



Water Shortage Consumption Reduction Actions

June 4, 2024

AB6492

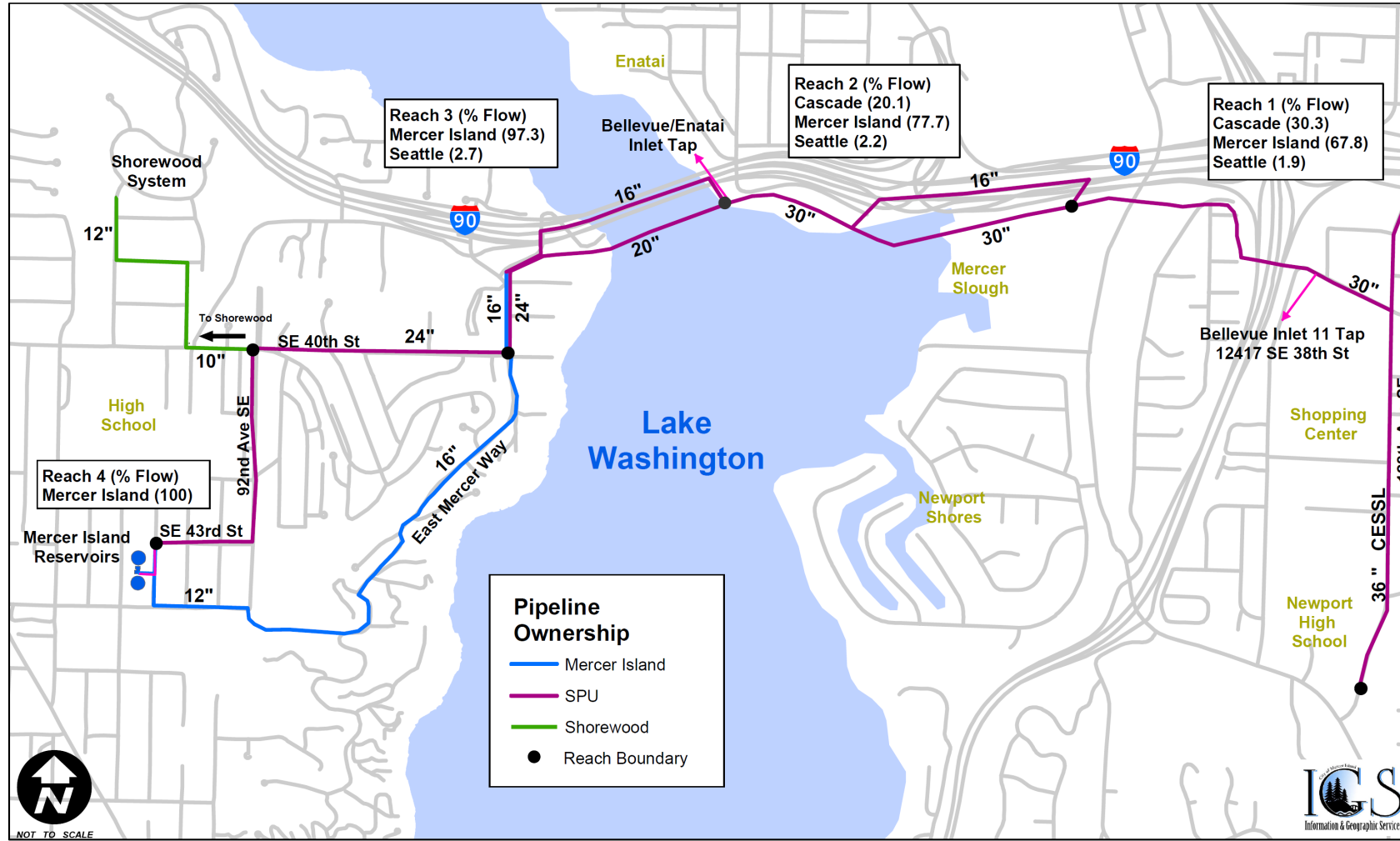




Agenda

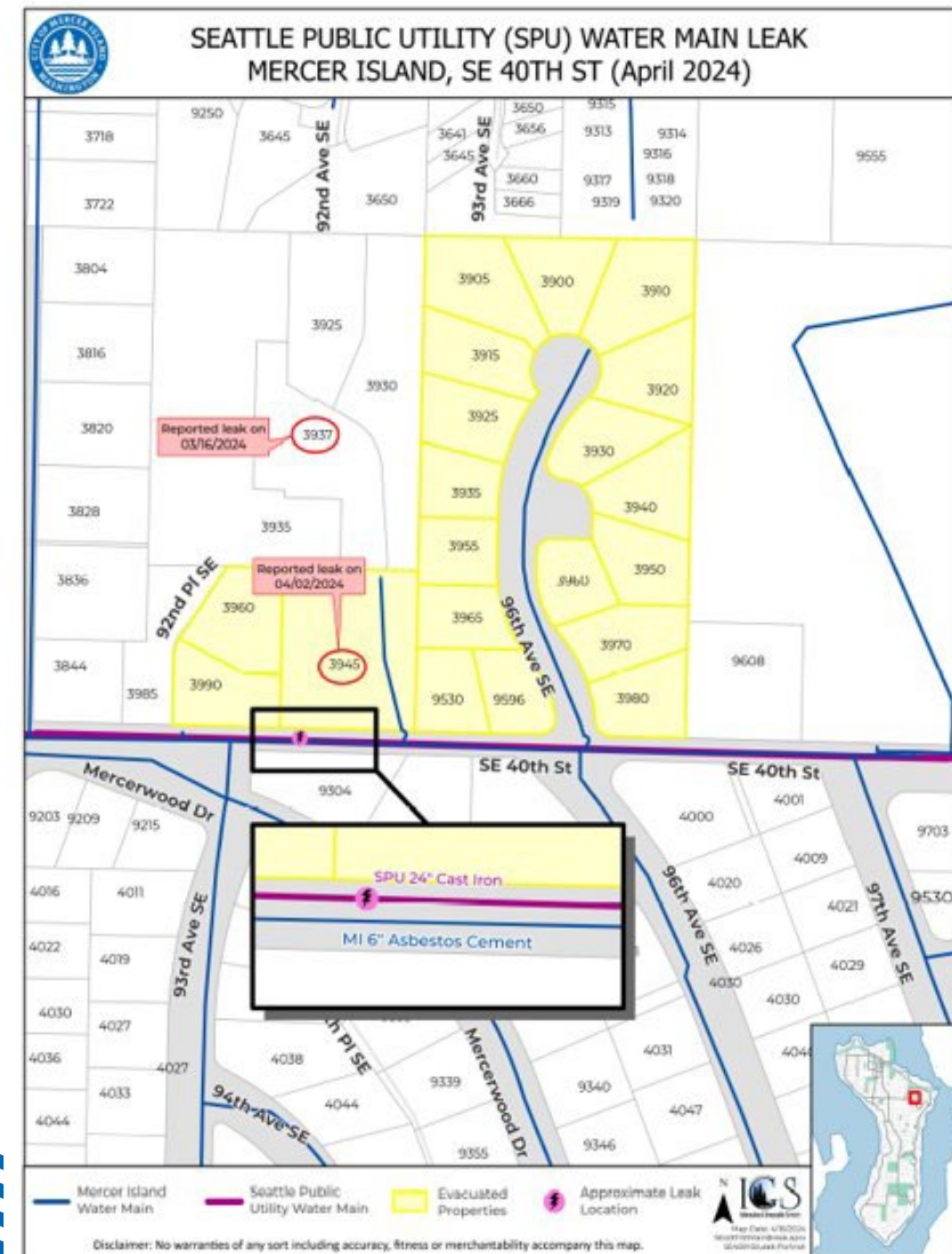
- MI Water System Overview
- Water Emergency Response
- Water Supply Status
- Water Shortage Contingency Plan Overview
- Water Shortage Consumption Reduction Actions
- Communication Plan

Mercer Island Water System Overview



Water Emergency Summary

- **April 3** - CMI learned that the SPU primary water supply pipeline to Mercer Island was leaking near the hillside below 40th Ave SE, near 95th Court SE.
- A geotechnical engineer determined that the water leak could lead to soil instability in the area, and residents in 20 homes were notified to evacuate their property due to the potential risk to homes below the slope.





Water Emergency Summary

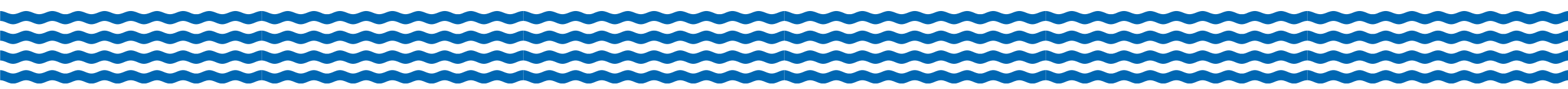
- **April 4** - SPU crews significantly reduced water flow in the pipeline, eliminating its use as the primary supply line and the evacuated residents were permitted to return to their homes. City began receiving water through a smaller backup water line.
- **May 1** - The City Manager declared a local emergency with [Proclamation No. 329](#) due to the reduction in the potable water supply.
- **May 21** – City Council ratified Proclamation No. 329



What has been done?

Work needed to recommission the main SPU pipeline has been the City's top priority since April 3:

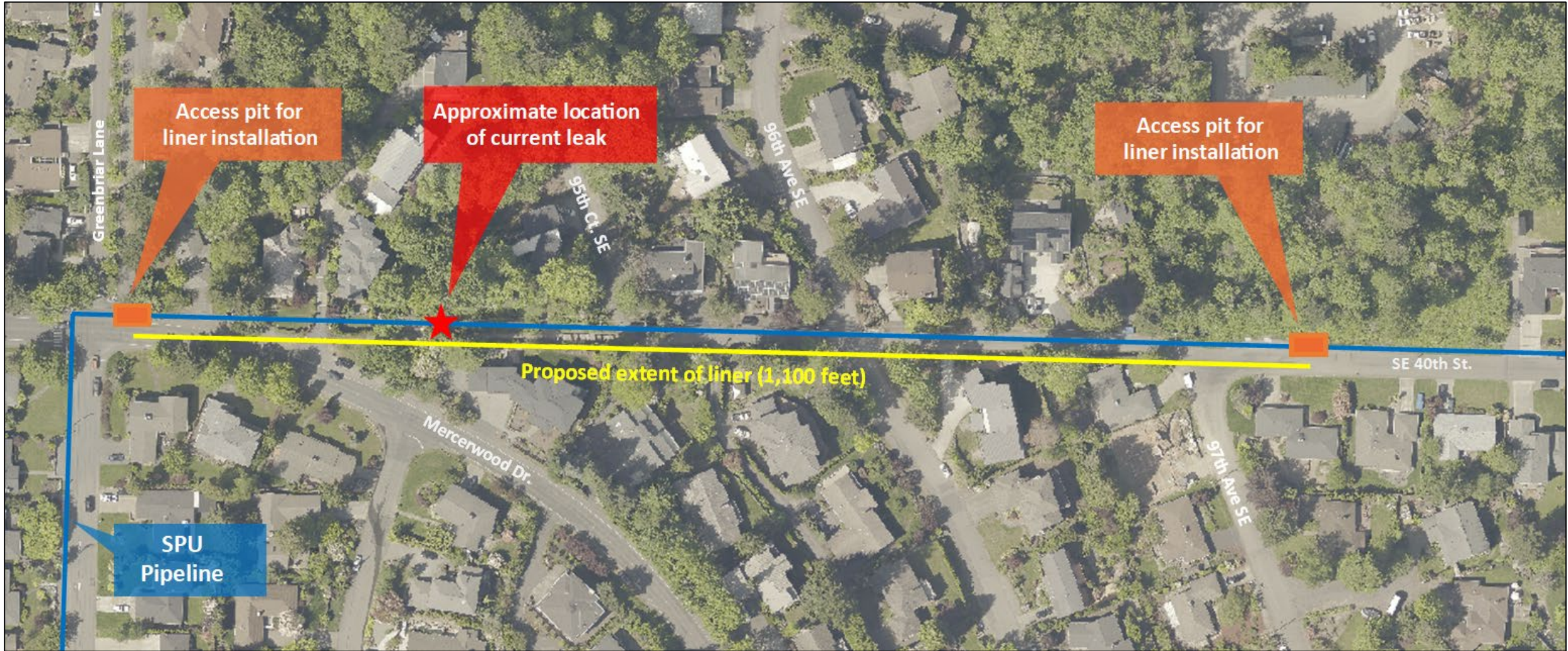
- SPU and City meet 1-2 times each week, working toward repair
- City holds regular meetings with affected neighbors to discuss their concerns and provide project updates
- City has permanently abandoned its 6" water main in the area near the leak
- Several geotechnical assessments of the slope area performed
- SPU has evaluated several potential solutions for pipe repair
- Performed water modeling on SPU's proposed repair to ensure it allows adequate water flow
- Developed Water Shortage Contingency Plan and Reduction Actions
- SPU pipeline has been inspected using a camera



Pipeline Repair - Design & Construction

- Repairs to SPU pipeline are challenging due to site conditions
 - Steep slope
 - No adjacent roadway, difficult area to access
- SPU has proposed a liner solution
 - Insert flexible liner inside existing pipeline; total of 1,100 ft long
 - Does not require excavation in slope area, pipe will be accessed from excavation pits on east and west ends.
 - Design includes a leak detection element to ensure rapid response





Access pit for
liner installation

Approximate location
of current leak

Access pit for
liner installation

Proposed extent of liner (1,100 feet)

SPU
Pipeline

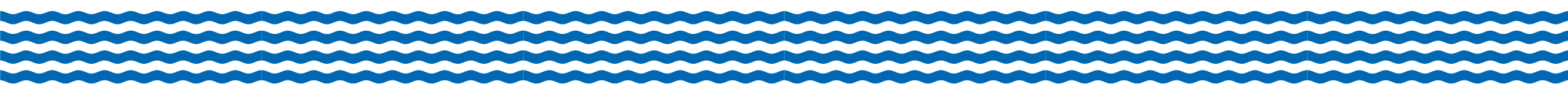
Next Steps

- Schedule:
 - City currently reviewing video of pipeline interior
 - Installation of the liner is currently scheduled for late June/early July
 - Tentatively scheduled to be operational by end of July
- Slope monitoring
 - Develop a monitoring program for the slope area to detect any soil movement
- Exploring options for long-term pipeline replacement in alternate location



Current Status – Water Supply

- Until the repairs to the primary pipeline are complete, Mercer Island will continue to receive its water through a smaller back-up water line.
- Back-up water line can reliably supply Mercer Island with approximately **2.73 million gallons per day**.
- During the summer months, water demand from Mercer Island customers regularly **exceeds 3 million gallons per day**, with the highest day demands usually occurring in July.
- When daily water use exceeds water recharge into the City's reservoirs, water storage levels drop. These levels must be maintained to ensure that fire hydrants have adequate pressure for use during emergencies.
- **It is vital that water use be reduced daily until the main pipeline is repaired.**

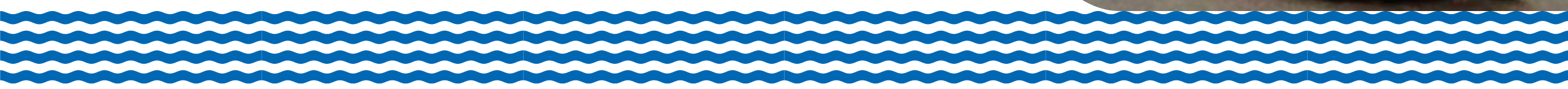




Water Shortage Contingency Plan & Consumption Reduction Actions

Water Shortage Contingency Plan

- City's Water Shortage Contingency Plan (WSCP) provides guidelines to manage the water supply and consumption in the event of a water shortage.
- Enables the City to maintain essential public health and safety, and minimize adverse impacts on economic activity, environmental resources, and City operations.



Water Shortage Response Stages

The WSCP has four water shortage response stages:



- **Advisory Stage:** Recognition of serious potential for a water shortage and implementation of supply management actions.
- **Voluntary Stage:** Customers are asked to participate in voluntary actions to reduce water use.
- **Mandatory Stage:** Prohibits or limits certain customer actions and may be accompanied by an enforcement plan to achieve water reduction goals.
- **Emergency Stage:** Addresses the most severe need for consumption reduction and mandates curtailment actions, with an enforcement program.

Component	Stage			
	Advisory	Voluntary	Mandatory	Emergency
Hallmark	<ul style="list-style-type: none"> Formal planning internally & with key stakeholders Supply management actions Minimal customer outreach 	<ul style="list-style-type: none"> Voluntary customer demand reductions Increased customer outreach 	<ul style="list-style-type: none"> Mandatory water use restrictions Water restriction device for non-compliance Consistent customer outreach 	<ul style="list-style-type: none"> Emergency water use restrictions Water restriction device for non-compliance Consistent customer outreach
Trigger	Serious potential for water shortage	Supply conditions worsen	Supply conditions worsen/Voluntary Reduction Goal is not achieved	Supply conditions worsen/Mandatory Reduction Goal is not achieved
Objective	Prepare for Voluntary Stage Stretch supply	<ul style="list-style-type: none"> Achieve consumption reduction Stretch supply Prepare for Mandatory Stage 	<ul style="list-style-type: none"> Achieve consumption reduction Stretch supply Prepare for Emergency Stage 	<ul style="list-style-type: none"> Achieve consumption reduction Stretch supply
Stage Activation	Public Works Director	City Manager	City Manager	City Manager
Consumption Reduction Goal	None	<ul style="list-style-type: none"> Typically, a <20% reduction compared to average Can vary in the case of a regional event (i.e., to create alignment with other jurisdictions) 	<ul style="list-style-type: none"> Typically, 21-34% reduction compared to average Can vary in the case of a regional event (i.e., to create alignment with other jurisdictions) 	<ul style="list-style-type: none"> Typically, >35% reduction compared to average. Can vary in the case of a regional event (i.e., to create alignment with other jurisdictions)
Key Public Messages	Anticipate public and media inquiries and be ready to answer questions	<ul style="list-style-type: none"> Moving to Voluntary Stage Need customer assistance to meet consumption reduction goal Request suggested demand reduction actions 	<ul style="list-style-type: none"> Moving to Mandatory Stage Mandatory water use restrictions & potential penalties for non-compliance 	<ul style="list-style-type: none"> Moving to Emergency Stage Increased water use restrictions & potential penalties for non-compliance
Customer Consumption Reduction Actions	None	Request voluntary consumption reduction actions	Provide mandatory consumption reduction actions as well as exemptions as applicable	Provide emergency consumption reduction actions as well as exemptions as applicable
Municipal Operations Demand Actions	City activates Municipal WSCP	City moves to Voluntary in Municipal WSCP	City moves to Mandatory in Municipal WSCP	City moves to Emergency in Municipal WSCP

Customer Consumption Reduction Actions Based on WSCP Stage

WSCP Stage: **Advisory**

All actions promoted in the Advisory Stage are general conservation actions. These actions are best-practices that should be implemented regardless of a water shortage event.

Example **ADVISORY** Stage actions:

Wash Full Loads: Wash only full loads of laundry and dishes.

Turn Off Tap: Turn off the tap while brushing your teeth or shaving.

Minimize Garbage Disposal Use: Put food waste in your compost bin, rather than using your garbage disposal.

Tune Up Automatic Systems: Do an efficiency tune up of your automatic irrigation system such as fixing overspray onto sidewalks and ensuring sprinkler heads reach adjacent sprinkler heads.

Mow High: Set your lawn mower blade to cut grass 2 inches high, which reduces evaporation.

Water Early or Late: Water before 8am or after 7pm, which reduces evaporation.

Fix Leaks: Check for and fix both indoor and outdoor leaks, such as at sinks or toilets, hose bibs, spray heads, valves, and broken pipes.

Pool & Hot Tub Covers: Use covers on swimming pools and hot tubs when not in use to reduce evaporation.

Rainwater Harvesting: Consider installing a rainwater catchment system for irrigation and other outdoor watering uses

Customer Consumption Reduction Actions Based on WSCP Stage

WSCP Stage: **Voluntary**

Voluntary actions build on conservation actions and involve minor curtailments.

Strong participation in the Voluntary stage can help the City avoid entering the Mandatory stage

Example **VOLUNTARY** Stage actions:

Water 3x Per Week Maximum: Limit plant watering to three times a week on specific days.

Let Lawn Go Dormant: If your lawn isn't already dormant (brown), let it go dormant until the fall rains return. Water deeply just once each rainless month to keep roots alive.

Plant in Fall: Consider delaying new plantings. Fall is the best time for planting new trees, shrubs and perennials, since rain provides natural irrigation.

Water Early or Late: Water before 8am or after 7pm, which reduces evaporation.

Minimize Filling Pools & Hot Tubs: Minimize refilling swimming pools and hot tubs.

Minimize Pressure Washing: Do only essential pressure washing.

Shorter Showers: Reduce your showering time, by two minutes.

Minimize Vehicle Washing: Reduce the frequency of, or eliminate, washing vehicles.

Turn Off Water Features: Turn off non-recirculating water features such as fountains.

Customer Consumption Reduction Actions Based on WSCP Stage

WSCP Stage: **Mandatory**

Enforcing outdoor actions in the Mandatory stage is codified in Chapter 15.18 – Water Use Restrictions

Example **MANDATORY** Stage actions:

No Hose Washing: Using a hose to clean sidewalks, driveways, and patios is prohibited. Use a broom instead.

Water 2x Per Week Maximum: Plant watering is only allowed twice a week on specific days.

Water Early or Late: Watering between 8am and 7pm is prohibited, due to high evaporation.

No Pools & Hot Tubs: Filling swimming pools and hot tubs is prohibited.

No Pressure Washing: Pressure washing is prohibited.

Less Toilet Flushing: Flush your toilet less often. As the saying goes, “If it’s yellow, let it mellow.”

No Water Features: Use of decorative water features such as fountains is prohibited.

Enforce?	Potential Exemptions?
No	N/A
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Yes
No	N/A
Yes	N/A

Customer Consumption Reduction Actions Based on WSCP Stage

WSCP Stage: **Emergency**

Example **EMERGENCY** Stage actions:

Emergency actions are the most extreme, with more enforcement of outdoor actions.

No Hose Washing: Using a hose to clean sidewalks, driveways, and patios is prohibited. Use a broom instead.

No Irrigation: Irrigation is prohibited.

No Pools & Hot Tubs: Filling swimming pools and hot tubs is prohibited.

No Pressure Washing: Pressure washing is prohibited.

Shorter Showers: Limit showers to five minutes or less.

No Water Features: Use of decorative water features such as fountains is prohibited.

Enforce?

Yes

Yes

Yes

Yes

No

Yes

Potential
Exemptions?

Yes

Yes

Yes

Yes

N/A

N/A



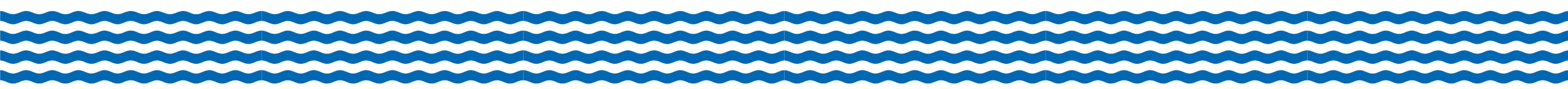
Communications Plan



Communications Plan

Goals

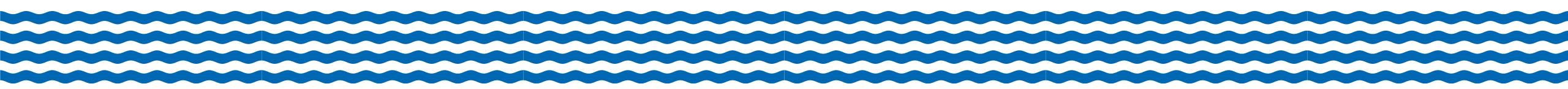
- Increase awareness about the need for water conservation
- Provide information on behaviors residents can take to support the water-reduction goals
- Clearly explain the steps or actions residents need to take as part of citywide conservation efforts
- Inspire collective action among key audiences, including residents, business owners and community organizations
- Instill confidence in the community that these conservation measures will help ensure the city meets water demands and keeps the community safe



Communications Plan

Audiences

- General public
- Residents
 - All housing types, including care facilities
- Community groups and organizations
 - Religious organizations, ethnic and affinity groups, nonprofits
- Local business community
 - Chamber, Rotary, individual businesses
- City utility customers
- Local media outlets
 - Mercer Island Reporter
 - Broadcast: KING 5, KOMO, KIRO, FOX 13
- City employees and Council
 - All staff, City Council, Parks Maintenance Department



Communication Actions

- Maintain Let's Talk page as primary resource for information and guidance on water conservation actions
- Regular social media postings on water conservation actions and impacts (NextDoor, Facebook, X, Instagram)
- Updates and action items in MI Weekly email newsletter
- Direct outreach to businesses, religious organizations, care facilities, schools, and clubs
- Issue press releases on website news section and to local media as needed
- Posters to be placed at City facilities and offered in print/digital formats to organizations
- Direct mailer to be deployed as City gets closer to voluntary and/or mandatory measures
- Short video message to provide an overview of the water supply
- Developing a dashboard to provide water system updates

Communications Plan Overview

Stage	Channels	Frequency
Advisory	Website Social media Newsletter/email	Bi-weekly or once per week, as necessary
Voluntary	All channels from advisory stage, plus: <ul style="list-style-type: none">• Direct mailer• Signage at community events• Message in employee signatures• Customer service voicemail/call center script• Earned Media: Press release	1-2 times per week, or as conditions and guidance change
Mandatory	Website Social media Newsletter Physical mailers Phone calls	2-3 times per week
Emergency	All channels from mandatory stage, plus: Paid media: Radio and TV ads	Daily



Questions?

