

# Midway Sewer District Plan Annex

## Introduction

**Establishment and Early Years** The Midway Sewer District, originally named the Des Moines Sewer District, was established on July 16, 1946, following a petition from residents of a 200-acre area in downtown Des Moines. Initial planning efforts faced challenges, with a proposed Comprehensive Plan in 1949 being rejected. This led to a period of inactivity until 1956, during which the area's growth highlighted the need for an effective sewer system.

**Revitalization and Development** In 1956, the Board of Commissioners revitalized the District by adopting a revised Comprehensive Plan. They secured authorization for general obligation and revenue bonds through a special election. By April 1957, the District established its first Utility Local Improvement District (ULID), initiating the construction of a sewer collection system that included a submarine outfall, a primary treatment plant, and two pump stations. The sewer system became operational by December 1958, and extensions began to accommodate rapid regional development.

**Expansion and Upgrades** The District has seen significant expansions and upgrades over the years:

- **1965:** Completion of the Des Moines Creek Wastewater Treatment Plant, replacing the original plant.
- **1968:** Absorption of the Sylvia Pines Sewer District.
- **1984:** Expansion of the treatment plant's capacity to 6.0 million gallons per day (MGD).
- **1989-1991:** Implementation of secondary treatment and advanced odor control systems.
- **2000:** Increase of the facility's capacity to 9 MGD.
- **2007:** Replacement and expansion of the outfall system.
- **2023:** Installed 3<sup>rd</sup> secondary clarifier.

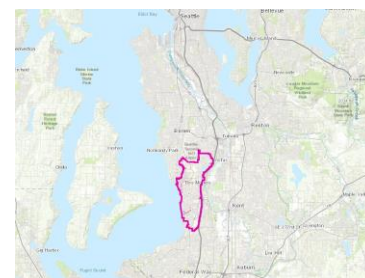
Today, the District uses a Geographic Information System (GIS) which enhances infrastructure management by providing detailed maps and tracking asset conditions, which aids in maintenance, planning, and emergency response. It also supports data integration and analysis for operational efficiency and regulatory compliance, while improving public transparency and engagement.

**Service Area and Infrastructure** Located in south King County between Seattle and Tacoma, the Midway Sewer District covers 10 square miles, extending into SeaTac, Des Moines, Normandy Park, Burien, Federal Way, and Kent. The District is bounded by Puget Sound and 8th Avenue South to the west, SeaTac International Airport to

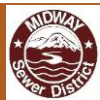
## Jurisdiction Profile

Midway Sewer District is a Special Purpose District and is governed by a Board of 5 Commissioners elected by residents within the District's boundaries.

The District's service area is 10 square miles and includes portions of the cities of SeaTac, Des Moines, Normandy Park, Burien, Federal Way, and Kent. (See Figure 1)



The population within the District's boundary is approximately 48,000 where approximately 8,200 customers are serviced by over 152 miles of sewer mains, 4,015 Manholes and 13 pump stations. (See Figure 2)



the north near South 188th and South 176th Streets, Interstate 5 to the east, and South 276th Street to the south. The service area, including an additional 3 square miles from the Airport, totals 13 square miles. Although SeaTac Airport has its own sewer facilities and an industrial wastewater treatment plant, its effluent discharges into the District's collection system and outfall.

The District manages all aspects of wastewater collection, conveyance, and treatment within its boundaries. Its infrastructure includes gravity sewers, force mains, siphons, and pump stations that transport wastewater to the Des Moines Creek Wastewater Treatment Plant (WWTP). The WWTP features a comprehensive treatment system, including headworks, grit removal, primary clarifiers, trickling filters, solids contact tanks, secondary clarifiers, UV disinfection, gravity thickening, anaerobic digesters, and sludge dewatering. Treated wastewater is released into Puget Sound under the National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. WA0020958. Biosolids from the wastewater treatment process are disposed of through the Boulder Park Project (BPP) Beneficial Use Facility, where the nutrient-rich product is land-applied to agricultural lands.

**Geography and Future Outlook** The District's terrain features rolling hills, ridges, and valleys, with elevations ranging from sea level along Puget Sound to about 450 feet near Interstate 5. The land slopes westward towards Puget Sound, becoming steeper closer to the coast. Over the next 20 years, the District anticipates a population growth of 17,150 people and 23,250 employees, prompting an update to its General Sewer Plan to address future wastewater needs.

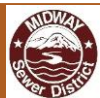
### **Development Trends (See Figure 3)**

In recent years, many large projects have begun or been completed within the District.

The **Washington State Department of Transportation (WSDOT)** is currently constructing a transportation improvement project identified as the **SR 509/I-5 Freight and Congestion Relief Project**. This project is an extension of the existing SR 509 from its current southernmost terminus at South 188th Way, through the City of SeaTac, to a new connection with Interstate 5 at approximately South 212th Street and includes merge lanes and congestion relief lanes along I-5 to the south. The proposed new extension of SR 509 traverses through the Midway Sewer District's service area. Many sewer lines will be relocated to avoid crossing through the State highway right-of-way. The District has already begun relocating affected piping in the path of the future highway.

**Sound Transit** is currently in the construction phase of the **Federal Way Link Extension (FWLE)**. FWLE is a significant development aimed at improving the regional light rail network in south King County, Washington. Spanning nearly eight miles of primarily elevated tracks, this extension will connect SeaTac to Federal Way and introduce three new stations: Kent Des Moines near Highline College, Star Lake, and Downtown Federal Way. This project requires the relocation of sewer pipes within the vicinity of International Blvd S and S 208th Street. The District has developed a sewer reroute plan of approximately 1,500 feet of pipe that will require relocation. The future **Kent/Des Moines Link Light Rail Station** originally scheduled to open in 2024 was delayed mostly by a bridge redesign prompted by unstable soil conditions. This station is near the intersection of S. 240th St and 30th Ave S, just a few blocks from the Midway Sewer District Office.

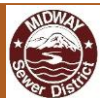
Completed in 2018, The **Des Moines Creek Business Park and Federal Aviation Administration Building** is an 87-acre multi-phased industrial development in the heart of Des Moines and includes over 1,800,000 sq ft of office and warehouse space. Over 3,000 jobs are expected because of these development projects in Des Moines and SeaTac, which include a combination of manufacturing, research and development, processing, logistics, office and hospitality.



# Midway Sewer District Risk Summary

## Hazard Risk and Vulnerability Summary

HAZARD	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY	PROBABILITY OF FUTURE OCCURRENCE (INCLUDE EFFECTS OF CLIMATE CHANGE)
<b>Avalanche</b>	No Risk  There are no avalanche risk areas within District boundaries	N/A	N/A	N/A
<b>Earthquake</b>  (See Figure 4)	High Risk  The Pacific Northwest experiences earthquakes from three main sources: Cascadia subduction, deep earthquakes, and crustal faults. King County has a long history of recorded seismic activity.	The District has a few areas that have potential for LOW and HIGH Liquefaction events. The most troublesome area could be the hillside on the East side of Des Moines Beach Park because the outfall runs through the park into the Puget Sound.	Liquefaction events following an earthquake can cause underground sewer line and manhole infrastructure to become unstable and fail.	Because of climate-induced factors, earthquake risk can heighten in frequency as well as intensity. When creating earthquake risk mitigation plans, especially in coastal areas, it's crucial to account for these climate-induced factors.
<b>Flood</b>  (See Figure 5)	Low risk  Floods can occur when excessive rainfall overwhelms the ability of the ground to absorb water or drainage systems to carry it away. This can lead to a rapid rise in water levels, causing flooding in	The District has only a few areas in the 100-year floodplain. Given this, rare incidents of road flooding with clogged storm drains, excessive inflow may temporarily strain the infrastructure	Flooding can cause sewer overflows, releasing untreated sewage and contaminating water supplies. It can also overload treatment plants and damage sewer infrastructure, leading to service disruptions and costly repairs.	Warmer temperatures increase atmospheric moisture, causing more intense and frequent rainfall, which can overwhelm drainage systems and lead to flooding. Additionally, rising sea levels from melting glaciers and warming oceans heighten the risk of coastal flooding, especially during storms and high tides.



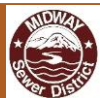
	various areas.			
<b>Landslide</b>	<p>No Risk</p> <p>A landslide is the downward movement of rock and soil, varying from a few feet to many yards in volume. Its speed can range from inches per month to feet per second, depending on slope, material, and water content. Landslides can be triggered by storms, earthquakes, fires, erosion, volcanic eruptions, or human activities.</p>	<p>Landslides or debris flows can damage infrastructure and disrupt sewer services. Manholes and Sewer pipelines crossing unstable areas may be impacted by slope movement.</p>	<p>Midway Sewer District has no known areas in threat of landslides.</p>	<p>Climate change can increase the likelihood of future landslides through several mechanisms, including:</p> <ul style="list-style-type: none"> <li>Rising temperatures</li> <li>Increased precipitation</li> <li>Extreme weather events</li> </ul>
<b>Extreme Weather</b>	<p>Low risk</p> <p>Extreme weather, including rain, snow, sleet, hail, high winds, and lightning, has a documented history of impacting the region, with significant effects from snow, ice and wind.</p>	<p>Extreme weather events can impact the entire District or specific areas, causing damage such as downed trees, utility interruptions, and transportation issues. Snow events can isolate residents and delay emergency services, while heavy snow can lead to roof collapses.</p>	<p>In June 2021, an extreme heatwave in Western Washington brought record-breaking temperatures, leading to heat-related illnesses, increased wildfire risk, roadway damage, and strain on electrical systems. Similarly, in February 2019, a series of winter storms caused historic snowfall in the Puget Sound region, including the District.</p>	<p>Future climate change may intensify extreme weather in Western Washington by increasing heatwaves, causing heavier rainstorms, creating unpredictable snow patterns, raising sea levels, and heightening wildfire risk. Overall, extreme weather events are likely to become more frequent and severe.</p>



<b>Tsunami</b>	<p>Low risk</p> <p>Tsunamis can originate from offshore earthquakes, especially the Cascadia Subduction Zone. Impacts could include coastal flooding, infrastructure damage, evacuation challenges, and serious risks to public safety. The region has tsunami warning systems, evacuation plans, and public education programs. The most recent significant tsunami was in 1964 from the Alaska earthquake.</p>	<p>Inner Puget Sound coastlines are vulnerable to tsunamis from offshore earthquakes, such as the 1964 Alaska quake, which caused minor flooding and damage. Key risks include potential flooding of waterfront areas, infrastructure damage, and challenges in evacuating the densely populated city.</p>	<p>In the case of a tsunami, the District does have infrastructure, especially Pump Stations not far from the inner coastline. Rising water in those area could flood or cause damage to our mainlines and manholes.</p>	<p>Climate change does not increase the frequency of tsunamis in Western Washington but can amplify their impact. Rising sea levels may intensify flooding and damage, while increased coastal erosion from higher seas and stronger storms can heighten vulnerability. Additionally, melting glaciers might influence local seismic activity. Overall, climate change can worsen the effects of tsunamis on coastal areas.</p>
<b>Volcano</b>	<p>No Risk</p> <p>There are no volcano hazards within our District.</p>	<p>N/A</p>	<p>N/A</p>	<p>There is no current threat of climate change effecting the volcano risk.</p>
<b>Wildfire</b>	<p>No Risk.</p> <p>There in no wildfire risk identified within our District boundaries</p>	<p>Because the District is located within a developed area with an abundance of fire stations and fire hydrants, it is unlikely that localized fires would develop</p>	<p>Where wildfires are a threat, they severely impact sewer infrastructure by causing heat damage to sewer lines and components, destroying or compromising pump stations and treatment facilities, and leading</p>	<p>Climate change is likely to intensify wildfires by increasing temperatures, prolonging droughts, altering precipitation patterns, and leading to more frequent extreme weather. These factors can result in more frequent and severe fires.</p>

		into wildfires.	to blockages from post-fire debris and ash. Additionally, fire-induced erosion can undermine sewer lines, potentially causing failures or leaks. Overall, wildfires pose significant risks to the integrity and functionality of sewer systems.	
<b>Civil Disturbance</b>	<p>No Risk</p> <p>Civil disturbance refers to a situation where public order is disrupted by actions such as protests, riots, or demonstrations. These disturbances often involve large groups of people and can lead to significant disruption of normal activities, property damage, and potential violence.</p>	<p>Our District area has seen some civil disturbances, though they are rare compared to larger cities. These include occasional local protests and smaller-scale community disputes. For detailed information, local news archives or city records can provide more specifics.</p>	<p>A civil disturbance in our area would have very little impact on our infrastructure or day to day operations.</p>	<p>Climate change could increase civil disturbances by causing resource scarcity, exacerbating social tensions through extreme weather, intensifying economic stress, and leading to conflicts from displacement. Overall, it heightens the risk by amplifying existing social and economic pressures.</p>
<b>Cyber Attack</b>	<p>High Risk</p> <p>A cyber-attack is a deliberate and unauthorized attempt to access, disrupt, or damage computer systems, networks, or data. These attacks can aim to steal information, cause system outages, or disrupt</p>	<p>Our District is vulnerable to cyber-attacks that can compromise our firewalls, disrupt operations by targeting control systems, expose sensitive data, damage infrastructure, and interrupt services. These attacks can compromise the efficiency, security, and</p>	<p>An attack on our admin servers can give bad actors access to District financial information as well as our customers' personal information. But even worse, be a victim of Ransomware.</p> <p>Our SCADA (Supervisory Control and Data Acquisition) system is the backbone of our</p>	<p>Climate change itself does not directly increase the risk of cyber-attacks, but it can exacerbate related challenges. Extreme weather events and natural disasters may disrupt critical infrastructure, including cybersecurity defenses, and create opportunities for cyber-attacks during recovery periods. Additionally, increased reliance on digital systems for managing climate-related risks could heighten exposure to cyber</p>





	operations, often using methods such as malware, phishing, or hacking.	safety of sewer District functions.	wastewater infrastructure, and we are currently in the design phase of updating the SCADA security measures throughout the District.	threats.
<b>Dam Failure</b>	<p>No Risk</p> <p>A dam failure is a serious hazard where a dam breaks or collapses, leading to the sudden release of stored water. This can cause massive flooding downstream, damaging property, infrastructure, and potentially leading to loss of life.</p>	A failure of the Howard Hanson Dam could affect many communities inland of our District, but it is not a threat to us.	Historically there have been dam failures in Western Washington. For example, the 1960 partial collapse of the White River Dam caused significant flooding and damage. Additionally, the 1980 Mount St. Helens eruption led to the failure of several small dams, resulting in lahar flows and flooding. These events underscore the potential risks of dam failures in the region.	Climate change is likely to increase dam failures through more intense rainfall raising reservoir levels, extended droughts lowering water levels, and higher temperatures weakening materials. Faster glaciers melt and rising sea levels may overwhelm dams, while increased erosion and landslides could undermine structures. These changes will necessitate updated assessments and upgrades to maintain dam safety.
<b>Hazardous Materials Incident</b>	<p>Low Risk</p> <p>A hazardous materials incident is an accidental release of dangerous substances that can endanger health, safety, and the environment.</p>	Our District has a limited presence of heavy industrial facilities and major transportation routes that handle hazardous substances.	While no area is entirely free from risk, the combination of low industrial activity, careful regulatory oversight, and effective emergency response strategies contribute to minimizing the likelihood of hazardous material incidents in the area.	There are no indications that this hazard would be affected by climate change.
<b>Public Health Emergency</b>	<p>Low Risk</p> <p>A public health emergency is a situation where widespread health issues,</p>	District staff and local businesses would be affected by a public health emergency, potentially leading to disruptions in	As with the recent COVID-19 pandemic, our treatment plant may operate on limited staff as well as our admin and engineering staff. To the public,	Climate change could exacerbate future public health emergencies by increasing the frequency and severity of extreme weather events, such as heatwaves and floods, which can strain

	<p>such as an outbreak of disease or a natural disaster, pose a significant risk to the population's well-being and require immediate and coordinated response efforts. It typically demands intervention from government agencies, healthcare systems, and emergency services to mitigate the impact and protect public health.</p>	<p>District services due to reduced staffing. The consequences can vary widely, impacting anywhere from a few individuals to large segments of the population.</p>	<p>this would mean limited services including permitting, sewer availability functions and in-person payments.</p>	<p>health systems and amplify health risks. Additionally, shifting climate patterns may alter the spread of infectious diseases and increase the prevalence of health conditions related to environmental changes.</p>
<p><b>Terrorism</b></p>	<p>Low Risk</p> <p>In the context of a public utility District, terrorism refers to the deliberate use of violence or sabotage to disrupt essential services, such as water, electricity, or gas, to cause fear, harm, or economic damage. This can include attacks on infrastructure, poisoning of resources, or other acts intended to undermine public safety and stability.</p>	<p>We may be vulnerable to terrorism in the form of a cyber-attack which could alter or disable sewer treatment functions and effect public health</p>	<p>Terrorism via cyber-attack might alter equipment functions, possibly leading to partially treated effluent released into the environment.</p>	<p>Future climate change could increase terrorism risks by heightening conflicts over resources like water and energy and creating conditions for instability. Extreme weather and infrastructure disruptions may also make it easier for terrorists to exploit vulnerabilities and carry out attacks.</p>



Hazard and Asset Overview Map(s)

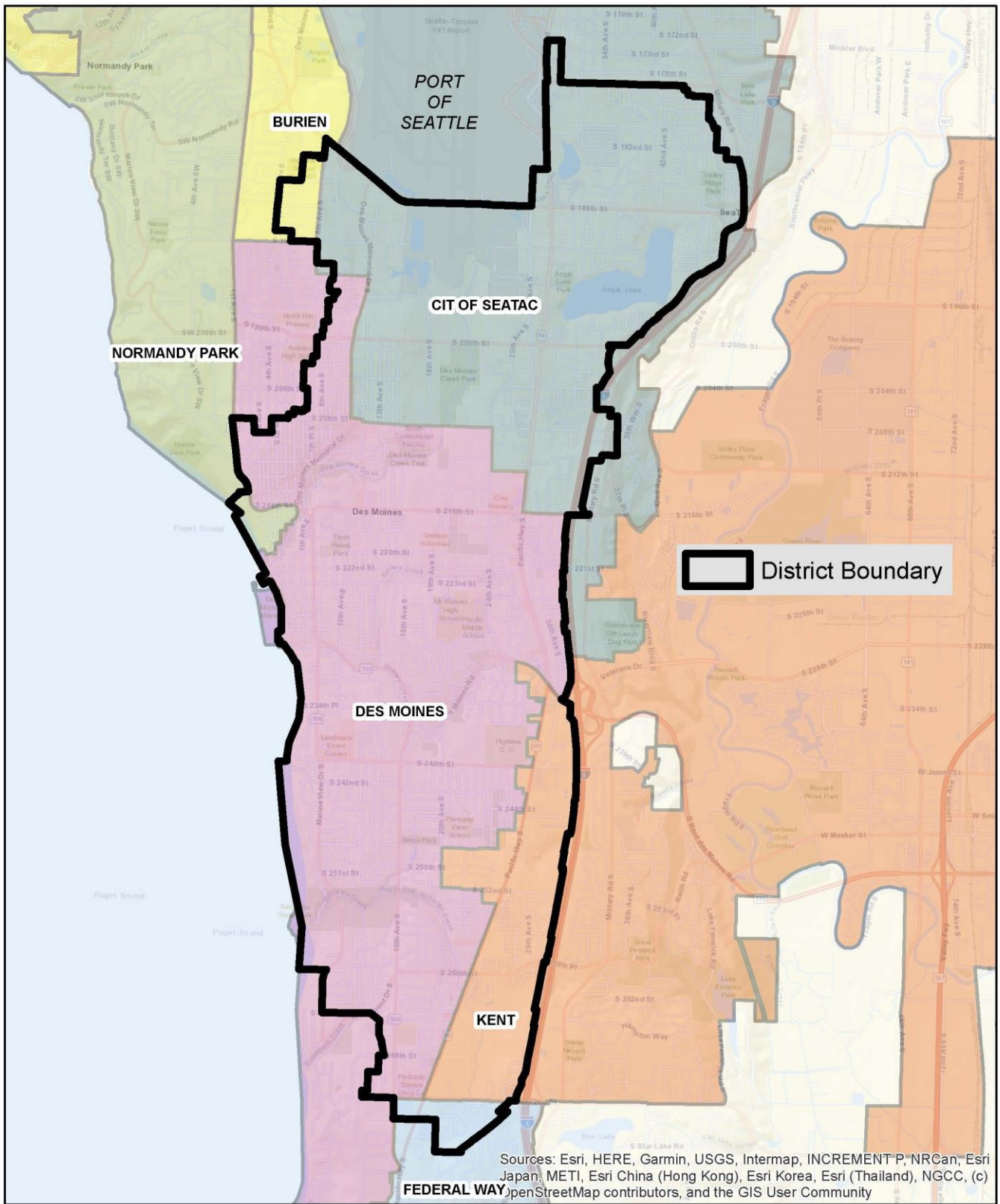


Figure 1: Jurisdictions within Midway Sewer District



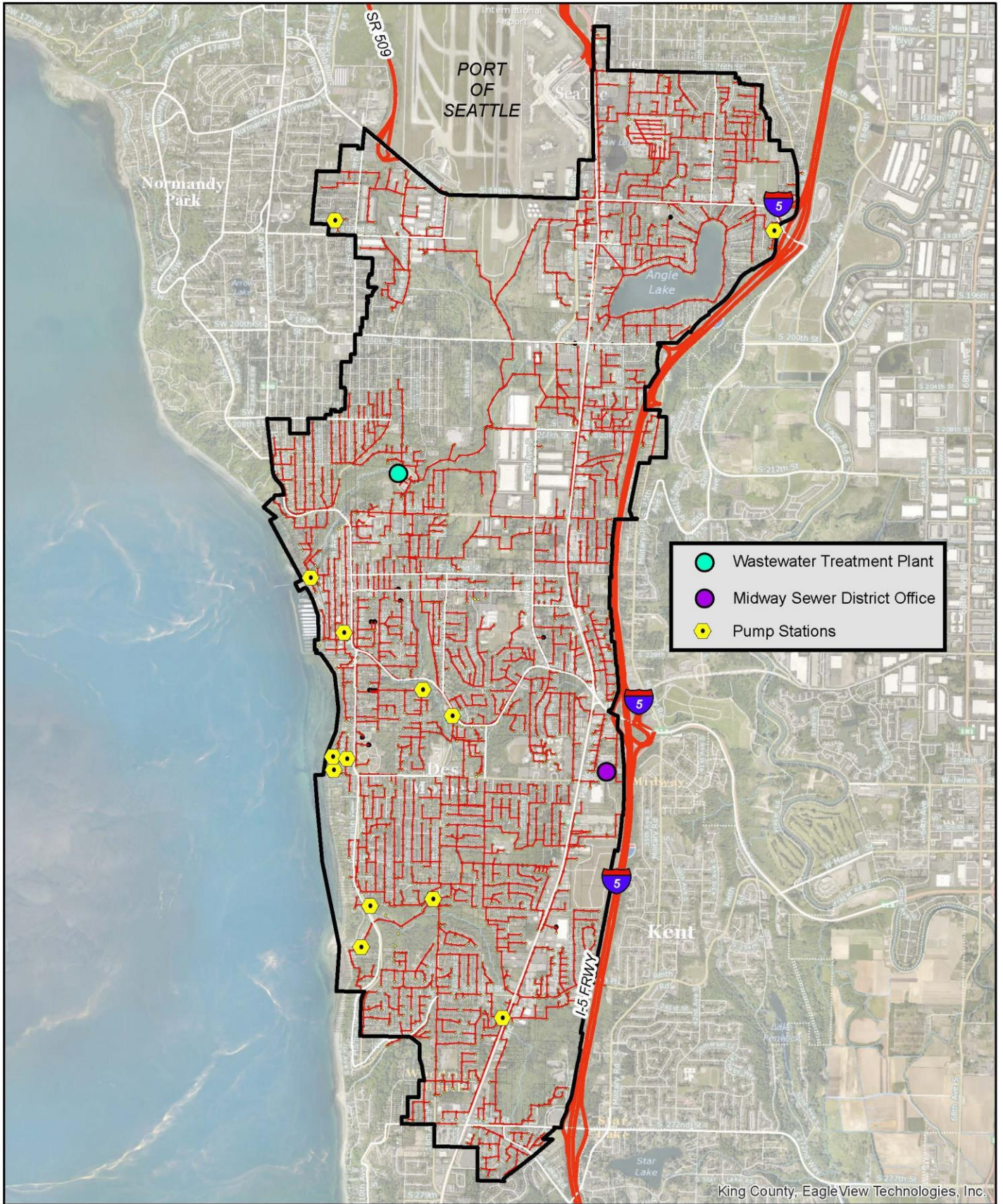


Figure 2: Critical Facilities



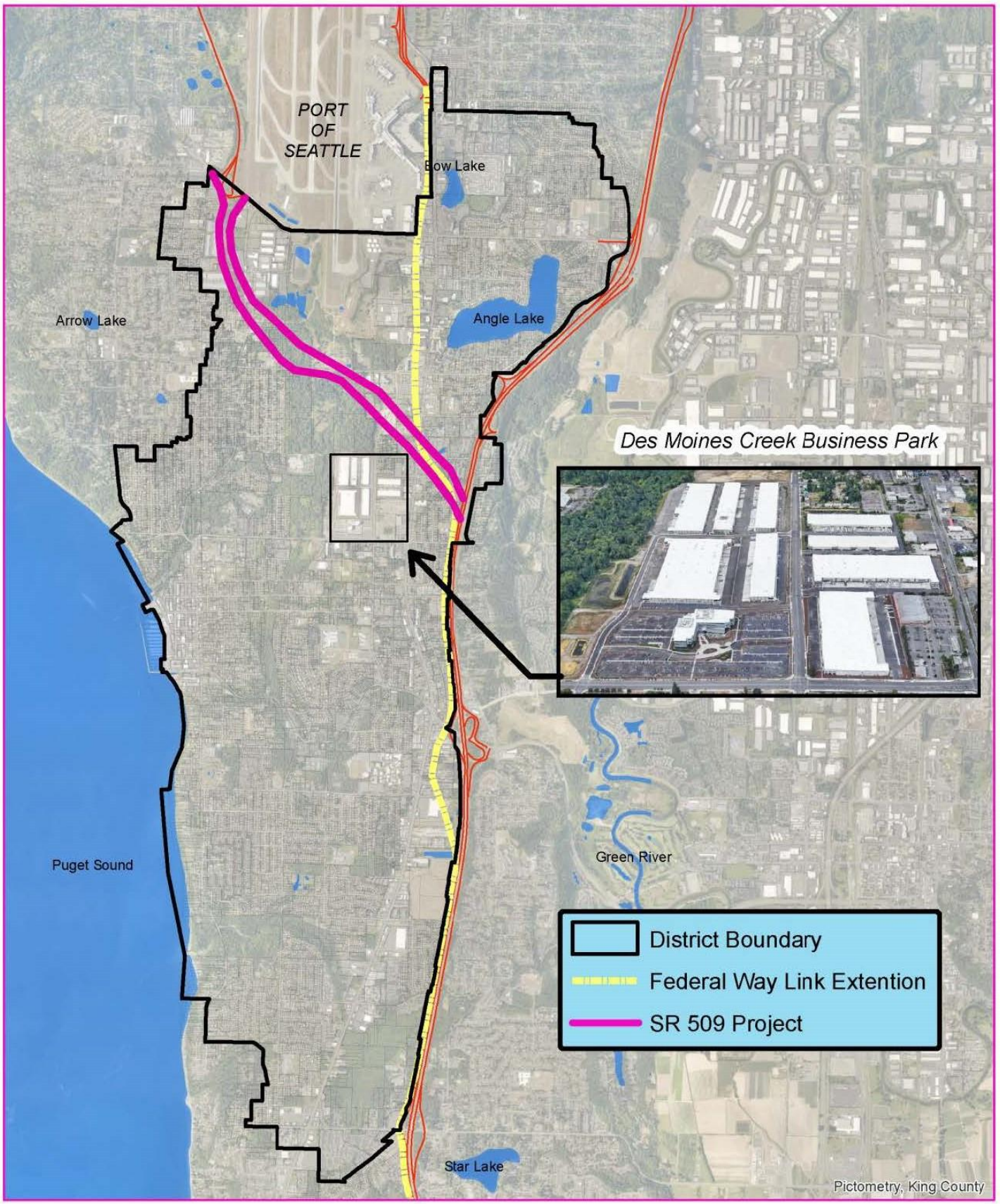


Figure 3: Recent Developments



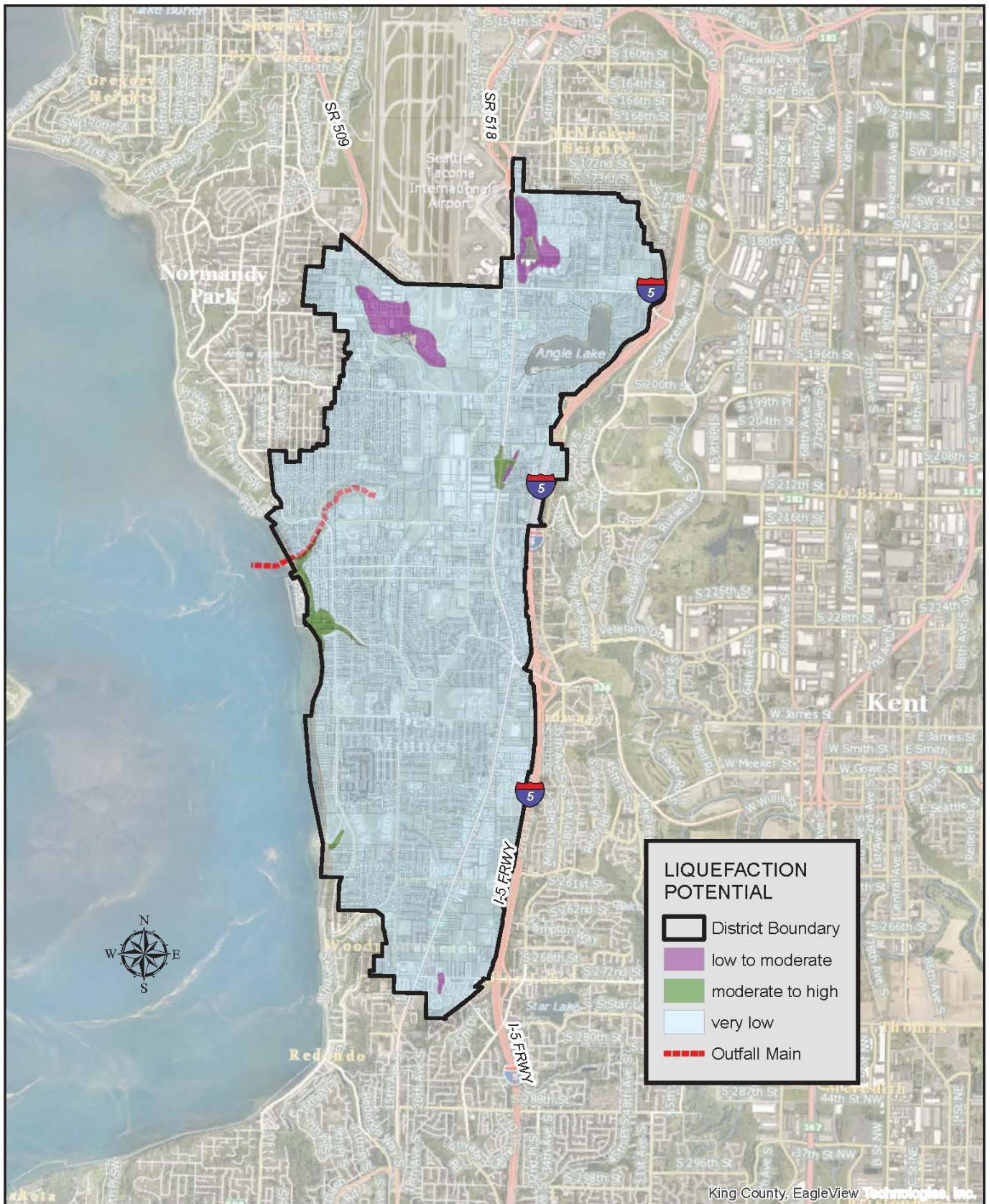


Figure 4: Liquefaction Potential



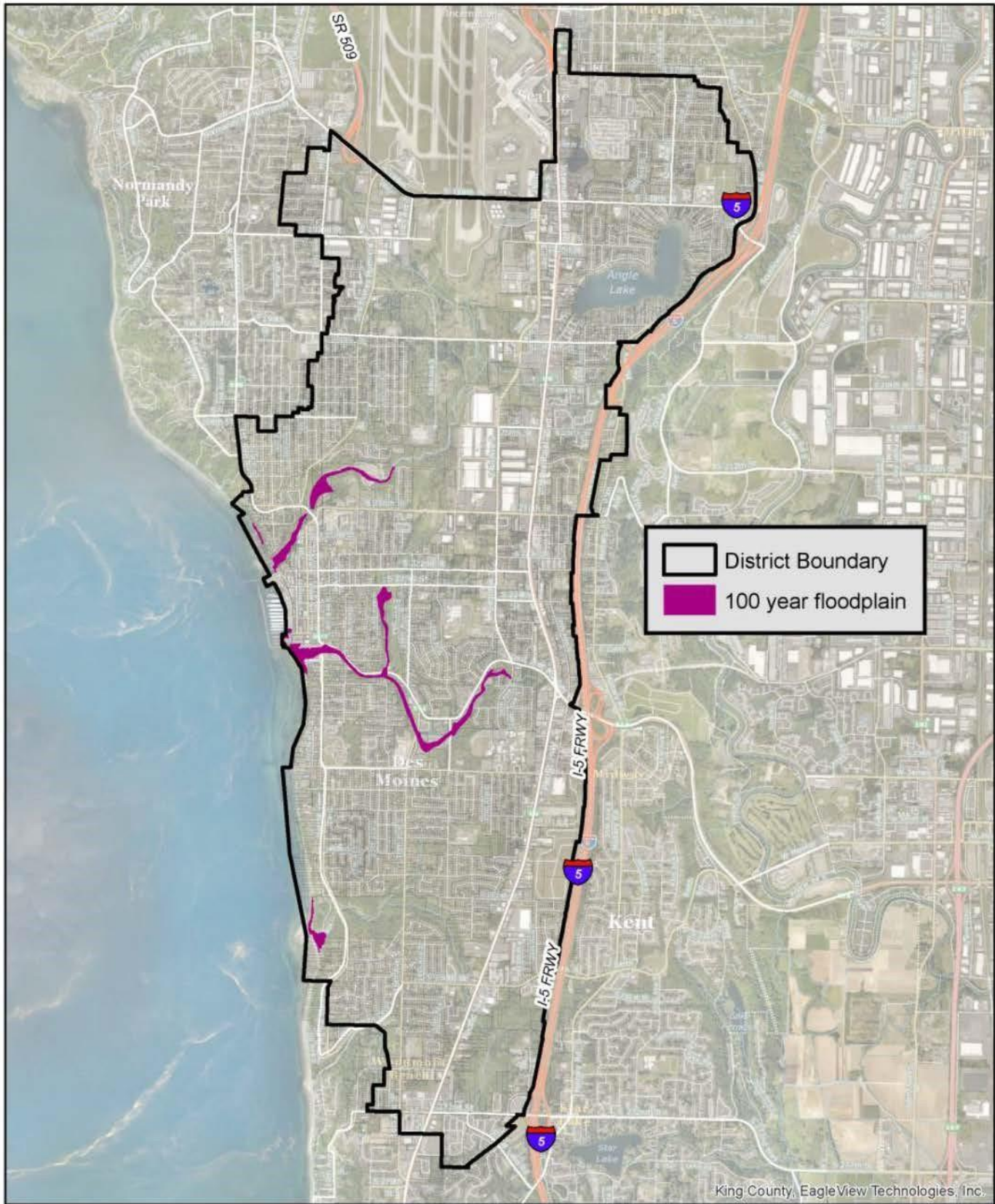


Figure 5: 100Year Flood Plain



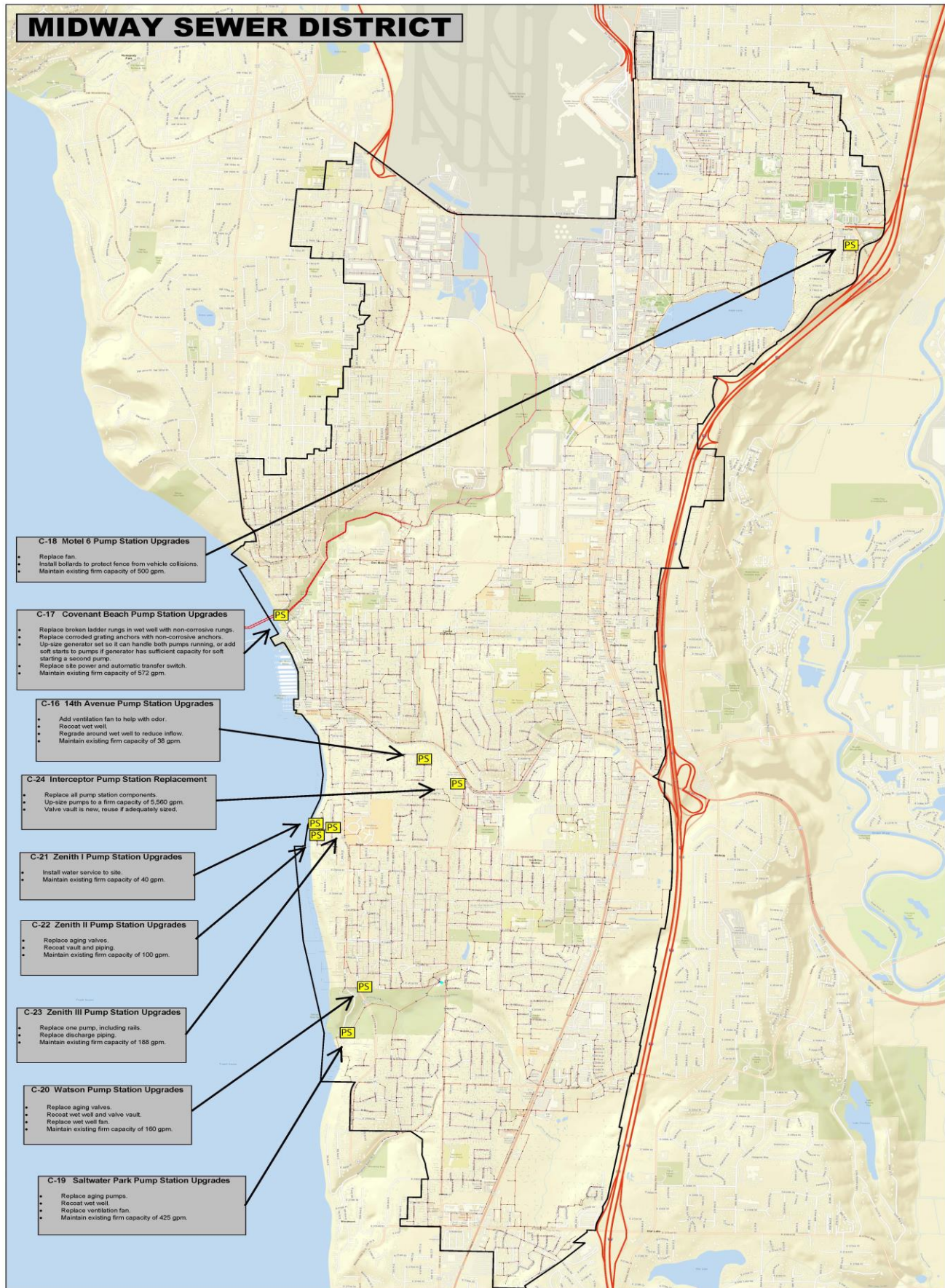
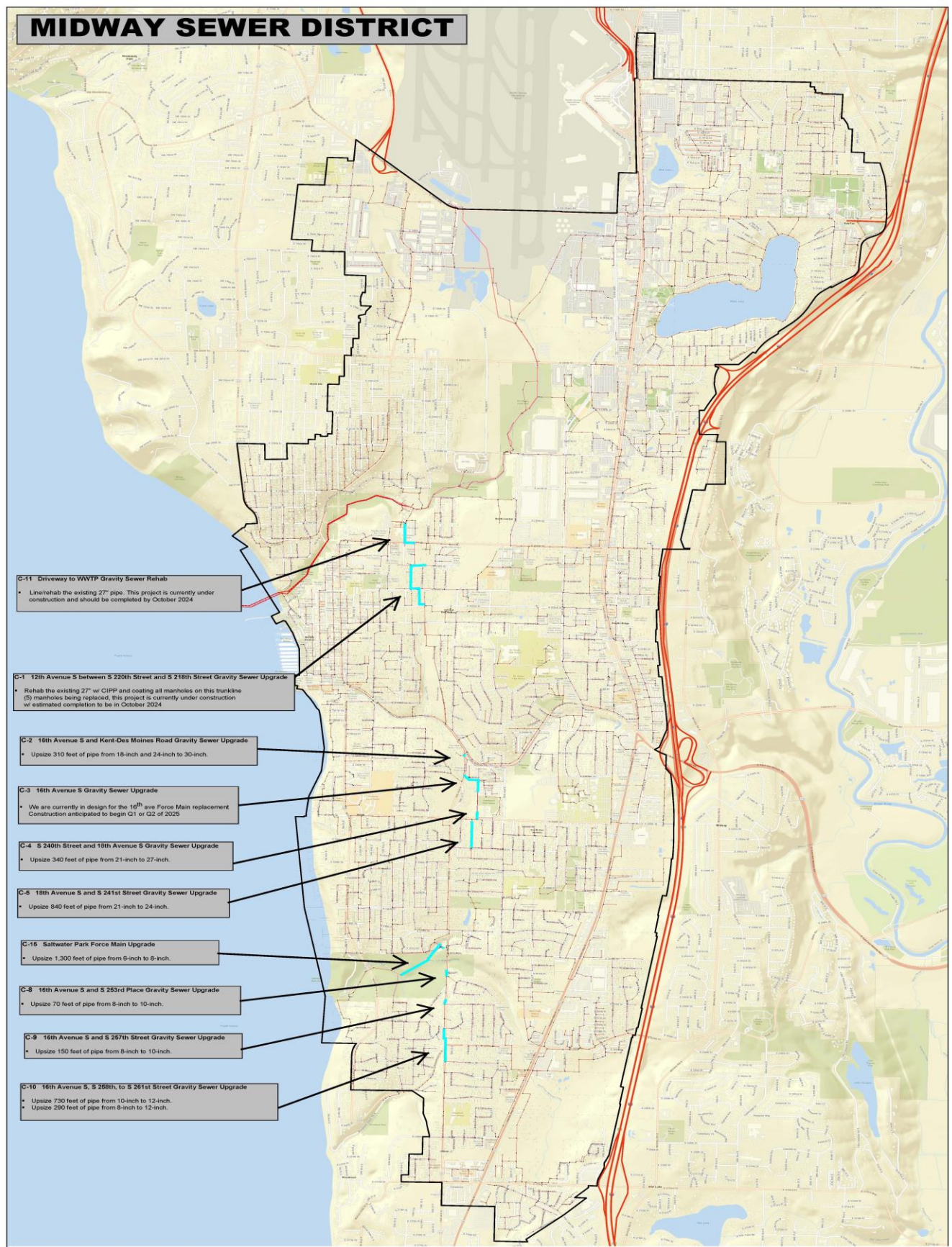


Figure 6: 2025–2030 Pump station Projects





*Figure 6: 2025–2030 Sewer Main Projects*



### Assets at Risk

ASSET	VALUE (\$)	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>7<sup>th</sup> Ave Pump Station</b>	\$1,836,659	High Risk from potential structural damage from earthquake.	This station was completely rebuilt in 2015. Has On-site generator for backup power.	Disruption of up to 4,425 GPM pumping ability.
<b>14<sup>th</sup> Ave Pump Station</b>	\$171,095	High Risk from potential structural damage from earthquake.	Built in 1992. Major upgrades scheduled in 6-year plan. On-site generator for backup power	The station has 38 GPM pumping capacity. Failure can disrupt service to 3 lots.
<b>16<sup>th</sup> Ave Pump Station</b>	\$555,010	High Risk from potential structural damage from earthquake.	This station was recently upgraded. On-site generator for backup power.	The station has 2,240 GPM pumping capacity. Failure can cause disruption of service to approximately 700 acres in the south-central part of the District.
<b>Covenant Beach Pump Station</b>	\$442,898	High Risk from potential structural damage from earthquake.	Submersible pump station located near the Districts western edge On-site generator for backup power.	The station has 572 GPM pumping capacity. Failure can cause disruption of service to approximately 155 acres of single/multi-family, and commercial developments.
<b>Interceptor Pump Station</b>	Insured value: \$463,207	High Risk from potential structural damage from earthquake.	Last upgraded in 2000. On-site generator for backup power.	The station has 2,390 GPM pumping capacity. Failure can cause disruption of service to approximately 2,390 acres in southern portion of the District.
<b>Motel 6 Pump Station</b>	Insured value: \$356,099	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	The station has 660 GPM pumping capacity. Failure can cause disruption of service to approximately 55 acres of mixed-use development.
<b>Saltwater Park Pump Station</b>	Insured value: \$315,760	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	The station has 425 GPM pumping capacity. Failure can cause disruption of service to approximately 180 acres in the southwest portion of District as well as Saltwater State Park.
<b>260<sup>th</sup> St Pump Station</b>	Insured value: \$628,737	High Risk from potential structural damage from earthquake.	Recent wet well improvements and modern control systems. On-site generator for backup power.	The station has 1930 GPM pumping capacity. Failure can cause disruption of service to approximately 310 acres in the southeastern portion of the District.



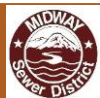


<b>Sun Vista Pump Station</b>	Insured value: \$258,728	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	The station has 183 GPM pumping capacity. Failure can cause disruption of service to residents in the northeastern portion of the District.
<b>Watson Pump Station</b>	Insured value: \$396,438	High Risk from potential structural damage from earthquake.	Located just east of Saltwater State Park pump station. On-site generator for backup power.	The station has 186 GPM pumping capacity. Failure can cause disruption of service to approximately 5 acres with 20 homes.
<b>Zenith I Pump Station</b>	Insured value: \$236,472	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	Station has a 40 GPM pumping capacity.
<b>Zenith II Pump Station</b>	Insured value: \$269,856	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	Pump Station was built in 1982 and exceeds the 25-year life expectancy and replacement is recommended.
<b>Zenith III Pump Station</b>	Insured value: \$446,514	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	Pump Station was built in 1982 and exceeds the 25-year life expectancy and replacement is recommended.
<b>Wastewater Treatment Plant. (all processes)</b>	Insured value: \$5,301,898	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	Complete failure, (including generator) would allow untreated or partially treated sewage to flow into the Puget Sound.
<b>District Office Bldg.</b>	Insured value: \$2,194,180	High Risk from potential structural damage from earthquake.	On-site generator for backup power.	Temporary disruption of admin operations.

## Plan Update Process

The Midway Sewer District (MSD) is actively engaged in updating its Hazard Mitigation Plan (HMP) through a comprehensive and collaborative process that aligns with King County's multi-jurisdictional planning efforts. This update commenced with Stan Rupert's participation in the Regional Hazard Mitigation Plan Update Kick-Off Meeting at the Regional Communications and Emergency Coordination Center (RCECC) on December 13, 2023. Key elements of the HMP were discussed during this meeting, including recent updates to FEMA guidelines, timelines for the plan, and methodologies for risk assessment.

MSD's planning team began by reviewing the Plan Review Tool document and participated in online training to outline the requirements for completing the updated HMP. They also examined the 2020-2025 HMPs from various jurisdictions to inform their approach. As part of the risk assessment review, the team analyzed King County and FEMA risk assessment maps to discuss how various hazards could impact the sewer system infrastructure. This evaluation included a comprehensive hazard risk analysis of the city, considering past mitigation plans and existing risk assessment records from FEMA, King County, Des Moines, and SeaTac.



District staff evaluated the potential impact of identified hazards on city assets, residences, and businesses, which was crucial for developing effective Hazard Mitigation Strategies. Stan Rupert met with Phill Hite from Highline Water District, whose boundaries closely match those of MSD, to compare hazards in their Risk and Resilience Plan.

The Midway Sewer District is dedicated to maintaining a current and relevant Hazard Mitigation Plan, committing to several ongoing initiatives. A designated point of contact will serve as the Mitigation Lead representative at King County planning meetings throughout the next five-year cycle. District representatives will attend these meetings as needed to ensure continued engagement and collaboration with other members of the King County planning group. The District will conduct regular reviews of all initiatives within the Annex, adjusting priorities based on changes in capabilities, disaster impacts, and strategic alternatives. The goals and objectives from the HMP will be integrated into revisions of the District's Comprehensive Plans and budget processes, with ongoing public outreach efforts at Commissioner meetings to encourage dialogue and input regarding the Annex. The HMP will be readily accessible on the District's website, with links to the King County Regional Hazard Mitigation Plan, and the District remains committed to conducting its five-year update as a standalone jurisdiction if regional efforts do not materialize. Through these steps and commitments, the Midway Sewer District aims to enhance its resilience against hazards while fostering community engagement and collaboration.

***Midway Sewer District Planning Team***

<b>NAME</b>	<b>TITLE</b>	<b>ORGANIZATION</b>	<b>CONTRIBUTION</b>
<b>Stan Rupert</b>	Emergency Management Coordinator	Midway Sewer District	District Employee
<b>Marc Montieth</b>	District Manager	Midway Sewer District	District Employee
<b>Jace Layton</b>	Plant Superintendent	Midway Sewer District	District Employee
<b>Ryan Phelan</b>	Engineering and Construction Manager	Midway Sewer District	District Employee
<b>Bryan Asplund</b>	Operations Supervisor	Midway Sewer District	District Employee
<b>Brock Powell</b>	Senior Inspector	Midway Sewer District	District Employee

### Plan Update Timeline

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
<b>Regional Hazard Mitigation Plan Update Kick-Off Meeting</b>	12/13/2023	Kick-Off Meeting at RCECC	Stan Rupert
<b>R10 Virtual Local Mitigation Planning Training Session</b>	04/30/2024 and 05/01/2024	Mitigation planning Training	Stan Rupert
<b>Meet with planning team members</b>	05/14/2024 and 09/04/2024	Discussed sewer infrastructure mitigation planning	Ryan Phelan, Jace Layton, Brock Powell, Bryan Asplund, Marc Montieth.
<b>Public Outreach discussion</b>		Reviewed the options for getting the attentions of customers and other community members to review and comment on the draft plan	Stan Rupert, Ryan Phelan, Marc Montieth.

### Public Outreach

#### Public Outreach Events

EVENT	DATE	SUMMARY	ATTENDEES
<b>Newsletter invitation for public to view and comment on HMP including current and future projects</b>	Newsletter went out early September with statement explaining HMP and invite to view and comment on current plan on October 9 <sup>th</sup> at District office.		
<b>Posted on Waterland and SeaTac Media Blogs inviting public to view and comment on plan.</b>	Invite to community Hazard Plan review on October 9 <sup>th</sup> at our District office.		
<b>Open House</b>		Public review current and future projects and risk hazard maps	

## Midway Sewer District Hazard Mitigation Program

The Hazard Mitigation Planning Coordinator has reached out to District Administrative and Operations staff and discussed current and future mitigation goals for plan development. District staff members convened as often as necessary to address strategy, initiative, and implementation issues. Committee members included the following:

- Marc Montieth, Manager of District Operations
- Ryan Phelan, Engineering and Construction Manager
- Jace Layton, Collection System Supervisor
- Bryan Asplund, Operations Supervisor
- Brock Powell, Senior Inspector
- Stan Rupert, Hazard Mitigation Planning Coordinator

The plan development process consisted of identifying hazards that may affect District operations. The King County I-map website in addition to the existing FEMA risk maps were used to identify potential hazards (e.g. natural) that could occur within the District. Additionally, the District and the Regional partnership effort looked at the vulnerabilities associated with terrorism/social unrest. The District Hazard Plan Coordinator and District staff agreed to adopt applicable regional goals and objectives in developing a local strategy and initiatives.

Hazard mitigation strategies were developed through a two-step process. Each jurisdiction met with an internal planning team to identify a comprehensive range of mitigation strategies. These strategies were then prioritized using a process established at the county level and documented in the base plan.

### Plan Monitoring, Implementation, and Future Updates

King County leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and bi-annual mitigation strategy updates. Updates on mitigation projects are solicited by the county for inclusion in the countywide annual report. As part of participating in the 2025 update to the Regional Hazard Mitigation Plan, every jurisdiction agrees to convene their internal planning team at least annually to review their progress on hazard mitigation strategies and to update the plan based on new data or recent disasters.

As part of leading a countywide planning effort, King County Emergency Management will send to planning partner any federal notices of funding opportunity for the Hazard Mitigation Assistance Grant Program. Proposals from partners will be assessed according to the prioritization process identified in this plan and the county will, where possible, support those partners submitting grant proposals. This will be a key strategy to implement the plan.

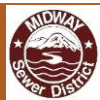
The next plan update is expected to be due in April 2030. All jurisdictions will submit letters of intent by 2029, at least two years prior to plan expiration. The county will lead the next regional planning effort, beginning at least 18 months before the expiration of the 2025 plan.

### Continued Public Participation

#### Plan Goals

- Provide safe, efficient, and reliable sanitary sewer service to the District service area
- Minimize negative impacts on public health and employee safety
- Provide emergency public information
- Ensure safeguards are in place to rapidly restore sewer service after a hazard
- Ongoing analysis and systems review to ensure the sewer infrastructure keeps up with population growth





King County and its partner cities already maintain substantial public outreach capabilities, focusing on personal preparedness and education. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into public outreach efforts. This will provide King County residents, already engaged in personal preparedness efforts, with context and the opportunity to provide feedback on the county’s progress and priorities in large-scale mitigation. In the vertical integration of risk-reduction activities from personal to local to state and federal, it is important that the public understand how its activities support, and are supported by, larger-scale efforts.

The outreach and mitigation teams will also continue to work with media and other agency partners to publicize mitigation success stories and help explain how vulnerabilities are being fixed. When possible, public tours of mitigation projects will be organized to allow community members to see successful mitigation in action.

## Hazard Mitigation Authorities, Responsibilities, and Capabilities

### *Plans*

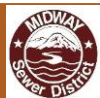
PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
<b>Comprehensive Plan</b>	Midway Sewer District	Marc Montieth	District Manager
<b>Comprehensive Emergency Management Plan</b>	Midway Sewer District	Stan Rupert	Emergency Management Coordinator
<b>Capital Improvement Program</b>	Midway Sewer District	Ryan Phelan	District Engineer

### *Programs, Policies, and Processes*

PROGRAM/POLICY	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
<b>Midway Sewer District General Sewer Plan June 2018</b>	Midway Sewer District	Marc Montieth	District Manager
<b>Emergency Management Plan</b>	Midway Sewer District	Stan Rupert	Emergency Management Coordinator
<b>Capital Improvement Plan</b>	Midway Sewer District	Ryan Phelan	Engineering and Construction Manager

### *Entities Responsible for Hazard Mitigation*

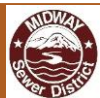
AGENCY/ORGANIZATION	POINT OF CONTACT	RESPONSIBILITY(S)
<b>Midway Sewer District</b>	Stan Rupert	Emergency Management Coordinator/GIS Analyst
<b>Midway Sewer District</b>	Ryan Phelan	
<b>Midway Sewer District</b>	Jace Layton	
<b>Midway Sewer District</b>	Brian Asplund	



## National Flood Insurance Program

### *National Flood Insurance Program Compliance*

<b>What department is responsible for floodplain management in your community?</b>	N/A
<b>Who is your community's floodplain administrator? (title/position)</b>	The District is a special purpose District and does not have a floodplain administrator
<b>What is the date of adoption of your flood damage prevention ordinance?</b>	N/A
<b>When was the most recent Community Assistance Visit or Community Assistance Contact?</b>	The District has not had a Community Assistant visit or contact
<b>Does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are?</b>	No
<b>Do your flood hazard maps adequately address the flood risk within your community? If so, please state why.</b>	The District does not manage the flood hazard maps although we utilize King County's hazard maps and they do address the flood risk in our District.
<b>Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of training/assistance is needed?</b>	N/A
<b>Does your community participate in the Community Rating System (CRS)? If so, what is your CRS Classification and are you seeing to improve your rating? If not, is your community interested in joining CRS?</b>	No
<b>How many Severe Repetitive Loss (SRL) and Repetitive Loss (RL) properties are located in your jurisdiction?</b>	SRL: Unknown RL: Unknown
<b>Has your community ever conducted an elevation or buy out of a flood-prone property? If so, what fund source did you use? If not, are you interested in pursuing buyouts of flood prone properties?</b>	No

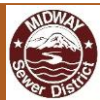


## Hazard Mitigation Strategies

### **2020 Hazard Mitigation Strategy Status**

Midway Sewer District did not participate in the 2020 HMPA but these are the Hazards and Strategies completed or still in work since 2020.

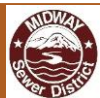
STRATEGY	DESCRIPTION	PRIORITY	STATUS
Pump Station Upgrades	16 <sup>th</sup> Ave Pump Station 7 <sup>th</sup> Ave Pump Station	High	
Multiple Gravity Sewer upgrades and relocations	C-1 Rehab existing 17” gravity main and replace 5 manholes on 12 <sup>th</sup> Ave S.  C-3 Redesign stage of 16 <sup>th</sup> Ave sewer force main to increase efficiency.  C-11 Rehab existing 27” gravity pipe at WWTP entrance.	High	C-1 Planned completion Oct 2024  C-3 Construction anticipated to start Q1 or Q2 of 2025  C-11 Planned completion Oct 2024
Basin 20 Siphon Project	The 2018 Midway Sewer District General Sewer Plan called for upsizing the 10-inch sewer on S 252nd Street to improve flow from Basin 20 to the 16th Avenue Pump Station. Localized flooding during storms poses health risks to residents. Constructing a new siphon using HDD will minimize surface disruption and preserve native land better than traditional methods.	High	Completed May, 2021
Secondary Clarifier Installation	This is a backup unit is necessary in the event of a clarifier failure which could potentially exceed permitted discharge limits at WWTP.	High	Completed June, 2023
Primary Clarifier 3 & 4 Improvements	These clarifiers are old and in need of updates. The improvements include replacing two rectangular, chain and flight primary clarifier mechanisms and two cross collector mechanisms.	High	Contractor/ McClure & Sons, estimate the \$2,743,618 project will be completed early November, 2024



The project involves modifying existing piping in the north inlet channel and scum tanks, cleaning and coating the primary clarifiers, north inlet channel, and scum tanks, and temporary bypass pumping. Electrical and HVAC modifications, startup, testing, and commissioning are also included. Additionally, the project will replace four progressing cavity pumps and the existing scum troughs in Primary Clarifiers 1 & 2.

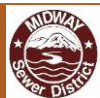
### 2025 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
Multiple Pump Station Upgrades (Figure 6)	Ryan Phelan Midway Sewer District	2025-2030	High
Multiple Gravity Sewer Upgrades (Figure 7)	Ryan Phelan Midway Sewer District	2025-2030	High
SCADA system security upgrades	Brett Larson Lighthouse Consulting	2024-2030	High
UV Disinfection Installation	Ryan Phelan Midway Sewer District	2025-2030	High



## Replace and upgrade multiple existing sewer mainlines

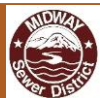
<b>Lead Points of Contact</b> Ryan Phelan (Engineering and Construction Manager)	<b>Partner Points of Contact (Title)</b> Selected Engineer/Consultant	<b>Hazards Mitigated/Goals Addressed</b> Redundancy and Increased Flow Preventing over-capacity	<b>Funding Sources and Estimated Costs</b> Ratepayer revenue 4,870,000
<b>Strategy Vision/Objective</b> Due to the age of the District’s infrastructure and a steady increase in population, several areas have been identified for replacement or upgrade.			
<b>Mitigation Strategy</b> Sewer Main Upgrades and Replacements in the following locations 2025-2030 <ul style="list-style-type: none"> <li>• <b>5 locations on 16th Ave. S:</b> These projects will replace 2,270 feet of sewer mainline with larger diameter pipes.</li> <li>• <b>S 240th St. and 18th Ave. S:</b> This project will replace approximately 340 feet of 21-inch pipe with 27-inch pipe. The installation method will be evaluated during the design phase and may include open trench or trenchless installation.</li> <li>• <b>18th Ave. S and S 241st St:</b> This project will replace approximately 840 feet of 21-inch pipe with 24inch pipe. The installation method will be evaluated during the design phase and may include open trench or trenchless installation.</li> <li>• <b>S 251st St. and 11th Ave. S:</b> This project will replace approximately 560 feet of 8-inch pipe with 12-inch pipe and 1,590 feet of 10-inch pipe with 15-inch pipe. The installation method will be evaluated during the design phase and may include open trench or trenchless installation.</li> </ul>			
<b>2-Year Objectives</b> Undergo contractor bid process and finalize design and engineering process.	<b>5-Year Objectives</b> We aim for 100% of the projects be in process or completed.	<b>Long-Term Objectives</b> Updated dependable sewer system	
<b>Implementation Plan/Actions</b> Projects will undergo bid process then continue as detailed in the Capital Improvement Plan			
<b>Performance Measures</b> Our Engineer Consultant will assess project implementation.			



## Replace and upgrade multiple existing pump stations

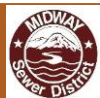
<b>Lead Points of Contact</b> Ryan Phelan (Engineering and Construction Manager)	<b>Partner Points of Contact (Title)</b> Selected Engineer/Consultant	<b>Hazards Mitigated/Goals Addressed</b> Replacement and upgrade of outdated stations.	<b>Funding Sources and Estimated Costs</b> Ratepayer revenue \$5,625,000
<b>Strategy Vision/Objective</b> Refit our pump stations to handle the future increase in District population and employment.			
<b>Mitigation Strategy</b> Pump Station Upgrades and Replacement 2025-2030 <ul style="list-style-type: none"> <li>• <b>14th Avenue Pump Station Upgrade:</b> A pump station assessment was performed to identify capital improvement needs. This project will include the addition of a ventilation fan to help control odor, wet well recoating, and regrading the area around wet well to reduce inflow.</li> <li>• <b>Covenant Beach Pump Station Upgrade:</b> Built in 1955 and updated in 1990, the pump station needs repairs. The project will replace rusty ladder rungs and grating anchors, upgrade power systems, and either increase generator size or add soft starts to handle both pumps.</li> <li>• <b>Motel 6 Pump Station Upgrade:</b> This project will include installation of bollards to protect the fence from vehicle collisions and replacement of the existing fan.</li> <li>• <b>Saltwater Park Pump Station Upgrade:</b> This project will include replacement of aging pumps and the ventilation fan. It will also include wet well recoating.</li> <li>• <b>Watson Pump Station Upgrade:</b> This project will include replacement of the wet well fan and aging valves. It will also include valve vault and wet well recoating.</li> <li>• <b>Zenith I Pump Station Upgrade:</b> This project will include installation of water service to the site.</li> <li>• <b>Zenith II Pump Station Upgrade:</b> This project will include replacement of aging valves and recoating of the valve vault and piping.</li> <li>• <b>Zenith III Pump Station Upgrade:</b> This project includes replacement of a single pump including rails and replacement of discharge piping.</li> <li>• <b>Interceptor Pump Station Replacement:</b> This station is undersized for current peak hour flows and it was recommended that the pump station be replaced. The replacement will include a wet well, pumps, electrical, instrumentation and controls, generator set, flow meter and pressure transmitter, and building.</li> </ul>			
<b>2-Year Objectives</b> Approximately 20% of the projects in process or completed.	<b>5-Year Objectives</b> Approximately 100% of the projects in process or completed.	<b>Long-Term Objectives</b> Updated dependable pump stations.	
<b>Implementation Plan/Actions</b> Projects will undergo bid process then continue as planned in the Capital Improvement Plan			
<b>Performance Measures</b> Our Engineer Consultant will assess project implementation.			





## SCADA Systems Security Upgrades

<b>Lead Points of Contact</b> Marc Montieth (District Manager)	<b>Partner Points of Contact (Title)</b> Brett Larson Lighthouse Consulting	<b>Hazards Mitigated/Goals Addressed</b> Cyber Attack/infrastructure secure from outside attack.	<b>Funding Sources and Estimated Costs</b> Awaiting status of State and Local Cybersecurity Grant Program grant. \$28,473.00
<b>Strategy Vision/Objective</b> <p>Per the EPA we are required to produce a Risk and Resilience Assessments (RRA) and Emergency Response Plans (ERP) and then certify their completion to EPA.</p>			
<b>Mitigation Strategy</b> <ul style="list-style-type: none"> <li>• Reduce exposure to public-facing internet</li> <li>• Conduct regular cybersecurity assessments</li> <li>• Change default passwords immediately</li> <li>• Conduct an inventory of OT/IT assets</li> <li>• Develop and exercise cybersecurity incident response and recovery plans</li> <li>• Backup OT/IT systems</li> <li>• Reduce exposure to vulnerabilities</li> <li>• Conduct cybersecurity awareness training</li> </ul>			
<b>2-Year Objectives</b> We expect the project to be complete	<b>5-Year Objectives</b> Project complete and updating or upgrading as technology changes.	<b>Long-Term Objectives</b> Secure SCADA system operation	
<b>Implementation Plan/Actions</b> Begin with FortiNet Analyzer monitoring software and licensing then OT security redesign (datacenter etc).			
<b>Performance Measures</b> Our Engineer Consultant will assess project implementation.			



## UV Disinfection Installation

<b>Lead Points of Contact</b> Ryan Phelan (Engineering and Construction Manager)	<b>Partner Points of Contact (Title)</b> Brown & Caldwell Eng.	<b>Hazards Mitigated/Goals Addressed</b> Flood/Prevents emergency flow bypass in case of flood.	<b>Funding Sources and Estimated Costs</b> Ratepayer revenue Bid amount \$2,696,694.71
<b>Strategy Vision/Objective</b> <p>The WWTP UV disinfection system is forecasted to reach hydraulic capacity within the 6-year planning horizon based on a firm capacity of 9 MGD. With increased flows, the WWTP may experience flooding of the UV disinfection system, requiring operators to bypass this unit process. It is recommended that a third UV bank be added to maintain capacity with redundancy.</p>			
<b>Mitigation Strategy</b> <p>Installing a 12" bypass line feeding UV disinfection and upgrading existing SE line to UV disinfection with parallel pipe or larger pipe will ensure adequate disinfection when flows are increased.</p>			
<b>2-Year Objectives</b> Project complete	<b>5-Year Objectives</b> Project complete	<b>Long-Term Objectives</b> Updated UV disinfection process	
<b>Implementation Plan/Actions</b> <p>Project will continue as planned and outlined in the 2018 Capital Improvements Program.</p>			
<b>Performance Measures</b> <p>Our Engineer Consultant will assess project implementation.</p>			