CITY OF BAINBRIDGE ISLAND

Environmental Technical Advisory Committee Regular Meeting Thursday
February 15, 2024, 3:00 PM
Chamber Conference Room, City Hall
280 Madison Ave N
Bainbridge Island, WA

The Environmental Technical Advisory Committee will hold this meeting in person, in the City Hall Chamber Conference Room, 280 Madison Ave N, Bainbridge Island, WA
It is recommended that attendance be in person, but it is also accessible via the Zoom meeting platform.

https://bainbridgewa.zoom.us/j/82237251377

Webinar ID: 822 3725 1377
Or iPhone one-tap: US: +12532158782Or Telephone: +1 253 215 8782 or +1 669 900 9128 or +1 346 248 7799

Agenda for February 15, 2024, ETAC Meeting

Call to Order / Roll Call / Conflict of Interest Disclosure - 3:00 PM

Members: Melanie Keenan, Malcolm Gander, Dylan Frazer, Ben Harrison, and Brian Harmon

Council Liaison: Jon Quitslund

COBI Staff: Patty Charnas - Director, Planning & Community Development
Renee Argetsinger - PCD Administrative Specialist

Approval of Agenda – February 15, 2024 - (5 min)

Approval of Minutes – November 16, 2024, and January 18, 2024 - (10 min)

Council Liaison Report – Jon Quitslund - (10 min)

Chair Report – Melanie Keenan - (10 min)

COBI Staff Comments - (5 min)

1. **Finalize Work Plan & Make Revisions for 2024** (Melanie/All) - (5 min)

2. **GWMP, Subcommittee Update, comments concerning GW Model** - (25 min)
   - If you have the time please review Jan 29, 2024, GWMP subcommittee meeting video: https://apps.bainbridgewa.gov/media/video/2024/GWMP20240129cc.mp4
   - Appendix A Slides from the January 28, 2024, GWMP subcommittee meeting
   - Appendix B Comments from January 28, 2024, GWMP GW Model discussion.

3. **Comprehensive Plan Update Discussion** - (10 min)

4. **UAC Stormwater Plan Updates, Deadlines** - (10 min)
   - Review from January 18, 2024, meeting http://apps.bainbridgewa.gov/media/video/2024/UAC_20240118cc.mp4
   - Appendix C Include UAC agenda https://www.bainbridgewa.gov/AgendaCenter/ViewFile/Agenda/_01182024-1937

5. **UAC Small Water Systems** Memo - (10 min)
    - Appendix D: https://www.bainbridgewa.gov/documentcenter/view/14311/uacmemorandum - Regarding small water systems, October 23, 2020

6. **Next Meeting Planning** - (5 min)

For the Good of the Order - (5 min)

Public Comment - (5 min)

Adjournment: 4:55 PM

CITY OF BAINBRIDGE ISLAND

Environmental Technical Advisory
Committee Regular Meeting Thursday
November 16, 2023, 3:00 PM
Chamber Conference Room, City Hall
280 Madison Ave N
Bainbridge Island, WA

Meeting Minutes from the November 16, 2023, ETAC Meeting

Call to Order / Roll Call / Conflict of Interest Disclosure – called to order @ 3:02pm

Members Present: Melanie Keenan, Malcolm Gander, and Ben Harrison
Absent: Dylan Frazer & Brian Harmon

Council Liaison: Jon Quitslund (present). He left at 3:39 PM for another obligation.

COBI Staff: David Greetham – Interim Planning Manager; Renee Argetsinger - PCD Administrative Specialist
David Greetham sat in for Director Charnas, also present was Renee who took minutes and monitored the meeting.

Approval of Agenda – November 16, 2023, Harrison/Gander, unanimously passed.

Approval of Minutes – October 19, 2023, Gander/Harrison, unanimously passed.

Council Liaison Report – Councilman Quitslund update: nothing ahead for ETAC, Council briefed on the Winslow Subarea Plan and Comp Plan – Jon happy to see where ETAC can contribute to these efforts.

Chair Report – Melanie Keenan requests that Director Chris Wierzbiki join ETAC for a short period of time to give updates and feedback on GWMP to ETAC. Comprehensive Plan – recommends that each area/element be reviewed separately. Focus on EIS scoping - will ask Senior Planner Best and Director Patty Charnas if EA the consultant for EIS. LMN is the consultant for WSP & Comprehensive Plan. Greetham to follow-up and confirm consultants with each project.

COBI Staff Comments - Procedurally, the December meeting will be cancelled due to the holidays, Jan 18th will be the next meeting. GWMP – report to be shared from Chris Wierzbiki/Public Works. David Greetham gave a summary of the report. Renee Argetsinger to forward the report following the meeting.

Discussion: GWMP and Earthquakes – Reviewing recent articles on the impact on the groundwater and aquafer levels from earthquakes.

Discussion: Comprehensive Plan Update – Climate change and resiliency element: a climate lens and equity lens will be applied to the process of defining goals and policies throughout the process, encompassing transportation, housing and more. ETAC inquired if there is a template that can be used for review, comments, and updates to the new mandate.

> **Motion** I move that the ETAC subcommittee on the Comprehensive Plan Update use the framework to complete ETAC comments by the end of the month (November).
> **Harrison/ Gander, unanimously passed.**

Discussion: Winslow Subarea Plan Update (WSP) - WSP/Comp Plan – submitted a draft plan for GWMP for the WSP & Comprehensive Plan to PCD Director, Patty Charnas. ETAC members would like to see the Groundwater Aquafer Recharge, Watershed, and Stormwater Management concerns incorporated into the WSP and the Comp Plan. ETAC would like to review the EIS.

Discussion: Update Shoreline Management Program Schedule & References - Tabled until Director Patty Charnas can provide update.

Discussion: Update ETAC COBI Webpage to reflect the work ETAC is doing - Would like it to be reflective of current work processes. To be reviewed/discussed at the next ETAC meeting. An updated webpage would be helpful in recruiting new ETAC members.

Discussion: 2024 Workplan - Melanie to put together a draft and to be discussed/reviewed at the January meeting. Include what ETAC is doing to help update the BIMC as well as updating the resolution of ETAC.

Public Comment - No public comments.

For the good of order: Ben Harrison provided update/information following yesterday's (11/15/2023) Climate Change Advisory Committee. COBI obtained a grant for expert advice on renewable energy available to island, to make it more energy independent/resilient. ETAC may want to keep up with those discussions because resulting energy implementations may have environmental impacts. Suggestion to review the recording of that meeting for more information.

Adjournment: 4:03 PM

CITY OF BAINBRIDGE ISLAND

Environmental Technical Advisory
Committee Regular Meeting Thursday
January 18, 2024, 3:00 PM
Chamber Conference Room, City Hall
280 Madison Ave N
Bainbridge Island, WA

Meeting Minutes January 18, 2024, ETAC Meeting

Call to Order / Roll Call / Conflict of Interest Disclosure - 3:06 PM

Members Present: Melanie Keenan, Malcolm Gander, and Ben Harrison
Members Absent: Dylan Frazer and Brian Harmon

Council Liaison: Jon Quitslund was unable to attend today's meeting

COBI Staff Present: Patty Charnas - Director, Planning & Community Development
Renee Argetsinger - PCD Administrative Specialist

Approval of Minutes – November 16, 2023 - tabled until the February 15, 2024, ETAC meeting

Chair Report –Chair Keenan inquired how the ETAC webpage on the COBI website could be updated; that this would be beneficial in recruiting new members to the ETAC team. Director Charnas offered that PCD staff would be available to assist in updating the ETAC webpage.

COBI Staff Comments - Director Charnas provided an update on the Winslow Subarea Plan and the Comp Plan Alternatives and the Draft EIS.

Review of Existing Work Plan, & Make Revisions For 2024 -
Chair Keenan reviewed ETAC accomplishments in 2023 to be included in the work plan, followed by the committee's priorities for 2024. ETAC members and Director Charnas discussed revisions and updates to the draft. Chair Keenan to update the new work plan following today's recommendations.

> **Motion:** I move that the ETAC Committee chair finalize the 2023-2024 Work Plan, incorporating the comments discussed at this meeting, and distributing to ETAC members for final comments.
> **Gander/Harrison, unanimously approved**

Future ETAC Meeting Agendas – Topics for future ETAC meetings were proposed/discussed.

For the Good of the Order – ETAC member Ben Harrison provided updates from the Science Night Citizen's Committee.

Public Comment - No public comments

Adjournment: 4:17 PM

Dear Council, February 12, 2024

For the record. Comments concerning the Groundwater Management Plan (GWMP) Subcommittee Meeting Monday January 29, 2024.

The goal - produce a professional technically sound Groundwater Model Update (GW Model Update) with a reasonable statistical confidence level for the GWMP.

To accomplish the stated goal, scientifically established parameters using hydrogeologic principals, and peer-reviewed studies for future predictions are required. See USGS Groundwater Modeling (Appendix A).

Otherwise, Poor parameters = Poor predictive tool.

This is an Island wide groundwater model which requires multiple stakeholder participation and public input per GWMP WAC 173-100 (Appendix B), and RCW 36.70A.020 GMA Planning goals (11) (Appendix C). A GW Model should not be misused to forward COBI's Group A Water System Plan business goals. Not intended to forward plans to takeover small Group B and private property wells and water rights (See **Appendix D** September 2020 reporting for Memorandum Regarding The City of Bainbridge Island's Policies Toward Small Water Systems, 01/18/2024 UAC meeting agenda/video).
*RCW 36.70A.020 GMA Planning goals (**Appendix C**). (6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.*

Large Group A Water Systems rely on deeper aquifers for production wells vs. smaller water systems. Especially private property well owners, rely on less expensive shallow perched aquifer wells, which typically do not have high pumping rates necessary for a larger water systems. To manage groundwater resources, a distribution of pumping from all aquifers (shallow and deep) should be maintained to reduce reliance and drawdown from over pumping and mining of the deep aquifers, which take 1000 to 1000s of years to recharge. A concern based on historic well monitoring data.

Care should be taken to make sure the GW Model Update and GWMP not be misused to provide a narrative for projected population growth for the Winslow Subarea Plan as presented. Planning should be tailored to the Sole Source Aquifer (SSA) Bainbridge Island limited water resources, involving a sustainable review of data for a scientifically sound GW Model Update. You can't change data and peer-reviewed reporting associated with millions of years of geology for a small glacial Island, surrounded by salt water, dependent on groundwater aquifers, and reliant on precipitation for recharging the aquifers. Regardless of estimated future population numbers from the Department of Commerce in Olympia, a small SSA Island surrounded by salt water with limited water resources can only accommodate so much planned regional growth.
GMA RCW 36.70A.020 Planning goals (**Appendix C**).
(10) Environment. Protect and enhance the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
(12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

Unfortunately since the short term COBI Hydrogeologist resigned in Sept 2022, COBI lacks the necessary expertise in Geology/Hydrogeology. Resulting in problems with directing the scope of work, and providing necessary data to the consultants hired to complete the GW Model Update and the GWMP in accordance with the citizen-council directives per the Comprehensive Plan. See **Appendix E** Water Resources Element.

PROBLEMS IDENTIFIED FROM THE LAST GWMP SUBCOMMITTEE MEETING

1. Lack of stakeholder input for determining groundwater priorities and scenario runs for the GWMP Groundwater Model Update. Scenario runs should be decided by all Island stakeholders per the previous USGS model and the WAC, not just the City Manager, Public Works and Planning Departments. *(11) Citizen participation and coordination. Encourage the involvement of citizens in the planning process, including the participation of vulnerable populations and overburdened communities, and ensure coordination between communities and jurisdictions to* reconcile conflicts.

Task 2 - Public and Regulatory Engagement (from Draft GWMP)

Task Description: *The objective of this task is to work in coordination with the City's Groundwater Management Sub-Committee, Groundwater Technical Advisory Committee and City Council, as well as other stakeholders and the public while completing the GWMP. Stakeholders include City and County government, State and Federal agencies, the Suquamish Tribe, water purveyors, the public and several other organizations that may have interest in providing input to the GWMP. A preliminary list of potential stakeholders has been provided by the City and is included in the table*

1.1 Groundwater Management Plan Public Engagement (EA Consultant Scope of Work May 2023)

The GWMP development process involves all interested stakeholders (residents, water purveyors, businesses, agriculture, city and county government, taxing districts, state, and federal agencies) working together to establish in the GWMP groundwater resource management policy, initiatives, and milestones to achieve the goals and objectives outlined in Section 3.2. The Public Engagement Plan is provided in Appendix B.

The GWMP components were developed in conjunction with the City's GWMP Advisory Subcommittee. The GWMP Advisory Subcommittee is comprised of members from three of the City's Advisory Committees (Climate Change Advisory Committee, Environmental Technical Advisory Committee, and Utility Advisory Committee). The Subcommittee met monthly with the City Hydrogeologist to provide input into the GWMP. The GWMP components followed Washington Department of Ecology (Ecology) guidelines and Chapter 173-100-100 of the Washington Administrative Code (WAC) and has been tailored to meet Bainbridge Island specific conditions.

A technical advisory group was established to provide technical guidance and commentary on the robustness and applicability of the science underpinning the City's GWMP. The Technical Advisory Group is composed of experts from Kitsap Public Health District (KPHD), Kitsap Public Utility District (KPUD), and Washington State Department of Ecology (Ecology). Each member brings specialist knowledge regarding water resource science and management.

The primary areas of interest include, but are not limited to the following:

- *Characterization of the groundwater system bringing together existing information*
- *Updated numerical simulation of groundwater flow*
- *Monitoring network review*
- *Groundwater / surface water interaction*

- *Impacts of land use on groundwater quality, including on-site septic systems*
- *Impacts of climate change on groundwater recharge and saltwater intrusion*
- *Impacts of projected population growth on the groundwater system*

2. Lack of reductions for aquifer recharge in proposed scenario runs. Recharge established by previous USGS GW Model reporting as the most sensitive and important parameter.

a. Recharge more impactful to water resources long term vs. increase in pumping due to population growth. In the 2014 USGS Kitsap modeling report they indicated that recharge is by far the most important component of the system. In the recharge section (pp. 29-31) and in some presentations by the USGS authors, they have shown that the GW/SW interactions and the GW budget are much more sensitive to recharge assumptions than to pumping or other factors.

b. Future precipitation and recharge, not only include average rainfall amounts, must account for UW CIG precipitation changes due to peer-reviewed climate change studies. Longer warmer drier summer months, less rain events with more intense rainfall/ precipitation = more stormwater runoff and less recharge (Appendices F - G).

c. Land use impacts to recharge, more than doubling the population and resulting development will increase impervious areas on the Island and decrease recharge accordingly. If the boundaries of the Winslow Subarea continue to increase to accommodate growth as it has in the last 25 years, plus allow for growth according to existing property rights in the remaining 75+% of the Island UGA, there will be less aquifer recharge. Per presentation by COBI staff Steve Morse during a public USGS GW Model meeting, the current zoning around 2009 allowed for development to accommodate 70,000 residents Island wide. This has only increased in the last 15 years with ongoing development involving numerous variances for up-zoning and high-density pilot programs.

d. Most water supply wells that support downtown Winslow, border or are outside of the Winslow Subarea boundary. Winslow proper has very little recharge. The Winslow Subarea plan is reliant on other areas outside its boundaries for recharge to aquifers and wells that support it. This impacts other large and small water systems, and private property wells and water rights, and water availability, as seen in previous USGS model and two Aspect updates. Notably a reduction of surface water by 15 to 58%, a predictive parameter for groundwater resources and recharge associated with perched aquifers. See Appendices F - G for reference maps.

e. Historic aerial photos document the percentage of development since Bainbridge became the only all SSA Island UGA city surrounded by saltwater in the state of WA governed by the GMA in the 90s. Assumptions can be made as Aspect did with 20% reduction in recharge. Or an estimate can be derived from studies related to recharge reductions for other UGA areas in Washington with similar geology.

f. An estimation for percentage of the 4 different recharge land use types proposed by the consultant with changes moving forward based on growth, increased pumping and climate change, should be calculated for reductions in recharge for the BI GW Model Update.

3. Problems relying on WATER RIGHTS as a limiting water use factor. A GW Model for a SSA Island, per USGS with limited resource concerns, recharge and surface water data, is the norm as seen with other jurisdictions (Vashon Island and the San Juan Islands) See Appendix H. The consultant determined the city will maximize water rights in 26 years around 2050 by planning to more than double Island population. COBI will most likely

attempt to obtain more water rights, but you can't adequately predict long term water resources with Water Rights as a limiting factor.

a. Not properly accounting for growth of private property and additional withdrawal from wells outside of Winslow, and areas not part of COBI or KPUD larger Group A Water Systems. Many existing COBI water users and estimations for new COBI water users must be included in the model associated with increase in growth and development outside the Winslow Subarea Plan. **See Appendices I - K**

b. Must address all water use across the Island, not just COBI and KPUD water systems. 30% of water use is comprised of Small Group B and private wells. Also need to look at the projected growth and increased use of small water system and private wells. See Appendices I - K showing areas of the Island not covered by COBI or KPUD water systems.

c. For reference the current Draft GWMP includes a listing of small water systems and number of users and private property well owners.

Approximate distribution of current water withdrawals for BI systems for approximately 900 million to 1 billion gallons per year include.
Less than 30% COBI Group A Large Water System
More than 30% KPUD Group A Large Water System, North Bainbridge and South Bainbridge and approximately 30% Group B Small Water System and Private Property Wells

In summary, on a percentage basis, it is estimated that Bainbridge residents obtain water from:

Large Group A Water Systems		58	%
City COBI Winslow/Fletcher	*(28%)*		
KPUD North & South Bainbridge	*(30%)*		
Small Group A Water Systems		12.5	%
Group B Water Systems		4.5	%
Private Wells		24	%

See **Appendix D** - Memorandum Regarding The City of Bainbridge Island's Policies Toward Small Water Systems - Prepared by the City of Bainbridge Island Utility Advisory Committee - September 23, 2020

4. GW/SW, you cannot ignore groundwater/surface water interaction, a modeling standard. See Appendices L - O. This is a GW model, and surface water monitoring data is an important part of updating a GW model and managing water resources. Important hydrogeologic relationship between surface water and groundwater in perched aquifers, impacting private well owners and some smaller water systems, and the Island environment. It is important to understand how groundwater feeds surface water. What is a gaining stream? See **Appendix N.**

You must consider water resource impacts to the entire Island when updating the GW Model to properly steward the most important and valuable resource for future generations, while contemplating doubling the population. Even if you attempt to concentrate the majority of planned growth in the proposed Winslow Subarea Plan.

Many of these concepts, data and reporting are documented in the draft GWMP, which was 40% complete when the previous Hydrogeologist resigned in Sept 2022.

Thank you for your time and consideration of these matters.

Melanie Keenan
ETAC chair, GWMP subcommittee member

APPENDICIES

Appendix A - USGS Groundwater Modeling
https://ca.water.usgs.gov/projects/central-valley/groundwater-modeling.html

Groundwater Modeling

A groundwater flow model is a mathematical representation of groundwater flow through an aquifer, which is composed of saturated sediment and rock. In order to solve the equations that constitute the flow model, it is necessary to make simplifying assumptions about the aquifer and the physical processes governing groundwater flow. The most important of these assumptions are embodied in the conceptual model of the aquifer.

Although groundwater flow models can't be as detailed or as complex as the real system, models are useful in at least four ways:

1. models integrate and assure consistency among aquifer properties, recharge, discharge, and groundwater levels
2. models can be used to estimate flows and aquifer characteristics for which direct measurements are not available
3. models can be used to simulate response of the aquifer under hypothetical conditions
4. models can identify sensitive areas where additional hydrologic information could improve understanding

Applications of USGS Groundwater Modeling Software

Evaluation of water-management alternatives[1]

Effects of groundwater withdrawals on water levels and native vegetation

Conjunctive management of groundwater and surface-water resources

Management responses to saltwater intrusion

Demonstration of general hydrologic principles[3]

Effects of groundwater withdrawals on discharge to streams and springs

Importance of transient groundwater response times in long-term planning

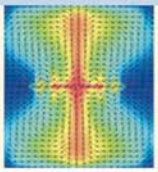
Importance of post-auditing and updating groundwater models

Hydrogeologic and geochemical characterization[2]

Evaluation of changes to the water budget of an aquifer resulting from changes in land use, withdrawals, and climate

Use of environmental tracers to estimate groundwater age and identify sources of recharge

Basic research[4]



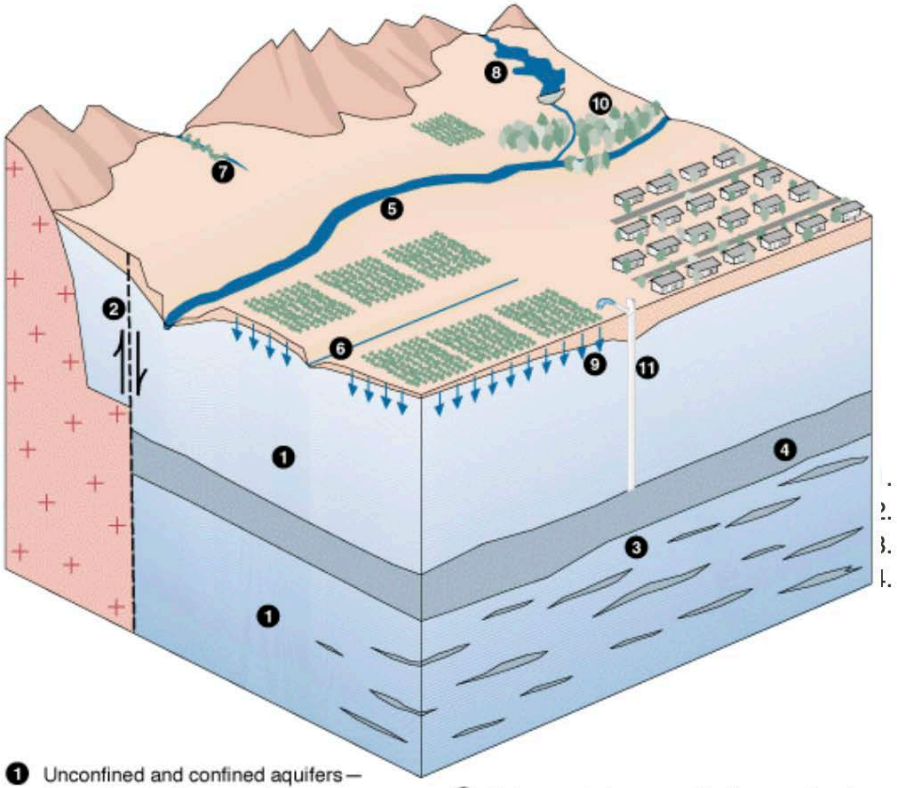
Development and testing of new modeling techniques

Study of the role of groundwater flow and chemistry in geologic processes

For more information, please see [1] Galloway and others (2003), [2] Reilly and others (2008), [3] Alley and others (1999), and [4] U.S. Geological Survey (2005). Photo and image credits, from the top: Loren Metzger, USGS; Mark Uhrich, USGS; Christian Langevin, USGS; USGS Office of Human Resources.

MODFLOW-2005

Features of an aquifer system that can be simulated by MODFLOW



1. Unconfined and confined aquifers—Ground-water flow and storage changes
2. Faults and other barriers—Resistance to horizontal ground-water flow
3. Fine-grained confining units and interbeds
4. Confining units—Ground-water flow and storage changes
5. Rivers—Exchange of water with aquifers
6. Drains and springs—Discharge of water from aquifers
7. Ephemeral streams—Exchange of water with aquifers
8. Reservoirs—Exchange of water with aquifers
9. Recharge from precipitation and irrigation
10. Evapotranspiration
11. Wells—Withdrawal or recharge at specified rates

Appendix B - Groundwater Management Plan WAC 173-100-100

Appendix - WAC 173-100-100 Groundwater management program content.
Outline of GWMP content
The program for each groundwater management area will be tailored to the specific conditions of the area. The following guidelines on program content are intended to serve as a general framework for the program, to be adapted to the particular needs of each area. Each program shall include, as appropriate, the following:
https://apps.leg.wa.gov/WAC/default.aspx?cite=173-100-100

WAC 173-100-010 Purpose. The purpose of this chapter is to establish guidelines, criteria, and procedures for the designation of groundwater management areas, subareas or zones and to set forth a process for the development of groundwater management programs for such areas, subareas, or zones, in order to protect groundwater quality, to assure groundwater quantity, and to provide for efficient management of water resources for meeting future needs while recognizing existing water rights. The intent of this chapter is to forge a partnership between a diversity of local, state, tribal and federal interests in cooperatively protecting the state's groundwater resources.
[Statutory Authority: RCW 90.44.400. WSR 86-02-004 (Order DE 85-24), § 173-100-010, filed 12/20/85.]
https://app.leg.wa.gov/WAC/default.aspx?cite=173-100-010&pdf=true

Appendix C - Growth Management Act RCW 36.70A.020 Planning goals.
https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.020&pdf=true

(6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.

(10) Environment. Protect and enhance the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

(11) Citizen participation and coordination. Encourage the involvement of citizens in the planning process, including the participation of vulnerable populations and overburdened communities, and ensure coordination between communities and jurisdictions to reconcile conflicts.

(12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

Appendix D - Memorandum Regarding The City of Bainbridge Island's Policies Toward Small Water Systems - Prepared by the City of Bainbridge Island Utility Advisory Committee - September 23, 2020.
https://www.bainbridgewa.gov/DocumentCenter/View/14311/UAC-Memorandum-Regarding-Small-Water-Systems---October-23-2020?bidId=77137

Link to UAC January 18, 2024 UAC meeting
http://apps.bainbridgewa.gov/media/video/2024/UAC_20240118cc.mp4

<u>Appendix E</u> - Bainbridge Island Comprehensive Plan - Water Resource Element
https://www.bainbridgewa.gov/DocumentCenter/View/7801/6-WATER-RESOURCES?bidId=

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Bainbridge Island is solely dependent on groundwater for its drinking water and requires a holistic perspective to understand the interdependence among the Island's three primary water resources: groundwater, surface water and stormwater. Although these waters are typically regulated and managed independently, they are in nature, intimately connected.
Precipitation that is not evaporated or taken up by plants will follow one of three paths. It may infiltrate into the ground where it is called groundwater. It may drain directly into streams and harbors where it is called surface water or it may be captured by manmade infrastructure such as street drains, ditches or detention/retention ponds where it is called stormwater. Groundwater may be pumped from wells to provide drinking water or irrigation or seep out of the ground into streams, springs and harbors where it is again called surface water. Likewise, stormwater may discharge into a nearby stream or harbor and become surface water or infiltrate into the ground and become groundwater. (see Fig.WR-1)

In order to successfully protect and manage any one of these waters one must protect and manage all three. To address these interrelationships, a separate Water Resources Element has been developed as follows:

- General water resources management policies
- Groundwater protection and management policies
- Surface water protection and management policies
- Stormwater protection and management policies
- Residential on-site sewage system policies
- Contaminated sites policies
- Public education and outreach policies

Land Use Connection
In the development of policies related to the management of our Island water resources, it is important to understand the links between water resources quality and quantity and land use. Most water quality and habitat integrity impacts are caused by the way land was or is used. Developed land allows for rapid runoff and inundation of natural conveyance systems such as wetlands and streams. Rapid runoff can cause damage through flooding, erosion and water-borne contamination…Where development occurs in important aquifer recharge areas, special consideration is needed to preserve the volume of recharge available to the aquifer and to protect the groundwater from contamination. A key component of water resources protection and adaptive management is adequate monitoring in order to assess impacts of current land use and the effectiveness of applied management actions.

The overriding theme that runs through all of the policies and goals in this element is t**he preservation and protection of water quality, water quantity, and ecological and hydrologic function…**

…Climate change

The 2016 Bainbridge Island Climate Impact Assessment, which is referenced in this Comprehensive Plan, establishes that a primary concern of climate change is the impact on water resources, especially for an island location like Bainbridge Island that relies solely on an aquifer system for its drinking water. Climate change projections indicate that over the coming decades sea level may rise up to four feet in the Puget Sound region, the ocean will become more acidic and climatic conditions are likely to become warmer. This will result in more intense rain events during the wet season with longer, drier summers, though overall annual volume of rainfall under current models is expected to remain approximately the same.

Ocean acidification will likely impact aquatic species survival and assemblages in our marine areas and sea level rise will likely impact habitat and built infrastructure in our nearshore areas including homes, businesses and public facilities such as roads and sewer facilities.

Wetter conditions during the wintertime will increase water availability but may cause flooding or diminish water quality. More intense and frequent storms or heavier rainfall events can cause stormwater inundation and localized flooding, chronic flooding, non-infiltrated run-off, erosion and land slides. Increased intensity of rain fall may also diminish aquifer recharge rates as saturated soils are less able to absorb large amounts of water falling over short periods of time.

Warmer, drier conditions in the summertime will increase evaporation rates and water demand by plants, wildlife and people, and may diminish water quality. Dry conditions decrease water availability resulting in reduced stream flow and diminished aquifer recharge. Warmer and drier conditions can also reduce water quality, both by increasing in-stream temperatures and by concentrating contaminants in smaller volumes of water.

Water Resource Vision 2036

Bainbridge Island's water resources (precipitation on the surface and in the ground) are climate resilient and demand and quantity are adequate for all forms of life on the Island. Aquifers are continuously monitored and maintained above the early warning level. The water quality for most of the consumed water is monitored to ensure quality fully meets the standards for drinking water.

Goals and Policies

GOAL WR-1

Manage the water resources of the Island in ways that preserve, protect, maintain, and where possible restore and enhance their ecological and hydrologic function.

Degradation of water resources is not allowed.

The long-term sustainability of the Island's water resources is maintained, taking into account future climatic conditions and their effects on the water cycle.

New development and population growth are managed so that water resources remain

adequate and affordable for the indefinite future.

Groundwater, surface water and stormwater monitoring, data assessment and reporting are current and available including future projections of availability, quality and need.

Use current and future technology to maintain and protect water resources.

Policy WR 1.1
Study future climate and demand scenarios to accurately plan for future water resource conditions.
Policy WR 1.2
Groundwater, surface water and stormwater are resources that shall be protected and managed to preserve water quality and quantity, and to retain natural ecological and hydrologic function.
Policy WR 1.3
The City will provide sustainable water resource planning, protection, management and monitoring in coordination with government agencies at all levels, drinking water purveyors, Tribes, non-profit organizations, and other stakeholders.
Policy WR 1.4
Apply the policies in this element together with the protective measures set by the City's Shoreline Management Master Program, Critical Areas Ordinance and any other environmental or water resources management ordinance established by the City and in compliance with county, State, and federal laws and regulations.
Policy WR 1.5
Identify the areas of the Island that are the most vulnerable to pollution from concentrations of fecal coliforms and nitrates (for example, septic fields, agricultural activities, or fertilizers), and monitor those areas to determine if and when preventative or restorative measures are warranted.

GROUNDWATER PROTECTION AND MANAGEMENT
GOAL WR-2
Protect the quality and quantity of groundwater on the Island to ensure clean and sufficient groundwater for future generations.
Policy WR 2.1
Recognize that the Island functions as an aquifer recharge area. Low impact development techniques are essential for maintaining aquifer recharge.
Development, if any in areas with high aquifer recharge should be limited to low impact uses and less intense development. Low impact uses include development for buildings, roads or parking that has a reduced area of impact on the land. Low impact uses do not depend on regular applications of fertilizers or pesticides.
Low impact development is an environmentally-friendly approach to site development and stormwater management emphasizing the integration of site design and planning techniques that conserve and protect the natural systems and hydrologic functions of a site.
Policy WR 2.2
Identify and assess areas of high aquifer recharge as part of a land use application. Minimize the effect of development on these areas.
Policy WR 2.3
To promote efficient use of groundwater resources, encourage the expansion of existing water systems rather than encouraging shallow or individual residential wells.
Policy WR 2.4
Assess the impacts of proposed activities and development on the flow of springs and streams and levels of wetlands that are either sustained by groundwater discharge or contribute recharge to groundwater, and require an assessment of anticipated hydrologic impacts. Activities or development may be restricted if the report indicates any adverse impacts.
Policy WR 2.5
In cooperation with the appropriate regulatory agencies (e.g., Washington State Department of Health and the Kitsap Public Health District) institute new wellhead protection procedures.
Policy WR 2.6

Reduce the use of pesticides and herbicides by encouraging integrated pest management techniques and less toxic alternatives.

Policy WR 2.7

Establish a stakeholder group to develop an Island-wide groundwater management plan and work with Kitsap Public Utility District to update the Kitsap County Coordinated Water System Plan.

Policy WR 2.8

Develop an incentive based program to encourage exempt well owners to regularly monitor and report the quality of their well water and identify leaks using tools such as flow meters

Policy WR 2.9

Recognizing that the Island aquifer system is a Sole Source Aquifer as designated by EPA, consider creation and application of one or more aquifer conservation zones for appropriate areas of the Island and institute an added level of development and re-development permit review to prevent or mitigate potential pollutant-generating activities or activities that could affect stormwater runoff and aquifer recharge associated with a proposed land use. The Island's aquifers are protected through critical area regulations and Revised Code of Washington (RCW) 36.70A.550.

Policy WR 2.10

Retard seawater intrusion into our groundwater through the development and application of a comprehensive seawater intrusion prevention program.

Policy WR 2.11

Develop a water conservation program for all water uses on the Island.

Policy WR 2.12

Encourage water re-use and reclamation to serve as a supplementary source for high-water users such as industry, parks, schools and golf courses as approved by the Washington State Department of Health.

Policy WR 2.13

Require the retention of native landscapes to promote water quality and to reduce the need for irrigation.

Policy WR 2.14

Develop a program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Health and the Kitsap Public Health District.

Policy WR 2.15

Maintain a comprehensive program of groundwater data gathering, analysis, and reporting including modeling, hydrogeologic and geologic studies, and monitoring of static water levels, water use, water quality, surface water flows and acquisition of other data as necessary.

Policy WR 2.16

Develop and maintain a publicly-available system to report groundwater levels on a timely basis.

SURFACE WATER PROTECTION AND MANAGEMENT

GOAL WR-3

Achieve no net loss of ecological functions and processes necessary to sustain aquatic resources including loss that may result from cumulative impacts over time.

Over recent decades awareness has grown of the importance of preserving and protecting aquatic resources. Aquatic resources have a number of important ecological functions, processes and values. These functions vary but include providing water quality protection, flood plain control, shoreline stabilization, **contributions to groundwater and stream flows, and wildlife and fisheries habitat.** Aquatic resources also have values as natural areas

providing aesthetic, recreational and educational opportunities that should be preserved for future generations…

…STORMWATER PROTECTION AND MANAGEMENT
GOAL WR-4
Rather than capture and carry stormwater away as a waste stream, protect it from pollutants and retain it on site to replenish aquifers and maintain wetlands and natural stream flows, preserving or mimicking the natural water cycle to the maximum extent practicable.

Policy WR 4.2
Provide ongoing opportunities for the public to participate in the decision-making process involving the development, implementation and update of the City's Stormwater Management Program through advisory councils, public hearings, and watershed committees…

…Policy WR 6.2
Promote opportunities for citizen stewardship and involvement.

Appendix F - Climate Change Impacts
Rain UW CIG -Heavy Precipitation Projections for use in Stormwater Planning May 20, 2021
https://www.youtube.com/watch?v=0LCwn4Gd5JQ
Projected Changes in Extreme Precipitation = Increase in intensity of events

Appendix G - PACIFIC NORTHWEST CLIMATE PROJECTION TOOL
https://cig.uw.edu/resources/analysis-tools/pacific-northwest-climate-projection-tool/

Appendix H - Vashon GW Model
https://your.kingcounty.gov/dnrp/library/2005/kcr1895.pdf

Appendix I - Group A Water Systems
https://www.bainbridgewa.gov/DocumentCenter/View/17902/Public-Group-A-Water-Systems
It appears COBI left off the blue color in the Legend designating the COBI Group A Water System. Note the number of gray colored land mass areas designating Small Group B Water System and Private Well areas on the Island.

Appendix J - COBI Bainbridge Island Land Use Map
https://www.bainbridgewa.gov/DocumentCenter/View/4353/Official-Future-Land-Use-Map?bidId=

Appendix K - Carollo Engineers, Inc. (2017) City of Bainbridge Island Water System Plan.
https://www.bainbridgewa.gov/DocumentCenter/View/6603/COBI-Water-System-Plancompressed?bidId=
See Figure ES-1 on Page ES-2, Designating Current COBI Water System and desired control future areas mostly comprised of Small Group B Water Systems and Private Property Wells.

See Figure ES-4 on Page ES-8, Showing COBI Winslow Water System Area covering a greater area than the Winslow Subarea, with COBI well locations near or outside of Winslow Subarea boundary.

Appendix L - Water in streams contains groundwater
https://www.usgs.gov/special-topics/water-science-school/science/rivers-contain-groundwater

Appendix M - How do groundwater and surface water interact?
https://www.americangeosciences.org/critical-issues/faq/how-do-groundwater-and-surface-water-interact

Appendix N - Groundwater Connection with Streams - Gaining Streams
https://books.gw-project.org/groundwater-in-our-water-cycle/chapter/groundwater-connection-with-streams/

Appendix O - Modeling groundwater and surface water interaction: An overview of current status and future challenges
https://www.sciencedirect.com/science/article/abs/pii/S0048969722044539

UTILITY ADVISORY COMMITTEE

JANUARY 18, 2024
COUNCIL CHAMBERS CONFERENCE ROOM & ZOOM MEETING
280 MADISON AVENUE N., BAINBRIDGE ISLAND, WA 98110

PLEASE CLICK LINK BELOW TO JOIN WEBINAR:

https://bainbridgewa.zoom.us/j/85322271874

TELEPHONE: 1 253 205 0468 — WEBINAR ID: 853 2227 1874

AGENDA

1. CALL TO ORDER / ROLL CALL / ACCEPT OR MODIFY AGENDA / CONFLICT OF INTEREST DISCLOSURE / PUBLIC COMMENT 5:30 PM
2. APPROVAL OF DECEMBER 6, 2023, MEETING MINUTES – 5 MIN
3. STORMWATER AND WASTEWATER SOURCE CONTROL AND PRE-TREATMENT PLANNING – 45 MIN
4. REVIEW SMALL WATER SYSTEMS MEMO – 15 MIN

   HTTPS://WWW.BAINBRIDGEWA.GOV/DOCUMENTCENTER/VIEW/14311/UAC-MEMORANDUM-REGARDING-SMALL-WATER-SYSTEMS---OCTOBER-23-2020?BIDID=
5. PUBLIC WORKS UPDATE – 10 MIN
   - A. WINSLOW WATER TANK
   - B. WATER SYSTEM BUSINESS PLAN DRAFT SCOPE OF WORK
   - C. COMPREHENSIVE PLAN SEWER ANALYSIS
6. NEW COUNCILMEMBER/UAC MEMBER UTILITY TOUR PLANNING – 5 MIN
7. NEXT MEETING PLANNING - 5 MIN
   - A. FINAL DRAFT/REVIEW OF STORMWATER SYSTEM PLAN
8. ADJOURNMENT

MEMORANDUM REGARDING
THE CITY OF BAINBRIDGE ISLAND'S POLICIES TOWARD SMALL WATER SYSTEMS

Prepared by the City of Bainbridge Island
Utility Advisory Committee
September 23, 2020

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EXECUTIVE SUMMARY

In 2018, the City Council asked the Utility Advisory Committee (UAC) to "study and recommend a process for facilitating consolidation of small water systems." The Council's direction was driven by the City's Comprehensive Plan, which generally calls for managing utility services in a manner that is efficient, effective, and safe, and preserves and protects the Island's water resources.

As part of its work, the UAC developed four alternative models for a future City of Bainbridge Island (COBI) policy regarding facilitating the consolidation of small water systems:

- Minimal, hands-off role;
- Reactive to requests from water systems – which the UAC suggests summarizes the City's current policy;
- Active assistance to water systems; and,
- Active assistance along with acquisition over time of small water systems.

The UAC believes it is time for the City to depart from its reactive and inconsistent approach towards interfacing with small water systems on Bainbridge Island. Accordingly, the UAC **recommends that the City adopt a policy of providing active and consistent assistance, if requested, to the small water systems on Bainbridge Island, and encourage, if appropriate, voluntary consolidation of those systems into the City's current water utility.** Priority focus should be on the water systems within and adjacent to the City's current county-assigned service areas.

The UAC encourages the Council to consider addressing this policy in coordination with the development of the City's Groundwater Management Plan, and through the Winslow Water System Business Planning effort, both of which are proposed to be funded in the 2021-22 Biennial Budget.

COBI UTILITY ADVISORY COMMITTEE
MEMORANDUM REGARDING COBI'S POLICIES TOWARD
SMALL WATER SYSTEMS

I. INTRODUCTION

In 2018, the City Council asked the Utility Advisory Committee (UAC) to "study and recommend a process for facilitating consolidation of small water systems." The council's direction begins implementation of Comprehensive Plan Utilities Element Policy U-11.7, which is reproduced in the next section.

There are 35 Group A (the largest) water systems on Bainbridge Island, and 135 Group B systems (the smallest). COBI currently owns and manages two of the Group A systems (Winslow-Fletcher Bay and Rockaway Beach) and one Group B system (Casey Street).

The UAC gathered data on Island water systems, considered the history of water system management on the Island, and consulted with water system experts within state, county-wide, and city governments, and from the private sector.

The UAC then developed four alternative models for COBI policy regarding small water systems: (1) minimal, hands-off role; (2) reactive to requests from water systems – which the UAC suggests is an apt description of the City's current policy; (3) active assistance to water systems; and (4) active assistance along with acquisition over time of small water systems. Descriptions of these alternatives are contained in this memo and on an attached matrix.

As discussed in this memorandum, the UAC believes it is time for the City to depart from its disengaged, reactive, and inconsistent attitude toward water management on Bainbridge Island. Accordingly, the UAC recommends that the City adopt a policy of providing active and consistent assistance, if requested, to the small water systems on Bainbridge Island, and encourage, if appropriate, voluntary consolidation of those systems into the City's current water utility. Priority focus should be on the systems within and adjacent to the City's current county-assigned service areas.

The primary reasons for this policy are to help ensure all Island residents have adequate, safe drinking water and to protect Island water resources.

II. BACKGROUND

A. Comprehensive Plan

In 2017, the City Council approved an update to the Comprehensive Plan, which included a newly revised Utilities Element. Among the goals and policies in the Utilities Element are the following pertinent to this subject (key clauses are identified by bold highlighting):

- Goal U-10. Ensure that city-managed and **to the extent possible non-city managed utility services** are sufficient, cost effective, reliable, and that safe water utility service is provided.

- Goal U-11: Require utilities to operate in a manner that **preserves and protects the water resources** of the Island.

- Policy U 11.6: **Encourage and support water utilities to enter into cooperative activities**, such as jointly managed operations, shared storage, and construction of interties, to manage water resources and systems more efficiently, economically, and safely.

- Policy U 11.7: **Encourage and facilitate consolidation of water systems**, with particular emphasis on mergers of contiguous and small systems, to manage water resources and systems more efficiently, economically, and safely.

The Comprehensive Plan also contains Policy U 11.9 which states as follows: "Conduct a study of consolidation of water systems owned by the City and Kitsap Public Utility District. Pursue long-term consolidation of larger water systems." As is shown below, the City and KPUD own the three largest water systems on the Island, all of which are substantially larger than the remainder of Island water systems.

The UAC was not asked to study and recommend a process for implementing Policy 11.9 – but rather to focus on "small water systems." The size of "small water systems" was not defined, but for purposes of this memo the UAC will consider "small" to be all systems other than the three largest owned by the City and KPUD.

The drinking water policies and goals in the afore-described 2017 Comprehensive Plan build on those already outlined in the Water Resources Element of the City's 2004 Comprehensive Plan, namely:

- WR 3.2: The City may elect to facilitate small water system management services by applying to the Department of Health to be an approved Satellite Management Area (SMA).

- WR 3.3: New development in previously unclaimed water service areas may be required to dedicate public water systems to the City if the system meets City standards and the City determines it is appropriate to accept, own and operate such systems.

All of these goals and policies were adopted to help ensure that all island residents have safe drinking water.

B. Water Systems on Bainbridge Island

Potable water service is provided to residents of Bainbridge Island from private single or double[1] connection wells or public water systems classified by the Washington State Department of Health as Groups A or B, depending on the number of connections.

[1] The 2005 Kitsap Coordinate Water System Plan notes that normally only single-connection wells are considered "private," but the Kitsap Public Health District has an exemption that allows double-connection residential wells meeting certain criteria to be classified as a "private well."

1) Group A. Those water systems serving 15 or more connections or the general public are labeled Group A. There are 35 active Group A systems on Bainbridge Island which are listed below by number of connections, and shown on a map attached as Exhibit A. This data comes from the Washington State Department of Health, and can be accessed at this link: https://fortress.wa.gov/doh/eh/portal/odw/si/Intro.aspx.

Name/Owner	Connections	Population
Winslow/Fletcher Bay (COBI)	3165	7130
North Bainbridge (KPUD)	1894	4663
South Bainbridge (KPUD)	1245	2863
Meadowmeer (managed by KPUD)	311	897
Island Utility (KPUD)	255	590
Port Madison (managed by KPUD)	103	233
Bucklin (managed by WA Water Co)	103	272
Emerald Heights	92	250
Bill Point (managed by KPUD)	84	200
Rockaway Beach (COBI)	72	175
Eagle Harbor Marina	54	17
Phelps Road (managed by WA Water Co)	22	58
Harbor Crest (KPUD)	21	53
Rose Avenue	20	53
Place Eighteen (managed by KPUD)	18	32
Ferncliff (managed by KPUD)	18	40
Ravens Reach	16	42
Graham Place	15	34
Hidden Heights	14	36
Islandwood Estates	14	40
Walden Water	13	34
Derby Downs	13	30
Seabold Heights (managed by KPUD)	12	36
Bloedel Reserve	8	2
Battle Point Park	6	0
Montessori Country School	5	0
Strawberry Hill Park	5	0
COBI Public Works	4	0
Fort Ward Park	3	1
Carden County School	2	3
Eagledale Park	2	0
Hazel Creek Montessori	2	0
Fieldstone Memory Care	1	96
Island Center Community Center	1	0
Seabold Community Hall	1	0
Totals	**7614**	**17,880**

2) Group B. Those water systems serving 2 to 14 connections are classified by the State and Kitsap Health District as Group B. There are 135 Group B systems on Bainbridge Island, many of which are shown on a map attached as Exhibit A. A list of the Group B water systems provided by Kitsap Public Health District is attached at Exhibit B. The list indicates the Group B water systems have 540 connections. Assuming 2.1 residents per connection, the Group B systems serve 1134 residents.

3) Private Wells. Many properties owners obtain potable water for a single residence or business from a private well. These are not considered "public water systems," and therefore are not addressed in detail in this analysis.

4) Statistical Analysis**.** The WA Department of Health and Kitsap Public Health District data indicates that the 35 *Group A* water systems on Bainbridge Island serve 7614 connections and 17,880 residents, and the 135 *Group B* water systems serve 540 connections and approximately 1134 residents.

   There is no data indicating how many Bainbridge residents are served by *private wells*. But, it is possible to estimate that number. One method is to subtract the population served by Group A and B water systems (19,110) from the total Island population of 25,300[2] . Doing so results in an estimate that 6286 of the Bainbridge population obtains water from private wells.[3]

   Looking further at the 35 Group A systems, the three largest cannot be considered "small." The City's Winslow/Ferncliff system and KPUD's North Bainbridge and South Bainbridge water systems together serve 6304 connections and a population of 14,656. Thus, the remaining 32 Group A water systems, which are truly small systems, in the aggregate serve 1310 connections and 3224 residents.

   In summary, on a percentage basis, it is estimated that Bainbridge residents obtain water from:

Large Group A water systems	**58 %**
City – Winslow/Fletcher	*28 %*
KPUD – No. & So. Bainbridge	*30 %*
Small Group A water systems	**12.5 %**
Group B water systems	**4.5 %**
Private wells	**24 %**

[2] US Census, 2019.

[3] It is important to note again that this is only an estimate. Another calculation method, based on parcels, yields a lower result. KPHD records indicate that approximately 2000 parcels of property on Bainbridge are served by private wells. Multiplying that number by 2.1 persons per connection tells us that 4200 people are served by private wells, which is approximately 2000 less than that above population method. But, if this method was to be used, it is unclear how to allocate those 2000 people among the Group A and B systems.

C. Ownership and Management of Water Systems

Water systems are owned by a variety of organizations: governments like COBI, for-profit corporations, non-profit organizations such as homeowner associations, and private individuals and businesses.

Many water systems, primarily very small ones, are self-managed. That is, the owners utilize volunteers or contractors to perform needed operational and administrative tasks.

In addition, two large organizations manage water systems owned by others pursuant to negotiated contracts of varying durations. They are Kitsap Public Utility District (KPUD) and Northwest Water Service, Inc.

KPUD owns and manages 4 Group A systems on Bainbridge Island: North Bainbridge, South Bainbridge, Island Utility, and Harbor Crest; and at least 3 Group B systems. See map at **Exhibit A**. KPUD also manages Group A water systems on Bainbridge Island owned by other entities, typically homeowner associations. Examples are Port Madison, Seabold Heights, Ferncliff, Place 18, and recently Bill Point and Meadowmeer.

Northwest Water Service, a private for-profit company headquartered in Port Orchard, manages 6 Group A and 16 Group B systems on Bainbridge Island. It manages 450 systems in Washington. Northwest Water generally does not provide complex engineering and construction services but may refer that work to KPUD or Washington Water.

Washington Water Service, a division of a publicly-traded California corporation with a local office in Gig Harbor, owns and manages three Group A water systems on the Island. It used to manage other water systems as well. However, in 2018, Washington Water changed its business model and will now only manage water systems it owns. The company thus withdrew from managing various Island small water systems unless and until they agreed to sell to Washington Water.

D. Service Areas

The 2005 Kitsap County Coordinated Water System Plan (CWSP) assigned "service areas" to Group A systems within the County. Most service areas contained just the properties currently being served by the Group A systems. The two largest water systems, COBI and KPUD, were also assigned properties that were not currently being served by that utility. This assignment essentially established that assigned water system as the primary future provider for the area.

Group B water systems do not have assigned "service areas" under CWSP. They do have the right to provide water service to the properties consistent with their approved water system plans.

The attached **Exhibit C** shows the assigned service areas on Bainbridge Island. COBI has three assigned areas: a large swath across the middle of the Island in which the Winslow-

Fletcher Bay system is located; the Rockaway Beach area which contains the Rockaway Beach system; and the northern tip of the Island in which neither COBI or any other Group A system operates a water system.

KPUD has two large service areas, resulting from its ownership of the North Bainbridge System and its relatively-recent acquisition of the South Bainbridge and Island Utility Systems.

There is an area on the south side of Eagle Harbor that is not within any assigned service area. It is wedged between the City's Winslow and Rockaway Beach systems, and adjacent to other small water systems.

E. Problems Identified with Small Water Systems

Beginning in the 1970's, the WA State Department of Health identified significant deficiencies with many small water systems throughout the state. Generally, many small water systems have some or all of the following problems: (1) lack of professional management; (2) outdated and deteriorating infrastructure; (3) lack of appropriate capital improvement planning and capability; (4) insufficient financial resources; (5) inadequate backup and support; and (6) limited fire suppression facilities.

For example, there are no requirements by either the State Office of Drinking Water or Kitsap Public health that Group B systems have reserves for improvements or repairs. The State Department of Health does require Groups A systems to have a capital reserve at the time they are initially created and approved. There is also a requirement that the amount of reserve be reviewed every 5 years during a Group A sanitary survey inspection, but this requirement is dependent on the State Department of Health's staffing. (Anecdotally, DOH did fail to review Meadowmeer's reserves at its last inspection due to new staff.) The lack of reserve requirements for Group B systems is becoming more significant because most water small water systems were developed during the 1960's and 1970's, and the equipment is reaching the end of its useful lives.

Small water systems also often rely on volunteer staff with little to no professional experience or knowledge of regulatory changes. Volunteers may also be reluctant to raise rates to make necessary safety improvements like backup generators for power outages, fire hydrants, interties with adjacent systems, and seismic improvements. These safety concerns are becoming more pressing due to the effects of global warming and the drier, longer summers Bainbridge is experiencing.

The Washington State Department of Health (DOH) has encouraged small water systems to develop more "professional" planning, maintenance, financing, and staffing, and to consider consolidation with other water systems in order to jointly possess the resources to develop those attributes of effective water system management. As noted above, the City's comprehensive plans have similarly called for consolidation.

Neither the City's Public Works Department nor the UAC has conducted a survey of the condition of the Group A and B systems on the Island, so we are not in a position to state which, if any, of the above-identified deficiencies are suffered by Island water systems. However, the

UAC has received complaints from customers of numerous small water systems about deficiencies in their systems and the need for assistance. Therefore, more data would be helpful.

Finally, as identified in the 2005 Kitsap County Coordinated Water System Plan, smaller water systems negatively impact the ability to accomplish water resource management made possible by larger interconnected water systems, and Group B water systems, which typically have shallow wells, are more likely to negatively impact stream flows.

F. Legal and Regulatory Authorities Pertinent to Small Water Systems

1) Federal: EPA Safe Water Drinking Act (1974). The Act protects public drinking water supplies throughout the United States. It sets regulatory limits for the amounts of certain contaminants in water provided by public water supply systems. The EPA also implements various financial programs to ensure drinking water safety. (See Title XIV of Public Health Service Act.)

2) State: Public drinking water is regulated at the State level by the Washington State Department of Health.

a. Group A systems (15 or greater connections or public access): The Washington State Department of Health (DOH) regulates Group A's under state law and a formal agreement with the US Environmental Protection Agency (EPA) for carrying out the federal Safe Drinking Water Act. DOH's Drinking Water Division's highest priority is responding to actual or potential public health emergencies. DOH's technical staff is available to water systems 24 hours a day. See Ch. 246-290 WAC.

b. Group B systems (2-14 connections): Group B systems are regulated under Chapter 246-291 of the Washington Administrative Code. Group B regulations suggest that new Group B owners should design their systems to comply with the more regulated Group A requirements like seismic safety, power outage, back-up systems, and capital reserves in order to allow for future consolidation into Group A's. Older Group B systems had no such requirements. Group B rules for ongoing oversight were amended in 2014 to be optional due to State budget cuts at DOH, so DOH does not provide oversight of Group B systems. See section 3) below for information about Kitsap Public Health District involvement with Group B systems.

c. Revolving Fund: The DOH makes funds available to Group A drinking water systems to pay for infrastructure improvements and consolidation of Class A systems or consolidation of Group B's into existing Group A systems through the Drinking Water State Revolving Fund. There was $20 million available in the last cycle. The loan program is funded through state and federal money and is subject to state laws and additional federal regulations. These loans cover capital improvements that increase public health and compliance with drinking water regulations. They are for Public entities, so COBI and KPUD can apply for these loans, but private management agencies (like Washington Water) can not apply.

d. State Loans: In implementation of the priority the State Department of Health places on the consolidation of Group A water systems, the State has created a loan and grant program. One such program offers $25,000 grants to help public entities (like the City) investigate consolidation.

e. DOH Priorities: One of the priorities of the DOH is to consolidate Groups A's (and possibly Group B's with Group A's or other B's) for the following reasons:
   - Better economies of scale ensure better supervision and monitoring
   - Large systems are generally more reliable
   - Large systems reduce the administrative burden on the Health Department
   - Improved well head protection ensures aquifer protection for all
   - Improved fire safety

3) Kitsap Public Health District: Although often mis-identified as a Kitsap County department, Kitsap Public Health District (KPHD) is a separate district governed by a seven-person Board composed of the three county commissioners and the mayors of the four Kitsap cities, including Bainbridge Island.

a. Group A's: KPHD defers to the State DOH to regulate Group A's, but assists State DOH with sanitary survey inspections/reports through a joint plan of responsibility agreement.

b. Groups B's: KPHD initially inspects Group B systems when they are installed. In September 2018 the KPHD adopted the proposed ordinance 1999-6, now approved as Ordinance 2018-01 which regulates ongoing operation of Group B's. The new ordinance requires all Group B's to purchase an annual permit, have a sanitary service inspection every 5 years, and obtain a water status report from the Health District at the time of sale to be delivered to the purchaser. Between 2009 and 2018, due to lack of funding, no one was monitoring Group B's for potential acute health problems from bacteria, nitrates and poorly monitored well head protection.

c. Wells: The KPHD publishes wellhead protection guidelines for owners of wells, but it is not clear whether these rules are well distributed or whether any government entity ensures that the rules are followed.

4) Kitsap County: As required by RCW 70.116, Kitsap County adopted its first Coordinated Water System Plan (CWSP) in 1992, and updated it in 2005. As mentioned previously, it is this document that assigns "service areas" within the County, and also establishes other policies and strategies.

As mentioned in Section F.2) e. above, for many decades the State encouraged the consolidation and professionalization of water systems. Kitsap County has followed those policies. The 2005 County Plan calls upon the County's water systems to coordinate and consolidate and to stop the proliferation of new small water systems. One of the principal points of the 2005 County Plan is to "provide improved coordination of new development and to restrict the proliferation of small public water systems." (See section 2-3.) The 2005 County Plan also called for "future growth planning" to be "in consideration and coordinated with the water service that it is in." (See Exhibit 2-4)

5) WUTC: The Washington Utilities and Transportation Commission regulates the rates charged by private water companies (such as Washington Water Co. and Northwest Water Inc.) operating within Washington State that have 100 or more connections or charges more than $557 a year per customer.

G. History of COBI Policies and Activities Related to Island Water Systems

Prior to 1990, the City of Winslow owned and operated a water system to serve the Winslow area. The Winslow city limits were generally High School and Finch Roads. The water system was created in the 1940's and added to over the intervening years. By the 1970's, the major sources of Winslow's water were wells at the Head of the Bay and Fletcher Bay which fed a large reservoir at the High School – all of which were located outside the city limits.

The rest of Bainbridge Island was served by many private water systems, most of which were for-profit corporations or homeowner associations. One of the issues influencing the Home Rule movement in the late 1980's was a desire to better protect and manage the Island's water supply.

In 1991, the City of Winslow annexed the remainder of Bainbridge Island creating the City of Bainbridge Island. This had no direct effect on the ownership or management of water systems on the Island, but it did mean that the new COBI could begin to develop plans for water supply and system management. In February 1993, COBI adopted its first such planning document, Resolution 93-3., attached as **Exhibit D**. This document stated, among other things, that the City shall be prepared to, upon request from a water system, acquire a system, become a contract service provider for a system, or provide support assistance to a system.

In 1994, the Rockaway Beach Homeowner Association approached the City because its water system was failing. In implementation of the above policy, the City acquired the Rockaway Beach water system in 1996, and utilized the Local Improvement District (LID) process to construct a new well, reservoir, and distribution lines.

Regarding City assistance to Island water systems, it apparently provided limited support services as a Satellite System Agency (SMA) in the late 1990's to 19 small water systems. However, due to staffing concerns and other more pressing issues, in 2000, the City allowed the services contracts to expire. In 2002, the City revoked that portion of Resolution 93-3 regarding serving as an SMA.[4]In 2001, the North Bainbridge Water Company approached the City about purchasing its system. The City staff commenced negotiations, but the owner of the company ultimately sold it to KPUD. KPUD Board of Commissioner minutes indicate KPUD believed COBI had decided not to purchase the company. That is not correct, as the issue had never reached the City Council.

During 2010-13, the City considered selling its water system to KPUD or contracting with KPUD to manage the system. The City eventually chose not to do so.

[4] The Resolution revoking SMA authority, Resolution 2002-25, indicates in its title that the entire Resolution 93-3 has been repealed. However, the content of Resolution 2002-25 states it is eliminating the SMA program only. Thus, there may be an ambiguity as to whether the remaining portion of Resolution 93-3 is still in effect.

In 2015, KPUD purchased the South Bainbridge Water Company and Island Water Company. These systems were sold to KPUD by their private owners without notice to the City despite an informal agreement between the City and KPUD that KPUD would not purchase any water systems within the City without first obtaining agreement from the City.

In the 2017 Comprehensive Plan, the City adopted the policies listed on the first page of this memorandum. (See Section I.A. above.)

In 2017, a small 8-customer Group B water system known as Casey Street approached the City about acquiring it. After consideration, the City chose to do so because: (1) it was located within the City's water service area; (2) it was located in the north Ferncliff area relatively close to the City's existing Winslow water system; (3) the City has periodically discussed constructing a new water pipeline from North Ferncliff to North Madison to "loop" the Winslow system, which would be directly adjacent to the Casey Street system; and (4) acquiring this system would be a "test case" about how COBI might manage assimilation of small systems in the future.

In 2018, two Group A systems, Bill Point and Place 18, were faced with changing managers when Washington Water Service Co. withdrew. COBI staff had preliminary discussions regarding assuming satellite management of the systems, which would require eventual approval from Washington DOH, but the water systems contracted with others.

In 2019-20, three larger Group A systems, Emerald Heights, Bill Point, and Meadowmeer, contacted UAC representatives and some City senior staff about possible assistance from COBI. In February 2020, the UAC recommended to the City Council and senior staff that COBI consult with the three systems regarding their needs and the assistance the City might be able to provide. Apparently, City representatives have not had such consultations (COVID limitations no doubt impacted the staff), and Bill Point and Meadowmeer have retained KPUD as manager for the time being.

The 2019-2020 budget called for the City to begin a Groundwater Management Plan (GMP). For a variety of reasons, this process did not begin. The UAC understands that during the 2021-22 budget deliberations the City Council will be re-engaging the discussion around the development of a GMP. The UAC further understands the planned first step in the GMP process was the hiring of a hydrogeologist to manage the plan. The UAC supports the development of a GMP, and suggests the work plan should be expanded to include implementation of many of the recommendations contained in this memorandum.

Finally, beginning with the City's first Comprehensive Plan in 1994 and then continuing in the two major updates in 2004 and 2017, many policies were adopted concerning water systems on Bainbridge Island. Some are listed in Section II.A above. Taken together, the policies call for:

- Ensuring reliable, safe, and cost-effective water for City and non-City managed utility service;
- Preserving and protecting water resources;
- Encouraging water utilities to enter into cooperative activities;
- Encouraging and facilitating consolidation with particular emphasis on mergers of contiguous and small systems;

- Applying to the Department of Health to become a satellite management agency (SMA); and;
- Requiring new development to build according to City standards (Group A standards) and dedicate water systems to the City when it is appropriate for the City to accept such system.

III ANALYSIS AND RECOMMENDATION

A. Overview

In the three decades since the small City of Winslow annexed the remainder of Bainbridge Island, thus becoming the City of Bainbridge Island, the City has had only limited focus on Island water systems that it did not own. This is surely because the City was focused on other more pressing issues, such as land use policies and transportation, and because Island water systems were in general not seeking assistance from the City as they were still newer and in better repair.

Historically, the City had not been involved with the smaller water systems, and the City's passage of Resolution 93-3 did not significantly change that position. The City has no direct regulatory authority over Island water systems, other than management of the City's rights-of-way. Therefore, the City has had only minor interactions with Island water systems since the late 1990's and did not "advertise" its availability as a resource for those systems. This is despite the City's Comprehensive Plan policies encouraging actions to improve water resource protection and management. Island water systems needing assistance had to turn to private water companies and KPUD out of necessity.

In the meantime, interest in preserving water resources and in improving water quality in aging systems has become a larger concern of most island citizens, particularly in light of the steadily increasing development of the island and increasing population. To meet this increasing concern, the City and others conducted studies of Island water resources and the various aquifers which exist beneath the island. Unfortunately, to date, no studies were conducted about how the multitude of water systems, either individually or in the aggregate, were effectively and efficiently managing the resource or whether small water systems were protecting the health of islanders by ensuring good water quality.

The import of local control of the water consumed by its citizens has been highlighted elsewhere in the country, such as Flint, Michigan. There, the State assumed control resulting in catastrophic consequences. Similarly, stories across the country of private entities controlling water supplies and charging exorbitant rates while failing to ensure water quality have increased.

The 2005 CWSP suggests that Bainbridge as a water purveyor should implement policies that ensure efficient and effective management of water resources for numerous reasons. The 2005 Plan also assigned responsibility to Bainbridge Island's water utilities to plan for water system development within its assigned water service areas, to require new development to be built to Group A standards to help facilitate connection at a later time, and to require new developments to record a covenant at the registry of deeds and note the covenant on a title report for subsequent owners. (See Section 5.3.3)

It is interesting, and perhaps meaningful, to note that the 2005 County Plan (section 1.2.11 and in section 9) projects population growth concentrated in Central and North Kitsap and suggests that it will be necessary to develop water sources in the other parts of the County and "establish transmission mains to move the water to where growth is occurring." This argues for the City to be more involved in the water resources of the island to ensure that the City retains a seat at the table in any future discussions concerning use of water from Bainbridge Island wells in other areas in Kitsap County.

Given this situation, what should be the City's role toward Island water systems? Should the City continue to ignore requests for help from smaller water purveyors like Emerald Heights, Bill Point, and Meadowmeer, and thus avoid the opportunity to cooperate with or even consolidate with those systems? Should it adopt a somewhat more active policy of providing assistance only when approached by a small water purveyor? Or more proactively still, should the City seek out water systems to assist in the management (and perhaps ownership) of their water systems, so as to encourage more professional management of them and more island-wide planning and cooperation? What should be the City's role in ensuring Island residents have access to safe and adequate water?

Whatever policy is chosen, the focus of the City should be the long term. How do the citizens of Bainbridge Island want their water resource to be managed in 20, 30, 50, 75, 100 years? Is it through many, decentralized, small water systems, or by one or more large organizations? As stated, for many of the reasons outlined in this memo above, the State and County have made it clear that it believes consolidation over time is the best means for ensuring quality drinking water for all citizens.

B. City Relationship with KPUD

KPUD is a major provider of water service on the Island, owning four systems (two large and two small) and managing six others. This study effort by the UAC was specifically directed toward small water systems. The UAC was not asked to discuss or evaluate the present and future relationship between the City and KPUD. Thus, to a certain extent, this analysis and recommendation has been prepared while "avoiding the elephant in the room."

However, prior to outlining alternatives available to the City and making its policy recommendation, the UAC believes it is appropriate to comment on the City's relationship with KPUD.

The City and KPUD both serve approximately the same number of customers on the Island (approximately7000 people or 30% of the Bainbridge population), and both have two large County-designated service areas. Yet there is no island-wide water resource and management planning being done by KPUD or the City, either separately or together.

At the current time, KPUD and the City exist as collaborating neighboring water utilities serving their own customers and cooperating in limited ways on planning and projects, while at the same time being competitors toward water systems they don't own or manage.

At some point in the future, the City needs to develop a policy about how it intends to work with KPUD. Comprehensive Plan Policy U 11.9 anticipates that analysis, when it states:

"*Conduct a study of consolidation of water systems owned by the City and Kitsap Public Utility District. Pursue long-term consolidation of larger water systems.*"

Such a study *could* result in consolidation of one of more of the large water systems, but it could also result in collaborative activities such as construction of joint storage facilities and transmission lines, or preparation of island or sub-regional water resource planning. At a minimum, an interlocal agreement should be developed which outlines how and under what circumstances either utility will provide services to or assume ownership of water systems on the Island that they do not currently own. This will prevent the acquisition of water systems by either utility without knowledge of the other.

C. Policy Alternatives

The UAC suggests there are four policy alternatives for COBI's relationship with the other water systems on Bainbridge Island.: minimal; reactive; active; and active plus acquisition over time. To aid in the consideration of the alternatives, the UAC prepared a discussion Matrix, attached as **Exhibit E** to this Memo. The matrix outlines possible levels of city action for water systems within COBI's Current and Future Retail Service Areas as defined by the Kitsap County CWSP, and within small water systems that are <u>not</u> within COBI's assigned service areas.

The matrix also differentiates between smaller Group B's and the larger Group A systems, and posits that the City may establish different policies for them. Finally, the matrix provides pros and cons of the possible recommendations and provides examples of sample water systems that fit within the matrix sections.[5]

1) Minimal

In this situation, COBI decides it will have nothing to do with water systems on Bainbridge Island other than those it currently owns: Winslow-Fletcher Bay, Rockaway Beach, and Casey Street. COBI will defer entirely to other water purveyors/managers, primarily to KPUD and Northwest Water Company.

The City might do this because it takes the least effort, staff time, and cost, and allows it to focus fully on its current 2700 water customers. On the other hand, this policy abdicates any assistance to the vast majority of Bainbridge Island land and citizens, and likely gives up any long-term ability to consider, manage, and protect the entire Island water resource or protect the safety and adequacy of drinking water for Island citizens.

2) Reactive

This Is essentially the policy in Resolution 93-3, and describes what the City has been doing in the past 30 years. That is, on occasion, the City has provided assistance to small water systems or acquired them. This policy is the status quo – the City reacts to requests from other water systems and may respond consistent with staff time and interest.

[5] Ex. E. does not detail the minimal alternative, since it is less than what the City is currently doing. Further, Active and Active Plus Acquisition alternatives are merged into one row for a simpler presentation.

This policy is slightly more energetic than the Minimal alternative discussed above, in that the City may decide to deal with the needs of other water systems if the city staff or council conclude that it can do so within existing resources. But, this reactive policy could lead to unfair practices, i.e., assistance to some water systems and not to others.

3) Active

Under this policy, the City reaches out to the small water systems and encourages assistance and cooperation. It does so by devoting sufficient City staff, time, and resources to determining the needs of the water systems and developing financial, engineering, and management solutions. This policy does not mandate that small water systems participate with the City in any way, but rather calls for the City to develop the resources that will attract cooperation from small systems.

This policy will enable COBI to become more actively engaged with managing and thus preserving and protecting Island water resources. This policy has the potential to increase revenue to the City's existing water utility, thus utilizing economies of scale to benefit both current City and small water system customers. Also, in the long term, this policy may be the most cost-effective means to protect Island water supplies and ensure safe and adequate drinking water for Island citizens.

Among those steps that could be taken are:

- to become a Satellite Management Agency (SMA) pursuant to WAC 246-295,
- to require new development within or adjacent to the City's designated service areas to either connect to the City water system or build to Group A standards to facilitate future connection.

The City could also begin implementation of the 2005 County Plan's directive to create a water system plan which includes a program of capital improvements required to provide the anticipated level of island-wide water service, and to ensure that Bainbridge's water utility plans respond to its own land use and comprehensive plan policies.

This active policy will, at least at the outset, require some investment by the City. There should be no doubt about this. A major reason the City has not been more involved with Island water systems and resources is that it has not had the budget to do so. To be effective, the City must hire staff and perhaps consultants, when needed. The UAC has not attempted to determine any details of the costs to implement this policy; the Public Works Department is best suited to do that.

It is possible the funding for this investment could be shared by the City's water utility and general fund accounts so as to not unduly burden the City's existing water customers. That is because there is a general island-wide purpose behind this policy (water resource protection) and also a potential COBI water utility benefit (economies of scale).

4) Active Plus Acquisition (over time)

This policy is essentially the same as the Active policy above, but with one significant change. That is, if a small water system requests assistance from the City with meeting its defined needs, be it management, testing, billing, reconstruction, etc., the City may agree to do

so on condition that the water system agree to be consolidated within the COBI water utility at some established time in the future. The UAC does not recommend a set period, leaving that to negotiation between the parties.

This policy is in furtherance of DOH's long-standing objective to consolidate small water systems within larger ones, and encourages long-range planning of water resource management.

D. UAC Recommendation

For the reasons outlined above, the UAC believes that the City should depart from its disengaged reactive, and inconsistent position toward other water systems on Bainbridge Island, and become more actively and consistently involved with managing the water resources on the Island.

Accordingly, the UAC recommends that the City adopt alternative #4 for small water systems within and adjacent to the City's assigned service areas. That is, the City should actively seek to provide assistance as needed by those systems, and in doing so there should be a plan for eventual consolidation within the City's water utility.

However, for the small water systems located outside the City's service areas, the UAC recommends adopting policy alternative #3. That is, the City should reach out to small water systems to offer assistance as needed.

The UAC emphasizes that under either alternative #3 or 4, the City will not be mandating any particular outcome for small water systems on Bainbridge Island. The City will be *encouraging* cooperation and consolidation when appropriate.

When implementing the above recommendations, the UAC suggests that the City start by focusing on the Group A systems not owned by KPUD that provide service to water customers (as opposed to the remaining Group A systems which primarily serve parks and facilities for the general public). Thereafter, the City could expand its outreach to the many Group B systems on the Island. However, due to their large number and likely limited incentive to seek professional assistance, the City should proceed with Group B systems much more slowly.

The UAC suggests an example of a circumstance that is ripe for City analysis and possible involvement and assistance exists at the southeast corner of Eagle Harbor. There, three adjacent small Group A water systems operate almost wholly independent of each other. They are the City-owned Rockaway Beach system with 72 connections, the Bill Point water system owned by the 84 members of its Homeowner Association, and the KPUD-owned Island Utility system with 255 connections. Also, nearby is the unassigned service area containing many very small Group A and B systems.

It is logical that the three systems should meet and discuss the current status of their systems and their short- and long-term needs, and then hopefully coordinate and cooperate with each other when implementing improvements. The UAC recommends that the City arrange for and facilitate such a dialogue and cooperative analysis.

E. Suggested Next Steps

If the Council is prepared to establish policies toward small water systems, the UAC suggests the following initial steps:

1) Create or assign one or more staff positions within the Public Works Department to focus on water systems and water resource policy, possibly combining that role with the staffing to develop a Groundwater Management Plan.

2) Coordinate – and to the extent practical, include – the recommended next steps on small water systems into the City's development and implementation of upcoming work on a Groundwater Management Plan.

3) Update and fine tune its information about Island water system in a comprehensive inventory and map. There is data in a variety of locations about the water systems, which has been the basis for information provided in this memorandum, but there is no single collection of the information in one usable and up-to-date location.

4) Internally consider how COBI can provide management, assistance, and capital improvement services for small water systems. The idea is to develop a list of services the City may be able to provide to smaller water systems if needed, such as billing and other administrative tasks, equipment rental, emergency assistance, and inspection and testing.

5) Convene a meeting(s) of all small Group A and B systems to discuss problems, potential solutions, cooperation, consolidation, etc., and to advise of the availability of City resources to assist.

6) Following the meeting(s) described above, evaluate and then propose steps to solve identified problems in the attending small water systems, and consider and propose recommendations for a larger policy for the City toward small water systems and unassigned service areas. Priority should be given to Group A systems. Among the issues to consider when developing such steps and policies is the financial fees charged to support the City's efforts, in alignment with the financial recommendations of Goals U-10 and Policies 11.6 and 11.7 of the Comprehensive Plan (reproduced on page 3 above).

7) Establish a common venue to enable small water systems to do water sampling, and providing an experienced City employee to assist volunteers with their questions about these and other operational tasks.

8) Apply to the State Department of Health to become an approved Satellite Management Agency (SMA).

9) Establish policies that make consolidation of systems less administratively burdensome and costly to the property owners and water systems. For example, consider requiring all new Group B systems to be constructed to Group A standards, thus more easily allowing future consolidation with Group A's, and

consider requiring new building permits for private single-connection wells to consent to later connection to public water systems.

10) At the appropriate time, develop an established plan or pathway for the City to assume ownership of and provide capital improvements to systems which need assistance. Such planning would include necessary financing mechanisms, such as Local Improvement Districts (LID's) and state loans and grants.

IV. CONCLUSION

The UAC believes it is time for the City to depart from its disengaged, laissez faire attitude toward water management on Bainbridge Island, Accordingly, the UAC recommends that the City adopt a policy of providing active and consistent assistance to the small water systems on Bainbridge Island, and encourage voluntary consolidation over time of those systems within the City's current water utility. The UAC recommends the City prioritize its efforts and focus on Group A water systems and the small water systems within or adjacent to the City's current assigned service areas.

Adopted unanimously at UAC Meeting on September 23, 2020.

- Charles Averill
- Sheina Hughes
- Ted Jones, Co-Chair
- Andy Maron, Co-Chair
- Nancy Nolan
- Martin Pastucha (absent 9/23/20)
- Emily Sato

EXHIBITS

Exhibit A: Map Group A and B Water Systems
Exhibit B: List of Group B Systems
Exhibit C: Map of Service Areas
Exhibit D: COBI Resolution 93-3
Exhibit E: UAC Discussion Matrix

Exhibit A:

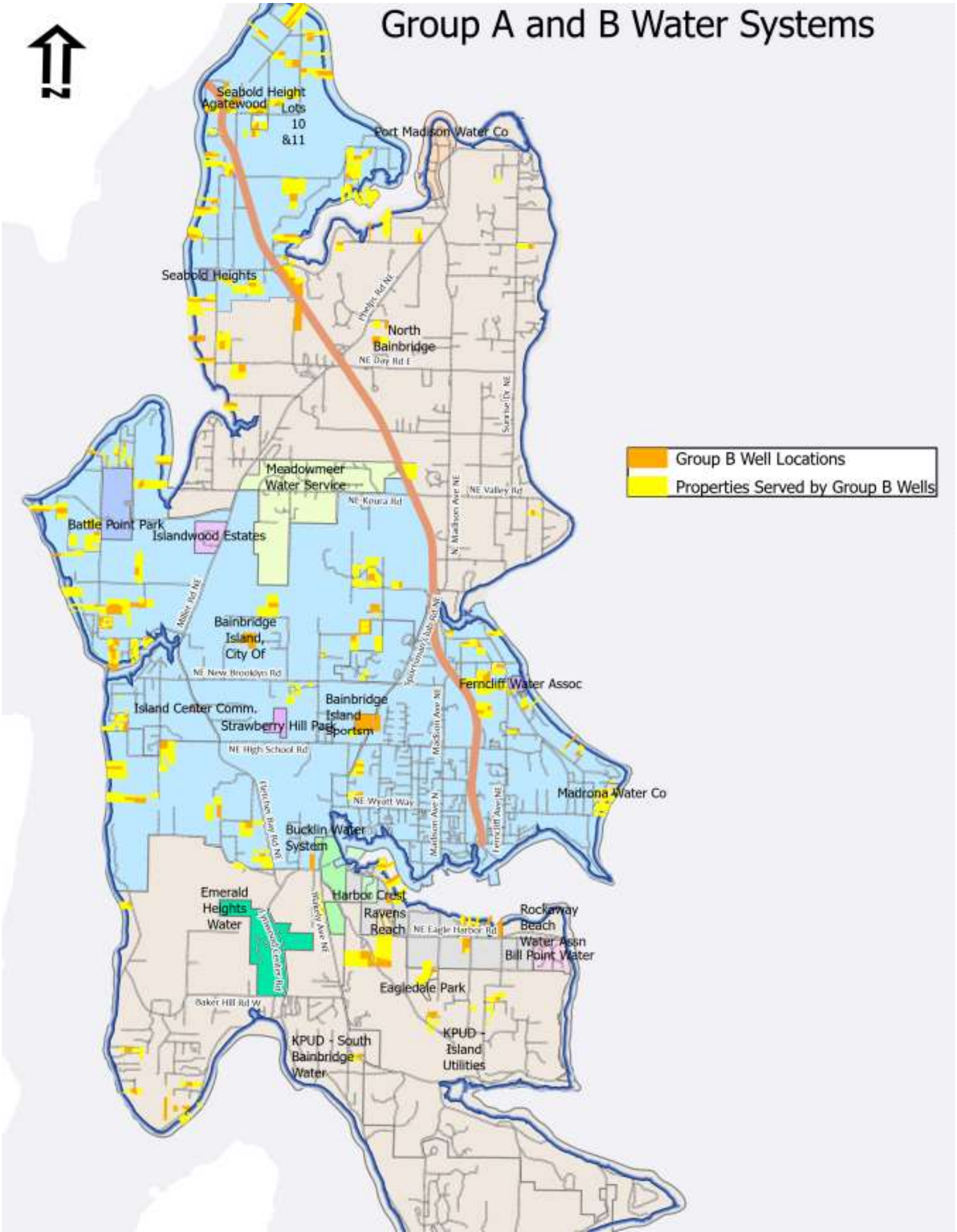
Group A and B Water Systems
N
Seabold Height Agatewood Lots 10 &11
Port Madison Water Co
Seabold Heights
North Bainbridge
Meadowmeer Water Service
Battle Point Park
Islandwood Estates
Bainbridge Island, City Of
Island Center Comm.
Strawberry Hill Park
Bainbridge Island Sportsm
Ferncliff Water Assoc
Madrona Water Co
Bucklin Water System
Emerald Heights Water
Harbor Crest
Ravens Reach
Rockaway Beach Water Assn
Bill Point Water
Eagledale Park
KPUD - South Bainbridge Water
KPUD - Island Utilities
Group B Well Locations
Properties Served by Group B Wells

Exhibit B – List of Group B Water Systems on Bainbridge Island

Class	SystemName	ApprovedConnections	ConnectionCount
B	Agate Community	9	6
B	Agate Point	4	4
B	Agatewood	3	3
B	Alford Homes I Water System	8	8
B	Alice Kimball Water System	2	2
B	Amber Water Assoc.	9	9
B	Amis Water	0	3
B	Argonaut	6	3
B	Arrow Point Water	6	5
B	Backland Well System	6	5
B	Bainbridge Green	8	8
B	Bainbridge Is Saddle	1	1
B	Bainbridge Island Marina	2	1
B	Bainbridge Island Sportsmans Club	0	1
B	Battle Point Water System	4	2
B	Bbd Water System	7	6
B	Bennett-Upton Water	6	4
B	Bergstrom Farm	4	4
B	Bernhard Water	4	4
B	Bevins	4	4
B	Big Fir	6	2
B	Blakely	9	9
B	Boetter Water	5	4
B	Booth Water	0	0
B	Bpib	3	3
B	Bronte	4	4
B	Broomgerrie	7	5
B	Browning	3	3
B	Cala Woods	6	5
B	Carole/Swink	4	4
B	Casey Street Water Co. Llc	9	8
B	Cedar Lane Water	4	4
B	Cedar Ponds Water System	0	4
B	Cessna Water	4	4
B	Churchill Water Corp.	9	8
B	Clark Acres Water	0	6
B	Clear Water	6	6
B	Clementz First Edition	4	4
B	Davis Keith Cooperative	5	5
B	Dawson/Tallon	5	2
B	Day Road Water System	4	4
B	Dolphin	4	4
B	Douglas Water System	5	3
B	Eagledale Marina	0	1
B	Family Meadows Water	6	3
B	Fletcher Bay Water	5	5
B	Flora Water	3	3
B	Fox Cove Water	10	9
B	Gale-Blair	3	3
B	Gen-Don Water System	4	4
B	Gordon	6	5
B	Graham Estates	4	4
B	Green Spot Water	4	3
B	Greene Water System	2	2
B	Haley Water System	4	3
B	Hansen/Spellman	6	6
B	Heavenly Waters	6	5
B	Hemlock Street	6	6

B	Hendel	3	3
B	Henderson Road	3	2
B	Hidden Cove	9	7
B	Hidden Cove West Water Co	9	9
B	Holly Lane Gardens	2	1
B	Hooper Point	4	4
B	Hume Water System	4	4
B	Iwihhy Inc	7	6
B	Johnston Well	9	9
B	Keeney Water	8	8
B	King, Carol/Ted Water	6	4
B	Kirk Ave Water	9	9
B	Laurelwood	5	5
B	Lazy Brook Farm	4	4
B	Lee Memorial Water Assn	6	1
B	Lightmoor	6	6
B	Little Manzanita Water	4	3
B	Little, Crista Water	6	4
B	Lone Eagle	7	7
B	Lustbader-Preston	4	4
B	Madrono Water Co	14	14
B	Manual Road	4	4
B	Manzanita Road	3	3
B	Martinson Water	0	3
B	McFarland Well	0	4
B	McFarlane Water System	4	2
B	McKeever Water System	6	6
B	McKenzie Water System	0	0
B	Moran Water	3	2
B	Murphys	4	3
B	Norris Sp 615 Water System	4	3
B	Olallie Water Sysem	2	2
B	Olympus Beach Water	8	7
B	Onorato	8	7
B	Park Place Water Company	4	3
B	Parsons	4	2
B	Peabody Water	6	4
B	Piper	9	9
B	Pleasant Lane Water	0	3
B	Port Madison Yacht Club	0	1
B	Puget Bluff Lane Water	6	7
B	Ralston Water System	3	3
B	Raven Ridge	5	5
B	Reese, Roy	6	3
B	Rippy Water System	4	2
B	Ruys Lane	4	4
B	Satterwhite	4	4
B	Schadel / Lewars	6	4
B	Schold - Crystal Springs	5	5
B	Seabold Acres Water Assoc.	4	4
B	Seabold Height Lots 10 &11	3	3
B	Seabold Water	8	7
B	Seattle Yacht Club	4	1
B	Skogen Eight	8	8
B	Skogen Lane	6	5
B	South Springridge Water	8	9
B	Spellman Water System	4	4
B	Springwood Lane	4	4
B	Springwood No. 1	1	1

B	Springwood No. 2	6	8
B	Stetson Acres	6	6
B	Stone-Erickson Water	0	3
B	Strawberry Water System	6	6
B	Sugar Mill	5	2
B	Sulu Water System	6	5
B	Sunset Heights Water	6	6
B	Thalberg Water System	8	8
B	Toad Holler	7	7
B	Tyee Yacht Club	1	1
B	Venice Water System	6	6
B	Wagener	3	3
B	Wallace	3	3
B	Waters, Owen Water System	4	4
B	Wendt Water System	6	4
B	West Port Madison	6	6
B	Wheeler West	5	5
B	Woodhaven Farm Water	3	3

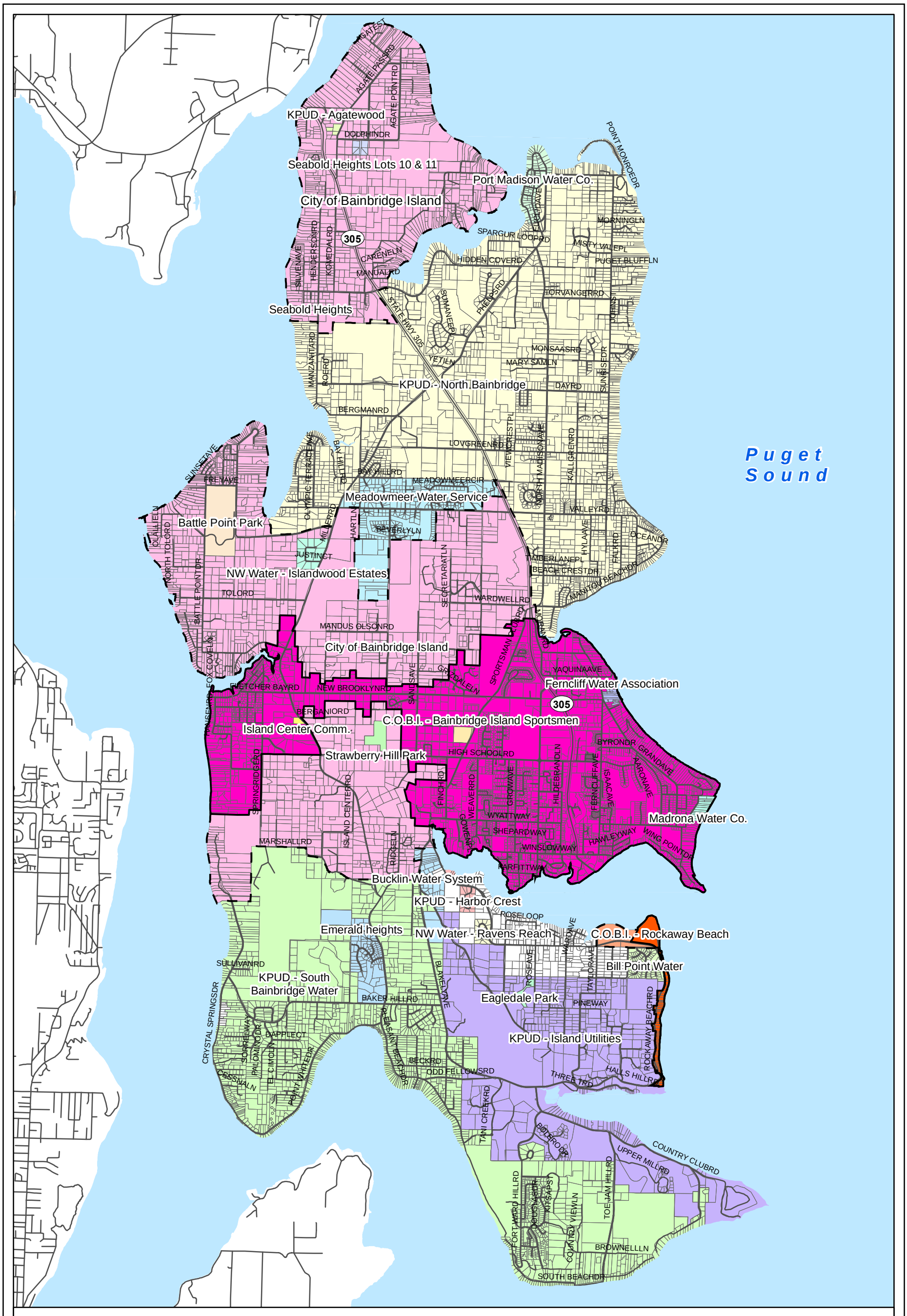
KPUD - Agatewood
Seabold Heights Lots 10 & 11
City of Bainbridge Island
Port Madison Water Co.
Seabold Heights
KPUD - North Bainbridge
Meadowmeer Water Service
Battle Point Park
NW Water - Islandwood Estates
City of Bainbridge Island
Island Center Comm.
Strawberry Hill Park
C.O.B.I. - Bainbridge Island Sportsmen
Ferncliff Water Association
Madrona Water Co.
Bucklin Water System
KPUD - Harbor Crest
Emerald heights
NW Water - Ravens Reach
C.O.B.I. - Rockaway Beach
Bill Point Water
KPUD - South Bainbridge Water
Eagledale Park
KPUD - Island Utilities
Puget Sound
305
Legend
Winslow RWSA
Rockaway Beach RWSA
Future Winslow RWSA
Future Rockaway Beach RWSA
Roads
Parcels
Water Body
Miles
0
0.55
1.1
Exhibit C. Service Areas
Water System Plan
City of Bainbridge Island

Exhibit D – Resolution 93-03

RESOLUTION NO. 93-03

A RESOLUTION ESTABLISHING POLICIES TOWARD WATER SYSTEMS OUTSIDE HISTORIC WINSLOW AND WATER RESOURCES ON BAINBRIDGE ISLAND

WHEREAS:

1. The citizens of Bainbridge Island obtain their water from wells owned by private individuals and almost 200 different water purveyors. 42% of the island's population are served by 17 water systems, which serve 12 to 1000 customers. The remaining 58% of the population obtain water from individual systems or small systems developed to serve a few residents.

2. The City of Bainbridge Island owns and operates one system, that being the former City of Winslow's system which serves 1200 connections.

3. Strict new federal and state regulations for drinking water systems, rising water demands, and stringent environmental and resource conservation standards for new water supply projects are making it more difficult for small water systems managers to operate successful systems.

4. Customers of several water systems have approached the City requesting assistance with a variety of system deficiencies. It is expected that small system customers and operators will continue to request the City's help in solving water system problems.

5. The Growth Management Act mandates that the City's land use plans be developed with a consideration of the island's water resources. There is thus a need to inventory water supplies, investigate water resources, and begin comprehensive water planning.

6. All citizens and the City must take steps now to protect the Island's water resources and to insure high quality and quantity of water for our citizens, future generations, and the natural habitat of the Island.

IT IS THEREFORE RESOLVED:

7. The City of Bainbridge Island shall work with other governmental agencies, water purveyors, and citizens to preserve and protect the water resources of Bainbridge Island. The City shall assist citizens and water system purveyors to obtain reliable, high quality water service. In furtherance of this objective, the City shall be prepared to respond to requests to:

a. become a direct service provider through acquisition of water systems;

b. become a contract service provider to water system operators (performing such services as maintenance, billing, testing); and

c. provide support assistance (such as training and purchasing).

Revised 2-5-93

8. For existing water systems where the operators have expressed interest in relinquishing ownership to the City, the City shall respond actively to pursue system acquisition. The cost to bring the deficiencies of the water systems up to acceptable regulatory standards shall not be borne by the citizens of the City, but rather by the owners of the water system. The City may utilize the LID/ULID process to help finance the water system improvements.

9. The formation of new small water systems, the organization of new water purveyors, and the proliferation of new small wells shall be discouraged. Those persons desiring new or replacement water service are encouraged to hook-up to existing water systems. The City shall assume ownership of new water systems greater than a size to be determined by the Public Works Department when the systems are placed into service. The Public Works Department shall advise the council as to the size of new water systems that should be owned by the City.

10. The City shall develop a Water System Master Plan consistent with the Comprehensive Land Use Plan. The Water System Master Plan shall include issues of water quantity, quality, conservation, watershed, and well head protection. The City shall also work with water purveyors, other governmental agencies (like Kitsap County Public Utility District No. 1, Washington State Department of Ecology), and private citizens to provide education to the public about the Island's water resources and the benefits of conservation.

11. As part of the City's Water System Master Plan, the City may conclude that certain improvements will benefit the general public. These improvements may include new water sources, storage facilities, service lines, system interties, etc. Contrary to the situation described in paragraph 8, in which costs are paid by specific system owners, improvements which have general community benefit should be paid for by the City as a whole. Funding for these sorts of projects may come from a variety of sources, including general tax revenue, bonds, grants, matching funds, and may, consistent with the law, be allocated proportionate with the benefit.

12. As the City becomes involved with the water resource and water systems outside historic Winslow, in the manner described in the above paragraphs, it must be careful to consider the needs, benefits, and effects of its activities on those persons who obtain water from small private wells.

13. The City shall prepare a detailed inventory of all public water supplies on Bainbridge Island, and shall develop a well-monitoring program.

14. At the time annexation became effective, some water systems were actively working with Kitsap County Public Utility District No. 1, the City, and private contractors to improve their systems. The City shall continue to cooperate with these purveyors to accomplish the improvements.

15. The Public Works Department and Planning and Community Development Department shall advise the council by March 30, 1993 of the methods and means to implement this resolution and any proposed budget amendments necessary to do so.

PASSED BY THE CITY COUNCIL this 4th day of February, 1993.

APPROVED BY THE MAYOR this 4th day of February, 1993.

SAM G. GRANATO, Mayor

ATTEST/AUTHENTICATE:

RALPH W. EELLS, FINANCE DIRECTOR

Exhibit E: COBI POLICY DISCUSSION MATRIX FOR ALL ON-ISLAND WATER SYSTEMS

updated: 9/18/2020

Potential COBI Involvement	Inside COBI Retail Service Area (RSA)			Outside COBI RSA			Pros	Cons
	Public *Group B* Systems (3-14 connections)		Private Wells	Public *Group A* Systems (>14 conn.)	Public *Group B* Systems (3-14 connections)	Private Wells		
	Near current infrastructure	Distant from current infrastructure						
Example Systems	*Casey Street*	*North Service Area (unserved now)*		*Bill Pt, Meadowmeer, Emerald Heights*				
Reactive (Status Quo) *current staffing*	SM, SB and SS if owner and COBI agree and if system is in good shape for fee COBI 1st in line to acquire Rates may vary from contiguous system	Defer to KCHD, KPUD and private water companies for all services and support		SM, SB and SS if owner requests and if system is in good shape for fee COBI may acquire if cost effective and on border of COBI Service Area or infrastructure, if requested by the water system (as current staffing allows).	Defer to KPHD, KPUD and private water companies for all services and support		Little city cost, effort and liability No staff growth	Doesn't encourage consolidations as recommended by State and County Doesn't help protect citizens and aquifers from failing aging water systems Occasional acquisition costs
Active (Reaching Out) *increased staffing*	SM, SB and SS if owner requests and if system is in good shape for fee In exchange for helping old system; require agreement that when COBI infrastructure is in reach, future source is COBI Opportunity to pay early connection fee (impact fees included) to get building permit approval LID, if needed may be prefunded Discourage new Group Bs in Current RSA - must connect to COBI, unless COBI cannot support New Group Bs must be built to Group A technical specs to facilitate future consolidation	Defer to KPHD, KPUD and private water companies Consider trading away service area if serving area is prohibitively costly	COBI not staffed to operate private wells Offer information about closest water system and about LID programs available For new wells; require agreement that when COBI infrastructure is in reach, future source is COBI Opportunity to pay early connection fee (impact fees included) to get building permit approval	SM, SB & SS if owner requests and if system is in good shape for fee In exchange for helping old system; require agreement that when COBI infrastructure is in reach, future source is COBI COBI may acquire if cost effective and on border of COBI Service Area or infrastructure, if requested by the water system. Short range partnering with large operators (mostly KPUD) on CWF at RSA boundaries and growth areas to create interties and looped supply Long range: Build-out Infrastructure Plan, including wells, storage, and fire fighting. Annual CIP or LIDs until built out.	Offer information about closest water system and about LID programs available New Group Bs must build to Group A technical specs to facilitate future consolidation Short range partnering with large operators (mostly KPUD) on CWF at RSA boundaries and growth areas to create interties and looped supply Long range: Build-out Infrastructure Plan, including wells, storage, and fire fighting. Annual CIP or LIDs until built out.	Defer to KPHD, KPUD and private water companies for all services and support Offer information about closest water system and about LID programs available	More cost effective, efficient, reliable and safe Clear rules for system owner/operators More protective of Groundwater Encourages and enables consolidation as required by State and County recommendations Protects citizens from aging water systems Approaches WA standards island-wide. Improve fire protection	More PW staff required More planning, acquisition and operations Periodic acquisition costs for interties and system wide improvements

Key

CWF:
DOH:
KPHD:
KPUD: Kitsap Public Utility District
RSA: Retail Service Area
SB: Billing service
SM: Satellite management
SS: Sampling and reporting services