

# 2015



# Annual Report

**Our mission is to provide high quality water and excellent customer service while effectively managing District infrastructure for a reliable water system today and for future generations.**

## History of District

Highline Water District was formed following a special election on August 12, 1946. Since its initial formation, the District experienced several annexations, mergers, and withdrawals resulting in the District's currently established boundary. Today, the District serves portions of seven cities including Burien, Des Moines, Federal Way, Kent, Normandy Park, SeaTac and Tukwila along with portions of unincorporated King County and the Port of Seattle. The current retail service area is approximately 18 square miles and serves a population of over 69,000 people.

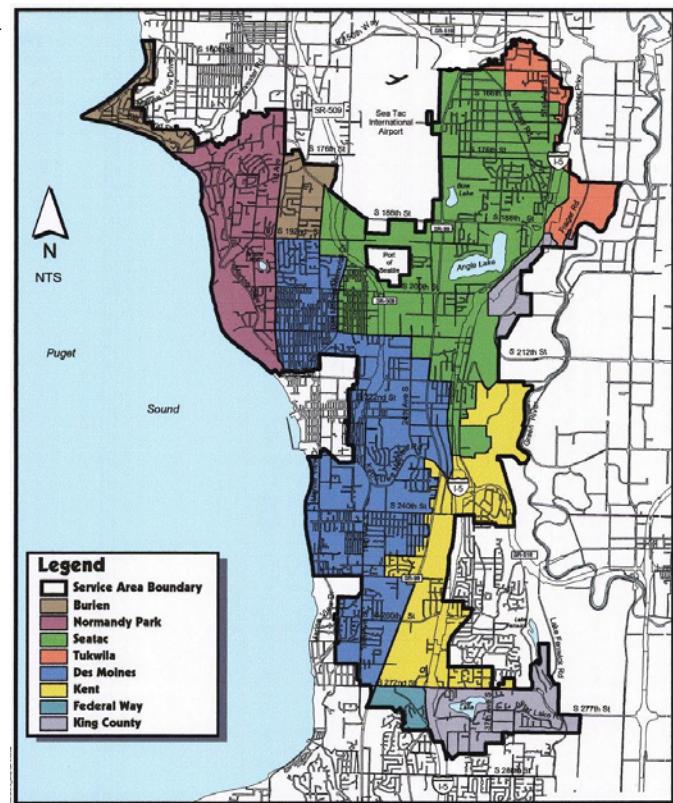
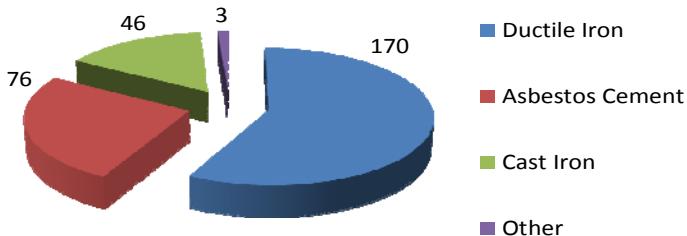
## System Inventory

The District's transmission and distribution system is comprised of six pump stations, nine water storage facilities totaling 21.35 MG, eleven pressure zones, 29 pressure reducing stations, ten emergency interties and over 295 miles of water main ranging from 2-inch to 36-inch in diameter. Seattle Public Utilities supplies approximately 70% of the systems water through three source locations. The remaining 30% water source is produced through four District owned groundwater wells and three treatment facilities. At the end of 2015, the District had 18,385 active meters, ranging in size from 5/8 inch to 8 inch, including 112, 3-inch and larger meters.

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Miles Of Water Main by Type



## CAPITAL IMPROVEMENT PROGRAM

The District's Capital Improvement Program (CIP) is an on-going effort with the primary mission of improving the District's aging infrastructure with modern, more efficient, reliable technology and materials.

In 2015, the Board of Commissioners accepted project 13-1B Angle Lake water main replacement project along Military road as complete. Project 13-1A, the Angle Lake water main replacement project (private properties) is approximately 50% complete. Tyee Well rehabilitation is still ongoing and there are several new projects on the horizon for 2016. More details for each project can be found on the next several pages .

### Complete Projects

#### **Project 13-1B - Military Road at Angle Lake Water Main Replacement**

The District owns and maintains several small 4" and 6" diameter AC water mains along the northwest, south and east side of Angle Lake in the City of SeaTac. The mains are located within existing easements on private property along the lake and within Military Road between 46<sup>th</sup> Ave S and S 198<sup>th</sup> St. Projects 13-1A and 13-1B includes the replacement of approximately 8,900 LF of smaller diameter main with new, modern materials around the Angle Lake neighborhood that is nearing the end of its useful life.

In early 2012, the District awarded a consultant contract with BHC Consultants, Inc. The first phase of the project included preliminary engineering to determine feasible replacement alternatives. In addition, services included performing preliminary survey, environmental and geotechnical reconnaissance, and community involvement. BHC completed the first phase in February 2013.

The second phase of the project included design and contract document preparation for construction. The phase also included obtaining permits, easement acquisition, and community involvement. During the consultant contract scoping for Phase Two, the District elected to divide the project into two separate, smaller projects for efficiencies and schedule. Project 13-1B Military Road S at Angle Lake (this project) included the portion of the original project within city right-of-way along Military Road. The remaining work within the easements around the lake was renumbered as Project 13-1A.

Roth Hill/Stantec designed Project 13-1B. The project included the installation of 3,400 LF of water main. The Board awarded the project to Buno Construction in August 2014 for \$902,739.90. Construction began the subsequent September. Buno completed the project in February 2015. The final construction cost was \$982,821.73. Projects 13-1A and 13-1B are funded with a combination of rates and the PWTF loan.



## ONGOING PROJECTS 2015

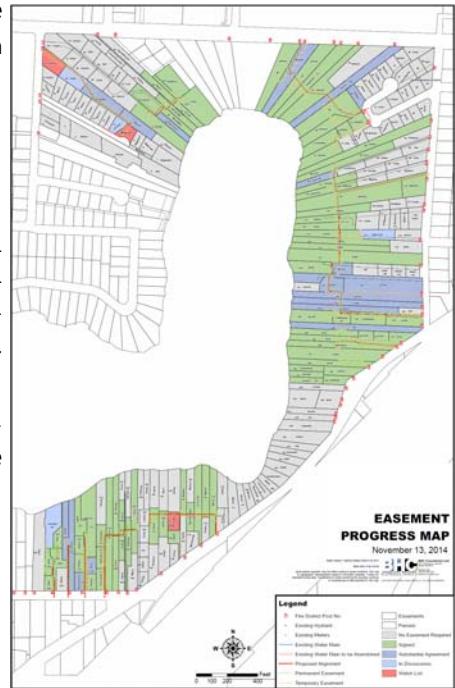
The District originally scheduled the construction for three water main replacement projects in 2015. These projects will now be constructed in 2016. The City of Seatac, the lead agency in two of the projects, delayed construction to address design considerations for their portion of work. In addition, the District delayed one project to better coordinate with the City of Normandy Park's capital road project. The following projects started design and/or construction in prior years and will continue into the budget year 2016.

### **Project 13-1A Angle Lake Water Main Replacement (Private Properties along Lake)**

Buno Construction completed Project 13-1B, the Military Road portion, in early 2015. Project 13-1A (this project) includes the work on private property around the lake. BHC completed the design and easement acquisition in June, 2015. The project includes the replacement of approximately 5,560 LF of AC with new water main, hydrants and appurtenances. In total, the District secured over 104 easements from the property owners around the lake.

The District awarded a construction contract to Kar-Vel Construction on July 21, 2015. Kar-Vel's Bid was \$2,194,456.65. Construction began in October 2015 and anticipated to be complete by spring 2016.

The total project budget for Project 13-1A for \$3,653,294.



### **Project 13-3 City of SeaTac 24th/28th Ave S Extension (S 200th St - S 208th St)**

The City of SeaTac identified the need to connect 28th/24th Ave S between S 200th St and S 208th St to support the SeaTac Regional Growth Center (STRGC). The project will be the last segment to complete a five lane principal arterial corridor with bicycle lanes and sidewalks from S 188th St to S 216th St. The project provides a vital connection within and between the STRGC, the City of Des Moines, the Port of Seattle, Sound Transit's 200th St Link Light Rail Station and the future SR 509. In addition, the project will create a parallel alternative to SR 99 for aviation support freight vehicles.

The District has several existing water mains at S 200th St and S 208th St but no water mains within the project segment. The estimated project length is 1,000 LF of 8" diameter DI water main. The new alignment will have minimal water connections and primarily designed for fire suppression. A significant portion of the area is within the SR509 interchange. Seatac will advertise the project in early 2016 for construction in 2016 & 2017.

### **Project 14-4 40th Ave S Water Main Replacement**

In May 2012, the City of SeaTac selected the segment of 40<sup>th</sup> Ave S between S 166<sup>th</sup> St and S 170<sup>th</sup> St as the project for the 2015 Sidewalk Improvement Program. The City's work includes the installation of new curb and sidewalk on both sides of the street along with storm drainage improvements and surface restoration.

The District operates an existing 8-inch diameter AC water main between S 166<sup>th</sup> St and S 170<sup>th</sup> St. South Seattle Water Company installed the approximately 1,200 LF water main in 1962. The District desired to replace the main along with the City's road project. By partnering with the City on their contract, the District will save on administration and restoration costs for the project. The City will issue a five (5) year moratorium for open cutting the road upon completion of the overlay.

The Board authorized a design contract with Parametrix, Inc. on July 16, 2014 and an Inter-local Agreement with the City of SeaTac on May 20, 2015. The City advertised and awarded the contract to RW Scott Construction on October 13, 2015. The awarded construction cost for the water work is \$214,833.53. The water main work will begin January 2016.



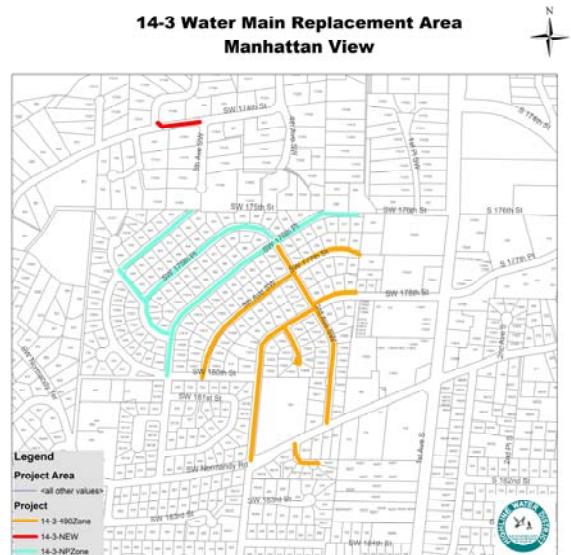
## ONGOING PROJECTS for 2016

### **Project 14-3 Manhattan View Water Main Replacement**

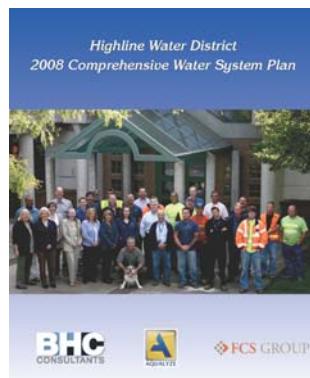
The District in its continuing effort to replace aging small diameter AC water mains, selected the Manhattan area in Normandy Park as a candidate for a future CIP. The project area is generally bounded between 2<sup>nd</sup> Ave SW and 7<sup>th</sup> Place SW in the residential neighborhood north of SW Normandy Road. The area is served by approximately 10,500 LF of small diameter AC pipe ranging in size from 4-inch and 8-inch. The District experienced several small main breaks in the past due to relatively higher pressures in the area.

The Board contracted with Gray and Osborne for survey and design. The District scheduled the project for construction in 2015; however the City of Normandy Park expressed concern over the multiple construction projects in the general Manhattan area in 2015. Subsequently, the District decided to postpone the project until early 2016 for construction in spring.

The District allocated \$3.17 million for the total project costs and will fund the project with rates and existing capital reserves.



### **Project 14-1 2016 Comprehensive Water System Plan Update**



WAC 246-290-100 requires water purveyors to update their comprehensive water plan every six years. Highline Water District's current water system plan was formally approved by Department of Health (DOH) on July 20, 2009. The District will complete the plan update in early 2016.

District staff contacted DOH to discuss a water industry proposal to change plan updates from a six year to a 10 year schedule. DOH stated there is momentum to change the requirement but it will take approximately two years by DOH to have the formal approvals to make the change.

Recent trends in water demands and population are less than forecasted projections in the 2008 Water System Plan. The economy, reduction in new development, and changes in water use by existing customers caused the reduction. Because the trend is less than forecasted, the assumptions in the existing Plan appear conservative.

The District retained the services of Carollo Engineers to develop the new plan. The plan will focus on a 10 year and 20 year planning horizon in the event DOH allows 10 year updates. In addition to the update, Carollo will update the existing hydraulic model and evaluate several different supply scenarios to be used as part of a future Lakehaven Utility District supply. Also, FCSG will review the District's rates and capital connection charges.

The District budgeted approximately \$235,000 for the complete plan. The District will fund the plan by existing water rates. Work will be complete in 2016.

## ONGOING PROJECTS for 2016

### **Project 15-1 Tyee Well Rehabilitation**

The Tyee Well is one of four production wells operated by the District. The location of the well is adjacent to the Tyee Golf Course within the City of SeaTac. The Tyee Treatment Plant treats the well water and serves the 490 Pressure Zone. The well and treatment plant became operational in 2004.

The well design called for an instantaneous withdrawal rate of 750 gpm and an annual production of 600 acre-feet per year. From the initial operation of the well, the District experienced a gradual decline in instantaneous production over time. In early 2015, the well produced approximately 340 gpm and rested on weekends to help recovery.

The District implemented several rehabilitation methods in the past, including, well redevelopment in 2006 and a Hydrolpuls® impulse generation in 2008. The rehabilitation methods yielded short-term increases in well production but the flow rates continued to decline over time.

In April 2015, the District removed the well pump and motor. The equipment showed significant damage from the presence of iron-related bacteria within the well formation. The pump was damaged beyond repair. The District retained RH2 Engineers to size a replacement pump and motor. PumpTech ordered the replacement pump and scheduled delivery in early 2016.

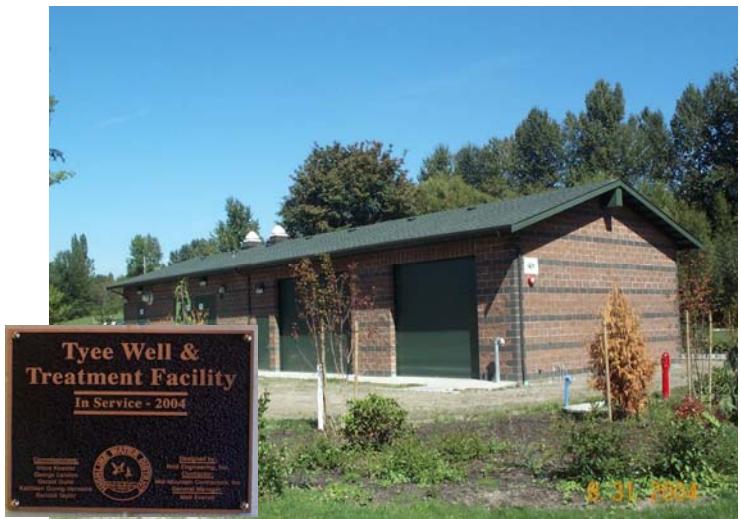
RH2 explored options to create a more permanent solution to increase production from the well. Unfortunately, there are few tested methods other than redevelopment to address the iron bacterial issue. The District did not select more experimental options that require the use of chemical additives to the groundwater. The District will continue water testing to develop a more accurate schedule for planning well redevelopments in the future.

Robinson Noble assisted in preparing contract documents for a well redevelopment prior to delivery of the new pump and motor. The Board contracted with Hokkaido Drilling to perform a mechanical and chemical redevelopment. Rehab work should be complete by the end of 2015.

The District budgeted \$250,000 in 2015 to complete the redevelopment and purchase the new pump. Some of the 2015 expenditure will be spent in 2016 upon delivery of the pump and motor. The District budgeted \$140,000 in 2016. Funding for the project will be by water rates and capital reserves.



Damaged Tyee well impeller



## NEW PROJECTS for 2016

### **Project 14-2 560 Zone Lakehaven South Supply Study and Design**

Lakehaven Utility District (LUD), a regional partner in the new Tacoma Treatment Plant, began receiving filtered water from the source in 2015. LUD approached the District to discuss selling an average of 2.0 MGD to Highline.

The benefit of purchasing water from LUD is to have a redundant source of supply at a lower cost than Seattle Public Utilities (SPU), to help boost the hydraulic grade line in the southern portion of HWD, and to give additional operational flexibility to the District. The District gave a 5-year notice to SPU in August 2011 of its intention to purchase water from LUD in 2016, as required by the Partial Services Contract between the agencies.

Prior to purchasing water from LUD, the District will require the approval from the Department of Health. Planning work, including a blending study, will be necessary. The District will need to identify any necessary capital improvements along with future operation evaluation and assistance. Carollo, the consulting firm developing the District's Water System Plan, began the initial effort as part of the update. The District will need subsequent planning after analyzing the initial feasibility.

The District allocated \$50,000 in the 2015 budget for studies and evaluations. The District did not perform any work in 2015 beyond the Water System Plan due to LUD switching from Tacoma water to their groundwater sources for the summer drought. The budget for 2016 includes \$125,000 for studies/evaluations and \$475,000 in 2017 for any needed capital improvements. Upon completion of the initial study effort, the District can perform a more detailed budget of the necessary expenditures. The initial funding for the project is by rates and capital reserves.



Howard Hansen Dam

### **Project 16-2 Pump Station No. 8 (Crestview)**

The District's two primary water sources for the 560 Pressure Zone are Pump Station No 6 (PS6) and Pump Station No 1 (PS1). A major component for storage in the 560 Zone is the 7.6 MG Crestview Reservoir. Source water from Seattle Public Utilities and storage in the Crestview Reservoir must pump through PS6 to serve the 560 Pressure Zone.

From the 2016 Water System Plan analysis, a second pump station serving water from the Crestview Reservoir and SPU into the 560 Pressure Zone would significantly improve redundancy in the system. The first phase will be preliminary engineering and feasibility. The preliminary engineering will address sizing and location of the station. Subsequent phases will be design and construction.

The District allocated \$250,000 in the 2016 budget and \$1,544,000 in 2017 for design and construction of the new station. Staff will revise the budget upon completion of the preliminary engineering and scoping. Project funding will be from existing rates and capital reserves.

### **Project 16-3 Mansion Hill Reservoir Relocation**

In late 2015, Sound Transit selected the SR509/I-5 route for the Federal Way Link Light Rail Extension Project. The proposed alignment passes adjacent to the District 5.0 MG 490 Zone reservoir at Mansion Hill. The close proximity of the light rail will require the relocation of the reservoir.

The project will require several phases of work. The first phase will be preliminary engineering, including survey, geotechnical investigation, planning, permitting and overall project scoping. The first phase includes assisting the District in contract negotiations with Sound Transit for cost reimbursement. Subsequent phases will include design, permitting, construction inspection and administration. The District must complete the reservoir work by early 2019 to avoid conflicts with Sound Transit's construction.

## DEVELOPER EXTENSIONS

### Accepted as Complete - in 2015

**Artemis Hotel** - 8 Story Hotel  
22406 Pacific Highway S, Des Moines



Artemis Hotel

**Cedarbrook Lodge** - Building Addition  
18525 36th Ave S, Seatac



Cedarbrook Lodge

**Hibford Glen** - 23 single family residences  
S 282nd & 32nd Ave S, King County

**SeaMar Family Housing** - Family Living Facility  
24200 Pacific Highway South, Des Moines



SeaMar Pipe installation

### New Projects - Authorized in 2015

**Angle Lake Estates** - 10 Single Family Units  
18810 41st PL S, Seatac



**Belleme at Normandy Park** - 4 Multi Family Units  
& 2 Commercial Buildings  
18849 1st Ave S, Normandy Park

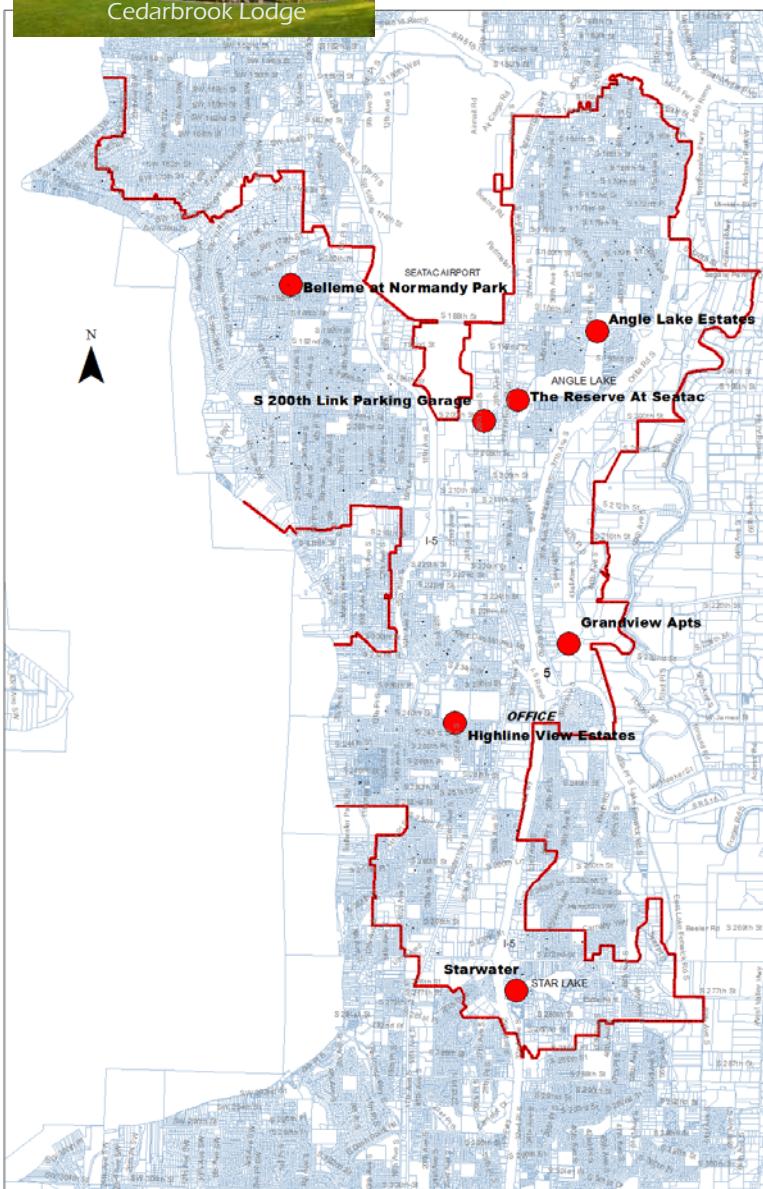
**Highline View Estates** - 21 Single Family Units  
240xx 22nd Ave S, Des Moines

**The Reserve at Seatac** - Senior Living Facility  
19707 Intl. Blvd., Seatac

**Starwater** - 34 Single Family Units  
276xx Military Rd S, King County

**S 200th Link Parking Garage** - Parking Facility  
200th & 28th Ave S, Seatac

**Sound Transit South Link** - Light Rail Station  
28xx S 200th ST, Seatac



### Ongoing - Projects in 2015

**Belvedere Apts** - Mutli Family Units  
S 209th & 39th Ave S, Seatac

**Blueberry Lane** - 64 Single Family Units  
S 194th & Des Moines Memorial Dr., Des Moines

**Panattoni Development** - Light Industry Facility  
Phase 1 Gateway Project  
S 208th & 24th Ave S, Des Moines

## PUBLIC INVOLVEMENT AND EDUCATION

### PROFESSIONAL ORGANIZATIONS/LOCAL JURISDICTIONS GOALS:

- Remained involved in AWWA, WASWD, Seattle Operating Board and other professional organizations
- Coordinate with neighboring city officials and staff for utility tax issue

### ENVIRONMENTAL EDUCATION

The District hosted a poster contest for local 4th & 5th graders and made a calendar showcasing the top 12 posters. 175 entries were received from 6 schools within the Highline Water District service area. Each student that had a poster chosen for the calendar received a \$25.00 gift card to Barnes & Noble Books and four copies of the calendar for their family members.



Participated in SPU regional conservation efforts

### REPORTS/BROCHURES

The 2014 CCR (Consumer Confidence Report) was offered to District consumers in three formats. On-line on our District website (printable PDF), Email or a printed copy for customers who requested them. 12,338 postcards and 18,395 water bill messages outlining methods of obtaining the CCR were sent to District customers, businesses and multi-family dwellings within Highline Water District's service area. Sending postcards and billing messages in lieu of the actual CCR, saved the District thousands of dollars in printing and postage costs. The CCR may be found on the following link:

[http://www.highlinewater.org/media/45942/annual-report\\_2014\\_3-25-15.pdf](http://www.highlinewater.org/media/45942/annual-report_2014_3-25-15.pdf)

The District prepared two semi-annual newsletters (*The Waterline*) emphasizing conservation, rates and our Capital Improvement Program

### STATE LEGISLATORS/LEGISLATION GOALS

To remain aware of and involved in State legislative issues that pertain to Water Districts, commissioners and General Manager regularly attend W.A.S.W.D. meetings.



## CUSTOMER SERVICE GOALS

PROVIDE EXCELLENT CUSTOMER SERVICE - The District received approximately 24,000 calls in 2015

BE ACCURATE AND CONSISTENT WHEN PROVIDING CUSTOMERS WITH INFORMATION

- Newsletter, Web Page, Door Tags, Message(s) on Customer Billings

Bills Sent	2015
Regular bills	113,528
5.4% of bills sent electronically	6,208
Final bills	1,352
Tenant accounts	1,472

## ADMINISTRATION GOALS

ENSURE COMPLIANCE WITH GOVERNMENTAL ACCOUNTING STANDARDS BOARD (GASB) AND THE WASHINGTON STATE AUDITOR

- Communicate the District's Ethics policies to staff and Board annually
- Continue to provide an ethical work environment
- Provided accurate quarterly and year-end financial reports to the Board in a timely manner
- Invited Board of Commissioners to exit meetings with State Auditor—The District received another clean Audit for 2014.
- Maintained GAAP procedures and maintain proper internal controls
- Economic Stability—Maintain rates < 1% of median household income

CONTINUE UPDATE OF GUIDELINES FOR PURCHASING AND CONTRACTING

CONTINUE UPDATE OF JOB DESCRIPTIONS WITH "ESSENTIAL JOB FUNCTIONS" FOR ADA REQUIREMENTS

## TRAINING AND SAFETY



**Don't let distracted driving happen to you!**

Highline ended the year with

**349 days**

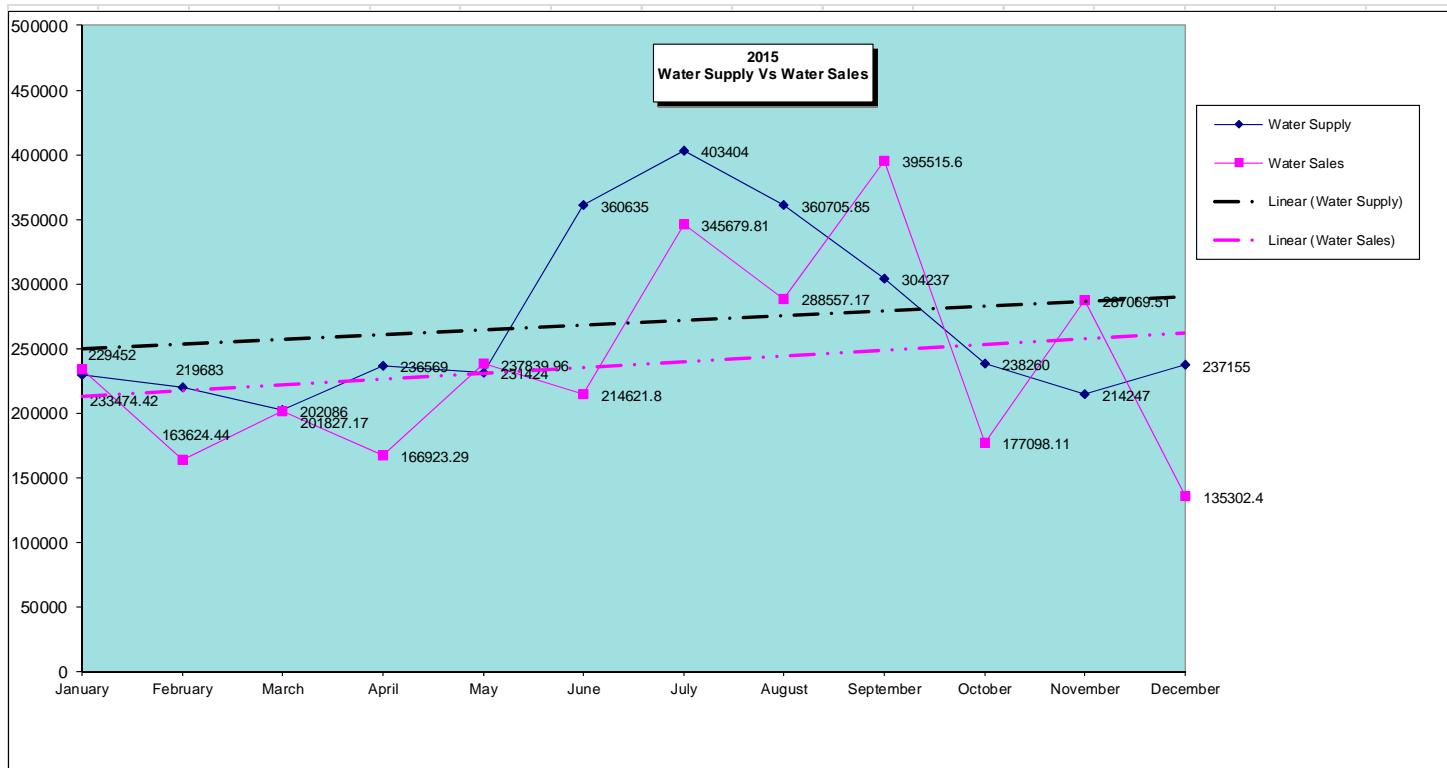
worked without an injury.

The L&I experience factor was 0.7884 for 2015 and will be 0.6975 for 2016.

### COMPLETED REQUIRED SAFETY TRAINING

- Annual Fit Tests of personal protective masks was completed. These masks are used for entry into potentially hazardous confined spaces.
- Annual Hearing Tests were performed on field personnel
- Safe Driver Training
- Asbestos Pipe Handling (field personnel)
- Fire Extinguisher training
- Employee Harassment/Prevention Training
- Heat Stress

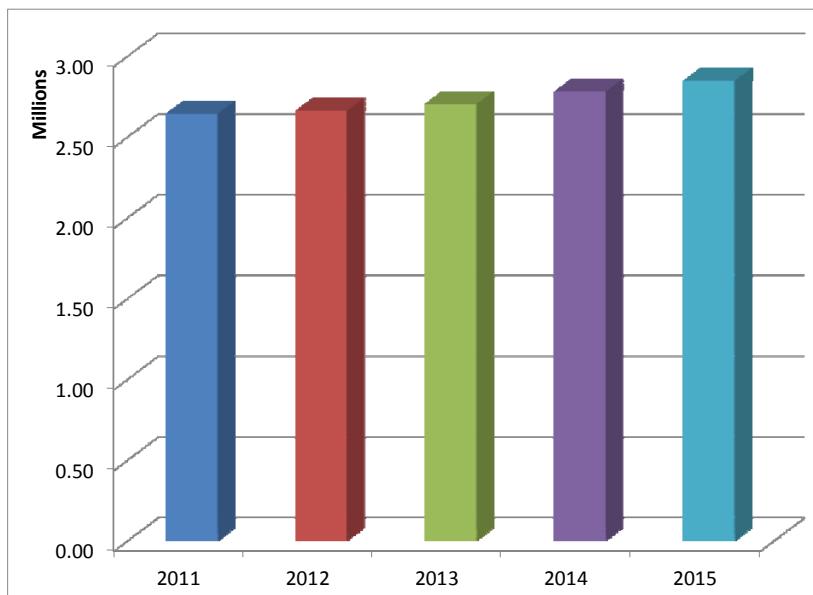
## WATER SALES DATA



## Water Production Goals

The annual goal for water production from the District's four wells was 940,000 CCF. The actual production in 2015 was 834,209 CCF. The reason the goal was not achieved was due to the repair and reconstruction work at Tyee Well. Tyee Well has been offline for most of 2015 for repairs.

CCF



## Water Consumption by Year

Year	Meters	Billed (CCF)
2011	18,144	2,644,611
2012	18,166	2,660,829
2013	18,268	2,703,074
2014	18,336	2,779,089
2015	18,385	2,847,534

## LEAK DETECTION AND WATER LOSS GOALS

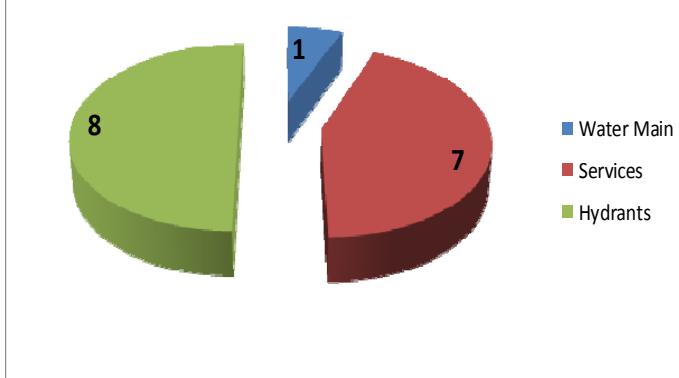
- Keep unaccounted water usage below 10% (reference WSDOH Water Use Efficiency Requirements)  
Unaccounted for water was 11.39% this year. Staff believes there is a discrepancy with S.P.U. source meter(s).
- Continue monitoring for unmetered water connections/uses—No unmetered connections were found in 2015
- Repaired 16 detected leaks discovered during the leak detection process
- Performed annual leak detection on 98 miles of main line and services (98 mile annual goal)

## Non-Revenue Water

A.W.W.A. GOAL IS < 10%



Leaks Found in 2015



## Leaks and Water Loss

On average, the District experiences 9-10 water main breaks per year. There were six breaks in 2015, 3 from natural causes and three from damage caused by contractors working in the area. Typically, leaks are the result of numerous causes which may include ground settlement, tree roots, or a contractor working in the area. These breaks cost the District lost revenue and time.

In an effort to avoid unexpected problems before they occur, District crews leak detected approximately 98 miles of water main to look for leaks in the system. As a result of these efforts, they found and fixed leaks in one main, 7 services and 8 hydrants before they became bigger problems. Fixing these combined leaks saved an approximated 127 gallons per minute, potentially saving millions of gallons of water from being wasted over time.

As an example of how fast this adds up:

1 gallon per minute =

60 gallons per hour =

1,440 gallons per day =

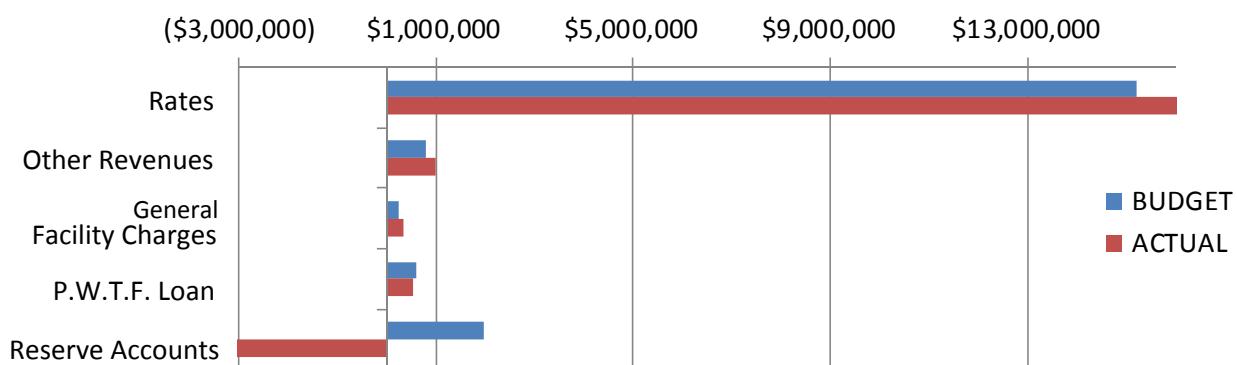
525,600 gallons per year

## 2015 Budget Recap

*(Unaudited)*

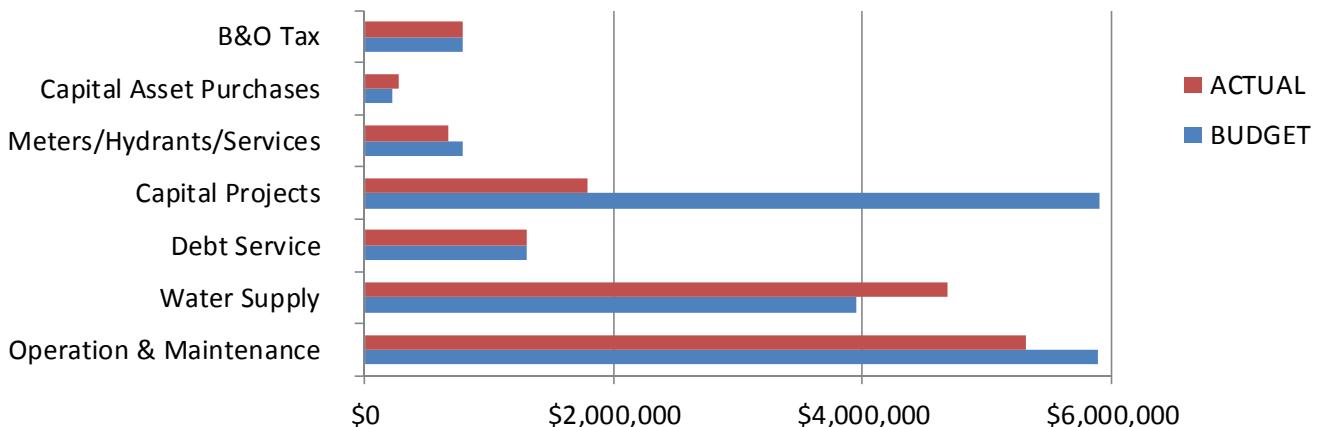
### 2015 Sources of Funds

	BUDGET	ACTUAL	% OF BUDGET
Rates	\$15,205,055	\$16,073,541	105.7%
Other Revenues	\$783,553	\$980,974	125.2%
General Facility Charges	\$250,000	\$345,058	138.0%
Public Works Trust Fund Loan	\$616,182	\$539,567	87.6%
Reserve Accounts	\$1,983,125	(\$3,122,710)	-157.5%
<b>TOTAL SOURCES OF FUNDS</b>	<b>\$18,837,915</b>	<b>\$14,816,430</b>	<b>78.7%</b>



### 2015 Uses of Funds

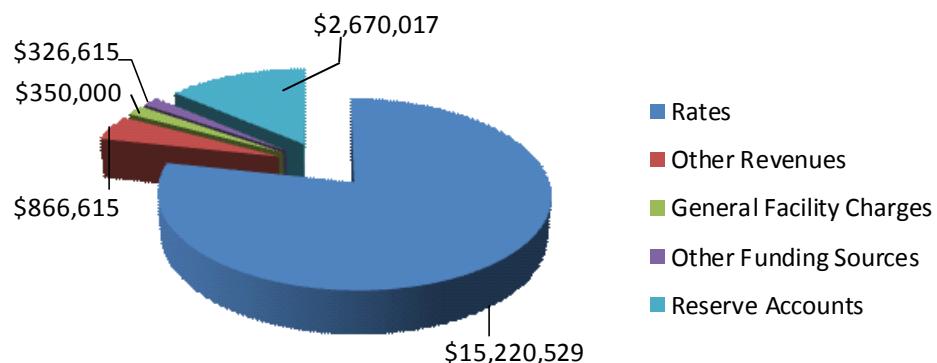
	BUDGET	ACTUAL	% OF BUDGET
Operation & Maintenance	\$5,888,862	\$5,317,154	90.3%
Water Supply	\$3,955,568	\$4,684,688	118.4%
Debt Service	\$1,298,722	\$1,298,324	100.0%
Capital Projects	\$5,902,497	\$1,793,383	30.4%
Meters/Hydrants/Services	\$790,000	\$666,172	84.3%
Capital Asset Purchases	\$219,000	\$267,390	122.1%
B&O Tax	\$783,266	\$789,319	100.8%
<b>TOTAL USES OF FUNDS</b>	<b>\$18,837,915</b>	<b>\$14,816,430</b>	<b>78.7%</b>



## Board Approved 2016 Budget

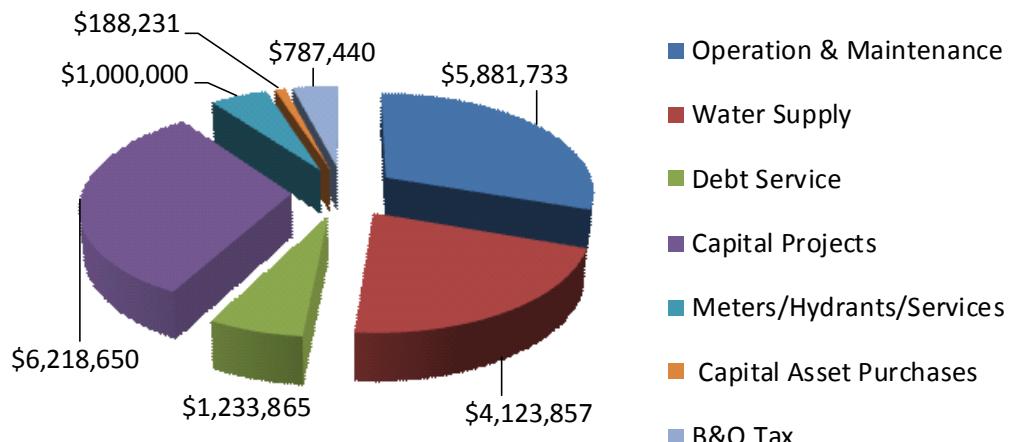
### 2016 Sources of Funds

Rates	\$15,220,529	78.32%
Other Revenues	\$866,615	4.46%
General Facility Charges	\$350,000	1.80%
Other Funding Sources	\$326,615	1.68%
Reserve Accounts	\$2,670,017	13.74%
<b>TOTAL SOURCES OF FUNDS</b>	<b>\$19,433,776</b>	<b>100.00%</b>



### 2016 Uses of Funds

Operation & Maintenance	\$5,881,733	30.27%
Water Supply	\$4,123,857	21.22%
Debt Service	\$1,233,865	6.35%
Capital Projects	\$6,218,650	32.00%
Meters/Hydrants/Services	\$1,000,000	5.15%
Capital Asset Purchases	\$188,231	0.97%
B&O Tax	\$787,440	4.05%
<b>TOTAL USES OF FUNDS</b>	<b>\$19,433,776</b>	<b>100.00%</b>



## WATER QUALITY GOALS

### PROVIDE HIGH QUALITY WATER

Comply with DOH WAC 246-290 monitoring requirements

- Maintain Cross-Connection Control Program per District Standards
- Maintain fluoride concentration in accordance with regulatory agencies recommendations
- Maintain pH concentration between 7.4 and 8.0 mg/L in distribution system
- Maintain Wellhead Protection Plan
- Locate and install three (3) coliform monitoring stands in unrepresented zones

### RESPONSIVE TO CUSTOMER NEEDS

- Address water quality inquiries in a professional and thorough manner
- Respond within one hour to water quality complaints

### TANK CLEANING /DISINFECTION

- Clean/disinfect each of the District's nine (9) tanks on a 5-year schedule

### MAIN FLUSHING

- Flush all distribution main lines every five years (59 miles annually)
- Flush approximately 429 dead-end mains annually
- Maintain chlorine residual in the distribution system between 0.2 mg/L and 1.6 mg/L

### TREATMENT PLANT OPERATORS

- Remove a minimum of 90% iron and manganese and manage tank water levels to maximize water turnover
- Maintain PH, chlorine and fluoride levels as mentioned in water quality goals

## Water Quality Recap

Highline Water District continued to provide high quality water that meets applicable state and federal standards for safe drinking water in 2015.

This past year, District staff updated the Wellhead Protection Program by completing surveys within the wellhead protection area boundaries for each of our wells. The surveys identified potential hazards in the wellhead protection zones. We notified the property owners of their location within these areas and the agencies with jurisdiction over these properties of what we identified.

Unregulated Contaminant Monitoring Rule 3 (UCMR3) sampling was completed as required by the EPA. The data from this monitoring will help the EPA to support its decisions on what to regulate in the future.

Customer concerns regarding water quality remained a priority for our staff. This past year, we responded to 37 water quality concerns. Of this total, 7 of the calls were about taste, 8 odor, 7 color and 15 miscellaneous. Each of these inquiries prompted a site visit and evaluation by District staff. During or after the visit our customers were informed of the findings and any remedial actions they could take to alleviate their concerns.

In addition we tested over 850 samples for water quality purposes.

## OPERATIONAL and PREVENTATIVE MAINTENANCE GOALS

### **HYDRANTS**

- Coordinated hydrant numbers with South King Fire District.
- Continued aggressive policy of policing or monitoring hydrant use by third parties
- Cleaned and painted 20% of hydrants each summer (451 completed of 600 annual goal)
- Replaced twelve fire hydrants

### **VALVES**

- Operate/maintain approximately 1,200 smaller diameter valves each year (5yr cycle) 1,062 completed
- Annually operate/maintain approximately 173 larger diameter valves (> 12") (165 completed)
- Annually operate/maintain approximately 343 "hard to find" valves (291 completed)
- Inspect 165 Air & Vacs - 91 completed, after inspections were made, many were found to be in need of repair. 42 new work orders were generated.

### **METERS**

- Maintain Radio Read System – Replace batteries and defective MXU's as needed (1,829 replaced)
- Tested accuracy of small meters per current AWWA recommendations
- Tested accuracy of three to eight inch meters annually
- Replaced 97 (1-1/2" and larger) meters
- Inspected 5,286 meters and boxes for location and accessibility (6,000 annual goal)
- Spot checked 100 older 5/8" and 3/4"meters for accuracy



### **TREATMENT PLANT AND PUMP STATIONS**

- Produced 834,209 ccf of water annually from District sources
- Routinely checked for vandalism and operational problems
- Continued development of proactive preventive maintenance schedule.

### **MAINS/SERVICES**

HWD crews completed four small water main replacement projects:

<b>Location</b>	<b>Before</b>	<b>After</b>
• 5th Ave S at S 200th St	197' 6" AC	175' 4"DI
• 18th Ave S between S 255th & S 257th St.	279' 6" AC	279' 8"DI
• 209th & Marine View Dr.	40' 8"CI	59' 8"DI
• S 243rd & Marine View Dr. (relocated)	210' 2"Copper	199' 2"Copper

- Utilized Asset Management Program to identify aging infrastructure/appurtenances for replacement
- Identified opportunities to partner with cities for public works projects
- Replaced 27 deficient services
- Checked 230 of 909 District easements for encroachments (5yr-cycle)

## OPERATIONAL and PREVENTATIVE MAINTENANCE (CONT.)

- Checked all PRV Stations monthly and clean annually
- Rebuilt PRV stations per manufacturer's recommendations (based on installation date)



**PRV STATIONS REBUILT IN 2015**

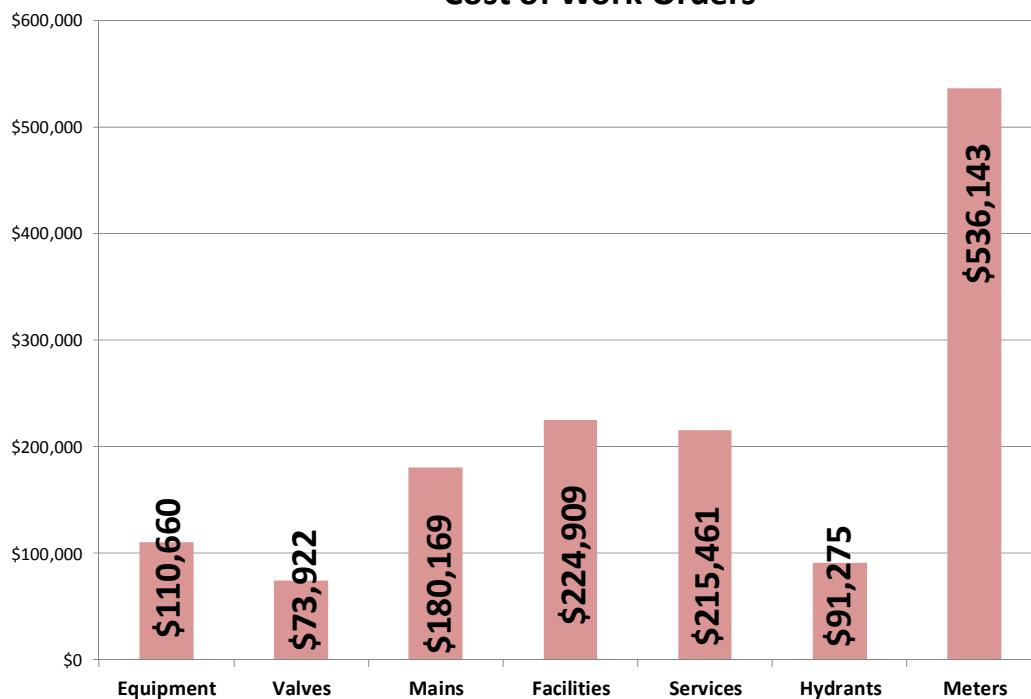
Station No.	Location
PRV-17	21800 40th PI S
PRV-18	21600 43rd Ave S
PRV-19	3800 S 216th ST
PRV-22	4100 S 216th ST
PRV-27	2800 S 240th ST
PRV-28	2230 S 240th ST
PRV-29	23402 18th Ave S
PRV-30	25746 16th Ave S

- Rebuilt seven (7) of thirty four (34) Control Valves per year on a 5-year schedule

### UNEXPECTED SHUTDOWNS

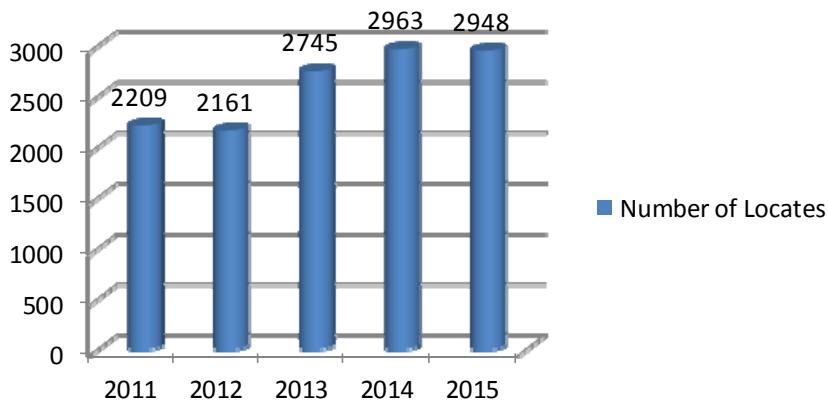
- Restored service within an average of eight hours or less.
- There were a total of 6 unexpected shutdowns in 2015. Three were caused by contractors working in the area and the other three were from natural causes. All were repaired the same day with the goal of all shutdowns to be completed in less than 8 hours of interruption.

**Cost of Work Orders**



## LOCATES

### Number of Locates by Year



Locate Type	Count
Emergency	26
Marked	834
Out of District	327
Private Property	757
No Highline Water	325
Other	676
Mis Marked	0



The District had 2,948 line location requests in 2015, including 834 field locates. The rest did not require a site visit.

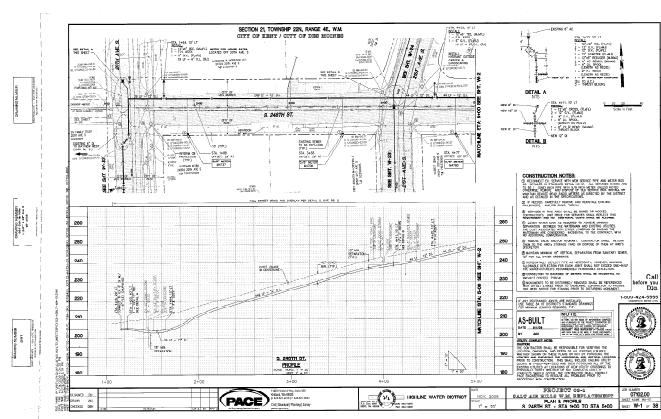
Often the locate requests require the operator to find the main in difficult situations. (See example left).

The marks must be maintained in all kinds of working conditions. Sometimes they place flags to mark the location of the main.

### How do we find the main?

Highline uses several methods to locate the main.

- Metal detectors – similar to what you may see hobbyists looking for metal items with at a park or beach .
- GPR - ground penetrating radar – it looks like a lawn mower but uses radio wave technology to send sound waves into the ground that produce an image the operator can see.
- Maps and plans - record drawings of where the main went into the ground originally.
- Institutional knowledge. - many of the field crews have years of experience and may have been on the original crew that installed the main.
- Line locators send electric signal through metallic pipe.



## OTHER GOALS

### COMPUTER SYSTEM

- The GIS Launcher was activated in the Harris billing system. The GIS Launcher allows customer service personnel the ability to see the location of a customer's meter from their billing application

### GIS/GPS/MAPPING

- Maintain GPS of new/replacement infrastructure - 2,368 meters were GPS located in 2015
- Continued to keep as-built maps current
- Continued to train Field staff in use of GPS equipment

### OFFICE

- Kept the office building grounds clean and well maintained – the office exterior was repainted
- Cleaned debris from gutters and downspouts semi-annually or more often if needed

### PARTS INVENTORY

- Continue to improve reconciling parts to Work Orders
- Strive for <5% loss inventory – after inventory was complete there was less than a 1% loss

### VEHICLES/EQUIPMENT

- Kept clean and well-maintained
- Maintained a proactive preventive maintenance schedule – Preventative maintenance is scheduled by odometer reading or mileage for each of the vehicles
- Reduce fuel consumption whenever possible
- Complete vehicle inspection work orders in a timely manner – Inspection work orders generate weekly

### EMERGENCY MANAGEMENT AND MITIGATION EFFORTS

- Emergency Management Team and Safety Committee will continue to update and keep the Emergency Response Plan current
- Performed software and device upgrade of security system – installed new cameras at District headquarters
- Continued on-going security improvements at District facilities per Vulnerability Assessment and Hazard Mitigation Plan

### FIRE HYDRANT SECURITY

- Continue to monitor hydrants to ensure they are being used properly and with District authorization

### TRAINING/EDUCATION/EXERCISES

- An earthquake emergency preparedness drill was conducted

### ALL HAZARDS/SAFETY COMMITTEE GOALS

- Continue to update and review Emergency Management Plan and Safety Manual
- Continue monthly all hazard/safety meetings
- Continue to educate staff about new or updated safety issues

## SERVICE AWARDS



**30**

**Ed Crisamore (Center)**  
Meter Technician

Ed retired after 30 years of service with the District. Ed began his career March 4, 1985 and worked in the field in many positions before retiring April 30, 2015 in the meter department. He had a lot of sage advice to pass on to the younger crew members and he will be missed.



**30**

**Dave Stanley**  
Field Supervisor

Dave has been a field supervisor for the past 20 plus years. He is dedicated to getting the job done right the first time. He led the tapping team for several years, and has been involved with organizing baseball teams and golf leagues after work.



**25**

**Jeff Laizure**  
Meter Lead



**20**

**George Landon**  
Commissioner

Commissioner Landon was elected to office in 1995 and will continue to serve until his term expires in 2019.

George is always ready with a smile when he arrives for the meetings. He is open to new ideas and ready to hear what staff presents for Board discussions.

Tony Arthur has been on the field crew for the last 15 years. He and his daughter are race car drivers when he is not busy racing off to fix a leak or main break.



**15**

**Tony Arthur**  
Field Technician

# Congratulations

## Employee of Year



Kevin Lord was chosen as employee of the year because of his great customer service. He is always ready to help his fellow employees and customers.

He recently transferred to the meter department after many years on the field crew.

## Contact Information

**Highline Water District  
23828 30th Ave. S.  
Kent, WA 98032**

PHONE: 206-824-0375  
FAX: 206-824-0806  
[WWW.highlinewater.org](http://WWW.highlinewater.org)

Matt Everett/General Manager meverett@highlinewater.org	(206) 592-8902
Engineering /Operations Manager	(206) 592-8904
Administrative Manager	(206) 592-8906
Customer Service/Billing Inquiries	(206) 824-0375
Developer Extensions	(206) 592-8924
Water Quality	(206) 592-8920

Todd Fultz was appointed to the Commissioner No. 1 position at a Special Board meeting held on September 10, 2015. Mr. Fultz was one of three applicants seeking to fill the position vacated by the passing of Commissioner Gerald "Jerry" Guite on June 28, 2015.

The Oath of Office took place at the District's September 16, 2015 Board meeting.

Mr. Fultz works within our community for Franz Family Bakeries and resides in Normandy Park with his wife and their two children.

District Board meetings are held the 1st and 3rd Wednesday each month at 9:00 AM, and the 4th Tuesday each month at 9:00 AM. All board meetings are held at our District office and are open to the public.



*Todd Fultz accepting the oath of office from John Milne*

## Board of Commissioners



Daniel Johnson



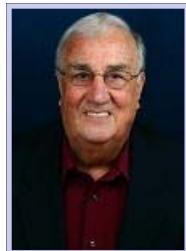
Kathleen Quong-Vermiere



Todd Fultz



Vince Koester



George Landon