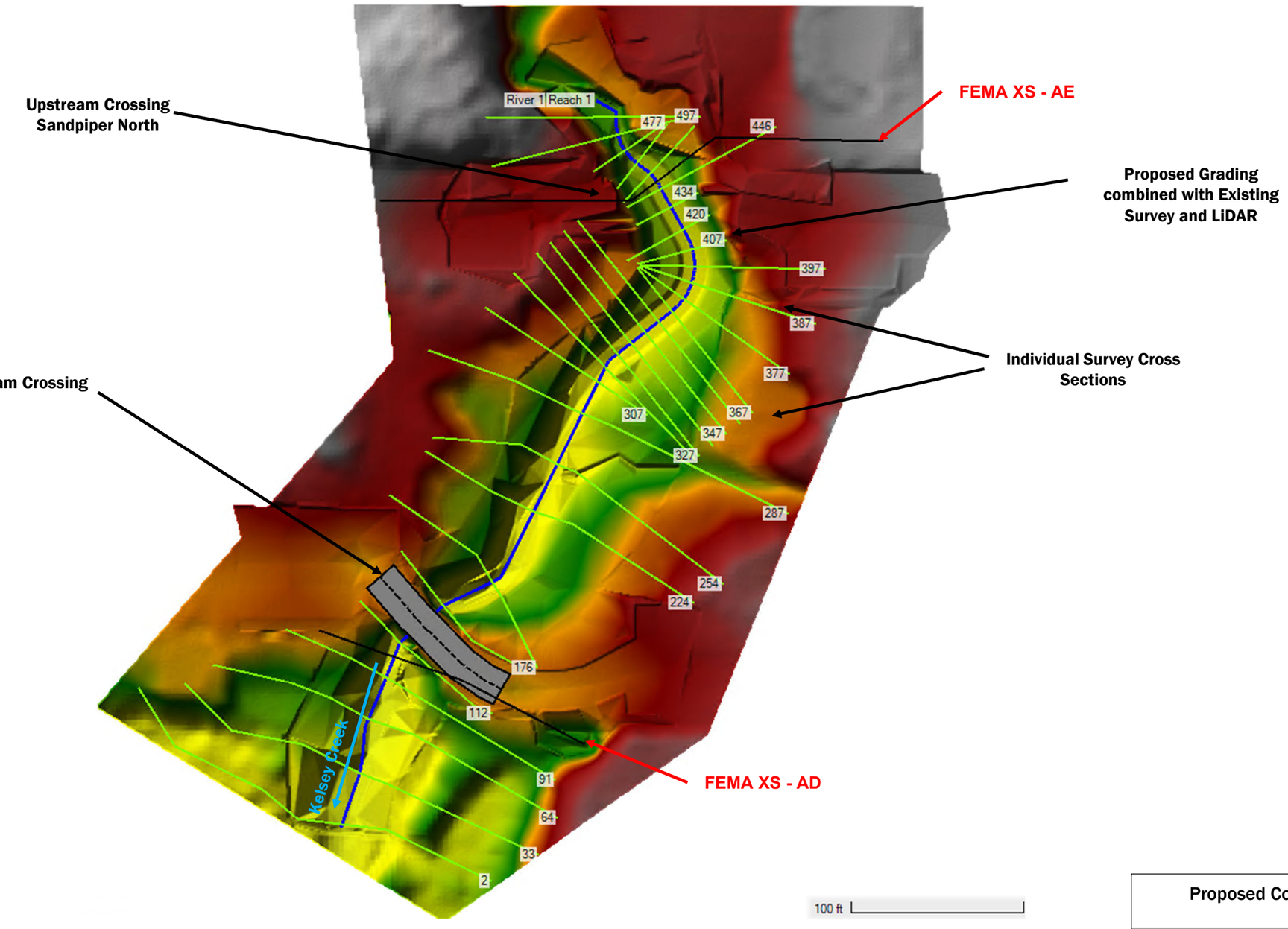
Existing Conditions Hydraulic Model
Plan View

King County Housing Authority Flood Control Improvements
Bellevue, Washington

GeoEngineers

Figure 2

1329-022-03 Date Exported: 11/02/2023



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Data Source: HEC-RAS version 6.1

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W E
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Not to Scale

Proposed Conditions Hydraulic Model
Plan View

King County Housing Authority Flood Control Improvements
Bellevue, Washington

GeoEngineers

Figure 3

1329-022-03 Date Exported: 11/02/2023

APPENDIX A
WDFW Fish Habitat Enhancement Hydraulic Project Approval

HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: January 12, 2024
Project End Date: January 11, 2029

Permit Number: 2024-4-19+01
FPA/Public Notice Number: N/A
Application ID: 33368

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
King County Housing Authority	GeoEngineers
ATTENTION: John Eliason	ATTENTION: Joe Callaghan
600 Andover Park W	1101 S Fawcett Ave. Ste 200
Tukwila, WA 98188	Tacoma, WA 98402

Project Name: KCHA Sandpiper North Culvert Replacement

Project Description: KCHA received multiple grants (King County Flood Control District Urban Streams grant and King County Waterworks grant) for design, permitting, and construction of a fish passable structure and stream improvements at the North Crossing project site. The purpose of the project is to ensure safety of the North Crossing, reduce flooding, improve riparian and in-stream habitat, correct fish passage conditions, and complete associated structural, roadway, and utility improvements. The existing culvert is currently failing and jeopardizes the safety of traffic crossing to the 60 apartments located west of the stream. The culvert is also an impediment to fish migration upstream of the crossing. The completed project will correct the barrier and improve instream habitat functions that are currently impaired. The proposed instream improvements (including under the bridge) will include addition of LWM to create cover and refuge for fish, sort sediments, re-direct flows away from banks and abutments, and add organic material to the creek bed. The angular rock cross vein just downstream of the existing culvert will be removed and streambed material will be added throughout the restored reach to provide a consistent gradient and improve streambed conditions. The project will also improve the alignment of the creek by removing a 90-degree bend just upstream of the existing structure, which will reduce flood velocities and streambed scour and improve fish passage through this reach of Kelsey Creek. The design was adjusted to accommodate the unwillingness of the adjacent property owner to the northeast to participate in the project.

During construction, invasive species such as Himalayan blackberry will be removed and rip rap that currently protect the banks will be replaced with bioengineering and, after the completion of construction, native riparian plantings will be installed to restore temporarily impacted areas and improve long-term functionality of the riparian corridor through the project reach.

PROVISIONS

1. This STANDARD HPA for a Fish Habitat Enhancement Project (FHEP) is issued for the replacement of a culvert replacement along Kelsey Creek within the City of Bellevue, including:

A. Removal and disposal of an existing corrugated steel arch pipe (WDFW site ID #602419), including the excavation of approximately 1,860 cubic yards of material for placement of a new bridge;

B. Construction of a fish passable full-span bridge designed to the Washington Department of Fish and Wildlife (WDFW) Water Crossing Design Guidelines (WCDG) stream simulation criteria;

C. Installation of two (2) new stormwater outfalls, to include:
i. Stormwater runoff bioretention filtration systems, AND;
ii. Outlet through the eastern and western footings of the new bridge, to be located landward of the ordinary high water mark, and to include a rock splash pad for energy dissipation of flows;

D. Removal of seven (7) trees from the work area.

E. Streambed and streambank restoration, including:
i. Removal of approximately 165 linear feet of rock armoring;
ii. Placement of approximately 355 cubic yards (CY) of streambed gravels, approximately 2 feet in depth, through the new channel below the ordinary high-water line (OHWL);
iii. Placement of approximately 230 CY of streambed gravels or cobbles, approximately 4 feet in depth, on the stream bank above the OHWL, AND;
iv. Installation of at least twenty-one (21) pieces of large woody material (LWM) as habitat features.

F. Repair and replacement work along the roadway, to include:
i. Roadway restoration and restriping, AND;
ii. Restoration of disturbed areas with topsoil, seeding, biodegradable erosion control blanket, mulch and native plantings.

G. Installation of native riparian plantings, as shown in the approved plans.

NOTE: This project occurs on Kelsey Creek, a documented anadromous F-Type watercourse with presence of Sockeye, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout, and Bull Trout.

2. TIMING - PLANS - INVASIVE SPECIES CONTROL

3. TIMING LIMITATIONS: You may begin the project immediately and you must complete the project by January 11, 2029, provided that all work below the ordinary high water line (OHWL) of Kelsey Creek may only occur between JULY 15 and SEPTEMBER 16 of a given year.

4. APPROVED PLANS: You must accomplish the work per plans and specifications submitted with the application and approved by the Washington Department of Fish and Wildlife, entitled, “KCHA_Sandpiper North 90pct_2023.11.09.pdf”, submitted November 14, 2023; and all supporting documents and communications uploaded to the Aquatic Protection Permitting System (APPS) project file; except as modified by this Hydraulic Project Approval. You must have a copy of these plans available on site during all phases of the project construction.

5. INVASIVE SPECIES CONTROL: Follow Method 1 for low risk locations (i.e. clean/drain/dry). Thoroughly remove visible dirt and debris from all equipment and gear (including drive mechanisms, wheels, tires, tracks, buckets, and undercarriage) before arriving and leaving the job site to prevent the transport and introduction of invasive species. For contaminated or high risk sites please refer to the Method 2 Decontamination protocol. Properly dispose of any water and chemicals used to clean gear and equipment. You can find this and additional information in the Washington Department of Fish and Wildlife's "Invasive Species Management Protocols", available online at https://wdfw.wa.gov/species-habitats/invasive/prevention.

6. NOTIFICATION REQUIREMENTS

7. FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION: If a fish kill occurs or fish are observed in distress at the job site, immediately stop all activities causing harm. Immediately notify the Washington Department of Fish and Wildlife of the problem. If the likely cause of the fish kill or fish distress is related to water quality, also notify the Washington Military Department Emergency Management Division at 1-800-258-5990. Activities related to the fish kill or fish distress must not resume until the Washington Department of Fish and Wildlife gives approval. The Washington Department of Fish and Wildlife may require additional measures to mitigate impacts.

8. NOTIFICATION REQUIREMENT: The Habitat Biologist listed below must receive written notification (email) from the person to whom this HPA is issued (permittee) no less than three working days prior to start of work, and again within seven days of completion of work to arrange for a compliance inspection. The notification must include the permittee's name, project location, starting date for work or completion date of work, and the permit number for this HPA. All notifications must be uploaded online to the Aquatic Protection Permitting System (APPS) under Post Permit Requirements and emailed to the area Habitat Biologist (Julian.Douglas@dfw.wa.gov).

STAGING, JOB SITE ACCESS, AND EQUIPMENT

9. Establish staging areas (used for equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.

10. Use existing roadways or travel paths.

11. Limit the removal of native bankline vegetation to the minimum amount needed to construct the project.

12. Equipment used for this project may operate waterward of the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) do not enter or operate waterward of the ordinary high water line.

13. Check equipment daily for leaks and complete any required repairs in an upland location before using the equipment in or near the water.

14. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated in or near the water.

CONSTRUCTION-RELATED SEDIMENT, EROSION AND POLLUTION CONTAINMENT

15. Work in the dry watercourse (when no natural flow is occurring in the channel, or when flow is diverted around the job site).

16. Protect all disturbed areas from erosion. Maintain erosion and sediment control until all work and cleanup of the job site is complete.

17. All erosion control materials that will remain onsite must be composed of 100% biodegradable materials.

18. Straw used for erosion and sediment control, must be certified free of noxious weeds and their seeds.

19. Stop all hydraulic project activities except those needed to control erosion and siltation, if flow conditions arise that will result in erosion or siltation of waters of the state.

20. Prevent project contaminants, such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials, from entering or leaching into waters of the state.

21. Route construction water (wastewater) from the project to an upland area above the limits of anticipated floodwater. Remove fine sediment and other contaminants before discharging the construction water to waters of the state.

22. Deposit waste material from the project, such as construction debris, silt, excess dirt, or overburden, in an upland area above the limits of anticipated floodwater unless the material is approved by the Washington Department of Fish and Wildlife for reuse in the project.

23. FISH LIFE EXCLUSION AND REMOVAL

24. The permittee must capture and safely relocate all fish life from the job site prior to completing the work, except when work is performed using hand tools, or is limited to the repositioning of woody material. The permittee must have fish exclusion, capture, and transportation equipment ready and on the job site. Captured fish must be immediately and safely transferred to the nearest suitable free-flowing water relative to the project site.

25. All persons participating in capture and removal must have training, knowledge, and skills in the safe handling of fish life.

26. If electrofishing is conducted, a person with electrofishing training must be on-site to conduct or direct all electrofishing activities.

27. If block nets are used to isolate fish from the work area, place block nets upstream and downstream of the in-water work area before capturing and removing fish life. Install block nets at an angle to the direction of flow (not perpendicular to the flow) to avoid entrapping fish in the nets. To anchor block nets, place bags filled with clean rounded gravel along the bottom of the nets. Secure block nets along both banks and the channel bottom to prevent failure from debris accumulation, high flows, and/or flanking. Do not install block nets at sites with heavy vegetation, large cobble or boulders, undercut banks, or deep pools unless you can secure and maintain them. Install block nets at sites with reduced flow volume or velocity, uniform depth, and good accessibility. Check block nets at least three times a day for entangled fish and accumulated debris. To keep fish out of the job site, leave block nets in place until the work is complete and conditions are suitable for fish.

28. IN-WATER WORK AREA ISOLATION USING A TEMPORARY BYPASS (WHEN USED)

29. A temporary bypass is not required for work performed in a naturally dry stream channel or when the work performed is not in the water, provided silt is prevented from entering the stream. A temporary bypass is also not required for work performed in the water with hand-held tools only, or for woody material repositioning or removal.

30. Isolate fish from the work area by using either a total or partial bypass to reroute the stream through a temporary channel or pipe.

31. Sequence the work to minimize the duration of dewatering.

32. Install a cofferdam or similar device at the upstream and downstream end of the bypass to prevent backwater from entering the work area.

33. Use the least-impacting feasible method to temporarily bypass water from the work area. Consider the physical characteristics of the site and the anticipated volume of water flowing through the work area.

34. During all phases of bypass installation and decommissioning, maintain flows downstream of the project site to ensure survival of all downstream fish.

35. Install the temporary bypass before starting other construction work in the wetted perimeter using a method approved by the Washington Department of Fish and Wildlife.

36. If the bypass is a pumped diversion, once started it must run continuously until it is no longer necessary to bypass flows. This requires back-up pumps on-site and twenty-four-hour monitoring for overnight operation.

37. If the diversion inlet is a gravity diversion that provides fish passage, place the diversion outlet where it facilitates gradual and safe reentry of fish into the stream channel.

38. The pump intake structure must have a fish screen installed, operated, and maintained in accordance with RCW 77.57.010 and 77.57.070. Screen the pump intake with one of the following: a) Perforated plate: 0.094 inch (maximum opening diameter); b) Profile bar: 0.069 inch (maximum width opening); or c) Woven wire: 0.087 inch (maximum opening in the narrow direction). The minimum open area for all types of fish screens is twenty-seven percent. The screened intake facility must have enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second.

39. The fish screen must remain in place whenever water is being withdrawn from the stream through the pump intake.

40. Return diverted water to the channel immediately downstream of the work area. Dissipate flow energy from the diversion to prevent scour or erosion of the channel and bank.

CULVERT REMOVAL, BRIDGE INSTALL

41. Remove the culvert in the dry or in isolation from the stream flow by using a bypass channel or culvert, or by pumping the stream flow around the work area. The Washington Department of Fish and Wildlife may grant an exception if installing the culvert in the flowing stream reduces siltation or turbidity.

42. Design and construct the bridge to provide unimpeded fish passage and to pass water, ice, large wood, and

associated woody material and sediment likely to move under the bridge during the one-hundred-year flood flows.

43. Locate the waterward face of all bridge elements including abutments, piers, pilings, sills, foundations, aprons, wingwalls, and approach material landward of the ordinary high water line.

44. The authorized bridge is a stream simulation design.

45. The replacement bridge must not differ in dimensions or configuration from those detailed in the approved plan set, entitled “KCHA_Sandpiper North 90pct_2023.11.09.pdf”, submitted November 14, 2023.

46. Set the stream simulation bridge at the same gradient as the prevailing stream gradient of approximately 2.0 percent.

47. Install and maintain curbs or wheel guards to prevent aggregate or earth-type paving material from entering the stream.

48. Size streambed material to mimic the stream’s natural gradation as found in nearby reference channel reaches. Place a minimum of 2 feet deep of clean, rounded, and well-graded (includes all size classes) material. Angular rock is not permitted within the channel.

49. The streambed must include a sinuous low-flow channel expected under common conditions in the reach and a high-flow bench on both sides of the channel.

50. Approach material must be structurally stable and composed of material that if eroded into the water will not harm fish life.

51. LARGE WOODY MATERIAL

52. Large woody material (LWM) means trees or tree parts larger than four inches in diameter and longer than six feet, and rootwads, wholly or partially waterward of the ordinary high water line.

53. Large woody material must be repositioned with at least a third of the LWM length within the low flow channel to provide functional fish habitat.

54. DEMOBILIZATION AND CLEANUP

55. Upon completion of the project, restore the disturbed bed, banks, and riparian zone to preproject condition to the extent possible.

56. Seed areas disturbed by construction activities with a native seed mix suitable for the site that has at least one quick-establishing plant species.

57. Replace native riparian zone vegetation damaged or destroyed by construction with at least fifteen (15) native trees, as shown in the approved plans. Plant the trees and shrubs within 10 feet of the ordinary high water line.

58. Complete replanting of riparian vegetation during the first dormant season (late fall through late winter) after project completion per the approved plan. Maintain plantings for at least three years to ensure at least eighty percent of the plantings survive. Failure to achieve the eighty percent survival in year three will require you to submit a plan with follow-up measures to achieve requirements or reasons to modify requirements.

59. Upon completion of the project, remove all materials or equipment from the site and dispose of all excess spoils and waste materials in an upland area above the limits of anticipated floodwater.

60. Return water flow slowly to the in-water work area to prevent the downstream release of sediment laden water. If necessary, install silt fencing above the bypass outlet to capture sediment during re-watering of the channel.

61. Remove temporary erosion and sediment control methods after job site is stabilized or within three months of project completion, whichever is sooner.

LOCATION #1:	Site Name: Sandpiper East Apartments North Crossing

HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: January 12, 2024
Project End Date: January 11, 2029

Permit Number: 2024-4-19+01
FPA/Public Notice Number: N/A
Application ID: 33368

	1312 139th Avenue NE, Bellevue, WA 98007					
WORK START:	January 12, 2024			WORK END:	January 11, 2029	
WRIA		Waterbody:			Tributary to:	
08 - Cedar - Sammamish		Kelsey Creek NF (rb)			Kelsey Creek	
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
NE 1/4	27	25 N	05 E	47.622664	-122.158000	King
Location #1 Driving Directions						
To reach the Sandpiper East Apartments site, take WA-520 E to Bellevue. Take the exit towards 124th Ave NE. Turn onto Northup Way westbound. Continue straight onto NE 20th St. Turn right (south) onto 140th Ave NE. Continue on 140th Ave NE until past Bellevue-Redmond Road and turn right (west) onto NE 13th St.						

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW. Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person (s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in civil action against you, including, but not limited to, a stop work order or notice to comply, and/or a gross misdemeanor criminal charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA unless this is a General HPA. If this is a General HPA you must use the Major Modification process described below. Any approved minor modification will require issuance of a letter documenting the approval. A minor modification to the required work timing means any change to the work start or end dates of the current work season to enable project or work phase completion. Minor modifications will be approved only if spawning or incubating fish are not present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a minor modification through APPS. A link to APPS is at http://wdfw.wa.gov/licensing/hpa/. If you did not use APPS you must submit a written request that clearly indicates you are seeking a minor modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a major modification through APPS. A link to APPS is at http://wdfw.wa.gov/licensing/hpa/. If you did not use APPS you must submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send your written request by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. You may email your request for a major modification to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-660-460 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

HYDRAULIC PROJECT APPROVAL

Issued Date: January 12, 2024
Project End Date: January 11, 2029

Permit Number: 2024-4-19+01
FPA/Public Notice Number: N/A
Application ID: 33368

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee may conduct an informal hearing or review and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-660-470 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

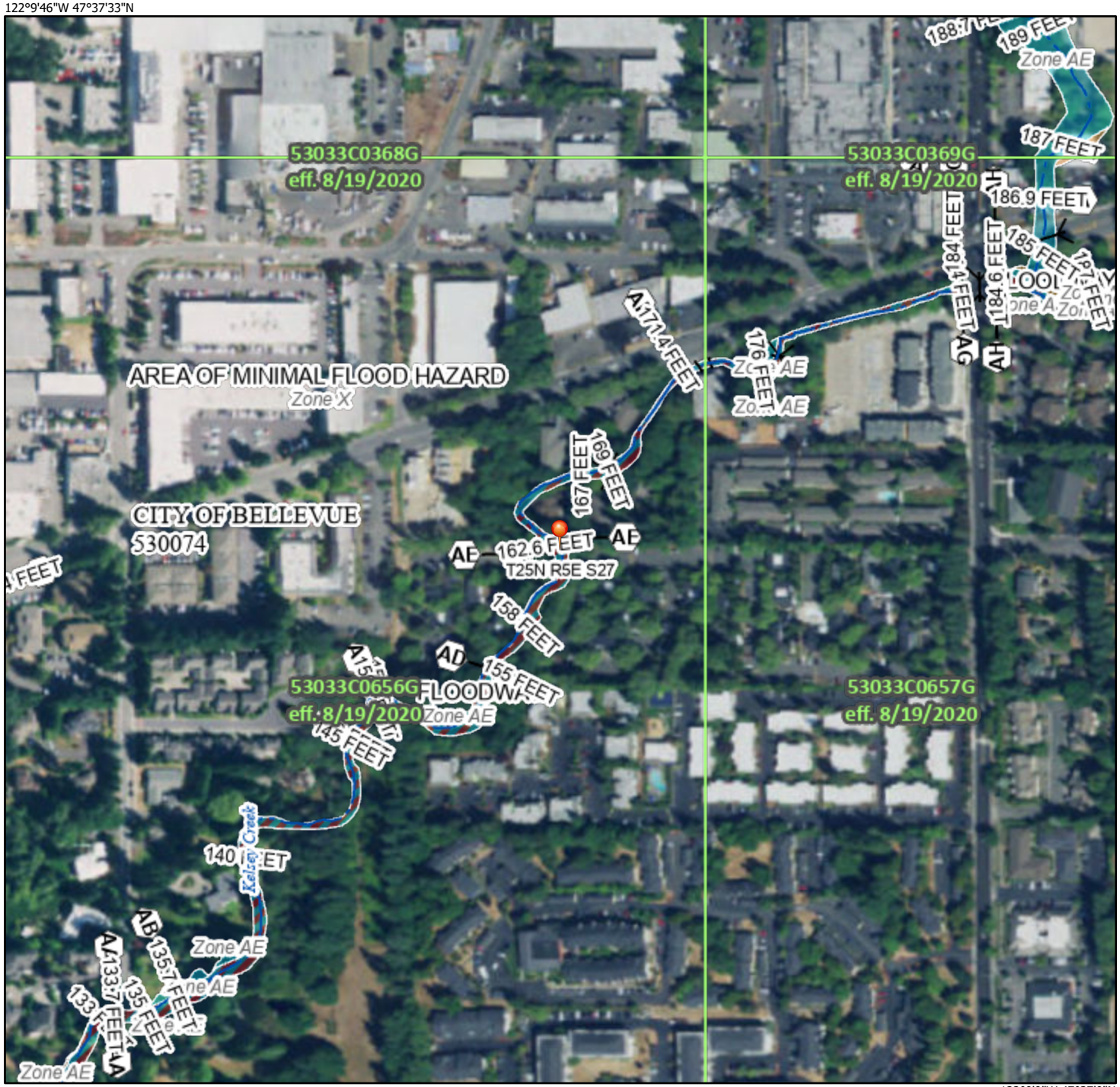
Habitat Biologist	Julian.Douglas@dfw.wa.gov		for Director
Julian Douglas	206-584-9808		WDFW

APPENDIX B
Flood Insurance Rate Map Number 53033CV003B

National Flood Hazard Layer FIRMette

FEMA

122°9'46"W 47°37'33"N



122°9'9"W 47°37'9"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/1/2023 at 7:47 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

SEC. 27, T. 25 N., R.5E., W.M.
CITY OF BELLEVUE

HYDROSEED REMAINING DISTURBED AREAS OUTSIDE RIPARIAN SLOPE PLANTING ZONE

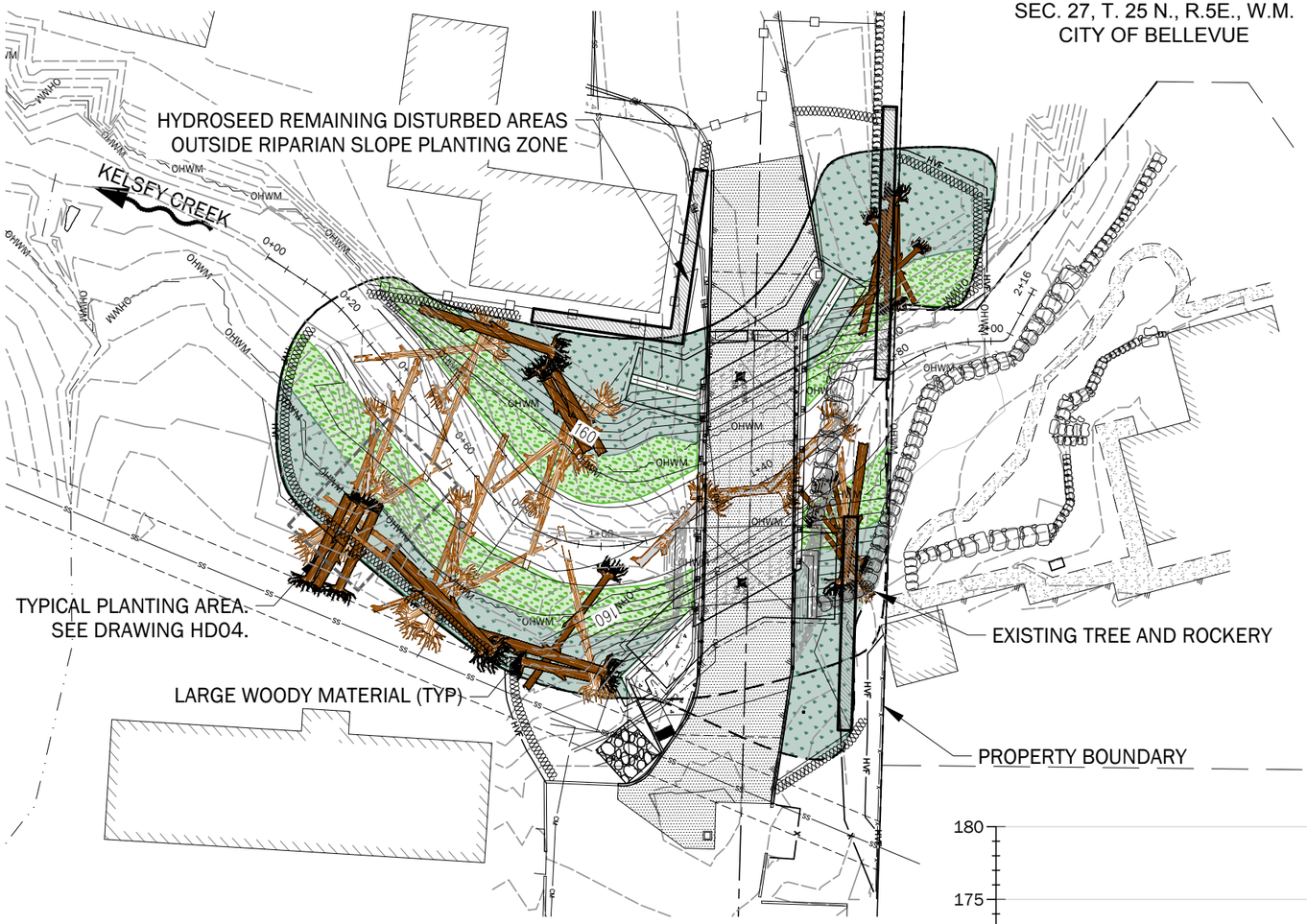
KELSEY CREEK

TYPICAL PLANTING AREA. SEE DRAWING HD04.

LARGE WOODY MATERIAL (TYP)

EXISTING TREE AND ROCKERY

PROPERTY BOUNDARY



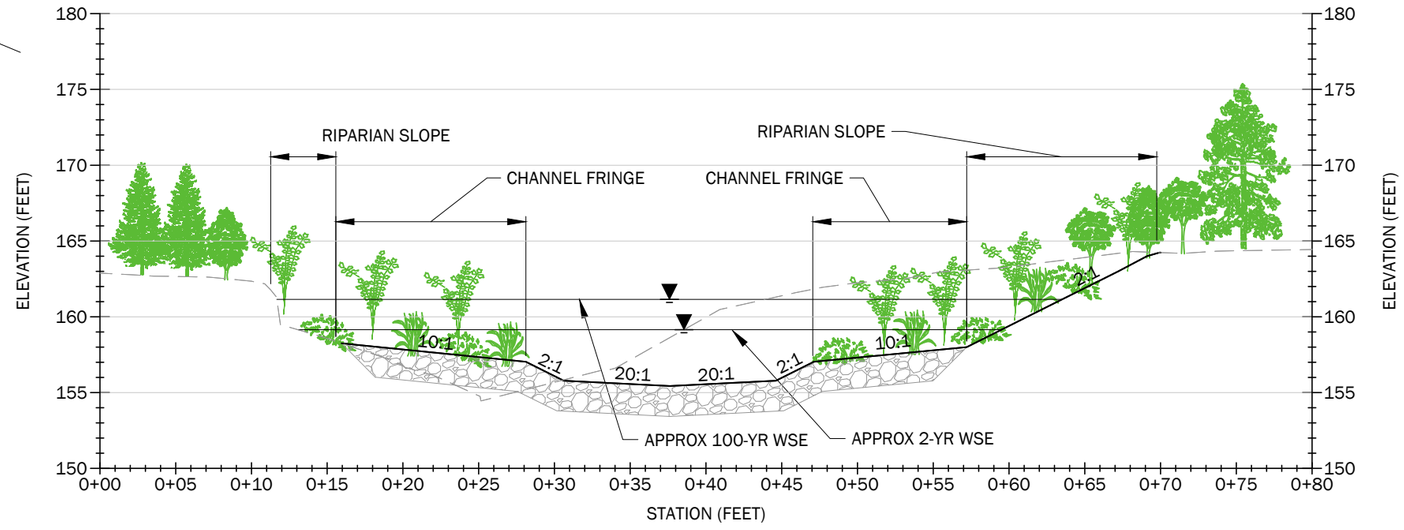
0 20 40
GRAPHIC SCALE IN FEET

N

PLAN

LEGEND

- PROPOSED 5 FT CONTOUR
- PROPOSED 1 FT CONTOUR
- EXISTING 5 FT CONTOUR
- EXISTING 1 FT CONTOUR
- OHWM APPRX ORDINARY HIGH WATER MARK
- PROPOSED STREAM ALIGNMENT
- PROPERTY BOUNDARY
- CHANNEL FRINGE PLANTING ZONE 0.06 AC
- RIPARIAN SLOPE PLANTING ZONE (0.09 AC)



SECTION

0 5 10
GRAPHIC SCALE IN FEET

CAD USER: apederson PLOT DATE: Jan 10, 2024-12:39pm
PATH: P:\1\329022\CAD\03\v04_Sandpiper Basis of Design 90 Percent\132902203_Sht 3_03 [Revegetation and Planting Plan].dwg

GeoEngineers
WWW.GEOENGINEERS.COM

DANIEL J EGGERS STATE OF WASHINGTON 43170 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

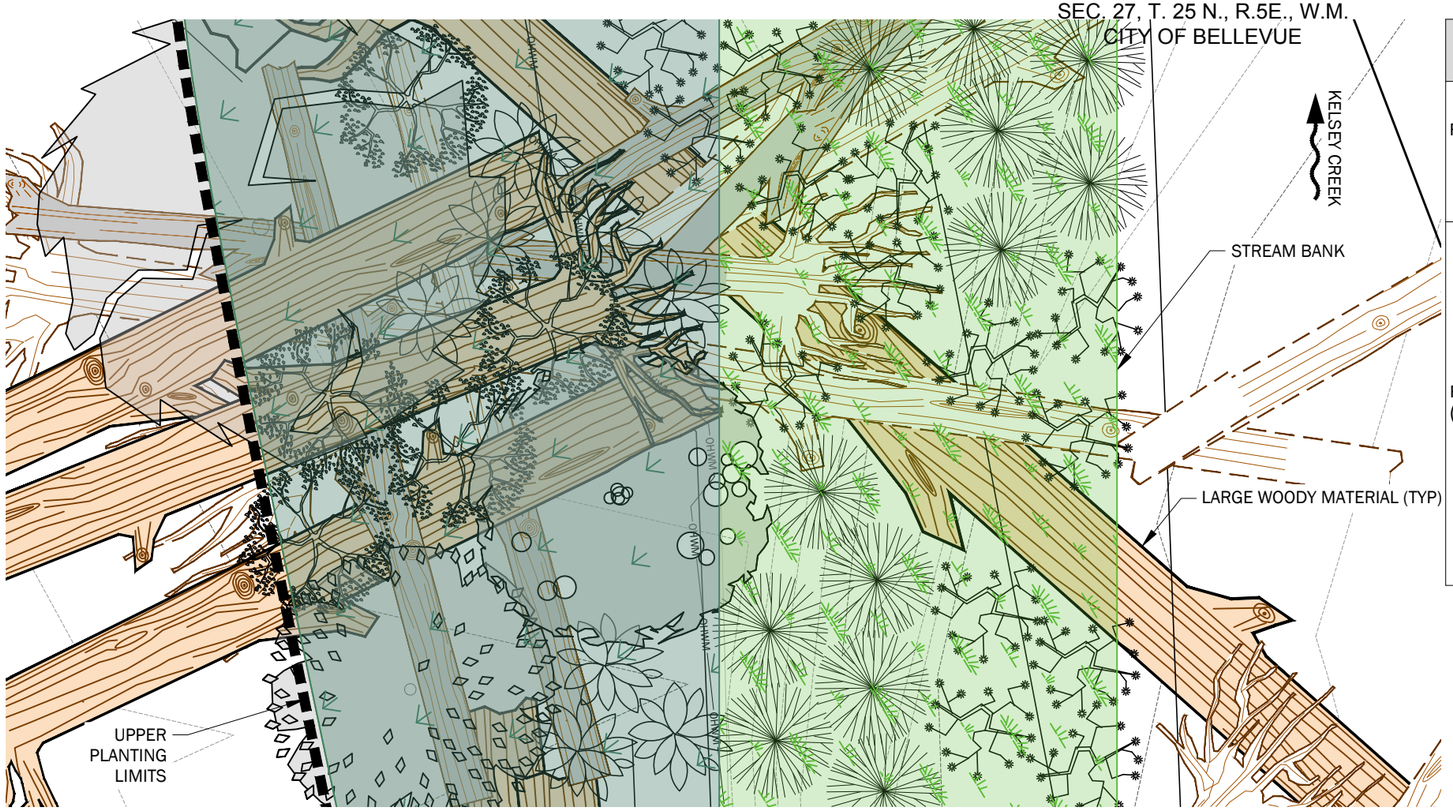
811 Call 811 two business days before you dig

CULVERT REPLACEMENT, BRIDGE AND RIPARIAN CONSTRUCTION
SANDPIPER EAST APARTMENTS, KELSEY CREEK, BELLEVUE, WA

REVEGETATION AND PLANTING PLAN

DRAWN: AGP	PROJECT NO.: 2200204
DESIGN: AGP	SCALE:
CHECKED: DJE	DATE: 01-2024
DRAWING NO. HD03	
SHEET NO. 3	OF 38

SEC. 27, T. 25 N., R.5E., W.M.
CITY OF BELLEVUE

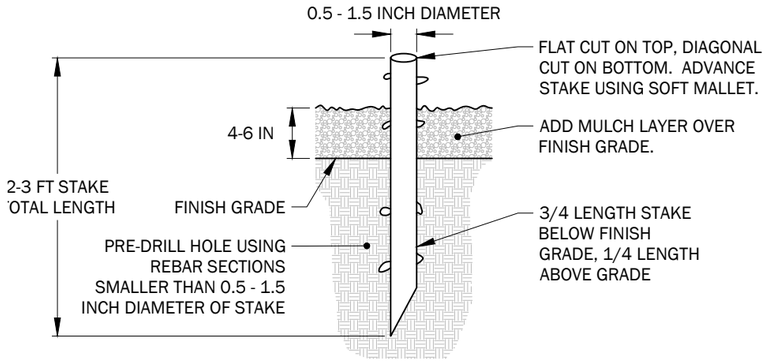


COMMUNITY	TYPE	COMMON NAME	LATIN NAME	SYMBOL	FORM	PLANT SPACING	QUANTITY
CHANNEL FRINGE/FREQUENTLY FLOODED (BELOW OHWM)	SHRUB	REDSTEM DOGWOOD	CORNUS SERICEA		LIVESTAKE	3 FT	150
		SITKA WILLOW	SALIX SITCHENSIS		LIVESTAKE	3 FT	150
	EMERGENT	EMERGENT SEED MIX	--		SEED MIX	--	–
RIPARIAN SLOPE (ABOVE OHWM)	TREE	DOUGLAS FIR	PSEUDOTSUGA MENZIESII		1-GALLON	12 FT	30
	SHRUB	RED ELDERBERRY	SAMBUCUS RACEMOSA		1-GALLON	8 FT	20
		OSOBERRY	OEMLERIA CERASIFORMIS		1-GALLON	8 FT	20
		SNOWBERRY	SYMPHORICARPOS ALBUS		1-GALLON	4 FT	200
	GROUNDCOVER	SWORD FERN	POLYSTICHUM MUNITUM		1-GALLON	3 FT	200

PLANT SCHEDULE

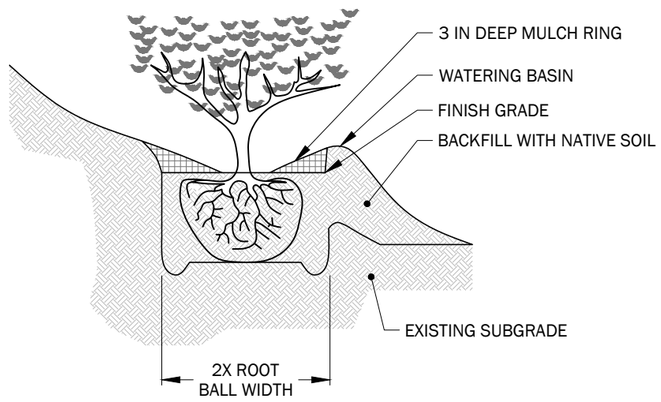
0 2 4
GRAPHIC SCALE IN FEET

TYPICAL PLANTING PLAN

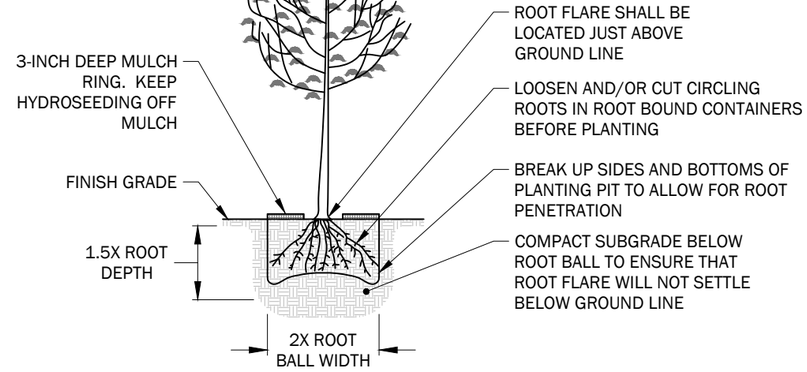


NOTES:
1. FOR PLANTING ON SLOPES 3H:1V AND STEEPER, PLANT PER DETAIL 2.

LIVE STAKING (TYP) DETAIL 1
SCALE: NOT TO SCALE



PLANTING TREE/SHRUB ON SLOPES 3H:1V AND STEEPER DETAIL 2
SCALE: NOT TO SCALE



NOTES:
1. FOR PLANTING ON SLOPES 3H:1V AND STEEPER, PLANT PER DETAIL 2.

TREE PLANTING (TYP) DETAIL 3
SCALE: NOT TO SCALE

GeoEngineers
WWW.GEOENGINEERS.COM

DANIEL J. EGGERS — STATE OF WASHINGTON — 43170 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISION

811 Call 811 two business days before you dig

CULVERT REPLACEMENT, BRIDGE AND RIPARIAN CONSTRUCTION
SANDPIPER EAST APARTMENTS, KELSEY CREEK, BELLEVUE, WA

PLANTING DETAILS

DRAWN: AGP	PROJECT NO.: 2200204
DESIGN: AGP	SCALE:
CHECKED: DJE	DATE: 01-2024
DRAWING NO. HD04	
SHEET NO. 4	OF 38

CAD USER: apederson PLOT DATE: Jan 10, 2024-12:39pm
PATH: P:\1\329022\CAD\03\04_Sandpiper Basis of Design 90 Percent\1329022203_Sht 4_04 [Planting Details].dwg