

Council Business Meeting

June 4, 2019

Agenda Item	Resolution for Storm Drain, Transportation, Water, and Wastewater Utility Fee Increases	
From	Paula C. Brown, PE	Public Works Director
Contact	paula.brown@ashland.or.us	541-552-2411

SUMMARY

The City Council is being asked to consider annual rate adjustments for storm drain, transportation, water, and wastewater utility fees. Fees for service are based upon each individual utility master plan and cost of service studies. The proposed rate increases are in accordance with prior cost of service analysis, master plan recommendations for both capital improvements and operational requirements, and adjustments for inflation based upon general consumer indices.

The percentage and the resulting typical monthly residential rate increases are shown below. The typical monthly residential water rate is based on a water use of 1,000 cubic feet and the wastewater rate based on the resulting 600 cubic feet of wastewater (sewer) usage.

	Rate Adjustment	Typical Monthly Residential Increase	New Typical Monthly Residential Rate
Storm Drainage	1.9%	\$0.09	\$4.99
Transportation	2.5%	\$0.31	\$9.14
Water	4.0%	\$2.32	\$61.68
Wastewater (sewer)	4.0%	<u>\$1.64</u>	\$44.02
		\$4.36	

POLICIES, PLANS & GOALS SUPPORTED

City Council Goals (supported by this project):

Goal 1: Develop current and long-term budgetary resilience -- Evaluate revenue streams

Goal 2: Analyze City departments/programs to gain efficiencies, reduce costs and improve services

Goal 3: Enhance and improve transparency and communication

- Develop a robust program to engage with Ashland citizens about City priorities and our progress on those priorities...

Maintain *Essential* Services

Continue to leverage resources to develop and/or enhance *Value Services*

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects
- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

PREVIOUS COUNCIL ACTION

Council approves rate adjustments annually with the last rate adjustment approved on [May 1, 2018](#). Rates are developed as a projection of projects in the Capital Improvements Program approved by Council on [April 2, 2019](#) and as projected during the budget deliberations and as proposed for adoption in the 2019-21 biennium.

BACKGROUND AND ADDITIONAL INFORMATION

Stormwater and Drainage Fund Proposed Rate Increase

The City's stormwater enterprise fund was removed from the Street Fund and established as a separate fund in the 2017-19 biennium. The Stormwater and Drainage Master Plan is currently being updated. As such, the current fee schedule is proposed to increase only by the Consumer Price Index (CPI-U) for all cities, which is 1.9 percent for the year ending March 2019. Staff did not use the Engineering News Record (ENR) construction index as many of the stormwater improvements are not typical construction projects and may not require the higher ENR index. As staff completes the updated master planning process and required regulatory actions, there will likely be necessary adjustments to the capital projects list for the next biennium. Any fee impacts will be addressed with the updates.

Transportation Utility Proposed Rate Increase

The City's Transportation (Street) Utility Fund accounts for all street operations and related capital projects. Charges for service are collected through the transportation utility fee. With the increase in construction costs and costs associated specifically with compliance requirements for the American's with Disability Act, staff is proposing to increase the rates by 2.5 percent which is the ENR cost index for March 2019. This index is consistent with past engineering practice for rate and miscellaneous fee increases. Staff plans on completing the full Transportation System Plan Update in the 2019-21 BN. New projects and adjustments will be addressed at that time.

Water Utility Fund Proposed Rate Increases

During the recent rate review (Hansford, May 2019 – Attachment 5) of the prior Water Rates Cost of Service Study (Hansford, March 15, 2016), it was determined that a 4 percent rate increase, down from 4.5 percent the past two years, sustained for the next 10+ years would be sufficient to collect revenues to offset the costs of construction and the operating and maintenance of the water utility. For comparison, the American Water Works Association (AWWA) recently released their rate analysis which showed that between 2014 and 2018, charges increased 5.09 percent annually for water as compared to a 2.10 percent annual increase in the CPI. The current Water Master Plan is scheduled for completion by July 2019. Rates will be reevaluated each biennium.

Wastewater Utility Fund Proposed Rate Increases

The proposed increase of 4 percent, down from 5 percent the past two years, is consistent with the recent rate review (Hansford, May 2019 – Attachment 6). For comparison, AWWA's 2014 to 2018 charges increased 5.64 percent annually for wastewater, compared to a 2.10 percent annual increase in the CPI. The adopted wastewater master plan outlines several capital projects and is being evaluated and validated through the current Wastewater Treatment Plant Facilitates Assessment and the upcoming Collections System Master Plan. Rates will be assessed and reevaluated with the completion of those master planning documents and brought to Council for approval. Staff is well underway with both the Outfall Relocation Design and Water Quality Trading Program. Staff is working with the Department of Environmental Quality for permit renewal in 2019/20 and at that point will be able to construct and operate the proposed capital projects.

FISCAL IMPACTS

The 2019-21 Biennial Budget (BN) was developed with the increases as proposed. If approved the fee increases will go into effect on July 1, 2019. The proposed rate increases relate to anticipated revenues to offset expenditures. Should the Council not approve the rate increases, offsetting reductions in expenditures must be made.

STAFF RECOMMENDATION

To meet inflationary and budget based cost adjustments, staff recommends approval of the four utility rate increases for transportation, storm drain, water, and wastewater.

ACTIONS, OPTIONS & POTENTIAL MOTIONS

Potential motions include:

1. I move to approve the resolutions: 2019-08 (Storm Drainage), 2019-09 (Transportation), 2019-10 (Water) and 2019-11 (Waste Water/Sewer Service).
2. I move to direct staff develop a new justification for the following rate increases....

REFERENCES

[May 1, 2018 Council Packet Materials](#)

Capital Improvements Plan; [adopted April 2, 2019](#)

Stormwater and Drainage Master Plan Update; [TetraTech, adopted June 2000](#)

Transportation System Plan; [Kittleson & Associates, October 2012](#)

Water Master Plan, [Carollo, adopted 2012](#)

Wastewater Master Plan; [Keller, adopted 2012](#)

ATTACHMENTS

Attachment 1: Resolution 2019-08 adopting a storm drainage utility fee

Attachment 2: Resolution 2019-09 adopting a transportation utility fee

Attachment 3: Resolution 2019-10 adopting a water utility fee

Attachment 4: Resolution 2019-11 adopting a wastewater (sewer) utility fee

Attachment 5: Water Rates Update (draft); Hansford, May 2019

Attachment 6: Wastewater Rates Update (draft); Hansford, May 21, 2019

RESOLUTION NO. 2019-08

A RESOLUTION ADOPTING A STORM DRAINAGE UTILITY FEE SCHEDULE PURSUANT TO ASHLAND MUNICIPAL CODE SECTION 4.27.050 AND REPEALING RESOLUTION 2018-10.

THE CITY OF ASHLAND RESOLVES AS FOLLOWS:

SECTION 1. The “Storm Drainage Utility Fee Schedule,” marked as “Exhibit A” and attached to this Resolution, is adopted as the Storm Drainage Utility fee incorporating a 1.9 percent rate increase effective July 1, 2019.

Prorated calculations are permitted for any bills prepared for a partial month or billing period that overlaps the effective date of this Resolution.

Miscellaneous Charges and Connection Fees established by previous resolutions remain in effect until revised by separate Council Action.

SECTION 2. Copies of this Resolution and “Exhibit A” shall be maintained in the office of the City Recorder and shall be available for public inspection during regular business hours.

SECTION 3. The Fees adopted pursuant to this Resolution shall be effective July 1, 2019.

SECTION 4. Resolution 2018-10 is repealed on the effective date of this Resolution.

SECTION 5. The fees imposed by this Resolution are classified as not subject to the limits of Section 11b of Article XI of the Oregon Constitution (Ballot Measure No. 5).

This resolution was read by title only in accordance with Ashland Municipal Code §2.04.090 duly PASSED and ADOPTED this ____ day of _____, 2019.

Melissa Huhtala, City Recorder

SIGNED and APPROVED this ____ day of _____, 2019.

John Stromberg, Mayor

Reviewed as to form:

David Lohman, City Attorney

City of Ashland, Oregon
STORM DRAINAGE UTILITY FEE SCHEDULE



A Storm Drainage Utility is created for the purpose of providing funds for the management, maintenance, extension and construction of public storm drainage facilities within the City. All storm drainage utility fees shall be in accordance with Chapter 4.27 of the

A storm drainage utility fee shall be paid by each person(s) responsible and shall be established by resolution of the Council for commercial or industrial units, duplexes, mobile home parks, multiple-family units, single-family units and equivalent residential units.

Storm Drainage Fee

		1.9% increase	
	July 2018	July 2019	Unit
Single Family	\$4.90	\$4.99	per month
Condominium, 109 Units	\$2.10	\$2.14	per month per unit
Multi-Family, 1-9 Units	\$2.10	\$2.14	per month per unit
Mobile Home & Trailer, 1-9 Units	\$2.10	\$2.14	per month per unit
All other uses not classified above	\$1.63	\$1.66	per 1000 SF impervious area
Minimum charge per account	\$4.90	\$4.99	per month

Users within the downtown Overlay District shall be charged on the same basis as elsewhere within the City. The minimum fee per month for any commercial account is:

	July 2018	July 2019	Unit
Commercial	\$4.90	\$4.99	per month

Discounts applying to low income elderly persons for water, sewer and electric utility fees shall also apply to storm drainage utility fees. 4.27.120.



RESOLUTION NO. 2019-09

A RESOLUTION ADOPTING A TRANSPORTATION UTILITY FEE SCHEDULE PURSUANT TO ASHLAND MUNICIPAL CODE SECTION 4.26 AND REPEALING RESOLUTION 2018-21.

THE CITY OF ASHLAND RESOLVES AS FOLLOWS:

SECTION 1. The “Transportation Utility Fee Schedule,” marked as “Exhibit A” and attached to this Resolution, is adopted as the Transportation Utility Fee incorporating a 2.5 percent rate increase effective July 1, 2019.

Prorated calculations are permitted for any bills prepared for a partial month or billing period that overlaps the effective date of this Resolution.

Miscellaneous Charges and Connection Fees established by previous resolutions remain in effect until revised by separate Council Action.

SECTION 2. Copies of this Resolution and “Exhibit A” shall be maintained in the office of the City Recorder and shall be available for public inspection during regular business hours.

SECTION 3. The Fees adopted pursuant to this Resolution shall be effective July 1, 2019.

SECTION 4. Resolution 2018-21 is repealed on the effective date of this Resolution.

SECTION 5. The fees imposed by this Resolution are classified as not subject to the limits of Section 11b of Article XI of the Oregon Constitution (Ballot Measure No. 5).

This resolution was read by title only in accordance with Ashland Municipal Code §2.04.090 duly PASSED and ADOPTED this ____ day of _____, 2019.

Melissa Huhtala, City Recorder

SIGNED and APPROVED this ____ day of _____, 2019.

John Stromberg, Mayor

Reviewed as to form:

David Lohman, City Attorney

City of Ashland, Oregon
TRANSPORTATION UTILITY FEE SCHEDULE



A Transportation Utility is created for the purpose of providing funds for the maintenance of local streets under the jurisdiction of the City of Ashland. All transportation utility fees shall be collected and provided in accordance with Chapter 4.26 of the Ashland Municipal Code.

Billing:

The fee shall be billed and collected with the monthly utility bill.

Transportation Utility Fee:

	July 2018	2.5% increase July 2019	Unit
Single Family	\$9.14	\$9.37	per month
Multiple Family	\$6.97	\$7.14	per month per unit
Retail Store	\$1.23	\$1.26	per month per 100 SF
Wholesale Use	\$0.69	\$0.71	per month per 100 SF
Office Use	\$0.82	\$0.84	per month per 100 SF
Medical / Dental Use	\$1.09	\$1.12	per month per 100 SF
Service Use	\$1.09	\$1.12	per month per 100 SF
Restaurant / Bar Use	\$3.26	\$3.34	per month per 100 SF
Manufacturing Use	\$0.69	\$0.71	per month per 100 SF
Warehousing Use	\$0.40	\$0.41	per month per 100 SF
Hotel / Motel Use	\$3.26	\$3.34	per month per guest room
Institutional and all other accounts not classified above; including nursing homes and retirement homes.	\$3.26	\$3.34	per month per required parking spaces as specified in Chapter 18.92 of the Ashland Municipal Code.
Churches and places of worship	exempt	exempt	

Users within the downtown Overlay District shall be charged on the same basis as elsewhere within the City. The minimum fee per month for any commercial account is:

	July 2018	July 2019	Unit
Commercial	\$9.14	\$9.37	per month

Discounts applying to low income elderly persons for water, sewer and electric utility fees shall also apply to transportation utility fees. 4.26.110.



RESOLUTION NO. 2019-10

A RESOLUTION REVISING RATES FOR WATER SERVICE PURSUANT TO ASHLAND MUNICIPAL CODE SECTION 14.04.030 AND REPEALING RESOLUTION 2018-12.

THE CITY OF ASHLAND RESOLVES AS FOLLOWS:

SECTION 1. The “Water Rate Schedule” marked as “Exhibit A” and attached to this Resolution, shall be effective for actual or estimated consumption on or after July 1, 2019.

Prorated calculations are permitted for any bills prepared for a partial month or billing period that overlaps the effective date of this Resolution.

Miscellaneous Charges and Connection Fees established by previous resolutions remain in effect until revised by separate Council Action.

SECTION 2. Copies of this resolution shall be maintained in the Office of the City Recorder.

SECTION 3. Classification of the fee. The fees specified in Section 1 and Section 2 of this resolution are classified as not subject to the limits of Section 11b of Article XI of the Oregon Constitution (Ballot Measure 5).

SECTION 4. Resolution 2018-12 is repealed.

This resolution was duly PASSED and ADOPTED this ____ day of _____, 2019.

Melissa Huhtala, City Recorder

SIGNED and APPROVED this ____ day of _____, 2019.

John Stromberg, Mayor

Reviewed as to form:

David Lohman, City Attorney

City of Ashland, Oregon
WATER RATE SCHEDULE



All water service provided by the City of Ashland shall be in accordance with Chapter 14.04 of the Ashland Municipal Code.

Billing:

The minimum monthly charge shall be the sum of the Customer Charge; Meter Charge; plus Quantity Charge, if applicable; and Miscellaneous Charges, if applicable. Billing shall occur monthly with charges due and payable upon receipt.

Customer Charge:

A single customer charge is applied to each water account regardless of the number of metered water services.

Customer Charge, per account	July 2018	July 2019
Per month	\$ 12.82	\$ 13.33

Meter Charge:

The meter charge applies to all metered water services and does not include any water consumption.

Meter Charge, per meter	July 2018	July 2019
0.75" and Fire Guard meters	\$ 15.02	\$ 15.62
1" meter	\$ 15.66	\$ 16.29
1.5" meter	\$ 71.65	\$ 74.52
2" meter	\$ 113.86	\$ 118.41
3" meter	\$ 228.32	\$ 237.45
4" meter	\$ 362.11	\$ 376.59
6" meter	\$ 712.51	\$ 741.01
8" meter	\$ 1,129.57	\$ 1,174.75

Quantity Charge:

All customers will be charged the following rates per cubic foot of water used.

Residential, per dwelling unit October - May	July 2018	July 2019
0-300 cf per cycle	\$ 0.0269	\$ 0.0280
301 to 1,000 cf per cycle	\$ 0.0335	\$ 0.0348
1,001 to 2,500 cf per cycle	\$ 0.0454	\$ 0.0472
Over 2,500 cf per cycle	\$ 0.0586	\$ 0.0609
Residential, per dwelling unit June - September		
0-300 cf per cycle	\$ 0.0269	\$ 0.0280
301 to 1,000 cf per cycle	\$ 0.0335	\$ 0.0348
1,001 to 2,500 cf per cycle	\$ 0.0454	\$ 0.0472
2,501 to 3,600 cf per cycle	\$ 0.0586	\$ 0.0609
Over 3,600 cf per cycle	\$ 0.0754	\$ 0.0784

Residential Irrigation October - May	July 2018	July 2019
0-1000 cf per cycle	\$ 0.0335	\$ 0.0348
1,001-2500 cf per cycle	\$ 0.0454	\$ 0.0472
over 2,500 cf per cycle	\$ 0.0586	\$ 0.0609
Residential Irrigation June - September		
0 to 1,000 cf per cycle	\$ 0.0335	\$ 0.0348
1,001 to 2,500 cf per cycle	\$ 0.0454	\$ 0.0472
2,501 to 3,600 cf per cycle	\$ 0.0586	\$ 0.0609
Over 3,600 cf per cycle	\$ 0.0754	\$ 0.0784

Commercial, less than 2" meter	July 2018	July 2019
0-2,500 cf per cycle	\$ 0.0335	\$ 0.0348
> 2,500 cf per cycle	\$ 0.0454	\$ 0.0472

Commercial, 2" or larger meter	July 2018	July 2019
0-15,000 cf per cycle	\$ 0.0335	\$ 0.0348
> 15,000 cf per cycle	\$ 0.0454	\$ 0.0472

Institutional (governmental and municipal)	July 2018	July 2019
Per cubic foot	\$ 0.0321	\$ 0.0334

Commercial and Institutional Irrigation	July 2018	July 2019
October to May	\$ 0.0362	\$ 0.0376
June to September	\$ 0.0490	\$ 0.0510

Miscellaneous Charges:

TID Irrigation:

TID, unmetered service	July 2018	July 2019
Per season, per acre or portion of acre	\$ 211.81	\$ 241.18

TID, metered service	July 2018	July 2019
Meter Replacement Charge*, by meter size		
0.75" meter	\$ 1.29	\$ 1.34
1" meter	\$ 1.93	\$ 2.01
1.5" meter	\$ 3.05	\$ 3.17
2" meter	\$ 4.11	\$ 4.27
3" meter	\$ 8.80	\$ 9.15
4" meter	\$ 19.12	\$ 19.88
6" meter	\$ 26.51	\$ 27.57
8" meter	\$ 31.97	\$ 33.25
Quantity Charge	\$ 0.0024	\$ 0.0025

*Meter replacement charge is assessed each month, regardless of consumption.

Fire Protection Service:

Fire Protection Service	July 2018	July 2019
Customer Charge, if applicable	\$ 12.82	\$ 13.33
Meter Replacement Charge	\$ 1.29	\$ 1.34
Meter Charge	\$ 15.02	\$ 15.62
Quantity Charge	\$ 0.0369	\$ 0.0384
Unmetered Fire Protection Service	\$ 15.02	\$ 15.62

Bulk Water:

For water provided on a temporary basis through a bulk meter on a fire hydrant, the following charges apply:

Bulk Water	July 2018	July 2019
Deposit*	\$ 2,030.38	\$ 2,111.60
Basic Fee	\$ 256.37	\$ 266.62
Quantity Charge	\$ 0.0369	\$ 0.0384

*Deposit is refundable less basic fee, quantity charge, and any damage to the city meter, valve, wrench, and/or hydrant.

Outside City Limits:

All rates and charges for water service provided outside the city limits will be 1.5 times the rates for water service provided within the city limits.



RESOLUTION NO. 2019-11

A RESOLUTION REVISING RATES FOR WASTEWATER / SEWER SERVICE PURSUANT TO ASHLAND MUNICIPAL CODE SECTION 14.08.035 AND REPEALING RESOLUTION 2018-13.

THE CITY OF ASHLAND RESOLVES AS FOLLOWS:

SECTION 1. The “Wastewater / Sewer Rate Schedule” marked as “Exhibit A” and attached to this Resolution, shall be effective for actual or estimated consumption on or after July 1, 2019.

Prorated calculations are permitted for any bills prepared for a partial month or billing period that overlaps the effective date of this Resolution.

Miscellaneous Charges and Connection Fees established by previous resolutions remain in effect until revised by separate Council Action.

SECTION 2. Copies of this resolution shall be maintained in the Office of the City Recorder.

SECTION 3. Classification of the fee. The fees specified in Section 1 and Section 2 of this resolution are classified as not subject to the limits of Section 11b of Article XI of the Oregon Constitution (Ballot Measure 5).

SECTION 4. Resolution 2018-13 is repealed.

This resolution was duly PASSED and ADOPTED this ____ day of _____, 2019, and the effective date is July 1, 2019 upon signing by the Mayor.

Melissa Huhtala, City Recorder

SIGNED and APPROVED this ____ day of _____, 2019.

John Stromberg, Mayor

Reviewed as to form:

David Lohman, City Attorney

City of Ashland, Oregon
SEWER RATE SCHEDULE



All sewer service provided by the City of Ashland shall be in accordance with Chapter 14.08 of the Ashland Municipal Code.

Sewer quantity charges shall be adjusted annually in April based on the winter water consumption for the months of January, February, and March for all customers whose quantity charge is not determined by actual consumption.

No exception from these rates will be allowed for unoccupied units.

Billing:

The minimum monthly charge shall be the sum of the Monthly Service Charge and Quantity Charge. Billing shall occur monthly with charges due and payable upon receipt.

Service Charge:

Residential	July 2018	July 2019
Monthly Service Charge, per unit	\$ 32.63	\$ 33.94
Quantity Charge, per cf	\$ 0.04869	\$ 0.05064
Quantity charge is based on winter water average in excess of 400 cubic feet, per unit		

Quantity Charge for single family residential water accounts with no consumption during the months of January, February and March will be based on 700 cubic feet.

Multi-family residential accounts are all accounts in which more than one residential dwelling is attached to the same water service and shall be assessed a Monthly Service Charge for each unit. Quantity Charge for multi-family residential water accounts with no consumption during the months of January, February and March will be based on 500 cubic feet per unit.

Commercial, Industrial, and Governmental	July 2018	July 2019
Monthly Service Charge	\$ 34.05	\$ 35.41
Quantity Charge, per cf	\$ 0.05405	\$ 0.05621
Quantity charge is based on actual monthly consumption		

Mixed residential and commercial accounts will be billed as commercial.

For commercial, industrial or governmental users where monthly water consumption is not measured through City water meters, the sewer rate will be established as follows: The annual water consumption will be estimated utilizing water consumption records of similar users or water consumption record of past use, if available. Quantity Charge is based on the twelve month average estimated water consumption. This rate shall be effective beginning in the month after the rate is determined until the rate schedule is amended by resolution of the City Council. Water consumption determined in this manner shall be lowered if the user can demonstrate through the use of a meter approved by the City that the actual consumption of the user is less than the estimate.

Special Cases:

Greenhouses, Churches, and Schools (K-12) operating on a nine month school year	July 2018	July 2019
Monthly Service Charge	\$ 34.05	\$ 35.41
Quantity Charge, per cf	\$ 0.05405	\$ 0.05621
Quantity charge is based on winter water average in excess of 400 cubic feet		

Bed and Breakfasts and Ashland Parks Bathrooms	July 2018	July 2019
Monthly Service Charge	\$ 34.05	\$ 35.41
Quantity Charge, per cf	\$ 0.05405	\$ 0.05621
Quantity charge is based on the sum of the winter water consumption		

Exemptions to commercial and industrial sewer rates:

- A: If a commercial, industrial, or governmental user can demonstrate that the volume of sewage discharged by the user is less than 50% of the water consumed, the City Administrator may adjust the quantity charge accordingly.
- B: Water sold through an irrigation meter is exempt from sewer charge.

Sewer rates outside the city limits:

- A: The Monthly Service Charge shall apply to those sewer users permitted under Section 14.08.030 of the Ashland Municipal Code.
- B: The sewer rates for users outside the city limits shall be two times the sewer charges for inside the city limits.
- C: Quantity charge for metered residential accounts is based on the average winter water consumption in excess of 400 cubic feet, per unit, per month and shall be adjusted annually in April.
- D: Quantity charge for unmetered residential accounts will be calculated on an average winter water usage of 700 cubic feet for single family residences, and 500 cubic feet, per unit, for multi-family residences.
- E: Quantity charge for commercial, industrial, and governmental accounts will be based on actual monthly water consumption.



Technical Memorandum

To: Paula Brown, Public Works Director

From: Catherine Hansford

Date: May 16, 2019

Subject: DRAFT Water Rate Update Analysis

Purpose

The City of Ashland (the City) charges water utility rates for provision of water services. In 2015, Hansford Economic Consulting LLC (HEC) completed a full cost of service study for the City and water rates were updated pursuant to that Study. Since then, the City has revised some major capital improvement plans, most notably for the water treatment plant. HEC has updated the water rates projection per the updated infrastructure costs. This memorandum presents the analysis of current and future financial health of the water utility fund, including the findings for water rates for the next ten years, beginning with fiscal year 2019/20.

Support tables are included in **Attachment W**.

Major Findings

The financial analysis makes the following major findings:

1. The water utility fund is in a strong financial position, but in order to remain fiscally healthy, rates will need to continue to be increased due to major infrastructure needs and typical annual inflationary pressures on operations costs. The analysis projects that annual increases of 4% should provide sufficient revenue to meet the City's water service annual costs.
2. The water fund needs to maintain a high cash balance until the new water treatment plant project is completed. Actual costs may be greater than estimated, and the project may take longer to complete than anticipated.

Table 1 on the next page summarizes the projected City's water rates for the next two bienniums (four fiscal years).

Figure 1, which follows **Table 1**, shows the financial impact to a single-family home using 1,000 cubic feet of water in a month. Per Environmental Protection Agency and State of Oregon measurements of cost burden reasonableness, monthly water bills will continue to be affordable in Ashland.

Table 1
Summary of Rate Increases for the next 4 Years

Rate Component	Rates Implementation				
	Current	7/1/2019	7/1/2020	7/1/2021	7/1/2022
		4.00%	4.00%	4.00%	4.00%
Monthly Customer Charge per Bill	\$12.82	\$13.33	\$13.87	\$14.42	\$15.00
Monthly Service Charge per Meter [1]					
3/4" and Fire Guards	\$15.02	\$15.62	\$16.25	\$16.90	\$17.57
1"	\$15.66	\$16.29	\$16.94	\$17.62	\$18.32
1.5"	\$71.65	\$74.52	\$77.50	\$80.60	\$83.82
2"	\$113.86	\$118.41	\$123.15	\$128.08	\$133.20
3"	\$228.32	\$237.45	\$246.95	\$256.83	\$267.10
4"	\$362.11	\$376.59	\$391.66	\$407.32	\$423.62
6"	\$712.51	\$741.01	\$770.65	\$801.48	\$833.54
8"	\$1,129.57	\$1,174.75	\$1,221.74	\$1,270.61	\$1,321.44
USE CHARGES FOR POTABLE WATER					
Residential [2]			per month, per unit		
0 to 300 cf	\$0.0269	\$0.0280	\$0.0291	\$0.0303	\$0.0315
301 to 1,000 cf	\$0.0335	\$0.0348	\$0.0362	\$0.0377	\$0.0392
1001 to 2,500 cf	\$0.0454	\$0.0472	\$0.0491	\$0.0511	\$0.0531
> 2,500 cf (2,501 - 3,600 cf June to Sept)	\$0.0586	\$0.0609	\$0.0634	\$0.0659	\$0.0686
> 3,600 cf (June to Sept only)	\$0.0754	\$0.0784	\$0.0816	\$0.0848	\$0.0882
Commercial			per month, per meter		
0-50,000 cf	\$0.0335	\$0.0348	\$0.0362	\$0.0377	\$0.0392
> 50,000 cf	\$0.0454	\$0.0472	\$0.0491	\$0.0511	\$0.0531
Insitutional	\$0.0321	\$0.0334	\$0.0347	\$0.0361	\$0.0376
Commercial & Institutional Irrigation					
October - May	\$0.0362	\$0.0376	\$0.0392	\$0.0407	\$0.0423
June - September	\$0.0490	\$0.0510	\$0.0530	\$0.0551	\$0.0573
Bulk Water [3]	\$0.0369	\$0.0384	\$0.0399	\$0.0415	\$0.0432
Fire Protection Service [4]					
Meter Replacement Charge	\$1.29	\$1.34	\$1.40	\$1.45	\$1.51
Meter Charge	\$15.02	\$15.62	\$16.25	\$16.90	\$17.57
Service Charge, if applicable	\$12.82	\$13.33	\$13.87	\$14.42	\$15.00
Usage Charges	\$0.0369	\$0.0384	\$0.0399	\$0.0415	\$0.0432
TID Non-Potable Water			per irrigation season, per acre or portion of		
Unmetered Service	\$211.81	\$220.28	\$229.09	\$238.26	\$247.79
Metered Service:					
Service Charge			per meter as above		
Meter Replacement Fee [5]			per meter as above		
Water Consumption per c.f.	\$0.0024	\$0.0025	\$0.0026	\$0.0027	\$0.0028

Outside City Limits

All rates and charges for water service provided outside the city limits will be 1.5 times the inside city rates and charges.

Source: City of Ashland.

[1] All customers charged the flat monthly fees every month regardless of whether water is taken.

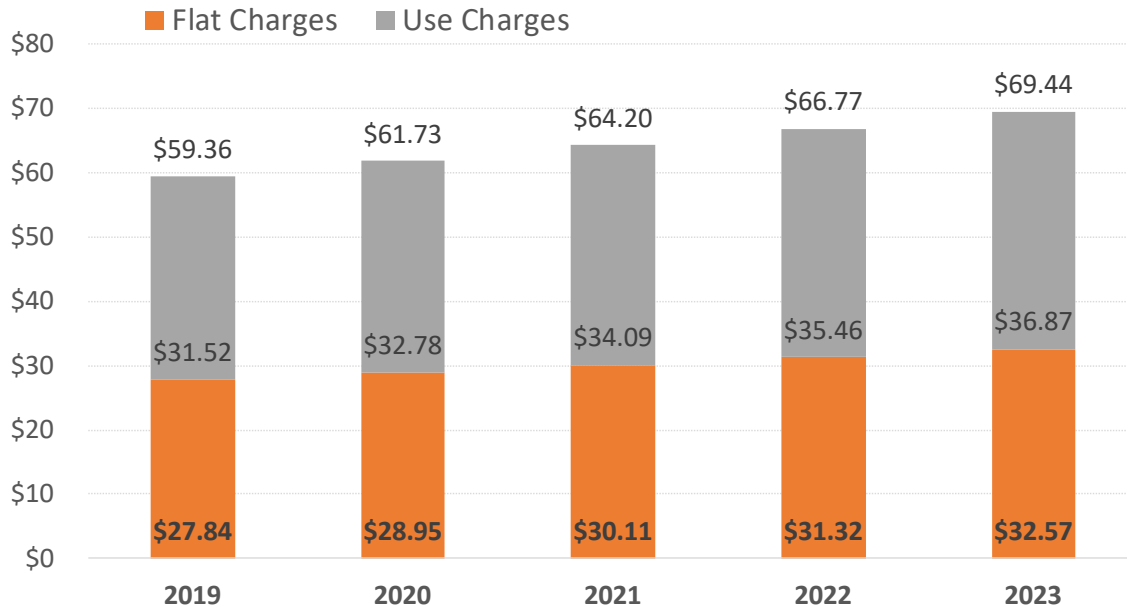
[2] For residential customers with separate irrigation meters the metered irrigation water is added to the domestic water use.

[3] For temporary water provided through a bulk meter on a fire hydrant.

[4] This rate shall apply to all water taken through fire protection services or fire guards.

[5] Due once per year on first TID non-potable water bill.

Figure 1
Single Family Home Bill for 1,000 cubic feet



Methodology

The water rate analysis presented in this memorandum is not a full cost of service study examining proportionate costs to different customer groups; rather, it projects financial needs over the next ten years and how to fund those needs. Water rate revenues are projected under various assumptions including these:

- Water demand is projected to stay static over the next ten years. Although new water customers may hook into the water system during this period, other factors may cause water demand to remain or flat, or even decrease. Factors that affect demand include, amongst other factors, the weather, water restrictions, and installation of more water efficient water appliances. **Table W-1** presents historical water production and consumption for the past nine years. The table demonstrates the variability of water demand from year to year and it also shows that since the end of the last drought water demand has remained static.
- Operating expenses, which account for typical annual costs to run the water system excluding any major capital repairs or new infrastructure, are projected through the ten-year period based on historical annual increases in cost as well as City staff input on anticipated future cost increases. Historical water fund expenses are presented in **Table W-2**. On average, expenses increased 2.8% per year over the past four years. This average annual increase was rounded up to 3.0% for projection purposes for all expenditure categories except for personnel and franchise tax expenses, which were increased 6.5% and 7.5% respectively, based on anticipated future changes.

- Aside from water rate revenues, the water fund receives other miscellaneous income such as interest income, new service installation charges and system development charges. These revenues are credited against the annual costs to determine the revenue requirement (the amount of money that must be raised through water rates). Revenues that are credited in the analysis are based on historical and budgeted numbers, as well as conservative estimates of future revenues. Historical revenues are presented in **Table W-3**. The effect of increased rates resulting from the 2015 water rate study are evident in the total water sales figures in the table.
- In addition to operating expenses, the water utility fund incurs costs for capital expenditures. Capital expenditures include costs to rehabilitate major infrastructure components, and/or install new or replacement facilities. **Table W-4** presents the City's capital improvements plan for water for the next ten years. Anticipated funding sources include City-issued debt, a Department of Environmental Quality (DEQ) loan, a State Revolving Fund (SRF) loan, and use of water fund cash/reserves of cash. The financing strategy is that cash will pay for approximately one-third of total costs (32%), City-issued debt will pay for approximately 39% of total costs, and State loans will provide funding for the remaining approximately 29% of total costs.
- Financing costs and estimated annual debt service assumptions are provided in **Tables W-5** through **Table W-7**. The major infrastructure cost over the next few years is for design and construction of the new water treatment plant. **Table W-5** presents the financing sources for the new water treatment plant, which total cost is estimated at \$32 million. The State SRF program is providing funding of \$14.8 million, of which \$1,030,000 is a forgivable loan. The remaining \$13.7 million will be funded by cash reserves of \$6.0 million and City-issued debt of \$11.2 million. For the City-issued debt it is assumed the bonds have an interest rate of 4.50% and are repayable over a period of twenty years. The SRF loan terms include a 1.79% interest rate repayable over 30 years, per the City's financing agreement with the State.

The City has a DEQ loan for irrigation ditch piping that will be repayable beginning fiscal year ending 2022 or 2023, depending on when the improvements are completed. The DEQ loan has an interest rate of 1.00% and is repayable over 20 years. A preliminary schedule of repayment is provided for in **Table W-6**.

Table W-7 provides an estimate of bond costs and annual debt service for successive City bond sales to fund dam safety improvements, the remaining portion of irrigation ditch piping, the east and west fork transmission line rehabilitation, and Reeder Reservoir variable depth intake project costs.

- The projected revenue requirement for each year in the ten-year forecast is presented in **Table W-8**. The revenue requirement is estimated to increase from approximately \$9.7 million this fiscal year to \$10.3 million in five years and \$12.3 million in ten years. The revenue requirement goes up and down in the in-between

years because of cash-funded capital improvement costs and debt service schedules. One of the revenue credits in the analysis is rate revenue from City customers using the Talent Irrigation District (TID) ditch. City rates charged to TID customers are assumed to increase at the same percentage increase as all other City water customer fees. A cost of service analysis may demonstrate the need for TID customer rates to increase at different rates; however, the same is assumed for purposes of this analysis. TID revenue projections are provided in **Table W-9**.

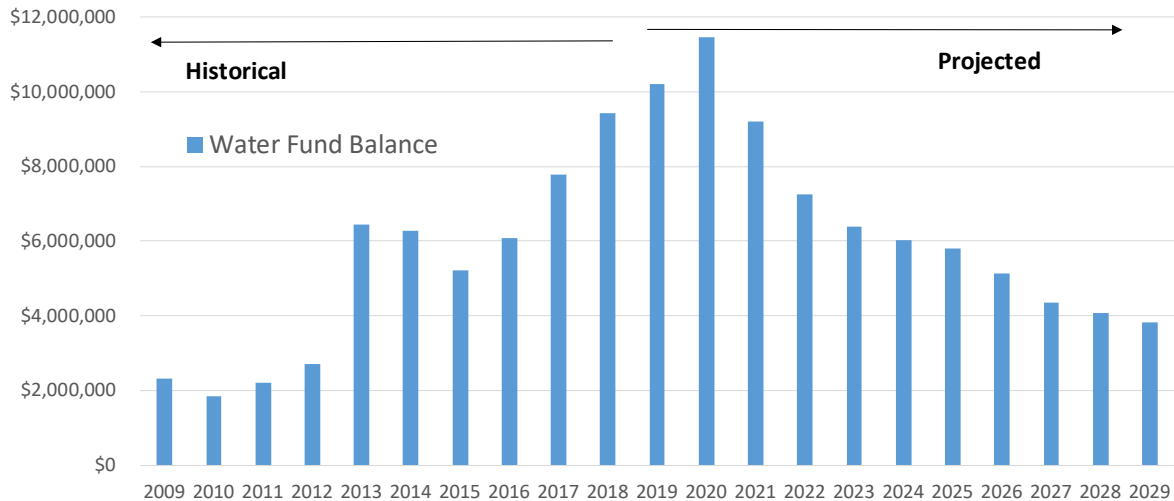
- It is preferable to adopt a smooth rate schedule that does not increase and decrease each year to exactly account for the revenue requirement; by adopting gradual changes in rates the water utility fund can accumulate more cash than necessary in some years that can be spent in years when revenues are insufficient to cover costs. In 2015, a new water treatment facility was being planned; however, exact configuration of the plant and associated cost was unknown. The water rates were increased in anticipation of the project. Now that a final design has been prepared, the City is able to put \$6 million cash towards the cost of the project, reducing financing costs that would otherwise have been incurred to pay for the project costs.

Table W-10 presents the estimated cash flow for the water fund over the next ten years. Based on the assumption that water demand is static, as previously discussed, the water revenues are increased by 4% each year. The ending cash balance each year is an estimate of available cash for any undesignated water service or project needs. Excluded from the cash flow analysis is loan funds and bond proceeds received by the City, and project costs funded by those loans and bond proceeds. The analysis excludes these because of the unknown timing of the projects' expenditures and revenues. Debt service for these projects is included in the cash flow analysis. As a result, actual cash balances may be significantly greater or lesser from one year to the next than shown in the table, particularly over the next four years (next two bienniums).

Results

Historical and projected annual ending cash balances are shown in **Figure 2**. The cash balance is projected to peak in fiscal year ending 2020 (the next fiscal year) because the City will use the State SRF money first to fund the new water treatment plant, then draw down on cash reserves. The remaining project cost (projected to be \$11.2 million) will be funded with City-issued bonds. While the City draws on the SRF loan, rates will continue to collect revenues greater than necessary to provide water service; however, once the City draws on the cash reserve to fund the new water treatment plant, the cash reserve will decline steadily. A fairly high cash balance will have to be carried forward however (as compared perhaps with other funds) because the City will have high annual debt service following the next five-year period. One year of debt service is typically held in a restricted account for debt service.

Figure 2
Historical and Projected Water Fund Cash Balance



Impact on Residential Customers

In order to receive preferable financing terms and/or grant funding from the State of Oregon, the water bill needs to be at least \$52.62 when using 1,000 cubic feet of water in a month in Ashland (this is 1.25% of median household income). The State uses the last decennial US Census data and adjusts each year to determine the current median household income. The estimate of median household income used in this analysis is the 2017 5-year ACS figure for Ashland. The EPA considers a water bill under 2.0% of median household income to be affordable. Currently, the water bill is \$59.36 (about 1.41% of area median household income). With the first-year rate increase of 4%, the bill for 1,000 cubic feet of water would be \$61.73, or 1.47% of median household income, as shown in **Table 2** below, keeping the water bill within what is considered the threshold range of affordability in the industry.

Table 2
Impact of Rates on Household Affordability

Item	Monthly
Ashland Median Household Income [1]	\$4,210
CURRENT Water Bill 3/4" using 1,000 cu. ft.	\$59.36
Water Bill as % of Ashland MHI	1.41%
2019-20 Water Bill 3/4" using 1,000 cu. Ft.	\$61.73
Water Bill as % of Ashland MHI	1.47%
Water Rates @ 2.0% of MHI [2]	\$84.20

Source: US Census.

[1] 2017 5-year American Community Survey estimate.

[2] Per EPA guidelines a typical water bill greater than 2% is high and a typical water bill greater than 2.5% is burdensome.

ATTACHMENT W

WATER UTILITY FUND 2019 FINANCIAL ANALYSIS SUPPORT TABLES

Table W-1
City of Ashland Water Rate Study
Historical Potable Water Consumption and Production

DRAFT

Month	Calendar Year								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Consumption	<i>Figures in Cubic Feet</i>								
January	5,688,024	6,377,053	5,822,654	6,398,479	5,698,647	5,578,741	5,884,245	5,746,060	5,562,301
February	5,099,644	5,088,576	5,264,148	5,106,362	5,903,155	5,262,956	5,359,031	5,206,765	5,138,873
March	5,997,480	5,766,127	6,218,217	6,620,823	5,395,848	6,158,134	6,119,422	5,864,481	5,822,768
April	6,277,962	5,688,600	5,835,945	6,921,512	6,737,313	7,677,113	8,177,352	6,346,402	7,553,172
May	6,175,787	6,517,554	9,374,536	11,570,159	9,004,008	10,836,150	12,103,442	10,502,865	11,269,035
June	10,178,300	10,104,520	13,707,604	15,747,969	13,874,124	14,541,844	15,801,841	15,268,471	14,545,889
July	15,731,277	14,807,946	17,927,282	20,205,591	16,364,166	16,729,211	18,469,261	19,506,849	18,204,015
August	20,686,522	18,804,858	20,516,243	21,154,339	16,915,748	16,903,991	19,302,702	19,472,745	19,608,216
September	17,851,518	19,930,790	17,585,640	16,960,380	14,895,165	14,875,502	15,427,036	15,285,429	15,942,404
October	11,796,560	13,546,376	16,327,008	9,331,983	12,225,379	11,674,546	9,795,546	11,082,387	11,437,300
November	7,824,931	7,349,883	7,001,274	7,667,451	7,481,362	6,827,514	6,325,285	7,020,784	7,518,416
December	5,685,693	6,519,096	6,151,560	6,465,232	7,819,658	6,139,571	5,717,786	5,854,320	6,062,860
Total Consumption (Cu. Ft.)	118,993,698	120,501,379	131,732,111	134,150,280	122,314,573	123,205,273	128,482,949	127,157,558	128,665,249
Total Consumption (Gallons)	890,072,861	901,350,315	985,356,190	1,003,444,094	914,913,006	921,575,442	961,052,459	951,138,534	962,416,063
Millions of Gallons Billed	890	901	985	1,003	915	922	961	951	962
Millions of Gallons Produced [1]	950	943	969	1,059	958	989	1,000	1,055	1,058
Production less Consumption	59	42	-17	55	43	67	39	104	95

Source: City of Ashland.

billed

[1] Includes TAP water of 6.3 MG in 2014. Production figures for 2012 unreliable due to calibration difficulties at the plant.

Table W-2
City of Ashland Water Rate Study
Historical Water Fund Operation Expenditures (excludes SDC funds)

DRAFT

Expenses	Fiscal Year Ending					4-Year Change	Avg. Annual % Change
	2013-14	2014-15	2015-16	2016-17	2017-18		
Water Fund Operating Expenses							
Personnel	\$1,689,757	\$1,830,555	\$1,704,110	\$1,712,355	\$1,815,873	\$126,116	1.9%
Supplies	\$198,225	\$207,113	\$206,503	\$202,999	\$193,826	(\$4,399)	-0.7%
Repair & Maintenance	\$326,070	\$340,958	\$203,250	\$312,452	\$277,973	(\$48,098)	-3.9%
Communications	\$15,801	\$23,521	\$14,985	\$14,413	\$27,359	\$11,558	15.4%
Contractual Services	\$82,921	\$95,860	\$320,352	\$103,079	\$180,155	\$97,234	26.1%
Central Service	\$828,910	\$845,380	\$1,341,657	\$1,381,902	\$1,410,568	\$581,658	14.5%
Miscellaneous Charges	\$484,583	\$483,392	\$143,175	\$174,321	\$157,046	(\$327,537)	-29.1%
Other Purchased Services	\$172,208	\$143,619	\$205,389	\$178,117	\$205,130	\$32,922	7.5%
Franchise Tax	\$357,799	\$372,200	\$418,922	\$446,737	\$639,429	\$281,631	15.7%
Conservation Programs	\$17,884	\$68,805	\$47,727	\$69,177	\$40,558	(\$7,168)	-9.8%
Other Forest Interface	\$578,038	\$311,440	\$0	\$0	\$0		
Other Supply Costs	\$135	\$28,011	\$18,618	\$407	\$0		
Subtotal Operating Expenses	\$4,752,332	\$4,750,855	\$4,624,688	\$4,595,959	\$4,947,917	\$743,916	2.8%
Capital Outlay	\$1,898,185	\$2,703,906	\$1,448,147	\$677,255	\$1,372,641		
Total	\$6,650,517	\$7,454,761	\$6,072,835	\$5,273,214	\$6,320,559		

Source: City of Ashland.

op exp

Table W-3
 City of Ashland Water Rate Study
 Historical and Budgeted Water Fund Revenues

DRAFT

REVENUES	Fiscal Year								
	2009-10 actual	2010-11 actual	2011-12 actual	2012-13 actual	2013-14 actual	2014-15 actual	2015-16 actual	2016-17 actual	2017-18 actual
Charges for Service									
Water Sales									
Commercial	\$580,812	\$603,874	\$679,370	\$762,567	\$816,152	\$892,585	\$980,376	\$933,234	\$986,155
Fire Guard	\$14,880	\$17,342	\$18,434	\$24,025	\$29,845	\$31,423	\$35,322	\$23,350	\$24,363
Government & Municipal	\$174,795	\$185,897	\$201,809	\$242,995	\$266,409	\$272,797	\$314,223	\$242,263	\$262,089
Multi-Family Residential	\$479,996	\$500,079	\$562,916	\$643,854	\$671,343	\$715,405	\$786,549	\$748,064	\$797,892
Single Family Residential	\$2,439,336	\$2,504,647	\$2,781,220	\$3,208,071	\$3,473,458	\$3,537,845	\$3,968,571	\$4,373,406	\$4,759,645
Irrigation (incl. TID customers)	\$444,284	\$419,039	\$528,824	\$609,199	\$581,370	\$624,453	\$740,136	\$910,045	\$888,155
Subtotal Water Sales	\$4,134,103	\$4,230,879	\$4,772,573	\$5,490,711	\$5,838,578	\$6,074,507	\$6,825,178	\$7,230,361	\$7,718,298
System Development Charges	\$151,864	\$180,604	\$491,612	\$266,196	\$269,029	\$328,414	\$277,247	\$310,390	\$294,968
Connection Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Temporary Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Service Installation	\$12,627	\$18,086	\$83,058	\$29,262	\$35,746	\$50,837	\$73,122	\$61,724	\$53,673
Miscellaneous	\$0	\$1,290	\$35,601	\$27,587	\$39,308	\$38,580	\$27,287	\$37,150	\$42,922
Subtotal Charges for Service	\$164,491	\$199,980	\$610,272	\$323,046	\$344,084	\$417,831	\$377,656	\$409,263	\$391,562
Other Revenues									
1982 Water Bonds	\$46	\$21	\$24	\$18	\$24	\$14	\$1	\$4	\$0
1992 Water Bonds	\$54	\$24	\$28	\$21	\$28	\$15	\$1	\$4	\$0
Intergovernmental Revenue	\$99,928	\$344,396	\$336,811	\$1,969,979	\$89,747	\$70,473	\$0	\$0	\$0
Interest on Investments	\$22,991	\$10,006	\$16,598	\$19,542	\$32,527	\$24,080	\$32,632	\$69,182	\$139,859
Miscellaneous Income	\$34,154	\$21,297	\$9,318	\$477,199	\$17,154	\$17,420	\$39,351	\$47,197	\$40,443
Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$14,897	\$0	\$0
Bond Proceeds	\$80,000	\$550,000	\$0	\$2,547,791	\$979,630	\$744,916	\$542,455	\$347,617	\$732,215
Subtotal Other Revenues	\$237,174	\$925,744	\$362,780	\$5,014,551	\$1,119,110	\$856,917	\$629,337	\$464,003	\$912,517
Total Revenues	\$4,535,767	\$5,356,603	\$5,745,625	\$10,828,307	\$7,301,772	\$7,349,255	\$7,832,171	\$8,103,628	\$9,022,377
Total Revenues w/o Bond Proceeds & Grants	\$4,455,767	\$4,806,603	\$5,745,625	\$8,280,516	\$6,322,142	\$6,604,339	\$7,274,820	\$7,756,011	\$8,290,162

Source: City of Ashland.

revs

Table W-4
City of Ashland Water Rate Study
Water Capital Improvement Plan in Inflated Dollars

DRAFT

Water Improvements	Funding Source	2019-20 1	2020-21 2	2021-22 3	2022-23 4	2023-24 5	2024-25 6	2025-26 7	2026-27 8	2027-28 9	2028-29 10	
<i>inflated dollars</i>												
Water Supply												
Dam Safety Improvements	City Debt	\$300,000	\$500,000	\$2,000,000	\$2,000,000	\$0	\$0	\$0	\$0	\$0	\$0	
Ashland (TID) Canal Piping: Starlite to Terrace Street	City Debt	\$0	\$700,000	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Ashland (TID) Canal Piping: Starlite to Terrace Street	DEQ Loan	\$500,000	\$800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
East & West Fork Transmission Line Rehabilitation	City Debt	\$360,000	\$1,763,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Reeder Reservoir Variable Depth Intake	City Debt	\$24,490	\$107,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Sediment TMDL in Reeder Reservoir	Cash	\$140,000	\$0	\$0	\$140,000	\$0	\$0	\$140,000	\$0	\$0	\$140,000	
Subtotal Water Supply		\$1,324,490	\$3,870,010	\$3,500,000	\$2,140,000	\$0	\$0	\$140,000	\$0	\$0	\$140,000	
Water Treatment & Storage												
7.5 MGD Water Treatment Plant	SRF Loan	\$3,900,000	\$9,708,641	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7.5 MGD Water Treatment Plant	City Debt	\$0	\$0	\$11,091,359	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7.5 MGD Water Treatment Plant	Cash	\$0	\$3,441,359	\$2,558,641	\$0	\$0	\$0	\$0	\$600,000	\$0	\$0	
Subtotal Treatment & Storage		\$3,999,750	\$13,150,000	\$13,650,000	\$0	\$0	\$0	\$0	\$600,000	\$0	\$0	
Water Distribution												
Park Estates Pump Station		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pipe Replacement Program	Cash	\$300,000	\$309,000	\$318,270	\$327,818	\$337,653	\$347,782	\$358,216	\$368,962	\$380,031	\$391,432	
Lit Way New PRV		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Subtotal Water Distribution		\$300,000	\$309,000	\$318,270	\$327,818	\$337,653	\$347,782	\$358,216	\$368,962	\$380,031	\$391,432	
Water Mainline Projects												
Oak St - Wastewater Treatment Plant to E Nevada St	Cash	\$400,000										
Ditch Road - Strawberry PS to Grandview Dr	Cash	\$36,540	\$166,460									
Parker Street - Walker Ave to Lit Way	Cash	\$38,700	\$176,300									
Harmony Lane, Lit Way & Ray Lane - Ashland St to Siskiyou Blvd	Cash	\$0	\$205,000									
Maple St - Chestnut St to N Main St	Cash	\$0	\$0	\$180,000								
Washington St - Ashland St to Jefferson Ave	Cash	\$0	\$0	\$140,000								
Beach Street - Larkin Lane to Siskiyou Blvd	Cash	\$0	\$0	\$125,000								
AHS Property - Fire hydrant in school property	Cash	\$0	\$0	\$123,000								
Walker Ave - E Main St to Siskiyou Blvd	Cash	\$0	\$0	\$81,000	\$459,000							
Normal Ave - Siskiyou Blvd to Homes Ave	Cash	\$0	\$0	\$0	\$84,450	\$459,000						
A St - First to 6th St	Cash	\$0	\$0	\$0	\$0	\$0	\$270,000					
Vista Street - Fork St to Hillcrest St	Cash	\$0	\$0	\$0	\$0	\$0	\$168,000					
Granite St - Strawberry Ln to End of Pavement	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$810,000				
Morton St - Siskiyou Blv to Iowa St. Euclid Ave to Ashland St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$210,000			
N Laurel St - W Nevada St to Randy St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$90,000			
Elkader Street - Ivy Lane to Pinecrest Trail	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$105,000			
Ivy Lane - S. Mountain Ave to Elkader St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$88,000			
S Mountain Ave - Ashland St to Emma St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$300,000		
Meade Street - Vista St/Hillcrest to Iowa St.	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$373,000	\$396,000	
Park St - Siskiyou Blvd to Crestview Dr	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$320,000	
Subtotal Mainline Projects		\$475,240	\$547,760	\$649,000	\$543,450	\$459,000	\$438,000	\$810,000	\$493,000	\$673,000	\$716,000	
TOTAL WATER CAPITAL PROJECTS		\$51,757,864	\$6,099,480	\$17,876,770	\$18,117,270	\$3,011,268	\$796,653	\$785,782	\$1,308,216	\$1,461,962	\$1,053,031	\$1,247,432
City Debt		\$20,345,859	\$684,490	\$3,070,010	\$14,591,359	\$2,000,000	\$0	\$0	\$0	\$0	\$0	
DEQ Loan		\$1,300,000	\$500,000	\$800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SRF Loan		\$13,608,641	\$3,900,000	\$9,708,641	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Reserves / Cash		\$16,503,364	\$1,014,990	\$4,298,119	\$3,525,911	\$1,011,268	\$796,653	\$785,782	\$1,308,216	\$1,461,962	\$1,247,432	

Source: City of Ashland and HEC.

cip

Table W-5
City of Ashland Water Rate Study
Estimated Debt for New Water Treatment Plant

DRAFT

Item	Customer Cost Allocation		Total
	Existing	Future	
Total Estimated WTP Cost	\$28,802,677	\$3,200,297	\$32,002,974
Treatment Plant - SRF Funded			
Total WTP Funded by SRF	\$13,330,679	\$1,481,187	\$14,811,865
Forgivable Loan Amount	\$927,000	\$103,000	\$1,030,000
Repayable Loan with SRF	\$12,403,679	\$1,378,187	\$13,781,865
Estimated Interest over Construction Period	\$222,026	\$24,670	\$246,695
Annual Debt Service [1]	\$538,000	\$59,800	\$597,700
Total Payments			\$17,931,000
Principal			\$13,781,865
Interest			\$4,149,135
Treatment Plant - City Bond Funded			
Remaining WTP Cost	\$15,471,998	\$1,719,111	\$17,191,109
Cash Funded	\$5,400,000	\$600,000	\$6,000,000
Bond-Funded Remaining WTP Cost	\$10,071,998	\$1,119,111	\$11,191,109
Annual Debt Service [1]	\$774,300	\$86,000	\$860,300
Total Payments			\$17,206,000
Principal			\$11,191,109
Interest			\$6,014,891
TOTAL WTP ANNUAL DEBT SERVICE	\$1,312,300	\$145,800	\$1,458,000

Source: City of Ashland.

srf

[1] Terms assumed:	Plant (SRF)	Plant (City)
Interest	1.79%	4.50%
Years	30	20

Table W-6
City of Ashland Water Rate Study
DEQ Loan R11753 - Irrigation Ditch Piping

DRAFT

Fiscal Year		Principal	Interest	Total	Fees	Total	Principal
Ending	Outstanding						
							\$1,300,000
		<i>Interest Rate 1%</i>					
2023	First	\$0	\$39,000	\$39,000	\$0	\$39,000	\$1,300,000
	Second	\$30,272	\$6,500	\$36,772	\$6,500	\$43,272	\$1,269,728
2024	First	\$30,423	\$6,349	\$36,772	\$0	\$36,772	\$1,239,305
	Second	\$30,575	\$6,197	\$36,772	\$6,197	\$42,968	\$1,208,729
2025	First	\$30,728	\$6,044	\$36,772	\$0	\$36,772	\$1,178,001
	Second	\$30,882	\$5,890	\$36,772	\$5,890	\$42,662	\$1,147,119
2026	First	\$31,036	\$5,736	\$36,772	\$0	\$36,772	\$1,116,083
	Second	\$31,191	\$5,580	\$36,772	\$5,580	\$42,352	\$1,084,892
2027	First	\$31,347	\$5,424	\$36,772	\$0	\$36,772	\$1,053,544
	Second	\$31,504	\$5,268	\$36,772	\$5,268	\$42,040	\$1,022,040
2028	First	\$31,662	\$5,110	\$36,772	\$0	\$36,772	\$990,378
	Second	\$31,820	\$4,952	\$36,772	\$4,952	\$41,724	\$958,558
2029	First	\$31,979	\$4,793	\$36,772	\$0	\$36,772	\$926,579
	Second	\$32,139	\$4,633	\$36,772	\$4,633	\$41,405	\$894,440
2030	First	\$32,300	\$4,472	\$36,772	\$0	\$36,772	\$862,140
	Second	\$32,461	\$4,311	\$36,772	\$4,311	\$41,083	\$829,679
2031	First	\$32,623	\$4,148	\$36,772	\$0	\$36,772	\$797,056
	Second	\$32,787	\$3,985	\$36,772	\$3,985	\$40,757	\$764,269
2032	First	\$32,951	\$3,821	\$36,772	\$0	\$36,772	\$731,319
	Second	\$33,115	\$3,657	\$36,772	\$3,657	\$40,428	\$698,203
2033	First	\$33,281	\$3,491	\$36,772	\$0	\$36,772	\$664,922
	Second	\$33,447	\$3,325	\$36,772	\$3,325	\$40,097	\$631,475
2034	First	\$33,615	\$3,157	\$36,772	\$0	\$36,772	\$597,861
	Second	\$33,783	\$2,989	\$36,772	\$2,989	\$39,761	\$564,078
2035	First	\$33,952	\$2,820	\$36,772	\$0	\$36,772	\$530,127
	Second	\$34,121	\$2,651	\$36,772	\$2,651	\$39,423	\$496,005
2036	First	\$34,292	\$2,480	\$36,772	\$0	\$36,772	\$461,713
	Second	\$34,463	\$2,309	\$36,772	\$2,309	\$39,080	\$427,250
2037	First	\$34,636	\$2,136	\$36,772	\$0	\$36,772	\$392,614
	Second	\$34,809	\$1,963	\$36,772	\$1,963	\$38,735	\$357,806
2038	First	\$34,983	\$1,789	\$36,772	\$0	\$36,772	\$322,823
	Second	\$35,158	\$1,614	\$36,772	\$1,614	\$38,386	\$287,665
2039	First	\$35,334	\$1,438	\$36,772	\$0	\$36,772	\$252,331
	Second	\$35,510	\$1,262	\$36,772	\$1,262	\$38,034	\$216,821
2040	First	\$35,688	\$1,084	\$36,772	\$0	\$36,772	\$181,133
	Second	\$35,866	\$906	\$36,772	\$906	\$37,678	\$145,267
2041	First	\$36,046	\$726	\$36,772	\$0	\$36,772	\$109,222
	Second	\$36,226	\$546	\$36,772	\$546	\$37,318	\$72,996
2042	First	\$36,407	\$365	\$36,772	\$0	\$36,772	\$36,589
	Second	\$36,589	\$183	\$36,772	\$183	\$36,955	\$0
TOTAL		\$1,300,000	\$173,104	\$1,473,104	\$68,719	\$1,541,823	

Source: DEQ Loan R11753 terms.

deq

Table W-7
City of Ashland Water Rate Study
Estimated Debt for Other Improvements

DRAFT

Item	Assumptions	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Dam Safety Improvements		\$300,000	\$500,000	\$2,000,000	\$2,000,000	\$0	\$0	\$0	\$0	\$0	\$0
Ashland (TID) Canal Piping: Starlite to Terrace Street		\$0	\$700,000	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
East & West Fork Transmission Line Rehabilitation		\$360,000	\$1,763,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reeder Reservoir Variable Depth Intake		\$24,490	\$107,010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Debt Funded Improvements		\$684,490	\$3,070,010	\$3,500,000	\$2,000,000	\$0	\$0	\$0	\$0	\$0	\$0
Bond Sizing											
Capitalized Interest	<i>6 months</i>	\$51,340	\$230,250	\$262,500	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0
Issuance Costs	<i>3%</i>	\$20,530	\$92,100	\$105,000	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0
Underwriter's Discount	<i>1%</i>	\$6,840	\$30,700	\$35,000	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0
Bond Reserve Fund	<i>1 year debt service</i>	\$63,700	\$285,400	\$325,400	\$185,900	\$0	\$0	\$0	\$0	\$0	\$0
Estimated Bond Size		\$826,900	\$3,708,460	\$4,227,900	\$2,415,900	\$0	\$0	\$0	\$0	\$0	\$0
Bond Size Adjusted for Rounding	<i>1.209 bond load</i>	\$828,000	\$3,712,000	\$4,232,000	\$2,418,000	\$0	\$0	\$0	\$0	\$0	\$0
Estimated Annual Debt Service [1]		\$63,700	\$285,400	\$325,400	\$185,900	\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Debt Service		\$63,700	\$349,100	\$674,500	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400

Source: HEC estimates based on planned CIP.

new debt

[1] Debt service estimate based on sale of revenue bonds with the following terms:
interest rate: 4.5%
years: 20

**Table W-8
City of Ashland Water Rate Study
Projected Water Fund Revenue Requirement**

DRAFT

Revenues and Expenses		2017/18 Actual	2018-19 Estimate	2019-20 1	2020-21 2	2021-22 3	2022-23 4	2023-24 5	2024-25 6	2025-26 7	2026-27 8	2027-28 9	2028-29 10
Operating Expenses								<i>Projected</i>					
Personnel	6.5%	\$1,815,873	\$1,933,905	\$2,059,609	\$2,193,483	\$2,336,060	\$2,487,903	\$2,649,617	\$2,821,842	\$3,005,262	\$3,200,604	\$3,408,643	\$3,630,205
Supplies	3.0%	\$193,826	\$199,641	\$205,630	\$211,799	\$218,153	\$224,698	\$231,439	\$238,382	\$245,533	\$252,899	\$260,486	\$268,301
Repair & Maintenance [1]	3.0%	\$277,973	\$286,312	\$294,901	\$303,748	\$312,861	\$322,246	\$331,914	\$341,871	\$352,127	\$362,691	\$373,572	\$384,779
Communications	3.0%	\$27,359	\$28,179	\$29,025	\$29,896	\$30,792	\$31,716	\$32,668	\$33,648	\$34,657	\$35,697	\$36,768	\$37,871
Contractual Services	3.0%	\$180,155	\$135,560	\$139,627	\$143,815	\$148,130	\$152,574	\$157,151	\$161,865	\$166,721	\$171,723	\$176,875	\$182,181
Central Service	3.0%	\$1,410,568	\$1,452,885	\$1,496,472	\$1,541,366	\$1,587,607	\$1,635,235	\$1,684,292	\$1,734,821	\$1,786,865	\$1,840,471	\$1,895,685	\$1,952,556
Miscellaneous Charges	3.0%	\$157,046	\$161,758	\$166,610	\$171,609	\$176,757	\$182,059	\$187,521	\$193,147	\$198,941	\$204,910	\$211,057	\$217,389
Other Purchased Services	3.0%	\$205,130	\$211,284	\$217,622	\$224,151	\$230,875	\$237,802	\$244,936	\$252,284	\$259,852	\$267,648	\$275,677	\$283,948
Franchise Tax	7.5%	\$639,429	\$687,387	\$738,941	\$794,361	\$853,938	\$917,984	\$986,832	\$1,060,845	\$1,140,408	\$1,225,939	\$1,317,884	\$1,416,726
Conservation Programs	3.0%	\$40,558	\$41,775	\$43,028	\$44,319	\$45,649	\$47,018	\$48,429	\$49,882	\$51,378	\$52,920	\$54,507	\$56,142
TAP Water [2]			\$50,000	\$54,000	\$56,700	\$58,571	\$60,504	\$62,622	\$64,813	\$67,082	\$69,430	\$71,860	\$74,375
Subtotal Operating Expenses		\$4,947,917	\$5,188,685	\$5,445,464	\$5,715,247	\$5,999,393	\$6,299,739	\$6,617,420	\$6,953,400	\$7,308,828	\$7,684,931	\$8,083,015	\$8,504,472
Debt Service & Loan Repayments													
Existing Debt (City bonds)		\$450,501	\$453,892	\$457,091	\$450,191	\$448,241	\$448,075	\$260,791	\$195,463	\$196,469	\$197,131	\$197,438	\$0
Existing Debt Medford Water Commission		\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756	\$163,756
IFA DEQ Loan		\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000	\$280,000
New City Debt	Table W-7		\$0	\$63,700	\$349,100	\$674,500	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400	\$860,400
New WTP Debt - SRF	Table W-5		\$0	\$0	\$0	\$246,695	\$597,700	\$597,700	\$597,700	\$597,700	\$597,700	\$597,700	\$597,700
New WTP City Debt	Table W-5		\$0	\$0	\$0	\$0	\$860,300	\$860,300	\$860,300	\$860,300	\$860,300	\$860,300	\$860,300
DEQ Loan R11753 - Ditch Piping	Table W-6		\$0	\$0	\$0	\$0	\$82,272	\$79,740	\$79,740	\$79,740	\$79,740	\$79,740	\$79,740
Subtotal Debt Service & Loan Repayments		\$894,256	\$897,647	\$964,546	\$1,243,046	\$1,813,192	\$3,292,502	\$3,102,687	\$3,037,358	\$3,038,365	\$3,039,027	\$3,039,333	\$2,841,896
Capital Improvements Cash Funded			\$3,880,000	\$1,014,990	\$4,298,119	\$3,525,911	\$1,011,268	\$796,653	\$785,782	\$1,308,216	\$1,461,962	\$1,053,031	\$1,247,432
Subtotal Annual Cost		\$5,842,174	\$9,966,332	\$7,425,001	\$11,256,412	\$11,338,495	\$10,603,510	\$10,516,759	\$10,776,540	\$11,655,409	\$12,185,920	\$12,175,379	\$12,593,799
Credits													
New Service Installation	2.0%	\$53,673	\$54,746	\$55,841	\$56,958	\$58,097	\$59,259	\$60,444	\$61,653	\$62,886	\$64,144	\$65,427	\$66,735
Intergovernmental Revenue	constant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest on Investments	constant	\$139,859	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Miscellaneous	2.0%	\$83,364	\$85,032	\$86,732	\$88,467	\$90,236	\$92,041	\$93,882	\$95,759	\$97,674	\$99,628	\$101,621	\$103,653
Non-Potable Water (TID) Charges	Table W-9		\$69,244	\$72,013	\$74,894	\$77,890	\$81,005	\$84,245	\$87,615	\$91,120	\$94,765	\$98,555	\$102,497
Subtotal Credits		\$276,896	\$229,021	\$234,587	\$240,319	\$246,223	\$252,305	\$258,571	\$265,028	\$271,680	\$278,536	\$285,603	\$292,886
REVENUE REQUIREMENT		\$5,565,278	\$9,737,311	\$7,190,414	\$11,016,094	\$11,092,273	\$10,351,205	\$10,258,188	\$10,511,513	\$11,383,728	\$11,907,384	\$11,889,776	\$12,300,914

Source: HEC.

rev req

[1] Maintenance costs reduced in year 1 by \$63,000 which is the average amount spent on meter replacement in the City each year currently.

Meter replacement costs will be recouped in the new meter replacement monthly charges.

[2] Accounted for in the 2019 budget under Water Supply - Contractual Services. Separated here for MWC rate increases.

MWC rate increases are planned at 8% in 2020, 5% in 2021, 3.3% in 2022 and 2023, and estimated at 3.5% in 2024. Thereafter increases are estimated at 3.5% per year.

Table W-9
City of Ashland Water Rate Study
Projection of TID Non-Potable Water Revenue Offset

DRAFT

Costs	Assumption	2018-19 Estimate	2019-20 1	2020-21 2	2021-22 3	2022-23 4	2023-24 5	2024-25 6	2025-26 7	2026-27 8	2027-28 9	2028-29 10
TID Annual Cost Paid by Metered Customers												
Base Meter Charge [1]												
SOU	6" meter	\$8,550	\$8,892	\$9,248	\$9,618	\$10,002	\$10,403	\$10,819	\$11,251	\$11,701	\$12,169	\$12,656
Lithia Park (City)	4" meter	\$4,345	\$4,519	\$4,700	\$4,888	\$5,083	\$5,287	\$5,498	\$5,718	\$5,947	\$6,185	\$6,432
Metered Water Use [2]												
SOU		\$17,044	\$17,726	\$18,435	\$19,172	\$19,939	\$20,737	\$21,566	\$22,429	\$23,326	\$24,259	\$25,229
Lithia Park (City)		\$2,449	\$2,547	\$2,649	\$2,755	\$2,865	\$2,980	\$3,099	\$3,223	\$3,352	\$3,486	\$3,625
Total SOU		\$25,594	\$26,618	\$27,683	\$28,790	\$29,942	\$31,139	\$32,385	\$33,680	\$35,027	\$36,428	\$37,886
Total Lithia Park (City)		\$6,795	\$7,066	\$7,349	\$7,643	\$7,949	\$8,267	\$8,597	\$8,941	\$9,299	\$9,671	\$10,058
Total TID Metered Customers		\$32,389	\$33,684	\$35,032	\$36,433	\$37,890	\$39,406	\$40,982	\$42,621	\$44,326	\$46,099	\$47,943
All Other TID Users Costs												
Annual Flat Fees [3]		\$36,855	\$38,329	\$39,862	\$41,457	\$43,115	\$44,840	\$46,633	\$48,499	\$50,439	\$52,456	\$54,554
Total TID Unmetered Customers		\$36,855	\$38,329	\$39,862	\$41,457	\$43,115	\$44,840	\$46,633	\$48,499	\$50,439	\$52,456	\$54,554
Total Estimated TID Customer Payments												
Meter Fees		\$12,895	\$13,411	\$13,948	\$14,506	\$15,086	\$15,689	\$16,317	\$16,970	\$17,648	\$18,354	\$19,088
Use Fees		\$56,348	\$58,602	\$60,946	\$63,384	\$65,919	\$68,556	\$71,298	\$74,150	\$77,116	\$80,201	\$83,409
Total Fees		\$69,244	\$72,013	\$74,894	\$77,890	\$81,005	\$84,245	\$87,615	\$91,120	\$94,765	\$98,555	\$102,497
Source: City of Ashland and HEC.												tid offset
[1] Customer charges and meter replacement fees for one 6" meter (SOU) and one 4" meter (Lithia Park).												
[2] [3] Calculated Rate per Metered Connection		\$0.0024	\$0.0025	\$0.0026	\$0.0027	\$0.0028	\$0.0029	\$0.0030	\$0.0032	\$0.0033	\$0.0034	\$0.0036
Calculated Rate per Acre		\$211.81	\$220.28	\$229.09	\$238.26	\$247.79	\$257.70	\$268.01	\$278.73	\$289.88	\$301.47	\$313.53

Table W-10
City of Ashland Water Rate Study
Projected Water Fund Cashflow

DRAFT

Revenues and Expenses	2017-18 Base	2018-19 Current	2019-20 1	2020-21 2	2021-22 3	2022-23 4	2023-24 5	2024-25 6	2025-26 7	2026-27 8	2027-28 9	2028-29 10
	<i>New Rates Effective</i>		<i>7/1/2019</i>	<i>7/1/2020</i>	<i>7/1/2021</i>	<i>7/1/2022</i>	<i>7/1/2023</i>	<i>7/1/2023</i>	<i>7/1/2023</i>	<i>7/1/2023</i>	<i>7/1/2023</i>	<i>7/1/2023</i>
	<i>Percentage Increase</i>		<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>
Revenue												
Municipal Water Sales	\$7,668,298	\$8,250,000	\$8,580,000	\$8,923,200	\$9,280,128	\$9,651,333	\$10,037,386	\$10,438,882	\$10,856,437	\$11,290,695	\$11,742,322	\$12,212,015
TID Water Sales	\$50,000	\$69,244	\$72,013	\$74,894	\$77,890	\$81,005	\$84,245	\$87,615	\$91,120	\$94,765	\$98,555	\$102,497
Other Revenue Sources	\$276,896	\$159,778	\$162,573	\$165,425	\$168,333	\$171,300	\$174,326	\$177,412	\$180,561	\$183,772	\$187,047	\$190,388
Total Revenues	\$7,995,194	\$8,479,021	\$8,814,587	\$9,163,519	\$9,526,351	\$9,903,638	\$10,295,958	\$10,703,910	\$11,128,118	\$11,569,231	\$12,027,925	\$12,504,901
Operating Expenses	\$4,947,917	\$5,188,685	\$5,445,464	\$5,715,247	\$5,999,393	\$6,299,739	\$6,617,420	\$6,953,400	\$7,308,828	\$7,684,931	\$8,083,015	\$8,504,472
Net Revenue before Debt Service and System Rehabilitation	\$3,047,277	\$3,290,337	\$3,369,122	\$3,448,272	\$3,526,958	\$3,603,899	\$3,678,538	\$3,750,510	\$3,819,289	\$3,884,300	\$3,944,910	\$4,000,429
Debt Service	\$894,256	\$897,647	\$964,546	\$1,243,046	\$1,813,192	\$3,292,502	\$3,102,687	\$3,037,358	\$3,038,365	\$3,039,027	\$3,039,333	\$2,841,896
<i>Debt Service Coverage</i>	<i>3.41</i>	<i>3.67</i>	<i>3.49</i>	<i>2.77</i>	<i>1.95</i>	<i>1.09</i>	<i>1.19</i>	<i>1.23</i>	<i>1.26</i>	<i>1.28</i>	<i>1.30</i>	<i>1.41</i>
Cash-Funded Capital Improvements [1]	\$1,573,054	\$3,880,000	\$1,014,990	\$4,298,119	\$3,525,911	\$1,011,268	\$796,653	\$785,782	\$1,308,216	\$1,461,962	\$1,053,031	\$1,247,432
Net Revenue	\$579,966	(\$1,487,311)	\$1,389,586	(\$2,092,894)	(\$1,812,145)	(\$699,872)	(\$220,802)	(\$72,631)	(\$527,291)	(\$616,689)	(\$147,454)	(\$88,898)
Beginning Balance	\$7,795,562	\$9,152,711	\$10,214,844	\$11,454,430	\$9,211,536	\$7,249,392	\$6,399,520	\$6,028,718	\$5,806,088	\$5,128,797	\$4,362,108	\$4,064,654
Net Revenue (Deficit)	\$579,966	(\$1,487,311)	\$1,389,586	(\$2,092,894)	(\$1,812,145)	(\$699,872)	(\$220,802)	(\$72,631)	(\$527,291)	(\$616,689)	(\$147,454)	(\$88,898)
Bond/Loan Proceeds	\$732,215	\$2,699,444										
Transfer Out	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)
Add SDC Revenue	\$294,968	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Ending Balance	\$9,152,711	\$10,214,844	\$11,454,430	\$9,211,536	\$7,249,392	\$6,399,520	\$6,028,718	\$5,806,088	\$5,128,797	\$4,362,108	\$4,064,654	\$3,825,755
Target Balance (rounded) [3]		\$2,139,000	\$2,206,000	\$2,276,000	\$2,595,000	\$3,104,000	\$3,180,000	\$3,261,000	\$3,346,000	\$3,435,000	\$3,526,000	\$3,622,000

Source: City of Ashland and HEC.

flow

[1] For fiscal years ending 2018 and 2019, includes projects funded with bond proceeds.

[2] Timing of receipt of loan and debt proceeds is unknown.

[3] The target balance is 20% of revenues plus one year debt service (excluding City GO debt).

Table TID-1
City of Ashland Water Rate Study
Cost of TID Non-Potable Water Deliveries

DRAFT

TID Total Annual Cost		Estimated Cost	
Costs			
Contracted Water			\$0
City Maintenance Costs [1]			\$34,040
Canal Depreciation			\$0
TID Staffing and Materials Costs [2]			\$28,784
Total Annual Cost			\$62,824
		Typical Delivery [3]	
		Cubic Feet	Acre Feet
Total Use	a	24,463,405	562
SOU Use [4]	b	7,101,690	163
Lithia Park Use [4]	c	1,020,495	23
Remaining TID Irrigators	d = a-b-c	16,341,220	375

Source: City of Ashland and HEC.

tid calc

[1] Costs shown are 73% of the average annual costs from 2013 to 2018 in today's dollars.

[2] Estimated finance and public works departments' time and materials costs to manage T.I.D. agreements, billing and customer service.

[3] Under the 1924, 1926, and 1935 contract the City can take up to 769 acre feet in a typical year for any purpose. The City also has an agreement with TID for an additional 600 acre feet for municipal purposes. On average, City TID customers use 73% of the 769 acre feet contract and the City municipal customers use the 600 acre feet contract. See Table TID-3.

[4] Based on historical water consumption records.

Table TID-2
City of Ashland Water Rate Study
TID Canal Maintenance Costs

DRAFT

Cost	2013	2014	2015	2016	2017	2018
Man Hours	1,074	1,227	1,321	780	621	709
Labor Cost	\$28,392	\$38,406	\$53,303	\$31,609	\$21,863	\$25,009
Equipment Cost	\$6,236	\$7,333	\$19,560	\$17,965	\$14,386	\$8,205
Total Cost	\$34,628	\$45,739	\$72,863	\$49,573	\$36,248	\$33,214
Cost in Today's Dollars	\$35,699	\$47,153	\$75,116	\$51,107	\$37,369	\$33,214

Source: City of Ashland.

tid maint

Table TID-3
City of Ashland Water Rate Study
Historical TID Non-Potable Water Deliveries

DRAFT

Year	Total Acre-Feet [1]	Municipal Use [2]	Spill to Creek	Irrigation Use	1924, 1926 & 1935 Contract [3]	Irrigation Use as % of Contract
<i>All Figures in Acre Feet</i>						
2004	751.71	0.00	123.75	627.96	769.00	82%
2005	478.57	0.00	123.75	354.82	769.00	46%
2006	659.93	0.00	123.75	536.18	769.00	70%
2007	560.14	0.00	123.75	436.39	769.00	57%
2008	726.56	0.00	123.75	602.81	769.00	78%
2009	742.90	224.24	123.75	394.91	769.00	51%
2010	818.73	0.00	123.75	694.98	769.00	90%
2011	755.37	0.00	123.75	631.62	769.00	82%
2012	731.81	0.00	123.75	608.06	769.00	79%
2013	981.49	205.15	123.75	652.59	654.00	100%
2014	1,173.94	565.44	123.75	484.75	654.00	74%
Average Excluding Drought Years [4]				561.60	769.00	73%

Source: Talent Irrigation District.

tid deliv

[1] TID measurements.

[2] City measurements.

[3] In 2013 and 2014 TID curtailed the amount allowed to 654 acre feet.

[4] Excludes drought years 2009, 2013, and 2014.

Table TID-4

City of Ashland Water Rate Study

DRAFT

Calculation of TID Non-Potable Water Use Rates for Fiscal Year 2019-20

Item	Calculation	Current Rates	Calculated 19/20 Rates
Total TID Annual Cost	a		\$62,824
Metered Rate per Cu. Ft.	b	\$0.0024	\$0.0026
SOU Annual Costs	c = 7,101,690*b		\$18,238
Lithia Park (City) Annual Costs	d = 1,020,495*b		\$2,621
Unmetered Irrigators Costs	e = a-c-d		\$41,966
Unmetered Irrigators Acres	e		174
Unmetered Annual Rate per Acre	f = d/e	\$211.81	\$241.18

Source: City of Ashland and HEC.

tid rates

Note: Table excludes service charge and meter replacement fee.

Technical Memorandum

To: Paula Brown, Public Works Director

From: Catherine Hansford

Date: May 21, 2019

Subject: DRAFT Wastewater Rate Update Analysis

Purpose

The City of Ashland (the City) charges wastewater utility rates for provision of wastewater services. Each year, the rates are evaluated in light of known and planned, estimated, future capital improvement project costs, as well as projected increasing wastewater operations costs. This memorandum presents an analysis of the current and future projected financial health of the wastewater utility fund, including the findings for setting of wastewater rates for the next ten years, beginning with fiscal year 2019/20.

Support tables are included in **Attachment S**.

Major Findings

The financial analysis makes the following major findings:

1. The wastewater utility fund is in a strong financial position, but in order to remain fiscally healthy, rates will need to continue to be increased due to major infrastructure project costs at the wastewater treatment plant over the next three years, as well as typical annual inflationary pressures on operations costs.
2. The analysis projects that annual increases of 4% through the next ten years should provide more than sufficient revenue to meet the City's wastewater service annual costs; however, the City is currently undergoing two facilities assessments: (1) the Wastewater Treatment Plant (WWTP) Facilities Analysis for the components of the wastewater treatment plant and the Collection System Master Plan for collection facilities. It is anticipated that these planning efforts will call for some major improvement projects that are not yet identified in the City's capital improvement plan. These potential projects could use a large portion of the current wastewater fund cash balance.
3. The City has executed DEQ loan R11752 with the State of Oregon for purposes of improvements to the oxidation ditch shell and associated project costs. The financial analysis assumes that this loan is renegotiated and used for the membrane replacements; the oxidation ditch, which timing is less certain, is assumed to be cash-

funded. How these improvements are actually funded is pending the results of the WWTP Facilities Analysis and the Collection System Master Plan.

Table 1 summarizes the projected City’s wastewater rates for the next two bienniums (four fiscal years).

Figure 1, which follows **Table 1**, shows the financial impact to a single-family home using 700 cubic feet, on average, during the winter months.

Table 1
Summary of Wastewater Rate Increases for the next 4 Years

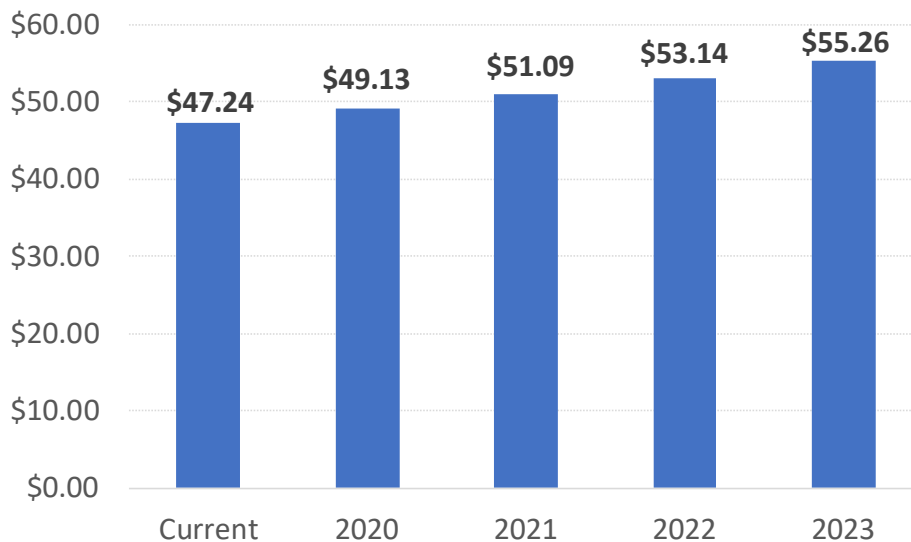
Customer Type	Current Rates	Fiscal Year Ending			
		2020	2021	2022	2023
	<i>Percentage Increase</i>	4.00%	4.00%	4.00%	4.00%
Residential					
Monthly Service Charge, per unit	\$32.63	\$33.94	\$35.29	\$36.70	\$38.17
Quantity Charge, per cf [1]	\$0.0487	\$0.0506	\$0.0527	\$0.0548	\$0.0570
Commercial, Industrial, Governmental					
Monthly Service Charge	\$34.05	\$35.41	\$36.83	\$38.30	\$39.83
Quantity Charge, per cf	\$0.0541	\$0.0562	\$0.0585	\$0.0608	\$0.0632
Greenhouses, Churches, Schools (K-12) operating 9 months/yr					
Monthly Service Charge	\$34.05	\$35.41	\$36.83	\$38.30	\$39.83
Quantity Charge, per cf	\$0.0541	\$0.0562	\$0.0585	\$0.0608	\$0.0632
Bed & Breakfasts & Ashland Parks Bathrooms					
Monthly Service Charge	\$34.05	\$35.41	\$36.83	\$38.30	\$39.83
Quantity Charge, per cf	\$0.0541	\$0.0562	\$0.0585	\$0.0608	\$0.0632

Source: City of Ashland and HEC 2019 rates analysis.

summ

[1] avg. winter water use >400 cf.

Figure 1
Single Family Home Bill assuming 700 cubic feet Average Winter Water Use



Methodology

The wastewater rate analysis presented in this memorandum is not a full cost of service study examining proportionate costs attributable to different customer groups; rather, it projects financial needs over the next ten years and how to fund those needs. Wastewater rate revenues are projected under various assumptions including these:

- Operating expenses, which account for typical annual costs to run the wastewater system excluding any major capital repairs or new infrastructure, are projected through the ten-year period based on historical annual increases in cost as well as City staff input on anticipated future cost increases. Historical wastewater fund expenses are presented in **Table S-1**. **Table S-2** combines the wastewater treatment plant and the collection system costs to calculate the average annual percentage increase in costs by expenditure type. Personnel costs increased at an average annual rate of 6.8% the last two years; 6.5% per year is assumed for the ten-year projection. Franchise tax increased at an average annual rate of 7.6%; 7.5% per year is assumed for the projection. Internal charges increased at an average annual rate of 2.4%; 2.5% per year is assumed for the projection. While materials and services costs increased at a rate of 10.8% per year, there were several one-time costs incurred; 6.0% per year (total non-personnel average percentage cost increase per year) is used in the projection.
- Aside from wastewater rate revenues, the wastewater fund receives other miscellaneous income such as food and beverage tax, interest income, late payment and other revenues. These revenues are credited against the annual costs to determine the revenue requirement (the amount of money that must be raised through wastewater rates). Revenues that are credited in the analysis are based on

historical and budgeted numbers, as well as conservative estimates of future revenues. The food and beverage tax will cease to be applied as a credit to the wastewater fund fiscal year 2023 because this funding was pledged to service the debt of the 2010 wastewater treatment plant GO bonds, which ceases fiscal year 2022. Historical revenues are presented in **Table S-3**.

- In addition to operating expenses, the wastewater utility fund incurs costs for capital expenditures. Capital expenditures include costs to rehabilitate major infrastructure components, and/or install new or replacement facilities. **Table S-4** presents the City's capital improvements plan for wastewater for the next ten years; however, additional projects are anticipated to be added when the WWTP Facilities Analysis and the Wastewater Collection System Master Plan are complete. Anticipated funding sources for the CIP include Department of Environmental Quality (DEQ) loans, and use of wastewater fund cash/reserves of cash. The financing strategy is that DEQ loans will provide funding for 55% of total costs, and that cash will pay for the remaining 45% of total costs.
- **Tables S-5** and **S-6** show the estimated cost share of the capital improvement projects to be funded through rates (existing customers) and system development charges (future customers).
- Financing costs and estimated annual loan repayment assumptions are provided in **Table S-7** for DEQ Loan R11752 and **Table S-8** for DEQ Loan R11754. The former loan will be used for the membranes' replacement estimated cost of \$1.2 million. The latter loan will fund the planning and construction phases of the cost of the wastewater treatment plant riparian restoration and outfall relocation projects.
- The projected revenue requirement for each year in the ten-year forecast is presented in **Table S-9**. The revenue requirement is estimated to increase from approximately \$6.0 million this fiscal year to \$7.3 million in five years and \$9.7 million in ten years. The revenue requirement goes up and down in the in-between years because of fluctuations in the amount cash-funded capital improvement costs and debt service payments due in each year. When the two facilities assessments are complete, the revenue requirement will change; in addition, operations and maintenance costs associated with the riparian shading project will need to be added when known.
- By adopting gradual changes in rates, the wastewater utility fund can accumulate more cash in advance of immediate project expenditures in some years that can be spent in future years when revenues are insufficient to cover those costs.

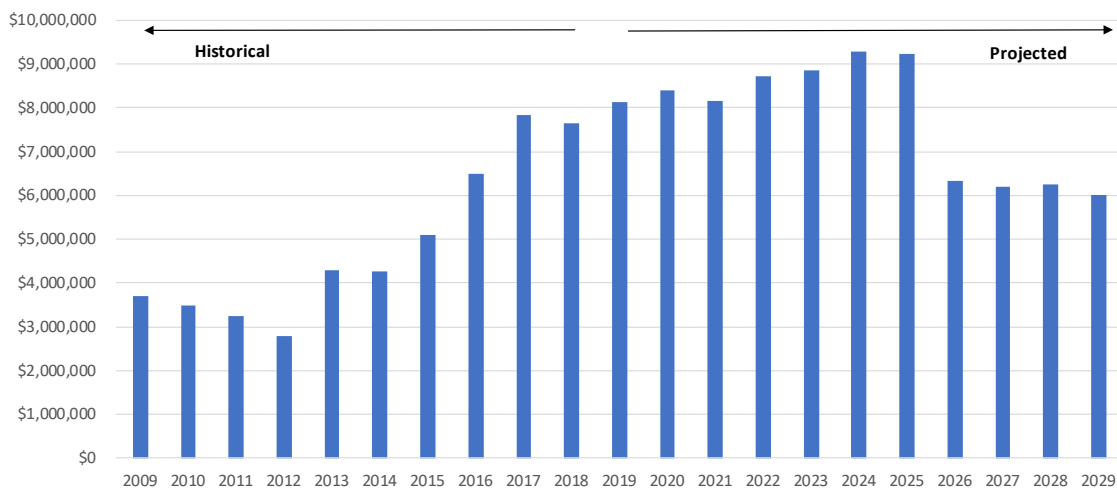
Table S-10 presents the estimated cash flow for the wastewater fund over the next ten years. It is assumed that water demand remains static; by increasing wastewater rates 4% each year there is an assumed increase in charges for services of 4%.

The ending cash balance each year is an estimate of available cash for any undesignated wastewater service or project needs. Excluded from the cash flow analysis is loan funds and bond proceeds received by the City, and project costs funded by those loans and bond proceeds. The analysis excludes these because of the unknown timing of the projects' expenditures and revenues. Debt service for these projects is included in the cash flow analysis. As a result, actual cash balances may be significantly greater or lesser from one year to the next than shown in the table, particularly as the City completes the planning and construction phases of the wastewater treatment plant riparian restoration and outfall relocation projects.

Results

Historical and projected annual ending wastewater fund cash balances are shown in **Figure 2** below. The projected cash balance is probably not a very accurate portrayal of future cash balances; the financial model will need to be updated when the two facilities assessment studies are complete. It is anticipated that additional projects will be identified that will be cash-funded, which will draw the cash balance down closer to the target balance of 15% of revenues plus annual debt service excluding City GO bond annual debt service.

Figure 2
Historical and Projected Wastewater Fund Cash Balance



ATTACHMENT S

WASTEWATER UTILITY FUND

2019 FINANCIAL ANALYSIS

SUPPORT TABLES

**Table S-1
Ashland Wastewater Forecast
Historical Wastewater Fund Expenses**

DRAFT

Wastewater Expenses	Fiscal Year Ending		
	2016	2017	2018
Wastewater Collection			
Salaries & Wages	\$318,179	\$332,841	\$377,589
Benefits	\$200,001	\$210,877	\$258,273
Supplies	\$33,543	\$35,756	\$41,774
Rental, Repair, Maintenance	\$75,398	\$83,589	\$90,409
Communications	\$3,911	\$4,703	\$4,863
Contractual Services	\$4,229	\$89,251	\$6,350
Bad Debt	\$7,298	\$4,896	\$11,996
Licensing & Other	\$2,806	\$0	\$960
Internal Charges	\$869,085	\$900,985	\$918,172
Purchased Services	\$5,105	\$2,353	\$5,064
Franchise Tax	\$410,399	\$445,885	\$474,910
Capital Outlay	\$6,115	\$32,758	\$327,375
Debt	\$74,077	\$73,376	\$72,675
Wastewater Collection Expenses	\$2,010,146	\$2,217,271	\$2,590,411
Wastewater Treatment Plant			
Salaries & Wages	\$422,888	\$428,835	\$438,951
Benefits	\$237,902	\$247,671	\$270,260
Supplies	\$155,727	\$161,063	\$163,828
Rental, Repair, Maintenance	\$569,650	\$684,058	\$774,874
Communications	\$1,794	\$2,164	\$1,712
Contractual Services	\$77,011	\$66,905	\$43,104
Licensing & Other	\$31,241	\$36,667	\$40,682
Internal Charges	\$735,650	\$754,060	\$765,085
Purchased Services	\$47,979	\$53,213	\$59,307
Programs	\$661	\$1,026	\$2,900
Capital Outlay	\$220,774	\$91,752	\$1,470,921
Debt	\$1,622,297	\$1,614,776	\$1,608,552
WWTP Expenses	\$4,123,575	\$4,142,188	\$5,640,175
Reimbursement SDCs			
Capital Outlay	\$13,039	\$0	\$0
Debt	\$0	\$0	\$0
Reimbursement SDCs Expenses	\$13,039	\$0	\$0
Improvement SDCs			
Contractual Services	\$0	\$0	\$7,308
Capital Outlay	\$0	\$377	\$0
Debt	\$0	\$0	\$0
Improvement SDCs Expenses	\$0	\$377	\$7,308
Total Wastewater Fund Expenses	\$6,146,760	\$6,359,837	\$8,237,895

Source: City of Ashland financial statements and 2019 budget.

exp

Table S-2
Ashland Wastewater Forecast
Average Annual Increase in Wastewater Expenses

DRAFT

Expense Category	Fiscal Year Ending			2-Year Change	Avg. Annual % Change
	2016	2017	2018		
Personnel					
Salaries & Wages	\$741,067	\$761,676	\$816,539	\$75,473	5.0%
Benefits	\$437,903	\$458,548	\$528,533	\$90,630	9.9%
Subtotal Personnel	\$1,178,969	\$1,220,224	\$1,345,072	\$166,103	6.8%
Non-Personnel					
Internal Charges	\$1,604,735	\$1,655,045	\$1,683,257	\$78,522	2.4%
Franchise Tax	\$410,399	\$445,885	\$474,910	\$64,511	7.6%
Materials and Services					
Supplies	\$189,271	\$196,819	\$205,601	\$16,330	4.2%
Rental, Repair, Maintenance	\$645,048	\$767,646	\$865,283	\$220,235	15.8%
Communications	\$5,705	\$6,867	\$6,575	\$871	7.4%
Contractual Services	\$81,240	\$156,155	\$49,454	(\$31,786)	-22.0%
Bad Debt	\$7,298	\$4,896	\$11,996	\$4,699	28.2%
Licensing & Other	\$34,047	\$36,667	\$41,641	\$7,595	10.6%
Purchased Services	\$53,084	\$55,566	\$64,372	\$11,288	10.1%
Programs	\$661	\$1,026	\$2,900	\$2,239	109.5%
Subtotal Materials and Services	\$1,016,353	\$1,225,643	\$1,247,823	\$231,470	10.8%
Total Non-Personnel	\$3,031,487	\$3,326,573	\$3,405,990	\$374,502	6.0%
TOTAL	\$4,210,457	\$4,546,797	\$4,751,062	\$540,605	6.2%

Source: City of Ashland financial statements.

change

**Table S-3
Ashland Wastewater Forecast
Historical Wastewater Fund Revenues**

DRAFT

Wastewater Revenues	2016	2017	2018
Rates			
Commercial & Industrial	\$0	\$1,182,130	\$1,243,311
Governmental	\$1,058,523	\$1,440,802	\$317,841
Multifamily	\$1,381,563	\$0	\$0
Residential	\$2,640,272	\$2,864,339	\$4,223,428
Subtotal Rates	\$5,080,358	\$5,487,271	\$5,784,580
Food and Beverage Tax	\$2,259,785	\$2,004,952	\$1,608,600
Late Payments	\$0	\$596	\$19,813
Property	\$13,250	\$13,250	\$13,250
Public Works Services	\$0	\$391	\$0
Reimbursement SDC	\$107,655	\$105,558	\$228,107
Connection Fees	\$0	\$0	\$0
New Service Installation	\$0	\$0	\$0
Interest Income	\$34,765	\$72,654	\$138,548
Interest on SDC Balance	\$0	\$0	\$0
Miscellaneous Income	\$1,619	\$1	\$0
Proceeds from Debt	\$53,424	\$17,942	\$239,627
Total Wastewater Fund Revenues	\$7,550,857	\$7,702,614	\$8,032,524
Total Revenues w/o Bond Proceeds	\$7,497,433	\$7,684,672	\$7,792,897

Source: City of Ashland financial statements and 2019 budget.

rev

Table S-4
Ashland Wastewater Forecast
Wastewater Capital Improvement Plan in Inflated Dollars

DRAFT

Wastewater Improvements	Funding Source	Loan Number	Fiscal Year Ending									
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
			BN 19-21		BN 21-23		BN 23-25		BN 25-27		BN 27-29	
Treatment Plant												
UV System Upgrades	Cash		\$200,000	\$400,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Riparian Restoration/Shading [1]	DEQ Loan	R11754	\$465,000	\$600,000	\$660,000	\$380,000	\$420,000	\$200,000	\$45,000	\$45,000	\$45,000	\$45,000
Outfall Relocation / Fish Screen	DEQ Loan	R11754	\$500,000	\$500,000	\$200,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Headworks)	Cash		\$60,000	\$300,000	\$300,000	\$300,000	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Harmonics)	Cash		\$210,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Miscellaneous)	Cash		\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Membrane Replacement (two trains)	DEQ Loan	R11752	\$0	\$0	\$0	\$0	\$600,000	\$600,000	\$0	\$0	\$0	\$0
Oxidation Ditch Shell	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$3,000,000	\$0	\$0	\$0
Subtotal Wastewater Treatment Plant			\$1,585,000	\$1,950,000	\$1,310,000	\$830,000	\$1,170,000	\$950,000	\$3,195,000	\$195,000	\$195,000	\$195,000
Collection System												
Wastewater Line Replacement; 15" Main - Mountain Ave.	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wastewater Miscellaneous In-House Replacement	Cash		\$105,000	\$108,150	\$111,395	\$114,736	\$118,178	\$121,724	\$125,375	\$129,137	\$133,011	\$137,001
Wastewater Miscellaneous Trenchless Pipe Lining	Cash		\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000
Wastewater Line Upsizing - Bear Creek Trunkline	Cash		\$125,000	\$125,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tolman Creek Rd - Abbott Ave to Ashland St	Cash		\$0	\$0	\$0	\$92,000	\$0	\$0	\$0	\$0	\$0	\$0
A St - First St to Eighth St	Cash		\$0	\$0	\$0	\$0	\$146,000	\$300,000	\$0	\$0	\$0	\$0
Granite St - Barum St. to Nutley St, Strawberry Ln to Pioneer St. N of Ashland Creek Dr	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$216,000	\$0	\$0	\$0
N Laurel St - W Hersey to Ornge Ave	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$121,000	\$0	\$0
S Mountain Ave - Ashland St to Pleasant Way	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,000	\$0
Nutley St - Scenic Dr to Pine St	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29,000
Subtotal Wastewater Collection System			\$245,000	\$483,150	\$126,395	\$456,736	\$279,178	\$671,724	\$356,375	\$500,137	\$195,011	\$416,001
Total Wastewater Improvements (Inflated \$s)			\$15,304,707	\$1,830,000	\$2,433,150	\$1,436,395	\$1,286,736	\$1,449,178	\$1,621,724	\$3,551,375	\$695,137	\$390,011
<i>City Debt-Funded</i>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>DEQ Loan</i>			\$5,305,000	\$965,000	\$1,100,000	\$860,000	\$380,000	\$1,020,000	\$800,000	\$45,000	\$45,000	\$45,000
<i>Cash-Funded</i>			\$9,999,707	\$865,000	\$1,333,150	\$576,395	\$906,736	\$429,178	\$821,724	\$3,506,375	\$650,137	\$345,011

Source: City of Ashland public work department March 2019.

cip inf

[1] Water Quality Temperature Trading Program.

**Table S-5
Ashland Wastewater Forecast
Rate-Funded CIP in Inflated Dollars**

DRAFT

Wastewater Improvements	Funding Source	Loan Number	Fiscal Year Ending										
			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
Treatment Plant													
UV System Upgrades	Cash		\$170,000	\$340,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
WWTP Riparian Restoration/Shading [1]	DEQ Loan	R11754	\$120,508	\$155,495	\$171,044	\$98,480	\$108,846	\$51,832	\$11,662	\$11,662	\$11,662	\$11,662	
Outfall Relocation / Fish Screen	DEQ Loan	R11754	\$425,000	\$425,000	\$170,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
WWTP Process Improvements (Headworks)	Cash		\$51,000	\$255,000	\$255,000	\$255,000	\$0	\$0	\$0	\$0	\$0	\$0	
WWTP Process Improvements (Harmonics)	Cash		\$178,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
WWTP Process Improvements (Miscellaneous)	Cash		\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	\$127,500	
Membrane Replacement (two trains)	DEQ Loan	R11752	\$0	\$0	\$0	\$0	\$600,000	\$600,000	\$0	\$0	\$0	\$0	
Oxidation Ditch Shell	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$1,830,000	\$0	\$0	\$0	
Subtotal Wastewater Treatment Plant			\$1,072,508	\$1,302,995	\$723,544	\$480,980	\$836,346	\$779,332	\$1,969,162	\$139,162	\$139,162	\$139,162	
Collection System													
Wastewater Line Replacement; 15" Main - Mountain Ave.	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Wastewater Miscellaneous In-House Replacement	Cash		\$105,000	\$108,150	\$111,395	\$114,736	\$118,178	\$121,724	\$125,375	\$129,137	\$133,011	\$137,001	
Wastewater Miscellaneous Trenchless Pipe Lining	Cash		\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000	\$15,000	\$250,000	
Wastewater Line Upsizing - Bear Creek Trunkline	Cash		\$37,500	\$37,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Tolman Creek Rd - Abbott Ave to Ashland St	Cash		\$0	\$0	\$0	\$92,000	\$0	\$0	\$0	\$0	\$0	\$0	
A St - First St to Eighth St	Cash		\$0	\$0	\$0	\$0	\$124,100	\$255,000	\$0	\$0	\$0	\$0	
Granite St - Barum St. to Nutley St, Strawberry Ln to Pioneer St	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$216,000	\$0	\$0	\$0	
N Laurel St - W Hersey to Orange Ave	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$121,000	\$0	\$0	
S Mountain Ave - Ashland St to Pleasant Way	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$47,000	\$0	
Nutley St - Scenic Dr to Pine St	Cash		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29,000	
Subtotal Wastewater Collection System			\$157,500	\$395,650	\$126,395	\$456,736	\$257,278	\$626,724	\$356,375	\$500,137	\$195,011	\$416,001	
Total Wastewater Improvements (Inflated \$s)			\$11,070,161	\$1,230,008	\$1,698,645	\$849,939	\$937,716	\$1,093,625	\$1,406,055	\$2,325,538	\$639,299	\$334,173	\$555,163
<i>City Debt-Funded</i>			<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	
<i>DEQ Loan</i>			<i>\$2,972,854</i>	<i>\$545,508</i>	<i>\$580,495</i>	<i>\$341,044</i>	<i>\$98,480</i>	<i>\$708,846</i>	<i>\$651,832</i>	<i>\$11,662</i>	<i>\$11,662</i>	<i>\$11,662</i>	<i>\$11,662</i>
<i>Cash-Funded</i>			<i>\$8,097,307</i>	<i>\$684,500</i>	<i>\$1,118,150</i>	<i>\$508,895</i>	<i>\$839,236</i>	<i>\$384,778</i>	<i>\$754,224</i>	<i>\$2,313,875</i>	<i>\$627,637</i>	<i>\$322,511</i>	<i>\$543,501</i>

Source: City of Ashland public work department March 2019.

rate cip

[1] Water Quality Temperature Trading Program.

**Table S-6
Ashland Wastewater Forecast
SDC Funded CIP in Inflated Dollars**

DRAFT

Wastewater Improvements	Funding Source	Fiscal Year Ending										
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
Treatment Plant												
UV System Upgrades	Cash	\$30,000	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Riparian Restoration/Shading [1]	DEQ Loan R11754	\$344,492	\$444,505	\$488,956	\$281,520	\$311,154	\$148,168	\$33,338	\$33,338	\$33,338	\$33,338	\$33,338
Outfall Relocation / Fish Screen	DEQ Loan R11754	\$75,000	\$75,000	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Headworks)	Cash	\$9,000	\$45,000	\$45,000	\$45,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Harmonics)	Cash	\$31,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP Process Improvements (Miscellaneous)	Cash	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500
Membrane Replacement (two trains)	DEQ Loan R11752	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Oxidation Ditch Shell	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$1,170,000	\$0	\$0	\$0	\$0
Subtotal Wastewater Treatment Plant		\$512,492	\$647,005	\$586,456	\$349,020	\$333,654	\$170,668	\$1,225,838	\$55,838	\$55,838	\$55,838	\$55,838
Collection System												
Wastewater Line Replacement; 15" Main - Mountain Ave.	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wastewater Miscellaneous In-House Replacement	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wastewater Miscellaneous Trenchless Pipe Lining	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wastewater Line Upsizing - Bear Creek Trunkline	Cash	\$87,500	\$87,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tolman Creek Rd - Abbott Ave to Ashland St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A St - First St to Eighth St	Cash	\$0	\$0	\$0	\$0	\$21,900	\$45,000	\$0	\$0	\$0	\$0	\$0
Granite St - Barum St. to Nutley St, Strawberry Ln to Pioneer St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
N Laurel St - W Hersey to Orange Ave	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
S Mountain Ave - Ashland St to Pleasant Way	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Nutley St - Scenic Dr to Pine St	Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Wastewater Collection System		\$87,500	\$87,500	\$0	\$0	\$21,900	\$45,000	\$0	\$0	\$0	\$0	\$0
Total Wastewater Improvements (Inflated \$s)	\$4,234,546	\$599,992	\$734,505	\$586,456	\$349,020	\$355,554	\$215,668	\$1,225,838	\$55,838	\$55,838	\$55,838	\$55,838
<i>City Debt-Funded</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
<i>DEQ Loan</i>	<i>\$2,332,146</i>	<i>\$419,492</i>	<i>\$519,505</i>	<i>\$518,956</i>	<i>\$281,520</i>	<i>\$311,154</i>	<i>\$148,168</i>	<i>\$33,338</i>	<i>\$33,338</i>	<i>\$33,338</i>	<i>\$33,338</i>	<i>\$33,338</i>
<i>Cash-Funded</i>	<i>\$1,902,400</i>	<i>\$180,500</i>	<i>\$215,000</i>	<i>\$67,500</i>	<i>\$67,500</i>	<i>\$44,400</i>	<i>\$67,500</i>	<i>\$1,192,500</i>	<i>\$22,500</i>	<i>\$22,500</i>	<i>\$22,500</i>	<i>\$22,500</i>

Source: City of Ashland public work department March 2019.

sd cip

[1] Water Quality Temperature Trading Program.

**Table S-7
Ashland Wastewater Forecast
Estimated Loan Repayments for DEQ Loan R11752**

DRAFT

Fiscal Year Ending		Principal	Interest	Total	Fees	Total	Principal Outstanding
							\$1,200,000
		<i>Interest Rate 1%</i>					
2027	First	\$0	\$36,000	\$36,000	\$0	\$36,000	\$1,200,000
	Second	\$27,943	\$6,000	\$33,943	\$6,000	\$39,943	\$1,172,057
2028	First	\$28,083	\$5,860	\$33,943	\$0	\$33,943	\$1,143,974
	Second	\$28,223	\$5,720	\$33,943	\$5,720	\$39,663	\$1,115,750
2029	First	\$28,365	\$5,579	\$33,943	\$0	\$33,943	\$1,087,386
	Second	\$28,506	\$5,437	\$33,943	\$5,437	\$39,380	\$1,058,879
2030	First	\$28,649	\$5,294	\$33,943	\$0	\$33,943	\$1,030,231
	Second	\$28,792	\$5,151	\$33,943	\$5,151	\$39,094	\$1,001,438
2031	First	\$28,936	\$5,007	\$33,943	\$0	\$33,943	\$972,502
	Second	\$29,081	\$4,863	\$33,943	\$4,863	\$38,806	\$943,422
2032	First	\$29,226	\$4,717	\$33,943	\$0	\$33,943	\$914,195
	Second	\$29,372	\$4,571	\$33,943	\$4,571	\$38,514	\$884,823
2033	First	\$29,519	\$4,424	\$33,943	\$0	\$33,943	\$855,304
	Second	\$29,667	\$4,277	\$33,943	\$4,277	\$38,220	\$825,637
2034	First	\$29,815	\$4,128	\$33,943	\$0	\$33,943	\$795,822
	Second	\$29,964	\$3,979	\$33,943	\$3,979	\$37,922	\$765,858
2035	First	\$30,114	\$3,829	\$33,943	\$0	\$33,943	\$735,744
	Second	\$30,265	\$3,679	\$33,943	\$3,679	\$37,622	\$705,479
2036	First	\$30,416	\$3,527	\$33,943	\$0	\$33,943	\$675,063
	Second	\$30,568	\$3,375	\$33,943	\$3,375	\$37,319	\$644,495
2037	First	\$30,721	\$3,222	\$33,943	\$0	\$33,943	\$613,775
	Second	\$30,874	\$3,069	\$33,943	\$3,069	\$37,012	\$582,900
2038	First	\$31,029	\$2,915	\$33,943	\$0	\$33,943	\$551,871
	Second	\$31,184	\$2,759	\$33,943	\$2,759	\$36,703	\$520,687
2039	First	\$31,340	\$2,603	\$33,943	\$0	\$33,943	\$489,348
	Second	\$31,497	\$2,447	\$33,943	\$2,447	\$36,390	\$457,851
2040	First	\$31,654	\$2,289	\$33,943	\$0	\$33,943	\$426,197
	Second	\$31,812	\$2,131	\$33,943	\$2,131	\$36,074	\$394,385
2041	First	\$31,971	\$1,972	\$33,943	\$0	\$33,943	\$362,413
	Second	\$32,131	\$1,812	\$33,943	\$1,812	\$35,755	\$330,282
2042	First	\$32,292	\$1,651	\$33,943	\$0	\$33,943	\$297,990
	Second	\$32,453	\$1,490	\$33,943	\$1,490	\$35,433	\$265,537
2043	First	\$32,616	\$1,328	\$33,943	\$0	\$33,943	\$232,921
	Second	\$32,779	\$1,165	\$33,943	\$1,165	\$35,108	\$200,143
2044	First	\$32,943	\$1,001	\$33,943	\$0	\$33,943	\$167,200
	Second	\$33,107	\$836	\$33,943	\$836	\$34,779	\$134,093
2045	First	\$33,273	\$670	\$33,943	\$0	\$33,943	\$100,820
	Second	\$33,439	\$504	\$33,943	\$504	\$34,447	\$67,381
2046	First	\$33,606	\$337	\$33,943	\$0	\$33,943	\$33,774
	Second	\$33,774	\$169	\$33,943	\$169	\$34,112	\$0
TOTAL		\$1,200,000	\$159,788	\$1,359,788	\$63,433	\$1,423,221	

Source: Estimated by HEC based on current City loan terms with DEQ.

membrane

Table S-8
Ashland Wastewater Forecast
Estimated Loan Repayments for DEQ Loan R11754

DRAFT

Fiscal Year Ending	Outfall Drawdown 2019 - 2023	Series 1 Drawdown 2019 - 2024	Series 2 Drawdown 2021-2025	Series 3 Drawdown 2022-2026	Series 4 Drawdown 2023-2027	Series 5 Drawdown 2024-2028	TOTAL Estimated Repayment
DEQ Loan	\$1,773,324	\$931,981	\$626,414	\$550,022	\$473,630	\$473,630	\$4,829,000
Estimated Interest	\$70,933	\$46,599	\$31,321	\$27,501	\$23,681	\$23,681	\$223,717
2024	\$129,960						\$129,960
2025	\$108,773	\$77,621					\$186,394
2026	\$108,355	\$57,167	\$52,172				\$217,693
2027	\$107,933	\$56,947	\$38,423	\$45,809			\$249,112
2028	\$107,506	\$56,725	\$38,276	\$33,738	\$39,447		\$275,691
2029	\$107,076	\$56,501	\$38,127	\$33,608	\$29,052	\$39,447	\$303,809
2030	\$106,640	\$56,274	\$37,976	\$33,477	\$28,940	\$29,052	\$292,359
2031	\$106,201	\$56,046	\$37,824	\$33,345	\$28,827	\$28,940	\$291,182
2032	\$105,757	\$55,815	\$37,670	\$33,211	\$28,713	\$28,827	\$289,993
2033	\$105,309	\$55,581	\$37,515	\$33,076	\$28,598	\$28,713	\$288,793
2034	\$104,856	\$55,346	\$37,358	\$32,940	\$28,482	\$28,598	\$287,580
2035	\$104,398	\$55,108	\$37,200	\$32,802	\$28,365	\$28,482	\$286,355
2036	\$103,936	\$54,867	\$37,040	\$32,663	\$28,246	\$28,365	\$285,117
2037	\$103,470	\$54,624	\$36,878	\$32,523	\$28,126	\$28,246	\$283,867
2038	\$102,999	\$54,379	\$36,715	\$32,381	\$28,006	\$28,126	\$282,605
2039	\$102,523	\$54,132	\$36,550	\$32,237	\$27,883	\$28,006	\$281,330
2040	\$102,042	\$53,881	\$36,383	\$32,093	\$27,760	\$27,883	\$280,043
2041	\$101,556	\$53,629	\$36,215	\$31,946	\$27,635	\$27,760	\$278,742
2042	\$101,066	\$53,373	\$36,045	\$31,799	\$27,509	\$27,635	\$277,428
2043	\$100,570	\$53,116	\$35,874	\$31,650	\$27,382	\$27,509	\$276,101
2044		\$52,855	\$35,701	\$31,499	\$27,254	\$27,382	\$174,691
2045			\$35,526	\$31,347	\$27,124	\$27,254	\$121,251
2046				\$31,193	\$26,993	\$27,124	\$85,311
2047					\$26,861	\$26,993	\$53,854
2048						\$26,861	\$26,861
TOTAL							\$5,806,124

Source: HEC estimates based on City's estimated phasing plan provided April 2019.

R11754

**Table S-9
Ashland Wastewater Forecast
Projected Revenue Requirement**

DRAFT

Revenues and Expenses	Assumptions	Fiscal Year Ending											
		2018 Actuals	2019 Estimated	2020 Year 1	2021 Year 2	2022 Year 3	2023 Year 4	2024 Year 5	2025 Year 6	2026 Year 7	2027 Year 8	2028 Year 9	2029 Year 10
Operating Expenses													
Personnel Services	6.5%	\$1,345,072	\$1,432,502	\$1,525,615	\$1,624,780	\$1,730,390	\$1,842,866	\$1,962,652	\$2,090,224	\$2,226,089	\$2,370,785	\$2,524,886	\$2,689,003
Internal Charges	2.5%	\$1,683,257	\$1,725,338	\$1,768,472	\$1,812,684	\$1,858,001	\$1,904,451	\$1,952,062	\$2,000,864	\$2,050,885	\$2,102,157	\$2,154,711	\$2,208,579
Franchise Tax	7.5%	\$474,910	\$510,528	\$548,818	\$589,979	\$634,228	\$681,795	\$732,930	\$787,899	\$846,992	\$910,516	\$978,805	\$1,052,215
Materials and Services	6.0%	\$1,247,823	\$1,606,692	\$1,703,093	\$1,805,279	\$1,913,596	\$2,028,411	\$2,150,116	\$2,279,123	\$2,415,870	\$2,560,823	\$2,714,472	\$2,877,340
O&M Riparian Shading	new												
Total Operating Expenses		\$4,751,062	\$5,275,061	\$5,545,998	\$5,832,722	\$6,136,215	\$6,457,523	\$6,797,760	\$7,158,110	\$7,539,836	\$7,944,281	\$8,372,874	\$8,827,138
Debt Service													
GO Bonds	actual	\$1,681,278	\$1,672,578	\$1,667,028	\$1,659,628	\$1,650,228	\$73,827	\$73,027	\$43,631	\$47,700	\$46,659	\$45,563	\$0
DEQ Loan R11751	actual		\$119,299	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078	\$93,078
DEQ Loan R11752	estimate									\$75,943	\$73,606	\$73,324	\$73,038
DEQ Loan R11754	estimate							\$129,960	\$186,394	\$217,693	\$249,112	\$275,691	\$303,809
Total Debt Service		\$1,681,278	\$1,791,877	\$1,760,106	\$1,752,706	\$1,743,306	\$166,905	\$296,065	\$323,104	\$434,415	\$462,456	\$487,655	\$469,925
Capital Projects - Cash Funded		\$1,663,970	\$623,700	\$684,500	\$1,118,150	\$508,895	\$839,236	\$384,778	\$754,224	\$2,313,875	\$627,637	\$322,511	\$543,501
SUBTOTAL Annual Cost		\$8,096,310	\$7,690,638	\$7,990,604	\$8,703,578	\$8,388,415	\$7,463,664	\$7,478,603	\$8,235,438	\$10,288,126	\$9,034,374	\$9,183,040	\$9,840,564
Non-Operating Credits (Expenses)													
Food and Beverage Tax	per City	\$1,608,600	\$1,608,600	\$1,600,600	\$1,600,000	\$1,650,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Late Payments & Other	constant	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063
Interest on Investments	constant	\$138,548	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Total Credits		\$1,780,211	\$1,741,663	\$1,733,663	\$1,733,063	\$1,783,063	\$133,063	\$133,063	\$133,063	\$133,063	\$133,063	\$133,063	\$133,063
REVENUE REQUIREMENT		\$6,316,099	\$5,948,975	\$6,256,941	\$6,970,515	\$6,605,352	\$7,330,602	\$7,345,540	\$8,102,375	\$10,155,063	\$8,901,311	\$9,049,977	\$9,707,501

Source: HEC.

rev req

Table S-10
Ashland Wastewater Forecast
Projected Wastewater Fund Cash Flow

DRAFT

Revenues and Expenses	Fiscal Year Ending											
	2018 Actual	2019 Estimated	2020 Year 1	2021 Year 2	2022 Year 3	2023 Year 4	2024 Year 5	2025 Year 6	2026 Year 7	2027 Year 8	2028 Year 9	2029 Year 10
Revenues			4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Customer Receipts	\$5,650,300	\$6,340,790	\$6,594,422	\$6,858,198	\$7,132,526	\$7,417,827	\$7,714,541	\$8,023,122	\$8,344,047	\$8,677,809	\$9,024,921	\$9,385,918
Food and Beverage Tax	\$1,608,600	\$1,608,600	\$1,600,600	\$1,600,000	\$1,650,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Late Payments & Other	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063	\$33,063
Interest on Investments	\$138,548	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Total Revenues	\$7,430,511	\$8,082,453	\$8,328,085	\$8,591,261	\$8,915,589	\$7,550,890	\$7,847,603	\$8,156,185	\$8,477,110	\$8,810,872	\$9,157,984	\$9,518,981
Operating Expenses	\$4,751,062	\$5,275,061	\$5,545,998	\$5,832,722	\$6,136,215	\$6,457,523	\$6,797,760	\$7,158,110	\$7,539,836	\$7,944,281	\$8,372,874	\$8,827,138
Operating Revenue before Capital Improvements and Debt Service	\$2,679,449	\$2,807,392	\$2,782,087	\$2,758,540	\$2,779,375	\$1,093,368	\$1,049,844	\$998,075	\$937,274	\$866,591	\$785,111	\$691,843
Debt Service	\$1,681,278	\$1,791,877	\$1,760,106	\$1,752,706	\$1,743,306	\$166,905	\$296,065	\$323,104	\$434,415	\$462,456	\$487,655	\$469,925
<i>Debt Service Coverage</i>	1.59	1.57	1.58	1.57	1.59	6.55	3.55	3.09	2.16	1.87	1.61	1.47
Cash Funded Capital Improvements [1]	\$1,663,970	\$623,700	\$684,500	\$1,118,150	\$508,895	\$839,236	\$384,778	\$754,224	\$2,313,875	\$627,637	\$322,511	\$543,501
Net Revenues (Deficit)	(\$665,799)	\$391,815	\$337,480	(\$112,316)	\$527,174	\$87,226	\$369,000	(\$79,253)	(\$1,811,016)	(\$223,502)	(\$25,056)	(\$321,583)
Beginning Fund Balance	\$7,842,218	\$7,636,844	\$8,131,159	\$8,390,640	\$8,165,823	\$8,727,997	\$8,850,223	\$9,277,323	\$9,233,071	\$6,332,054	\$6,188,552	\$6,243,497
Net Revenues (Deficit)	(\$665,799)	\$391,815	\$337,480	(\$112,316)	\$527,174	\$87,226	\$369,000	(\$79,253)	(\$1,811,016)	(\$223,502)	(\$25,056)	(\$321,583)
Bond/Loan Proceeds	\$239,627				<i>Cash Flow Projection Excludes Bond/Loan Proceeds & Projects Funded with Proceeds [2]</i>							
SDC Revenues	\$228,107	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000
SDC Non-Capital Costs	(\$7,308)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)	(\$7,500)
SDC Funded Capital Improvements	\$0	\$0	(\$180,500)	(\$215,000)	(\$67,500)	(\$67,500)	(\$44,400)	(\$67,500)	(\$1,192,500)	(\$22,500)	(\$22,500)	(\$22,500)
Estimated Ending Fund Balance	\$7,636,844	\$8,131,159	\$8,390,640	\$8,165,823	\$8,727,997	\$8,850,223	\$9,277,323	\$9,233,071	\$6,332,054	\$6,188,552	\$6,243,497	\$6,001,914
Target Balance [3]		\$1,331,667	\$1,342,291	\$1,381,767	\$1,430,416	\$1,225,712	\$1,400,179	\$1,502,900	\$1,658,281	\$1,737,427	\$1,815,790	\$1,897,772

Source: HEC.

flow

[1] For fiscal year 2017/18, includes projects funded with bond proceeds.

[2] Timing of receipt of loan and debt proceeds is unknown.

[3] Target balance is 15% of revenues plus debt service (excluding City GO bonds).