CITY OF PORTLAND
ENVIRONMENTAL SERVICES
1120 SW Fifth Ave, Suite 613, Portland, Oregon 97204 ▪ Mingus Mapps, Commissioner ▪ Dawn Uchiyama, Interim Director

# M E M O R A N D U M

**April 10, 2023**

**TO:** Shane Valle-PBOT, Bill Cunningham-BPS

**COPY TO:** Elisabeth Reese Cadigan-BES, Kate Hibschman -BES

**FROM:** Marie Walkiewicz -BES

**RE:** Lower SE Rising– System Assessment of the Internal Review Draft

Thank you for the opportunity to review drafts of the Lower SE Rising project area's proposed transportation improvements and proposed zone changes. This memo includes the technical information provided in a previous memo sent on March 21, 2023 and provides additional analysis to supplement and provide context for the information in that memo. Please consider this memo as a substitute for that earlier communication.

We appreciate the attention BPS is paying to infrastructure capacity when considering changes to zoning and the sensitivity to preventing system issues related to planned growth. Our intention in these analyses is to provide info on the existing conditions of BES systems to provide background for the planning effort and to identify potential development-related issues that could occur under existing or future conditions.

The technical analysis described below identifies a few areas where BES models indicate there could be minor increases in localized risks. It describes the nature of that analysis, what the model indicated, the limitations of the modeling process, and an assessment of the implications of that analysis for the zone changes being proposed as part of the Lower SE Rising project.

Given the limited risks identified by our models and the conversative nature of our modeling approach, we are confident that BES will be able to serve future growth associated with the proposed zone changes in the Lower SE Rising project.

In a separate memo, BES will submit a request to rezone a few publicly-owned properties within the Lower SE Rising planning boundaries to Open Space to support the West Lents Floodplain Restoration Project.

**Existing conditions**

***Sanitary***
BES previously provided BPS and PBOT with maps showing various components of current sewer system risk. North of SE Duke St., the LSE plan area is generally served by a combined sewer (where sanitary and stormwater flows are conveyed in the same system). Components of the combined system are generally the oldest or older parts of BES' systems and often have existing issues with condition or capacity.

Brentwood-Darlington, which comprises most of the plan area south of SE Duke St., is generally served by a separated system, which was built in the 1980s and 1990s through the Mid-County Sewer Project as part of the annexation process. In these areas, stormwater and sanitary flows are handled separately, with sanitary flows being collected and conveyed to the broader sanitary system that goes to the treatment plant.

***Stormwater***
Most of the stormwater south of Duke Street is actively 'injected' into the ground through sumps or drywells (also formally called underground injection controls, or UICs for short). In the southern hillside, some stormwater is conveyed by pipes into Johnson Creek.

Generally, the soils in this area of the city have good infiltration, which makes the area well suited for using UICs to manage stormwater. A large portion of the UICs provide groundwater recharge that feeds Errol Creek, Flavel Wetland, and Johnson Creek, making them important to the groundwater hydrology of the area. Although the mapped groundwater levels in this area are generally more than 100' below ground surface, there may be areas of seasonably perched groundwater, seeps, or springs that may create nuisance flooding in the sloped southern portion of the project area. Issues in this area will be substantially improved through stormwater management (and street) improvements currently underway for the area between 45th & 52nd Avenues along Malden Drive, Tenino Court, and Tenino Drive through the Errol Heights Local Improvement District.

BES relies in part on public reports of street flooding to help identify capacity issues with UICs. In this area, we have not received a high number of complaints, however, we know that people in vulnerable communities don't report problems at the same rate as less vulnerable communities, so it is possible that existing problems could be underreported.

Based on the conditions in the area, BES expects to continue to use sumps as the primary tool for stormwater management in Brentwood-Darlington.

***Restoration***
Two sections of the plan area include Johnson Creek and its floodplain. BES is actively engaged in efforts to prevent the impacts of flooding on private property and public infrastructure, protect water quality, and enhance habitat, especially for ESA-listed salmonids.

In southwest corner of the plan area (around the intersection of Johnson Creek Blvd, SE 45th Avenue and Harney Drive) BES is designing the Johnson Creek Oxbow Restoration Project, which will include elements to improve water quality from the 45th and 52nd Avenue storm mains and create high flow refugia off the main channel of the creek. This restoration work, along with previous projects, parks, and natural areas, not only serves the stormwater management needs of the area, it also provides access to nature for nearby residents. The work will also enhance conditions for fish and other aquatic species, by improving fish passage, access to cold water sources, off-channel floodplain refugia, floodplain functionality, and wetland habitat.

BES is designing the West Lents Floodplain Restoration Project in the southeast corner of the plan area where Johnson Creek crosses SE 82nd Avenue. This project will reduce flood risks to nearby industrial properties, multifamily housing, a manufactured home park, and single-dwelling residential development in an economically vulnerable community. BES is requesting that City-owned properties within the project area be rezoned to Open Space zoning to support our ability to vacate unused rights of way and better manage the site. More information about that request will be shared in a separate memo.

**Risk modeling**

BES conducted modeling based on information about existing BES systems, infiltration assumptions for local conditions, and development assumptions related to BPS's proposed upzoning. The information below summarizes the results and how they relate to the proposed upzonings.

***Sanitary and combined modeling results***

Along 52nd and 72nd Avenues, generally north of Duke Street, the Lower SE Rising's proposed increase in zoning density falls in areas where BES has identified existing capacity deficiencies, basement sewer backup risk, maintenance hole flooding risk, and pipes in bad condition. While upzoning in this area could add flow to the system, the additional risks are minor compared to existing identified risk in the combined area.

There are a few properties adjacent to 52nd and 72nd Avenues that are unserved by the sewer system. As infrastructure is further developed to serve the needs of residents, a portion of those costs may be borne by property owners.

In the vicinity of SE Clatsop Street and SE 77th Ave, BES modeling analysis of proposed upzoning identified basement sewer backup and maintenance hole flooding risks, with the potential to impact 15 properties due to the size of pipe serving this area. BES may need to consider increasing the pipe's size or doing other localized improvements, if development occurs at the scale that BES modeled.

***Implications for zoning and system capacity***

Though our modeling results identified a few areas with potential increased risks associated with future development, the modeled risks are minimal and do not raise a concern for the rezoning being proposed as part of the Lower SE Rising project.

**Conclusion**

We look forward to continued collaboration on the % For Green funded pilot project, which will plant trees in the curb zone along SE Duke St. We also look forward to collaborating on the design of the Tolman Avenue Greenway west of 52nd Ave, where there is a proposal to pave and use a non-traditional type of street design.

We hope you find this information helpful. Please reach out if you have any questions about our analysis or our comments.