City Council
Utility Committee

Meeting Agenda

Tuesday, August 11, 2020
10:00 am - 12:00 pm

This meeting will be held electronically. Residents interested in listening to the meeting or making public comments can join in one of two ways:

1) ***You can call in to +1 346 248 7799 or 833 548 0282 (toll free) Webinar ID # 863 9663 1779.***
2) ***You can log in via your computer. Please visit the City's website here to link to the meeting:*** https://www.louisvilleco.gov/government/city-council/city-council-meeting-agendas-packets-minutes

The Committee will accommodate public comments during the meeting. Anyone may also email comments to the board prior to the meeting at CPeterson@LouisvilleCO.gov.

I. Call to Order

II. Roll Call

III. Approval of Agenda

IV. Public Comments on Items Not on the Agenda

V. Draft 2021 Rates

- CIPs
- Windy Gap Financing

VI. Agenda Items and Date for Next Meeting

- Advance Agenda / Work Plan & Meeting Dates

VII. Adjourn 12:00 pm

Attachments: Rate Presentation
Work Plan
2021-2026 CIP Requests

Utility Committee
2021 Draft Utility Rates

August 11, 2020

Overview

Financial Plan

- **Performance Metrics**

- **Alternatives**
  - **Just-In-Time**
  - **<u>Smoothing</u> – Recommended by Staff**

Financial Planning Performance Metrics

Debt Service Coverage (DSC):

Ratio of net revenues

(operating revenue less operating expense)

to annual debt service payment

- **Target DCS above required minimum Values**
  - Conservative approach to ensure legal DSC minimums are met even if revenue forecasts are not achieved
  - Maintain or achieve higher credit ratings

Debt Service Coverage

Minimum target represented by the combination of all three Utility Funds

Required DSC Ratio

Colorado Water Resources and Power Development Authority	1.10
2013 Water and Wastewater Enterprise Revenue Bonds	1.15

Dual Target DSC Ratio

Fund	w/o Tap Fees	with Tap Fees(1)
Water	1.2	1.4
Wastewater	1.2	1.3
Storm	1.3	1.3(2)

(1) To reduce variability, tap fee revenue is from the prior year i.e. 2021 tap fee revenue was collected in 2020

(2) A tap fee for the stormwater utility has not been established, therefore the dual target is not used

Financial Planning Performance Metrics

(the same for all 3 Utilities)

Cash Reserves:

120 days cash or 33% of Total O&M

Working Capital Reserves Policy (section 2.4):

25% of current operating expenses

Rate Minimum:

Set to cover any increases in operating and maintenance costs

Debt Issuance

Utility	Debt Service Payment ($million)							
	2021	2022	2023	2024	2025	2026	2027	2028
Water	$0.9M	$0.9M	$0.9M	$0.9M	$0	$0	$0	$0
Wastewater	$1.3M	$1.3M	$1.3M	$1.3M	$2.0M	$2.0M	$2.0M	$2.0M
Stormwater	$0.3M	$0.3M	$0.3M	$0.3M	$0.4M	$0.4M	$0.4M	$0.4M
Total	$2.5M	$2.5M	$2.5M	$2.5M	$2.4M	$2.4M	$2.4M	$2.4M

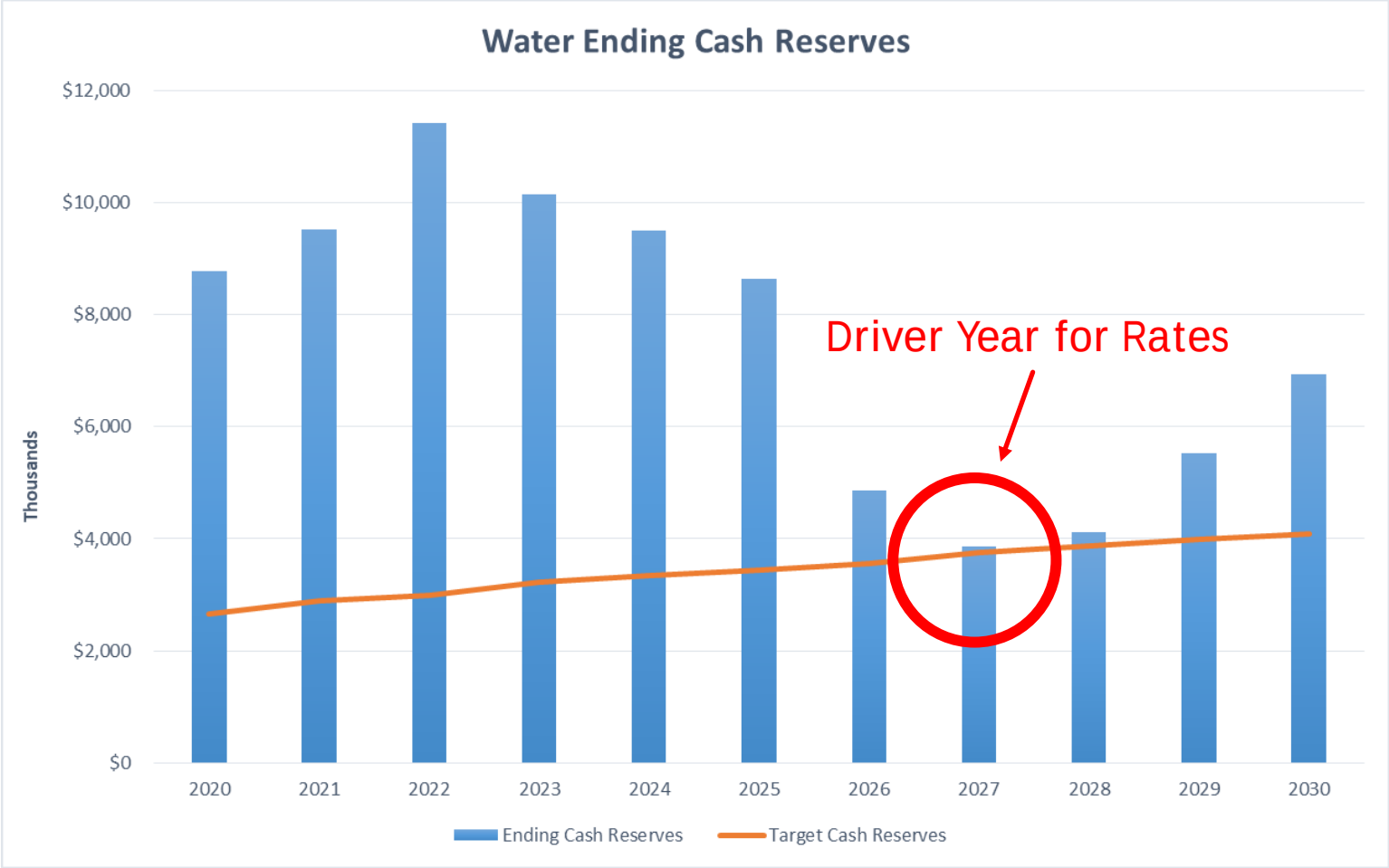
Alternatives

Financial Model Inputs:

- Reduced 2020 Operating Budget
- Tap Fees: 2019 actuals, 2020 estimates and 2021-2024 Revenue Projection (updated July '20 by Finance, Planning and Public Works)
- Proposed 2021-2026 Capital Improvement Projects

WATER

Modeled Water Fund Cash Reserves



Highest Impact CIPs	
Project Name	Project Cost
Windy Gap	$2.5M
SWSP Expansion	$2.7M
Lateral Pipeline	$3.1M
Meter Replacement	$1M

WATER: Delaying Projects and with Smoothing

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	4%	4%	4%	4%	4%	4%	1.9%	2%	2%	2%
1-Year Delay of $1M CIP										
Change	-	-	-	-	-	-	-	-	-	-
5-Year Delay of $1M CIP										
Change	-	-	-	-	-	-	-	-	-	-
8-Year Delay of $1M CIP										
Change	-0.5%	-	-	-	-	-	-	-	-	-

WATER (Removing Projects) Financial Planning Alternatives

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	4%	4%	4%	4%	4%	4%	1.9%	2%	2%	2%
Removing $1M CIP										
Change	-1%	-1%	-0.5%	-	-	-	-	-	-	-
Removing $2M CIP										
Change	-1.5%	-1%	-1%	-1%	-1%	-1%	-	-	-	-

WATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
"Smoothing" Revenue Increases (RECOMMENDED)									
4%	4%	4%	4%	4%	4%	1.9%	2%	2%	2%
No Increase for 2021									
0%	5.4%	5.4%	5.4%	5.4%	5.4%	1.9%	2%	2%	2%
No Increase for 2021 and 2022									
0%	0%	7.7%	7.7%	7.7%	7.7%	1.9%	2%	2%	2%
No Increase for 2021, 2022 and 2023									
0%	0%	0%	12.2%	12.2%	12.2%	1.9%	2%	2%	2%
"Just-In-Time" Revenue Increases									
0%	0%	0%	0%	0%	90%	-32%	0%	0%	0%

WATER CIPs (Projects Cancelled by Staff)

Project Name	2020 Budget	Proposed 2020 Budget
WTP Chemical Storage Tanks	$405,000	$0
SCWTP Building Upgrades	$426,470	$75,000 (Design Services)
TOTAL	**$831,470**	**$75,000**

WATER CIPs (2020 Projects w/ Overage estimates)

Project Name	2020 Current Approved Budget	2020 - Proposed
Essential or Regulatory Projects		
Water Line Replacement	$1,529,440	$1,529,440
Water Tank interior Structure Maintenance	$81,890	$389,490
Electrical Assessment	$32,500	$32,500
Marshall Lake Sediment Control	$110,000	$110,000
Water Plants Disinfection Evaluation	$273,710	$565,300
NCWCD-Windy Gap Firming Project	$2,500,000	$2,500,000
WTP Tank Cleaning and Evaluation	$50,000	$50,000
NCWCD-SWSP Eastern Pump Station	$150,000	$152,560
SWSP Transmission Capacity	$1,514,360	$2,714,360
Replacement Projects		
Machinery & Equip	$4,600	$4,600
Meter replacement	$44,280	$44,280
PRV Replacement	$75,000	$115,000
Fluoride Equipment Replacement	$92,950	$ 326,950
Cent/McCaslin Hi Zone Water Lp	$22,230	$22,230
SBR Ditch Lining	$258,510	$258,510
Louisville Pipeline Flow Control	$130,010	$130,010
Facilities Painting	$225,000	$225,000
Raw Water Quality Study	$175,000	$175,000
Delayable Projects		
Howard Diversion Completion/Upkeep	$125,830	$125,830
Lower Recycle Pond SCWTP	$29,000	$705,000
TOTAL	**$7,324,310**	**$10,176,060**

WATER CIPs (New request 2021-2026)

Project Name	Ref. Page	2021	2022	2023	2024	2025	2026
Essential or Regulatory Projects							
Water Line Replacement	38	$460,000	$391,000	$540,500	$724,500	$494,500	$241,500
Water Tank interior Structure Maintenance	39		$30,000				$30,000
Electrical Assessment	40	$100,000	$100,000				
Marshall Lake Sediment Control	41	$600,000					
NCWCD-Windy Gap Firming Project	42	$926,000	$926,000	$926,000	$926,000	$926,000	$926,000
HBWTP Recycle Tank Cleaning and Repair	43	$195,000					
Water Rights Acquisition	44	$250,000	$250,000	$250,000	$250,000	$500,000	$500,000
Process Pipe Evaluation and Repairs	45		$80,000	$50,000	$50,000	$50,000	
Replacement Projects							
Meter replacement	46					$1,040,000	$1,040,000
SBR Ditch Lining	47	$97,750	$218,500	$143,750			
Pump Replacement/Rehab	48	$84,000	$276,000	$17,000			
Raw Water Valve	49	$35,000					
Backhoe Replacement (50%)	50	$78,750					
Asphalt Patch Truck (30%)	51	$80,400					
Water Break Repair Vehicle Replacement	52	$89,250					
Chemical Mixing Tanks	53		$32,500				
Utility Master Plan	54		$125,000				
Valve Exercise Trailer (70%)	55		$54,390				
Filter Media Replacement	56			$616,000			
Vehicle & Equipment Replacement	57			$80,000	$50,000		
HBWTP Drying Bed	58					$221,000	
WTP Instrumentation Upgrades	59						$260,000
Delayable Projects							
Harper Pump Station Rehab	60						$95,000
Lateral Ditch Piping	61						$3,120,000
TOTALS		**$2,996,150**	**$2,483,390**	**$2,623,250**	**$2,000,500**	**$3,231,500**	**$6,212,500**

Cost of Services:

Based on the 2013 Cost of Service Procedure

CUSTOMER CLASS	REVENUE ADJUSTMENTS
Residential	**-2.8%**
Commercial	**+15%**

Water Rate Impacts:

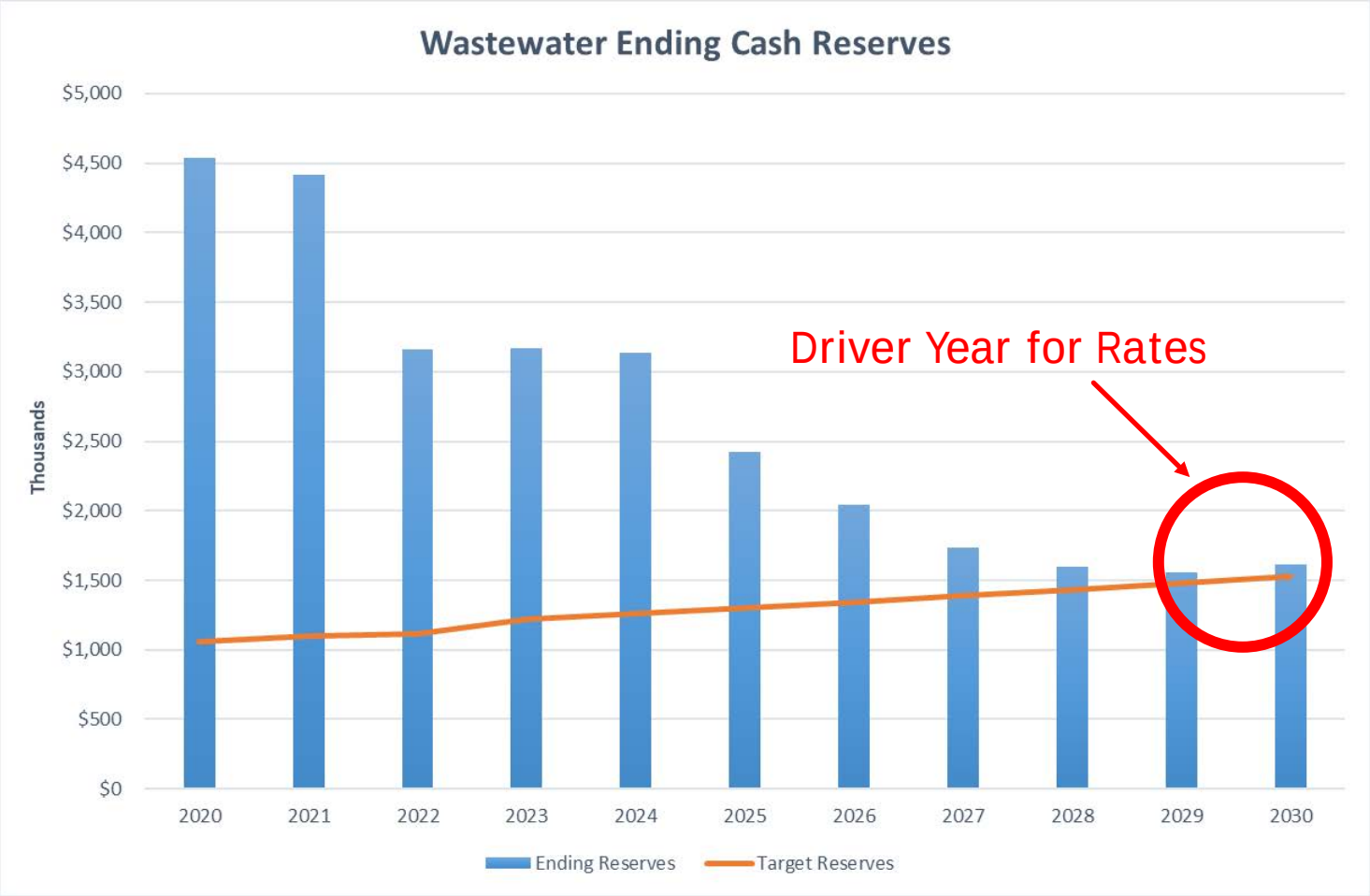
	Current 2020 Charges	Proposed Rate Increase (4%)	Cost of Service Adjustment	Effective Rate Increase % 2021
Residential – Minimum Charge	**$18.99**	**$19.75**	**$19.22**	**1.2%**
Residential – 1st Block rate per kgal	**$5.47**	**$5.69**	**$5.54**	**1.2%**
Commercial – ¾" Minimum Charge	**$10.45**	**$10.87**	**$12.44**	**19%**
Commercial – 1st Block rate per kgal	**$3.02**	**$3.15**	**$3.60**	**19%**

WATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020 Rates (Approved 03/03 Council Meeting and **Frozen at 04/07 Council Meeting**)									
1.5%	1.8%	1.8%	1.8%	1.8%	1.9%	1.9%	2%	2%	2%
May 12th Utility Committee (COVID Options A-C)									
3%-5%	3%-5%	3.5%-5%	3%-5%	1.8%-3%	1.9%	1.9%	2%	2%	2%
"Smoothing" Revenue Increases (RECOMMENDED)									
4%	4%	4%	4%	4%	4%	1.9%	2%	2%	2%

WASTEWATER

Modeled Wastewater Fund Cash Reserves



Highest Impact CIPs	
Project Name	Project Cost
Solids Handling	$1.4M

WASTEWATER: Delaying Projects with Smoothing

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	4.5%	4.5%	4.5%	5%	5%	5.5%	4.5%	4%	4%	4%
1-Year Delay of $1M CIP										
Change	-	-	-	-	-	-	-	-	-	-
5-Year Delay of $1M CIP										
Change	-	-	-	-	-	-	-	-	-	-
8-Year Delay of $1M CIP										
Change	-	-	-	-	-	-	-	-	-	-

WASTEWATER (Removing Projects) Financial Planning Alternatives

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	4.5%	4.5%	4.5%	5%	5%	5.5%	4.5%	4%	4%	4%
Removing $500k CIP										
Change	-0.5%	-0.5%	-	-	-	-	-	-	-	-
Removing $1M CIP										
Change	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-1%	-	-	-	-

WASTEWATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
"Smoothing" Revenue Increases (RECOMMENDED)									
4.5%	4.5%	4.5%	5%	5%	5.5%	4.5%	4%	4%	4%
"Smoothing" Revenue Increases									
0%	6%	6%	6%	6%	6%	6%	4%	4%	4%
"Smoothing" Revenue Increases									
0%	0%	8.5%	8.5%	8.5%	8.5%	8%	4%	4%	4%
"Smoothing" Revenue Increases									
0%	0%	0%	15.5%	14%	11%	4.5%	4%	4%	4%
"Just-In-Time" Revenue Increases									
0%	0%	0%	0%	53.5%	-3.5%	0%	0%	0%	0%

WASTEWATER CIPs
(Projects Cancelled by Staff)

Project Name	2020 Budget	Proposed 2020 Budget
Drum Thickener Replacement	$275,000	$0

WASTEWATER CIPs (2020 Projects w/ Overage estimates)

Project Name	2020	2020 - Revised
Essential or Regulatory Projects		
Sewer Utility Line Replacement	$518,420	$518,420
Electrical Assessment	$32,500	$32,500
Portable Lift Station Pump	$44,760	$44,760
Influent Pump Addition	$ 71,930	$ 71,930
Aeration Basin and Reuse mixers	$141,710	$441,710
Vac Dump Station	$234,970	$234,970
Replacement Projects		
Vehicle & Equipment Replacement	$57,000	$57,000
Trailers	$4,600	$4,600
Reuse System Equipment Replacement	$98,000	$98,000
Asphalt	$20,000	$20,000
TSS Probes & 2nd Treatment Probes	$45,000	$45,000
Lift Station Painting	$75,000	$75,000
Vehicle & Equipment Replacement	$57,000	$57,000
Trailers	$4,600	$4,600
Reuse System Equipment Replacement	$98,000	$98,000
TOTAL	**$1,343,890**	**$1,645,790**

WASTEWATER CIPs (New request 2021-2026)

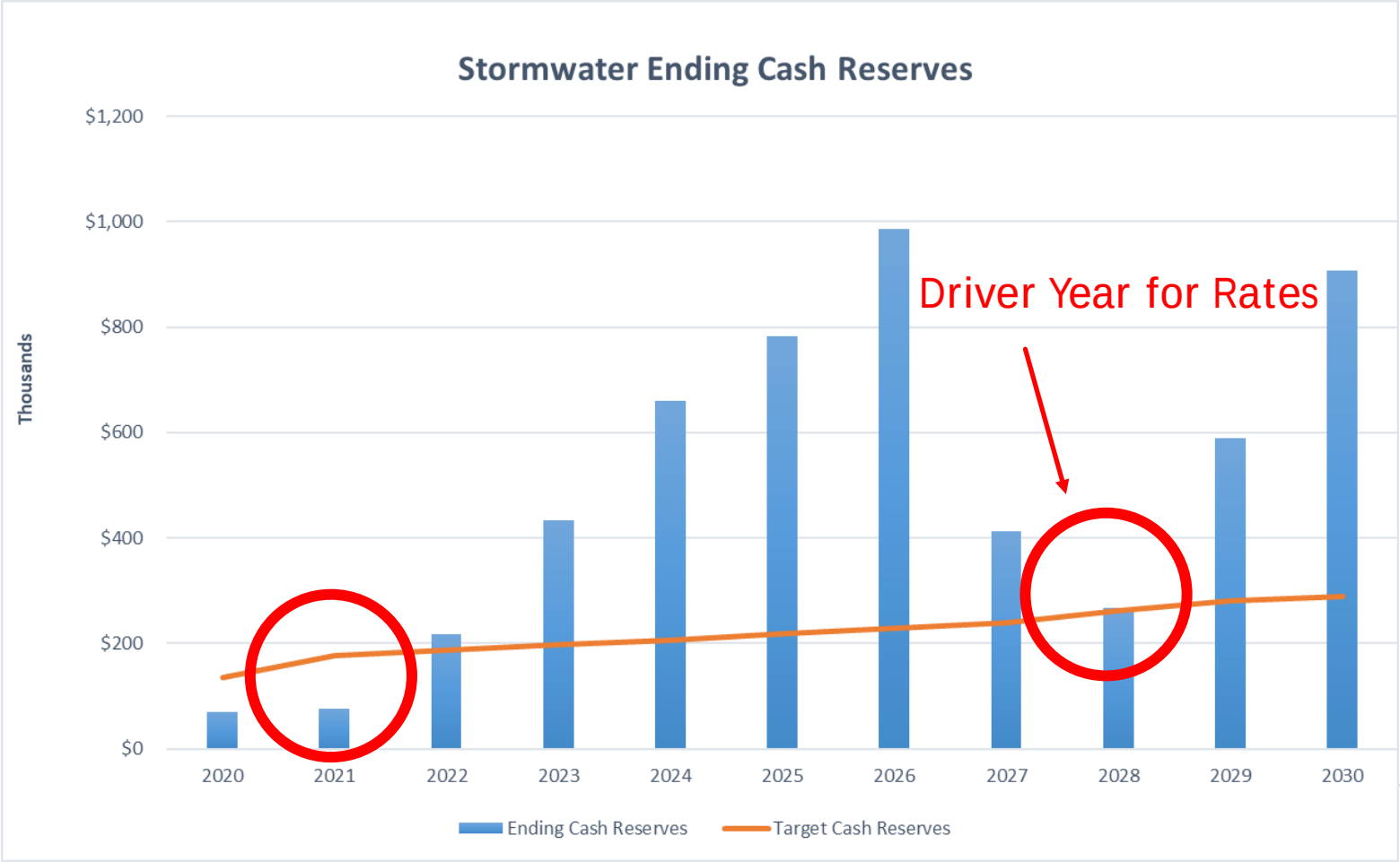
Project Name	Ref. Sheet	2021	2022	2023	2024	2025	2026
Essential or Regulatory Projects							
Sewer Utility Line Replacement	62	$368,000	$299,000	$437,000	$540,500	$632,500	$460,000
Electrical Assessment	40	$100,000	$100,000				
Solids Handling Upgrades	63	$220,000	$1,430,000				
WWTP Painting	64	$60,000					
Replacement Projects							
Vehicle & Equipment Replacement	65				$50,000		
2nd Treatment Probes	66	$105,000					
Utility Master Plan	54		$125,000				
TOTALS		**$853,000**	**$1,954,000**	**$437,000**	**$590,500**	**$632,500**	**$460,000**

WASTEWATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020 Rates (Approved 03/03 Council Meeting and **Frozen at 04/07 Council Meeting**)									
4.5%	4.5%	4.5%	4%	4%	4.5%	4.5%	4%	4%	4%
May 12th Utility Committee (COVID Options A-C)									
4.5%	4.5%	4.5%	4.5%-5%	4.5%-5%	5%	4.5%-5%	4%-4.5%	4%	4%
"Smoothing" Revenue Increases (RECOMMENDED)									
4.5%	4.5%	4.5%	5%	5%	5.5%	4.5%	4%	4%	4%

STORMWATER

Modeled Stormwater Fund Cash Reserves



Highest Impact CIPs	
Project Name	Project Cost
Cottonwood (A-1)	$860k
Drainageway 7-1 (Design)	$500k
Drainageway 7-1 (Construction)	$1.2M

STORMWATER: Delaying Projects and with Smoothing

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	14%	5%	4.5%	4%	8.5%	8.5%	3%	0.8%	0.8%	0.8%
1-Year Delay of $1M CIP										
Change	-4%	+5%	-	-	-	-	-	-	-	-
5-Year Delay of $1M CIP										
Change	-7%	+2%	+3%	+3.5%	-1%	-1%	-	-	-	-
8-Year Delay of $1M CIP										
Change	-7%	+2%	+3%	+3.5%	-1%	-1%	-	-	-	-

STORMWATER (Removing Projects) Financial Planning Alternatives

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Proposed 2020 Smoothing Plan (RECOMMENDED)										
	14%	5%	4.5%	4%	8.5%	8.5%	3%	0.8%	0.8%	0.8%
Removing $200k CIP										
Change	-3.5%	-	-	-	-	-	-	-	-	-

STORMWATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
"Smoothing" Revenue Increases (RECOMMENDED)									
14%	5%	4.5%	4%	8.5%	8.5%	3%	0.8%	0.8%	0.8%
No Increase for 2021									
0%	8.8%	8.8%	8.8%	8.8%	8.8%	8.8%	0.8%	0.8%	0.8%
No Increase for 2021 and 2.3% increase 2022									
0%	2.3%	11%	11%	11%	11%	11%	0.8%	0.8%	0.8%
No Increase for 2021 and 2023, 2.3% increase 2022									
0%	2.3%	0%	16.5%	16.5%	16.5%	16.5%	0.8%	0.8%	0.8%
"Just-In-Time" Revenue Increases									
0%	2.3%	0%	1.6%	32.1%	0%	81.6%	-43%	0%	0%

STORMWATER CIPs (2020 Projects)

Project Name	2020 Current Approved Budget	2020 - Proposed
Essential or Regulatory Projects		
Storm Sewer Detention Pond Maintenance	$238,530	$238,530
Cottonwood Park Floodplain (Grant Funded)	$860,000	$860,000
Replacement Projects		
Drainageway 7-1 (Grant Funded)	$500,000	$500,000
Stormwater Quality Master Plan (Grant Funded)	$191,420	$191,420
Utility Trailer	$1,570	$2,720
TOTAL	**$1,791,520**	**$1,791,670**

STORMWATER CIPs (New request 2021-2026)

Project Name	Ref Page	2021	2022	2023	2024	2025	2026
Essential or Regulatory Projects							
Detention Pond Maintenance	67	$119,000	$158,000	$124,000	$150,000	$170,000	$174,000
Replacement Projects							
Stormwater Quality Master Plan	68	$200,000	$100,000	$100,000	$100,000	$100,000	$100,000
Backhoe Replacement (20%)	50	$31,500					
Valve Exercise Trailer (30%)	55		$23,310				
SW Improvement Master Plan	69				$120,000		
TOTALS		**$350,500**	**$281,310**	**$224,000**	**$370,000**	**$270,000**	**$274,000**

STORMWATER
Financial Planning Alternatives

2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2020 Rates (Approved 03/03 Council Meeting and **Frozen at 04/07 Council Meeting**)									
14.0%	5%	4.5%	4%	4%	4%	0.8%	0.8%	0.8%	0.8%
May 12th Utility Committee (COVID Options A-C)									
14.0%	5%	4.5%	4%	8.5%	8.5%	3%	0.8%	0.8%	0.8%
"Smoothing" Revenue Increases (RECOMMENDED)									
14%	5%	4.5%	4%	8.5%	8.5%	3%	0.8%	0.8%	0.8%

City of Louisville Colorado Utility Committee Work Plan – August 11th

Topics will be discussed in the quarter which they are listed. Items that are not complete will roll to the next quarter.

Goals:
Support staff during the pandemic
Operations and essential maintenance and upgrades to continue sustainability and efficiency of the Utility

Every Meeting:

- Capital Projects Progress
- Enterprise Dashboards: inclusive of KPI progress, water supply update, water use by customer class, revenue and expense by enterprise (and by customer class where appropriate), energy use by enterprise
- Tap Fee Review - CBT market value update

January 2020 Meeting

- ✓ Utility Rate Structure
- ✓ 2020 Tap Fees
- ✓ Finalize 2020 Rates

May Meeting

- ✓ COVID-19 Impacts
- ✓ Initial 6-Year CIP Plan
- ✓ Committee Confirmed - Water Rights Actions can proceed directly to Council

June Meeting

- ✓ COVID-19 Impacts
- ✓ Windy Gap Financing

July Meeting

- ✓ CIP Update
- ✓ Windy Gap Financing

August Meeting

- Draft 2021 Rates and CIPs

September Meeting

- Windy Gap

October/November Meeting (Tentative: 10/13/20)

- Final 2021 Rates

Parking Lot / Hold

- Rate Design & related Financial Policies
- Raw Water Study

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

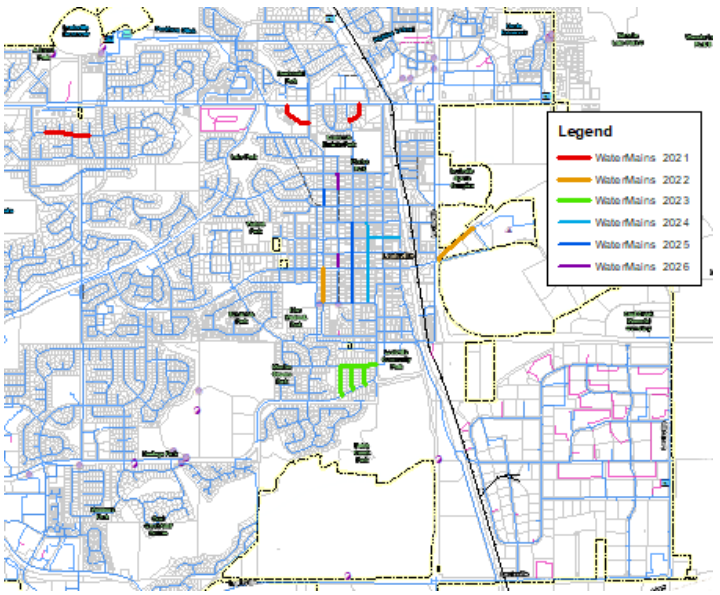
Project Name: Water Pipeline Replacement Program **Submitted By:** Public Works **Version:** 4/14/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	400,000	340,000	470,000	630,000	430,000	210,000	2,480,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	60,000	51,000	70,500	94,500	64,500	31,500	372,000
Total Costs (Gross)	460,000	391,000	540,500	724,500	494,500	241,500	2,852,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification



Description & Proposed Funding:

Equipment/Project Description:

This project replaces older, deficiently sized, deteriorating, water mains. As utility lines age it is more cost effective to replace segments rather than trying to do spot repairs. It is also cost efficient to replace deficient wet utilities when reconstructing or resurfacing streets. The program is focused mainly on Cast Iron and AC Pipe sized 4" and 6". Work is also included with Operations water break data.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time that may be used to support the project.

Reference to Plan being implemented (i.e., Master Plan):

None

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project will continue to replace old and troubled pipelines. This is an ongoing program. This program is driven by the need to maintain the water distribution system.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Tank Maintenance | Submitted By: Public Works | Version: 3/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	30,000	-	-	-	30,000	60,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	30,000	-	-	-	30,000	60,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project ensures the City meets the CDPHE regulatory requirements of cleaning and inspecting of the City's potable storage tanks every 5 years.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The City has five defined potable water storage tanks: three finished water storage tanks with a capacity of 8.5 million gallons and two clear well storage tanks located at each treatment facility. Under State Regulation 11.28, water systems are required to perform a comprehensive inspection and cleaning of its potable water storage tanks every five years. In order to provide water to residents without interruption, the City has previously used dive contractors to perform this work. This Project would complete the comprehensive inspections and cleaning on all 5 potable water storage tanks in compliance with Regulation 11.28.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Electrical Assessment Projects | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	50%
	Wastewater	Wastewater Utility Fund	50%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	200,000	200,000	-	-	-	-	400,000
Total Costs (Gross)	200,000	200,000	-	-	-	-	400,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

An electrical assessment of the all three plants is planned for 2020 and is in the proposal scoping and development stages. This CIP is a placeholder for projects resulting from the assessment.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. No operational and maintenance impacts are expected.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project provides the funds for future projects developed as part of the electrical assessment for all three treatment plants.

Department Priority Ranking: Medium | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Marshall Lake Sediment Control **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	600,000	-	-	-	-	-	600,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	600,000	-	-	-	-	-	600,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project allows for the evaluation and design of a solution(s) for the sediment loading that is experienced from Marshall Lake. Possible solutions that will be evaluated are: sediment basins, dredging and/or modifications to the outlet works. This improves the ability to treat water as it makes the raw water properties more consistent.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Project assesses the best collection techniques, location and position of improvements to enhance and treat raw water from Marshall Lake. A recent diver inspection of the Marshall Lake Outlet revealed that current sediment levels have reached the same level of the Outlet Structure. Sediment levels in this area are estimated at approximately 5 feet above the reservoir bottom. This project will address the immediate need of dredging this material and development of possible long term maintenance solutions to prevent future build up. The reduction in sediment loading in the raw water will improve the entire treatment process by requiring less chemical consumption, fewer backwashes of the filters and lowering the amount of solids sent to the drying beds and discharged to the WWTP. All of these items result in better efficiency and cost savings. Additionally, long term water supply strategies contemplate delivering this water to Harper and Louisville Reservoirs. This project will look to prevent transporting this problem to these downstream reservoirs.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Windy Gap Firming Project | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	842,000	842,000	842,000	842,000	842,000	842,000	5,052,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	84,000	84,000	84,000	84,000	84,000	84,000	504,000
Total Costs (Gross)	926,000	926,000	926,000	926,000	926,000	926,000	5,556,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

The Northern Colorado Water Conservancy will be constructing the Chimney Hollow Reservoir for storing Windy Gap water. The City's participation is projected to provide 2,700 acre-feet of water storage. Construction is scheduled to begin in 2020.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

2012 Water System Facilities Plan and 2016 Water Management Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The project is a critical component of the City's overall Water Supply portfolio and ensures a reliable water supply. Failure to complete the project would result a firm yield reduction of 600 acre-feet and the inability to meet long term projected use. Alternative to this project are severally limited and have a high decree of uncertainty and risk.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: HBWTP Recycle Tank Maintenance | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	150,000	-	-	-	-	-	150,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	45,000	-	-	-	-	-	45,000
Total Costs (Gross)	195,000	-	-	-	-	-	195,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP funds the cleaning and inspection of the Backwash Recycle Tank at the Howard Berry Treatment Plant. In addition, funds will be allocated for minor repairs and painting.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The Backwash Recycle Tank at the Howard Berry Water Treatment Plant is utilized to contain process water removed during filter cleaning cycles and stabilize it for recycle or sanitary sewer discharge. Over time the tank collects sediment which has to be periodically removed. Additionally, operational and structural components can deteriorate due to corrosion and from normal operation. The backwash tank was constructed in 1992 and requires regular maintenance, cleaning and inspection to ensure proper operation. Failure of the tank structure or equipment would prevent the backwash operations and would ultimately render the entire plant inoperable.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Water Rights Acquisition | Submitted By: Public Works | Version: 5/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	250,000	250,000	250,000	250,000	500,000	500,000	2,000,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	250,000	250,000	250,000	250,000	500,000	500,000	2,000,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project is for the acquisition of water rights to meet City water usage demands with emphasis on future growth.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

2012 Water System Facilities Plan and 2016 Water Management Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Under long term buildout conditions the City may be unable to provide adequate water supplies. As outlined in the 2016 Water Management Plan, buildout demand was set at 6,700 acre-feet. Firm yield for supply are projected at 6,500 acre-feet corresponding to a shortfall of 200 acre-feet. The Plan provided for 11 recommendations: including the acquisition of 200 acre-feet of additional water supplies.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Process Pipe Evaluation **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	80,000	-	-	-	-	80,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	50,000	50,000	50,000	-	150,000
Total Costs (Gross)	-	80,000	50,000	50,000	50,000	-	230,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP will fund the inspection and evaluation of existing internal process pipe infrastructure with non-destruction testing (ultrasonic, radiography, or magnetic particle). Contingency amounts were added as placeholders for potential repairs identified during the evaluation.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Much of the piping inside both of the Water Treatment Plants is 30+ years old. This project will evaluate the integrity and condition of exposed piping and determine if replacement is needed before it fails. Pipe failure could result in the plant becoming inoperable and force plant shutdown, ceasing water production until repaired. Proper inspection and repair can greatly mitigate this risk. Proper maintenance can reduce long term asset expenses and improve water quality.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Meter Replacement **Submitted By:** Public Works **Version:** 5/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	800,000	800,000	1,600,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	240,000	240,000	480,000
Total Costs (Gross)	-	-	-	-	1,040,000	1,040,000	2,080,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

Water Meters have a life expectancy of 10 to 15 years. As meters age they become less efficient and read less flow resulting in loss revenues. With extended age, meters can also develop problems with leaking. This project is a 3-year process to replace all meters city-wide. Staff had nearly 1,000 hours related to meter activities in 2019.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project is a critical component of the City's water system and ensures accurate usage and appropriate cost recovery. In addition, improvements in meter technology includes: remote notification of leaks, tampering and out-of-threshold operating conditions. This information can also be made available to customers for real-time monitoring of their own system. Increases in meter intelligence have shown to alert users quicker for faster troubleshooting and repair. Shortening response times can lessen damaged and loss of water from leaks or breaks. Aging meters cause a great occurrence of leaks and faults that will trigger a corresponding response from the Utility. An increase in response requires more staff time to investigate and resolve these inconsistencies. In total, aging meters will increase demands on staff and reduce system cost recovery by accounting for less water than what is actually used.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: SBR Ditch Lining **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	85,000	190,000	125,000	-	-	-	400,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	12,750	28,500	18,750	-	-	-	60,000
Total Costs (Gross)	97,750	218,500	143,750	-	-	-	460,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project includes installation of a culvert lining system to reinforce four ditch crossings on South Boulder Road.
Culvert 1 (Cottonwood Park) Goodhue Ditch - 2021
Culvert 2 (East of Main Street) Goodhue Ditch - 2022
Culvert 3 Louisville Lateral - 2023

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time that may be used to support the project.

Reference to Plan being implemented (i.e., Master Plan):

None

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Project will help protect South Boulder Road from potential pipe collapse providing a safe, well maintained transportation system. The project will extend the life of the existing culverts and prevent having to open trench cut a busy arterial road. Project need was identified through City and Ditch Company assessment. Need is due to rusted metal culverts that are at the end of their service life.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Pump Replacement and Rehabilitation **Submitted By:** Public Works **Version:** 2/11/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	84,000	276,000	17,000	-	-	-	377,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	84,000	276,000	17,000	-	-	-	377,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project is for the replacement or rehabilitation of various pumps:
2021-SCWTP Lower Pond Pump
2022-HBWTP High Zone Pumps
2023-HBWTP Recycle Pump

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project is a critical component of the City's treatment process and will ensure a reliable water supply. This CIP provides the funds to rebuild or replace the identified pumps. Each pump will be evaluated by a 3rd party vendor to determine the feasibility of rebuilding vs replacement. These pumps are up to 25 years old and carry a significant lead-time if failure occurred. Additionally, in the event of failure staff would not be able to pump water from the recycling tank to the reservoir which would cause flooding onsite and potential fines from the state. Failure of high zone pumps would prevent staff from sending water to the 2MG tank which stores 1/3 of City's drinking water. Lastly, failure of the recycle pump would result in the inability to pump water out of the recycle tank and a 3rd party vendor would be needed to haul away the contents. The high zone pumps are the only system with redundancy as there are three pumps and we need two to keep up with peak demands.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: SCWTP Raw Water Valve Replacement | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	35,000	-	-	-	-	-	35,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	35,000	-	-	-	-	-	35,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

The main valve controlling flow into the Sid Copeland Water Treatment Plant has reached end of life, is difficult to operate and is challenging to shut down completely. It is critical to plant operations and compliance to have this valve fully operational at all times. This project will replace the valve and actuator with a new unit.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The valve controlling the raw water influent flow into the plant is over 30 years old and has reached the end of life. The valve does not seat completely and allows water to flow through even when closed; replacement of the valve is required before the problem worsens. A new valve and actuator will alleviate issues with plant performance during temporary shut down and help reduce plant start up time. A new valve and actuator will also better accommodate low flow demand during periods of low water usage.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Backhoe Replacement **Submitted By:** Public Works **Version:** 4/4/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	50%
Transportation	Transportation Infrastructure Maint	Fleet Management Fund	30%
Utilities	Storm Water	Storm Water Utility Fund	20%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	150,000		-	-	-	-	150,000
Contingency	7,500		-	-	-	-	7,500
Total Costs (Gross)	157,500	-	-	-	-	-	157,500
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides for the purchase of a replacement backhoe.

Project revenue or grants that will support the project and the impacts to the operating budget:

The purchase will be offset by $9,500 for trade-in value.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The existing back hoe unit #3411 is a 1996 John Deere 410D that meets the age criteria for replacement. This back hoe is equipped with a manual transmission that is difficult to use taking more time to get from one job site to another. This equipment is used for water main repairs, asphalt patching, snow and ice events, loading salt and spoils, the cleaning of Stormwater inlets, and is used by other departments. The replacement back hoe will be equipped with a hydraulic thumb, tamping plate, and jack hammer attachment. Having these attachments will save hundreds of man hours over the course of the equipments life time.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Asphalt Patch Truck **Submitted By:** Public Works **Version:** 4/1/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	30%
Transportation	Transportation Infrastructure Maint	Capital Projects Fund	70%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	253,000	-	-	-	-	-	253,000
Contingency	15,000	-	-	-	-	-	15,000
Total Costs (Gross)	268,000	-	-	-	-	-	268,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides for the purchase of an asphalt patch truck to repair city streets and alleyways.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The purchase of a new asphalt patch truck will provide the Operations Division with four times the capacity of the existing hot box requiring fewer trips to the asphalt plants, and the ability to repair larger asphalt patches and mill/patch more square feet of roadway at a time. The Operations division Purchases on average 415 tons of asphalt costing approximtely $18,300.00 a year. We also spend roughly 1800 man hours repairing city streets. The new patch truck will allow Operations to use two employees to fill pot holes instead of three to four employees with two trucks and the asphalt trailer. This equipment will save hundreds of man hours over its lifetime and give the Operations Division the ability to potentially repair twice as much roadway.

Department Priority Ranking: Highest **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Water Break Repair Vehicle Replacement **Submitted By:** Public Works **Version:** 4/4/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	85,000	-	-	-	-	-	85,000
Contingency	4,250		-	-	-	-	4,250
Total Costs (Gross)	89,250	-	-	-	-	-	89,250
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP is for the purchase of a replacement emergency waterline repair vehicle.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The current 2004 Ford F450 water repair vehicle # 3405 has met the age criteria of 12 years, also the internal hydraulic pump is nearing the end of its useful life. The emergency repair vehicle is used for water main repairs, valve exercising/repair, fire hydrant repair/maintenance, water turn-on/shut-off and multiple other uses. The replacement vehicle will be a van equipped with internal shelving containing parts and tools for efficient maintenance and repair of the water distribution system. This vehicle will also have a hydraulic unit on board that will be able to run more than one piece of equipment.

Department Priority Ranking: Highest **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Chemical Mixing Equipment Replacement **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	5,000	-	-	-	-	5,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	20,000	-	-	-	-	20,000
Contingency	-	7,500	-	-	-	-	7,500
Total Costs (Gross)	-	32,500	-	-	-	-	32,500
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides the funds to replace the chemical mixing tanks and equipment at both Water Treatment Plants. Both tanks have exceeded the service life and are showing signs of deterioration.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Both Treatment Plants utilize small chemical mixing tanks to dose treatment chemicals used to adjust PH and prevent the corrosion of pipes in the distribution system. These tanks were originally installed in 2005 and had a life expectancy of 15-20 years. While they are currently operational, the chemical mixing tanks have outlived their life expectancy and are showing signs of deterioration. Due to the hazardous nature of these chemicals the tanks and mixers start to corrode and wear down over time. Replacing this equipment ensures an adequate feed at the desired dosage and reduces variability in feeding. Replacements of failed components are either fabricated at a significant expenses with a long lead time or sourced by third party vendors. In the event of failure time is critical as this machine provides chemicals necessary to ensure safe, reliable and great tasting water.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Utility Master Plan | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	50%
Utilities	Wastewater	Wastewater Utility Fund	50%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	250,000	-	-	-	-	250,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	250,000	-	-	-	-	250,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

(Map or Photo)

Description & Proposed Funding:

Equipment/Project Description:

In 2012 and 2015 the City initiated a Water and Wastewater System Facilities Plan respectively. This project will updated these plans simultaneously to provide a roadmap for planning upgrades/improvements, maintenance projects and expansions for the utility system.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Successful management and growth of a water and wastewater utility system is dependent on thoughtful and careful planning. Identifying critical infrastructure needs and developing adequate budgeting for improvements in a cost effective manner is vital for a utility. A water and wastewater system facilities plan provides a roadmap towards planning upgrades and expansions. Existing City infrastructure will be in need of maintenance and upgrades to accommodate increased demand due to population and industrial growth in the City. The system facilities plan will also highlight project that will be needed in response to future and more rigorous regulations and/or new standards.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Valve exercise trailer **Submitted By:** Public Works **Version:** 3/10/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	70%
Utilities	Storm Water	Storm Water Utility Fund	30%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch		74,000	-	-	-	-	74,000
Contingency		3,700	-	-	-	-	3,700
Total Costs (Gross)	-	77,700	-	-	-	-	77,700
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides for the purchase of a Valve Exercising Trailer.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The purchase of a Valve Exercising Trailer provides staff with a multi-functional piece of equipment to perform yearly valve exercising. The trailer is equipped to exercise valves, has a vacuum, pressure washer, and hydraulic hook-ups for attachments such as a jackhammer or water pump to assist in with a water main failures. The Operations division exercises on average around 1300 valves per years to make sure all of these valves are working correctly. A valve exercising trailer will be able to assist in fixing hard to operate valves, broken valve boxes, and vacuuming out valve boxes. Presently when vacuuming out valve boxes this requires our large vac truck and a blocker truck taking a large area in the street to clean out a valve box having a valve exercising trailer would only require two technicians with a truck pulling the exercising trailer. The valve exercising trailer will also assist with cleaning storm water inlets.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Filter Media Replacement **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	70,000	-	-	-	70,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	440,000	-	-	-	440,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	106,000	-	-	-	106,000
Total Costs (Gross)	-	-	616,000	-	-	-	616,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project will facilitate the replacement of the filter media at the Sid Copeland Water Treatment Plant. The removal of the media will allow for maintenance and inspection activities to be performed on the filter basins. Planned auxiliary work includes: painting, underdrain inspection and resealing of wall penetrations. Replacement of the underdrain is not anticipated.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

2012 Water System Facilities Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project is a critical component of the City's water treatment process and will ensure a reliable water supply. The existing media was last replaced in 2009, with this project scheduling replacement in 14 years. Industry standard suggest replacement of filter media every 10 to 20 years. At this point, two-thirds through the projected replacement schedule, the media is performing as required and is not showing accelerated signs of degradation. Media material testing will be conducted prior to replacement to confirm failure of performance. If testing suggests material is adequate, the project will be delayed an appropriate period as determined at the time of testing.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: WTP Vehicle & Equipment Replacement **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	80,000	50,000	-	-	130,000
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	-	80,000	50,000	-	-	130,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides for the purchase of replacement vehicles.
2023-WTP Truck #3508 (2011 w/ 35k miles)
2024-WTP Truck #3510 (2012 w/ 57k miles)

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Criteria for trucks replacement is either 12 years old or at 120,000. Staff will evaluate condition of vehicles prior to replacement to ensure maximum life is obtained from current vehicles. This CIP provides the funds to replace vehicles if needed after the vehicles have reached twelve years of use.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: HBWTP Drying Beds Maintenance | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	170,000	-	170,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	51,000	-	51,000
Total Costs (Gross)	-	-	-	-	221,000	-	221,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project will replace the drying bed media and perform maintenance on the filter underdrains.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

In 2015 drying beds were built at the Howard Berry Treatment Plant to dry sludge wasted from the treatment process. Every year this dried sludge is removed and taken to a landfill for disposal. When this removal occurs a small amount of the sand filter media in the drying beds gets removed as well. This project is part of regular maintenance and will replace the missing media and perform any needed maintenance on the filter underdrains or associated structures. Failure to replenish this media could cause the beds to dry sludge inefficiently and raise the cost of annual sludge hauling. Additionally, containments removed by the beds could pass through the process and impact the Wastewater Treatment Plant if the media and underdrains are not working properly.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Instrumentation Replacement **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	200,000	200,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	60,000	60,000
Total Costs (Gross)	-	-	-	-	-	260,000	260,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This Project will replace Water Plant instrumentation that was installed in 2017. These devices have a design life of 8-10 years.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

In 2017, the Water Treatment Plants installed all new instrumentation designed to monitor processes and equipment throughout both Water Treatment Plants. This gives the Plant staff critical information needed to make operational changes when needed and protect public heath. Due to product life cycles and advancing changes in technology, these instruments will be reaching end of life by 2027. This equipment is essential to run the plant efficiently and in compliance with CDPHE requirements. Completion of this project will ensure the divisions ability to maintaining the City's infrastructure and ensure safe, reliable and great tasting drinking water.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Harper Lake Pump Station **Submitted By:** Public Works **Version:** 5/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	95,000	95,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	-	-	-	-	95,000	95,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project will fund the multi-year project of the inspection, evaluation and repair of the Harper Lake Pump Station. The evaluation will start in 2021, with the major construction activities scheduled for 2022.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The Harper Lake Pump Station was constructed 34 years ago and transfers water from Harper Lake to Louisville Reservoir for treatment. This Project will evaluate and repair equipment as needed. This work will include the removal of all three vertical turbine pumps and motors, as well as inspection of the wet well and all piping in the station. Additionally, the building and structure will be evaluated. Lastly, electrical, security, controls and communication system will be reviewed for upgrade. This pump station is critical to supplying raw water for treatment during summer high demands. The failure of the equipment in the station could potentially result in an inadequate supply of water to the city and possible water restrictions.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Louisville Lateral Ditch Piping **Submitted By:** Public Works **Version:** 5/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Water	Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	240,000	240,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	2,400,000	2,400,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-		-	-	-	480,000	480,000
Total Costs (Gross)	-	-	-	-	-	3,120,000	3,120,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project includes piping the open sections of the Louisville Lateral and the possible replacement of existing piped section to provide for a continuous pipeline from Howard Berry Water Treatment Plant (HBWTP) to the Sid Copeland Water Treatment Plant (SCWTP).

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

2016 Water Management Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Piping of the lateral will allow for a secure and readily available means of increasing resiliently of the City's water supply. Project will also accommodate a future project of delivering NCWCD water to HBWTP. Lastly, piping will reduce water loss through seepage and evaporation, reduce maintenance time and protect water quality. The first two main points make up a concept defined as Load-Shifting which is detailed in the 2016 Water Management Plan (WMP). The SCWTP can take South Boulder supplies delivered with either the Louisville Pipeline or the Louisville Lateral. The Pipeline as a typical capacity of 5 cfs or 3.2 MGD, which is 40% of the rated capacity of the SCWTP. This project will ensure the remaining 60% of the SCWTP can be satisfied by deliveries from the Lateral. The 2016 WMP projects the use of Load-Shifting to increase total firm water supplies by 100 acre-feet.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

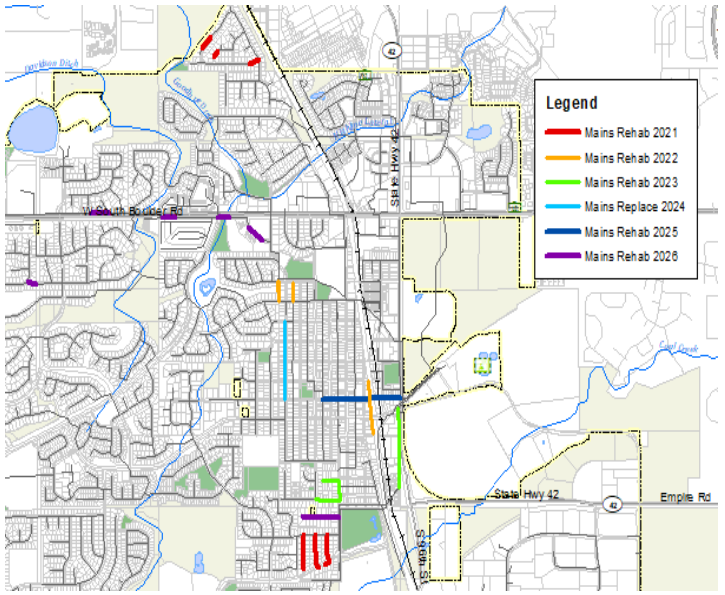
Project Name: Sewer Replacement Program | **Submitted By:** Public Works | **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Wastewater	Wastewater Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	320,000	260,000	380,000	470,000	550,000	400,000	2,380,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	48,000	39,000	57,000	70,500	82,500	60,000	357,000
Total Costs (Gross)	368,000	299,000	437,000	540,500	632,500	460,000	2,737,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification



Description & Proposed Funding:

Equipment/Project Description:

The City maintains over 90 miles of sanitary sewer mains. Staff estimates approximately 17 miles of sewer mains are in need of replacement or lining. This project replaces or lines deficiently sized, deteriorating, poorly constructed sanitary sewer mains. Work is also coordinated with the Street Program to prevent replacements in new streets. The program is focused mainly on VCP sized 6" and 8".

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time.

Reference to Plan being implemented (i.e., Master Plan):

None

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project will continue to replace old and troubled pipelines. This is an ongoing program. This program is driven by the need to maintain the wastewater collection system.

Department Priority Ranking: Medium | **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: WWTP Solids Handling Upgrades **Submitted By:** Public Works **Version:** 3/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Wastewater	Wastewater Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	220,000	-	-	-	-	-	220,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	1,100,000	-	-	-	-	1,100,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	330,000	-	-	-	-	330,000
Total Costs (Gross)	220,000	1,430,000	-	-	-	-	1,650,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

Project goals focus on the evaluation, design, upgrade, equipment replacement and building modifications of the solids handling process for the Wastewater Treatment Plant. It is anticipated that the supporting electrical and control services will require improvements and updating. Lastly, miscellaneous building improvement items including: etching and re-epoxying the floors, minor equipment updates and lighting upgrades will be performed.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

During the design of Wastewater Plant Upgrade project in 2013/2014, it was determined that the solids handling portion of the plant process had sufficient life expectancy (estimated at approximately 10 years) to be excluded from the 2015 Upgrade Project. This project request looks to combine two previously identified projects of the drum thickener replacement and dewatering improvements in to a single project that will allow for a comprehensive evaluation of the entire solids handling process. As part of the evaluation process, a detailed improvement plan will be developed and set for implementation in multiyear capital improvements starting in 2022 and concluding in 2023 or possible 2024. Major equipment purchase have substantial lead times and require carefully timing to minimize impacts to operations. Alternative removal would result in significant impacts in the hauling operations with an increase in costs, truck traffic and operations modifications.

Department Priority Ranking: High **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: WWTP Painting | Submitted By: Public Works | Version: 3/27/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Wastewater	Wastewater Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	50,000	-	-	-	-	-	50,000
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	10,000	-	-	-	-	-	10,000
Total Costs (Gross)	60,000	-	-	-	-	-	60,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project would allow for the repair of several damaged paint areas on aeration basin piping, in influent channels, and building ceilings. Project will require the need for sandblasting and multi-layer recoating to protect these areas from the harsh WWTP environment.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. No continued operation and maintenance costs are associated with this project.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Paint used in the WWTP basins is a multipart epoxy which protects piping and channels from the abrasive effects of wastewater. Continuous upkeep is required to ensure the underlying structure is maintained.

Department Priority Ranking: High | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: WWTP Vehicle & Equipment Replacement | Submitted By: Public Works | Version: 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Wastewater	Wastewater Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	50,000	-	-	50,000
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	-	-	50,000	-	-	50,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This CIP provides for the purchase of replacement vehicles.
2024 - Truck 3612 (2012 w/ 4k miles)

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is not expected to change.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

Criteria for trucks replacement is either 12 years old or at 120,000. Staff will evaluate condition of vehicles prior to replacement to ensure maximum life is obtained from current vehicles. This CIP provides the funds to replace vehicles if needed after the vehicles have reached twelve years of use.

Department Priority Ranking: Medium | Request Number: (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Secondary Process Probes **Submitted By:** Public Works **Version:** 3/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Wastewater	Wastewater Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	10,000	-	-	-	-	-	10,000
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	7,500	-	-	-	-	-	7,500
Capital Equipment Purch	79,500	-	-	-	-	-	79,500
Contingency	8,000	-	-	-	-	-	8,000
Total Costs (Gross)	105,000	-	-	-	-	-	105,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project would fund the addition of six new ammonia and nitrate sensors in the wastewater treatment secondary process. Three existing ammonia-only sensors will be repurposed for influent ammonia monitoring. This project includes equipment purchase, field power and communication wiring, and SCADA modifications.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time. Annual maintenance is expected to increase by $10,000 per year.

Reference to Plan being implemented (i.e., Master Plan):

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

The purpose of the secondary treatment process is to remove ammonia and nitrate. The existing probe installation relays only ammonia measurement at the end of the secondary treatment process to the SCADA system. With this improvement, the SCADA system will be able to 1) predict ammonia loading into the treatment process through upstream measurement, 2) increase or decrease dissolved oxygen based on the upstream readings, and 3) increase or decrease internal mixed liquor recycle pump speed for nitrate removal. This modification can potentially reduce energy costs through reliable, real-time process data.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

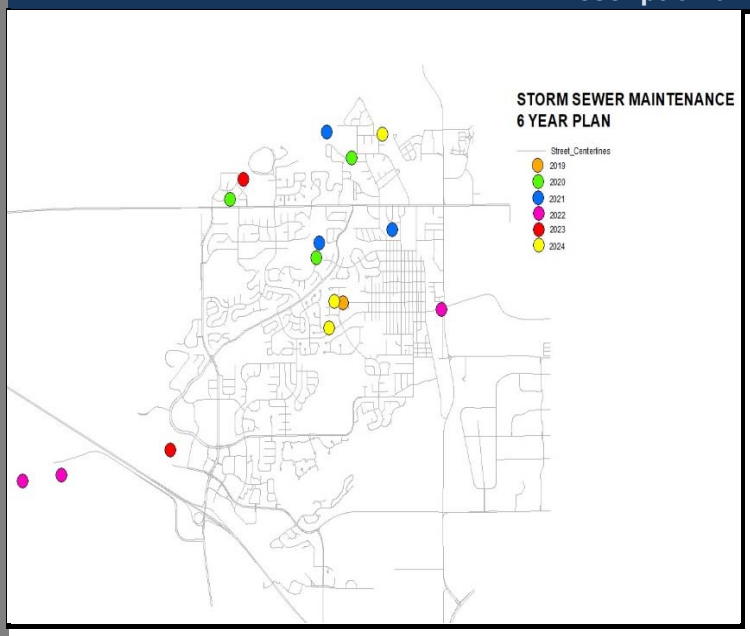
Project Name: Storm Sewer Detention Pond Maintenance Program **Submitted By:** Public Works **Version:** 4/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Stormwater	Storm Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	-	-	-	-
Other Prof Services	-	-	-	-	-	-	-
Construction	119,000	158,000	124,000	150,000	170,000	174,000	895,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	119,000	158,000	124,000	150,000	170,000	174,000	895,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification



Description & Proposed Funding:

Equipment/Project Description:

This project will rehabilitate city owned detention ponds and storm sewers to improve their storm water detention and drainage efficiency. The project will follow the recommendations in the Louisville Storm Water Master Plan completed in 2015. Costs include a 2.5% inflation rate.

Project revenue or grants that will support the project and the impacts to the operating budget:

No grants have been identified at this time that may be used to support the project. Ongoing operational and maintenance will be completed by the operations division.

Reference to Plan being implemented (i.e., Master Plan):

None

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project will ensure the detention ponds and storm sewers continue to function as designed. Maintaining the City's infrastructure is consistent with a City Council goal of addressing aging infrastructure.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Stormwater Quality Master Plan CIP **Submitted By:** Public Works **Version:** 4/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Stormwater	Storm Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering							-
Other Prof Services	-	-	-	-	-	-	-
Construction	200,000	100,000	100,000	100,000	100,000	100,000	700,000
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	200,000	100,000	100,000	100,000	100,000	100,000	700,000
Grants or Other Off-Setting Revenue	100,000	-	-	-	-	-	100,000
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project will continue to implement the Stormwater Quality Master Plan. The master plan will evaluate environmental impacts from the storm sewer system on receiving streams and recommend a Capital Project list to be completed each year looking forward. Many of the older subdivisions were built before the current water quality regulations and do not have water quality treatment before entering the creeks.

Project revenue or grants that will support the project and the impacts to the operating budget:

A CDPHE grant was obtained for 2020 to 2021 which provides $100,000 of matching funds each year for a total of $200,000 over two years.

Reference to Plan being implemented (i.e., Master Plan):

2020 Stormwater Quality Master Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project will review the existing storm sewer system and associated facilities. This is a is an ongoing program. This program is driven by the need to maintain the storm sewer system.

Department Priority Ranking: Medium **Request Number:** (Finance Use)

Six-Year (2021-2026) Capital Improvement Plan
Request Form for Capital Equipment or Capital Project

Identification and Funding Source

Project Name: Stormwater Master Plan Update **Submitted By:** Public Works **Version:** 4/3/2020

Program(s):	Sub-Program(s):	Funding Source(s):	Percent
Utilities	Stormwater	Storm Water Utility Fund	100%
			100%

Estimated Cash Flow Schedule

Equipment or Project Costs	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Six-Year Total
Land Acquisition	-	-	-	-	-	-	-
Design & Engineering	-	-	-	120,000	-	-	120,000
Other Prof Services	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-
Other Equip/Project Costs	-	-	-	-	-	-	-
Capital Equipment Purch	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-
Total Costs (Gross)	-	-	-	120,000	-	-	120,000
Grants or Other Off-Setting Revenue	-	-	-	-	-	-	-
Impact to Annual Maint/Operating Costs	-	-	-	-	-	-	-

Description and Justification

Description & Proposed Funding:

Equipment/Project Description:

This project will update the 2015 Stormwater Master Plan. The master plan will evaluate the condition of the City's storm sewer system and and detention ponds. The plan will recommend a Capital Project list to be completed each year looking forward.

Project revenue or grants that will support the project and the impacts to the operating budget:

None

Reference to Plan being implemented (i.e., Master Plan):

2015 Stormwater Master Plan

Justification and Alignment with Program/Sub-Program Goals & Key Performance Indicators:

This project will review the existing storm sewer system and associated facilities. This is a is an ongoing program. This program is driven by the need to maintain the storm sewer system.

Department Priority Ranking: Medium **Request Number:** (Finance Use)