



LAKE WHATCOM WATER AND SEWER DISTRICT
1220 LAKEWAY DRIVE
BELLINGHAM, WASHINGTON 98229

REGULAR MEETING
OF THE BOARD OF COMMISSIONERS

AGENDA

August 9, 2017


6:30 p.m. – Regular Session

1. CALL TO ORDER
2. PUBLIC COMMENT OPPORTUNITY
At this time, members of the public may address the Commission. Please state your name prior to making comments.
3. ADDITIONS, DELETIONS, OR CHANGES TO THE AGENDA
4. CONSENT AGENDA
5. SPECIFIC ITEMS OF BUSINESS:
 - A. Geneva Sewer Pump Station RH2 Presentation
 - B. North Shore Water Consolidation Policy Issues
6. OTHER BUSINESS
7. MANAGER'S REPORT
8. PUBLIC COMMENT OPPORTUNITY
9. Executive Session Per RCW 42.30.140(4) General Manager Performance Evaluation – 15 minutes
10. ADJOURNMENT



LAKE WHATCOM WATER AND SEWER DISTRICT

AGENDA BILL

DATE SUBMITTED:	August 9 17, 2017		
TO BOARD OF COMMISSIONERS			
FROM: Bill Hunter	MANAGER APPROVAL 		
MEETING AGENDA DATE:	August 9, 2017		
AGENDA ITEM NUMBER:	5.A.		
SUBJECT:	Geneva Sewer Pump Station Predesign Report		
LIST DOCUMENTS PROVIDED ⇨	1. Preliminary Cost Estimate Comparison		
NUMBER OF PAGES	2.		
INCLUDING AGENDA BILL:	3.		
	<u>3</u>		
TYPE OF ACTION REQUESTED	RESOLUTION <input type="checkbox"/>	FORMAL ACTION/ MOTION <input checked="" type="checkbox"/>	INFORMATIONAL/ OTHER <input type="checkbox"/>

BACKGROUND / EXPLANATION OF IMPACT

Spring 2017 the District contracted with RH2 for predesign services for the Geneva Sewer Pump Station Improvements. The initial scope of work includes topographic surveying, predesign, and permitting. The contract also included a feasibility study to determine if Par Sewer Pump Station could be eliminated by the installation of a gravity sewer main.

RH2 will present the predesign report for Geneva Sewer Pump Station Improvements. There are several alternative designs, each with its own set of benefits and challenges. RH2 will run thru each alternative and discuss the risks and costs of each. Staff met with RH2 on several occasions to discuss the alternatives and will make a recommendation at the meeting.

We do have some preliminary information on Par Sewer Pump Station which shows there is enough elevation difference to install a gravity pipe. However, staff and RH2 are still in the process of gathering information on the feasibility of installing the pipe and potential permitting requirements. The Par Sewer Pump Station feasibility study will be presented at a future meeting, but we will share what we know so far.

FISCAL IMPACT

Geneva Sewer Pump Station Improvements

The alternative costs are fairly close to each other except Alternate 2 which includes a building for a generator and electrical panels.

Alternates 1, 3, and 4 range from \$700k to \$730k (for design through construction and include 25% contingencies and sales tax).

The District's 2017 budget includes \$200k for the Geneva Sewer Pump Station predesign, permitting, design, and bidding. The current contract with RH2 is about \$102k for predesign and permitting, leaving about \$98k for design and bidding which appears to be adequate.

The original conceptual cost estimate for the capital project was \$475k but did not include 700 lineal feet of sewer force main replacement. Staff is projecting \$650k will need to be allocated in next year's budget for the Geneva Sewer Pump Station Improvements construction and services during construction.

RECOMMENDED BOARD ACTION

See proposed motion.

PROPOSED MOTION

Authorize staff to proceed with permitting design Alternative #_____ and to begin scope of work and fee negotiations with RH2 for detailed design through bidding for the Geneva Sewer Pump Station Improvements Project.

Table 4.1 – S&L and Flygt Cost Comparison

Bid Item No.	No.	Description	Alt. 1 Smith & Loveless Outdoor Emergency Generator, Electrical under Awning	Alt. 2 Flygt N Impeller Emergency Generator and Electrical in Enclosed Building	Alt. 3 Flygt N Impeller Emergency Generator and Electrical in Awning by Firs	Alt. 4 Flygt N Impeller Emergency Generator and Electrical in Awning by Wetwell
A.1 - Mobilization and Demobilization	1	Mobilization/Demobilization	\$27,000	\$32,000	\$29,000	\$28,000
	2	Temporary Erosion and Sedimentation Control	\$6,000	\$6,000	\$6,000	\$6,000
	3	Site Work	\$14,000	\$19,000	\$15,000	\$17,000
	4	Temporary Pumping	\$5,000	\$20,000	\$20,000	\$20,000
	5	Structural	\$21,000	\$91,000	\$41,000	\$41,000
	6	Mechanical	\$12,000	\$19,000	\$19,000	\$19,000
	7	Pumps and Motors	\$90,000	\$26,000	\$26,000	\$26,000
	8	Electrical	\$124,000	\$127,000	\$136,000	\$124,000
	9	Control Systems	\$48,000	\$75,000	\$75,000	\$75,000
A.3 Misc. Owner-directed Extra Work	10	Misc. Owner-Directed Extra Work	\$5,000	\$5,000	\$5,000	\$5,000
A.4 On-site Owner Training	11	O&M Manuals and On-site Owner Training	\$5,000	\$5,000	\$5,000	\$5,000
A.5 Construction Records	12	Construction Records	\$3,000	\$3,000	\$3,000	\$3,000
Subtotal Pump Station Construction			\$360,000	\$428,000	\$380,000	\$369,000
B.1 Force main Replacement	1	Open Cut Outside of Road or Pipe bursting	\$36,000	\$42,000	\$38,000	\$37,000
		Contingency (25%)	\$105,000	\$122,000	\$110,000	\$107,000
		Total Construction	\$558,000	\$649,000	\$585,000	\$570,000
		Engineering Design (15%)	\$84,000	\$98,000	\$88,000	\$86,000
		Construction Oversight (8%)	\$45,000	\$52,000	\$47,000	\$46,000
		Control System Integration	\$10,000	\$10,000	\$10,000	\$10,000
Total Project Cost			\$700,000	\$810,000	\$730,000	\$720,000
% Difference Compared to Alternative 1				+16%	+4%	+3%



LAKE WHATCOM WATER AND SEWER DISTRICT

AGENDA BILL

DATE SUBMITTED:	August 2, 2017		
TO BOARD OF COMMISSIONERS			
FROM:	MANAGER APPROVAL <i>[Signature]</i>		
MEETING AGENDA DATE:	August 9, 2017		
AGENDA ITEM NUMBER:	5.B.		
SUBJECT:	Draft Water Consolidation Report & Discussion		
LIST DOCUMENTS PROVIDED ⇒ NUMBER OF PAGES INCLUDING AGENDA BILL:	1. Copy of District Mission Statement (1)		
	2. Water Rights Memo From District Legal Counsel ()		
	3. Draft Water Consolidation Report with Survey Results (41)		
TYPE OF ACTION REQUESTED	RESOLUTION <input type="checkbox"/>	FORMAL ACTION/ MOTION <input type="checkbox"/>	INFORMATIONAL/ OTHER <input checked="" type="checkbox"/>

BACKGROUND / EXPLANATION OF IMPACT

Last year the District received a \$30,000 grant from the Washington State Department of Health (WDOH) to evaluate the feasibility of consolidating small private water systems and other water users within the North Shore into our larger system. WDOH is a proponent of consolidating small water systems into larger well run systems for both public health, regulatory, and efficiency purposes. They have annually budgeted financial resources to encourage public water districts and cities to evaluate such opportunities. Wilson Engineering was contracted by the District to conduct our evaluation along the North Shore.

Presently the District provides water to approximately 39 customers through its Agate Heights well and water treatment system and to another 70 customers via water it purchases from the City of Bellingham in the Eagle Ridge neighborhood. The balance of residential properties in the North Shore area draw their water from small private systems, individual wells, or directly from Lake Whatcom.

On June 20, 2017 the District held a public meeting with residents in order to present information on the Wilson evaluation and to gauge public opinion in the study area. Since the 20th, staff has reviewed feedback received from the public meeting and submitted a follow-up survey to 500 + property owners. The purposes of today's agenda topic are to:

- consider public input received at the June meeting and in the follow-up survey;

- present Wilson Engineering's consolidation report in advance of submittal to the State;
- hear from legal counsel on District water right implications;
- provide the Board an opportunity to consider potential options; and
- obtain further direction from the Board.

Note – Attachments 2 and 3 are forthcoming, and if not included with the Bill Agenda will be emailed to the Commissioners by Friday, August 4.

FISCAL IMPACT

Any detailed fiscal analysis on potential consolidation, and cost sharing between water users is not available for this meeting. Such information being produced is dependent on further direction from the Board. However, broad impacts are included in the Wilson report as presented on June 20.

RECOMMENDED BOARD ACTION

There is no staff recommendation at this time. This meeting is really for information, discussion, and possible direction to staff. The following is a proposed list of subjects for discussion. **Note - The following is a guide only based upon what staff has discussed internally and heard the Board previously discuss. This is not all inclusive and likely will not be resolved in one meeting:**

1. District mission statement. Does this fit into our existing mission statement (introduced by Patrick Sorensen)?
2. Draft Water Consolidation Report with survey results (Melanie Mankamy, Wilson Engineering).
3. Water rights discussion (Bob Carmichael, District legal counsel).
4. North Shore water consolidation policy questions (all).
 - Does the District want to connect the Eagle Ridge and Agate Heights water systems together? What are the benefits and disadvantages?
 - Does the District want to stop purchasing City water?
 - Do we want to be advocates of connecting small private water systems along the North Shore into the District system?

- Is the District going to require those with existing water/sewer covenants issued previously by the District to ultimately connect to the system, assuming that the water system is expanded? Would these property owners be considered automatic yes votes toward expansion/consolidation?
- WDOE requires some property owners with permitted lake draws “to connect to a public water supply when connection to such system is practical and discontinue use from the lake.” (WDOE language in lake water permit) . Should these property owners be considered automatic yes votes toward expansion/consolidation?
- Does the District want to apply for a DWSRF consolidation loan, with the potential for 50% principal reduction?
- Does the Board want staff to proceed further with this subject beyond submitting the Final Feasibility Study to WDOH? If so, in what direction would that be in?

PROPOSED MOTION

Not applicable for this meeting.



LAKE WHATCOM WATER AND SEWER DISTRICT

MISSION AND GOALS

Mission

To provide the best possible water and sewer services to District customers at an affordable cost, and in a way that contributes to protecting Lake Whatcom's water quality.

Goals

- To provide safe and reliable drinking water and sewerage collection to District customers.
- To establish connection charges and utility rates necessary to maintain the District's financial viability.
- To protect the natural resources within the Lake Whatcom watershed through cooperative efforts with other community and governmental organizations.
- To be recognized as an outstanding public utility that is responsive to the diverse expectations of its customers.
- To maintain the District's facilities through effective planning, prevention, and corrective maintenance practices.
- To provide sewer and water service to those portions of the District as may reasonably be served.
- To have an organization environment that is responsive to customer needs, promotes teamwork, and allows all people to achieve their full potential.

**NOTE TO BOARD - THIS DRAFT IS A WORK IN PROGRESS -
PLEASE REVIEW CONTENT AND THEMES ONLY
(Not grammar and punctuation)**



**LAKE WHATCOM WATER AND SEWER DISTRICT
Whatcom County, Washington**

NORTHSHORE CONSOLIDATION FEASIBILITY STUDY

WHATCOM COUNTY, WASHINGTON

Department of Health Contract N21980

**WILSON ENGINEERING, LLC
Consulting Engineers
805 Dupont Street, Suite 7
Bellingham, Washington 98225
Project # 2016-093
August 2017**

LAKE WHATCOM WATER AND SEWER DISTRICT
NORTHSHORE CONSOLIDATION FEASIBILITY STUDY
TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 NORTHSHORE STUDY AREA EXISTING CONDITIONS.....	1
2.1 SOURCE OF SUPPLY.....	2
2.2 STORAGE.....	3
2.3 BOOSTER PUMPS / TRANSMISSION PUMPS.....	3
2.4 DISTRIBUTION SYSTEM.....	3
3.0 SYSTEM DEMANDS	3
4.0 SYSTEM ANALYSIS.....	4
4.1 SOURCE OF SUPPLY.....	4
4.2 STORAGE.....	4
4.3 TRANSMISSION PUMPS	5
4.3 DISTRIBUTION SYSTEM.....	5
5.0 PROJECT COST ESTIMATE AND FUNDING OPTIONS	5
5.1 PROJECT COST ESTIMATE	5
5.2 FINANCING OPTIONS	6
5.3 COST SHARING OPTIONS.....	7

5.4 EXAMPLE RATES AND CHARGES.....	8
5.5 OPERATIONS AND MAINTENANCE IMPACTS.....	8
6.0 PUBLIC MEETING AND OUTREACH FEEDBACK.....	9
6.1 SUMMARY OF QUESTIONNAIRE RESPONSES.....	9
6.2 OTHER CONCERNS / COMMENTS	10
7.0 CONCLUSIONS AND RECOMMENDATIONS.....	11
7.1 PUBLIC HEALTH	11
7.2 FIRE PROTECTION.....	11
7.3 PROTECTION OF LAKE WHATCOM	11
APPENDICES.....	ERROR! BOOKMARK NOT DEFINED.

LAKE WHATCOM WATER AND SEWER DISTRICT NORTHSHORE CONSOLIDATION FEASIBILITY STUDY

Whatcom County, Washington

1.0 INTRODUCTION

The Washington State Department of Health (DOH) has entered into an interagency agreement with Lake Whatcom Water and Sewer District of Whatcom County (LWWSD) to prepare and submit a feasibility study evaluating consolidating three existing Group A water systems on the north shore of Lake Whatcom: Eagleridge (#08118), Agate Heights (#52957), and Agate Bay Trailer Park (#00496). In addition, two Group B water systems and numerous individual homes will be considered for consolidation. All are within the District's service area boundary.

The study area is classified as Rural and with R5A zoning (one unit per five acres). This area is shown in Figure 1 - Study Area. Note that 90% of the lakefront development has already occurred, and at density levels much higher than one unit per five acres.

Development of this area has resulted in several private water systems, individual wells and individual surface water withdrawals that generally have limited or no fire flow capacity and are relatively expensive to operate due to their small size. The goal of this study is to examine the feasibility of combining the systems into one system that would result in improved water quality and quantity, and increased safety and reliability.

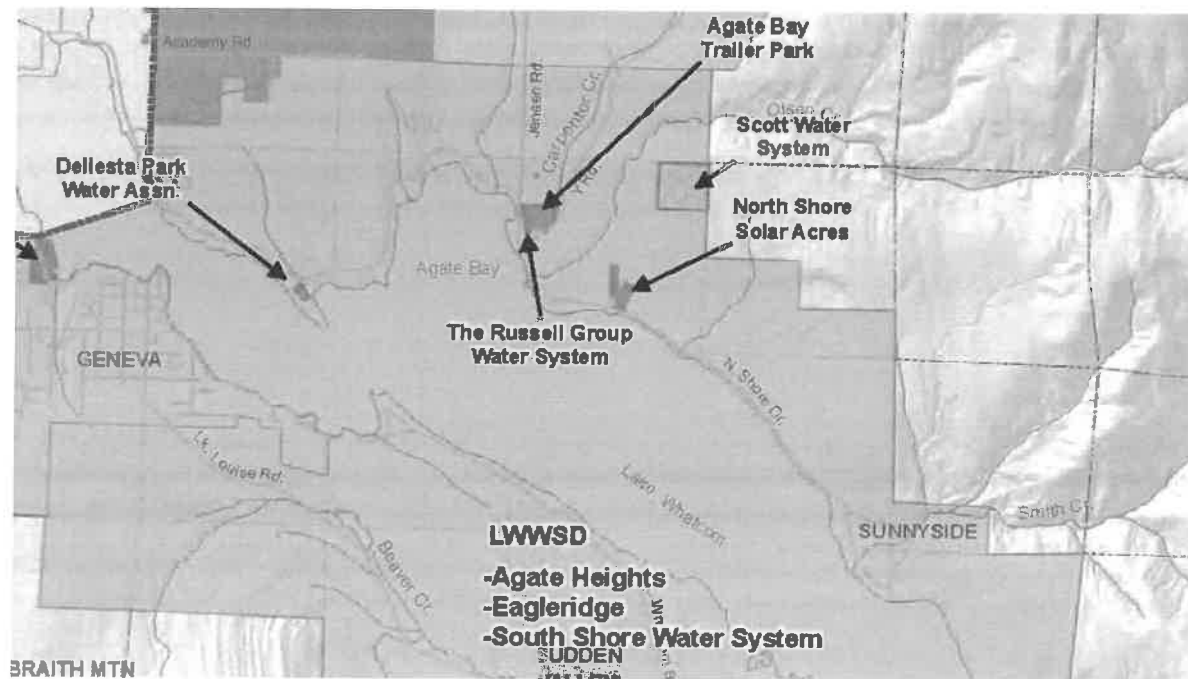


Figure 1.

2.0 NORTSHORE STUDY AREA EXISTING CONDITIONS

The Northshore area of Lake Whatcom Water and Sewer District is located 5 miles east of the center of Bellingham and abuts the City limits on its western edge. The study area is zoned rural - R5A (rural 1 unit per 5 acres). Water facilities inventory forms (WFI's) for several of the systems are included in the Exhibit 1. The Group A systems are (1) Eagleridge (LWWSD), (2) Agate Heights (LWWSD), (3) Agate Bay Trailer Park, and (4) Russel Group (The Fork restaurant). In addition there are several Group B water systems which include (5) North Shore Solar Acres, (6) North Shore Ridge, (7) North Shore Ridge #2, and (8) Dellesta Park. There are also 330 existing private residences within the study area that are on private wells or direct lake draws. The estimated number of existing potential water services with the study area total approximately 525. The subject individual water systems are shown on Figure 1 and the capacity of each is listed below.

- Eagleridge Water System – water source is City of Bellingham; 70 connections; capacity = 85
- Agate Heights Water System – water source is a District-owned well; 39 connections (44 ERUs); capacity = 48 connections (54 ERUs)
- Agate Bay Trailer Park Water System – Group A, well source, 25 connections
- Russell Group (restaurant) – Group A, well source, one connection
- Dellesta Park – Group B, well source, 5 connections (capacity=7)
- North Shore Solar Acres – Group B, well source, 6 connections
- Northshore Ridge – Group B, well source, 4 connections
- Northshore Ridge #2 – Group B, well source, 3 connections

2.1 Source of Supply

For the consolidated water system, the District plans to use its Agate Heights well as the Source of Supply, and maintain the connection to the City of Bellingham at Eagleridge as an emergency intertie.

Well - The District's well at Agate Heights is a 10-inch artesian well with a pumped capacity of 494 gpm (322 gpm from artesian pressure). A 100-ft radius protective zone is provided with a Restrictive Covenant for the well.

Water Rights – The District has several water rights (Permits and Certificates) associated with this well that total 438 gpm:

1. G22681P - 60 gpm instantaneous; 32.4 acre-ft/yr annual
2. G22763P - 360 gpm instantaneous; 465.9 acre-ft/yr annual
3. G23449 - 18 gpm instantaneous; 8.6 acre-ft/yr annual

Water Quality – The water from the existing well needs to be treated to remove manganese. The Agate Heights Water Treatment Plant is currently a 30 gpm Filtronics package treatment system which is nearing capacity. The District plans to increase the capacity of the water treatment plant to accommodate localized demand even if the consolidation project is not constructed.

2.2 Storage

The Agate Heights water system has two reservoirs at two different elevations. The lower 80,000 gallon reservoir is filled at a rate of 30-gpm by the system transmission pumps, which is activated when the treatment plant is operated. The upper 105,000 gallon reservoir is filled at a rate of 21 gpm. The source is the lower reservoir. The existing reservoirs currently provide equalizing, standby, and fire storage for the Agate Heights water system.

2.3 Booster Pumps / Transmission Pumps

The Eagleridge water system currently uses booster pumps to maintain water pressure. With the consolidated water system, these booster pumps would no longer be needed. The Agate Heights water treatment plant pumps are sized to match the treatment plant capacity. The transmission pumps for the filling the upper tank are converted booster pumps, repurposed when the upper tank was installed.

2.4 Distribution System

The water distribution systems both consist entirely of 8-inch ductile iron pipe. Eagleridge currently provide 750 gpm for fire protection and Agate Heights currently provide 500-750 gpm for fire protection.

3.0 SYSTEM DEMANDS

For this feasibility study, we have developed three scenarios based on different projections for system expansion:

- Alternative 1 – Match District sewer service area
- Alternative 2 – Extend water to east end of Northshore Road
- Alternative 3 – Extend only to Group A systems at Y Road

The service areas and proposed schematic facility locations for each of these Alternative are included in [Exhibit 2](#).

We reviewed the Average Day Demand (ADD) and Maximum Day Demand (MDD) values for both the Eagleridge and Agate Heights water systems listed in the 2010 Water Comprehensive Plan and the 2016 Water Use Efficiency Plan Update since the customers on these systems would be similar to the new customers incorporated into the consolidated water system. The average of the four ADD values in these two reports is 243 gpd/ERU. Given that the existing data set is a small number of customers, and that the DOH Manual recommends using 350 gpd/ERU as a minimum, this analysis used 350 gpd/ERU for ADD.

The average of the four MDD values in these two reports is 680 gpm/ERU. When good metered data is not available, the DOH Manual recommends using two times the ADD for MDD. This analysis used 700 gpd/ERU for MDD.

The resulting PHD (peak hourly demand) is computed using DOH'S PHD Worksheet (See Appendix 8) for each Alternative. In addition to PHD, this water system will provide residential fire flows of 750 gpm.

4.0 SYSTEM ANALYSIS

Analysis is performed in accordance with DOH "Water System Design Manual" as described below. The amount of water supply and storage are interdependent. For instance, equalizing storage is used to supply the difference between pumping rate and demand rate. When demand rates are greater than pumping rates, water in storage is used to supply the difference. When demand rates are less than pumping rates, storage is replenished. The greater the capacity of the water supply the less equalizing storage needed. The minimum capacity of the source(s) must be equal to or greater than the maximum daily demand.

4.1 Source of Supply

The 10-inch well at Agate Heights has been performance tested at 494-gpm, however the current pump capacity is limited to 30-gpm. The District holds water rights on this well for 438 gpm. The MDD (maximum daily demand) for the system is projected to be 700 gpd/ERU. To meet MDD for any of the Alternatives, the treatment plant and pumping capacity will need to be increased.

The size of water treatment plant that each Alternative would need is calculated as follows and listed in the table below:

$$\text{Build out rate} = (700 \text{ gpd/parcel} \times \text{Build-out ERUs}) / (1,440 \text{ mins/day}) = \text{Plant Size (gpm)}$$

Scenario:	Build-out ERUs	Minimum Plant Size (*)
Alternative #1	405	200 gpm
Alternative #2	530	260 gpm
Alternative #3	355	175 gpm

4.2 Storage

Storage required consists of the sum of operating storage, equalizing storage and the greater of standby storage or fire flow storage. Currently Agate Heights has an 80,000 gallon reservoir and a 105,000 gallon reservoir. For this analysis, we excluded the 105,000 gallon reservoir, which serves the upper pressure zone and provides fire suppression storage for the Lake Whatcom Residential and Treatment Center. Eagleridge relies on storage capacity provided by the City of Bellingham.

The total storage volume is the sum of several components. Operating storage is the volume between the "off" and "on" control levels in the reservoir. Equalizing storage is equal to the product of 150 and the difference in peak hourly demand (PHD) and supply rate. Standby storage is equal to twice the ADD of 350 gpd/ERU x N ERUs. Minimum fire suppression storage for the residential portion of this system is 45,000-gallons; however this is nested with standby storage; resulting in the larger of the two values being applicable. Dead storage is the volume in the bottom of the tank below the "silt guard" outlet plus the volume at the top of the tank above the "off" probe. The "total storage required" is the sum of each of these values and can be compared with "storage available" as reflected in the table below. The table also indicates the minimum additional storage volume required. Please note that these values are based on a DOH Design Manual ADD of 350 gpd/ERU and highly sensitive to that value because the largest component of storage (Standby Storage) is equal to two times ADD times the number of ERUs. For example, if the calculated average for ADD of 243 gpd/ERU (see Section 3) were used, the total required storage for Alternative #1 would be reduced by about 82,000 gallons to 230,000 gallons. Using the lower value for ADD will require DOH approval.

Scenario:	Total Required Storage (gallons)	Storage Available (gallons)	Additional Storage Needed (gallons)
Alternative #1	312,000	80,000	232,000
Alternative #2	403,000	80,000	323,000
Alternative #3	274,000	80,000	194,000

4.3 Transmission Pumps

The transmission pump system needs to deliver the treated water to the storage reservoir(s). The flow rates will be sized to match the water treatment plant capacity, and the required pumping head will be calculated based on the elevation head and the friction head.

4.3 Distribution System

The consolidated system will provide 750 gpm fire flow and ensure that a minimum pressure of 20 psi is maintained at each service meter during a fire flow event. Supplying fire flows is the driving factor in the sizing of the distribution system. The hydraulic analyses indicated that the majority of the distribution pipe will need to be 12-inch diameter in order to meet the fire flow scenarios. The remainder will be a minimum of 8-inch diameter.

The District standard practice is to install fire hydrants every 600 feet along the distribution mains.

5.0 PROJECT COST ESTIMATE AND FUNDING OPTIONS

5.1 Project Cost Estimate

We have evaluated three scenarios and developed planning level cost estimates for each. The first is Alternative 1 which matches the existing District sewer service area (ending approximately at the east side of Agate Bay). Alternative 2 extends water service to the east end of Northshore Road. Alternative 3 limits the water system extension to only as far as needed to connect the existing Group A water systems and end at the Y Road. These preliminary, planning level cost estimates are included in Exhibit 3.

The preliminary project cost estimate for Alternative 1 is \$6.3M to \$6.9M. This includes engineering, permitting, and surveying in addition to construction costs and 10-20% contingency. It does not include the cost of metered service connections since the level of participation is unknown, and those costs are typically born directly by the property owners. The build-out number of Equivalent Residential Units (ERUs) assumed for Alternative 1 is 405 (120 from existing service areas).

The Alternative 2 scenario builds on Alternative 1, and adds about 11,750 feet of water main, nineteen fire hydrants, a larger storage reservoir, and a larger water treatment plant and transmission pumps. The build-out number of Equivalent Residential Units (ERUs) assumed for Alternative 2 is 530 (120 from existing service areas).

The preliminary project cost estimate for Alternative 2 is \$9.1 to \$10M. Again, this includes engineering, permitting, and surveying in addition to construction costs and 10-20% contingency. It does not include the cost of metered service connections since the level of participation is unknown, and those costs are typically born directly by the property owners.

Alternative 3 is a reduction from Alternative 1 - it has about 3,650 feet less of water main and 6 fewer fire hydrants. It also reduces the number of potential future customers by about 50 - the build-out number of Equivalent Residential Units (ERUs) assumed for Alternative 3 is 355 (120 from existing service areas).. The preliminary project cost estimate for Alternative 3 is about \$5.7 to \$6.2M.

5.2 Financing Options

There are several potential sources of funds for financing a drinking water project of this size. The Drinking Water State Revolving Fund (DWSRF) Loan program specifically targets projects that consolidate existing Group A water systems and will forgive up to 50% of the loan principal for these projects, subject to funding availability. These loans typically have a payback period of 24 years, so collection can also occur over time, and substantially reduce the up-front costs to participants. The Public Works Trust Fund would also fund a project like this, though funds are not reliably available. The District could issue a Revenue Bond, which would typically have a 20 year payback. The final possible funding source considered was USDA-Rural Development, which has a term of up to 40 years, but will only fund projects that have no other financing options. A summary of rates and terms for these options is listed below.

Funding Source	Interest Rate	Loan Term
Drinking Water State Revolving Fund (DWSRF) Consolidation Loan <ul style="list-style-type: none"> Potential for 50% principal forgiveness (if funds are available) 	1.5%	24 years
Public Works Trust Fund Loan	1-2%	20 years
Revenue Bond (as of 4/20/17; AA Bond Rating)	2.73%	20 years
USDA-Rural Development (as of 7/1/17) <ul style="list-style-type: none"> Funding source of last resort 	3.25%	up to 40 years

Of these options, the DWSRF Loan with the 50% principal forgiveness is the most attractive financing option because it substantially reduces the amount of capital expenditures that need to be recovered. However, there is the uncertainty that funds would be available for the principal forgiveness portion of the loan. Loan applications are typically accepted in September, and are funded based on how well the project scores on Department of Health evaluation criteria.

The Revenue Bond is a funding source that is more under the control of the District than any of the loan options. The District has a AA Bond Rating and has obtained financing for capital project using Revenue Bonds in the past. Because the District has bonding capacity, it is less likely to qualify for funding from USDA-Rural Development.

5.3 Cost Sharing Options

We have identified three potential methods the District could use to collect payments over time - a Utility Local Improvement District (ULID), a "Special Benefit Area" fee assessed upon connection, or a fixed debt-service/capital charge on the water bill.

The main advantage of a ULID is that it would assess all of the properties that benefit from the improvement, whether they connect or not. It also allows the assessment to be paid over time - typically 20 years with interest. It would address the inherent inequity of those who connect subsidizing fire protection for neighbors who elect not to connect. The disadvantage of a ULID is the high costs associated with creating the ULID and the hurdle that the assessment must be no more than the amount the property's value is increased by the assessment. The area to be served is already 90% built-out, and these homes already have some source for water. We assume, therefore, that the assessment needed would exceed the amount allowed under the ULID statute.

The "Special Benefit Area" fee would be similar to a ULID, without using the formal ULID process. The project costs would be divided amongst an estimated number of likely connections. It would be possible to pay over time with a security interest recorded against the property.

It is challenging to predict the number of properties that would connect to the public water system if it is installed. Typically, a municipal purveyor cannot compel connection to a public water system, and there is a contingent of property owners who are not interested in connecting to public water. There are, however, approximately 250 residences on surface water withdrawals - some with permits, some with claims and some with applications pending. Of the 118 with permits, DOE estimates that about 64 include a provision "to connect to a public water supply when connection to such system is practical and discontinue use from the lake." DOE has indicated that the 42 pending applications would be similarly provisioned, as would any new applications for surface water withdrawals. The District has also been requiring new sewer-only customers to sign a Covenant that requires them to connect to water when it is available. The number of these covenants in place is unknown, and many probably overlap with the DOE provisional water rights.

The third option for cost recovery is adding a capital recovery charge to the water bills. This fee would not apply to existing District water customers on the North Shore. This is a simple approach, and allows the cost share to be adjusted as new connections are added. It may be interesting to investigate adding a capital recovery charge for the portion of the water system needed to provide fire protection to the sewer bills of the existing district customers. This would capture some of those who benefit from the fire protection provided by the improvements, but elected not to connect to public water.

The cost share per connection was determined using three participation levels - 50%, 75% and 90%. The cost share range shown in the table below is based on the Alternative Project Costs divided by the projected number of participants for each Alternative. The lowest value represents Alternative 2 which has the highest potential number of new connections.

Table X. Estimated Cost Share Per Connection

	Cost Share per Connection	
	Lump Sum Fee (range)	Annualized Fee (based on 20-year Bond repayment)
50% Participation	\$48,000 - \$56,500	\$3,146 - \$3,704
75% Participation	\$33,500 - \$39,200	\$2,196 - \$2,570
90% Participation	\$28,500 - \$33,300	\$1,868 - \$2,183

* Lump sum fee includes an estimate for the service connection including the meter assembly

If the District pursues and secures a DWSRF Loan with up to 50% principal forgiveness for a consolidation project, then the project costs would be greatly reduced and the connection share would also be much less.

The District recently had its general facilities / connection charge for future connections reviewed. The analysis conducted did not include this potential project as a future capital investment because it was assumed that the project would be paid for by those who benefit. It also did not include the potential new customers associated with this system expansion.

Because of the size of this system expansion when compared to the existing District water utility assets, it may be beneficial to consider establishing a separate general facilities / connection charge for the North Shore. The majority of the water infrastructure is in the South Shore water system, and the majority of customers are served by the South Shore system. The general facilities / connection charge is the "buy-in" for the new customers to the existing system and the consolidation project is essentially installing a new water system for the North Shore service area. It would follow that the cost share per connection above would be the basis for a new general facilities / connection charge specifically for the North Shore, with the appropriate incorporation of the existing assets at Eagleridge and Agate Heights to the "buy-in" calculation.

5.4 Example Rates and Charges

Example Bi-monthly water charges: These numbers are very preliminary and are based on existing District water rates and average water use by Agate Heights water system customers.

- Base Rate = \$62.31/two months
- Water Usage over 600 cubic feet (CF) = \$8.85/100 CF
- Bi-monthly Base + average usage = \$171.43 (\$85.72/month)

As an example, a property with a one-inch water service and an average of 750 gallons per day water use would have a total monthly bill in the range of \$213.10 to \$253.10.

5.5 Operations and Maintenance Impacts

???? get input from Staff ????

6.0 PUBLIC MEETING AND OUTREACH FEEDBACK

Summary of meeting...

Discuss Questionnaire development, and revisions following public meeting...

6.1 Summary of Questionnaire Responses

As of August 1, 2017, the District received 215 questionnaire responses, both from the public meeting and the subsequent mailing to the properties in the area. The mailing included existing District water customers in Eagleridge and Agate Heights, and did not exclude those who had submitted responses at the public meeting since not all of the responses received included addresses. There are known duplicates in the data set that can be identified by names or addresses, and there are probably also unknown duplicates in the responses that did not include a name or address.

The raw questionnaire data is included in Exhibit 4. In analyzing the data, we used addresses to identify 20 responses came from existing District customers. These responses are not included in the summary results listed below.

The breakdown of the questionnaire responses are listed below:

1. What is the current use of your property?

- | | |
|-----------------|-----|
| • Single Family | 169 |
| • Vacant | 15 |
| • Other | 10 |
| • No entry | 1 |

2. What is the water source for your property?

- | | |
|------------------|-----------------------|
| • Lake Draw | 91 |
| • Well/Lake Draw | 2 (checked two boxes) |
| • Well | 45 |
| • Shared Well | 33 |
| • Water System | 6 |
| • Rainwater | 3 |
| • Other | 5 |
| • None/No entry | 10 |

3. Are you interested in connecting to a public water system?

- | | |
|-----------------|----|
| • Yes | 65 |
| • No | 83 |
| • Maybe/Depends | 47 |

4. If you are interested, what is your motivation to connect to a public water system?

	Yes	Maybe/Depends
• Reliability	54	30
• Water Quality	53	18
• Water Quantity	19	14
• Fire protection	20	10
• Other	6	6

5. If you are interested, what will drive your decision-making process? (Rank 1-4 with 1 being most important)

	Yes				Maybe/Depends			
	1	2	3	4	1	2	3	4
Overall cost to connect	34	16	2	0	26	14	0	0
Ability to pay connection fee over time	11	15	15	2	2	15	11	2
Estimated water bills	5	20	21		4	18	14	1
Other *	8	4	0	7	2	1	1	6

**“Other” includes: water pressure, less maintenance, timing, want public sewer included, access to water, fire protection, monitored supply, ability to keep current water source for irrigation, will water use be limited, .

The “Comments” section of the questionnaire was well used. All of the comments are included with the raw questionnaire data in Exhibit 4. A summary of the most common comments is provided below.

The two main concerns of those who responded that they were not interested in connecting to public water were the costs associated with it and that they see public water as promoting growth in the Lake Whatcom watershed. These properties already have a water source that they are happy with. It is interesting to note that one “No” response was interested in fire protection, and another was interested in connecting to public sewer.

The primary concern of those who responded with “maybe/depends” is cost. Several also expressed concern about promoting growth and four expressed interest in a sewer connection.

The comments received by those who were interested in connecting to public water included general statements of support for the project, interest in fire protection, and interest in access to a potable water source with good quality water. There were two “yes” responders interested in connecting to public sewer. Most of the vacant properties indicated that they would connect considering the current circumstances where the Hirst decision has effectively placed a moratorium on using individual wells for new development.

It is interesting to note that three responders indicated that they are using rain water harvesting as their water source, which confirms that development has not been prevented from occurring even with the “moratorium” on individual wells. Two of these were very interested in connecting to public water.

6.2 Other Concerns / Comments

Several brought up the question of whether they would be able to continue to use their existing water source for irrigation, or as a back-up supply. This is a question best answered by the Department of Ecology. We have not pursued this subject with them.

There were several questions at the public meeting about whether the District would force residences to connect. In general, the District does not have the authority to compel connection to

public water. The District does have the authority to compel connection to public sewer, and has a policy that connecting to water is required with a sewer connection, where water is available. It was brought up that the District has been requiring sewer-only connections to sign a Covenant that would require connection to public water when it is available.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The financial feasibility of this water system consolidation project depends on the participation of enough parties to make the financial commitment acceptable. We estimate that the cost per connection would be considered "reasonable" with 50% participation and securing a DWSRF Loan with 50% principal forgiveness. For a Bond-financed project, one would need to better determine the projected participation rate before committing...

The public process for this project has raised other factors to consider...

7.1 Public Health

The District recently completed a program to test the lake waters along the east end of Northshore Road for phosphorus and fecal coliform. This area does not have public sewer, and there are about 100 homes on septic systems, many of which are quite close to the Lake. The test results indicate that human fecal coliform bacteria are leaching into the Lake.

7.2 Fire Protection

Several of the questionnaire responders indicated that they were also interested in the fire protection that a public water system would bring. The District will need to consider its options on cost recovery for providing hydrants and fire storage for those do not connect to the public water system.

7.3 Protection of Lake Whatcom

Many of the questionnaire responders who were against the consolidation project expressed concern that extending public water would promote growth in the watershed and harm the lake in the process.

The District is not the Land Use Authority - Whatcom County is. It should be noted that other sources of water are available - surface water for those next to the Lake, and rainwater harvesting for those not able to drill a well. At this time, the Hirst decision has halted the use of permit-exempt wells in Whatcom County, but that is expected to change...

There were a few responses that requested a sewer extension and indicated that they would be more interested in connecting to sewer, and that they felt extending sewer would do more to protect the lake than extending water.

EXHIBITS

1. Water Facilities Inventories (WFI)
2. Maps / Exhibits
3. Water System Consolidation Preliminary Cost Estimates
4. Questionnaire Responses

1. Water Facilities Inventories (WFI)



WATER FACILITIES INVENTORY (WFI) FORM

ONE FORM PER SYSTEM

Quarter: 2

Updated: 06/22/2016

Printed: 12/28/2016

WFI Printed For: On-Demand

Submission Reason: Pop/Connect Update

RETURN TO: Central Services - WFI, PO Box 47822, Olympia, WA, 98504-7822

1. SYSTEM ID NO. 08118 1	2. SYSTEM NAME LWWSO - EAGLERIDGE	3. COUNTY WHATCOM	4. GROUP A	5. TYPE Comm																							
6. PRIMARY CONTACT NAME & MAILING ADDRESS BILL A. HUNTER [DISTRICT ENGINEER] 1220 LAKEWAY DRIVE BELLINGHAM, WA 98229		7. OWNER NAME & MAILING ADDRESS LAKE WHATCOM WATER AND SEWER DIST. BILL A. HUNTER 1220 LAKEWAY DRIVE BELLINGHAM, WA 98229		8. OWNER NUMBER: 006570																							
STREET ADDRESS IF DIFFERENT FROM ABOVE ATTN ADDRESS CITY STATE ZIP		STREET ADDRESS IF DIFFERENT FROM ABOVE ATTN ADDRESS CITY STATE ZIP																									
9. 24 HOUR PRIMARY CONTACT INFORMATION		10. OWNER CONTACT INFORMATION																									
Primary Contact Daytime Phone: (360) 734-9224		Owner Daytime Phone: (360) 734-9224																									
Primary Contact Mobile/Cell Phone: (360) 296-4577		Owner Mobile/Cell Phone: (360) 296-4577																									
Primary Contact Evening Phone: (xxx)-xxx-xxxx		Owner Evening Phone: (xxx)-xxx-xxxx																									
Fax: (360) 738-8250 E-mail: xxxxxxxxxxxxxxxxxxxxxx		Fax: (360) 738-8250 E-mail: xxxxxxxxxxxxxxxxxxxxxx																									
WAC 246-290-420(9) requires that water systems provide 24-hour contact information for emergencies.																											
11. SATELLITE MANAGEMENT AGENCY - SMA (check only one)																											
<input checked="" type="checkbox"/> Not applicable (Skip to #12) SMA NAME: _____ SMA Number: _____ <input type="checkbox"/> Owned and Managed <input type="checkbox"/> Managed Only <input type="checkbox"/> Owned Only																											
12. WATER SYSTEM CHARACTERISTICS (mark all that apply)																											
<input type="checkbox"/> Agricultural <input type="checkbox"/> Hospital/Clinic <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial / Business <input type="checkbox"/> Industrial <input type="checkbox"/> School <input type="checkbox"/> Day Care <input type="checkbox"/> Licensed Residential Facility <input type="checkbox"/> Temporary Farm Worker <input type="checkbox"/> Food Service/Food Permit <input type="checkbox"/> Lodging <input type="checkbox"/> Other (church, fire station, etc.): _____ <input type="checkbox"/> 1,000 or more person event for 2 or more days per year <input type="checkbox"/> Recreational / RV Park																											
13. WATER SYSTEM OWNERSHIP (mark only one)				14. STORAGE CAPACITY (gallons)																							
<input type="checkbox"/> Association <input type="checkbox"/> County <input type="checkbox"/> Investor <input checked="" type="checkbox"/> Special District <input type="checkbox"/> City / Town <input type="checkbox"/> Federal <input type="checkbox"/> Private <input type="checkbox"/> State																											
Source Number	16 SOURCE NAME	17 INTERTIE	18 SOURCE CATEGORY					19 USE	20	21 TREATMENT			22 DEPTH	23	24 SOURCE LOCATION												
	LIST UTILITY'S NAME FOR SOURCE AND WELL TAG ID NUMBER. Example: WELL #1 XYZ456 IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S NAME Example: SEATTLE	INTERTIE SYSTEM ID NUMBER	WELL	WELL FIELD	WELL IN A WELL FIELD	SPRING	SPRING FIELD	SPRING IN SPRINGFIELD	SEA WATER	SURFACE WATER	RANNEY / INF. GALLERY	OTHER	PERMANENT	SEASONAL	EMERGENCY	SOURCE METERED	NONE	CHLORINATION	FILTRATION	FLUORIDATION	IRRADIATION (UV)	OTHER	DEPTH TO FIRST OPEN INTERVAL IN FEET	CAPACITY (GALLONS PER MINUTE)	1/4, 1/4 SECTION	SECTION NUMBER	TOWNSHIP
S01	056003 BELLINGHAM	05600 3										X			Y	X							150				
S02	056003/BELLINGHAM	05600 3												X	Y	X							750	SE SW	26	38N	03E

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO.	2. SYSTEM NAME	3. COUNTY	4. GROUP	5. TYPE
08118 1	LWWSD - EAGLERIDGE	WHATCOM	A	Comm

	ACTIVE SERVICE CONNECTIONS	DOH USE ONLY CALCULATED ACTIVE CONNECTIONS	DOH USE ONLY APPROVED CONNECTIONS
25. SINGLE FAMILY RESIDENCES (How many of the following do you have?)		68	85
A. Full Time Single Family Residences (Occupied 180 days or more per year)	68		
B. Part Time Single Family Residences (Occupied less than 180 days per year)	0		
26. MULTI-FAMILY RESIDENTIAL BUILDINGS (How many of the following do you have?)			
A. Apartment Buildings, condos, duplexes, barracks, dorms	0		
B. Full Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied more than 180 days/year	0		
C. Part Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied less than 180 days/year	0		
27. NON-RESIDENTIAL CONNECTIONS (How many of the following do you have?)			
A. Recreational Services and/or Transient Accommodations (Campsites, RV sites, hotel/motel/overnight units)	0	0	0
B. Institutional, Commercial/Business, School, Day Care, Industrial Services, etc.	0	0	0
28. TOTAL SERVICE CONNECTIONS		68	85

29. FULL-TIME RESIDENTIAL POPULATION
A. How many residents are served by this system 180 or more days per year? 174

30. PART-TIME RESIDENTIAL POPULATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many part-time residents are present each month?												
B. How many days per month are they present?												

31. TEMPORARY & TRANSIENT USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many total visitors, attendees, travelers, campers, patients or customers have access to the water system each month?												
B. How many days per month is water accessible to the public?												

32. REGULAR NON-RESIDENTIAL USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. If you have schools, daycares, or businesses connected to your water system, how many students daycare children and/or employees are present each month?												
B. How many days per month are they present?												

33. ROUTINE COLIFORM SCHEDULE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
* Requirement is exception from WAC 246-290	1	1	1	1	1	1	1	1	1	1	1	1

34. NITRATE SCHEDULE	QUARTERLY	ANNUALLY	ONCE EVERY 3 YEARS
(One Sample per source by time period)			

35. Reason for Submitting WFI:

☐ Update - Change
 ☐ Update - No Change
 ☐ Inactivate
 ☐ Re-Activate
 ☐ Name Change
 ☐ New System
 ☐ Other _____

36. I certify that the information stated on this WFI form is correct to the best of my knowledge.	
SIGNATURE: _____	DATE: _____
PRINT NAME: _____	TITLE: _____



WATER FACILITIES INVENTORY (WFI) FORM

ONE FORM PER SYSTEM

Quarter: 2

Updated: 06/22/2016

Printed: 12/28/2016

WFI Printed For: On-Demand

Submission Reason: No Change

RETURN TO: Central Services - WFI, PO Box 47822, Olympia, WA, 98504-7822

1. SYSTEM ID NO. 52957 B	2. SYSTEM NAME LWWSD - AGATE HEIGHTS	3. COUNTY WHATCOM	4. GROUP A	5. TYPE Comm																							
6. PRIMARY CONTACT NAME & MAILING ADDRESS BILL A. HUNTER [DISTRICT ENGINEER] 1220 LAKEWAY DRIVE BELLINGHAM, WA 98229		7. OWNER NAME & MAILING ADDRESS LAKE WHATCOM WATER AND SEWER DIST. BILL A. HUNTER DISTRICT ENGINEER 1220 LAKEWAY DRIVE BELLINGHAM, WA 98229		8. OWNER NUMBER: 006570																							
STREET ADDRESS IF DIFFERENT FROM ABOVE ATTN ADDRESS CITY STATE ZIP		STREET ADDRESS IF DIFFERENT FROM ABOVE ATTN ADDRESS CITY STATE ZIP																									
9. 24 HOUR PRIMARY CONTACT INFORMATION		10. OWNER CONTACT INFORMATION																									
Primary Contact Daytime Phone: (360) 734-9224		Owner Daytime Phone: (360) 734-9224																									
Primary Contact Mobile/Cell Phone: (360) 296-4577		Owner Mobile/Cell Phone: (360) 296-4577																									
Primary Contact Evening Phone: (xxx)-xxx-xxxx		Owner Evening Phone: (xxx)-xxx-xxxx																									
Fax: (360) 738-8250	E-mail: xxxxxxxxxxxxxxxxxxxxxxxx	Fax: (360) 738-8250	E-mail: xxxxxxxxxxxxxxxxxxxxxxxx																								
WAC 246-290-420(9) requires that water systems provide 24-hour contact information for emergencies.																											
11. SATELLITE MANAGEMENT AGENCY - SMA (check only one)																											
<input checked="" type="checkbox"/> Not applicable (Skip to #12) <input type="checkbox"/> Owned and Managed SMA NAME: _____ SMA Number: _____ <input type="checkbox"/> Managed Only <input type="checkbox"/> Owned Only																											
12. WATER SYSTEM CHARACTERISTICS (mark all that apply)																											
<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial / Business <input type="checkbox"/> Day Care <input type="checkbox"/> Food Service/Food Permit <input type="checkbox"/> 1,000 or more person event for 2 or more days per year <input type="checkbox"/> Hospital/Clinic <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Licensed Residential Facility <input type="checkbox"/> Lodging <input type="checkbox"/> Recreational / RV Park <input checked="" type="checkbox"/> Residential <input type="checkbox"/> School <input type="checkbox"/> Temporary Farm Worker <input type="checkbox"/> Other (church, fire station, etc.): _____																											
13. WATER SYSTEM OWNERSHIP (mark only one)				14. STORAGE CAPACITY (gallons)																							
<input type="checkbox"/> Association <input type="checkbox"/> City / Town <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Investor <input type="checkbox"/> Private <input checked="" type="checkbox"/> Special District <input type="checkbox"/> State				184,000																							
Source Number	16 SOURCE NAME	17 INTERTIE	18 SOURCE CATEGORY					19 USE	20	21 TREATMENT			22 DEPTH	23	24 SOURCE LOCATION												
	LIST UTILITY'S NAME FOR SOURCE AND WELL TAG ID NUMBER. Example: WELL #1 XYZ456 IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S NAME Example: SEATTLE	INTERTIE SYSTEM ID NUMBER	WELL	WELL FIELD	WELL IN A WELL FIELD	SPRING	SPRING FIELD	SPRING IN SPRINGFIELD	SEA WATER	SURFACE WATER	RANNEY / INF. GALLERY	OTHER	PERMANENT	SEASONAL	EMERGENCY	SOURCE METERED	NONE	CHLORINATION	FILTRATION	FLUORIDATION	IRRADIATION (UV)	OTHER	DEPTH TO FIRST OPEN INTERVAL IN FEET	CAPACITY (GALLONS PER MINUTE)	1/4, 1/4 SECTION	SECTION NUMBER	TOWNSHIP
S01	InAct 04/27/2009 GIESBRECHT 6		X									X			X		X				X	80	220	SW SE	24	38N	03E
S02	InAct 09/01/1995 UN-NAMED SPRING				X									X		X							200	SW SE	24	38N	03E
S03	GIESBRECHT 10		X									X			Y		X	X		X	76	484	SW SE	24	38N	03E	

WATER FACILITIES INVENTORY (WFI) FORM - Continued

1. SYSTEM ID NO. 52957 B	2. SYSTEM NAME LWWSD - AGATE HEIGHTS	3. COUNTY WHATCOM	4. GROUP A	5. TYPE Comm
------------------------------------	--	-----------------------------	----------------------	------------------------

	ACTIVE SERVICE CONNECTIONS	DOH USE ONLY CALCULATED ACTIVE CONNECTIONS	DOH USE ONLY APPROVED CONNECTIONS
25. SINGLE FAMILY RESIDENCES (How many of the following do you have?)		38	47
A. Full Time Single Family Residences (Occupied 180 days or more per year)	38		
B. Part Time Single Family Residences (Occupied less than 180 days per year)	0		
26. MULTI-FAMILY RESIDENTIAL BUILDINGS (How many of the following do you have?)			
A. Apartment Buildings, condos, duplexes, barracks, dorms	0		
B. Full Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied more than 180 days/year	0		
C. Part Time Residential Units in the Apartments, Condos, Duplexes, Dorms that are occupied less than 180 days/year	0		
27. NON-RESIDENTIAL CONNECTIONS (How many of the following do you have?)			
A. Recreational Services and/or Transient Accommodations (Campsites, RV sites, hotel/motel/overnight units)	0	0	0
B. Institutional, Commercial/Business, School, Day Care, Industrial Services, etc.	1	1	1
28. TOTAL SERVICE CONNECTIONS		39	48

29. FULL-TIME RESIDENTIAL POPULATION
A. How many residents are served by this system 180 or more days per year? 165

30. PART-TIME RESIDENTIAL POPULATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many part-time residents are present each month?												
B. How many days per month are they present?												

31. TEMPORARY & TRANSIENT USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. How many total visitors, attendees, travelers, campers, patients or customers have access to the water system each month?												
B. How many days per month is water accessible to the public?												

32. REGULAR NON-RESIDENTIAL USERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A. If you have schools, daycares, or businesses connected to your water system, how many students daycare children and/or employees are present each month?	27	27	27	27	27	27	27	27	27	27	27	27
B. How many days per month are they present?	20	20	20	20	20	20	20	20	20	20	20	20

33. ROUTINE COLIFORM SCHEDULE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
* Requirement is exception from WAC 246-290	1	1	1	1	1	1	1	1	1	1	1	1

34. NITRATE SCHEDULE	QUARTERLY	ANNUALLY	ONCE EVERY 3 YEARS
(One Sample per source by time period)			

35. Reason for Submitting WFI:

☐ Update - Change
 ☐ Update - No Change
 ☐ Inactivate
 ☐ Re-Activate
 ☐ Name Change
 ☐ New System
 ☐ Other _____

36. I certify that the information stated on this WFI form is correct to the best of my knowledge.	
SIGNATURE: _____	DATE: _____
PRINT NAME: _____	TITLE: _____

2. Maps / Exhibits

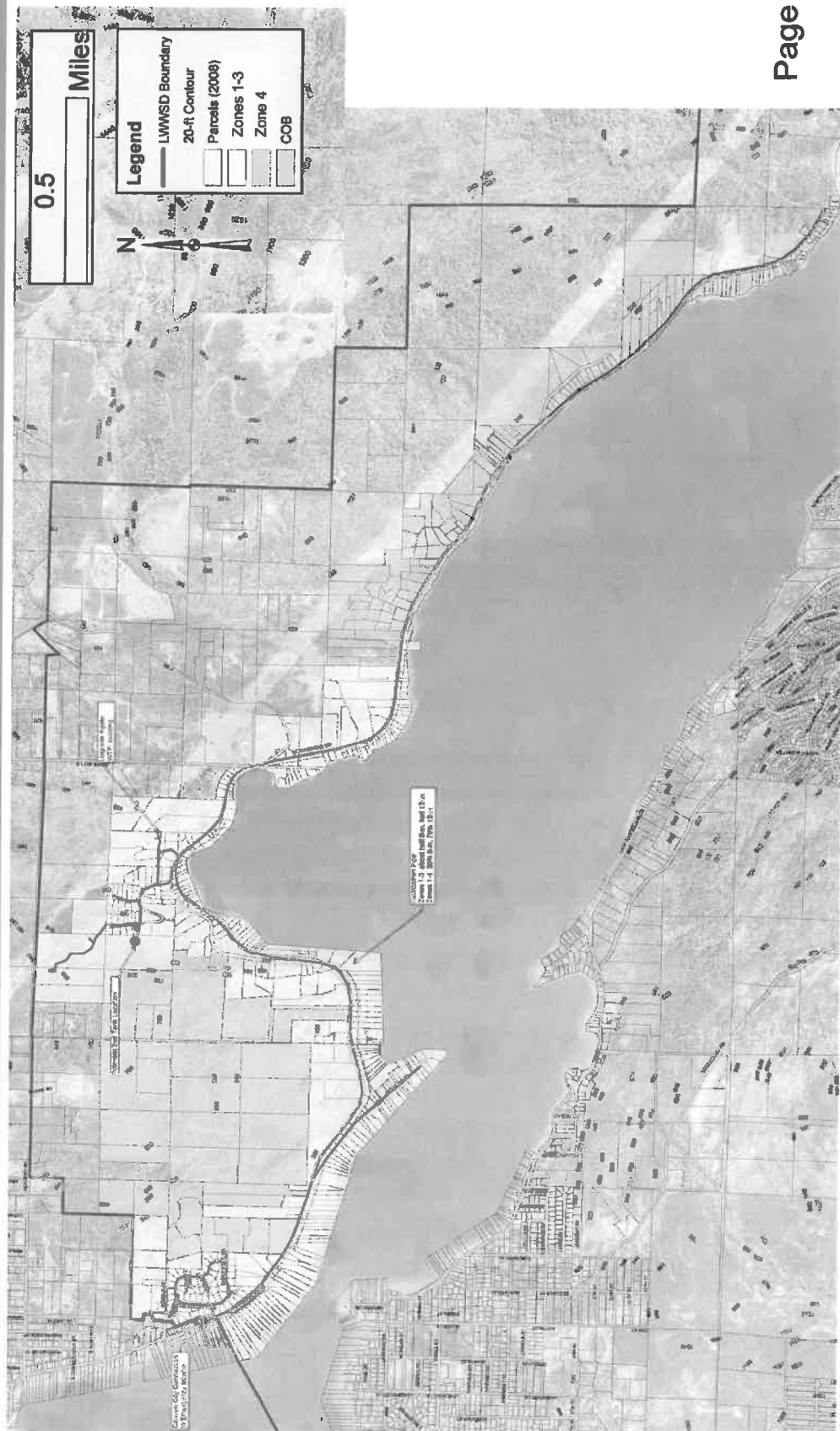


ALTERNATIVE 1 – ZONES 1-3



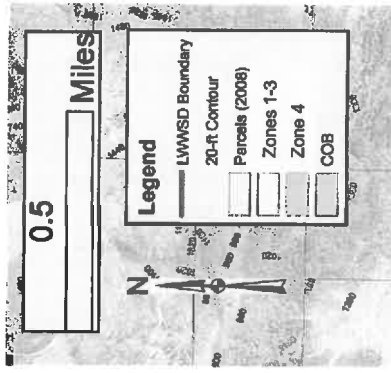


ALTERNATIVE 2 – ZONES 1-4





ALTERNATIVE 3 – ZONES 1-3 UP T Y ROAD



4. Water System Consolidation Preliminary Cost Estimates

- A. Alternative 1**
- B. Alternative 2**
- C. Alternative 3**

LAKE WHATCOM WATER AND SEWER DISTRICT
North Shore Water System Consolidation Feasibility
Preliminary Cost Estimates

7/31/2017

Prepared by: Curt Schoenfelder, PE and Melanie Mankamy, PE, Wilson Engineering LLC

Wilson Job No.: 2016-093

Preliminary Cost Estimates - Alternative 1

Item Description	Quantity	Unit	Unit Price	Amount
CONSTRUCTION				
a. Mobilization (10%)	1	LS	\$ 338,363	\$ 338,363
b. Traffic Control (5.5%)	1	LS	\$ 186,100	\$ 186,100
c. Temporary Erosion and Sediment Control (1.2%)	1	LS	\$ 40,604	\$ 40,604
d. Distribution Improvements				
8-inch DI Pipe	11,250	LF	\$ 65	\$ 731,250
12-inch DI Pipe	12,000	LF	\$ 75	\$ 900,000
8-inch Gate Valve	14	EA	\$ 1,500	\$ 21,094
12-inch Gate Valve	15	EA	\$ 2,500	\$ 37,500
Hydrant Assembly	39	EA	\$ 5,500	\$ 213,125
Combination Air Release/Vacuum Valve	5	EA	\$ 2,500	\$ 12,500
Blow-off Assembly	2	EA	\$ 2,000	\$ 4,000
Connect to Existing Main	3	EA	\$ 2,500	\$ 7,500
Service Connections (all-inclusive; saddles, corpe, meter ass'y, box, line)		EA	\$ 2,000	\$
Restoration	23,250	LF	\$ 24	\$ 558,000
Subtotal				\$ 2,484,969
e. Treatment and Pumping Improvements				
Building Addition (20'x20' and a bit taller)	1	LS	\$ 100,000	\$ 100,000
Filtronic Model FV-09 Electromedia 1 Fe/Mn Removal System (Equipment only; includes filter, reaction vessels, controls and chem feed equipment)	1	LS	\$ 225,000	\$ 225,000
Filtronic treatment system installation	1	LS	\$ 112,500	\$ 112,500
Booster pump station, duplex skid mount including Controls (Equipment only)	1	LS	\$ 33,000	\$ 33,000
Booster pump station installation	1	LS	\$ 16,500	\$ 16,500
Chlorination and other misc. upgrades	1	LS	\$ 25,000	\$ 25,000
Electrical upgrades	1	LS	\$ 35,000	\$ 35,000
Generator & Tank	1	LS	\$ 55,000	\$ 55,000
Subtotal				\$ 602,000
f. Storage Improvements				
Concrete storage tank 185,000 Gallon 30x35 (installed by supplier, prevailing wages)	1	LS	\$ 170,775	\$ 170,775
Site Preparation and misc. under tank piping etc.	1	LS	\$ 85,388	\$ 85,388
Piping/valving from new tank to existing	1	LS	\$ 40,500	\$ 40,500
Subtotal				\$ 296,663
SUMMARY				
Subtotal				\$ 3,948,698
Contingencies	15%			\$ 592,305
Sales Tax	8.5%			\$ 385,985
Preliminary Estimated Construction Costs				\$ 4,926,988
Permitting (Consulting and Permit Fees)	2.5%		\$	123,170
Topographic Survey	4%		\$	197,080
Engineering Design	15%		\$	739,050
Construction Phase Engineering/Inspection	10%		\$	492,700
Construction Phase Surveying	3%		\$	147,810
GRAND TOTAL				\$ 6,626,798

LAKE WHATCOM WATER AND SEWER DISTRICT
North Shore Water System Consolidation Feasibility
Preliminary Cost Estimates

7/31/2017

Prepared by: Curt Schoenfelder, PE and Melanie Mankamy, PE, Wilson Engineering LLC

Wilson Job No.: 2016-093

Preliminary Cost Estimates - Alternative 2

Item Description	Quantity	Unit	Unit Price	Amount
CONSTRUCTION				
a. Mobilization (10%)	1	LS	\$ 487,827	\$ 487,827
b. Traffic Control (5.5%)	1	LS	\$ 268,305	\$ 268,305
c. Temporary Erosion and Sediment Control (1.2%)	1	LS	\$ 58,539	\$ 58,539
d. Distribution Improvements				
8-inch DI Pipe	9,750	LF	\$ 65	\$ 633,750
12-inch DI Pipe	25,250	LF	\$ 75	\$ 1,893,750
8-inch Gate Valve	12	EA	\$ 1,500	\$ 18,281
12-inch Gate Valve	32	EA	\$ 2,500	\$ 78,906
Hydrant Assembly	58	EA	\$ 5,500	\$ 320,833
Combination Air Release/Vacuum Valve	5	EA	\$ 2,500	\$ 12,500
Blow-off Assembly	2	EA	\$ 2,000	\$ 4,000
Connect to Existing Main	3	EA	\$ 2,500	\$ 7,500
Service Connections (all inclusive; saddles, corpe, meter ass'y, box, line)		EA	\$ 2,000	\$
Restoration	35,000	LF	\$ 24	\$ 840,000
Subtotal				\$ 3,809,521
e. Treatment and Pumping Improvements				
Building Addition (20'x20' and a bit taller)	1	LS	\$ 100,000	\$ 100,000
Filtronic Model FV-09 Electromedia 1 Fe/Mn Removal System (Equipment only; includes filter, reaction vessels, controls and chem feed equipment)	1	LS	\$ 225,000	\$ 225,000
Filtronic treatment system installation	1	LS	\$ 112,500	\$ 112,500
Booster pump station, duplex skid mount including Controls (Equipment only)	1	LS	\$ 33,000	\$ 33,000
Booster pump station installation	1	LS	\$ 16,500	\$ 16,500
Chlorination and other misc. upgrades	1	LS	\$ 25,000	\$ 25,000
Electrical upgrades	1	LS	\$ 35,000	\$ 35,000
Generator & Tank	1	LS	\$ 55,000	\$ 55,000
Subtotal				\$ 602,000
f. Storage Improvements				
Concrete storage tank 333,000 Gallon 30x65 (installed by supplier, prevailing wages)	1	LS	\$ 341,000	\$ 341,000
Site Preparation and misc. under tank piping etc.	1	LS	\$ 85,250	\$ 85,250
Piping/valving from new tank to existing	1	LS	\$ 40,500	\$ 40,500
Subtotal				\$ 466,750
SUMMARY				
Subtotal				\$ 5,692,942
Contingencies	15%			\$ 853,941
Sales Tax	8.5%			\$ 556,485
Preliminary Estimated Construction Costs				\$ 7,103,368
Permitting (Consulting and Permit Fees)	2.5%			\$ 177,580
Topographic Survey	4%			\$ 284,130
Engineering Design	15%			\$ 1,065,510
Construction Phase Engineering/Inspection	10%			\$ 710,340
Construction Phase Surveying	3%			\$ 213,100
GRAND TOTAL				\$ 9,554,028

LAKE WHATCOM WATER AND SEWER DISTRICT
North Shore Water System Consolidation Feasibility
Preliminary Cost Estimates

7/31/2017

Prepared by: Curt Schoenfelder, PE and Melanie Mankamy, PE, Wilson Engineering LLC

Wilson Job No.: 2016-093

Preliminary Cost Estimates - Alternative 3

Item Description	Quantity	Unit	Unit Price	Amount
CONSTRUCTION				
a. Mobilization (10%)	1	LS	\$ 301,848	\$ 301,848
b. Traffic Control (5.5%)	1	LS	\$ 166,016	\$ 166,016
c. Temporary Erosion and Sediment Control (1.2%)	1	LS	\$ 36,222	\$ 36,222
d. Distribution Improvements				
8-inch DI Pipe	7,600	LF	\$ 65	\$ 494,000
12-inch DI Pipe	12,000	LF	\$ 75	\$ 900,000
8-inch Gate Valve	10	EA	\$ 1,500	\$ 14,250
12-inch Gate Valve	15	EA	\$ 2,500	\$ 37,500
Hydrant Assembly	33	EA	\$ 5,500	\$ 179,667
Combination Air Release/Vacuum Valve	5	EA	\$ 2,500	\$ 12,500
Blow-off Assembly	2	EA	\$ 2,000	\$ 4,000
Connect to Existing Main	3	EA	\$ 2,500	\$ 7,500
Service Connections (all-inclusive; saddles, corpe, meter ass'y, box, line)		EA	\$ 2,000	\$
Restoration	19,600	LF	\$ 24	\$ 470,400
Subtotal				\$ 2,119,817
e. Treatment and Pumping Improvements				
Building Addition (20'x20' and a bit taller)	1	LS	\$ 100,000	\$ 100,000
Filtronic Model FV-09 Electromedia 1 Fe/Mn Removal System (Equipment only; includes filter, reaction vessels, controls and chem feed equipment)	1	LS	\$ 225,000	\$ 225,000
Filtronic treatment system installation	1	LS	\$ 112,500	\$ 112,500
Booster pump station, duplex skid mount including Controls (Equipment only)	1	LS	\$ 33,000	\$ 33,000
Booster pump station installation	1	LS	\$ 16,500	\$ 16,500
Chlorination and other misc. upgrades	1	LS	\$ 25,000	\$ 25,000
Electrical upgrades	1	LS	\$ 35,000	\$ 35,000
Generator & Tank	1	LS	\$ 55,000	\$ 55,000
Subtotal				\$ 602,000
f. Storage Improvements				
Concrete storage tank 185,000 Gallon 30x35 (installed by supplier, prevailing wages)	1	LS	\$ 170,775	\$ 170,775
Site Preparation and misc. under tank piping etc.	1	LS	\$ 85,388	\$ 85,388
Piping/valving from new tank to existing	1	LS	\$ 40,500	\$ 40,500
Subtotal				\$ 296,663
SUMMARY				
Subtotal				\$ 3,522,565
Contingencies	15%			\$ 528,385
Sales Tax	8.5%			\$ 344,331
Preliminary Estimated Construction Costs				\$ 4,395,281
Permitting (Consulting and Permit Fees)	2.5%			\$ 109,880
Topographic Survey	4%			\$ 175,810
Engineering Design	15%			\$ 659,290
Construction Phase Engineering/Inspection	10%			\$ 439,530
Construction Phase Surveying	3%			\$ 131,860
GRAND TOTAL				\$ 5,911,651

3. Questionnaire Response Summary

rptNSquestionnaire-Raw Data

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
1	Single Family	Lake draw	Maybe/D	Reliability, Water Quality	2	3	1			Kathy Delbecq	2135	Dellesta Dr		rkdelbecq@comcast.net
2	Single Family	Shared Well	Maybe/D	Reliability	1	4	2	3	Connection to sewer with water service?	Alice and Jay Shilha	3016	Lakeshore Rd	360-647-2306	a.shilhanek@comcast.net
3	Single Family	Lake draw	Maybe/D	Reliability	1	2	3			Alan Bagley	2844	Northshore Rd	360-733-7298	bulldoglake@comcast.net
4	Single Family	Well	Maybe/D	Reliability, Water Quality	1		2			John Waldburger	2593	Northshore Rd		jwaldburger@comcast.net
5	Single Family	Lake draw	Maybe/D	Reliability, Water Quality	2	3	4	1	Want to protect water quality in Lake	Michael Picco	2106	Dellesta Dr	360-929-1831	mikepicco@yahoo.com
6	Single Family	Lake draw	Maybe/D	Reliability	1	3	2		Need more specific cost information	Ed Shannon	1745	Edgewater Ln		ed@lazy-a.com
7	Single Family	Lake draw	Yes	Water Quality	1	2	3			Will & Karen Johnso	2587	Northshore Rd	360-303-8042	gatorjhns@comcast.net
8	Single Family	Shared Well	Yes	Reliability, Water Quality	1	3	2			Jason Sims	3100	Edgewood Ln	360-739-3353	simsjason@comcast.net
9	Single Family	Lake draw	Yes	Reliability, Water Quality	1	3	2			Evan Keating	2297	Northshore Rd	408-309-7017	evankeating@yahoo.com
10	Single Family	Shared Well	Yes	Water Quality	1	3	2			Carole & Ron Evans	2098	Northshore Rd	360-319-1769	carole77@comcast.net
11	Single Family	Lake draw	Yes	Water Quality	2	1	3							
12	Vacant	none	Yes	Other, Reliability, Water Q	1	2	3	4	Timing	Steve & Laura Ward	2840	Northshore Rd	206-595-5234	Laurelueward@gmail.com
13	Single Family	Well	Yes	Reliability	1	2	3		Currently haul water 1-5x/week (300gal)	Kevin & Diane Form	3181	Lakeshore Rd	360-733-7789	formfam@q.com
14	Single Family	Shared Well	Yes	Reliability, Water Quality	1				Cost is high; may disincentivize project					
15	Single Family	Lake draw	Yes	Reliability	2	2	2			Robert Bornstein	3152	Northshore Rd		robertandjanice@comcast
16	Single Family	Lake draw	Yes	Reliability	2	2	2			Peter Dobey	3175	Northshore Rd	360-778-2047	peterdobey@comcast.net
17	Single Family	no entry	Yes	Fire/Safety, Reliability, Wat				1	Ease of process	David C. Morse, III	2176	Dellesta Dr	360-319-1257	dmorse@blytheinc.com
18	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat				1	fire protection	Sherri Vander Yacht	2079	Northshore Rd	360-815-4656	jeffsherri@comcast.net
19	Vacant	none	Yes	Fire/Safety, Reliability, Wat				1	fire protection	Jeff Vander Yacht	2079	Northshore Rd	360-815-4196	jvanderyacht@PSESurvey.
20	Vacant	none	Yes	Fire/Safety, Reliability, Wat				1	fire protection	Jeff Vander Yacht	2087	Northshore Rd	360-815-4196	jvanderyacht@PSESurvey.
21	Single Family	Shared Well	Yes	Other, Water Quality	2	2	2	2	Responsibility in maintaining lights in pump houses during winter (2 wells serving 4 houses)	Dr. M Attygalla	3330	Sunny Cove Ct	360-933-4625	mallika19@idoud.com
22	Single Family	Lake draw	Yes	Water Quality	1	2	2			William W. Winter	2138	Dellesta Dr	360-733-0149	winterbill1@comcast.net
23	Other	Lake draw	Yes	Reliability, Water Quality				1	Monitored supply	Peter Telfer	2152	Dellesta Dr	360-671-9872	peterelfer48@gmail.com
24	Single Family	Well	Yes	Reliability, Water Quality	1	2	3		will there be a latecomers schedule?	Darrell Visser	3099	Edgewood Ln	360-815-1602	darrellvisser@gmail.com
25	Single Family	Lake draw	Yes	Reliability	1	3	2			Steve & Rhonda Lo	1715	Edgewater Ln		lowrysteve@comcast.net
26	Single Family	Lake draw	Yes	Water Quality	2	1	3		mailing address: 2301 Stickney Island Rd, Everson	Robin Hoefer (Pears	3203	Northshore Rd	360-966-2467;	hoefermr@aol.com

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay	Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
27	Single Family	Lake draw	No							Water line will encourage building, more traffic on Northshore Rd, more pollution	C. La Nois	2063	Northshore Rd	360-223-1978	
28	Single Family	Other	No												
29	Single Family	Lake draw	No							Water line will cause more building, more traffic and more pollution in the Lake	Hope Lawrenson	2066	Dellesta Dr	360-733-2727	2cat10@gmail.com
30	Single Family	Lake draw	No							I'm afraid that a water line would cause more building on the lake which would pollute the lake more	Claire Banjanin	2064	Dellesta Dr	360-734-1826	cbanjanin@comcast.net
31	Single Family	Lake draw	No								Stan La Nois	2063	Northshore Rd	360-820-1313	sjlanois@comcast.net
32	Single Family	Well	No								Dave Grunhurd	2637	Northshore Rd	360-671-6568	dgrunhurd@gmail.com
33	Single Family	Shared Well	No												
34	Single Family	Lake draw	No								Steve Adelstein	1721	Edgewater Ln	360-676-9591	
35	Single Family	Lake draw	No	Fire/Safety	1	4	3	2		pay for fire protection in property tax	Karen & Tom Evich	2051	Northshore Rd	360-671-1354	karenevich@comcast.net
36	Single Family	Lake draw	No							please use website for information about this project					
37	Single Family	Well	No	Other	1		2	3		3-Construction on Northshore; 4-Who paid for this study?; 5-How much will our taxes go up?; 6-Where is the additional water going to come from?	Nate Marino	2878	Lazer Ln	360-220-7860	nate@threepalmsdesigns.
38	Single Family	Well	No							(1/2 owner)	Cecelia Thomas	2582	Northshore Rd	360-733-2663	celiethomas@operapopol
39	Single Family	Well	No							Not interested					hyshe@yahoo.com
40	Single Family	no entry	No							No interest	Cristi Lysne	2472	Northshore Rd	360-756-2717	garylysne@msn.com
41	Single Family	Lake draw	No							if line in Northshore there will be more sprawl and consequently more lake pollution	Milan Banjanin	2064	Dellesta Dr	360-734-1826	
42	Single Family	Lake draw	No								Paul Hovnanian	3120	Northshore Rd		pau@hovnanian.com
43	Single Family	Lake draw	No												

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
44	Single Family	Well	No						This is another opportunity to take state \$. study something that isn't a problem to keep Wilson Engineering in business, and then force it on a small group of landowners who have already gone to the expense of putting in a private water source because there was no public water available. Now you push a project that will cost these owners another \$40,000. If the County wants to take over the Lake, why not just buy everyone out at fair market value....	Del Wolf	1854	Northshore Rd	360-734-4309	
45	Single Family	Well	No						This District should have brought water to us 50 years ago when many of us met with the District at the Agate Bay fire house and talked of water					
46	Single Family	Well	No							Stan Wolf	1862	Northshore Rd		
47	Single Family	Lake draw	No						This question is misleading. A public water system under current zoning cannot state "water quality" as a benefit. Please be clear when reporting this survey that it is flawed, biased and narrowly addresses a very complex issue.	Fred Miller	3229	Northshore Rd	360-671-2365	fredmiller20@comcast.net
52	Single Family	Shared Well	No		2	2	2			Stew Ellison	1807	Northshore Rd		
53	Single Family	Lake draw	No		2	2	2							
54	Single Family	Lake draw	No		2	2	2		Summer place only- Property Taxes and Sewer Charges are already prohibitive	Gaylon Vander Yach	340	maberry loop lyden 982	354-3185	
55	Single Family	Well	No		2	2	2			William Cox	2661	Northshore Rd	360-778-1586	willcox@comcast.net
56	Other	Lake draw	No		2	2	2		Summer home	SIMS	23242	Bassett Rd.	360-856-6318	alwaysaproblemjan@yahoo
57	Other	Other	No		2	2	2		I have just spent \$18,000 to put in a rain catchment system for our new house	Gordan Sulllions	2641	Birchbay Lynden Rd 982	364-3171	
58	Single Family	Water System	No		2	2	2		Suggest new ??? Dig their own wells	Anthony & Lee Ashe	3364	Topaz Ct.		
59	Single Family	Water System	No		2	2	2		We could use a small boost of water in July and August for some of our owners. I am the current system manager	Lorraine A. Bierman	2722	Willow lane	360-224-1549	
60	Single Family	Lake draw	No		2	2	2			David & Deborrah L	2653	Northshore Rd	783-9094	

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay	Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
61	Single Family	Lake draw	No		2	2	2	2		We recently spent considerable \$\$ in putting a UV cleansing and filtration and the water is perfect. Everyone else on N.shore has no doubt and done the same and many people have had to drill wells at considerable expense. This proposed water extension is not needed and should be a non-starter. Sorry, but we do not need the service or extra expense.	Dave Nicholes	2583	Northshore Rd	360-961-3951	davethe.judge@comcast.n
62	Single Family	Well	No		2	2	2	2		Cost to hook up would be too much to make financial sense. We have excellent water with own well	Ann Rushing	31846		3602205259	karlem.kuntz@comcast.co
63	Single Family	Well	No		2	2	2	2			Frank & Alida Bowe	2466	Northshore Rd	733-8218	
64	Single Family	Well	No		2	2	2	2							
65	Single Family	Well	No		2	2	2	2		More access to water will spur more development of houses					
66	Single Family	Lake draw	No		2	2	2	2			Tiller	2181	Northshore Rd		
67	Single Family	Lake draw	No		2	2	2	2		Not interested even if the service is available	Steve Lackey	2173	Northshore Rd	360-756-6915	stevelackey2@gmail.com
68	Single Family	Shared Well	No		2	2	2	2			Alida & Jess Cantu	3362	Topaz Ct	360-223-0697	isomerz@msn.com
69	Single Family	Shared Well	No		2	2	2	2		No, we do not want to connect. Why should we? We have great water and low bills		2129	Dallesta Dr		
70	Single Family	Lake draw	No		2	2	2	2		Own Water rights to lake.. Culligam system of filter and UV treatment					
71	Single Family	Lake draw	No		2	2	2	2			Lorry Zeles	1449	Edgewater Ln	360-734-8766	jziels@comcast.net
72	Single Family	Lake draw	No		2	2	2	2		We own water rights to lake.	John Mumma	3169	Agate Bay	733-4651	j.mumma@omast.net
73	Single Family	Well	No		2	2	2	2			Philip & Judy Andre	2790	Northshore Rd	360-319-0546	ladyolakew@gmail.com
74	Single Family	Lake draw	No		2	2	2	2							
75	Single Family	Well	No		2	2	2	2		If you really care about the wter quality, extend the sewer main. I have a good well and a septic system. I would pay for sewer before paying for a new water source	Chris Vazquez	2802	Northshore Rd	360-393-7272	backin1972@gmail.com
76	Single Family	Shared Well	No		2	2	2	2							
77	Single Family	Shared Well	No												
78	Other	Other	No												
79	Single Family	Well	No												
80	Single Family	Well	No								Michael Tarlo	3046	Northshore Rd	360-671-8500	

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
81	Single Family	Well	No							Daniel & Helen Che	1950	Northshore Rd	360-510-2720	linfenchuan3@yahoo.com
82	Single Family	Lake draw	No		1		1			Rick Lingbloom	2609	Northshore Rd		r.lingbloom@comcast.net
83	Single Family	Shared Well	No							We are on your list.				
84	Single Family	Lake draw	No							Jeff Daus	3129	Sheridan Trail		
85	Single Family	Shared Well	No							Carl Walton	2055	Northshore Rd	360-733-8912	canlwalton3@aol.com
86	Single Family	Lake draw	No							Because of the way our house is situated, hooking up to a water line that comes off of N.Shore Rd. would be extremely expensive				
87	Single Family	Well	No							Steve Pratum	2619	Northshore Rd		stevepratum@gmail.com
88	Single Family	Well	No							Reliable water available currently. Will not pay for additional system				
89	Single Family	Lake draw	No							Terribly expensive dumb idea. No way. Opens the lake to more development which we do not need. Protect the watershed				
90	Single Family	Well	No							William Canhill	3049	Lakeshore Rd	360-756-7513	wcanhill@aoh.com
91	Single Family	Well	No							David Babbitt	2484	Northshore Rd		david@agatebayconstructi
92	Single Family	Lake draw	No							I can't think of anything that would hurt the water shed- increasing ability to develop more houses, etc in such a fragile ecosystem. Terrible!				
93	Single Family	Lake draw	No				1			Duane H. Johnson	2577	Northshore Rd	360-303-2143	dudod@juno.com
94	Single Family	Lake draw	No							Gordon & Maude D	2359	Northshore Rd	360-734-4544	
95	Single Family	Lake draw	No							Ann & Jake Hardy	2417	Northshore Rd		havdyae@comcast.net
96	Other	Shared Well	Yes	Reliability, Water Quality,	1				Sounds good	Donald A. Miller	3850	Washington st #1205	941-538-1655	
97	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat	2	1	3			Jeff Frere	3295	Northshore Rd	360-920-5434	rosedawgz@gmail.com
98	Single Family	Well and share	Yes	Other, Reliability				1		Rory Bradt	2696	Northshore Rd	425-210-0878	rorybradt@gmail.com
99	Other	Other	Yes	Fire/Safety, Reliability, Wat	2	1	3	4		We have a shared well for our house. We have another well we use for watering our garden. We want to be on public sewer system. If option to connect includes both we would sign up. If only water, I am not interested				
###	Other	Other	Yes	Fire/Safety, Reliability, Wat	2	1	3	4		Gail Wasilewski	1865	Vineyard PL		gailwazo@comcast.net
###	Vacant		Yes	Water Quantity				1		John Wasilewski	1865	Vineyard PL		john@mantleindustries.co
										Jeff Yacht	2079	Northshore Rd	360-815-4196	

ID	Current/Use	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Lake draw	Yes	Reliability, Water Quality	2	4	3	1	How soon Installation?	Tim and heslie Farri	2133	Northshore Rd	360-961-3570	LKFarris4@gmail.com
###	Single Family	Shared Well	Yes	Fire/Safety, Reliability, Wat	1					Kevin Sluys	2076	Dellesta Dr	360-510-6722	kstlys@gmail.com
###	Vacant	Well	Yes	Reliability, Water Quality,	1	3	2		I think the city of Bellingham needs more affordable, buildable lots that do not require large fees for permitting. Costs for connecting to utilities needs to be more affordable for city residents	Kimberly Barron	533	37th st	360-739-9506	northshorevet@msn.com
###	Single Family	Water System	Yes	Water Quality	1	4	3	2						
###	Vacant	Well	Yes	Reliability, Water Quality	1	2	3		I support the project. I may build on this property and availability of a reliable spource of water ould simplify matters	Christine Valentine	125	Elkenburg st unit 1	sout	christinevalentine@routie
###	Vacant	Shared Well	Yes	Reliability, Water Quality,	1				I have two buildable lots. I think it would be good to upgrade to stand well system	Donald Miller	3850	Washington Street		
###	Other	Lake draw	Yes	Reliability, Water Quality	1	3	2		Recreation lot	Steve Kunnap	4281	James St	360-733-1943	
###	Other	Other	Yes	Fire/Safety, Reliability, Wat	2	3	3		Soon to build 2017-2018. My wife and I are eager to build on our land. This house is to become our primary residence and we hope to get connected to city water as this would be an answer to the prayer	Rafael A Recto	164	Robles Way #124	707-246-4339	Lrecto@comcast.net
###	Other	Shared Well	Yes	Other	1				Recreation visit. Shared well can't connect to.	Bruce Longstreth	1803	Northshore Rd	360-319-6881	bngsteth@muljatgroup.c
###	Single Family	Well	Yes	Reliability, Water Quality,	3	1	2			Christy Sorenson	3191	Lakeshore Rd	360-319-8659	csorenson@vanhofhepaci
###	Single Family	Lake draw	Yes	Reliability, Water Quality	2	3	1		I am eager to connect to public water	David Engst	3108	Agate Bay lane	360-510-2842	csi247g@gmail.com
###	Single Family	Lake draw	Yes	Reliability, Water Quality	1	3	2			Robert Hannum	2643	Northshore Rd	360-671-2533	ldhora@comcast.com
###	Single Family	Lake draw	Yes	Other, Reliability	2	3	1		Improved water pressure. Question: We are already on city sewer so doesn't that mean we pay for water (even though we don't receive it)?	Keith Vander Griend	1733	Edgewater Ln	360-676-0776	kvandergrind@comcast.n
###	Single Family	Water System	Yes	Fire/Safety, Reliability, Wat	1	3	2		Connected to lake whatcom water and sewer					
###	Single Family	Lake draw	Yes	Reliability, Water Quality	1	3	2			Robin Wong	2335	Northshore Rd	360-223-7297	robinthuy@comcast.net
###	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat	2		2			Robert Olson	3362	East Badgen Everson	360-927-3292	bolson3505@gmail.com
###	Single Family	Water System	Yes	Fire/Safety, Reliability, Wat			1		Already Connected					
###	Vacant	Well	Yes	Fire/Safety, Water Quality			2			Pamp Malers	850	PO Box 850 Moses lake	509-765-5885	
###	Single Family	Lake draw	Yes	Reliability, Water Quality	2	1	3			Mark Zarzycki	286	Briar Rd		zarzyck@hotmail.com

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay	Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Other	Yes	Reliability, Water Quality					2	Using rain water harvesting system. Cost won't matter, just want better water	Robert Walker	1853	Northshore Rd	360-739-8343	nwalker@mbcollision.com
###	Single Family	Shared Well	Yes	Reliability, Water Quality, 1	1	2	3	4			Chris Rink	2368	Northshore Rd	360-393-3586	crinkspesurvey.com
###	Single Family	Shared Well	Yes	Reliability, Water Quality 1	1						Chris Knauf	3326	Sunny Cove CT	360-739-3403	chrisknauf@gmail.com
###	Single Family	Well	Yes	Reliability, Water Quality 1	1	2	3			Generally in favor of this plan. Please note the name change- address for notifications	Northshore Road LL	2815	Russell Street	360-758-2111	fdfelicity@gmail.com
###	Single Family	Shared Well	Yes	Fire/Safety, Reliability, Wat 2	2	1	3			water source is lake whatcom water via city of bellingham. Pay same rate as city residents. Does the city of bellingham want to bring us in direct line?	Paul K. Glasser	3095	Edgewood Ln	360-656-6699	pkglasser@comcast.net
###	Single Family	Water System	Yes	Fire/Safety, Other, Reliability							Roger Despain	1716	Golden court	360-820-9121	
###	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat						Quality monitored water supply and fire protection are very basic services. I would like to have them.	Peter Telfer	2152	Dellesta Dr	360-671-9872	peterelfer48@gmail.com
###	Single Family	Well	Yes	Fire/Safety, Reliability, Wat 2	2	3	1	4		If public water becomes available it is very likely that we will connect	Stephen Hutchens	2090	Northshore Rd	360-201-0098	sphutchens@yahoo.com
###	Other	Well	Yes	Reliability, Water Quality 1	3	3	2				Whatcom county fo	3373	Mt. Baker highway	360-778-5850	mmcfaria@co.whatcom.w
###	Single Family	Water System	Maybe/D							Depends on cost. Current service from lake whatcom water and sewer dist is great. Not interested in having our cost go up					
###	Single Family	Lake draw	Maybe/D		2					We have a "water right" to draw out of the lake but have filter maintenance costs. We would evaluate these costs compared to purchase and hookup costs of public water system	Chris Hilleary	1857	Northshore Rd	360-319-9311	chilleary@aerotechgolfsha
###	Single Family	Water System	Maybe/D							Depends on rates	John & Dorie Micha	1720	Eagleridge Drive	360-734-9819	jmache1@comcast.net
###	Single Family	Shared Well	Maybe/D		1	2	3				Bruce & Kathy Wils	3091	E. 21ST pl		bknjrwilson@hotmail.com
###	Single Family	Shared Well	Maybe/D	Fire/Safety, Reliability, Wat 1	1	2	3				Vincent Williams	1010	Lonetree ct	360-933-4150	vince@hiwestfoods.com

ID	Current/Use	WaterSource	Connect t	Motivation?	Overall	Pay	Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Water System	Maybe/D	Other, Water Quality	1	3	3	2		Current rates are too high. The burden placed on homeowners to protect, preserve and pay significantly for water is pointless when engine powered watercraft and boats are allowed in the water sources. I am sick by the lack of ownership by those entrusted to protect our water sourcebut don't by continuing to allow oil/gas/electric into our water source.	Sullivan	3237	Eagleridgeway	360-603-4258	maureen.sullivan270@gm
###	Single Family	Lake draw	Maybe/D		1	2	2	3		Depends on cost					
###	Single Family	Well	Maybe/D	Reliability, Water Quality,	2	2	2	2			Joe Baldwin	3042	Northshore Rd	360-305-4504	jbatosc@yahoo.com
###	Single Family	Well	Maybe/D	Reliability, Water Quantity	2	2	2	2		Would be more interested with sewer	Bruce Kwe	3048	Lakeshore Rd		
###	Single Family	Lake draw	Maybe/D	Water Quality	2	1	3	4			Rochelle Stroup	2413	Northshore Rd	360-733-4297	
###	Single Family	Other	Maybe/D	Reliability	1	4	4	3	2	Rain water water source. Depends on amount of digging/land/road distribution to install					
###	Single Family	Shared Well	Maybe/D							Depends on cost. Why do I have a need or motivation? My well has a lot of water. I could stop using my water softer but I see no other advantage.	Geoff Latimer	3322	Sunny Cove Ct		geofflatimer@comcast.net
###	Single Family	Shared Well	Maybe/D	Reliability, Water Quantity	1	3	3	2		Depends on cost	Mark Daniels	3011	Lakeshore Rd	360-305-0261	markdaniels1@me.com
###	Single Family	Lake draw	Maybe/D							More water means more development which will affect the lake adversely					
###	Single Family	Well	Maybe/D	Fire/Safety, Other, Reliability						we are interested but only if we would be allowed to keep water rights to our individual well. We moved here from rural clark county and had both our own well and county water. We were very satisfied with that arrangement	William/lois freebor	2633	Northshore Rd	360-671-0066	
###	Single Family	Lake draw	Maybe/D								James Volkmann	3239	Northshore Rd	360-392-0459	propwashsv@gmail.com
###	Single Family	Water System	Maybe/D							Already connected to lake whatcom water and very satisfied.					
###	Single Family	Shared Well	Maybe/D	Fire/Safety, Reliability, Wat	1	3	3	2		I am concerned that providing water services would allow for more development and potential impact on lake whatcom will have more people, houses and runoff.	Marc Fairbanks	3060	E. 21st Pl	360-927-8021	marc.fairbanks@gmail.co
###	Single Family	Well	Maybe/D		1	2	2	3		Not motivated. Depends on cost	Brincer Cantrell	3319	Sunny Cove Ct	206-849-2287	bcn@bridgetcantrell.com

ID	Current/Use	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Lake draw	Maybe/D	Reliability	1				Depends on upfront cost and long term cost, complexity of install	John Hewitt	1849	Northshore Rd	360-305-0440	jhe Witte@alpha.com
###	Single Family	Water System	Maybe/D						I assume that I am connected to a 'district' water (potable) supply. That who gets my check every two	John Gardiner	3196	Steller CT	360-739-7456	gonzadoczi@hotmail.com
###	Single Family	Well	Maybe/D		1	3	3		Depends on cost. I currently have a sewer connection but was forced to sign a no contest agreement in order to receive a sewer permit. I appealed the process and was told by the board that I will not be forced to connect to a future water system. I would like to know if your position on this matter is still the same?	Kevin Bedlington	2640	Northshore Rd	360-920-1556	ktbedlington@comcast.net
###	Single Family	Well	Maybe/D	Other	2		2		Quality/Quantity? It's the same damn water, its just the city is doing testing and adding chemicals. You guys have a bigger well	Ellie Hughes	3325	Agate Heights Rd	360-441-7222	elliehughes@comcast.net
###	Single Family	Lake draw	Maybe/D						Want ir free. Wouldn't sewer lines makes more sense in the lake whatcom region? The purity of the lake is an issue. Also replacement of the old septic tanks is very costly. I would rather hook up to that.	Bart Smith	3277	Northshore Rd	808-351-4988	
###	Single Family	Shared Well	Maybe/D	Fire/Safety, Other, Reliability	1	2	3	4	Cost	Brady and chep titr	3144	Edgewood Ln	805-796-0517	
###	Single Family	Lake draw	Maybe/D	Water Quality	2	3	1		Cost	Brent Belsher	1835	Northshore Rd		5belshers@comcast.net
###	Single Family	Shared Well	Maybe/D	Water Quality, Water Quan	1					Stephen Brigham	3143	Edgewater Ln	360-593-9402	brigham38@hotmail.com
###	Single Family	Well	Maybe/D	Fire/Safety, Other	1	2	3	4	Like to have house a backup. Depends. I am presently hooked to your sewer, may be the cost in the northshore rd system I could retain well for sprinkler system	Roger Bourm	2644	Northshore Rd	360-739-5624	bourm@aol.com
###	Single Family	Well	Maybe/D	Reliability	1	2	3	4	Would you run the sewer to the end	Ron Lovell	2976	Northshore Rd	360-734-6929	k8lovell@icloud.com
###	Single Family	Lake draw	Maybe/D	Fire/Safety, Reliability, Wat	2		2		Cost	Dave Lunde	2078	Dellesta Dr	360-733-3202	ds_lunde@yahoo.com
###	Single Family	Lake draw	Maybe/D	Reliability	2	3	1		cost	Seabury McGown	2084	Dellesta Dr	756-7912	
###	Single Family	Lake draw	Maybe/D	Reliability, Water Quality	1	3	2			Pete Kremen	3283	Northshore Rd	360-734-3802	pkremen@comcast.com
###	Single Family	Water System	Maybe/D						Does not apply	Kim	3227	eagleridge way	360-756-2388	
###	Single Family	Water System	Maybe/D						I have no problem on consolidating water system unless??? Money is required. I am not willing to have my water rates rise to fund this effort as LWWSD rates are already high	G new Sted	3212	eagleridge way dr	671-5113	gnewsted@comcast.net

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Don't know	No idea							Maureen Osen	3724	eagleridge way	360-922-7953	m.osen@comcast.net
###	Single Family	Water System	NA						Already on system. Concerned our quality will go down or lessen out water pressure. Is this more about greed and leftist control of our natural resources?	Dana Patrick Downs	3343	Agate heights rd	360-325-3480	
###	Single Family	Water System	NA							Rick Porter	1713	Balden Ct.		Rosannaporter@aol.com
###	Vacant	Well	Maybe/D	Other, Reliability	2	2	2		Having options.	Cathy Brooking/Pet	2600	Northshore Rd	360-733-2978	pctanden@gmail.com
###	Single Family	Well	Maybe/D	Other, Reliability	2	2	2		Will there be a LID fee? If one chooses not to connect will there still be charges? Willit be less costly to connect when line is put in?	Cathy Brooking/Pet	2600	Northshore Rd	360-733-2978	pctanden@gmail.com
###	Single Family	Lake draw	Maybe/D	Reliability	1					Keith Mayo	3926	Forest Beach Dr. NW, GI	253-905-0547	mayok@earthlink.net
###	Single Family	Shared Well	Maybe/D	Reliability, Water Quantity	1	3	2	4	Depends on cost.	Craig Manos	3165	Lakeshore Rd	360-223-8063	craigmanos@yahoo.com
###	Single Family	Lake draw	Maybe/D		2	2	2		Depends on cost.	Calvin & Doloris Ball	2605	Northshore Rd	360-734-2473	
###	Single Family	Lake draw	Maybe/D	Fire/Safety, Reliability, Wat	1	2	3		Depends on cost to join and connect. Sufficient federal and state grants would be needed to make it financially feasible to join.	Michael T. Sello	2309	Northshore Rd	360-733-9121	msellos59@comcast.net
###	Single Family	Lake draw	Maybe/D	Fire/Safety, Reliability	1		2			Dan Jurgenson	1762	Northshore Rd	360-676-1019	
###	Single Family	Lake draw	Yes	Other, Reliability, Water Q	1	2	3		Occupy house two months per year. Interested w/reservations. Motivated by prospect of less maintenance.	Dan Rosser	2105	Northshore Rd	360-739-9939	
###	Single Family	Well	Yes	Reliability, Water Quality	3	1	2		Very interested.	Chris Brueske	2724	Willow Ln.		cbrueske@comcast.net
###	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat	1	2	3	4	Able to continue lake draw for grounds/garden?	Brian Patterson	2157	Northshore Rd	360-820-5409	alberni11@gmail.com
###	Vacant	Well	Yes	Reliability, Water Quality	1									
###	Single Family	Well	Yes	Reliability, Water Quantity	1	3	2			Susan Miner	3171	Edgewood Ln	360-671-7289	susanmike76@comcast.net
###	Single Family	Water System	Maybe/D	Reliability, Water Quantity	2	1	3		Water System: Northshore Water & Septic/Solar Acres. Interested but depends on cost.	Paul Zosel	2719	Willow Ln		pzosel@openaccess.org
###	Single Family	Lake draw	No						Need more info. Too expensive.	Robert Benner	1741	Edgewater Ln	360-734-3452	benner1741@yahoo.com
###	Single Family	Lake draw	No						It is too expensive for us who have spent much for a water system-pump, filters, etc.	Larry Ziels	1749	Edgewater Ln	360-734-8766	jziels@comcast.net
###	Single Family	Lake draw	No						We have water rights from DOE. We have zero interest in the public water system.	Alexander	2109	Northshore Rd	360-647-8276	
###	Single Family	Lake draw	No						We have an expensive system providing water and tested regularly.					

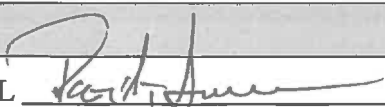
ID	Current Use	Water Source	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Shared Well	No						Our shared well costs are significantly reduced compared to others on your LWWSD system.	Loran Zenovian	2588	Northshore Rd	360-255-1098	zenovianloran@gmail.com
###	Single Family	Shared Well	No						Want to public meeting-the cost to bring a public water supply down Northshore is just too high. The DOH wants to consolidate small water systems, sure, but we are not on a small water system, we are on a well.					
###	Single Family	Lake draw	No							William Knudsen	1798	Northshore Rd	360-671-8260	wgknudsen@gmail.com
###	Single Family	Lake draw	No		1					John Herds	2112	Dellesta Dr		
###	Single Family	Lake draw	No											
###	Single Family	Well	No							John N. Connell	3307	Northshore Rd	360-739-8864	johnshq@comcast.net
###	Single Family	Lake draw	No							Ron Eriksen	2171	Dellesta Dr	360-527-1542	
###	Not Indicated	Lake draw	No							Denis McGuire	2355	Northshore Rd	360-933-4297	
###	Single Family	Water System	NA	Water Quality	1				Water System: Agate Heights	Michael Cheng	3360	Opal Terrace		metcheng@yahoo.com
###	Single Family	Water System	NA						Water System: Eagleridge. Already on public water system					
###	Single Family	Water System	Maybe/D	Water Quality	3	1	2		Water System: Eagleridge	Mark Hoffmann	1761	Aquila Ct	360-756-1367	hoffer1@gmail.com
###	Single Family	Lake draw	Yes	Water Quality		1				F&M Bailly	2165	Dellesta Dr	306(7)-647-08	fbailly@bmgm.com
###	Single Family	Water System	Maybe/D	Fire/Safety, Reliability, Wat	1	2	3		Water System: North Shore Ridge	Robert Olkarszewski	3075	E. 21st Place	360-738-3422	roco@openaccess.org
###	Single Family	Lake draw	No							Marvin Marston	1729	Edgewater Ln	360-734-8143	mmarston8143@msn.com
###	Single Family	Lake draw	Maybe/D	Reliability, Water Quality	1		2							
###	Single Family	Water System	Yes	Fire/Safety, Reliability, Wat	1	2	3		Water System: Dellesta Water Association	Craig & Lydia Coope	2141	Dellesta Dr	360-738-1786	c_e_c@comcast.net/cicoo
###	Vacant	No Response	No						Extending water systems would cause more development in the watershed, further degrading the water quality of Lake Whatcom. We are opposed to this water system plan. Please protect our lake.	Joan Van Gasken	5630	East Rd	398-0331	
###	Vacant	Other: None	Yes	Fire/Safety, Reliability, Wat	1				I am highly in favor. My property has room for a well, but currently there is a moratorium on new wells.	Ray Bowen	17729	13th NW	206-660-7546	rabo@triplecorp.com
###	Single Family	Shared Well	Maybe/D	Reliability, Water Quality,				1	Dependent upon whether we will be granted legal access for withdrawals from our shared well if we pursue a building permit. As it stands, now following Hirst v. Whatcom County, permitted access/withdrawals are barred. Thank you for your time!	Stephanie Manzo	1811	Eldridge Ave	607-742-5698	stephanieannmanzo@gma

ID	CurrentUse	WaterSource	Connect t	Motivation?	Overall	Pay Fe	Water	Other	Notes	Name	address	Address Street	Phone	email
###	Single Family	Lake draw	Yes	Fire/Safety, Reliability	1	2	2		Vacation house, occupied part time.	R.A. Brocklebank	2163	Dellesta Dr	738-8030/604	brocklebank@shaw.ca
###	Single Family	Shared Well	Maybe/D	Reliability, Water Quality,	1	2	2		Cost is everything. I would not spend even \$5,000 to then pay \$100/month for water I get out of my well for \$15.	Jason Sims	3100	Edgewood Ln	360-739-3353	simsjason@comcast.net
###	Single Family	Lake draw	Maybe/D	Fire/Safety, Reliability, Wat	1	3	2	4	How limited will water usage be?	Doug Bixel/Bixel Fa	2060	Dellesta Dr	360-734-0694	bixel9@comcast.net
###	Single Family	Lake draw	No						This duplicates our response submitted at the 6/20 meeting. Customers responding at both the meeting and now to this mailed survey could well distort your survey results. Beware of invalid conclusions!	Brent Walker	3141	Agate Bay Ln	360-676-5575	brentw@cbwholesale.com
###	Single Family	Lake draw	No		1	2			Water System: LWWSD. Depends on if there are advantages. Current service is fine.	Jim Kaemingk	2149	Northshore Rd	360-224-5465	jim@jimk.net
###	Single Family	Water System	Maybe/D	Water Quality	1					Walter Michelutti	2316	Agate Heights Ln		
###	Single Family	Water System	Maybe/D				1							
###	Single Family	Well/Lake draw	Yes	Reliability, Water Quantity	1	1	1			William & Cynthia H	3078	Northshore Rd		
###	Vacant	Other: NA	No						Three households share this lot. It is too small to build on. We each wanted to have more space.	William & Cynthia H	3078	Northshore Rd		
###	Single Family	Shared Well	Yes	Reliability, Water Quality,	1	2	3			Andress		PO Box 31715, Bellingh		
###	Single Family	Lake draw	Yes	Fire/Safety, Reliability, Wat	2	3	1	4	Ability to continue drawing water from lake for landscaping, etc.	Jack Westford	1837	Northshore Rd	360-733-5858	nwestford@gmail.com
###	Single Family	Well/Lake draw	Yes	Reliability, Water Quality	1	3	2		I think a sewer line should be put in as well if feasible. Name withheld-I don't trust the county's intentions.					
###	Vacant	Other: No sourc	Yes	Fire/Safety, Reliability	1			2	Immediacy. We support this water system expansion.	M.J. Cudmore	6651	Tideview Rd, Sooke, BC,	250-532-2921	mjc.tideview@icloud.com
49	Single Family	Lake draw	No						If a water line is put in, will we be required to hook up? Extending sewer service on the N. Shore Rd is better for Lake health.	Kris Ungren	2095	Northshore Rd	360-734-2701	suebear02@comcast.net
50	Single Family	Lake draw	No						I am very opposed to this water system expansion.	Don Boyer	2695	Northshore Rd	206-719-7446	don.boyer@comcast.net
51	Single Family	Lake draw	No		2	2	2			Charles Walter	1737	Edgewater Ln	360-201-4187	chwalter53@gmail.com
48	Single Family	Agate Heights	Yes	Other	1				Current system provides low pressure and high mineral content	Troy Degroot	3372	Coral Ln		iflynavy@comcast.net



LAKE WHATCOM WATER AND SEWER DISTRICT

AGENDA BILL

DATE SUBMITTED:	August 2, 2017		
TO BOARD OF COMMISSIONERS			
FROM: Patrick Sorensen	MANAGER APPROVAL 		
MEETING AGENDA DATE:	August 9, 2017		
AGENDA ITEM NUMBER:	7.0		
SUBJECT:	Manager's Report		
LIST DOCUMENTS PROVIDED ⇒ NUMBER OF PAGES INCLUDING AGENDA BILL: _____	1. Manager's Report		
	2.		
	3.		
TYPE OF ACTION REQUESTED	RESOLUTION <input type="checkbox"/>	FORMAL ACTION/ MOTION <input type="checkbox"/>	INFORMATIONAL/ OTHER <input checked="" type="checkbox"/>

BACKGROUND / EXPLANATION OF IMPACT

Updated information from the General Manager in advance of the Board meeting.

FISCAL IMPACT

None

RECOMMENDED BOARD ACTION

None required.

PROPOSED MOTION

None

General Manager Comments

Wednesday

August 9, 2017

Regular Meeting

6:30 p.m.

Important Upcoming Dates:

- **Meetings Associated with the Lake Whatcom Management Program:**
 - **Policy Group Meeting:** Reminder: The next meeting is scheduled for October 16, 2017 at 3:00 p.m. downstairs at the Municipal Court Building in the conference room.
 - **Management Meeting:** There is not a meeting scheduled at this time.
- **Next Regular Board Meeting:** The next regular meeting will be held on **Wednesday, August 30, 2017** at 8:00 a.m.
- **Employee Staff Meeting:** The next staff meeting is set for **Thursday, August 10, 2017 at 8:00 a.m.** in the Board Room. Commissioner Weide is scheduled to attend this meeting.
- **Employee Safety Committee Meeting:** The next meeting is set for **August 10, 2017 at 9:00 a.m.** in the small conference room.
- **Washington Association of Sewer & Water Districts (WASWD) Section III Meeting:** The next Section III meeting will be held at Bob's Burger and Brew in Tulalip on **August 8, 2017** at 6:15 p.m.
- **Whatcom Water District's Caucus Meeting:** The next Caucus meeting is set for **August 16, 2017** at 1:00 p.m. in the Board Room.

Other:

- **Committee Meeting Reports as Needed:** This is a place holder for Board and staff members to report on recent committee meetings, such as the Lake Whatcom Policy Group, since the last Board Meeting.
- **Date of Fall 2017 WASWD Conference:** Reminder, the Fall Conference will be September 27 - 29 in Wenatchee. The conference ends on Friday at noon.

- **Upcoming Important Agenda Topics:**

Northshore Water Quality Report Policy Discusslon - As discussed previously the final report has been sent to the Mayor, County Executive, the Councils, WDOE and WDOH representatives, and appropriate City and County staff. A presentation on the findings will be presented to the L.W. City & County staff Data Meeting on September 14 (at a time in the afternoon) by Rob Zisette. This is an important group of City and County staff who play a major role in policy recommendation to the Councils. In addition, Rob is also tentatively scheduled to make a similar presentation to the Lake Whatcom Policy Group on October 16. In light of these upcoming presentations we will discuss things regarding these meetings at the August 30 Board Meeting.

- **Out of Area & Meeting Changes Reminder:**

- I will be missing the September 13 Board meeting. I am going to be at an Insurance Pool related conference in California from September 12 through the 15th. In addition I will be taking a few days off on vacation returning to the office on the 20th.
- The September 27, 8:00 a.m. meeting was moved to the 26th at 8:00 a.m. The 27th conflicts with the Fall WASWD Water & Sewer Conference.
- Please remember to notify staff and the rest of the Board of any anticipated Board meeting absences through the rest of 2017.



LAKE WHATCOM WATER AND SEWER DISTRICT

AGENDA BILL

DATE SUBMITTED:	August 2, 2017		
TO BOARD OF COMMISSIONERS			
FROM: Staff	MANAGER APPROVAL _____		
MEETING AGENDA DATE:	August 9, 2017		
AGENDA ITEM NUMBER:	4		
SUBJECT:	Consent Agenda		
LIST DOCUMENTS PROVIDED ⇒	1. See list below		
NUMBER OF PAGES	2.		
INCLUDING AGENDA BILL:	3.		
TYPE OF ACTION REQUESTED	RESOLUTION <input type="checkbox"/>	FORMAL ACTION/ MOTION <input checked="" type="checkbox"/>	INFORMATIONAL/ OTHER <input type="checkbox"/>

BACKGROUND/EXPLANATION

- Accounts Payable Vouchers totaling \$xx,xxx.xx
- Payroll for Pay Period #16 (7/15/2017 through 7/28/2017) totaling \$44,624.56
- Payroll Benefits for Pay Period #15 totaling \$49,292.02
- Second Quarter 2017 Unemployment and L & I Payroll taxes totaling \$8,307.05
- Minutes for the July 26, 2017 meeting

PAYROLL

CHECK REGISTER

Lake Whatcom W-S District
MCAG #: 2330

08/03/2017 To: 08/03/2017

Time: 12:24:40 Date: 08/01/2017

Page: 1

Trans	Date	Type	Acct #	Chk #	Claimant	Amount	Memo
2513	08/03/2017	Payroll	5	EFT		3,048.94	07/15/2017 - 07/28/2017 PR 16
2514	08/03/2017	Payroll	5	EFT		2,615.65	07/15/2017 - 07/28/2017 PR 16
2515	08/03/2017	Payroll	5	EFT		2,226.02	07/15/2017 - 07/28/2017 PR 16
2516	08/03/2017	Payroll	5	EFT		3,074.72	07/15/2017 - 07/28/2017 PR 16
2517	08/03/2017	Payroll	5	EFT		5,718.06	07/15/2017 - 07/28/2017 PR 16
2518	08/03/2017	Payroll	5	EFT		1,273.90	07/15/2017 - 07/28/2017 PR 16
2520	08/03/2017	Payroll	5	EFT		1,533.78	07/15/2017 - 07/28/2017 PR 16
2521	08/03/2017	Payroll	5	EFT		2,628.89	07/15/2017 - 07/28/2017 PR 16
2522	08/03/2017	Payroll	5	EFT		629.55	07/15/2017 - 07/28/2017 PR 16
2523	08/03/2017	Payroll	5	EFT		3,171.98	07/15/2017 - 07/28/2017 PR 16
2524	08/03/2017	Payroll	5	EFT		1,653.61	07/15/2017 - 07/28/2017 PR 16
2525	08/03/2017	Payroll	5	EFT		1,793.82	07/15/2017 - 07/28/2017 PR 16
2527	08/03/2017	Payroll	5	EFT		2,273.27	07/15/2017 - 07/28/2017 PR 16
2528	08/03/2017	Payroll	5	EFT		1,435.21	07/15/2017 - 07/28/2017 PR 16
2529	08/03/2017	Payroll	5	EFT		1,767.13	07/15/2017 - 07/28/2017 PR 16
2530	08/03/2017	Payroll	5	EFT		3,810.48	07/15/2017 - 07/28/2017 PR 16
2531	08/03/2017	Payroll	5	EFT		2,252.21	07/15/2017 - 07/28/2017 PR 16
2519	08/03/2017	Payroll	5	6878		1,249.62	07/15/2017 - 07/28/2017 PR 16
2526	08/03/2017	Payroll	5	6879		2,467.72	07/15/2017 - 07/28/2017 PR 16

401 Operating Fund

44,624.56

44,624.56 Payroll: 44,624.56

I do hereby certify, under penalty of perjury, that the above is an unpaid, just, and due obligation as described herein, and that I am authorized to certify this claim.

Sign  Date 18-028958-P57:-7VDL

Board Authorization - As the duly elected board for this district we have reviewed the claims listed and approve the payment with our signatures below.

Commissioner

Commissioner

Commissioner

Commissioner

Commissioner

BENEFITS

CHECK REGISTER

Lake Whatcom W-S District
MCAG #: 2330

08/03/2017 To: 08/03/2017

Time: 08:57:45 Date: 08/02/2017

Page: 1

Trans	Date	Type	Acct #	Chk #	Claimant	Amount	Memo
2537	08/03/2017	Payroll	5	EFT	UNITED STATES TREASURY	18,421.78	941 Deposit for Pay Cycle(s) 07/20/2017 - 07/20/2017; 941 Deposit for Pay Cycle(s) 08/03/2017 - 08/03/2017
2538	08/03/2017	Payroll	5	6880	AFLAC	120.75	Pay Cycle(s) 08/03/2017 To 08/03/2017 - AFLAC Pre-Tax
2539	08/03/2017	Payroll	5	6881	AFSCME LOCAL	369.27	Pay Cycle(s) 08/03/2017 To 08/03/2017 - Union Dues; Pay Cycle(s) 08/03/2017 To 08/03/2017 - Union Fund
2540	08/03/2017	Payroll	5	6882	DEPARTMENT OF RETIREMENT SYSTEMS	3,041.00	Pay Cycle(s) 08/03/2017 To 08/03/2017 - DCP
2541	08/03/2017	Payroll	5	6883	HRA VEBA TRUST (PAYEE)	540.00	Pay Cycle(s) 08/03/2017 To 08/03/2017 - VEBA
2542	08/03/2017	Payroll	5	6884	VANTAGEPOINT TRANSFER AGENTS - 306798	588.00	Pay Cycle(s) 08/03/2017 To 08/03/2017 - ICMA
2543	08/03/2017	Payroll	5	6885	WA ST PUBLIC EMP RET PLAN 2	10,905.63	Pay Cycle(s) 07/20/2017 To 07/20/2017 - PERS 2; Pay Cycle(s) 08/03/2017 To 08/03/2017 - PERS 2
2544	08/03/2017	Payroll	5	6886	WA ST PUBLIC EMP RET PLAN 3	1,419.86	Pay Cycle(s) 08/03/2017 To 08/03/2017 - PERS 3
2545	08/03/2017	Payroll	5	6887	WA ST SUPPORT ENFORCEMENT REGISTRY	208.34	Pay Cycle(s) 08/03/2017 To 08/03/2017 - SUP ENF
2546	08/03/2017	Payroll	5	6888	WASHINGTON STATE HEALTH CARE AUTHORITY	13,677.39	Pay Cycle(s) 08/03/2017 To 08/03/2017 - PEBB Medical; Pay Cycle(s) 08/03/2017 To 08/03/2017 - PEBB ADD LTD; Pay Cycle(s) 08/03/2017 To 08/03/2017 - PEBB SMK Surcharge
401 Operating Fund						49,292.02	
						49,292.02	Payroll:
							49,292.02

BENEFITS

CHECK REGISTER

Lake Whatcom W-S District

MCAG #: 2330

08/03/2017 To: 08/03/2017

Time: 08:57:45 Date: 08/02/2017

Page: 2

Trans	Date	Type	Acct #	Chk #	Claimant	Amount	Memo
-------	------	------	--------	-------	----------	--------	------

I do hereby certify, under penalty of perjury, that the above is an unpaid, just, and due obligation as described herein, and that I am authorized to certify this claim.

Sign  Date 08-02-17 A08:01 00

Board Authorization - As the duly elected board for this district we have reviewed the claims listed and approve the payment with our signatures below.

Commissioner

Commissioner

Commissioner

Commissioner

Commissioner

CHECK REGISTER

BENEFITS

2nd Qtr 2017

Payroll Taxes

Lake Whatcom W-S District
MCAG #: 2330


07/28/2017 To: 07/28/2017

Time: 12:12:39 Date: 07/28/2017

Page: 1

Trans	Date	Type	Acct #	Chk #	Claimant	Amount	Memo
2492	07/28/2017	Payroll	5	6876	WA ST DEPT OF EMPLOYMENT SECUR	1,375.94	2ND Quarter 04/01/2017 - 06/30/2017
2493	07/28/2017	Payroll	5	6877	WA ST DEPT OF LABOR AND IND	6,931.11	2ND Quarter 04/01/2017 - 06/30/2017
401 Operating Fund						8,307.05	
						8,307.05 Payroll:	8,307.05

I do hereby certify, under penalty of perjury, that the above is an unpaid, just, and due obligation as described herein, and that I am authorized to certify this claim.

Sign  Date 7-31-17

Board Authorization - As the duly elected board for this district we have reviewed the claims listed and approve the payment with our signatures below.

Commissioner

Commissioner

Commissioner

Commissioner

Commissioner

Lake Whatcom Water and Sewer District
Regular Session of the Board of Commissioners
July 26, 2017

Board President Laura Weide called the Regular Session to order at 8:00 a.m. Other District representatives present included Commissioners Todd Citron, Curtis Casey, Bruce R. Ford, and John Carter, General Manager Patrick Sorensen, District Engineer Bill Hunter, consulting engineer Melanie Mankamy, Recording Secretary Lyn Edwards and Rachael Hope. Staff members Kevin Cook, Rich Munson and Randy Craker were also present. There were no members of the public present.

- Consent Agenda

- Action Taken

- Casey moved, Ford seconded, approval of:

- Accounts Payable Vouchers totaling \$135,488.33
 - Payroll for Pay Period #15 (7/1/2017 through 7/14/2017) totaling \$40,211.30
 - Payroll Benefits for Pay Period #15 totaling \$44,807.31
 - Minutes for the July 12, 2017 Meeting

- Motion passed.

- Customer Request - Kuschnereit

Sorensen explained that the Kuschnereits' own an approximately 3 acre vacant residential parcel at 975 Kings View Lane located within the District's boundaries. The property is at least 1,000 feet from the nearest District infrastructure. Due to the *Hirst* decision, it is not feasible for the property to use well water at this time. The Kuschnereits' have requested a permit from Whatcom County to use a rainwater catchment system and need a denial of service letter from the District to proceed. In their letter, the Kuschnereits' state that it would be a financial burden for them to connect and therefore do not want to sign a covenant binding their property to future water/sewer service. Discussion followed.

- Action Taken

- Citron moved, Carter seconded, to deny the request for a waiver from signing a Covenant binding their property for future water/sewer service. Motion passed.

- Country Club Sewage Pump Station – Staff Recommendation

Hunter stated that at the July 12th meeting BHC and Geo Engineers presented four alternative designs for replacement of the Country Club Sewer Pump Station. Staff was directed to evaluate the alternatives and make a recommendation. Based on information gathered and evaluated to date, staff's recommendation is to pursue Alternate 3 – Horizontal Direction Drilling (HDD); install a gravity pipe and eliminate the pump station contingent on results from a soil hydraulic fracturing analysis using soil sample data collected from recent boring test pits.

Geo Engineers can estimate drilling fluid pressures that the soil profile is likely to handle before developing a fracture to the surface. A factor of safety can be estimated to better understand and evaluate the risk of hydraulic fracture. The analysis is also a valuable piece of information to use during construction. Staff has a high confidence level that the HDD method will be able to install a gravity pipe at a slope sufficient to maintain self-cleaning wastewater flow velocities. The risks can be substantially minimized and managed by performing several more exploratory test borings and completing the soil hydraulic fracturing analysis.

Staff recommends authorizing an amendment to the engineering agreement to complete a soil hydraulic fracturing analysis. Concurrently, BHC and staff will begin working on a scope of work

and fee estimate for the next phase of the project to present to the Board of Commissioners for approval along with the results of the soil hydraulic fracturing analysis. Discussion followed.

Action Taken

Citron moved, Ford seconded, to authorize staff to amend the engineering agreement with BHC to have their sub consultant, Geo Engineers, proceed with the soil hydraulic fracturing analysis for time and materials not to exceed \$3,000.00 and to authorize staff to begin scope of work and fee negotiations with BHC for the next phase of work for Alternate 3 – Horizontal Directional Drilling. Motion passed.

- **Summary of Existing District Projects**

Hunter gave a status report on the Division 22 Reservoir project. Water Treatment Plant Operator Kevin Cook showed slides of schematics and charts illustrating water treatment plant capacity versus demand. Discussion and a question and answer period followed.

- **Manager's Report**

Sorensen reminded the Board about upcoming events and agenda items for future meetings.

With no further business, Weide adjourned the Regular Session at 9:18 a.m.

Recording Secretary, Rachael Hope

Date Minutes Approved

Laura Weide

Todd Citron

Bruce R. Ford

Curtis J. Casey

John Carter