

# CAPITAL IMPROVEMENT PROGRAM



March 20, 2018

Fiscal Years 2018 - 2023



The Capital Improvement Program (CIP) is the implementation plan for identified software, City facilities, transportation, storm drainage, water, and wastewater projects. The CIP may change based on the community's needs, available budget, regulatory impacts, etc....



# Capital Improvement Program

FISCAL YEARS 2018 - 2023

## INTRODUCTION

The capital infrastructure needs within the five year CIP are identified through a variety of sources, including Master Plans, City Council goals, operational needs, and regulatory obligations.

In keeping with the Council goals, Staff over the last several years has begun a program to reduce the amount of inflow and infiltration (I&I) that enters the wastewater system. I&I is the term used to describe surface and subsurface water that enters the wastewater piping system, caused primarily by aging infrastructure that needs to be repaired or replaced. The water enters into the wastewater pipes through cracks, holes, joint failures, faulty connections, and through holes in manhole covers. During large storm events I&I can create an overflow situation as the system is not built to handle the additional water. Although I&I is essentially 'clean water', the additional water flows to the wastewater treatment plant and must be treated with the normal wastewater flows. Normal dry weather processing at the wastewater treatment plant is approximately 3 million gallons per day, whereas, during heavy rainfall events the peak flows at the wastewater treatment plant are in excess of 20 million gallons per day. This additional flow due to excessive I&I create added operational and maintenance costs to the wastewater system.

Projects based on the adopted plans will be proposed for the next 5 fiscal years to aggressively repair and/or replace inadequate portions of the system. Although the costs to repair the aging wastewater collection system will be significant, it can no longer be postponed. Several projects were completed last fiscal year and there has been a noticeable reduction in I&I in those basins already. There will be one more in the Springbrook Basin this fiscal year. Next year the focus will be on the downtown area of the City.

Public Works is also committed to providing well maintained streets to our citizens. Although, this work started in 2012, there is a substantial amount of road repair yet to be completed. The road maintenance program budget continues to be under-funded, as identified in the 2014 City wide Pavement Management System Implementation Report. The Transportation Utility Fee was adopted and implemented in the last year. The City improved a significant number of road segments last summer and this will be continuing.

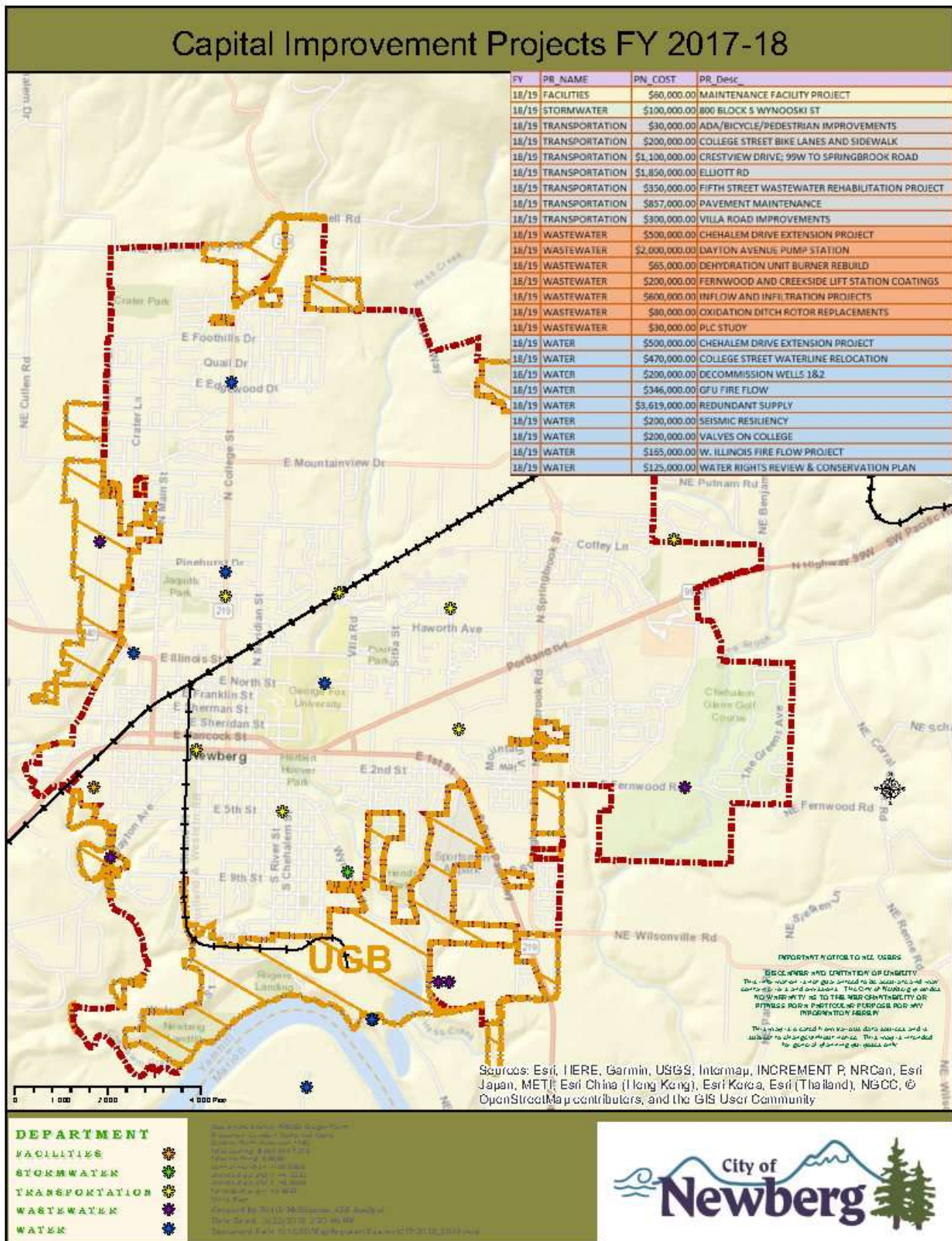
Since 2007, there has been a major proactive effort to repair and upgrade the City's Wastewater Treatment Plant. The City will continue the upgrade with the addition of roofing repairs, rotor replacements and structural repairs to the existing oxidation ditches. Future upgrades will be determined based on the update to the Master Plan to be completed in 2018.

The City continues to focus its efforts towards establishing a high quality and adequate potable water supply, storage, and distribution system. With the completion of the Water Master Plan, additional projects have been added to address system deficiencies over the next several years. A project has also been added to extend water and wastewater lines up Chehalem Drive to facilitate development in this area.

The Engineering Division works closely with Public Works Operations and Maintenance Divisions to complete the identified projects on an annual basis. The fiscal year 2018-2019 Capital Improvement Program implements the planning, design, and construction of the capital infrastructure needs of the City by prioritizing projects based on an analysis of the master plans and other studies in combination with the availability of funding. The scheduled projects in the years beyond FY 2018-2019 are not intended to be a spending commitment, but are included to show a proposed plan for the projects that are considered to be a priority at this particular snapshot in time.

A map of the Capital Improvement Projects for FY 2018-2019 is shown on the following page.





# Multi – Funded Project

The following project summary sheets were developed from a variety of sources. The projects affect all of the enterprise funds and include things like improvements to facilities and major software purchases.

# Multi – Funded Project

## Maintenance Facility Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$80,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	\$1,000,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$1,000,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$2,950,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

A master plan has been completed on what the newly expanded maintenance yard could look like. The proposed improvements for next fiscal year include the installation of fuel tanks for emergency purposes. The rest of the improvements include major site work, construction of a new fleet building and eventually a new administration building. A fully functional maintenance facility is critical to serve the existing and long term day to day needs of the City and to adequately respond to natural disasters with the needed man power and equipment.

### PROPOSED FUNDING SOURCES:

The project is to be funded by utility funds, and system development charges.

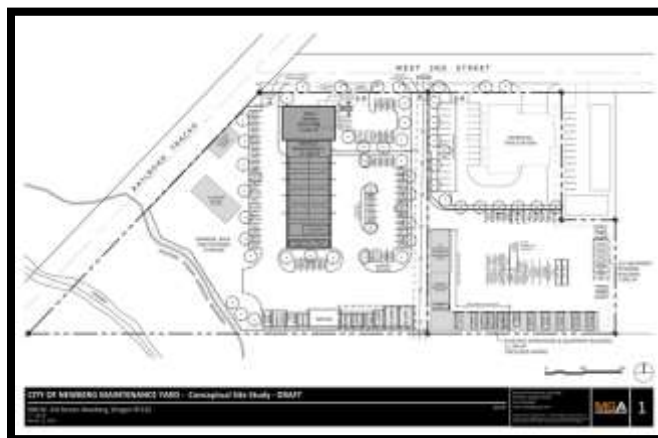


FIGURE 1 CONCEPTUAL PUBIC WORKS MAINTENANCE YARD PLAN

# Transportation Projects

The Transportation Program provides planning, engineering, and construction for improvements to the City's transportation systems that preserve existing infrastructure, increase roadway capacity, improve safety mobility and/or enhance neighborhood livability.

The primary funding source for the roadway maintenance budget is the City's share of the state gas tax revenue. A secondary funding source for roadway improvements is federal funding distributed by ODOT through the Surface Transportation Program (STP), and can only be used for new roadway construction or full reconstruction of existing roadways, not maintenance projects.

The following project summary sheets were developed from the Transportation System Plan and associated studies while considering the available funds from state gas tax revenue, surface transportation program (federal funds exchange), and the Transportation Utility Fee and system development charges.



# Transportation Program

## Fifth Street Rehabilitation Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$350,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$350,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

East Fifth Street from River Street to Wynooski Street is in need for rehabilitation. Since we will be working on the wastewater line on this street it made sense to complete the pavement rehabilitation. The sidewalks and curbs are also below standard. When the project is completed, the goal is to have completed the wastewater work, ADA & sidewalk, curb, gutter and pavement.

### PROPOSED FUNDING SOURCES:

This will be paid for out of gas taxes.



FIGURE 2 FIFTH STREET ROAD CONDITIONS

# Transportation Program

## ADA/Bicycle/Pedestrian Improvements

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$30,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	\$30,000	<input type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$60,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

City Council established a comprehensive bicycle program in 2011 to implement the policies and recommended improvements in the ADA/Pedestrian/Bike Route Improvement Plan.

Projects are selected based on the City's need and available funding for each fiscal year. The ADA/Pedestrian/Bike Route Improvement Plan is a resource the City often utilizes in selecting improvement projects. Current utility maintenance projects include replacement or installation of ADA accessible barriers identified in the plan. The ADA/Pedestrian/Bike Route Improvement Plan can be found on the city website.

### PROPOSED FUNDING SOURCES:

This project is funded by the gas taxes that the City receives from the State of Oregon. A portion (1%) of the gas tax the City receives must be spent on bicycle projects in the right-of-way. The funding is split in the budget between the Street Capital Fund and the Street Maintenance Fund.



FIGURE 3 CURB RAMP NEEDED

# Transportation Program

## Villa Road Improvements

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$800,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2018/2019	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$2,500,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

Villa Road north of 99W is a two lane major collector roadway that has intermittent sections of curb and sidewalk improvements. The proposed roadway improvement project is to construct a full width street improvement project consisting of curbs, sidewalk, and bike lanes, from Fulton Street to Crestview Drive. The incomplete sidewalk connections are unsafe as it forces pedestrians onto the roadway shoulders and the vertical/horizontal alignments of the roadway are not to current standards.

Phase 1 of this project (replacement of the Hess Creek Culvert) was completed in fiscal year 2016/2017. This project will be complete in October 2018.

### PROPOSED FUNDING SOURCES:

The project is to be funded by gas tax revenue, system development charges and the Federal Funds Exchange.



Figure 4 Looking North on Villa Road

# Transportation Program

## College Street Bike Lanes and Sidewalks

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$200,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$300,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The 2007 ADA/Pedestrian/Bike Route Improvement Plan identified the project as a primary critical pedestrian and bikeway route. The incomplete sidewalk connections are unsafe as it forces pedestrians onto the roadway shoulders. This project will be a continuation of the project that was completed 3 years ago. The City has entered into an Intergovernmental Agreement with ODOT on this project. Design and right-of-way acquisition will be underway soon.

### PROPOSED FUNDING SOURCES:

The project will be funded by ODOT Surface Transportation Project Fund (STP) with a funding match from the City gas tax revenues.



FIGURE 5 LOOKING NORTH ON COLLEGE STREET

# Transportation Program

## Crestview Drive; 99W to Springbrook Road

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
<b>2018/2019</b>	\$1,100,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2018/2019	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	\$1,100,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

Crestview Drive is an important transportation link to the north portion of the City. It will connect 99W at Providence Drive to N. Springbrook Road. The two sections on either end of the alignment have not been constructed. This improvement replaces the gravel roadway & substandard pavement and will include curbs, gutters, bike lanes and sidewalks.

### PROPOSED FUNDING SOURCES:

The overall project is projected to cost \$5,000,000. The Transportation SDC fund will contribute \$1,100,000, the state will contribute \$740,000, and the balance will be funded by Springbrook Properties and Gramor Developments.



Figure 6 Crestview drive looking east

# Transportation Program

## Elliott Road; 99W to Newberg High School

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$350,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	\$750,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$750,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$1,850,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The TSP has identified this project as a high priority as it provides direct access to the high school. This project will construct full street improvements to include sidewalks and bike lanes. It will also include storm drainage improvements and street lighting.

### PROPOSED FUNDING SOURCES:

The project will be funded by gas tax revenues and system development charges.



FIGURE 7 LOOKING SOUTH ON ELLIOTT ROAD



# Transportation Program

## N. Springbrook Road

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2021/2022	\$400,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2021/2022	\$1,000,000	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	0	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$1,400,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project will provide sidewalks and bike lanes north of 99W. It will also install a signal at the intersection of Haworth and Springbrook Road. This project will also install storm drainage.

### PROPOSED FUNDING SOURCES:

This project will be funded by gas taxes and transportation system development charges.



FIGURE 8 INTERSECTION OF SPRINGBROOK AND HAWORTH

# Transportation Program

## Pavement Preservation

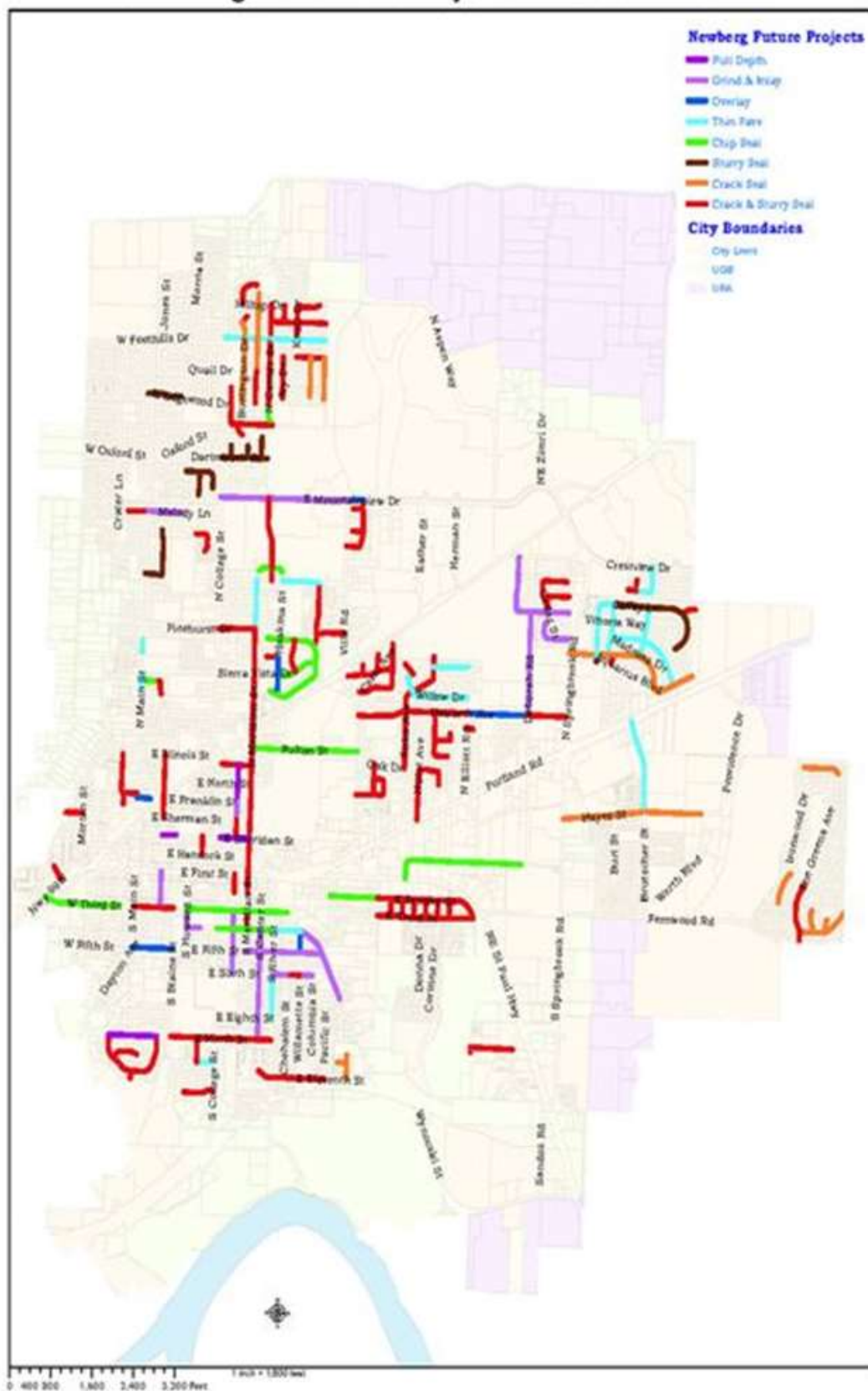
### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$507,400	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	\$1,400,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$4,175,010	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$6,432,010	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The Council adopted a Transportation Utility Fee in the Spring of FY17/18 and it was implemented in the summer of FY17/18. The pavement preservation projects proposed over the next five years are shown on the map below.

## Newberg Pavement Projects - Next Five Years



# Stormwater Projects

The Stormwater Program provides planning, design and construction of improvements for the City's public storm drainage system. This program includes the conveyance system, water quality, and stormwater detention systems.

The 2014 Drainage Master Plan Update is used to plan for improvements to the overall City storm drainage system. Funding for the stormwater program is provided through stormwater utility rates and system development charges.

# Stormwater Program

S. Blaine Street; Hancock to 11th Street

## PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2021/2022	\$350,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2021/2022	\$400,000	<input checked="" type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
*Project Total	\$1,200,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

\*Project totals also includes costs from prior budget year

## PROJECT DESCRIPTION:

Flooding occurs in the system during the 10 year storm event including Second Street, Howard Street and at 6th Street and Blaine Street. Large segments of the existing pipe are constructed of corrugated metal and are near end of life. The project will decommission the existing stormwater pipes (shown in green below) and construct a new 24" stormwater mainline (shown in red) along South Blaine and 2nd Streets. Sections of the existing piping system will also be upsized to convey existing and future flows (shown in gold). This project will also include the storm system adjacent to 99W and the Second Street Parking Lot.

Due to funding constraints, the project is scheduled to be constructed in phases over several fiscal years. The first two phases of construction are complete.

## PROPOSED FUNDING SOURCES:

This project is funded by the stormwater utility fee and a small amount of system development charges.



FIGURE 8 STORMWATER UTILITY LINES

# Stormwater Program

## N. Elliott Road

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2020/2021	\$250,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2021/2022	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$250,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

There is no public storm drainage system in N. Elliot Road resulting in frequent ponding alongside the roadway. This project would add 18" storm pipe to the system as a part of the larger roadway project. Refer to the N. Elliot Road Improvement project description in the Transportation section for more information.

### PROPOSED FUNDING SOURCES:

This project is funded by the stormwater utility fee and a small amount of system development charges.



FIGURE 9 STORMWATER UTILITY LINES



## PROJECT SUMMARY SHEET

# Stormwater Program

## 800 Block of Wyooski Street

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$100,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2018/2019	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$100,000</b>	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The current pipe and outfall have severely eroded the area east of Wyooski Street. This project would extend the outfall further down the slope to reduce erosion.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of utility rates.



FIGURE 11 CURRENT PIPE AND OUTFALL

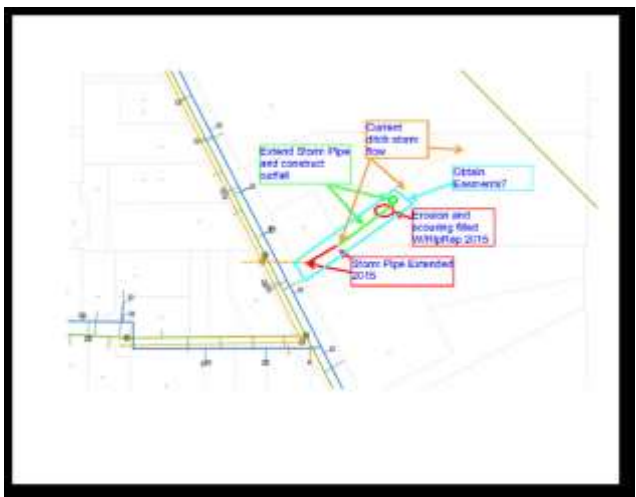


FIGURE 12 PROPOSED PLAN



# Wastewater Projects

The Wastewater Program provides planning, design and construction of improvements for the City's public wastewater utility system. This program area includes the lift stations, wastewater treatment plant, and wastewater collection and conveyance system. About 10% of the wastewater budget over the next five years is allocated to the needed improvements at the wastewater treatment plant.

The following project list was developed from the Sewerage Master Plan, the 2007 Wastewater Treatment Facilities Plan Update and other associated studies, while considering the available funds from the wastewater utility rates and system development charges. Some larger capacity project have been removed from the list until the new Wastewater Master Plan update is complete in 2018.

# Wastewater Program

## Fifth Street Wastewater Rehabilitation Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$340,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$350,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing wastewater line on Fifth Street from Chehalem to River is in need of rehabilitation. In addition there are several existing parcels that need access to the public wastewater line. This project would be constructed in conjunction with the pavement rehabilitation project for 2018.

### PROPOSED FUNDING SOURCES:

This will be paid for out of wastewater rate funds.



FIGURE 13 FIFTH STREET WASTEWATER UTILITY LINE REPLACEMENT

# Wastewater Program

## Dehydration Unit Burner Rebuild

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$65,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$65,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The dehydration unit at the WWTP is used to dry sawdust for our composting process. The burner on the dehydration unit provides the heat for drying the sawdust, and typically runs around 1,300 degrees. The burner is a steel tower structure that is filled with fire brick on the inside to protect the steel from the high heat environment. It has been 5 years since we last rebuilt the burner, and there is noticeable wear as shown below on the left. The rebuild involves removing all the existing brick, stacking new brick and installing a coating over the top of it which reduces the erosion of the brick and extends the life. The Dehydration Unit went online in December 2009, the burner had to be rebuilt in 2012 as it did not originally include protective coating.

### PROPOSED FUNDING SOURCES:

Wastewater rate revenue.



FIGURE 14 DEHYDRATION UNIT BURNER BEFORE AND AFTER CONDITION



# Wastewater Program

## Oxidation Ditch Rotor Replacements

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
<b>2018/2019</b>	\$80,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
<b>2019/2020</b>	\$80,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$425,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$595,000</b>	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

There are a total of 8 brush rotor aerators in our two oxidation ditches at the Wastewater Treatment Plant. The brush rotors are key in mixing and aeration of the wastewater, enabling the bacteria to complete their work. This project involves replacing the remaining 7 original rotors which have been in operation since the plant startup in 1987. These rotors are 30 years old as of 2017, have an expected 25-30 year lifespan, and we experienced our first rotor failure in 2015. Our plan is to replace one rotor per year over the next 7 years. All of the rotors are inspected annually and will be replaced based on the need determined by those inspections.

### PROPOSED FUNDING SOURCES:

Wastewater rate revenue.



FIGURE 15 OLD ROTOR (LEFT) NEW ROTOR (RIGHT)

# Wastewater Program

## Fernwood and Creekside Lift Station Coatings

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$170,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$200,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project is to fix inflow and infiltration (I/I), concrete corrosion, and grout problems at these two lift stations. The project will involve bypass pumping around each station for a period of time for cleaning of the wetwell and applying the coating material. In addition to solving the above issues, it will also provide for much easier cleaning and maintenance as there will no longer be a porous surface for the grease and debris to attach to.

### PROPOSED FUNDING SOURCES:

Wastewater rate revenue funds.



FIGURE 16 INFLOW & INFILTRATION AT THE FERNWOOD & CREEKSIE LIFT STATION

# Wastewater Program

## Sawdust Bays at the Wastewater Treatment Plant

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2021/2022	\$350,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$350,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The current compost cure bay setup is configured to allow us to use three (3) of the covered storage bays as curing bays. They are equipped with blowers and temperature probes that enable us to use them as cure compost as we do in our tunnels. The compost must stay under cover in the inclement weather. Otherwise, it will become wet to the point of being unusable and prevent the composting. Adding the additional bays will allow us to move the sawdust storage out of the existing bays. This will free all current bays for curing and/or storage, as appropriate.

### PROPOSED FUNDING SOURCES:

Wastewater rate revenue funds will pay for this project.

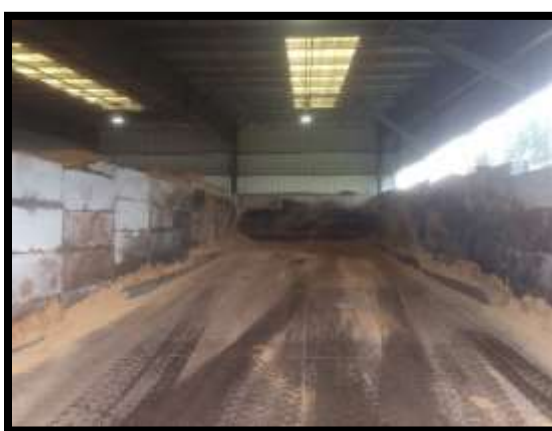


FIGURE 17 EXISTING CURING BAYS

# Wastewater Program

## Chehalem Drive Extension Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$990,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$1,000,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project would extend the public wastewater line from the existing terminus on the east side of Chehalem Creek in Hwy 240 to NE Chehalem Drive and then north in Chehalem Drive to just south of the intersection with Mountainview Drive. There have been several development inquiries in this area and the wastewater line extension would allow for orderly future development. This project would be constructed in conjunction with a similar waterline extension project.

### PROPOSED FUNDING SOURCES:

This will be paid for out of system development charges.



FIGURE 18 EXTENDING THE PUBLIC WASTEWATER LINE

# Wastewater Program

## Dayton Avenue Lift Station

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$500,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$2,000,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing Dayton Avenue lift station and the 4,000 foot long 12-inch force main were constructed in 1993. The Gorman-Rupp top-side dry pumps are nearing the end of their service life and the storage volume of the station wet well is significantly undersized for the flows to the station. The station overflows into Chehalem Creek during very high flow events. The City hired a consultant to design the needed improvements to this lift station. Construction of the replacement station is expected to be complete by October 2018.

### PROPOSED FUNDING SOURCES:

This will be paid for out of wastewater rate funds.



FIGURE 19 DAYTON AVE LIFT STATION (LEFT) & GORMAN- RUPP TOP-SIDE DRY LIFT (RIGHT)

# Wastewater Program

## Inflow and Infiltration Projects

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$600,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	\$600,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$600,000/year	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total		<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The 2015 Inflow and Infiltration Report identified the need for significant replacements/rehabilitation of the older sections of the wastewater collections system throughout the City. The goal of the project is to rehabilitate or replace the aging pipe infrastructure to reduce the maintenance costs and the stormwater inflow and infiltration into the system based on the priorities listed in the 2015 report. Additionally, the Council approved the Private Lateral Program to assist in these efforts. This year's projects are mainline lining, rehabilitation of manholes, and replacement of a few laterals. The projects for next year include: S. River from 4<sup>th</sup> to 2<sup>nd</sup>, E. 4<sup>th</sup> from River to Willamette, E. 2<sup>nd</sup> from Church to Everest, E. 3<sup>rd</sup> from Church to Everest, Church from 2<sup>nd</sup> to 3<sup>rd</sup>, W. 3<sup>rd</sup> from Harrison to Grant & Garfield to Blaine, Howard from 3<sup>rd</sup> to 6<sup>th</sup> and 11<sup>th</sup> from River to Willamette.

### PROPOSED FUNDING SOURCES:

This will be paid for out of wastewater rate and system development charge funds.



FIGURE 20 INFLOW & INFILTRATION PROGRAM



# Wastewater Program

## Operations Remodel Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$400,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$400,000</b>	<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing treatment plant administration building was constructed in 1987 has a lot of underutilized space. The proposed remodel will allow for staff work stations and a staff Lunch and meeting room other than utilizing the main conference room.

### PROPOSED FUNDING SOURCES:

This project is funded through the wastewater and water rate funds.

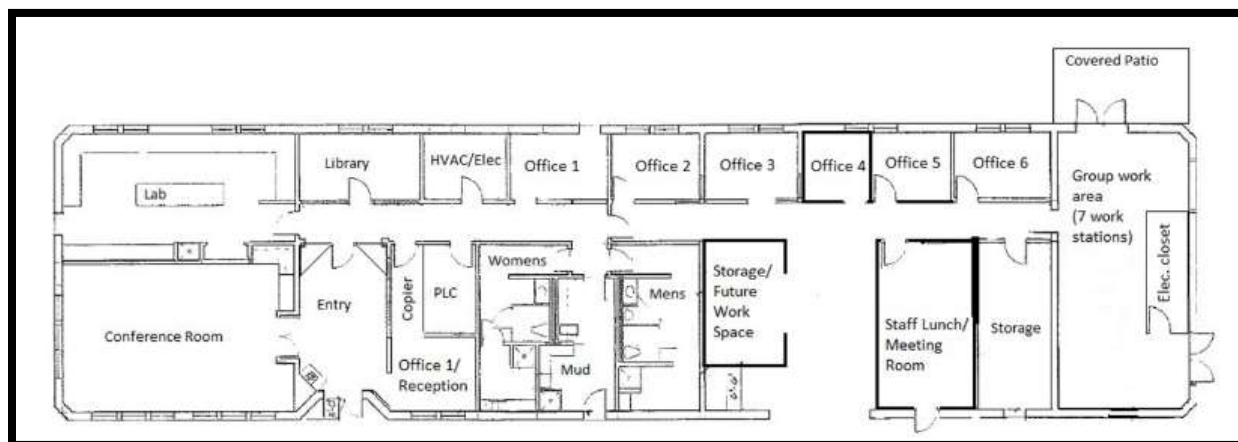


FIGURE 21 PUBLIC WORKS OPERATION REMODEL PRELIMINARY SKETCH

# Wastewater Program

## Existing Oxidation Ditches

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$900,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
*Project Total	\$2,200,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

\*Project totals also includes costs from prior budget year

### PROJECT DESCRIPTION:

The two existing oxidation ditches were constructed in 1987 and need rehabilitation work to remain in service. In the future new oxidation ditches are proposed to be added after FY22/23. Rehabilitation to oxidation ditch #2 was completed summer of 2017. Only one ditch can be offline at any one time, therefore, they are shown to be completed over several years. The project started in FY16/17 and will be completed in 19/20.

### PROPOSED FUNDING SOURCES:

This will be paid for out of wastewater rate and system development charge funds.



FIGURE 22 OXIDATION DITCH

# Wastewater Program

## Roofing Replacement at the Wastewater Treatment Plant

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2020/2021	\$150,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2021/2022	\$70,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$220,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The maintenance of roofs and gutters on the existing buildings at the 1980's treatment plant was deferred by prior administration. The building roof and gutter replacements completed to date include: Tunnels Building and Screw Press Room. The roof and gutters need to be completed at the Administration Building and several Secondary Buildings.

### PROPOSED FUNDING SOURCES:

This will be paid for out of wastewater rate funds.



FIGURE 23 ROOF MAINTENANCE AT WASTEWATER TREATMENT PLANT

# Wastewater Program

## Villa Road Funnel Fix

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$400,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$400,000</b>	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing pipe in Villa Road is an 8" diameter pipe. There are several larger pipes that flow into this segment. There has been one documented back up cause by this under capacity pipe. The project scope may be altered with the completion of the Wastewater Master Plan.

### PROPOSED FUNDING SOURCES:

The project will be paid for out of the wastewater rate and SDC funds.



FIGURE 24 VICINITY MAP

# Wastewater Program

## Sixth Street Rehabilitation

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$300,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	\$300,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$600,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing pipe in Sixth Street is 70-80 years old. The pipe is made of clay and the manholes are brick. The project is to replace the section between Blaine and River Street. We will also use this opportunity to pave Sixth Street.

### PROPOSED FUNDING SOURCES:

This project will be funded by the wastewater rate funds.

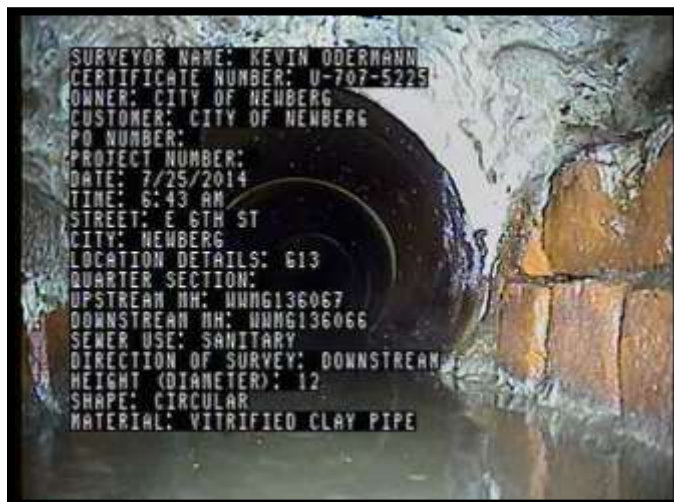


FIGURE 25 PIPE MADE OUT OF CLAY

# Wastewater Program

## Programmable Logic Controller Study and Replacement

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$30,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	\$1,500,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$1,530,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The Programmable Logic Controller (PLC) is the system which holds all of the logic to run the treatment plant in an automatic mode. The Siemens PLC was installed in the late 1990's and is nearing its life expectancy. The PLC which we currently use is no longer being made by Siemens. Currently we are relying on a 3<sup>rd</sup> party to support the PLC but they could stop production at any time making our system obsolete. We will first look at all of the options and then come back to purchase the new system.

### PROPOSED FUNDING SOURCES:

This project will be funded using the wastewater rate funds.



FIGURE 246

PCL



FIGURE 27 PCL

# Wastewater Program

## Inflow and Infiltration Report

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2020/2021	\$200,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$200,000</b>	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

An Inflow and Infiltration (I & I) study was completed for the Dayton and Wyooski Basins in 2015. Data has been recently gathered in the Springbrook and Hess Basins. This data will be used to complete a full report of the pipe performance in these basins and will evaluate the work that the City has completed over the last several years.

### PROPOSED FUNDING SOURCES:

This project will be funded by the wastewater rate and SDC funds.

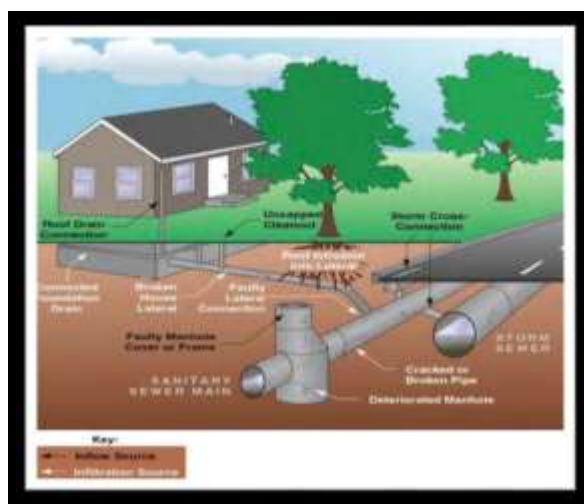


FIGURE 28 I&I ENTERING THE BASINS



# Water Projects

The Water Program provides planning, design and construction of improvements for the City's public water utility system. This program area includes the well field, storage reservoirs, water treatment plant, pump station, and water distribution system.

The following project list was developed from the 2017 Water Master Plan and other associated studies while considering the available funds from the water utility rates and system development charges.

# Water Program

## Bell Road West Pump Station

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$725,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	\$725,000	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$1,450,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The proposed pump station is needed to supply adequate fire flow and constant service pressure to the Zone 2 expansion area. Once the Bell Road Reservoir is constructed, this pump station will be used to supply a future reservoir. This project should be constructed in conjunction with the N. College Street waterline extensions.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of water rate revenue and system development charge funds.

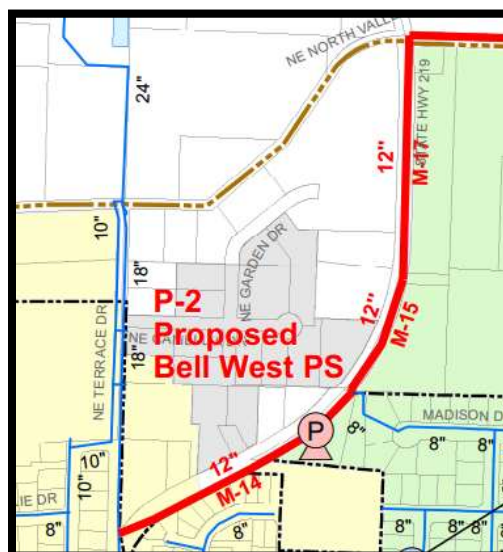


FIGURE 29 PROPOSED PUMP STATION SITE

# Water Program

## Chehalem Drive Extension Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$740,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
Future Years	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$750,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project would extend the public water line from the existing terminus on the east side of Chehalem Creek in Hwy 240 to NE Chehalem Drive. There have been several development inquiries in this area and the water line extension would allow for orderly future development. This project would be constructed in conjunction with a wastewater extension.

### PROPOSED FUNDING SOURCES:

This will be paid for out of system development charge funds.



FIGURE 25 CHEHALEM DRIVE PUBLIC WATER SERVICE LINE EXTENSION

# Water Program

## College Street Waterline Relocation

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$370,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
Project Total	\$470,000	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The Oregon Department of Transportation will be extending sidewalks and bike lanes further north on the west side of College Street. As a part of this project the City's existing water line will need to be lowered as it is too shallow. This work is scheduled to begin in 2017/2018 and will be coordinated with the waterline valve project.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of water rate funds.



FIGURE 31 WATERLINE RELOCATION FROM CRESTVIEW TO FOOTHILLS ON THE WEST SIDE OF COLLEGE STREET

# Water Program

## Valves on College Street

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$200,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$200,000</b>	<input checked="" type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

One of the reasons for the massive amount of flooding in 2014 when the waterline in College Street broke was the lack of valves on the existing line to shut the flow of water off. This project would add valves in strategic locations to minimize future problems. It will be coordinated with the College Street waterline relocation project.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of water rate funds.



FIGURE 32 2014 WATERLINE BREAK ON COLLEGE STREET CAUSING MASSIVE FLOOD

# Water Program

## Decommission Wells #1 and #2

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$200,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	N/A	<input type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$200,000</b>	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

Wells #1 & #2 have reached the end of life and are not being utilized. This project would properly decommission the wells per state standards.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate and system development charge funds.

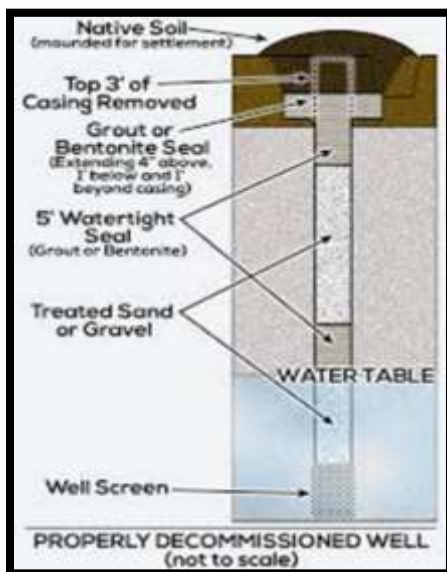


FIGURE 263 DECOMMISSION WELLS 1 & 2



# Water Program

## Downtown Fire Flow Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2020/2021	\$552,000	<input checked="" type="checkbox"/>	Safety/Liability
2021/2022	N/A	<input type="checkbox"/>	Council Goals
Future Years	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
		<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$552,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project is to replace several non-looped sections of 1 and 2 inch diameter water mains along Hancock Street through downtown Newberg. Fire flow deficiencies occur in this area and the project will also improve fire hydrant spacing and coverage. This project will coordinate with the newly adopted Downtown Plan.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of water rate revenue and system development charge funds.



FIGURE 274 REPLACING DEFICIENT PIPE AND INADEQUATE FIRE HYDRANTS ON HANCOCK STREET



# Water Program

## Fixed Based Radio Read

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$350,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	\$375,000	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	350,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$1,025,000</b>	<input checked="" type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The existing meter reading system requires that someone drive though the entire city to read the meters. The fixed based system will allow for the meters to be read from utility billing office in real time. This will cut down on labor costs and could detect a leak sooner. Rate payers will also have the ability to gain access to hourly real-time and historical water use information. Operations and treatment plant staff have access to real time data.

### PROPOSED FUNDING SOURCES:

This project will be paid for out of water rate and SDC funds.

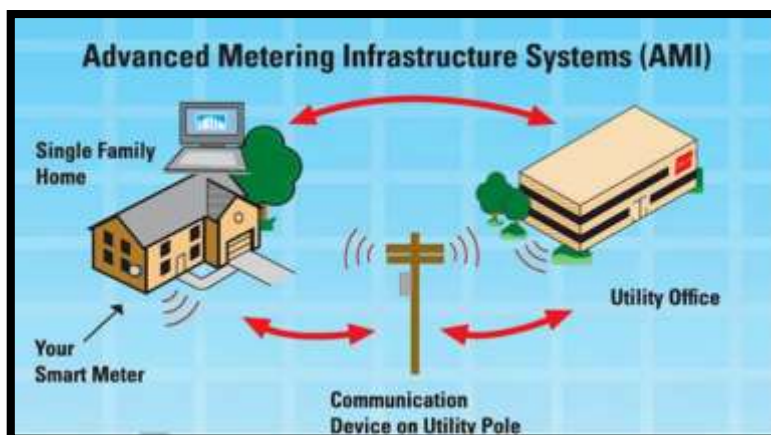


FIGURE 285 READING METERS CURRENTLY (LEFT) VS ADVANCED WATER METERING READING INFRASTRUCTURE SYSTEM (RIGHT)

# Water Program

## George Fox Fire Flow

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$346,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$346,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The water modeling in the recent master plan update revealed that this area has a fire flow and pressure deficiency under existing conditions and future growth. The installation of 1410 lineal feet of 8" waterlines will address this deficiency.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate revenue and SDC funds.

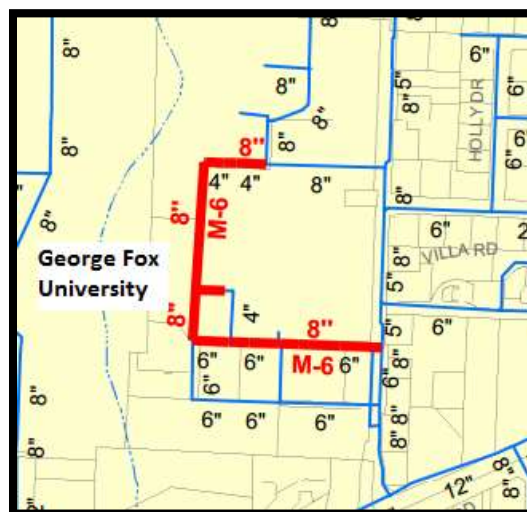


FIGURE 296 FIRE HYDRANT WATER FLOW

# Water Program

## N. College Street Waterline

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$241,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	\$192,000	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$433,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project extend waterlines from N. Terrace Drive to the intersection of N. College and N. Valley Road and then to the east down Bell Road. This will help supply water for future Zone 2 development. This project should be constructed in conjunction with the proposed Bell Road West Pump Station.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate revenue and SDC funds.

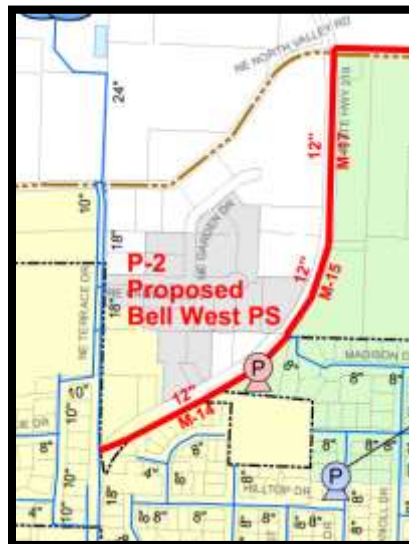


FIGURE 37 EXPAND WATERLINES FOR FUTURE DEVELOPMENT

# Water Program

## Redundant Supply

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$163,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
2019/2020	\$365,000	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	\$3,091,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$3,619,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The City's current water supply is the well field on the south side of the Willamette River. To address supply vulnerability and long-term water resiliency, per the water system master plan the City should pursue another source north of the River. The redundant supply should have an approximate capacity of 2 million gallons per day. This project would include water rights, exploration, property acquisition and potentially the construction of a secondary treatment plant.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate revenue and SDC funds.



FIGURE 308 EXPLORING FUTURE WATER SUPPLY

# Water Program

## Seismic Resiliency Project

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$200,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input checked="" type="checkbox"/>	Council Goals
N/A	N/A	<input checked="" type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$200,000	<input checked="" type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project will evaluate the seismic resiliency of the entire water system, evaluate the seismic hazards of the existing water treatment plant, and using the latest seismic modeling for a Cascadia subduction zone earthquake. This will help the city's water system become more resilient in the case of major seismic event.

### PROPOSED FUNDING SOURCES:

This will be paid for out of both water rate and SDC funds.



FIGURE 319 WATER TREATMENT FACILITY SEISMIC RESILIENCY

# Water Program

## Vittoria Square Fire Flow

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2019/2020	\$147,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2020/2021	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$147,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The recent water master plan update revealed that this area has a fire flow and pressure deficiency under existing conditions and future growth. The installation of 600 lineal feet of 8" waterlines will address this deficiency.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate revenue and SDC funds.



FIGURE 329 EXPANDING WATERLINE TO ELIMINATE DEFICIENT WATER FLOW AND FOR FUTURE GROWTH



# Water Program

## W. Illinois Fire Flow

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2018/2019	\$155,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2019/2020	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$165,000	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

The recent water system master plan update revealed that this area has a fire flow and pressure deficiency under existing conditions and future growth. The installation of an 8" waterline will address this deficiency.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate revenue and SDC funds.



FIGURE 33 EXPANDING WATERLINE TO ELIMINATE WATER DEFICIENCY AND FOR FUTURE GROWTH



# Water Program

## Water Rights Review, Reconfiguration and Water Conservation Plan PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2017/2018	25,000	<input type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2018/2019	\$100,000	<input type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$125,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project is intended to take a comprehensive view of our existing water rights, make sure they are correctly proportioned and reconfigure if necessary. The water right work will be used in our update of our required Water Conservation Plan the following year.

### PROPOSED FUNDING SOURCES:

This will be paid for out of water rate and SDC funds.

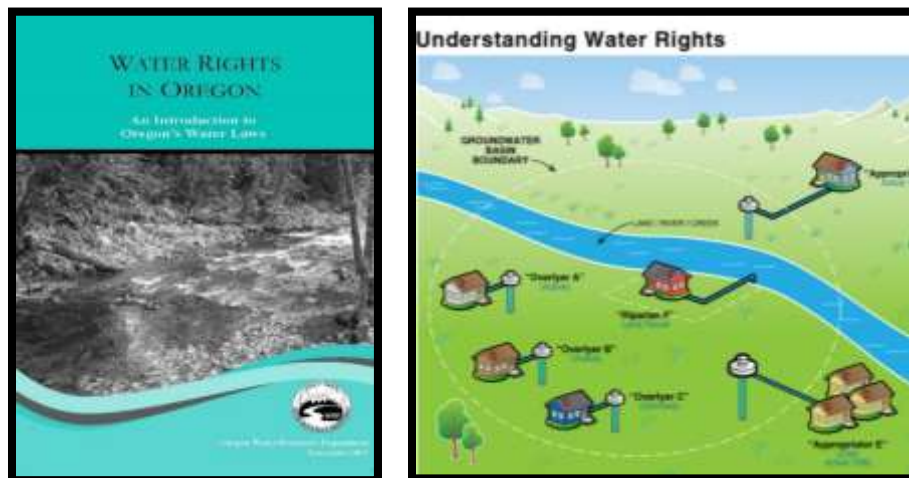


FIGURE 41 COMPREHENSIVE STUDY OF THE CITY'S EXISTING WATER RIGHTS

# Water Program

## Bell Road East Pump Station

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2022/2023	\$725,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
N/A	N/A	<input type="checkbox"/>	Maintenance
		<input checked="" type="checkbox"/>	Required per Regulation
Future Years	\$725,000	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$1,450,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project is in the 2017 Water Master Plan and is needed as development occurs north of and along Zimri Drive.

### PROPOSED FUNDING SOURCES:

This project will be funded by SDC funds.



FIGURE 342 WATERLINE

# Water Program

## Fire Flow

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2020/2021	\$393,400	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2021/2022	\$393,400	<input checked="" type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input type="checkbox"/>	Coordinates with Larger Project
		<input checked="" type="checkbox"/>	Existing Capacity
Project Total	\$786,800	<input type="checkbox"/>	Cost Reduction
		<input type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

There are several more fire flow upgrades projects noted in the 2017 WaterMaster Plan. The priorities will be decided based on other projects and opportunities.

### PROPOSED FUNDING SOURCES:

These projects will be funded by the SDC and water rate funds.



FIGURE 353 FIRE FLOW UPGRADES

# Water Program

## North College – North Terrace

### PROJECT SUMMARY SHEET

Fiscal Year	Costs	Criteria Met:	
2021/2022	\$433,000	<input checked="" type="checkbox"/>	Safety/Liability
		<input type="checkbox"/>	Council Goals
2018/2019	N/A	<input type="checkbox"/>	Maintenance
		<input type="checkbox"/>	Required per Regulation
Future Years	N/A	<input checked="" type="checkbox"/>	Coordinates with Larger Project
		<input type="checkbox"/>	Existing Capacity
<b>Project Total</b>	<b>\$433,000</b>	<input type="checkbox"/>	Cost Reduction
		<input checked="" type="checkbox"/>	Future Capacity

### PROJECT DESCRIPTION:

This project is a part of the Bell Road West Pump Station project.

### PROPOSED FUNDING SOURCES:

This will be funded by system development charges.

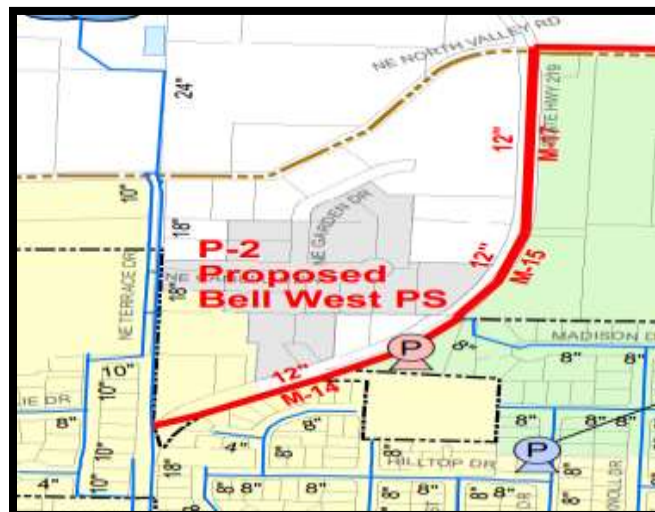


FIGURE 44 PUMP STATION