

Staff Report

TO: Board of Directors

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

DATE: May 8, 2024

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

ENGINEERING

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 8, 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

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?