

# King County Water District No. 125 Plan Annex

## Introduction

King County Water District # 125 (KCWD 125) is located north and east of the Seattle-Tacoma International Airport and just south of the City of Seattle in King County, Washington. The District serves within the corporate limits of the cities of SeaTac, Burien, and Tukwila, while its eastern portion is located within a small area of unincorporated King County referred to as Skyway Hill. The District's corporate boundary encompasses a portion of Sea-Tac International Airport, however, its effective 'District' or service boundary does not, residing north of Highway 518 with the exception of a small stretch of land along the southeastern service boundary (see maps, pg 7-8).

Although KCWD 125 purchases its entire water supply from Seattle Public Utilities (SPU), a portion (approximately 34%) is conveyed through supply interties from King County Water District 20 and Skyway Water and Sewer District.

KCWD 125 operates under a three commissioner system whereby these elected officials set the policies for the District, authorize disbursement of funds, issue warrants in payments of bills, and approve contract documents and capital improvements expenditures. The Board assumes responsibility for the adoption of this plan, and its implementation will be overseen by the Superintendent and General Manager.

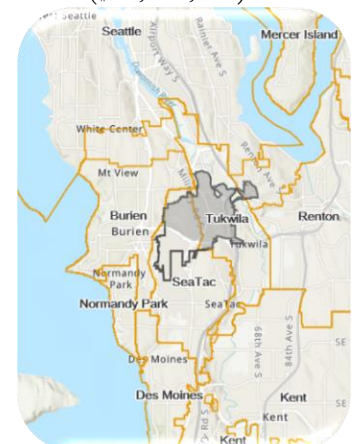
Land use within the District is a mixture of single and multi-family residential with commercial, motel, and industrial uses concentrated along the major corridors of Tukwila International Boulevard and East Marginal Way South. Additional commercial uses are scattered throughout the service area, which is heavily influenced by nearby Sea-Tac International Airport.

KCWD 125 is comprised of three former King County Water Districts, Nos. 35, 38, and 43. In 1975, Water District Nos. 35 and 38 merged to form an enlarged Water District 38. Water District Nos. 38 and 43 consolidated two years later to form the existing KCWD 125. Both Water District Nos. 35 and 38 were formed in 1930, followed by Water District 43 in 1931. Since the founding of the three water districts, the jurisdiction now serviced by Water District 125 has been heavily influenced in its development by the construction of new aviation and ground transportation infrastructure systems.

For instance, the completion of Interstate 5 reduced the size of Water District 35 from its height of 500 to 300 ratepayers, while increasing the size of District 38. Likewise, the completion of Highway 518 resulted in a loss of ratepayers from Water District 43 to

### King County Water District No. 125 Profile

- **KCWD 125** is a municipal corporation governed by an elected three-member board
- **Population Served:** 14,760 as of 2018
- **Land Area Served:** 6,075 acres
- **Service Connections:** 3,562 (6,747 ERUs)
- **Average Water Use:** 1.17 million gallons per day (2010- 2015)
- **Location Boundries:** *south* of the Duwamish River, *north* of 160<sup>th</sup> St., *west* of Beacon Ave. South, *east* of Des Moines Way South
- **Asset Values (Jan 2018):**
  - total capital assets, (\$10,266,421)
  - cash and equivalent assets (\$2,730,911)
  - net assets (\$12,997,332)





Water District 75. With each major infrastructural development and district merger, land use zoning and population growth projections have fluctuated.

More recently, the Sea-Tac International Airport, which is operated by the Port of Seattle, has expanded its facilities, eliminating approximately 100 residences and/or service connections that had been receiving water service from KCWD 125.

### Development Trends

A significant change in land use has occurred in recent years, as the southwestern and western areas of the District have been acquired by the Port of Seattle for expansion of Sea-Tac International Airport, resulting in a loss of single-family residential customers displaced by construction. While the area remains unsuitable for residential development, the potential for redevelopment for airport-related facilities is recognized.

#### Jurisdiction Point of Contact:

Name: Shane Young  
Title: General Manager  
Entity: KCWD No. 125  
Phone: (206) 242- 9547  
Email: shaneyoung@waterdistrict125.com

#### Second Point of Contact:

Name: Dylan Bailey  
Title: Superintendent  
Entity: KCWD No. 125  
Phone: (206) 242 9547  
Email: dylanbailey@waterdistrict125.com

#### Plan Prepared By:

Name: Paul Weller  
Title: Planning Manager  
Entity: PACE Engineers  
Phone: (425) 827- 2014  
Email: paulw@paceengrs.com

Historically, the area has been single-family residential with multi-family and commercial uses concentrated along the north-south thoroughfares of Tukwila International Boulevard and Military Road South; however, additional higher density development has occurred and is expected to increase along the District’s southern boundary, in the vicinity of the Sound Transit Tukwila International Blvd. Light Rail Station located at South 154th Street and International Blvd South. Construction of the Tukwila Station has enabled the City of SeaTac to redefine land use and zoning to promote denser, transit-oriented development. In 2006, the City of SeaTac adopted changes to their Comprehensive Land Use Plan and Map, and in 2008 the City approved rezoning of two areas directly west of the new light rail station and north of SR 518.

While the light rail station located at International Boulevard and Southcenter Boulevard is situated within a zone of low liquefaction risk, anticipated density increasing redevelopment occurring 0.5 miles or more to the east of the station (beginning approximately at 42nd Ave South) will increase hazard risk modestly as a greater number of residents will reside within a “moderate risk” liquefaction zone.

As of 2018, the District served a population of approximately 14,760 people through an estimated 3,562 water service connections (6,747 Equivalent Residential Units or ERUs). While water use within the District is estimated to increase from approximately 1.17 million gallons per day (2010-2015) to over 1.48 million gallons (on an average day) by the year 2036, average water use per equivalent residential unit has declined steadily over recent years as a result of regional and local conservation efforts. While KCWD 125’s projections assume that average use will remain at 191 gallons/ERU/day throughout the duration of the current planning period, the promotion of conservation efforts remains a high priority.



## King County Water District No. 125 Risk Summary

The following is a summary of the natural hazards that were reviewed. References are made to the District’s 2016 Water System Plan and prior Hazard Mitigation Plan, the most recent update adopted in 2013.

### *Hazard Risk and Vulnerability Summary*

HAZARD	RISK SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Avalanche</b>	No avalanche areas are identified within District boundaries.	None	None
<b>Dam Failure</b>	Low to Moderate Risk	KCWD 125 is bound to the east by the Duwamish River (with the exception of its unincorporated County service area east of the river) and is located downstream from the Howard Hansen Dam in Auburn, WA, placing the District’s eastern boundary in a position of high flood risk if dam failure were to occur. Seattle Public Utilities also owns and operates two regional water supply dams.	As discussed in the flooding section, the District’s assets are at low risk of flood related damage.  Failure of one or both of SPU’s water supply dams would impact regional supply, however, emergency sources of water are available to the District through regional interties and wells.
<b>Drought</b>	Low to Moderate Risk	Water shortages can be caused by any number of seasonal weather abnormalities. In recent history, there have two recorded instances of drought in the Seattle area. The first occurred in the summer of 1987 as a result of unusually warm and dry weather and was exasperated by higher than usual outdoor water use, accelerating the drawdown of water storage reservoirs. The second occurred in 1992 as a result of unusually warm winter weather, causing record low levels of snowpack and flows into reservoirs. Concern over the effects of winter warming following the El Nino weather events of 1997-98 are reflected in the District’s previous Water Shortage Contingency Plan, while concern over the effects of climate change has remained at the fore of water conservation and drought management efforts.	The occurrence of drought, would mean less available water for both domestic and firefighting consumption in the District and changes in landscape design may occur if the drought continues over multiple years.  As a result of previous water shortage events, a Water Shortage Contingency Plan has been put in place which emphasizes (i.) allowing customers the opportunity to meet targeted demand reduction levels through voluntary compliance measures before moving to mandatory restrictions, (ii.) planning the range of supply and demand management actions in advance of the situation and in defining the communication mechanisms by which decisions will be made during the event, (iii.) distinguishing between short term curtailment and long term conservation measures, and (iv.) monitoring water quality during a supply disruption.



HAZARD	RISK SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Earthquake</b>	<p>There are no active fault lines within the KCWD 125 corporate or District boundaries and liquefaction potential is low throughout most of the District, with the highest risk areas adjacent to District boundaries.</p>	<p>Within the District’s corporate boundaries, ‘very high’ liquefaction potential is present only in the small area immediately surrounding Tub Lake (within North SeaTac Park). Southwest of the District boundary, but within the corporate boundary, two additional small areas of very high liquefaction potential reside near Seattle-Tacoma Intl. Airport surrounding Lake Reba (south of SR 518/ north of S. 154<sup>th</sup> St.) and on a small stretch of Air Cargo Road (between cross-streets S. 154<sup>th</sup> St and S. 156<sup>th</sup> St.).</p> <p>‘High’ liquefaction potential is also present within District boundaries along a small stretch of land wherein SR 599 (running along Interurban Ave S.) intersects with Interstate-5, located in the District’s north-easterly corner. Much of the immediate space adjacent to the area is also medium-to-high risk. Falling outside District boundaries, a large portion of Seattle-Tacoma Intl. Airport and a small stretch of International Blvd. are also categorized as high risk.</p> <p>The area immediately north of SR 518 in the south-easterly corner of the District’s boundary is of moderate liquefaction potential, while the rest of the District (the vast majority) is of relatively low potential.</p>	<p>A major earthquake could potentially disrupt water and wastewater services by damaging conveyance lines and mains and hindering the mobility of repair service employees.</p> <p>As nearly 100% of the District’s wholesale water supply is purchased from the City of Seattle, water supply lines are particularly important. The primary line running through the District is located almost entirely in areas classified as low or medium-to-low risk, with the exception of a small section running through high risk land located just south of the District boundary, but within the corporate boundary.</p> <p>Wastewater treatment conveyance lines, however, run almost exclusively through high or high-to-moderate liquefaction potential areas along the north-east boundary and in moderate potential areas on the south-east border. Thus, in the event of an earthquake, wastewater conveyance lines are at higher risk of damage or breach, posing an additional risk of wastewater contamination in surrounding areas, which include high traffic roadways and relatively dense mixed-use zoning.</p> <p>The District’s administrative building is located in a low risk area.</p>
<b>Flood</b>	<p>No significant risk throughout most of the District, with higher flood impact probability in several water adjacent areas at the eastern and western District/corporate boundaries.</p>	<p>According to FEMA 100-year floodplain data, high flood potential exists in the area surrounding Tub Lake (in North SeaTac Park) on the western border and along the Duwamish River on the north-eastern border. Just south of the District boundary and north of SeaTac Intl. Airport, high flood potential also exists in the area surrounding Lake Reba.</p>	<p>As the majority of the District’s assets are located below ground, the risk of damage due to flooding is extremely low.</p> <p>Additionally, neither the District’s administrative office nor its share reservoirs reside on or near floodplains.</p>



HAZARD	RISK SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Landslide</b>	No landslide areas are identified within District boundaries.	None	None
<b>Severe Weather</b>	There is a high likelihood of numerous severe weather events annually, most being small weather anomalies that may not develop into a large event. Our changing climate will continue to increase their frequency and intensity.	The climate of King County is classified as Marine West Coast. This type of climate is characterized by relatively mild marine air, which moderates both summer and winter temperatures. There are 305 documented instances of severe weather in King County occurring between 1960 and 2017. These include 220 instances of severe winds, 5 tornados, 33 instances of severe lighting, 2 severe hailstorms, and 45 instances of severe winter weather.	Severe weather could potentially impact the mobility of service employees due to loss of power or obstruction of roadways.  Loss of water due to power outage and no pumped water from SPU, neighbor district inerties, and reservoirs could also occur after existing water in the system is depleted.
<b>Severe Winter Weather</b>	Extended power outages are the most common impact of severe winter weather. Employee safety is also of concern when roadways to service area are impacted.	A generator is currently available onsite.	Meeting water supply in the short term is possible without power or complete staffing.
<b>Tsunami</b>	No tsunami areas are identified within the District boundaries.	None	None
<b>Volcano</b>	No volcano areas are identified within the District boundaries.	None	None
<b>Wildfire</b>	Extremely low risk.	It is unlikely that localized fires would spread to woodlands or develop into wildfires.	Local fire departments can carry water on their response vehicles. The distribution of fire hydrants within the District boundary reduces the potential impact of this hazard.
<b>Civil Disturbance</b>	There is no risk of civil disturbance identified within the District boundaries.	None	None
<b>Cyber Attack</b>	Systems are in place to safeguard against non-authorized access.	Despite computerized protection systems, there are continually new threats that require continued updates.	A backup of district records is available in the event of an unauthorized security breach.





HAZARD	RISK SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Hazardous Materials Incident</b>	King County is classified as high risk for hazardous materials incidents relative to all other counties in WA state due to its population density and industrial activity.	KCWD 125 is vulnerable to contamination of its water source, receiving nearly all of its water from SPU. Thorough monitoring of water quality in King County, however, acts as a safeguard against consumption of toxic water and access to multiple emergency sources eliminates dependence upon any potentially contaminated source.	Spills to soils and surface water sources can impact drinking water and the environment. Materials dumped into sanitary sewers can contaminate waste water treatment plants. Unless all established sources of water are contaminated, the impact of a hazardous materials incident on KCWD 125's ability to continue service is minimal.
<b>Public Health Emergency</b>	Periodic outbreaks including influenza are a likely hazard in Washington.	The most critical public health emergencies relating to water quality are those resulting from backflow incidents within the water system. As with hazardous materials incidents, King County water sources are not significantly vulnerable to public health emergencies due to water testing and purification.	Water District staff monitors water quality within the system and multiple forms of communication are ongoing with the District and can be utilized in the event of an emergency.
<b>Structure Fire</b>	Both the operations and administrative buildings are newly constructed up to the latest fire code.	KCWD 125's operations and administrative buildings are constructed from wood and wood/mason respectively, but are newly constructed, up to code, and located in areas with low risk of fire hazard.	In the event of a fire damaging or burning KCWD 125's structures, operations may be temporarily affected, but are unlikely to be halted. Both buildings are insured against fire borne damages.
<b>Terrorism</b>	Water systems are considered a high-impact potential target. A chemical attack on a water system, if not immediately detected, could injure or kill thousands, depending on the size of the water-system targeted	Despite being home to Sea-Tac Intl. Airport, the likelihood of a terrorist attack within KCWD 125 boundaries is low. According to the 2018 Washington State Enhanced Hazard Mitigation Plan Risk and Vulnerability Assessment, hijacking and skyjacking are among the least likely tactics to be employed in the event of a terrorist attack in Washington state. An attack on SPU's water/wastewater systems would significantly impact KCWD 125.	In the relatively unlikely event that a terrorist attack on Seattle's water utilities infrastructure occurs, KCWD 125 service coverage would be affected, but not halted due to alternative sources available through interties with the City of Tukwila, Highline Water District, and King County Water District No. 20 for emergency purposes.

*King County Water District No. 125 Critical Assets*

FACILITY	
Administration Office	Administrative Equipment (including software)
Operations Office	Field Equipment (including vehicles)
Mains	Services
Meters	Hydrants

## Hazard and Asset Overview Maps

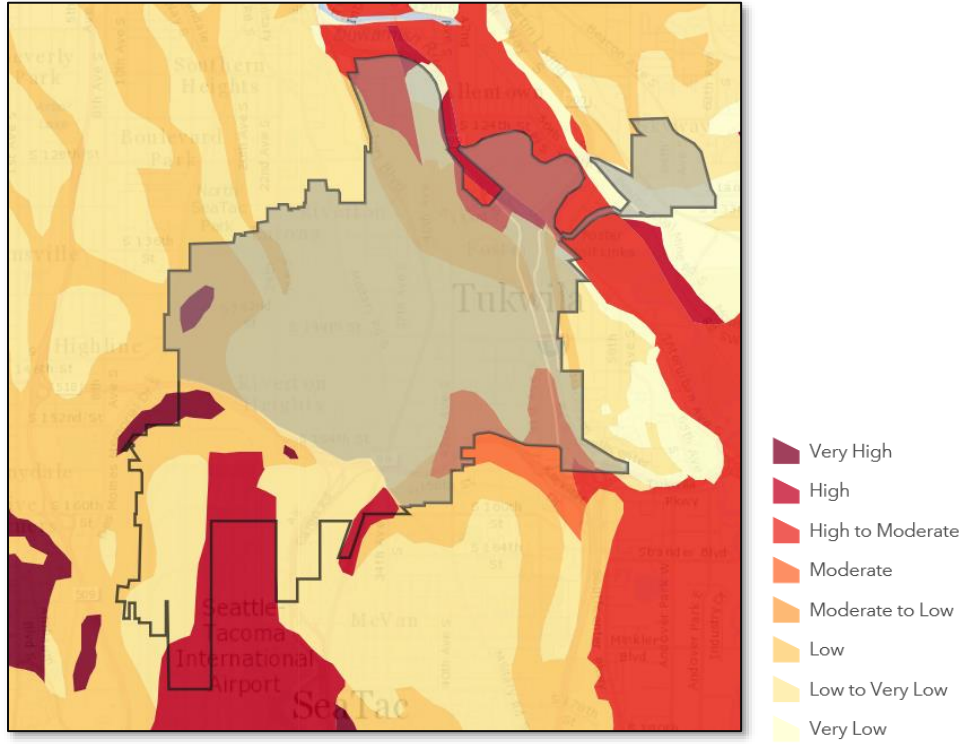


Figure 1: liquefaction potential in and around KCWD 125

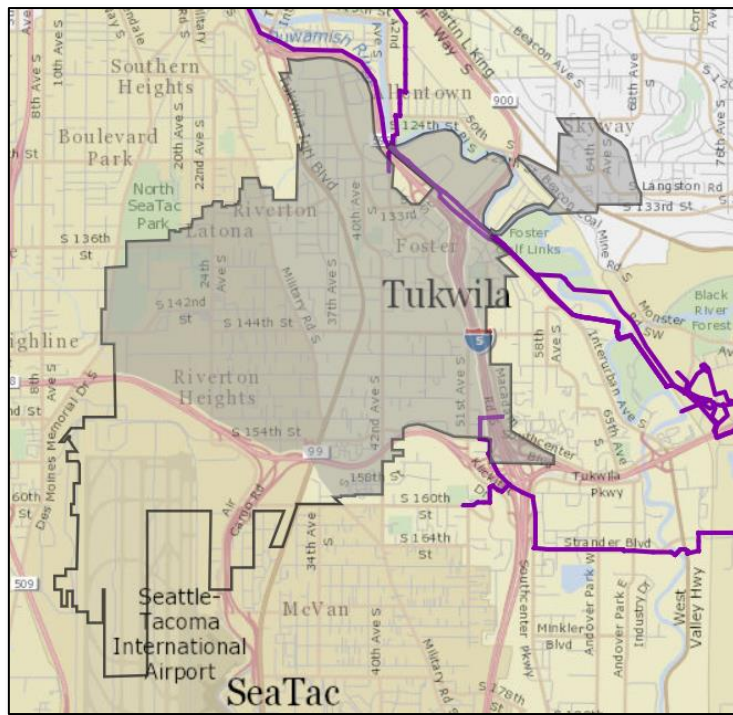


Figure 2: wastewater treatment conveyance lines running through KCWD 125

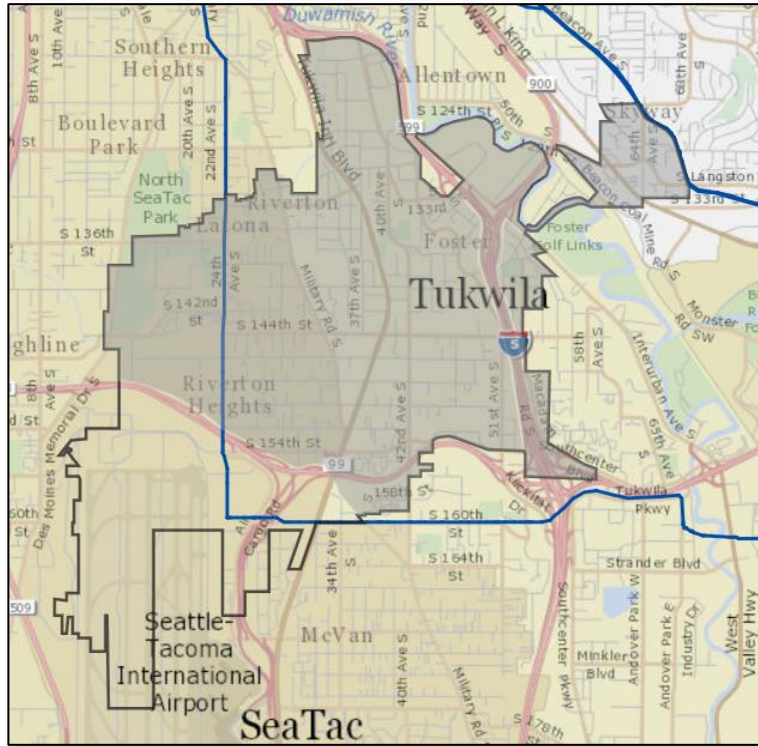


Figure 3: Seattle water supply lines running through KCWD 125

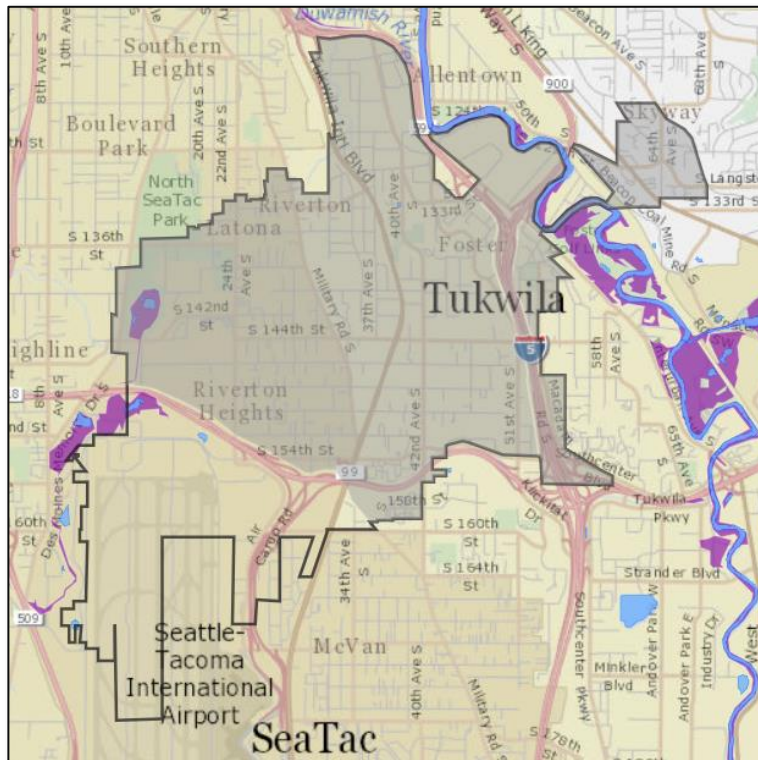


Figure 4: FEMA 100 year floodplains in and adjacent to KCWD 125

*\*In the above maps KCWD #125's corporate boundary is represented by the area enclosed while the District (service) boundary is represented by the shaded area*





### Assets at Risk

ASSET	VALUE (\$)	RISK SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Critical Infrastructure (water main, pumps, hydrants, meters, services, etc.)</b>	\$12,300,000 (as of June 2019)	<p>As most of the District's critical infrastructure is located below ground, earthquakes pose a significant risk.</p> <p>In the event of an earthquake, liquefaction can displace pipe joints, cause damage to pressure reducing valves, damage foundations of vaults, break connections, and cause damage to the jointly owned reservoir.</p>	<p>Within the District's service boundaries, 'very high' liquefaction potential is present only in a small area surrounding Tub Lake and 'high' liquefaction potential is also present along a small stretch of land in the District's northeasterly corner. Much of the immediate space adjacent to this area is moderate-to-high risk.</p> <p>While no water mains reside in very high or high liquification risk zones, there is 10, 272 feet of water main infrastructure located on moderate-to-high risk land.</p>	<p>Damages to critical infrastructure could result in the loss of water supply to customers for domestic and commercial uses, as well as to fire Districts for fire suppression.</p> <p>The breaking of pressurized pipes can also cause road erosion and damage in the surrounding area, hindering the mobility of .repair crews.</p> <p>Damages to pressure reducing valves can result in potentially hazardous water pressure in homes.</p>
<b>Equipment Owned by District (Field and Administrative)</b>	\$225,000	<p>Field and administrative equipment is typically less vulnerable than critical infrastructure. Severe weather can, however, result in localized power and phone outages and field equipment is subject to varying degrees of risk depending on location.</p>	<p>The administrative office and shop sits in an area with relatively low potential of liquefaction and flooding.</p> <p>The District's administrative equipment is critical to handle emergencies and will be needed to perform work, communicate with internal staff in the field, access GIS databases, and communicate with outside agencies. Field equipment can be more or less vulnerable depending on location, but maintains the benefit of mobility.</p>	<p>The District's field and administrative equipment will be significantly impacted by power outages, reducing potential ability to perform work A generator is currently available onsite.</p>
<b>Operations Center</b>	\$2,200,000	<p>Severe weather, such as strong winds and blizzard conditions can result in damaged buildings from freezing and/or falling branches</p>	<p>The District's operations building is critical to handle emergencies and will be needed to perform work by administration and operations staff.</p>	<p>Power outages will reduce potential ability to perform work.</p> <p>A generator is currently available on site.</p>



## Plan Update Process

A planning team was assembled for the plan update, consisting of staff from the King County Water District #125 and PACE Engineers, Inc., as the technical consultant.

The team conducted outreach to customers to understand what was important to them. Coordination with the county throughout the plan update process occurred. A review of the existing plan and existing programs of the District was conducted to support hazard mitigation actions.

The District updated the hazard risk assessment by measuring property damage resulting from natural hazards. This process assesses the vulnerability of buildings and infrastructure to natural hazards, and estimated the cost of potential damage. The mitigation actions recommended in this plan include some that address limitations in the modeling caused by insufficient data.

### *Jurisdiction Planning Team*

NAME	TITLE	ORGANIZATION	CONTRIBUTION
Shane Young	General Manager	KCWD #125	Owner
Dylan Bailey	Superintendent	KCWD #125	Owner
Leonard Frye	GIS Analyst	KCWD #125	Mapping
Peter Paulsen	District Engineer	PACE Engineers, Inc.	Engineer/Consultant
Paul Weller	Planning Manager	PACE Engineers, Inc.	Consultant – Lead writer
Arash Muntazir	Assistant Planner	PACE Engineers, Inc.	Consultant

### *Plan Update Timeline*

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
Kickoff Meeting	April 9, 2019	District’s kickoff meeting with King County	Derrick Hiebert, Shane Young
Planning workshop	June 10, 2019	Understanding King County’s planning process and steps	Paul Weller
Strategy workshop	July 25, 2019	Understand mitigation strategies for the plan	Paul Weller

## Public Outreach

This Hazard Mitigation Plan is intended to be a document for the District’s customers, and it is designed to include the public in the decisions and direction of the document. The District held a board meeting with an accompanying public hearing along with a joint open house with Valley View Sewer District that has their offices in the same building as the District and similar service area boundaries. No significant public comment was received in each of the public outreach events.

### *Public Outreach Events*

EVENT	DATE	SUMMARY	ATTENDEES
KCWD #125 Board Meeting	June 12, 2019	In the absence of the attendees, the Board was informed of the update of the King County Hazard Mitigation template.	No public attended
Open House – joint meeting with Valley View Sewer District	July 11, 2019	Leonard Frye gave a hazard mitigation presentation and had map handouts.	Though some customers stopped by to hear the presentation during the Open House, turnout was modest.

## Jurisdiction Hazard Mitigation Program

Hazard mitigation strategies were developed through a two-step process. The District formed an internal planning team to identify a comprehensive range of mitigation strategies. These strategies were then prioritized and documented in this plan.

### Plan Monitoring, Implementation, and Future Updates

The District will continue to work with King County in their monitoring of the Hazard Mitigation Strategies. King County leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and biannual 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 2020 update to the Regional Hazard Mitigation Plan, the District 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.

The goals and projects identified in this Hazard Mitigation Plan will also inform other planning mechanisms and will be integrated into other planning efforts. Often times, goals and projects from the Hazard Mitigation Plan overlap with other capital improvement projects and may be advantageous in leveraging funding for investments that offer cost-incentive through risk reduction or minimization. Furthermore, actions and goals identified in the Hazard Mitigation Plan are prioritized according to criteria including security of funding, number of Plan objectives addressed, and mitigation cost/benefit review. Familiarization with and establishment of the action prioritization methodology applied in Hazard Mitigation Plans has influenced various other District planning and hazard mitigation processes. For example, according to the 2016 update of the District's Water System Plan (Section 8.7), the District's "Emergency Response Plan incorporates the results of the District's Vulnerability Assessment and Hazard Mitigation Plan, which identify natural and manmade hazards, their cause and effect, and potential mitigation measures (including CIP projects)." The Hazard Mitigation Plan is also intended to be a document for the District's customers and is designed to encourage public participation in the decisions and direction of District mitigation efforts. In June of 2019, the District held a public hearing accompanied by a joint open house hosted in partnership with Valley View Sewer District. The open house included a presentation on hazard mitigation given by Leonard Frye, during which maps were distributed.

The District plans to integrate the information and goals outlined in the current HMP with the following planning documents:

- Water Comprehensive Plans – supports efforts to minimize natural hazard vulnerabilities within the water plan by developing a capital facilities plan. The Plan also identifies policies that support hazard mitigation planning efforts.
- Emergency Response Plan - supports the efforts of minimizing vulnerabilities, natural and manmade, within the water system during an emergency.
- Capital Improvement Plan - supports projects that are identified in this plan update. The CIP is updated by the District and adopted by the Board of Commissioners in the fall of each year.

### Hazard Mitigation Plan & Procedure Goals

1. Ensure systems are in place to rapidly restore water service after a hazard
2. Ongoing engineering analysis and system review to ensure adequate water supply for fire suppression
3. Minimize water system damage
4. Minimize impact and loss to customers
5. Minimize negative impacts on public health and employee safety
6. Provide emergency public information

- Other planning documents, policies and activities, when deemed mutually beneficial

The District anticipates utilization of its HMP in future efforts to coordinate with King County on potential funding opportunities. Having previously utilized an integrated set of planning mechanisms including the District's HMP, King County Emergency Management has expressed its intent to send to working partners any federal notices of funding opportunities for the Hazard Mitigation Assistance Grant Program. These proposals will be assessed according to the prioritization process identified in King County's base plan and the county will provide support to the District if they intend to submit a grant proposal.

The District intends to participate in the next plan update which is expected to be in April 2025. The District will submit a letter of intent by 2023, 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 2020 plan.

### **Continued Public Participation**

The District will continue to maintain substantial public outreach and will be focusing on personal preparedness and education. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into public outreach efforts.

The District will continue to work with the public to explain how the District's vulnerabilities are being addressed. Incorporating all public outreach of Hazard Mitigation into other Plans (water system plan, coliform monitoring plan, emergency response plan, etc.) will be a focus of the District.





## Hazard Mitigation Authorities, Responsibilities, and Capabilities

### Plans

PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
<b>Water System Plan</b>	KCWD #125	Shane Young	System deficiencies were discovered, and planned improvement were developed to address these deficiencies. Identifying vulnerable areas in the District's system is critical for Hazard Mitigation.
<b>Skyway Coordinated Water System Plan 1999 Update</b>	Skyway W&S District, KCWD #125, others	Shane Young, Cynthia Lamoth (Skyway W&S District)	The eastern portion of King County Water District # 125 is within the limits of the Critical Water Supply Service Area established for the Skyway Coordinated Water System Plan 1999 Update (CWSP). As such, the District is a participant in the Skyway Water Utility Coordinating Committee and subject to compliance with the CWSP.
<b>Emergency Response Plan</b>	KCWD #125	Shane Young	Responses to the hazards are provided in this document
<b>Coliform Monitoring Plan</b>	KCWD #125	Shane Young	Identifies the locations used for routine and follow-up sampling for coliform in drinking water. Included as an attachment to Water System Plan.



*Programs, Policies, and Processes*

<b>PROGRAM/POLICY</b>	<b>RESPONSIBLE AGENCY</b>	<b>POINT OF CONTACT</b>	<b>RELATIONSHIP TO HAZARD MITIGATION PLAN</b>
<b>Standard Details</b>	KCWD #125	Dylan Bailey	District must maintain surplus supplies for operation and maintenance purposes. Having standards assures that in the case of an emergency the District has the parts on hand.
<b>Cross Connection Control Program</b>	KCWD #125	Dylan Bailey	Provides an overview of facilities and customer activities that are considered at risk for cross connection contamination of the water system. These facilities and operations are required to install, maintain and routinely verify proper operation of cross connection prevention devices.
<b>Identify the Water Sample Chain of Command</b>	KCWD #125	Dylan Bailey	The Water Sample Chain of Command is coordinated with SPU and (as of Sept. 2011) is currently under consideration as the District works with SPU and neighboring purveyors to coordinate emergency response plans, procedures, and incident response protocol.

*Entities Responsible for Hazard Mitigation*

<b>AGENCY/ORGANIZATION</b>	<b>POINT OF CONTACT</b>	<b>RESPONSIBILITY(S)</b>
<b>KCWD #125</b>	Shane Young and Dylan Bailey	Oversee management and operations of the District.
<b>PACE Engineers, Inc.</b>	Paul Weller and Peter Paulsen	District Engineers



## 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>	Due to the District being a special purpose district they do 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 Assistance Visit
<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>	N/A, the District does not manage the flood hazard maps.
<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>	No
<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: Unsure RL: Unsure
<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

The tables below list the initiatives that make up the jurisdiction’s hazard mitigation plan from 2015 and the current 2020 hazard mitigation strategies. The 2015 table orders the initiatives in their respective priority. The 2020 table provides the strategies reprioritized from 2015 and, in addition, a full mitigation strategy page is provided for each strategy.



### 2015 Hazard Mitigation Strategy Status

STRATEGY/DESCRIPTION	PRIORITY	STATUS
Continue to support county-wide initiatives identified in Part 3 of Volume 1 of this plan.	High	Ongoing; county-wide initiatives 1-7 as outlined in the plan are being funded through a combination of grants, the King County Office of Emergency Management operations budget, and local funds. Initiatives 2 and 4 involve the continuation of established protocol and require no additional work at this time. Initiatives 1, 3, 4, 6, and 7 involve continued advancement of existing best practices and/or collaborative participation. Initiative 5 involves the implementation of data collecting best practices in the event of a future hazard.
Participate in the plan maintenance strategy identified in Part 3 of Volume 1 of this plan	High	Ongoing; following plan maintenance strategies, planners have monitored, evaluated and updated this hazard mitigation plan over the 5-year planning cycle, incorporating its content in other planning mechanisms such as the District's comprehensive plan, and considering strategies to maintain and improve public participation in the process.
Consider hazard areas, critical areas & system performance history (i.e., pipeline breaks) in prioritizing renewal & replacement projects.	High	Ongoing; continued consideration of system vulnerabilities, performance, and needs has informed 2020 hazard mitigation strategies 2 and 3 (listed below). Understanding of the system will be further advanced by 2020 strategy #1.
Continue to coordinate through hazard mitigation & emergency planning with SPU, Skyway & KCWD 20 to ensure continuous water supply & adequate storage.	High	Ongoing; collaboration and communication between the District and its utility providing neighbors has been continued through the current planning period and potential collaboration with KCWD 20 is being considered for 2020 strategy #3.
Coordinate with neighboring jurisdictions for assistance & equipment/supply inventory backups	High	Ongoing; were an inventory supply or hazard management deficiency to occur in the event of an emergency, assistance and/or equipment backups could be coordinated with neighboring jurisdictions at this time .
Annual review of procedures, inventory, & purchase of emergency supplies & equipment	High	Ongoing; the established annual review process has been and continues to be upheld.

### 2020 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
Pipe resiliency assessment.	KCWD #125 Shane Young		High
Pipe line replacement in areas of small pipes to improve fire flows.	KCWD #125 Shane Young		High
Introduce temporary water stations supply.	KCWD #125 Shane Young		High





## Pipe Resiliency Assessment

<b>Lead Point of Contact</b> Shane Young (General Manager)	<b>Partner Points of Contact</b> <ul style="list-style-type: none"> <li>Paul Weller, Planning Manager (PACE Engineers)</li> <li>Dylan Bailey, Superintendent (KCWD No. 125)</li> </ul>	<b>Hazards Mitigated / Goals Addressed</b> <ul style="list-style-type: none"> <li>All Hazards</li> <li>Plan Goal Nos. 2, 3, 4 (see pg. 12)</li> </ul>	<b>Funding Sources and Estimated Costs</b> <ul style="list-style-type: none"> <li>Sources: ratepayer revenue and/or FEMA grant</li> </ul>
<b>Strategy Vision/Objective</b>  <p>The Bioterrorism Act of 2002 requires drinking water utility Districts serving more than 3,300 people to conduct an assessment of susceptibility to terrorist attacks on their systems. In 2018, the America’s Water Infrastructure Act of 2018 (AWIA) was passed as section 1433 of the Safe Drinking Water Act, expanding on this requirement by specifying the topics that water Districts’ Risk and Resilience Assessments and Emergency Response Plans must cover and setting a 2020 deadline for certificates of completion to the EPA.</p> <p>The purpose of the Risk and Resiliency Assessment is to identify the highest risks to Districts’ mission-critical operations in terms of malevolent acts and natural hazards, to assess the system’s resiliency in the face of potential hazards, and to find the most cost-effective measures to reduce risks. As the majority of the District’s critical infrastructure is below ground, the pipe resiliency assessment is indispensable to an understanding of the entire water system’s risk and resiliency.</p>			
<b>Mitigation Strategy</b>  <p>The District will evaluate water and wastewater conveyance pipes’ current state, risk of damage, and preparedness of countermeasures.</p>			
<b>2-Year Objectives</b>  <p>The pipe resiliency assessment will begin early 2020 and inform the District’s 2020 Risk and Resiliency Assessment for submission to the EPA.</p>	<b>5-Year Objectives</b>  <p>Implemented strategies from this assessment.</p>	<b>Long-Term Objectives</b>  <p>A prepared and resilient water system.</p>	
<b>Implementation Plan/Actions</b> <ul style="list-style-type: none"> <li>Tests will be conducted to assess the current conditions of pipes as well as resiliency to various potential hazards.</li> <li>Cost effective measures to reduce risk of damage and increase resiliency of pipes will be formulated and executed.</li> </ul>			
<b>Performance Measures</b> <ul style="list-style-type: none"> <li>Partnered with PACE Engineers consulting service for assessment implementation.</li> </ul>			



## Pipe Replacement In Areas of Small Pipes

<b>Lead Point of Contact</b> Shane Young (General Manager)	<b>Partner Points of Contact</b> <ul style="list-style-type: none"> <li>Paul Weller, Planning Manager (PACE Engineers)</li> <li>Dylan Bailey, Superintendent (KCWD No. 125)</li> </ul>	<b>Hazards Mitigated / Goals Addressed</b> <ul style="list-style-type: none"> <li>Plan Goal Nos. 2 and 5 (pg. 12)</li> </ul>	<b>Funding Sources and Estimated Costs</b> <ul style="list-style-type: none"> <li>Sources: ratepayer revenue, FEMA grant</li> </ul>
<b>Strategy Vision/Objective</b>  This strategy is part of the effort to ensure adequate water supply for fire suppression, which is a key component of a resilient and prepared community. Given population growth and shifts in land use, as well as greater overall risk of fire due to drier summers in the region, it is important to ensure that small pipes used for fire flow are replaced to meet the changing demands of the community.			
<b>Mitigation Strategy</b> <ul style="list-style-type: none"> <li>Fires are a common hazard and can result as a secondary effect from a number of other hazards. Ensuring adequate water flow for fire suppression is essential for a resilient community.</li> <li>As the location of small pipes within the system is well documented, areas in need of size upgrade will be isolated and replaced in a time efficient manner.</li> </ul>			
<b>2-Year Objectives</b>  Action plan created.	<b>5-Year Objectives</b>  Implemented strategies from this assessment.	<b>Long-Term Objectives</b>  A prepared fire suppression water system and resilient community.	
<b>Implementation Plan/Actions</b> <ul style="list-style-type: none"> <li>Evaluate CIP for pushing low flow/small pipes ahead in CIP.</li> <li>Create a small pipe replacement action plan.</li> </ul>			
<b>Performance Measures</b> <ul style="list-style-type: none"> <li>Reduction in small pipes throughout the District</li> </ul>			



## Temporary Water Supply Station

<b>Lead Point of Contact</b> Shane Young (General Manager)	<b>Partner Points of Contact</b> <ul style="list-style-type: none"> <li>Paul Weller, Planning Manager (PACE Engineers)</li> <li>Dylan Bailey, Superintendent (KCWD No. 125)</li> </ul>	<b>Hazards Mitigated / Goals Addressed</b> <ul style="list-style-type: none"> <li>All Hazards</li> <li>Plan Goal Nos. 1, 2, 4, 5 (pg. 12)</li> </ul>	<b>Funding Sources and Estimated Costs</b> <ul style="list-style-type: none"> <li>Sources: ratepayer revenue, FEMA grant</li> </ul>
<b>Strategy Vision/Objective</b>  Provide a temporary water supply station that will allow customers to fill bottles, tanks, etc. in potential times of disaster.			
<b>Mitigation Strategy</b> <ul style="list-style-type: none"> <li>Coordinate with Water District No. 20 to determine if partnering is a good option.</li> <li>Investigate alternatives to water supply stations (at the reservoir – permanent station, mobile station, etc.)</li> </ul>			
<b>2-Year Objectives</b> <ul style="list-style-type: none"> <li>Meet with other Districts to discuss options.</li> <li>Develop a plan for implementation.</li> </ul>	<b>5-Year Objectives</b> <ul style="list-style-type: none"> <li>Construction or purchase of station.</li> <li>Publish information to customers.</li> </ul>	<b>Long-Term Objectives</b>  A disaster prepared and resilient community.	
<b>Implementation Plan/Actions</b> <ul style="list-style-type: none"> <li>Meeting with WD20 in Spring of 2020.</li> <li>Select preferred method of action in late 2020.</li> <li>Implement project between 2021 – 2022.</li> </ul>			
<b>Performance Measures</b> <ul style="list-style-type: none"> <li>Plan for coordination with other Districts in progress.</li> </ul>			