



BELLEVUE 2044
COMPREHENSIVE PLAN

Building A Livable City for All

APPENDIX F Water Memorandum





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memorandum

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cc Pam Xander, ESA

from Matthew Blinstrub, ESA

subject Water Resources Memo for the City of Bellevue Comprehensive Plan Periodic Update and Wilburton Vision Implementation EIS

Introduction

As part of the City of Bellevue's Comprehensive Plan Periodic Update and Wilburton Vision Implementation EIS process (Comprehensive Plan Periodic Update), the City of Bellevue is obliged to disclose potential significant adverse impacts that may result to elements of the environment. ESA prepared this technical memorandum to assist the city in deciding whether the Comprehensive Plan Periodic Update may have the potential for significant adverse impacts on water resources and therefore should be analyzed in the EIS.

This memorandum describes existing conditions of water resources in the City of Bellevue and downstream receiving waters. The analysis was prepared using existing information available in public sources or provided by the city, such as current impervious surface areas from parcel records and stormwater management plans.

After describing current conditions within the city limits, the impacts analysis considers how the Comprehensive Plan Periodic Update could affect water sources both within and adjacent to the city limits.

Regulatory Context

Numerous existing federal, state, and local regulations protect water resources and limit potential environmental impacts. Bellevue City Code, the State Environmental Policy Act (SEPA), and the federal National Environmental Policy Act (NEPA) establish environmental regulations and procedures that regulate the development and use of property. These regulations are meant to ensure that impacts on the environment are avoided, minimized, documented, and mitigated, and provide the opportunity for public notice and comment:

- **Federal Clean Water Act.** Federal review applies to any project affecting waters of the United States and thus requiring review by the U.S. Army Corps of Engineers (Corps). Such projects must generally show that impacts have been avoided or minimized; permit requirements often include mitigation for unavoidable impacts.

- **Waters of the State.** State review applies to any project affecting waters of the state and thus requiring review by the Washington Department of Ecology (Ecology) and/or Washington Department of Natural Resources (WDNR). Such projects must also show that impacts have been minimized, and permit requirements often include mitigation for unavoidable impacts.
- **Shoreline Management Act.** The [Shoreline Management Act](#) (SMA) requires all counties and most towns and cities with shorelines to develop and implement [Shoreline Master Programs](#). The law also defines our role in reviewing and approving local programs. The SMA was passed by the Washington Legislature in 1971 and adopted by voters in 1972. The SMA applies to all 39 Washington counties and about 250 towns and cities with stream, river, lake, or marine shorelines. These shorelines include:
 - All marine waters.
 - Streams and rivers with greater than 20 cubic feet per second mean annual flow.
 - Lakes 20 acres or larger.
 - Upland areas called shorelands that extend 200 feet landward from the edge of these waters.
 - Biological wetlands and river deltas connected to these water bodies.
 - Some or all of the 100-year floodplain, including all wetlands.
- **Shoreline Master Program (SMP).** Bellevue has a Shoreline Master Program as subject to the Shoreline Management Act ([RCW 90.58](#)). The goals and policies of the Shoreline Master Program are included in comprehensive plans under the Growth Management Act (GMA) ([RCW 36.70A](#)). Shoreline Master Programs (SMPs) are local land use policies and regulations that guide the public and private use of Washington shorelines. These policies and regulations provide for public access to public waters and shorelines, protect natural resources, and plan for water-dependent uses. Bellevue’s shoreline jurisdiction is regulated through zoning and shoreline environment designations established in Bellevue City Code (BCC) 20.25E. The Shoreline Jurisdiction includes Lake Washington, Lake Sammamish, Lower Kelsey Creek, Mercer Slough, and Phantom Lake, as well as associated wetlands and shorelands 200 feet from the ordinary high-water mark (including the floodway and 200 feet of any adjacent floodplain) of each of the listed water bodies.
- **Bellevue Critical Areas Ordinance (CAO).** The city’s CAO protects critical areas: streams and riparian areas, wetlands, habitats for species of local importance, geological hazard areas, and flood hazard areas. Buffers and structure setbacks are then applied to the edges of these critical areas to protect their functions and values.
- **Stormwater Regulations.** The city ensures that development complies with State of Washington Waste Discharge Act regulations regarding stormwater.
- **Ecology 303(d) List.** Ecology monitors the quality of state waters and maintains a list of water bodies that have water quality concerns (the 303(d) list). Washington’s 2014–2018 303(d) List was partially approved and partially disapproved by the U.S. Environmental Protection Agency (EPA) in June 2022 (EPA 2022).
- **Bellevue Comprehensive Plan.** Through land uses permit reviews, the city ensures project compliance with environmental policies identified in the Comprehensive Plan, and with underlying zoning, land use, and other regulations, policies, and procedures.

These environmental regulations condition development proposals to avoid, minimize, and/or mitigate potential impacts on water resources.

Affected Environment

Drainage Basins and Land Cover

The City of Bellevue consists of approximately 37.5 square miles of land area, and is currently developed with medical, commercial office, and retail uses, as well as residential land uses. In general, stormwater runoff drains to roadside ditches, catch basins, and storm drains. Runoff is collected and conveyed into larger storm drains within the major streets, and discharges into local creeks and drainage tributaries.

Bellevue has a wealth of both surface and groundwater resources. There are about 79 miles of streams within the city limits. There are also approximately 13 miles of large-lake shoreline (Lake Washington and Lake Sammamish); and smaller lakes that are considered by some to be wetlands (Larsen Lake, Lake Bellevue, and Phantom Lake); and the 320-acre wetland known as the Mercer Slough.

The total area subject to the city's Shoreline Master Program (SMP) is approximately 960 acres (1.50 square miles), encompassing 19.7 miles of stream and lakeshore.

The City of Bellevue is already highly urbanized. Under current conditions, most of this pollution-generating hard surface area is directly connected to conveyance systems that drain to minimally treated stormwater to the creek basins.

Water Quality

Water quality conditions for the city's water bodies are generally consistent with urban developed areas, such as higher concentrations of metals and sediments, elevated water temperature, and increased fecal coliform (City of Bellevue 2022; King County 2021).

Groundwater

There are several wells within the larger vicinity of drainage basins, including the Beaux Arts Village, which obtains municipal water primarily from groundwater from the City of Bellevue (King County 2009). Glacial till underlies much of the City of Bellevue at a shallow depth. Water infiltrates relatively slowly through this material. During rainy seasons, it is common for perched groundwater to develop above layers of glacial till. During the drier summer months, groundwater plays a critical role in providing base flows to the creeks.

Flooding

Federal Emergency Management Agency (FEMA) 100-year floodplains, as mapped by FEMA, were analyzed to determine potential flooding within and downstream of the City of Bellevue. The 100-year floodplain lies along the Mercer Slough and the Kelsey Creek and West Tributary Basin Creek drainage basins that lie along the creek extents (FEMA 2018; King County 2021). Numerous small floodplains exist in areas of Bellevue, such as along Coal Creek west of I-405; Kelsey Creek through the Lake Hills Greenbelt, Glendale Golf Course, and Kelsey Creek Park; Valley Creek near Highland Park; Richards Valley; and the shoreline of Lake Sammamish. Under the Federal Flood Insurance Program, some floodplain development is allowed if eligibility requirements are met. The city regulates land uses and land alteration activities to minimize the potential for damage from flooding.

Bellevue's drainage system – composed of streams, lakes, wetlands, flood detention sites, pipes, and ditches – has been designed to hold and carry water during storms to prevent flooding. However, when intense storms hit and overwhelm the system, flooding can occur.

Potential Impacts of the Comprehensive Plan Periodic Update

The purpose of this memo is to provide a broad overview of protected water resources within the City of Bellevue for the purposes of future planning. Individual projects will continue to be subject to review under the laws described above while undergoing a SEPA review. The SEPA process identifies potential concerns of specific projects early in the environmental review and permitting process. The Comprehensive Plan Periodic Update is a governmental action involving decisions on policies, plans, or programs that contain standards controlling the use or modification of the environment, which is considered to be a non-project action under SEPA. The Plan proposes to contain growth in an urban area per the GMA and protect water resources through city codes. Thus, adoption of the Comprehensive Plan Periodic Update, regardless of the alternative selected, is not expected to have a significant adverse impact on water resources.

Future site-specific development projects under the Comprehensive Plan Periodic Update could result in adverse impacts on water resources. However, those projects will be subject to existing regulations (discussed above) that protect water resources. These existing regulations include the Clean Water Act, state regulations protecting Waters of the State, the Shoreline Management Act, the Shoreline Master Program, Bellevue City Codes, Bellevue's CAO, Ecology 303(d) list, Bellevue stormwater regulations, policies in the city's current Comprehensive Plan, and underlying land use permit review processes and regulations. Existing regulations will require detailed site-specific analyses of the impacts resulting from those projects, and the implementation of required avoidance, minimization, and/or mitigation measures, when the associated plans and project permit applications are submitted for city review and processing.

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