

# Staff Report

**TO:** Board of Directors

**FROM:** Doug Roderick, P.E., Director of Engineering

**DATE:** May 22, 2024

**SUBJECT:** Fund 15 (Water Capital) and Fund 55 (Hydroelectric Capital)  
5-Year Capital Improvement Plan

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***ENGINEERING DEPT***

**RECOMMENDATION:**

Informational Item. Receive presentation from staff on the draft 5-Year Capital Improvement Plan (CIP) for Fund 15 (Water Capital) and Fund 55 (Hydroelectric Capital.)

**BACKGROUND:**

Staff has developed a draft 5-Year Capital Improvement Plan for Fund 15 (Water Capital) and Fund 55 (Hydroelectric Capital.) Discussion will include large capital projects proposed within the next 5 years.

5-Year CIP for Fund 35 (Recreational Capital) and Fund 70 (Internal Services) will be brought to the Board at a future date.

No action is necessary at this time.

**BUDGETARY IMPACT:**

None.

DR

Attachment: (1)

- PowerPoint Presentation

# 5-Year Capital Improvement Plan Workshop *May 22, 2024*



# 5-Year Capital Improvement Plan

Items to be covered during this workshop:

- Discuss Fund 15 (Water Capital) and Fund 55 (Hydroelectric Capital) 5-Year CIP
- Discuss Large Capital Projects for both Fund 15 and Fund 55 in the 5-Year CIP
- Discuss Renewal and Replacement (R&R) Costs and how it impacts the 5-Year CIP
- 5-Year CIP for Fund 35 (Recreational Capital) and Fund 70 (Internal Services) will be presented to the Board at a later date.

# 5-Year Capital Improvement Plan

## FUND 15 5-Year CIP

Broken down in the following categories:

- Capital Equipment
  - Pickups, Trucks, Heavy Equipment
- Administrative
  - Charging Stations
- Treated Water
  - Pipelines, Treatment Plants, Pump Stations, Storage Tanks  
Pressure Reducing Stations (PRV),
- Raw Water
  - Canals, Flumes, Pipelines, Gauging Stations, Diversion Dams,  
Small Reservoirs

# 5-Year Capital Improvement Plan

## 5-Year CIP Process

- Prioritization Scoring
  - Scoring using the 11 Criteria to prioritize projects
- Fund 15 - Treated Water and Raw Water Projects prioritized separately
  - Allows for projects for both treated and raw to be constructed
  - Allows for consistent expenditures per year
  - Useful for upcoming rates discussion
- Small projects, like PRVs, moved up in the priority process to fill in gaps to keep expenditures consistent through the 5-Year CIP
- Regulatory required projects can impact prioritization

# 5-Year Capital Improvement Plan

## FUND 15 CIP

	2025	2026	2027	2028	2029	Total
Capital Equipment	\$712,500	\$748,125	\$785,531	\$824,807	\$866,048	\$3,937,011
Administrative	\$900,000	\$800,000	\$250,000			\$1,950,000
Treated Water	\$1,514,250	\$3,274,000	\$2,885,200	\$2,935,000	\$2,851,000	\$13,459,450
Raw Water	\$4,200,000	\$3,370,000	\$3,600,000	\$3,750,000	\$4,910,000	\$19,830,000
Total (Per Year)	\$7,326,750	\$8,192,125	\$7,520,731	\$7,509,807	\$8,627,048	\$39,176,461

Average CIP Expenditures Over 5 Years: \$7,835,292

5-Year CIP includes \$560,000 for Gauging Stations.

# 5-Year Capital Improvement Plan

## FUND 15 Large Capital Projects

	2025	2026	2027	2028	2029	Total
Lake Wildwood Treatment Plant	\$200,000	\$5,000,000	\$4,500,000			\$9,700,000

## FUND 15 CIP with LWW Treatment Plant

	2025	2026	2027	2028	2029	Total
Capital Equipment	\$712,500	\$748,125	\$785,531	\$824,807	\$866,048	\$3,937,011
Administrative	\$900,000	\$800,000	\$250,000			\$1,950,000
Treated Water	\$1,714,250	\$8,274,000	\$7,385,200	\$2,935,000	\$2,851,000	\$23,159,450
Raw Water	\$4,200,000	\$3,370,000	\$3,600,000	\$3,750,000	\$4,910,000	\$19,830,000
Total (Per Year)	\$7,526,750	\$13,192,125	\$12,020,731	\$7,509,807	\$8,627,048	\$48,876,461

Average CIP Expenditures Over 5 Years: \$9,775,292

# 5-Year Capital Improvement Plan

## FUND 15 Renewal and Replacement (R&R) Costs

- Treated Water Pipelines
  - 430 Miles
  - Replace 4.3 Miles per Year for 100 Years
  - Costs are \$35 per diameter inch
  - Assume average of 8-inch pipeline
  - Initial cost in year 2025 is \$6,357,000
  - Escalated at 2.7% per year
- Raw Water Pipelines
  - 94 Miles
  - Replace 1 mile per year for 100 years
  - Costs are \$25 per diameter inch
  - Assume average of 30-inch pipeline
  - Initial cost in year 2025 is \$3,960,000
  - Escalated at 2.7% per year



# 5-Year Capital Improvement Plan

## FUND 15 CIP INCLUDING LWW TREATMENT PLANT AND R&R

	2025	2026	2027	2028	2029	Total
Capital Equipment	\$712,500	\$748,125	\$785,531	\$824,807	\$866,048	\$3,937,011
Administrative	\$900,000	\$800,000	\$250,000			\$1,950,000
Treated Water	\$7,660,250	\$13,449,612	\$12,036,457	\$6,938,862	\$7,237,753	\$47,322,934
Raw Water	\$6,030,000	\$5,656,920	\$7,776,727	\$6,089,498	\$9,075,315	\$34,628,460
Total (Per Year)	\$15,302,750	\$20,654,657	\$20,848,715	\$13,853,167	\$17,179,116	\$87,838,405

Average CIP Expenditures Over 5 Years: \$17,567,681

# 5-Year Capital Improvement Plan

## FUND 55 CIP

Broken down by the following:

- Capital Equipment
  - Pickups, Trucks, Heavy Equipment, Powerhouse Equipment
- Administrative
  - Buildings, Communications
- Powerhouse
  - Turbines, Generators, Transformers, Standby Generators, Electrical Equipment
- Facility
  - Reservoirs, Canals, Flumes, Pipelines, Gauging Stations, Diversion Dams

# 5-Year Capital Improvement Plan

## FUND 55 CIP

	2025	2026	2027	2028	2029	Total
Capital Equipment	\$675,000	\$708,750	\$669,188	\$702,647	\$737,779	\$3,493,364
Administrative	\$2,000,000	\$2,005,400	\$810,946	\$216,641	\$522,491	\$5,555,478
Powerhouse	\$650,000	\$1,350,000	\$800,000	\$825,000	\$200,000	\$3,825,000
Facility	\$1,500,000	\$1,650,000	\$810,000	\$710,000	\$500,000	\$5,170,000
Total (Per Year)	\$4,825,000	\$5,714,150	\$3,090,134	\$2,454,288	\$1,960,270	\$18,043,842

Average CIP Expenditures Over 5 Years: \$3,608,768

# 5-Year Capital Improvement Plan

## FUND 55 Large Capital Projects

	2025	2026	2027	2028	2029	Total
Scotts Flat Spillway	\$1,200,000	\$12,600,000	\$12,600,000			\$26,400,000
Chicago Park Powerhouse	\$500,000	\$1,000,000	\$3,800,000	\$15,000,000		\$20,300,000
Total (Per Year)	\$1,700,000	\$13,600,000	\$16,400,000	\$15,000,000		\$46,700,000

## FUND 55 CIP with Scotts Flat Spillway and Chicago Park Powerhouse

	2025	2026	2027	2028	2029	Total
Capital Equipment	\$675,000	\$708,750	\$669,188	\$702,647	\$737,779	\$3,493,364
Administrative	\$2,000,000	\$2,005,400	\$810,946	\$216,641	\$522,491	\$5,555,478
Powerhouse	\$1,150,000	\$2,350,000	\$4,610,000	\$15,825,000	\$200,000	\$24,135,000
Facility	\$2,700,000	\$14,250,000	\$13,410,000	\$710,000	\$500,000	\$31,570,000
Total (Per Year)	\$6,525,000	\$19,314,150	\$19,500,134	\$17,454,288	\$1,960,270	\$64,753,842

Average CIP Expenditures Over 5 Years: \$12,950,768

# 5-Year Capital Improvement Plan

## SOUTH YUBA CANAL FLUME Renewal and Replacement (R&R) Costs

- South Yuba Canal
  - 19 Miles total
  - 4.4 Miles of Flume
  - Replace 466 feet of Flume per year for 50 Years
  - Initial cost in year 2025 is \$2,800,000
  - Cost based on SYC Report developed by GHD
  - Escalated at 2.7% per year

	2025	2026	2027	2028	2029	Total
South Yuba Canal Flumes	\$2,800,000	\$2,875,600	\$2,953,241	\$3,032,979	\$3,114,869	\$14,776,689

# 5-Year Capital Improvement Plan

## Summary of Large Capital Project Costs

	2025	2026	2027	2028	2029	Total
Lake Wildwood Treatment Plant	\$200,000	\$5,000,000	\$4,500,000			\$9,700,000
Scotts Flat Spillway	\$1,200,000	\$12,600,000	\$12,600,000			\$26,400,000
Chicago Park Powerhouse	\$500,000	\$1,000,000	\$3,800,000	\$15,000,000		\$20,300,000
Total (Per Year)	\$1,900,000	\$18,600,000	\$20,900,000	\$15,000,000		\$56,400,000

## Summary of R&R Costs

	2025	2026	2027	2028	2029	Total
Treated Water	\$6,357,000	\$6,528,639	\$6,704,912	\$6,885,945	\$7,071,865	\$33,548,361
Raw Water	\$3,960,000	\$4,066,920	\$4,176,727	\$4,289,499	\$4,405,315	\$20,898,461
South Yuba Canal Flumes	\$2,800,000	\$2,875,600	\$2,953,241	\$3,032,979	\$3,114,869	\$14,776,689
Total (Per Year)	\$13,117,000	\$13,471,159	\$13,834,880	\$14,208,423	\$14,592,049	\$69,223,511

# 5-Year Capital Improvement Plan

**QUESTIONS?**