El Dorado Irrigation District

FIVE YEAR

Capital Improvement Plan

2023—2027

Approved November 14, 2022

El Dorado Irrigation District

2023-2027 CAPITAL IMPROVEMENT PLAN

November 14, 2022

	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$1,546,195	$427,671	$314,191	$715,682	$557,292	$3,561,030
Water	$16,349,843	$28,270,000	$26,070,214	$12,405,000	$15,195,000	$98,290,057
Wastewater	$16,218,067	$9,855,000	$7,315,214	$6,485,000	$6,350,000	$46,223,281
Recycled Water	$150,000	$300,000	$400,000	$325,000	$325,000	$1,500,000
Hydroelectric	$6,567,656	$9,565,000	$10,550,000	$4,070,000	$7,735,000	$38,487,656
Recreation	$450,000	$150,000	$260,000	$110,000	$275,000	$1,245,000
General District	$7,377,675	$4,714,500	$2,527,000	$2,241,000	$2,130,000	$18,990,175
TOTAL	**$48,659,436**	**$53,282,171**	**$47,436,619**	**$26,351,682**	**$32,567,292**	**$208,297,200**

2022-2026 CAPITAL IMPROVEMENT PLAN

Approved November 8, 2021

	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$1,729,762	$396,195	$437,671	$309,191	$695,682	$3,568,501
Water	$21,987,279	$19,540,214	$21,000,000	$27,520,000	$29,065,000	$119,112,493
Wastewater	$13,229,500	$10,790,214	$7,405,000	$6,920,000	$7,075,000	$45,419,714
Recycled Water	$300,000	$375,000	$575,000	$500,000	$500,000	$2,250,000
Hydroelectric	$6,576,117	$6,210,000	$14,355,000	$5,050,000	$10,230,000	$42,421,117
Recreation	$805,000	$386,250	$322,500	$150,000	$150,000	$1,813,750
General District	$10,866,293	$5,738,000	$2,387,000	$2,020,000	$2,695,000	$23,706,293
TOTAL	**$55,493,952**	**$43,435,873**	**$46,482,171**	**$42,469,191**	**$50,410,682**	**$238,291,868**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan

FERC Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
10007	FERC: C51.1 and 51.2 RM Caples Auxiliary Dam and Boat Launch	FERC	1	40,000	40,000	40,000	40,000	40,000	200,000
06019H	FERC: C35 Oyster Creek	FERC	1	15,000	15,000	0	0	0	30,000
06021H	FERC: C37.8 Water Temperature	FERC	1	35,000	25,000	35,000	35,000	25,000	155,000
06076H	FERC: C38.4b Caples Spillway Channel Stabilization	FERC	1	15,000	15,000	15,000	0	0	45,000
06082H	FERC: C50.1 Silver Lake Campground East Re-Construction	FERC	1	1,000,000	0	0	0	0	1,000,000
06086H	FERC: C33 Lake Aloha Trout Removal	FERC	1	20,000	0	0	0	0	20,000
06087H	FERC: C37.1 Fish Monitoring	FERC	1	0	0	0	85,000	85,000	170,000
06088H	FERC: C37.2 Macroinvertebrate Monitoring	FERC	1	0	0	0	75,000	75,000	150,000
06089H	FERC: C37.3 Amphibian Monitoring	FERC	1	25,000	0	0	100,000	0	125,000
06090H	FERC: C37.4 Riparian Species Composition	FERC	1	0	0	0	30,000	0	30,000
06091H	FERC: C37.5 Riparian Vegetation Recruitment	FERC	1	0	0	0	30,000	0	30,000
06092H	FERC: C37.7 Geomorphology Evaluation	FERC	1	0	0	0	80,000	0	80,000
06095H	FERC: C54 Visual Resources Management Plan	FERC	1	15,000	0	0	0	0	15,000
06096H	FERC: C55 Heritage Resources	FERC	1	60,000	0	0	0	0	60,000
06097H	FERC: C59 Facility Management Plan	FERC	1	10,000	0	0	0	0	10,000
06098H	FERC: C46 thru C49 Recreation Resource Management	FERC	1	70,000	10,000	0	0	0	80,000
07003H	FERC: C37.9 Water Quality	FERC	1	0	100,000	0	0	105,000	205,000
07005H	FERC: C51.3 RM Echo Trailhead	FERC	1	8,000	8,000	8,000	8,000	8,000	40,000
07006H	FERC: C51.5 and C51.7 RM USFS Payments	FERC	1	53,195	54,671	56,191	57,682	59,292	281,030
07010H	FERC: C15 Pesticide Use	FERC	1	90,000	80,000	80,000	80,000	80,000	410,000
07011H	FERC: C38 Adaptive Management Program	FERC	1	50,000	50,000	50,000	50,000	50,000	250,000
07030H	FERC: C57 Transportation System Management Plan	FERC	1	10,000	0	0	0	0	10,000
08025H	FERC: C44 Noxious Weed Monitoring	FERC	1	30,000	30,000	30,000	45,000	30,000	165,000
TOTAL:				**1,546,195**	**427,671**	**314,191**	**715,682**	**557,292**	**3,561,030**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
17035	Green Valley Bridge Relocation	WA	1	450,000	550,000	0	0	0	1,000,000
19033	Reservoir A WTP PLC Replacement	WA	1	930,000	0	0	0	0	930,000
21012	DOT Construction Projects - Water	WA	1	30,000	30,000	35,000	35,000	35,000	165,000
21040	Water Facility Generators - FEMA Grant	WA	1	35,000	500,000	85,214	0	0	620,214
PLANNED	Placerville Drive Hangtown Creek Bridge Replacement	WA	1	75,000	1,075,000	0	0	0	1,150,000
PLANNED	Pleasant Valley Road Bulk Water Station Upgrades	WA	1	0	0	50,000	75,000	75,000	200,000
PLANNED	Sly Park Spillway Improvements	WA	1	120,000	100,000	100,000	0	0	320,000
PLANNED	Water Arc Flash Risk Assessment Program	WA	1	75,000	75,000	75,000	75,000	75,000	375,000
STUDY03	Water Treatment Plant Assessments	WA	1	452,179	0	0	0	0	452,179
STUDY10	Integrated Water Resources Master Plan	WA	1	277,430	0	0	0	0	277,430
16003	Permit 21112 Change in Point of Diversion	WA	2	485,000	200,000	200,000	0	0	885,000
17011	Crestview Pump Station Replacement Project	WA	2	0	0	25,000	775,000	0	800,000
17048	Strawberry Raw Water Pump Station Replacement	WA	2	0	125,000	130,000	30,000	0	285,000
18040	Forebay Road Waterline Replacement	WA	2	2,870,000	0	0	0	0	2,870,000
20030	Drop Off Road Waterline Extension	WA	2	1,650,000	0	0	0	0	1,650,000
21015	Swansboro Pump Station Replacement Project	WA	2	0	0	0	15,000	205,000	220,000
21022	Swansboro Pump Station SCADA Hardware Replacement	WA	2	0	0	0	15,000	85,000	100,000
21025	Cedar Ravine Wholesale Meter Replacement	WA	2	25,000	325,000	0	0	0	350,000
21031	EDHWTP 820 960 Air Conditioning Upgrade	WA	2	30,000	0	0	0	0	30,000
21034	Braden Court Pressure Reducing Station #1 Replacement	WA	2	0	0	0	235,000	240,000	475,000
21079	Sly Park Intertie Improvements	WA	2	450,000	10,500,000	10,400,000	0	0	21,350,000
22001	AMR and Small Meter Replacement	WA	2	300,000	360,000	360,000	400,000	400,000	1,820,000
22002	Serviceline Replacement Program	WA	2	4,250,000	4,500,000	4,700,000	4,800,000	4,900,000	23,150,000
22017	Sly Park Hills Waterline Replacement	WA	2	45,000	1,250,000	0	0	0	1,295,000
22019	Pleasant Oak Main Pressure Reducing Station #2 Upgrade	WA	2	0	0	25,000	300,000	0	325,000
22038	Reservoir A Filter Valve Replacements	WA	2	520,000	500,000	0	0	0	1,020,000
PLANNED	EDH Water Treatment Plant Phase 1 Improvements Program	WA	2	350,000	450,000	450,000	0	0	1,250,000
PLANNED	Pressure Reducing Station Rehabilitation and Replacement Program	WA	2	100,000	350,000	350,000	350,000	500,000	1,650,000
PLANNED	Pump Station Rehabilitation and Replacement Program	WA	2	0	700,000	1,100,000	100,000	100,000	2,000,000
PLANNED	Res 1 Water Treatment Plant Generator Replacement	WA	2	35,000	770,000	0	0	0	805,000
PLANNED	Res 1 Water Treatment Plant Phase 1 Improvements Program	WA	2	760,000	1,495,000	1,495,000	0	0	3,750,000

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
PLANNED	SCADA Water Hardware Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Sly Park Outlet Control Facility Improvements	WA	2	50,000	200,000	200,000	0	0	450,000
PLANNED	Storage Tank Replacement & Rehabilitation Program	WA	2	75,000	750,000	4,700,000	400,000	3,100,000	9,025,000
PLANNED	Transmission Mains Condition Assessment Program	WA	2	0	0	250,000	300,000	300,000	850,000
PLANNED	Transmission Slope Stabilization	WA	2	25,000	600,000	0	0	0	625,000
PLANNED	Valve Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Water Treatment Plant Asset Replacement Program	WA	2	600,000	600,000	600,000	600,000	600,000	3,000,000
PLANNED	Water Treatment Plant Flow Meters Upgrade	WA	2	0	0	0	50,000	500,000	550,000
PLANNED	Waterline Replacement Program	WA	2	0	0	250,000	3,100,000	3,100,000	6,450,000
PLANNED	Wholesale Meter Replacement	WA	2	250,000	250,000	250,000	0	0	750,000
PLANNED	Camp Creek Tunnel Improvements	WA	2	0	0	25,000	275,000	0	300,000
PLANNED	Large Meter Replacement	WA	2	0	0	0	250,000	250,000	500,000
STUDY15	El Dorado Main #2 Assessment	WA	2	310,000	100,000	0	0	0	410,000
19050	Construction Storage Facility	WA	3	75,000	1,650,000	0	0	0	1,725,000
22031	Excavator Grapple	WA	3	75,234	0	0	0	0	75,234
PLANNED	EDM Flow Integration	WA	3	0	0	0	25,000	300,000	325,000
PLANNED	ROW Vegetation Control Program	WA	3	25,000	15,000	15,000	0	230,000	285,000
PLANNED	Water Distribution Radio Path Improvement	WA	3	50,000	50,000	0	0	0	100,000
PLANNED	Water Treatment Plant Data Entry Automation	WA	3	300,000	0	0	0	0	300,000
TOTAL				**16,349,843**	**28,270,000**	**26,070,214**	**12,405,000**	**15,195,000**	**98,290,057**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
21018	2022 Collections Pipeline Rehabilitation Project	WW	1	500,000	0	0	0	0	500,000
21041	Wastewater Facility Generators - FEMA Grant	WW	1	35,000	1,000,000	585,214	0	0	1,620,214
PLANNED	Camino Heights Wastewater Treatment Plant Disposal Improvements	WW	1	0	150,000	200,000	0	0	350,000
STUDY24	Wastewater Arc Flash Risk Assessment Program	WW	1	50,000	50,000	50,000	50,000	50,000	250,000
15036	Silva Valley - El Dorado Hills Sewer Pipeline	WW	2	0	0	300,000	350,000	350,000	1,000,000
17023	Rancho Ponderosa LS Relocation/Abandonment	WW	2	125,000	1,200,000	1,200,000	0	0	2,525,000
17046	Strolling Hills Pipeline Improvements	WW	2	0	200,000	300,000	1,000,000	3,000,000	4,500,000
18003	Indian Creek Lift Station Upgrades	WW	2	50,000	600,000	2,000,000	0	0	2,650,000
18035	EDHWWTP WAS DAFT Rehabilitation	WW	2	1,878,067	0	0	0	0	1,878,067
20023	Lift Station Communication Upgrades	WW	2	100,000	120,000	450,000	450,000	0	1,120,000
20040	Deer Park LS SCADA Hardware Replacement	WW	2	65,000	0	0	0	0	65,000
21007	Town Center Force Main Phase 4 Replacement	WW	2	0	0	0	25,000	75,000	100,000
21026	St. Andrews Lift Station Upgrades	WW	2	25,000	100,000	250,000	0	0	375,000
21077	EDHWWTP Secondary Effluent Pump Station Modifications	WW	2	110,000	0	0	0	0	110,000
21081	Motherlode Force Main Replacement Program	WW	2	10,050,000	5,000,000	0	0	0	15,050,000
22035	DCWWTP Blower Replacement	WW	2	450,000	0	0	0	0	450,000
22039	EDHWWTP Filter 5 and 6 Rehabilitation	WW	2	1,110,000	0	0	1,110,000	0	2,220,000
PLANNED	Collections Pipeline Replacement and Rehabilitation Program	WW	2	0	0	100,000	250,000	1,500,000	1,850,000
PLANNED	Collections SCADA Upgrade	WW	2	300,000	0	0	0	0	300,000
PLANNED	DCWWTP PLC Replacement Program	WW	2	0	0	150,000	150,000	150,000	450,000
PLANNED	DCWWTP Process Control Device Integration	WW	2	75,000	75,000	0	0	0	150,000
PLANNED	EDHWWTP PLC Replacement Project	WW	2	0	0	300,000	400,000	400,000	1,100,000
PLANNED	Promontory Village Inflow & Infiltration Study	WW	2	0	0	0	25,000	100,000	125,000
PLANNED	SCADA Wastewater Hardware Replacement Program	WW	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Wastewater Asset Replacement Program	WW	2	600,000	400,000	400,000	400,000	400,000	2,200,000
PLANNED	Wastewater Lift Station Upgrade Program	WW	2	0	0	130,000	1,250,000	0	1,380,000
PLANNED	Wastewater Treatment Plant Assessments	WW	2	0	200,000	200,000	200,000	0	600,000
PLANNED	WWTP Process Improvement Program	WW	2	175,000	175,000	175,000	175,000	175,000	875,000
PLANNED	Collection System Emergency Bypass	WW	3	295,000	235,000	0	0	0	530,000
PLANNED	EDHWWTP Spoils Management	WW	3	0	125,000	300,000	0	0	425,000

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
PLANNED	El Dorado Hills Lift Station Consolidation	WW	3	75,000	75,000	0	0	0	150,000
PLANNED	El Dorado Lift Site Improvements	WW	3	0	0	75,000	500,000	0	575,000
PLANNED	Wastewater Modeling	WW	3	50,000	50,000	50,000	50,000	50,000	250,000
TOTAL				**16,218,067**	**9,855,000**	**7,315,214**	**6,485,000**	**6,350,000**	**46,223,281**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Recycled Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
PLANNED	Recycled Water Asset Program	RW	Carrington	2	100,000	175,000	75,000	75,000	75,000	500,000
PLANNED	Recycled Water Distribution Program	RW	Carrington	2	50,000	125,000	250,000	250,000	250,000	925,000
PLANNED	Recycled Water Radio Path Design and Replacement	RW	Leanos	2	0	0	75,000	0	0	75,000
Total				**TOTAL:**	**150,000**	**300,000**	**400,000**	**325,000**	**325,000**	**1,500,000**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
17025	Flume 45 Abutment Replacement	HY	1	270,000	0	0	0	0	270,000
19013	Hydro Crew Room Upgrade	HY	1	30,000	0	0	0	0	30,000
19031	Silver Lake Dam Replacement	HY	1	980,000	980,000	780,000	380,000	150,000	3,270,000
22036	Forebay Revegetation	HY	1	125,844	0	0	0	0	125,844
PLANNED	Hydro Arc Flash Risk Assessment Program	HY	1	50,000	65,000	50,000	0	50,000	215,000
17028	Flume 48 Replacement/Tunnel option	HY	2	37,668	0	250,000	300,000	6,000,000	6,587,668
18010	Penstock Improvements	HY	2	400,000	470,000	370,000	160,000	160,000	1,560,000
19021	Canal RTU Replacement Control Sites	HY	2	150,000	325,000	325,000	325,000	0	1,125,000
19024	Echo Conduit Rehabilitation	HY	2	0	0	0	80,000	100,000	180,000
21004	A18 Fiber Communication Improvements	HY	2	0	75,000	225,000	0	0	300,000
21013	Flumes 45A, 46A, 47A, and 47B Replacement	HY	2	1,900,000	0	0	2,000,000	0	3,900,000
21016	Penstock Stabilization	HY	2	80,000	520,000	170,000	0	0	770,000
21028	Powerhouse Automation Replacement	HY	2	575,000	0	0	0	0	575,000
22014	Flume 45 Section 3 Replacement	HY	2	500,000	5,500,000	5,500,000	0	0	11,500,000
22016	Flume 46 Replacement Project	HY	2	150,000	0	0	0	0	150,000
PLANNED	14 Mile Tunnel Improvements	HY	2	0	200,000	2,000,000	0	0	2,200,000
PLANNED	Annual Canal and Flume Improvements Program	HY	2	75,000	75,000	75,000	75,000	75,000	375,000
PLANNED	Annual Reservoir and Dam Improvements Program	HY	2	200,000	120,000	150,000	50,000	50,000	570,000
PLANNED	Ditch SCADA Hardware Replacement	HY	2	0	0	0	50,000	150,000	200,000
PLANNED	Flume 4 Replacement	HY	2	50,000	500,000	0	0	0	550,000
PLANNED	Flume 52A Replacement Project	HY	2	0	0	325,000	0	0	325,000
PLANNED	Hydro Equipment and Facility Replacement Program	HY	2	0	150,000	150,000	150,000	150,000	600,000
PLANNED	Lakes Remote Telemetry Units Replacement	HY	2	50,000	275,000	0	0	0	325,000
PLANNED	Powerhouse Turbine Runner Upgrade	HY	2	50,000	50,000	0	0	0	100,000
PLANNED	Spill 3 Crib Wall Replacement	HY	2	125,000	200,000	0	0	0	325,000
STUDY 2023	Canal Assessment	HY	2	50,000	0	0	0	0	50,000

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
STUDY 2024	Siphon Assessment	HY	2	0	60,000	0	0	0	60,000
STUDY 2025	Canal Release Points Assessment	HY	2	0	0	80,000	0	0	80,000
STUDY 2026	Tunnel Assessment	HY	2	0	0	0	50,000	0	50,000
STUDY 2027	Flume Assessment	HY	2	0	0	0	0	50,000	50,000
21003	Diversion Repeater Site	HY	3	175,000	0	0	0	0	175,000
21008	Diversion - Facility Upgrades	HY	3	544,144	0	0	0	0	544,144
21009	Diversion - Fish Ladder Improvements	HY	3	0	0	50,000	200,000	800,000	1,050,000
PLANNED	Camp 5 Facility Power Improvements	HY	3	0	0	50,000	250,000	0	300,000
TOTAL:				**6,567,656**	**9,565,000**	**10,550,000**	**4,070,000**	**7,735,000**	**38,487,656**

El Dorado Irrigation District

2023 - 2027 Capital Improvement Plan
Recreation Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
21037	Lakewood Dr. Stabilization/Mormon Immigrant Trail Shoulde	RE	2	400,000	0	0	0	0	400,000
PLANNED	Recreation Facility Replacement Program	RE	2	25,000	125,000	100,000	25,000	125,000	400,000
18023	Acorn Day Use Area	RE	3	25,000	0	0	0	0	25,000
PLANNED	Sly Park Recreation Area Facility Improvements	RE	3	0	25,000	125,000	25,000	150,000	325,000
PLANNED	Silver Lake West Campground Improvements	RE	3	0	0	35,000	60,000	0	95,000
TOTAL:				**450,000**	**150,000**	**260,000**	**110,000**	**275,000**	**1,245,000**

2023-2027 Capital Improvement Plan
General District

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2023 PLANNED	2024 PLANNED	2025 PLANNED	2026 PLANNED	2027 PLANNED	2023-2027 TOTAL
18055	Hansen 7 Software Replacement	GD	1	3,348,000	1,107,500	0	0	0	4,455,500
21042	HQ Backup Power Modifications	GD	1	75,000	0	0	0	0	75,000
PLANNED	Arc Flash Risk Assessment Program	GD	1	42,000	0	0	0	47,000	89,000
18044	WAN Upgrade	GD	2	15,000	0	0	0	0	15,000
19027	Windows Server 2016 Upgrade	GD	2	40,000	0	0	0	0	40,000
19028	Datacenter SCADA Segmentation	GD	2	27,000	0	0	0	0	27,000
19029	Wyse Laptop Replacement	GD	2	116,375	0	0	0	0	116,375
22021	Camino Heights SCADA Upgrade	GD	2	100,000	0	0	0	0	100,000
22032	VMware License Purchase	GD	2	20,000	0	0	0	0	20,000
PLANNED	Headquarter Facility Improvements	GD	2	480,000	200,000	0	0	0	680,000
PLANNED	IT Business Systems Replacement	GD	2	75,000	55,000	275,000	50,000	0	455,000
PLANNED	IT Communication Systems Replacement	GD	2	100,000	175,000	50,000	100,000	100,000	525,000
PLANNED	IT End-User Technology Replacement	GD	2	25,000	450,000	125,000	0	100,000	700,000
PLANNED	IT Environment Controls Upgrade	GD	2	250,000	100,000	0	0	0	350,000
PLANNED	IT Network Infrastructure Replacement	GD	2	750,000	425,000	125,000	225,000	125,000	1,650,000
PLANNED	Security Equipment Reliability Program	GD	2	300,000	95,000	95,000	95,000	95,000	680,000
PLANNED	Vehicle Replacement Program	GD	2	1,486,000	2,107,000	1,407,000	1,521,000	1,438,000	7,959,000
PLANNED	Windows 2012 Upgrade	GD	2	78,300	0	0	0	0	78,300
22022	Network Perimeter Security Upgrades	GD	3	50,000	0	0	0	0	50,000
PLANNED	SCADA Cyber Security Improvements	GD	3	0	0	0	0	150,000	150,000
PLANNED	SCADA Master Plan Implementation	GD	3	0	0	450,000	250,000	75,000	775,000
Total				**7,377,675**	**4,714,500**	**2,527,000**	**2,241,000**	**2,130,000**	**18,990,175**

FERC
Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 10007

Project Name: FERC C51.1 and 51.2 RM Caples Auxiliary Dam and Boat Launch

Project Category: Regulatory Requirements

Priority: 1 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

Required by the FERC License, Settlement Agreement, and the USFS 4(e) Condition 51, which, in part, requires the District to provide funding for the following activities:

1. The licensee shall be responsible for one-half of the following maintenance at the Caples Lake Auxiliary Dam Parking Area: a) routine cleaning, repair, and maintenance of all constructed features, b) toilet pumping, c) trash removal/litter pick up at the site, d) maintenance of the signboards, and e) vegetation management.

2. The licensee shall be responsible for operating and maintaining the boat launching ramp, associated parking lot, and other public facilities constructed at this site for the term of the license. The licensee shall also be responsible for maintenance of signboards. The USFS shall be responsible for maintaining the information on those signboards to USFS standards.

Funding under this CIP is required to pay for services, capitalized labor, and materials necessary for operations and maintenance activities at the Caples Lake Auxiliary Dam parking area and at the Caples Lake Boat Launch.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 294,000	Expenditures through end of year:	$ 264,472
Spent to Date:	$ 264,472	2023 - 2027 Planned Expenditures:	$ 200,000
Cash flow through end of year:		Total Project Estimate:	$ 464,472
Project Balance	$ 29,528	Additional Funding Required	$ 170,472

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Services	$25,000	$25,000	$25,000	$25,000	$25,000	$ 125,000
Staff time	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 50,000
Materials	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Construction						$ -
TOTAL	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 200,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$10,472
		$0
		$0
Total	100%	$10,472

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06019H

Project Name: FERC: C35 Oyster Creek

Project Category: Regulatory Requirements

Priority: 1 **PM:** Baron **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The District completed the installation of stabilization measures in Oyster Creek in 2019. Post-project monitoring and maintenance of stabilization measures is required for 5-years following project construction to evaluate performance of stabilization measures.

Basis for Priority:

EID would not be in compliance with Condition 35 of the El Dorado Relicensing Settlement Agreement, USFS 4(e) Condition 35, and SWRCB Water Quality Certification Condition 6 requirements contained in the FERC License.

Project Financial Summary:			
Funded to Date:	$ 489,950	Expenditures through end of year:	$ 389,497
Spent to Date:	$379,497	2023 - 2027 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 419,497
Project Balance	$ 100,453	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring	$ 10,000	$ 10,000				$ 20,000
Maintenance	$ 5,000	$ 5,000				$ 10,000
TOTAL	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 30,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06021H

Project Name: FERC C37.8 Water Temperature

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement an annual water temperature monitoring program at project reservoirs and stream reaches. The data collected from this monitoring effort will be used to determine if the coldwater beneficial uses are being met in designated project reaches.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Sections 7 and 12 of the Settlement Agreement, USFS 4(e) conditions 37 and 42, and SWRCB Water Quality Certification condition 14.

Project Financial Summary:			
Funded to Date:	$ 376,500	Expenditures through end of year:	$ 347,961
Spent to Date:	$ 337,961	2023 - 2027 Planned Expenditures:	$ 155,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 502,961
Project Balance	$ 28,539	Additional Funding Required	$ 126,461

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring	$25,000	$15,000	$25,000	$25,000	$15,000	$ 105,000
Reporting	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Staff Time	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
						$ -
TOTAL	$ 35,000	$ 25,000	$ 35,000	$ 35,000	$ 25,000	$ 155,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$6,461
			$0
			$0
Total	100%		$6,461

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06076H

Project Name: FERC C38.4b Caples Spillway Channel Stabilization

Project Category: Regulatory Requirements

Priority: 1 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This Project is a mandatory requirement of the conditions of the FERC license. The District completed the installation of stabilization measures in the spillway channel in 2020. Post-project monitoring and maintenance of stabilization measures is required for 5-years following project construction to evaluate performance of stabilization measures.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 8 of the Settlement Agreement, USFS 4(e) conditions 38.4b, and SWRCB Water Quality Certification condition 5.

Project Financial Summary:			
Funded to Date:	$ 1,146,857	Expenditures through end of year:	$ 1,026,893
Spent to Date:	$ 1,016,893	2023 - 2027 Planned Expenditures:	$ 45,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 1,071,893
Project Balance	$ 38,968	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring	$ 10,000	$ 10,000	$ 10,000			$ 30,000
Maintenance	$ 5,000	$ 5,000	$ 5,000			$ 15,000
TOTAL	$ 15,000	$ 15,000	$ 15,000	$ -	$ -	$ 45,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06082H

Project Name: FERC: C50.1 Silver Lake Campground East Re-Construction

Project Category: Regulatory Requirements

Priority: 1 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

Required by the License Settlement Agreement and the USFS 4(e) Conditions, the District must reconstruct the paved surfaces, toilets, and water system at the 62-unit USFS Silver Lake Campground, including upgrade of this facility to meet the current FS design standards and the USDA Forest Service Region 5 accessibility standards requirements of the Architectural Barriers Act (ABA). Campground improvements were completed in 2020, with the exception of the installation of a water line from the water source to the campground. The Project involves replacing the existing spring-fed water source located over a mile away from the campground with an existing groundwater well located in proximity to the campground. This groundwater well was previously used to supply water to the Kay's Silver Lake Resort (now the Silver Lake Boat Launch) and provides a more reliable source of water to serve both the Silver Lake East and Silver Lake West campgrounds. The Project will recommission the well and install a new water line to serve both Silver Lake East and Silver Lake West campgrounds. This portion of the project is in design review and is anticipated to be presented to the Board for award in spring 2022. The District received a one-year time extension from FERC and the new completion date for the installation of the water system is October 18, 2022.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 50.1 and USFS 4(e) Condition requirements. The District completed the campground work in 2020. The District is requested and received a time extension from FERC to complete the Water System Work in 2022.

Project Financial Summary:			
Funded to Date:	$ 2,919,282	Expenditures through end of year:	$ 2,867,905
Spent to Date:	$ 2,667,905	2023 - 2027 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:	$ 200,000	Total Project Estimate:	$ 3,867,905
Project Balance	$ 51,377	Additional Funding Required	$ 948,623

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction (Water System)	$ 1,000,000					$ 1,000,000
TOTAL	$ 1,000,000	$ -	$ -	$ -	$ -	$ 1,000,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$948,623
			$0
Total	100%		$948,623

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06086H

Project Name: FERC C33 Lake Aloha Trout Removal

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding only necessary in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to manually remove trout from the pools downstream of the auxiliary dams to help reduce potential impacts to Sierra Nevada yellow-legged frogs by trout predation.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 33, and SWRCB Water Quality Certification condition 4.

Project Financial Summary:			
Funded to Date:	$ 87,000	Expenditures through end of year:	$ 66,948
Spent to Date:	$ 49,948	2023 - 2027 Planned Expenditures:	$ 20,000
Cash flow through end of year:	$ 17,000	Total Project Estimate:	$ 86,948
Project Balance	$ 20,052	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring	$20,000					$ 20,000
						$ -
TOTAL	$ 20,000	$ -	$ -	$ -	$ -	$ 20,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06087H

Project Name: FERC C37.1 Fish Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of fish populations in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 359,200	Expenditures through end of year:	$ 352,158
Spent to Date:	$ 297,158	2023 - 2027 Planned Expenditures:	$ 170,000
Cash flow through end of year:	$ 55,000	Total Project Estimate:	$ 522,158
Project Balance	$ 7,042	Additional Funding Required	$ 162,958

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring				$ 70,000	$ 70,000	$ 140,000
Staff time				$ 15,000	$ 15,000	$ 30,000
						$ -
TOTAL	$ -	$ -	$ -	$ 85,000	$ 85,000	$ 170,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06088H

Project Name: FERC: C37.2 Macroinvertebrate Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of macroinvertebrates in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 279,000	Expenditures through end of year:	$ 273,292
Spent to Date:	$ 208,292	2023 - 2027 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ 65,000	Total Project Estimate:	$ 423,292
Project Balance	$ 5,708	Additional Funding Required	$ 144,292

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring				$ 70,000	$ 70,000	$ 140,000
Staff time				$ 5,000	$ 5,000	$ 10,000
						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 75,000	$ 75,000	$ 150,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06089H

Project Name: FERC: C37.3 Amphibian Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Amphibian surveys are required June through September if at any time flows in the South Fork of the American River (SFAR) are 100 cfs or less and the diversion into the canal causes the flow in the SFAR to change 50 cfs or more in 1 day. The objective of these surveys is to assess the effects of flow fluctuations on foothill yellow-legged frog egg masses and tadpoles. Amphibian surveys for Sierra Nevada yellow-legged frog (SNYLF) and foothill yellow-legged frog (FYLF) are also required every five years at project reservoirs and stream reaches as part of the El Dorado Hydroelectric Project No. 184 Adaptive Management Program. Amphibian surveys are also required in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to survey for SNYLF in the pools downstream of the auxiliary dams.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 388,648	Expenditures through end of year:	$ 385,222
Spent to Date:	$ 340,222	2023 - 2027 Planned Expenditures:	$ 125,000
Cash flow through end of year:	$ 45,000	Total Project Estimate:	$ 510,222
Project Balance	$ 3,426	Additional Funding Required	$ 121,574

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
FYLF/SNYLF monitoring				$ 90,000		$ 90,000
Staff time				$ 10,000		$ 10,000
SFAR flow fluctuations	$ 10,000					$ 10,000
Lake Aloha monitoring	$ 15,000					$ 15,000
						$ -
TOTAL	$ 25,000	$ -	$ -	$ 100,000	$ -	$ 125,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$21,574
		$0
		$0
Total	100%	$21,574

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06090H

Project Name: FERC: C37.4 Riparian Species Composition

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian species composition at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 60,000	Expenditures through end of year:	$ 55,945
Spent to Date:	$ 35,945	2023 - 2027 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 85,945
Project Balance	$ 4,055	Additional Funding Required	$ 25,945

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring				$ 25,000		$ 25,000
Staff time				$ 5,000		$ 5,000
						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 30,000	$ -	$ 30,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06091H

Project Name: FERC: C37.5 Riparian Vegetation Recruitment

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian vegetation recruitment at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 75,000	Expenditures through end of year:	$ 56,092
Spent to Date:	$ 36,092	2023 - 2027 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 86,092
Project Balance	$ 18,908	Additional Funding Required	$ 11,092

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring				$ 25,000		$ 25,000
Staff Time				$ 5,000		$ 5,000
						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 30,000	$ -	$ 30,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06092H

Project Name: FERC: C37.7 Geomorphology Evaluation

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to monitor representative stream channel areas for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 169,266	Expenditures through end of year:	$ 158,198
Spent to Date:	$ 158,198	2023 - 2027 Planned Expenditures:	$ 80,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 238,198
Project Balance	$ 11,068	Additional Funding Required	$ 68,932

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring				$ 70,000		$ 70,000
Staff time				$ 10,000		$ 10,000
TOTAL	$ -	$ -	$ -	$ 80,000	$ -	$ 80,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06095H

Project Name: FERC: C54 Visual Resources Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

This project is a requirement of the Article 402 of the Federal Energy Regulatory Commission (FERC) License for Project No. 184, Section 24 of the El Dorado Relicensing Settlement Agreement, and United States Forest Service (USFS) 4(e) Condition 54. These conditions require the District to prepare and implement a Visual Resources Management Plan (VRMP). The purpose of the Visual Resources Management Plan (VRMP) is to guide the decision-making process and facilitate the aesthetic/visual enhancement and management of specific Project No. 184 facilities and lands affecting the visual character of the Project No. 184 area. The current VRMP was approved in 2008 and is due to be reviewed and updated. Funding will be for professional services and staff time to update the plan and coordinate review and approval of the updated VRMP with the USFS and FERC.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 54.

Project Financial Summary:			
Funded to Date:	$ 55,381	Expenditures through end of year:	$ -
Spent to Date:	$ 40,381	2023 - 2027 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 15,000
Project Balance	$ 15,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 15,000					$ 15,000
						$ -
TOTAL	$ 15,000	$ -	$ -	$ -	$ -	$ 15,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06096H

Project Name: FERC: C55 Heritage Resources

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to complete and implement the Heritage Properties Management Plan (HPMP). The HPMP provides management protocols and mitigation measures for the ongoing protection of archaeological resources located within the FERC boundary.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) conditions 55 and 56.

Project Financial Summary:			
Funded to Date:	$ 279,580	Expenditures through end of year:	$ 210,560
Spent to Date:	$ 210,560	2023 - 2027 Planned Expenditures:	$ 60,000
Cash flow through end of year:		Total Project Estimate:	$ 270,560
Project Balance	$ 69,020	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring	$ 50,000.00					$ 50,000.00
Staff Time	$ 10,000.00					$ 10,000.00
						$ -
						$ -
TOTAL	$ 60,000.00	$ -	$ -	$ -	$ -	$ 60,000.00

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06097H

Project Name: FERC: C59 Facility Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

Required by the License Settlement Agreement, and the USFS 4(e) Condition 59: Within 1 year of license issuance, the licensee shall file with FERC a Facility Management Plan that is approved by the FS. The licensee shall implement the plan upon approval. Every 5 years, the licensee shall prepare a 5-year plan that will identify the maintenance, reconstruction, and removal needs for Project facilities within the FERC boundary and located on Forest Service property. The plan was approved by the USFS and filed with FERC. The next plan update is scheduled for 2023. Future costs are subject to change based on the scope of the new plan. Items remaining to be evaluated include the following: winch house at the surge chamber and the water tank shed along the penstock.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 59.

Project Financial Summary:			
Funded to Date:	$ 70,000	Expenditures through end of year:	$ 49,197
Spent to Date:	$ 49,197	2023 - 2027 Planned Expenditures:	$ 10,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 59,197
Project Balance	$ 20,803	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 10,000					$ 10,000
						$ -
TOTAL	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06098H

Project Name: FERC: C46 thru C49 Recreation Resource Management

Project Category: Regulatory Requirements

Priority: 1 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 46-49: Condition No. 46 – Implementation Plan. A recreation implementation plan shall be developed by the licensee in coordination with the FS within 6 months of license issuance. Condition No. 47 - Recreation Survey. The licensee shall conduct a Recreational Survey and prepare a Report on Recreational Resources that is approved by the FS every 6 years from the date of license issuance. Condition No. 48 – Forest Service Liaison. The FS and the licensee shall each provide an individual for liaison whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the National Forest. Condition No. 49 - Review of Recreation Developments. The FS and the licensee shall meet at least every 6 years to review all recreation facilities and areas associated with the Project and to agree upon necessary maintenance, rehabilitation, construction, and reconstruction work needed and its timing, as described in Conditions No. 49 and 50. Following the review, the licensee shall develop a 6-year schedule for maintenance, rehabilitation, and reconstruction.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 304,888	Expenditures through end of year:	$ 282,098
Spent to Date:	$ 282,098	2023 - 2027 Planned Expenditures:	$ 80,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 362,098
Project Balance	$ 22,790	Additional Funding Required	$ 57,210

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Survey	$ 70,000					$ 70,000
Reporting		$ 10,000				$ 10,000
TOTAL	$ 70,000	$ 10,000	$ -	$ -	$ -	$ 80,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$47,210
		$0
		$0
Total	100%	$47,210

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07003H

Project Name: FERC: C37.9 Water Quality

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement the water quality monitoring program at Project No. 184 reservoirs and stream reaches. The data collected from this monitoring effort will be used to characterize water quality under current project operations and help determine if applicable water quality objectives/criteria are being met and whether designated beneficial uses are protected.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 609,000	Expenditures through end of year:	$ 589,877
Spent to Date:	$ 589,877	2023 - 2027 Planned Expenditures:	$ 205,000
Cash flow through end of year:		Total Project Estimate:	$ 794,877
Project Balance	$ 19,123	Additional Funding Required	$ 185,877

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Monitoring		$ 60,000			$ 65,000	$ 125,000
Lab analysis		$ 25,000			$ 25,000	$ 50,000
Staff time		$ 15,000			$ 15,000	$ 30,000
TOTAL	$ -	$ 100,000	$ -	$ -	$ 105,000	$ 205,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07005H

Project Name: FERC: C51.3 RM Echo Trailhead

Project Category: Regulatory Requirements

Priority: 1 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

Required by the FERC License, Settlement Agreement, and the USFS 4(e) Condition 51.3, which requires the District to provide funding for the following activities at Echo Lakes Trailhead:

a. Toilet pumping
b. Trash removal/litter pick-up within the site

Funding under this CIP is required to cover the costs of toilet pumping as well as capitalized labor for operations staff to clean up litter within the site.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 30,000	Expenditures through end of year:	$ 24,593
Spent to Date:	$ 24,593	2023 - 2027 Planned Expenditures:	$ 40,000
Cash flow through end of year:		Total Project Estimate:	$ 64,593
Project Balance	$ 5,407	Additional Funding Required	$ 34,593

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Services	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Staff time	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000
TOTAL	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 40,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$2,593
		$0
		$0
Total	100%	$2,593

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07006H

Project Name: FERC: C51.5 and C51.7 RM USFS Payments

Project Category: Regulatory Requirements

Priority: 1 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

Required by the FERC License, Settlement Agreement, and USFS 4(e) Condition 51, which in part, requires the District to provide funding for the following activities:

a. Special Use Administration Funding: The licensee shall annually pay, by October 1, the amount of $4,800 (year 2002 cost basis) to provide for performing monitoring and permit compliance assurance for the campground concessionaire special use permits at Caples Lake Campground and Silver Lake East Campground. The costs shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP).

b. Dispersed Area Patrol Funding on Lands Affected by the Project: The licensee shall annually pay, by October 1, $25,000 (year 2002 cost basis). The cost shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP). These funds are to provide for patrol and operation of non-concessionaire developed and dispersed recreation facilities, as well as trails and other locations utilized by visitors to the Project, within and adjacent to the Project boundary. The licensee shall annually provide a boat and operator on Caples Lake and Silver Lake at least twice each season (time to be determined by mutual agreement between the licensee and the FS) to assist the FS in policing the shoreline along Silver Lake and Caples Lake, and to clean up litter.

Funding under this CIP is required to pay the annual fees to the USFS for special use administration and dispersed area patrol on USFS lands affected by the Project, and for capitalized labor to patrol the shoreline and clean up litter at Silver Lake and Caples Lake.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 621,753	Expenditures through end of year:	$ 619,428
Spent to Date:	$ 617,428	2023 - 2027 Planned Expenditures:	$ 281,030
Cash flow through end of year:	$ 2,000	Total Project Estimate:	$ 900,459
Project Balance	$ 2,325	Additional Funding Required	$ 278,706

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Fees	$49,195	$50,671	$52,191	$53,682	$55,292	$261,030
Staff time	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$20,000
TOTAL	$ 53,195	$ 54,671	$ 56,191	$ 57,682	$ 59,292	$281,030

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$50,870
		$0
		$0
Total	100%	$50,870

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07010H

Project Name: FERC: C15 Pesticide Use

Project Category: Regulatory Requirements

Priority: 1 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the integrated pest management plan (IPMP). The IPMP addresses pesticide use at EID facilities within the jurisdiction of the El Dorado National Forest (ENF) and Lake Tahoe Basin Management Unit (LTBMU).

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 15.

Project Financial Summary:			
Funded to Date:	$ 948,000	Expenditures through end of year:	$ 942,426
Spent to Date:	$ 882,426	2023 - 2027 Planned Expenditures:	$ 410,000
Cash flow through end of year:	$ 60,000	Total Project Estimate:	$ 1,352,426
Project Balance	$ 5,574	Additional Funding Required	$ 404,426

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Implementation	$ 65,000	$ 65,000	$ 65,000	$ 65,000	$ 65,000	$ 325,000
Equipment / Supplies	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000
Develop Plan	$ 10,000					$ 10,000
						$ -
TOTAL	$ 90,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000	$ 410,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$84,426
		$0
		$0
Total	100%	$84,426

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07011H

Project Name: FERC: C38 Adaptive Management Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is for staff time to implement the adaptive management program (Condition 38) of the FERC license. This program requires coordination with the Ecological Resources Committee (ERC), implementation of the resource monitoring program, and evaluation of monitoring results to determine if resource objectives are achievable and being met.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 14 of the Settlement Agreement, and USFS 4(e) condition 38.

Project Financial Summary:			
Funded to Date:	$ 697,000	Expenditures through end of year:	$ 689,097
Spent to Date:	$ 669,097	2023 - 2027 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 939,097
Project Balance	$ 7,903	Additional Funding Required	$ 242,097

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Staff time	$50,000	$50,000	$50,000	$50,000	$50,000	$ 250,000
						$ -
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$42,097
		$0
		$0
Total	100%	$42,097

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07030H

Project Name: FERC: C57 Transportation System Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

Condition 57 states within 1 year of license issuance, the licensee shall file with FERC a transportation system management plan that is approved by the FS for roads on or affecting National Forest System lands. The plan was prepared and approved and established the level of licensee responsibility for project-related roads. Also included in this CIP is the Trails Maintenance Plan. The next plan update is required in 2023. Plan updates include consultation with the Forest Service. Future costs are subject to change based on the scope of the new plan.

Basis for Priority:

Project is required by Project 184 license and is on-going.

Project Financial Summary:			
Funded to Date:	$ 105,000	Expenditures through end of year:	$ 77,934
Spent to Date:	$ 77,934	2023 - 2027 Planned Expenditures:	$ 10,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 87,934
Project Balance	$ 27,066	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Update Plan	$ 10,000					$ 10,000
TOTAL	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 08025H

Project Name: FERC C44 Noxious Weed Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 11/14/22

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the noxious weed plan for the prevention and control of noxious weeds at Project No. 184 facilities. The plan requires annual surveys within the Project No. 184 boundary in areas where high priority noxious weeds are known to occur and in areas where ground disturbance occurred during the previous year. The plan also calls for surveys to be conducted every 5 years along the Project No. 184 boundary.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 8 of the Settlement Agreement, and USFS 4(e) condition 44.

Project Financial Summary:			
Funded to Date:	$ 327,342	Expenditures through end of year:	$ 309,420
Spent to Date:	$ 289,420	2023 - 2027 Planned Expenditures:	$ 165,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 474,420
Project Balance	$ 17,922	Additional Funding Required	$ 147,078

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Implementation	$ 25,000	$ 25,000	$ 25,000	$ 40,000	$ 25,000	$ 140,000
Reporting	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
						$ -
						$ -
TOTAL	$ 30,000	$ 30,000	$ 30,000	$ 45,000	$ 30,000	$ 165,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$12,078
		$0
		$0
Total	100%	$12,078

Funding Comments:

Water Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17035

Project Name: Green Valley Bridge Relocation

Project Category: State/County Road Projects

Priority: 1 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

El Dorado County plans to construct two new bridges on Green Valley Road; one at Mound Springs Creek and one at Indian Creek. The District has existing waterlines and two pressure reducing stations (Green Valley PRS #1 and Greenstone PRS #1) on Green Valley Road that will be impacted by the project and require relocation at District cost as they are located in the public right of way. Based on the County's current design, approximately 1,200 feet of 8 and 12-inch waterline will need to be relocated along with both pressure reducing stations. The relocation work needs to be completed in advance of the County's project as the District is in conflict with the new bridge abutments and road realignment. The District has pre-purchased all necessary pressure reducing valves, isolation valves, fittings, for both pressure reducing stations, and is working to complete the relocation design to be bid once the County has completed their right of way acquisition. The County plans to have right of way acquisition complete by the end of 2022. The project has been in the works for several years and dependent on County schedule.

Basis for Priority:

The District has facilities that are in the public right of way that will be impacted by the planned projects. The relocation must be done at the District's cost to make way for the County's project.

Project Financial Summary:			
Funded to Date:	$ 105,000	Expenditures through end of year:	$ 104,404
Spent to Date:	$ 94,404	2023 - 2027 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 1,104,404
Project Balance	$ 596	Additional Funding Required	$ 999,404

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor (Inspection & Project Management)	$ 50,000					$ 50,000
Construction	$ 400,000	$ 550,000				$ 950,000
TOTAL	$ 450,000	$ 550,000	$ -	$ -	$ -	$ 1,000,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$449,404
Total	100%		$449,404

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19033

Project Name: Reservoir A WTP PLC Replacement

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The project involves replacing 7 antiquated, end of life cycle programmable logic controllers (PLC) at the Reservoir A water treatment plant. These PLC units have exceeded 15 years beyond the end of life cycle. The PLCs control all the processes at the facility. The project is under construction.

Basis for Priority:

Construction contract has been issued. The PLC units have been experiencing component failure due to age and condition. The complete failure of the PLC poses a great risk of interrupting service to our customers. New parts are not available and operating system is no longer supported.

Project Financial Summary:			
Funded to Date:	$ 1,317,990	Expenditures through end of year:	$ 387,990
Spent to Date:	$ 339,029	2023 - 2027 Planned Expenditures:	$ 930,000
Cash flow through end of year:	$ 48,961	Total Project Estimate:	$ 1,317,990
Project Balance	$ 930,000	Additional Funding Required	$ 0

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 930,000					$ 930,000
TOTAL	$ 930,000	$ -	$ -	$ -	$ -	$ 930,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%	$	0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21012

Project Name: DOT Construction Projects - Water

Project Category: State/County Road Projects

Priority: 1 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

At Board direction, staff has streamlined contracting procedures with the El Dorado County Department of Transportation (DOT) and City of Placerville for joint projects. EID has many water and sewer lines in roads maintained by DOT. From time to time, DOT initiates a road project where either EID water, wastewater, or recycled waterlines need to be relocated or upgraded, which presents opportunities to join forces with DOT in the project by simultaneously upgrading and/or relocating our facilities. In 2020 the Board reauthorized the Master Reimbursement Agreement which is utilized for such projects. The agreement is good for five years.

This CIP is intended for staff coordination with DOT throughout the year and for minor projects. This CIP will also be used to fund minor water related relocations performed by the County under the Agreement. Larger utility relocation projects will have a specific CIP that identifies all the work associated with that project.

Basis for Priority:

Projects are required by law, regulation, contract, agreement or license. This includes projects required to meet requirements imposed by federal, tate, or local governments. This also includes relocation of District facilities located in the public right-of-way as necessitated by County road improvements.

Project Financial Summary:			
Funded to Date:	$ 34,183	Expenditures through end of year:	$ 32,532
Spent to Date:	$ 20,532	2023 - 2027 Planned Expenditures:	$ 165,000
Cash flow through end of year:	$ 12,000	Total Project Estimate:	$ 197,532
Project Balance	$ 1,651	Additional Funding Required	$ 163,349

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design and Coordination	$30,000	$30,000	$35,000	$35,000	$35,000	$ 165,000
TOTAL	$ 30,000	$ 30,000	$ 35,000	$ 35,000	$ 35,000	$ 165,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$28,349
Total	100%		$28,349

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21040

Project Name: Water Facility Generators - FEMA Grant

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District applied for and was granted Hazard Mitigation Grant Program (HMGP) funding through the Federal Emergency Management Agency (FEMA) to provide a federal cost share for emergency backup generator installations at twenty-two remote District facilities. Included in the application is generators for ten water pump stations. This project will provide local agency funding as required by the HMGP grant.

Basis for Priority:

The project will provide continual power of ten water pump stations during utility power outages.

Project Financial Summary:			
Funded to Date:	$ 256,347	Expenditures through end of year:	$ 181,819
Spent to Date:	$ 131,819	2023 - 2027 Planned Expenditures:	$ 620,214
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 802,033
Project Balance	$ 74,528	Additional Funding Required	$ 545,686

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000					$ 25,000
Environmental	$ 10,000					$ 10,000
Construction		$ 500,000	$ 1,000,000			$ 1,500,000
FEMA Funding			$ (914,786)			$ (914,786)
TOTAL	$ 35,000	$ 500,000	$ 85,214	$ -	$ -	$ 620,214

Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Placerville Drive Hangtown Creek Bridge Replacement

Project Category: State/County Road Projects

Priority: 1 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The City of Placerville is planning on replacing the existing Placerville Drive Hangtown Creek Bridge in 2024. Currently, the District has an existing 8" waterline in the existing bridge to provide water to western Placerville. The District has a secondary connection that will be used to feed that portion of the District during construction. The District will replace the existing line with a new line in the bridge concurrent with the City's project. This will be bid as part of the City's project through an agreement with the City of Placerville. The City of Placerville anticipates completing their environmental permitting in 2022 and design for the project to be completed in 2023 with construction to begin in the spring of 2024.

Basis for Priority:

The District must replace the waterline to accommodate the City's bridge project.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 1,150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,150,000
Project Balance	$ -	Additional Funding Required	$ 1,150,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 75,000					$ 75,000
Construction Inspection		$ 75,000				$ 75,000
Construction		$ 1,000,000				$ 1,000,000
TOTAL	$ 75,000	$ 1,075,000	$ -	$ -	$ -	$ 1,150,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$75,000
Total	100%		$75,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Pleasant Valley Road Bulk Water Station Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

The existing bulk water station located at 4280 Pleasant Valley Road in Placerville has had multiple near miss accidents reported to the District. The District would like to make updates to the driveway entrance to make it safer for the public and for District staff who access the site.

Basis for Priority:

100% safety is one of the District's guiding principles. By making updates to the driveway the District can help prevent near miss accidents.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 200,000
Project Balance	$ -	Additional Funding Required	$ 200,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning			$ 20,000			$ 20,000
Design			$ 30,000			$ 30,000
Construction				$ 75,000	$ 75,000	$ 150,000
TOTAL	$ -	$ -	$ 50,000	$ 75,000	$ 75,000	$ 200,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Sly Park Spillway Improvements

Project Category: Regulatory Requirements

Priority: 1 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

Following the February 2017 Oroville Dam Spillway failure event, the California Department of Water Resources - Division of Safety of Dams required various dam owners to perform a spillway condition assessment applying the lessons learned from Oroville. Sly Park Spillway was one of the facilities selected, and while the condition assessment found Sly Park does not currently have the significant issues as did Oroville, there were several recommendations for improvement. These include: 1) Designing and installing a more durable surface on the invert of the flip bucket near the end of the spillway chute where concrete erosion and exposure of steel reinforcement has been occurring (2023 planned construction); and 2) Reviewing spillway hydraulics, and based on the spillway rated capacity, develop plans for raising the height of sidewalls in the vicinity of the flip bucket where historic photos show a water stain reaching the top of the walls from previous spills much less than the design capacity (2024 planned construction). The risk of spill water overtopping the sidewalls is the potential for erosion of soil and rock outside the chute that could then undermine the structure and cause it to fail (as occurred at Oroville). In addition, the right bank of the channel downstream of the concrete spillway chute needs erosion protection. The exposed soil bank is oversteepened and not durable to the high velocity flows that can discharge from the spillway. If left untreated, it could compromise the spillway structure.

Basis for Priority:

Compliance with DSOD dam safety program requirements

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 320,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 320,000
Project Balance	$ -	Additional Funding Required	$ 320,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 120,000					$ 120,000
Construction		$ 100,000	$ 100,000			$ 200,000
						$ -
TOTAL	$ 120,000	$ 100,000	$ 100,000	$ -	$ -	$ 320,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$120,000
Total	100%		$120,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 375,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 375,000
Project Balance	$ -	Additional Funding Required	$ 375,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Capitalized Labor	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000
TOTAL	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 375,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$75,000
Total	100%		$75,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: STUDY03

Project Name: Water Treatment Plant Assessments

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Dawson **Board Approval:** 11/14/22

Project Description:

The purpose of this project is to better understand the needs of Reservoir A, Reservoir 1, El Dorado Hills, and Strawberry Water Treatment Plants for future capital improvement projects and to help aid in creating an asset management plan. This assessment will look at each of the plants individually and provide a roadmap for future work on the plants. Due to the overall age of the facilities, key elements of the existing treatment process need to be examined for rehabilitation or replacement to maintain permit compliance. The general goal and objectives are to review, evaluate, and assess the condition of the structures and equipment taking into account past and future maintenance activities. Additionally, recommendations will include timelines for the use in future CIP projects, including budgetary level cost estimates for each recommendation made. Phase 1 of the assessment has been completed and Phase 2 was approved by the Board in 2021 in the amount of $566,629. Phase 2 included further assessment and evaluations, additional improvement recommendations, cost estimates, a probability and consequences of failure analysis, CIP prioritization and an Asset Management Plan for each treatment plant.

Basis for Priority:

Determine replacement and improvement strategy to support regulatory compliance, improve service reliability, and reduce maintenance costs. This study will protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ 1,056,492	Expenditures through end of year:	$ 604,313
Spent to Date:	$ 349,612	2023 - 2027 Planned Expenditures:	$ 452,179
Cash flow through end of year:	$ 254,701	Total Project Estimate:	$ 1,056,492
Project Balance	$ 452,179	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized labor	$ 45,000					$ 45,000
Phase 2 Assessment Engineering	$ 407,179					$ 407,179
						$ -
						$ -
TOTAL	$ 452,179	$ -	$ -	$ -	$ -	$ 452,179

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: STUDY10

Project Name: Integrated Water Resources Master Plan

Project Category: Master Planning

Priority: 1 **PM:** Brink **Board Approval:** 11/14/22

Project Description:

The District's Integrated Water Resources Master Plan was approved in 2013 and is due for an update. Demand projections from the 2020 Urban Water Management Plan will be used to update the timing and costs of large infrastructure components such as the White Rock diversion and associated water facilities. Existing initiatives such as the P21112 water rights change in point of diversion will be incorporated. The Master Plan update will also review existing and future capacity limitations in the water transmission and distribution systems and develop a long term capital improvement plan to provide adequate capacity for new development approved by El Dorado County. Completion of the plan update is anticipated in 2023.

Basis for Priority:

Updates to master plans are needed periodically to ensure the District is planning water supply and infrastructure needs appropriately.

Project Financial Summary:			
Funded to Date:	$ 448,200	Expenditures through end of year:	$ 170,770
Spent to Date:	$ 70,770	2023 - 2027 Planned Expenditures:	$ 277,430
Cash flow through end of year:	$ 100,000	Total Project Estimate:	$ 448,200
Project Balance	$ 277,430	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 277,430					$ 277,430
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 277,430	$ -	$ -	$ -	$ -	$ 277,430

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 16003

Project Name: Permit 21112 Change in Point of Diversion

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leeper **Board Approval:** 11/14/22

Project Description:

The District's existing Water Right Permit 21112 allows for water diversion at Folsom Reservoir for consumptives uses. Long-term water supply planning forecasts indicate that a portion of the Permit 21112 water supply will be necessary to serve areas of the District that are east of El Dorado Hills and at a higher elevation. The District seeks to modify Permit 21112 to add an authorized point of diversion and re-diversion to more effectively and efficiently meet the future water demands. The District seeks to add a point of diversion that allows both direct diversion from the South Fork of the American River, as well as re-diversion of water previously stored in Caples, Aloha and Silver Lakes. The additional point of diversion/re-diversion is proposed at the District's existing El Dorado Diversion Dam near Kyburz. In addition, the District's seeks to add Jenkinson Lake as an authorized point of re-diversion and an authorized place of storage for Permit 21112 water. Water diverted or re-diverted at the El Dorado Diversion Dam can be conveyed to Jenkinson Lake via the Hazel Creek Tunnel. To take all or any portion of Permit 21112 water upstream of Folsom Reservoir at a new diversion location, EID must successfully petition the State Water Resources Control Board (SWRCB) for water right permit changes to add points of diversion and rediversion. This project requires extensive hydrologic modeling to support the petition process and environmental review. The SWRCB Change Petition process encompasses preparation of the Petition (including preliminary engineering, hydrologic, and biological analyses, mapping, legal review, and preliminary meetings with SWRCB staff, California Department of Fish & Wildlife staff, and other stakeholders); California Environmental Quality Act (CEQA) compliance through preparation of an environmental impact report; processing of the Petition and any protests by the SWRCB; and potentially evidentiary hearings before the SWRCB if protests are filed against the Petition and cannot be resolved through stakeholder negotiations. The planned annual expenditures reflect a timeline for CEQA compliance and Petition processing in 2022-2025. The estimated expenditures related to the Petition processing and potential SWRCB hearing proceedings are estimates only, and actual expenditures will be highly dependent on the technical and legal support necessary to advance the Petition. Any post-SWRCB hearing proceedings, including potential administrative appeals and/or litigation would require additional funding.

Basis for Priority:

This project provides measurable progress toward achieving the District's goals, including helping to meet future water demand as identified in long-term water supply planning efforts, reducing the cost of water conveyance and delivery through gravity flow, increasing flexibility and reliability in water delivery systems to benefit the District's entire service area, improving drought resiliency, maintaining compliance with regulatory and legal obligations regarding water operations, and optimizing existing water rights.

Project Financial Summary:			
Funded to Date:	$ 1,330,339	Expenditures through end of year:	$ 1,006,088
Spent to Date:	$ 866,088	2023 - 2027 Planned Expenditures:	$ 885,000
Cash flow through end of year:	$140,000	Total Project Estimate:	$ 1,891,088
Project Balance	$ 324,251	Additional Funding Required	$ 560,749

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Petition Prep/Modeling	$ 180,000					$ 180,000
CEQA/Environmental	$ 305,000					$ 305,000
Petition Processing		$ 100,000	$ 100,000			$ 200,000
SWRCB Hearing		$ 100,000	$ 100,000			$ 200,000
TOTAL	$ 485,000	$ 200,000	$ 200,000	$ -	$ -	$ 885,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$160,749
Total	100%		$160,749

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17011

Project Name: Crestview Pump Station Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. The District has an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment.

The Crestview Pump Station is in need of replacement due to maintenance issues with an existing buried pneumatic tank which was not able to be certified for the operating pressure due to the inability to examine the entire structure. This is a safety issue for the District as we cannot certify the existing tank for service. The existing single pump is also located within a confined space and is a potential maintenance hazard. Without the benefit of a second pump, 25 customers are taken out of water for any regular maintenance. Additionally, the station has been subjected to failing air compressors due to being underground causing the pipeline to become air locked and causing various leaks on the distribution piping.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	$ 150,000	Expenditures through end of year:	$ 95,556
Spent to Date:	$ 20,556	2023 - 2027 Planned Expenditures:	$ 800,000
Cash flow through end of year:	$ 75,000	Total Project Estimate:	$ 895,556
Project Balance	$ 54,444	Additional Funding Required	$ 745,556

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor (Project Management & Inspection)			$ 25,000	$ 75,000		$ 100,000
Construction				$ 700,000		$ 700,000
TOTAL	$ -	$ -	$ 25,000	$ 775,000	$ -	$ 800,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17048

Project Name: Strawberry Raw Water Pump Station Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This station has numerous freeze issues and failing pumps that have outlived their useful lives. The pump station is approximately 250 feet away from the water treatment plant, is only accessible on foot, and is not on the District's property nor does it benefit from a documented easement. District staff over the past few years has spent increasing hours to keep the existing station operational. The station is currently in design to determine the exact layout of the new station in order to determine the needed environmental permits along the river. Construction cost estimates are not included.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	$ 99,000	Expenditures through end of year:	$ 84,757
Spent to Date:	$ 69,757	2023 - 2027 Planned Expenditures:	$ 285,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 369,757
Project Balance	$ 14,243	Additional Funding Required	$ 270,757

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 50,000	$ 100,000			$ 150,000
Environmental		$ 75,000	$ 30,000	$ 30,000		$ 135,000
Construction Inspection						$ -
Construction						$ -
TOTAL	$ -	$ 125,000	$ 130,000	$ 30,000	$ -	$ 285,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 18040

Project Name: Forebay Road Waterline Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

Replacing leaking and substandard waterlines in the distribution system will reduce the number of unplanned outages, increase reliability, reduce maintenance expenditures, and decrease losses. The District has reviewed all options for the main replacement list determined by operations and engineering and decided that the best use of funding would be the replacement of the 6" and 8" in Forebay Road. Over the past 16 years, the District has experienced approximately ten leaks on the 5,000 feet of 6" and 8" steel and asbestos cement pipe in Forebay Road and surrounding streets between Pony Express Trail and Deep Haven Road. The leaks from the waterline are impacting the integrity of the 14-mile tunnel entering Forebay reservoir.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ 150,000	Expenditures through end of year:	$ 141,881
Spent to Date:	$ 116,881	2023 - 2027 Planned Expenditures:	$ 2,870,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 3,011,881
Project Balance	$ 8,119	Additional Funding Required	$ 2,861,881

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 2,700,000					$ 2,700,000
Project Management	$ 20,000					$ 20,000
Construction Inspection	$ 150,000					$ 150,000
TOTAL	$ 2,870,000	$ -	$ -	$ -	$ -	$ 2,870,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$2,861,881
Total	100%		$2,861,881

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20030

Project Name: Drop Off Road Waterline Extension

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This project will include the installation of approximately 1,100 linear feet of 8" ductile iron pipe (DIP) to connect existing 8" DIP on Drop Off Road with existing 6" PVC pipe on Dogwood Lane in Pollock Pines. Installation of this new waterline will allow for the abandonment of 1,300 feet of existing substandard steel waterline, a portion of which crosses over the existing Main Ditch just downstream from the Forebay Outlet. This project will also include the installation of one Pressure Reducing Station. This project will be combined with the Forebay Road Waterline Replacement Project.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increases maintenance costs.

Project Financial Summary:			
Funded to Date:	$ 110,000	Expenditures through end of year:	$ 56,181
Spent to Date:	$ 41,181	2023 - 2027 Planned Expenditures:	$ 1,650,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 1,706,181
Project Balance	$ 53,819	Additional Funding Required	$ 1,596,181

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 1,500,000					$ 1,500,000
Construction Inspection	$ 100,000					$ 100,000
Capitalized Labor	$ 50,000					$ 50,000
TOTAL	$ 1,650,000	$ -	$ -	$ -	$ -	$ 1,650,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$1,596,181
Total	100%		$1,596,181

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21015

Project Name: Swansboro Pump Station Replacement Project

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Money	Board Approval:	11/14/22

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. The District has an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment.

The current Swansboro Pump Station is at the end of its useful life as the pumps are approximately 45 years old and parts are no longer available. Currently pump number 2 is nearing a complete bearing failure and must be replaced. The pneumatic tank for the station has also reached the end of its useful life and has welded patches from previous repairs. This work would include removing the existing tank and install new pumps, above and below ground plumbing upgrade, and upgrade the SCADA panel.

Basis for Priority:

Replacement of assets to improve reliability and avoid interruption to service throughout the District in the event of failures.

Project Financial Summary:			
Funded to Date:	$ 91,000	Expenditures through end of year:	$ 75,164
Spent to Date:	$ 67,164	2023 - 2027 Planned Expenditures:	$ 220,000
Cash flow through end of year:	$ 8,000	Total Project Estimate:	$ 295,164
Project Balance	$ 15,836	Additional Funding Required	$ 204,164

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design				$ 15,000		$ 15,000
Environmental					$ 20,000	$ 20,000
Construction					$ 185,000	$ 185,000
TOTAL	$ -	$ -	$ -	$ 15,000	$ 205,000	$ 220,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21022

Project Name: Swansboro Pump Station SCADA Hardware Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project will replace and reprogram the end of life PLC hardware and associated SCADA application at this tank and pump station.

Basis for Priority:

Replace end of life cycle SCADA hardware to ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:	$ 75,000	Expenditures through end of year:	$ 6,346
Spent to Date:	$ 1,346	2023 - 2027 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 106,346
Project Balance	$ 68,654	Additional Funding Required	$ 31,346

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor					$ 50,000	$ 50,000
Construction				$ 15,000	$ 35,000	$ 50,000
TOTAL	$ -	$ -	$ -	$ 15,000	$ 85,000	$ 100,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21025

Project Name: Cedar Ravine Wholesale Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This is part of the program that replaces old and inaccurate large wholesale meters in the District. This project includes replacing the 6" flow meter and pressure reducing station that feeds the City of Placerville. Actual wholesale meter replacement costs for each individual site will be brought to the Board for specific approval. With the revenue from this meter the District will recoup the costs of this project in approximately 6 years with revenue from the meter directly. The anticipated lost revenue from the current meter is approximately $20,000 per year at this time. The District intends to test the removed meter and determine the lost revenue accurately at the completion of this project.

Basis for Priority:

Loss of revenue to under reporting large wholesale meters.

Project Financial Summary:			
Funded to Date:	$ 25,000	Expenditures through end of year:	$ 22,352
Spent to Date:	$ 9,852	2023 - 2027 Planned Expenditures:	$ 350,000
Cash flow through end of year:	$ 12,500	Total Project Estimate:	$ 372,352
Project Balance	$ 2,648	Additional Funding Required	$ 347,352

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction		$ 275,000				$ 275,000
Capitalized Labor (Inspection & Project Management	$ 25,000	$ 50,000				$ 75,000
TOTAL	$ 25,000	$ 325,000	$ -	$ -	$ -	$ 350,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$22,352
Total	100%		$22,352

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21031

Project Name: EDHWTP 820 960 Air Conditioning Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Petterson **Board Approval:** 11/14/22

Project Description:

The current El Dorado Hills Water Treatment Plant clearwell variable frequency drive pumps (both 313 and 323) have failing air conditioning units due to space limitations behind the current sound wall. The air condition units are forced to re-circulate hot air and thus are never able to shutoff even during cool nights while the VFD's are running. The project replaces and relocates the air condition units outside of the sound wall to allow for clear air travel through the units. This work will include coring the sound wall for duct work, placing concrete pads, installing all necessary conduits and wiring, and installing new air conditioning units.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	$ 60,000	Expenditures through end of year:	$ 26,490
Spent to Date:	$ 16,490	2023 - 2027 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 56,490
Project Balance	$ 33,510	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 30,000					$ 30,000
TOTAL	$ 30,000	$ -	$ -	$ -	$ -	$ 30,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%	$0	
Total	100%	$0	

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21034

Project Name: Braden Court Pressure Reducing Station #1 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The District has numerous pressure reducing stations throughout the service area to keep line pressures within acceptable ranges as it travels from Pollock Pines down to El Dorado Hills. The District has a pressure reducing station program that identifies specific stations to rehabilitate, replace or upgrade to maintain service reliability throughout the District. Loss of pressure control or valve failure can result in extensive water line damage or complete failure.

The current Braden Court PRS1 is at the end of its useful life as the valves and piping in the station are continuously leaking. Currently a repair was made to the station in 2020, however the repair took place in the vault as the piping has been concreted together. The concrete encasement for this station was completed due to thrust concerns as it currently breaks 150 PSI to 15 PSI. The project will upgrade the station given its current condition. This work would include removing the existing station and installing a new prefabricated below ground station.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	$ 90,000	Expenditures through end of year:	$ 60,669
Spent to Date:	$ 30,669	2023 - 2027 Planned Expenditures:	$ 475,000
Cash flow through end of year:	$ 30,000	Total Project Estimate:	$ 535,669
Project Balance	$ 29,331	Additional Funding Required	$ 445,669

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ -			$ 235,000	$ 240,000	$ 475,000
TOTAL	$ -	$ -	$ -	$ 235,000	$ 240,000	$ 475,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 21079

Project Name: Sly Park Intertie Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The Sly Park Intertie is a key component of supply reliability in times of drought and during emergencies. In service it provides water delivery flexibility between Reservoir A WTP and Reservoir 1 WTP. The Intertie includes approximately 3.5 miles of 22" and 30" steel waterline built under emergency conditions just after the 1976-77 drought. The unlined pipeline has corroded significantly due to lack of cathodic protection and due to the volume of leaks it was taken out of service. The Sly Park Intertie improvements were identified as a supply reliability project in the 2013 Integrated Water Resources Master Plan. Previous engineering reports from the mid 1990's and in 2006 explored the possibility of rehabilitating the pipeline with a non-structural liner. However, a 2020 study found that the wall loss was too significant to be cost effective to install a liner and thus explored a complete removal and replacement. The 2020 study includes analysis of changed operations that could reduce pumping head up to 180 feet by pumping water from Reservoir A to Reservoir 1 during annual Forebay outages with a new pump station placed at the outlet of Reservoir A, rehabilitation options, direct replacement alternatives analysis, and a financial analysis. The ability to move water between Reservoir 1 and Reservoir A will also allow for a long overdue inspection of the 60 year old Camino Conduit between Jenkinson Reservoir and Reservoir A WTP, additionally it will provide time for the rehabilitation of valves within the dam that are in need of service or replacement, and provide a longer window for scheduled Reservoir A WTP maintenance. The estimated pipeline construction project cost at this time is $28 million for an open cut replacement based on the 2020 Draft Evaluation of Rehabilitation Alternatives Technical Memorandum. Cost estimates are based on a 10% design level of confidence and include a 30% construction contingency. Typical contingencies for 10% design level cost estimates range between 30% and 100%. The contingency used for this cost estimate is at the low end of the range and higher actual costs are likely. Staff will continue to pursue any grant funding that may become available.

Basis for Priority:

Replacement of the pipeline and installation of a new pump station will ensuring water supply flexibility/reliability between the two major gravity supply sources that provide two thirds of the District's water supply.

Project Financial Summary:			
Funded to Date:	$ 1,769,176	Expenditures through end of year:	$ 316,314
Spent to Date:	$ 196,314	2023 - 2027 Planned Expenditures:	$ 21,350,000
Cash flow through end of year:	$ 120,000	Total Project Estimate:	$ 21,666,314
Project Balance	$ 1,452,862	Additional Funding Required	$ 19,897,138

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$900,000	$ 300,000	$ 300,000			$ 1,500,000
Environmental	$ 200,000	$ 100,000	$ 100,000			$ 400,000
Right of Way	$ 100,000	$ 100,000				$ 200,000
Construction		$ 15,000,000	$ 15,000,000			$ 30,000,000
Grant Offset	$ (750,000)	$ (5,000,000)	$ (5,000,000)			$ (10,750,000)
TOTAL	$ 450,000	$ 10,500,000	$ 10,400,000	$ -	$ -	$ 21,350,000

Estimated Funding Sources	Percentage	2023	Amount
Bond	100%	$	-
Total	100%	$	-

Funding Comments:

2023 CAPITAL IMPROVEMENT PLAN Program: Water

Project Number: 22001

Project Name: AMR and Small Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Heape **Board Approval:** 11/14/22

Project Description:

This project replaces old, inaccurate, or broken meters and adds automated meter read capability to existing meters enabling reading of all meters in time for billing. It also includes the targeted replacement of all remaining 5/8" meters in our system. The project decreases labor expenses associated with manually reading meters and inputting the data into the computer system. It also avoids loss of confidence due to inaccurate or estimated reads. Continued implementation of meter replacement and AMR technology keeps the District in compliance with AB 3206 and all provisions of 23 CCR § 700. As of July 1, 2022 there are 31,724 meters that are equipped with radio read devices. Project funding allows the installation of approximately 250 radio read meters per year.

Basis for Priority:

Inaccurate or broken meters reduce revenue received by the District and prevent us from knowing the true amount of non-revenue water, potentially affecting the District's decision making processes.

Project Financial Summary:			
Funded to Date:	$ 300,000	Expenditures through end of year:	$ 300,000
Spent to Date:	$122,244	2023 - 2027 Planned Expenditures:	$ 1,820,000
Cash flow through end of year:	$ 177,756	Total Project Estimate:	$ 2,120,000
Project Balance	$ -	Additional Funding Required	$ 1,820,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Implementation	$275,000	$325,000	$325,000	$350,000	$350,000	$ 1,625,000
Capitalized Labor	$25,000	$35,000	$35,000	$50,000	$50,000	$ 195,000
TOTAL	$ 300,000	$ 360,000	$ 360,000	$ 400,000	$ 400,000	$ 1,820,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$300,000
Total	100%		$300,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 22002

Project Name: Serviceline Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Russell **Board Approval:** 11/14/22

Project Description:

This program consists of targeted replacement of leaking water service lines throughout the District. Replacing leaking and substandard service lines with new copper water service tubing will reduce the potential for contamination of the drinking water supply, increase reliability, reduce maintenance expenditures, and decrease losses. Serviceline projects are prioritized with operations and engineering staff based on frequency of leaks and costs of repairs. These estimates and project locations are subject to change as the projects are better defined. The replacement work is being performed by District crews.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ 4,745,546	Expenditures through end of year:	$ 3,397,752
Spent to Date:	$ 2,647,752	2023 - 2027 Planned Expenditures:	$ 23,150,000
Cash flow through end of year:	$ 750,000	Total Project Estimate:	$ 26,547,752
Project Balance	$ 1,347,794	Additional Funding Required	$ 21,802,206

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Construction (Various)	$ 4,200,000	$ 4,450,000	$ 4,650,000	$ 4,750,000	$ 4,850,000	$ 22,900,000
TOTAL	$ 4,250,000	$ 4,500,000	$ 4,700,000	$ 4,800,000	$ 4,900,000	$ 23,150,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$2,902,206
Total	100%		$2,902,206

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 22017

Project Name: Sly Park Hills Waterline Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The proposed Sly Park Hills Waterline Replacement Project (Project) would replace a failing steel pipeline that conveys water from the Res A Water Treatment Plant to the Sly Park Hills Tanks servicing areas along Sly Park Road below Jenkinson Reservoir.

The Project would include installation of approximately 1,000 linear feet of new 12-inch distribution main and the removal or abandonment of a failed 20-inch diameter steel pipeline originally constructed as part of the Sly Park Intertie.

Basis for Priority:

The replacement of this asset will improve reliability and avoid interruption to service from ongoing leaks and repairs.

Project Financial Summary:			
Funded to Date:	$ 100,000	Expenditures through end of year:	$ 75,800
Spent to Date:	$ 800	2023 - 2027 Planned Expenditures:	$ 1,295,000
Cash flow through end of year:	$ 75,000	Total Project Estimate:	$ 1,370,800
Project Balance	$ 24,200	Additional Funding Required	$ 1,270,800

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000					$ 25,000
Environmental	$ 20,000					$ 20,000
Construction		$ 1,250,000				$ 1,250,000
TOTAL	$ 45,000	$ 1,250,000	$ -	$ -	$ -	$ 1,295,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$20,800
Total	100%		$20,800

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 22019

Project Name: Pleasant Oak Main Pressure Reducing Station #2 Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The current Pleasant Oak Main Pressure Reducing Station #2 (POM PRS #2) is due for replacement because of maintenance issues as the valves have outlived their useful lives. The valves that are currently in use received an emergency rebuild in the spring of 2020 and at that time it was determined that they would not accept another rebuild. The POM PRS #2 is an important pressure reducing station as the only feed to the District's Reservoir C site. From the Reservoir C site the Pleasant Oak Main transmission line, in conjunction with other transmission and distribution lines, provides water to the communities of Diamond Springs, Placerville, Cameron Park, and El Dorado Hills. Purchase of valves are anticipated in 2022 and actual construction TBD.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	$ 100,000	Expenditures through end of year:	$ 304,416
Spent to Date:	$ 4,416	2023 - 2027 Planned Expenditures:	$ 325,000
Cash flow through end of year:	$ 300,000	Total Project Estimate:	$ 629,416
Project Balance	$ (204,416)	Additional Funding Required	$ 529,416

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 25,000			$ 25,000
Construction				$ 300,000		$ 300,000
TOTAL	$ -	$ -	$ 25,000	$ 300,000	$ -	$ 325,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$204,416
Total	100%		$204,416

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 22038

Project Name: Reservoir A Filter Valve Replacements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The existing filter inlet valves (twelve in total) at Reservoir A have reached the end of their service life and are located in configuration that can't be safely accessed for ongoing maintenance. This project will replace the filter inlet valves and their associated piping with a new AWWA compliant valve and operator. An on-call general engineering contract will be used to design piping structural supports for the new valve configuration and to specify all parts and materials for the new configuration. The replacement of all valves is tentatively scheduled for December 2023 through March 2024.

Basis for Priority:

If an inlet valve fails, it has the potential to remove all four adjacent filter basins or one third of the plant capacity. This would reduce the capacity of Reservoir A well below required summer demands. Access to the existing valves also poses a significant safety hazard for District personnel.

Project Financial Summary:			
Funded to Date:	$ 95,000	Expenditures through end of year:	$ 95,000
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 1,020,000
Cash flow through end of year:	$ 95,000	Total Project Estimate:	$ 1,115,000
Project Balance	$ -	Additional Funding Required	$ 1,020,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 20,000					$ 20,000
Construction	$ 500,000	$ 500,000				$ 1,000,000
TOTAL	$ 520,000	$ 500,000	$ -	$ -	$ -	$ 1,020,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$520,000
Total	100%		$520,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: EDH Water Treatment Plant Phase 1 Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Dawson **Board Approval:** 11/14/22

Project Description:

This program consists of targeted process, control, and facility improvements to the El Dorado Hills Water Treatment Plant. Several improvements have been identified to ensure regulatory compliance, increased service reliability, reduced maintenance expenditures, and repace end of life process components to extended facility life. A basis of design report (BODR) and associated construction cost estimates will be developed based on plant assessments that have recently been completed and include potential expansion. Following completion and confirmation of BODR recommendations, the District will move forward with final design of Phase 1 improvements. Construction cost estimates will be included in a future CIP once the BODR is finalized.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls, and end of life facilities will support regulatory compliance, improvement service reliability, and reduce maintenance costs. This program is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:		**2023 - 2027 Planned Expenditures:**	$ 1,250,000
Cash flow through end of year:		**Total Project Estimate:**	$ 1,250,000
Project Balance	$ -	**Additional Funding Required**	$ 1,250,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Basis of Design Report	$ 350,000	$ -	$ -	$ -	$ -	$ 350,000
Design	$ -	$ 450,000	$ 450,000	$ -	$ -	$ 900,000
TOTAL	$ 350,000	$ 450,000	$ 450,000	$ -	$ -	$ 1,250,000

Estimated Funding Sources	Percentage	2023	Amount
Bond	100%		$350,000
Total	**100%**		**$350,000**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Pressure Reducing Station Rehabilitation and Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The District has 246 pressure reducing stations throughout the service area to keep line pressures within acceptable ranges as it travels from Pollock Pines down to El Dorado Hills. Many of these stations are in varying degrees of repair or rehabilitation based on age, construction, and design life cycle. This program is to identify specific stations to rehabilitate, replace or upgrade to maintain service reliability throughout the District. Staff examines each pressure reducing station to determine if the station can be rehabilitated in place or if a new station needs to be constructed in parallel with the existing station. Staff has been able to rehabilitate the larger transmission stations in place utilizing the existing vaults while adding a protective layer of coating on the vault and all pipework, new isolation valves, and installing new pressure reducing valves. Due to the construction of the smaller below ground pressure reducing stations they typically require a complete replacement to an above ground location where possible. By moving the smaller facilities above ground it removes the confined space entry for operation and maintenance while also providing a dry environment for prolonged life for external coatings. Loss of pressure control or valve failure can result in extensive water line damage or complete failure. Program management expenditures identified include prioritizing and designing each PRS replacement. Staff reviews the list of pressure reducing valves each year and based on failures or other noted deficiencies prioritizes the stations to be included in this program. Actual PRS replacement costs for each individual station will be brought to the Board for specific approval.

Basis for Priority:

Existing stations are incurring increasing maintenance costs and reduced service reliability due to age and degradation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 1,650,000
Cash flow through end of year:		Total Project Estimate:	$ 1,650,000
Project Balance	$ -	Additional Funding Required	$ 1,650,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$100,000		$100,000	$100,000	$100,000	$ 400,000
Construction		$350,000	$250,000	$250,000	$400,000	$ 1,250,000
TOTAL	$ 100,000	$ 350,000	$ 350,000	$ 350,000	$ 500,000	$ 1,650,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$100,000
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Pump Station Rehabilitation and Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The District has numerous distribution pump stations throughout the water service area that operate to increase pressures to customers at higher elevations. This is an annual program to replace, rehabilitate or upgrade pump stations that have reached the end of their service life. Engineering and O&M staff identify and prioritize pump stations in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, electrical control, valves, yard piping, SCADA equipment, and buildings to accommodate equipment. Staff reviews the list of pumps each year and based on failures or other noted deficiencies prioritizes the stations to be included in this program. Actual Pump Station replacement costs for each individual station will be brought to the Board for specific approval. Pump station replacement projects have been deferred in the CIP to meet financial plan objectives.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 2,000,000
Cash flow through end of year:		Total Project Estimate:	$ 2,000,000
Project Balance	$ -	Additional Funding Required	$ 2,000,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000
Construction		$ 600,000	$ 1,000,000			$ 1,600,000
TOTAL	$ -	$ 700,000	$ 1,100,000	$ 100,000	$ 100,000	$ 2,000,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Res 1 Water Treatment Plant Generator Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The generator at Reservoir 1 is beyond its useful life and needs to be replaced. It is difficult to get parts for the generator as the unit is obsolete and past its life expectancy, in fact the District can no longer purchase parts for the generator, which means that any repairs to the generator requires a custom repair. In addition, the generator did not pass the load bank test in 2022. In addition, the sound attinuation for the generator is in a mode of failure requiriung a new enclosure around the generator. The District depends on this generator to keep the Reservoir 1 Water Treatment Plant operating during planned and unplanned power outages.

Basis for Priority:

Ability to maintain critical water supply during planned and unplanned power outages.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 805,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 805,000
Project Balance	$ -	Additional Funding Required	$ 805,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 15,000					$ 15,000
Design	$ 20,000	$ 20,000				$ 40,000
Construction		$ 750,000				$ 750,000
TOTAL	$ 35,000	$ 770,000	$ -	$ -	$ -	$ 805,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$35,000
Total	100%		$35,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Res 1 Water Treatment Plant Phase 1 Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Dawson **Board Approval:** 11/14/22

Project Description:

This program consists of targeted process, control, and facility improvements to the Reservoir 1 Water Treatment Plant. Several improvements have been identified to ensure regulatory compliance, increased service reliability, reduced maintenance expenditures, and replace end of life process components to extended facility life. A basis of design report (BODR) and associated construction cost estimates will be developed based on plant assessments that have recently been completed. Following completion and confirmation of BODR recommendations, the District will move forward with final design of Phase 1 improvements. Construction cost estimates will be included in a future CIP once the BODR is finalized.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls, and end of life facilities will support regulatory compliance, improvement service reliability, and reduce maintenance costs. This program is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 3,750,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 3,750,000
Project Balance	$ -	Additional Funding Required	$ 3,750,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Basis of Design Report	$ 760,000					$ 760,000
Design		$ 1,495,000	$ 1,495,000			$ 2,990,000
TOTAL	$ 760,000	$ 1,495,000	$ 1,495,000	$ -	$ -	$ 3,750,000

Estimated Funding Sources	Percentage	2023	Amount
Bond	100%		$760,000
Total	100%		$760,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: SCADA Water Hardware Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This funding is designated to be a rolling CIP to replace end of life cycle SCADA hardware District wide. This program would focus on replacing and reprogramming of the end of life PLC hardware and associated SCADA reconfigurations. Many sites are beyond the PLC hardware life expectancy of 15 years.

Basis for Priority:

Rolling CIP to replace end of life cycle SCADA hardware, ensure service reliability, and reduce problem areas of the SCADA system that cause overtime.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 500,000
Project Balance	$ -	Additional Funding Required	$ 500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Hardware	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 200,000
Capitalized Labor	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000
Professional Services	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 225,000
TOTAL	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$100,000
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Sly Park Outlet Control Facility Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

The project includes design and installation of more reliable power distribution for the facility. The site currently has multiple installations dating back to 1953 and is no longer in compliance with National Fire Protection Agency. The site requires a new PG&E meter and main, automatic transfer switch, and panel board for distribution. Furthermore, the District is in need of replacing the hydraulic lines for the isolation valves at the dam. This will include the replacement of hydraulic fluid and any necessary upgrades to provide reliable isolation moving forward.

Basis for Priority:

The project will improve reliability of a critical water facility.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 450,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 450,000
Project Balance	$ -	Additional Funding Required	$ 450,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000	$ 75,000	$ 75,000			$ 200,000
Electrical Construction		$ 125,000	$ 125,000			$ 250,000
Valve Construction						$ -
TOTAL	$ 50,000	$ 200,000	$ 200,000	$ -	$ -	$ 450,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$50,000
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Storage Tank Replacement & Rehabilitation Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This program consists of targeted replacement and rehabilitation of drinking water storage tanks and reservoirs within the distribution system. The District operates 36 steel storage tanks, ranging in age from 8 to 58 years of age, most of which were constructed in the last 18 years as part of the District line and cover program. Additionally, the District operates 7 floating cover drinking water reservoirs ranging in age from 26 to 33 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability throughout the District. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement costs for each individual tank and reservoir will be brought to the Board for specific approval.

Basis for Priority:

Life cycle replacement of District assets due to age and degradation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 9,025,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 9,025,000
Project Balance	$ -	Additional Funding Required	$ 9,025,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design/Planning	$ 75,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 475,000
Construction		$ 650,000	$ 4,600,000	$ 300,000	$ 3,000,000	$ 8,550,000
TOTAL	$ 75,000	$ 750,000	$ 4,700,000	$ 400,000	$ 3,100,000	$ 9,025,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$75,000
Total	100%		$75,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Transmission Mains Condition Assessment Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The District owns and maintains various transmission mains across the District to be able to provide large volumes of water from 4,000 feet to 700 feet in elevation. These facilities are typically 16" and larger and transmit water between multiple pressure reducing stations to reservoirs and tanks in the distribution system. These facilities typically are exposed to higher velocities in an effort to provide water during high flow events. Additionally, these facilities allow staff to complete maintenance at El Dorado Hills WTP and Reservoir 1 WTP by taking them offline. Once the Sly Park Intertie is constructed staff will also be able to take Reservoir A offline for extended periods to perform additional maintenance while the facility is offline. Over the past 4 years the District has seen a growth in transmission leaks most notably with El Dorado Main #2 (EDM #2) experiencing three leaks in the winter of 2019. Additionally, in the past 10 years the Diamond Springs Main (DSM), El Dorado Main #1 (EDM #1), and the Pleasant Oak Main (POM) have all experienced leaks of varying degrees. Many of the District's transmission mains were installed by the Bureau of Reclamation in the 50's, 60's, and 70's. Traditionally transmission mains were designed at a 75 year life cycle due to the high velocities that they are exposed to, and thus the District is in need of prioritizing each of the replacements or rehabilitations of these pipelines. Funding will be used to examine each of the facilities listed below to determine the current state of the pipeline, the potential for future failure, any measures that can be taken to extend the useful life of the asset, and the replacement or rehabilitation costs. With these assessments the District can begin to forecast the replacement schedule moving forward for each of these facilities.

Basis for Priority:

Assessment of the transmission pipelines throughout the entire District to ensuring water supply flexibility and reliability based on the condition of each facility.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 850,000
Cash flow through end of year:		Total Project Estimate:	$ 850,000
Project Balance	$ -	Additional Funding Required	$ 850,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning			$ 250,000	$ 300,000	$ 300,000	$ 850,000
TOTAL	$ -	$ -	$ 250,000	$ 300,000	$ 300,000	$ 850,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Transmission Slope Stabilization

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The District owns and maintains various transmission mains across the District to be able to provide large volumes of water from 4,000 feet to 700 feet in elevation. These facilities are typically 16" and larger and transmit water between multiple pressure reducing stations to reservoirs and tanks in the distribution system. These facilities typically are exposed to higher velocities in an effort to provide water during high flow events. Additionally, many of these facilities were constructed across rugged terrain prior to major roadways being available in the 50's, 60's, and 70's. Due to the location of these pipelines the potential for slope failure is greatly increased. During the storms of 2017 there were two major slides that occurred, one on El Dorado Main #2 and one on Moose Hall Transmission. These lines are in need of various slope stabilization measures to protect not only the pipelines but the District's access to them for future maintenance and repairs. This program will consist of completing slope stabilization designs, access improvements where possible, bidding, and construction of all necessary repairs. Actual slope stabilization project costs for each individual pipeline will be brought to the Board for specific approval.

Basis for Priority:

Slope stabilization for transmission pipelines due to slides causing damage to pipe benches and access roads to the facilities.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 625,000
Cash flow through end of year:		Total Project Estimate:	$ 625,000
Project Balance	$ -	Additional Funding Required	$ 625,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Engineering	$25,000					$ 25,000
Stabilization EDM#2		$ 300,000				$ 300,000
Stabilization Moose Hall		$ 300,000				$ 300,000
TOTAL	$ 25,000	$ 600,000	$ -	$ -	$ -	$ 625,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$25,000
Total	100%		$25,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Valve Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Russell **Board Approval:** 11/14/22

Project Description:

The District has many isolation valves in both the water transmission system and the distribution system that have failed and no longer provide proper isolation for any required shutdown of the system. These valves often are broken in either the open or closed position leaving staff no option but to expand any shutdown in the distribution or transmission system to a larger area where isolation is possible. If the valve cannot be repaired it will be replaced under this program. The District also has over 270 pressure reducing stations with isolation valves within. If the pressure reducing stations cannot be rebuilt due to failure of the isolation valves the isolation valves will be repalced under this program. This program does not identify specific valves to replace. Program management expenditures identified include prioritizing of each valve replacement.

Basis for Priority:

Existing valves are failing due to age and degradation and no longer providing proper isolation of the distribution or transmission systems.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:		Total Project Estimate:	$ 500,000
Project Balance	$ -	Additional Funding Required	$ 500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$100,000	$100,000	$100,000	$100,000	$100,000	$ 500,000
TOTAL	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$100,000
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Treatment Plant Asset Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This is an annual program to replace water treatment plant assets that have failed or reached end of useful life. Assets to be replaced or upgraded under this program include mechanical, electrical and instrumentation systems, treatment plant equipment and other plant assets.

Basis for Priority:

Replacement and improvements to inefficient processes, obsolete controls and substandard facilities will support regulatory compliance, improvement service reliability and reduce maintenance costs.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 3,000,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 3,000,000
Project Balance	$ -	Additional Funding Required	$ 3,000,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Facility Improvements	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 3,000,000
Design						$ -
Construction						$ -
TOTAL	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 3,000,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$600,000
Total	100%		$600,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Treatment Plant Flow Meters Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This CIP is for the replacement and testing of our source water meters to establish accuracy of our source meters to comply with SB 555 and the Water Loss Reduction program which requires all public water systems to submit a level 1 validated water audit to DWR meeting the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34. The validated water audit must be prepared in accordance with the method adopted by the American Water Works Association Water Audit and Loss Control Programs, Manual M36. In this methodology all measurements to determine the value of water lost starts with the amount of watering leaving our plants and entering our distribution system. Annual calibration and testing are required to assign data validity scores to our data. By the year 2028 the District is expected to show some level of improvement of those scores year over year. Replacing existing meters that were previously tested in 2005 and in 2019, would allow us at the same time to install testing ports or locations. The District has two finished water meters and one raw water meter at the Reservoir A Water Treatment Plant. These meters have outlived their useful lives and are in need of being replaced. The meters are for the finished water transmission lines, the Camino Conduit and the Pleasant Oak Main. The raw water meter provides determines the flow entering the plant. Flow meter installation will require excavation and installation of vaults for future maintenance needs.

Basis for Priority:

Flow meters need to be upgraded to meet SB 555.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2023 - 2027 Planned Expenditures:**	$ 550,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 550,000
Project Balance	$ -	**Additional Funding Required**	$ 550,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Challenge Meters Study/Design				$ 50,000		$ 50,000
Challenge Meters Construction					$ 500,000	$ 500,000
TOTAL	$ -	$ -	$ -	$ 50,000	$ 500,000	$ 550,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
Total	**100%**		**$0**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Waterline Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This program consists of targeted replacement of leaking waterlines including formerly private lines within the District. Replacing leaking and substandard waterlines in the distribution system will reduce the potential for contamination of the drinking water supply, increase reliability, reduce maintenance expenditures, and decrease losses. This program also targets any pipelines near leech fields, gas lines, and electrical conduits that need to be relocated to meet current District standards. Pipeline projects are prioritized with Operations and Engineering staff based on frequency of leaks and costs of repairs. Operations staff will complete main replacements where possible with available funding for high leak prone areas and where undersized pipe is causing low pressure. These estimates and project locations are subject to change as the projects are better defined. Major expenditures have been deferred in the CIP to meet financial plan objectives however specific projects may be accelerated if funding is available.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 6,450,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 6,450,000
Project Balance	$ -	Additional Funding Required	$ 6,450,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 50,000	$ 50,000	$ 50,000	$ 150,000
Various Small Waterline Replacements			$ 200,000	$ 50,000	$ 50,000	$ 300,000
Construction (Various)				$ 3,000,000	$ 3,000,000	$ 6,000,000
TOTAL	$ -	$ -	$ 250,000	$ 3,100,000	$ 3,100,000	$ 6,450,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs			$0
Total	0%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: Planned

Project Name: Wholesale Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This program replaces old and inaccurate large wholesale meters in the District. The project is required because it provides for replacement of inaccurate large meters and enables all meters to be read in time for billing. The liability to the District if this project is not implemented includes increased labor expenses for manually reading the meters and inputting manual data into the computer system, loss of revenue due to inaccurate reads and increased apparent losses. Actual wholesale meter replacement costs for each individual site will be brought to the Board for specific approval.

Basis for Priority:

Loss of revenue due to under reporting large wholesale meters.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	
Spent to Date:		2023 - 2027 Planned Expenditures:	
Cash flow through end of year:		Total Project Estimate:	
Project Balance		Additional Funding Required	

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Woodman Circle 6" Meter	$250,000					$ 250,000
Coloma Court (Combellack Road) 8" & 2" Meters		$250,000				$ 250,000
New Jersey 8" Fire and 2" Meters						$ -
Coloma Court 8" & 2" Meters			$250,000			$ 250,000
Poverty Hill 6" Fire & 2" Meters						$ -
TOTAL	$ 250,000	$ 250,000	$ 250,000	$ -	$ -	$ 750,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$250,000
Total	100%		$250,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Camp Creek Tunnel Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Camp Creek Tunnel was constructed in 1953 and is approximately 2900 feet in length. The invert of Camp Creek Tunnel has eroded over the years and has lost up to 2 inches. This project would design the replacement concrete invert to ensure the operation of the tunnel and to stop the erosion of the invert. Construction cost estimates will be refined as design progresses. Project will include replacement of the ultra sonic meter that broke due to debris in the tunnel. In addition, this will include security fencing around the tunnel inlet.

Basis for Priority:

The invert of the tunnel will continue to erode and expose the structural steel that will lead to the failure of the tunnel if not addressed failure of the tunnel will result in the conveyance of water to Jenkinson Lake to be interrupted and lead to less water supply for the district.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 300,000
Project Balance	$ -	Additional Funding Required	$ 300,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning			$ 25,000			$ 25,000
Design				$ 200,000		$ 200,000
Environmental				$ 75,000		$ 75,000
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ 25,000	$ 275,000	$ -	$ 300,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Large Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Heape **Board Approval:** 11/14/22

Project Description:

This program will replace old and inaccurate large meters in the District. The project is required because it provides for replacement of inaccurate large meters and enables all meters to be read on time for billing. The liability to the District if this project is not implimented includes increased labor expenses for manually reading the meters and inputting manual data into the computer system, loss of revenue due to inaccurate reads and increased apparent losses.

Basis for Priority:

Loss of revenue due to under reporting large meters.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 500,000
Project Balance	$ -	Additional Funding Required	$ 500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Various Large Meters				$ 250,000	$ 250,000	$ 500,000
TOTAL	$ -	$ -	$ -	$ 250,000	$ 250,000	$ 500,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: STUDY15

Project Name: El Dorado Main #2 Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

In an effort to better understand the remaining life of El Dorado Main #2 for future capital improvement projects the District is in need of completing a condition assessment of the pipeline. The District had three pipeline failures last winter on EDM #2 that required emergency replacement and reoperation of other transmission mains to maintain service to its customers. Due to the significance of this pipeline and given its original construction in 1975, it is time to determine its current condition and remaining useful life. This assessment will look at the entire pipeline and provide a roadmap for future work to maintain service to the communities of Placerville, Cameron Park, and El Dorado Hills. The general goal and objectives are to review, evaluate, and assess the condition of the pipeline taking into account past and future maintenance activities and operation of the pipeline.

Basis for Priority:

Determine replacement and improvement strategy to improve service reliability and reduce maintenance costs. This study will protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ 55,000	Expenditures through end of year:	$ 50,091
Spent to Date:	$ 20,091	2023 - 2027 Planned Expenditures:	$ 410,000
Cash flow through end of year:	$ 30,000	Total Project Estimate:	$ 460,091
Project Balance	$ 4,909	Additional Funding Required	$ 405,091

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor	$ 60,000					$ 60,000
Technical Memo	$ 250,000	$ 100,000				$ 350,000
TOTAL	$ 310,000	$ 100,000	$ -	$ -	$ -	$ 410,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$305,091
Total	100%		$305,091

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19050

Project Name: Construction Storage Facility

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This project will provide a new storage facility in the EID upper yard to house material and equipment for increased security and protection from elements. A portion of this storage facility will need to be temperature controlled to properly store some disposable material as well as provide for freeze protection for equipment with water storage (Vacuum Excavation Trucks and Trailers). Additionally, the facility will be a prefabricated steel or wood building placed on a concrete foundation. Some of the design funding will be used to procure any necessary City of Placerville permits. The proposed building will be approximately 50 feet by 50 feet and have a covered storage section outside the building depending on available space in the District's upper yard. The project has been deferred in the CIP to 2024 to meet financial plan objectives but may be accelerated if funding is available.

Basis for Priority:

Improve efficiency and provide safe and adequate storage.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 35,043
Spent to Date:	$ 15,043	2023 - 2027 Planned Expenditures:	$ 1,725,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 1,760,043
Project Balance	$ 14,957	Additional Funding Required	$ 1,710,043

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design/Permitting	$ 75,000	$ 150,000				$ 225,000
Construction		$ 1,500,000				$ 1,500,000
TOTAL	$ 75,000	$ 1,650,000	$ -	$ -	$ -	$ 1,725,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$60,043
Total	100%		$60,043

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 22031

Project Name: Excavator Grapple

Project Category: Regulatory Requirements

Priority: 1 **PM:** Russell **Board Approval:** 11/14/22

Project Description:

This CIP is to procure a Robotec valve in head RPA3045R43 rotating brush grapple rake tiny body with RPG - 902 rotator lugged to fit JD 160G with installation components. This kit, which was not included in the original equipment purchase request, will be used not only for ROW maintenance, but also for removing whole trees from Camp Creek Diversion, and P184 and related vegetation clearing efforts. This equipment was ordered in 2022 but will not be delivered until 2023.

Basis for Priority:

Compliance with AR 5012 District Infrastructure and Facilities

Project Financial Summary:			
Funded to Date:	$ 75,234	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 75,234
Cash flow through end of year:	$ -	Total Project Estimate:	$ 75,234
Project Balance	$ 75,234	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Equipment purchase	$ 75,234					$ 75,234
TOTAL	$ 75,234	$ -	$ -	$ -	$ -	$ 75,234

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: EDM Flow Integration

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

Design and install five to seven Pressure Reducing Station monitoring sites on El Dorado Main #1 and #2 transmission pipelines. These sites would provide valuable real-time data for control and efficiency of the system. The project would require at each site a new power service, flow meters, upstream and downstream pressure transmitters, and a RTU panel with metering section and antenna mast.

Basis for Priority:

The project will allow remote monitoring and control of the water distribution system. The remote control of the distribution system can be used to reduce pressure swings in the system and anticipate future repairs.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 325,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 325,000
Project Balance	$ -	Additional Funding Required	$ 325,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design				$ 25,000	$ 25,000	$ 50,000
Construction					$ 250,000	$ 250,000
Capitalized Labor					$ 25,000	$ 25,000
TOTAL	$ -	$ -	$ -	$ 25,000	$ 300,000	$ 325,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: ROW Vegetation Control Program

Project Category: Regulatory Requirements

Priority: 3 **PM:** Russell **Board Approval:** 11/14/22

Project Description:

El Dorado Irrigation District owns and operates drinking water transmission mains to convey water to the District's treatment plants for treatment and then to various treated water storage tanks for ultimate delivery to approximately 130,000 customers. These mains cross both public and private property, passing through a variety of terrain and vegetation types, from Pollock Pines to El Dorado Hills. Vegetation within overland (cross-country) portions of the alignments must be maintained to allow for proper access and inspection when necessary for leak detection, maintenance needs, and repairs, including emergency repairs. Staff have not been able to conduct regular control of the vegetation, which has resulted in overgrown conditions that limit or preclude access for detection of leaks, periodic inspection and maintenance, and complicate access during emergency repairs. The purpose of this project is to improve control and have more reliable operation of the facilities. The purchase of the equipment as listed below will help to expedite the clearing of the District's ROW more efficiently and safely. The District is pursuing grants for the track mounted masticator to pay for the entire purchase, however if a grant is not awarded staff will move forward with procuring a unit.

Basis for Priority:

Compliance with AR 5012 District Infrastructure and Facilities

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 285,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 285,000
Project Balance	$ -	Additional Funding Required	$ 285,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Masticator mounted on steel track skid steer					$ 230,000	$ 230,000
Small Equipment	$ 25,000	$ 15,000	$ 15,000			$ 55,000
TOTAL	$ 25,000	$ 15,000	$ 15,000	$ -	$ 230,000	$ 285,000

Funding Sources	Percentage	2023 Amount
Water Rates		$0
Total	0%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Distribution Radio Path Improvement

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Leanos	Board Approval:	11/14/22

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path upgrade would optimize and create reliable wireless communication options for the District's remote facilities.

Basis for Priority:

Many remote facilities depend on antiquated serial radios. Quickly evolving technology requires EID to move to an IP-based communication to retain maintainable parts. Performing large migrations without a proper design and proven concepts creates great risk for improper implementation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 100,000
Project Balance	$ -	Additional Funding Required	$ 100,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor	$ 50,000	$ 50,000				$ 100,000
TOTAL	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$50,000
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Treatment Plant Data Entry Automation

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This is an upgrade to maximize the SCADA system by replacing the daily manual reporting and automating the required reports for the drinking water treatment plants. The initial implementation will be the full automation of the daily reads in a complete replacement of the existing spreadsheets that are generated from manual reads. The second phase of this project consists of completing efficiency reporting, auditing reports, as well as shift change crossover reports. These reports will help to streamline reporting and documentation efforts at the facilities as well as aid in maximizing the use of the SCADA system.

Basis for Priority:

This project will assist with the required state reporting for the drinking water facilities and will upgrade the existing SCADA system to provide accurate and reliable data.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 300,000
Project Balance	$ -	Additional Funding Required	$ 300,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design/Implementation	$ 300,000					$ 300,000
TOTAL	$ 300,000	$ -	$ -	$ -	$ -	$ 300,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$300,000
Total	100%		$300,000

Funding Comments:

Wastewater Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21018

Project Name: 2022 Collections Pipeline Rehabilitation Project

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District owns and operates four collection systems within El Dorado County. Aging infrastructure and limited funding necessitates active inspection and assessment of the collection system. This project will rehabilitate 17 manhole structures, 2300 feet of pipe, and multiple sewer laterals.

Basis for Priority:

This project will replace or rehabilitate the most critical aging infrastructure in the collection system. One significant spill to waters of the state could cost the District $10 per gallon in fines. Project construction was awarded in 2022.

Project Financial Summary:			
Funded to Date:	$ 177,182	Expenditures through end of year:	$ 721,093
Spent to Date:	$ 121,093	2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:	$ 600,000	Total Project Estimate:	$ 1,221,093
Project Balance	$ (543,911)	Additional Funding Required	$ 1,043,911

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design						$ -
Environmental						$ -
Construction	$ 500,000					$ 500,000
TOTAL	$ 500,000	$ -	$ -	$ -	$ -	$ 500,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$1,043,911
			$0
Total	100%		$1,043,911

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21041

Project Name: Wastewater Facility Generators - FEMA Grant

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District applied for and was granted Hazard Mitigation Grant Program (HMGP) funding through the Federal Emergency Management Agency (FEMA) to provide a federal cost share for emergency backup generator installations at twenty-two remote District facilities. Included in the application is generators for twelve wastewater lift stations. This project will provide local agency funding as required by the HMGP grant.

Basis for Priority:

The project will provide continual power at twelve wastewater lift stations during utility power outages.

Project Financial Summary:			
Funded to Date:	$ 256,347	Expenditures through end of year:	$ 179,907
Spent to Date:	$ 129,907	2023 - 2027 Planned Expenditures:	$ 1,620,214
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 1,800,121
Project Balance	$ 76,440	Additional Funding Required	$ 1,543,774

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000					$ 25,000
Environmental	$ 10,000					$ 10,000
Construction		$ 1,000,000	$ 1,500,000			$ 2,500,000
FEMA Funding			$ (914,786)			$ (914,786)
TOTAL	$ 35,000	$ 1,000,000	$ 585,214	$ -	$ -	$ 1,620,214

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Camino Heights Wastewater Treatment Plant Disposal Improvements

Project Category: Regulatory Requirements

Priority: 1 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Camino Heights Wastewater Treatment Plant (CHWWTP) was originally constructed in 1964 and serves the Camino Heights subdivision and a small commercial area along Highway 50. The plant is comprised of headworks, pond system, disinfection, and irrigation system. The irrigation system is a combination of direct land application and sub-surface drip system. In recent years, storm events have caused excess influent flows at the treatment plant as well as difficulty with effluent disposal due to saturated soil conditions. Operations staff has relied on pump trucks to haul excess flow to the Deer Creek sewer system for disposal. A recent State Resources Control Board inquiry letter required the District to reconcile the approved discharge methods with alternative methods used during storm events. A new wet weather water balance was performed and improvement alternatives to align CHWWTP with approved discharge methods have been developed.

This project will include funding necessary to engage with regulatory agencies, perform preliminary geotechnical studies, and develop construction plans and specifications for bidding. Because project development is conceptual at this time, construction expenditures are not included. Once regulatory and study efforts are complete, construction expenditures will be programmed into the Capital Improvement Plan.

Basis for Priority:

This project will respond to a regulatory compliance inquiry from the State Water Resources Control Board.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 350,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 350,000
Project Balance	$ -	Additional Funding Required	$ 350,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 150,000	$ 150,000			$ 300,000
Environmental			$ 50,000			$ 50,000
Construction						$ -
TOTAL	$ -	$ 150,000	$ 200,000	$ -	$ -	$ 350,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: STUDY24

Project Name: Wastewater Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 250,000
Project Balance	$ -	Additional Funding Required	$ 250,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 175,000
Capitalized Labor	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000
						$ -
						$ -
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 15036

Project Name: Silva Valley - El Dorado Hills Sewer Pipeline

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The 2013 Wastewater Facility Master Plan (WWMP) identified 2,100 feet of the 18"/21" sewer pipeline along Silva Valley Road and 4,500 feet of 18" sewer pipeline between Highway 50 and the El Dorado Hills Wastewater Treatment Plant as needing capacity upgrades. In order to refine the extent and timing of improvements required, flow monitoring and survey work to determine manhole invert and ground elevations was completed. Flow monitoring and survey data was incorporated into the District's collection system model to determine remaining pipeline capacity. The current capacity analysis indicates the peak wet weather flow rate in approximately 9,000 feet of sewer pipeline exceeds design capacity and is in need of capacity upgrades.

A Basis of Design (BODR) report is needed to determine the most cost effective and constructible pipe alignment considering environmental concerns and easement acquisition. Because project development is conceptual at this time, construction expenditures are not included. Once the BODR is completed, construction expenditures will be programmed into the Capital Improvement Plan.

Basis for Priority:

This project will replace undersized assets to ensure reliability and continual operation of the El Dorado Hills collection system. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:			
Funded to Date:	$ 245,920	Expenditures through end of year:	$ 230,513
Spent to Date:	$ 210,513	2023 - 2027 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 1,230,513
Project Balance	$ 15,407	Additional Funding Required	$ 984,593

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 300,000	$ 250,000	$ 250,000	$ 800,000
Environmental				$ 100,000	$ 100,000	$ 200,000
Construction						$ -
TOTAL	$ -	$ -	$ 300,000	$ 350,000	$ 350,000	$ 1,000,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 17023

Project Name: Rancho Ponderosa LS Relocation/Abandonment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The existing Rancho Ponderosa Wastewater Lift Station was constructed in the 1960's to serve 16 EDU's. In addition to deteriorating condition, the existing site is constrained, difficult to access with maintenance equipment, and does not have a viable property easement to access and service the station. Access to the site currently requires the use of an adjacent property owner's gated driveway that services their personal residence. Recently the District was required to negotiate an agreement for continued access to the site which entails the District paying the property owner on a monthly basis for access and that the station be relocated.

This project will design and construct improvements to the Rancho Ponderosa Lift Station and secure a necessary easement.

Basis for Priority:

This project will upgrade a degrading lift station and ensure reliability and continual operation of the station.

Project Financial Summary:			
Funded to Date:	$ 160,680	Expenditures through end of year:	$ 152,810
Spent to Date:	$ 102,810	2023 - 2027 Planned Expenditures:	$ 2,525,000
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 2,677,810
Project Balance	$ 7,870	Additional Funding Required	$ 2,517,130

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000					$ 50,000
Environmental	$ 75,000					$ 75,000
Construction		$ 1,200,000	$ 1,200,000			$ 2,400,000
TOTAL	$ 125,000	$ 1,200,000	$ 1,200,000	$ -	$ -	$ 2,525,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$117,130
			$0
Total	100%		$117,130

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 17046

Project Name: Strolling Hills Pipeline Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Motherlode Force Main transitions to gravity flow before it enters Strolling Hills Road and continues downhill toward the Deer Creek Wastewater Treatment Plant. Several services are connected directly to the 12-inch PVC pipe that conveys flows along this segment. Hydraulic capacity is restricted during large storm events.

This project will include a Basis of Design report, plans and specifications, a phasing plan, and construction of approximately 6,000 feet of increased diameter pipe. The Strolling Hills pipe was identified in the 2013 Wastewater Master Plan and confirmed in the 2021 Deer Creek Collection System Modeling Project as a capacity upgrade project. The Basis of Design report will address pipe alignment and identify easement requirements.

Basis for Priority:

This project will replace undersized assets to ensure reliability and continual operation of the upstream Deer Creek collection system.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 26,481
Spent to Date:	$ 26,481	2023 - 2027 Planned Expenditures:	$ 4,500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 4,526,481
Project Balance	$ 23,519	Additional Funding Required	$ 4,476,481

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 200,000	$ 200,000			$ 400,000
Environmental			$ 100,000			$ 100,000
Construction				$ 1,000,000	$ 3,000,000	$ 4,000,000
TOTAL	$ -	$ 200,000	$ 300,000	$ 1,000,000	$ 3,000,000	$ 4,500,000

Estimated Funding Sources	Percentage	2023 Amount
Wastewater FCCs	100%	$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 18003

Project Name: Indian Creek Lift Station Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Indian Creek Lift Station (ICLS) was originally constructed in 1988 and serves approximately 105 equivalent dwelling units. The lift station is comprised of a wet well to collect influent flow, a separate dry well with dry pit pumps, and an electrical control house approximately 600 feet east of the wells. ICLS is one of twenty lift stations in the collections system that has a PLC 10 years beyond its useful life and is need of replacement. The pumps, generator, and other mechanical components are also beyond useful life and in need of replacement. This configuration of the remote electrical control house and separated dry pit pumps pose operational safety concerns during regular maintenance and emergency situations.

The Indian Creek Lift Station Upgrades project would replace mechanical and electrical components consistent with the District's lift station standards. The PG&E power connection and main disconnect will remain at the remote control house while the new PLC, MCC, and generator will be installed near the wet well. New submersible pumps will be installed so that the dry pit pumps can be removed and the dry well can be abandoned. Minor civil improvements include a retaining wall and new fence installed around the lift station perimeter. This project has been deferred in the CIP to meet financial plan objectives, however the project may be accelerated based on priority and available funding.

Basis for Priority:

This project will upgrade a degrading lift station and ensure reliability and continual operation of the station.

Project Financial Summary:			
Funded to Date:	$ 495,788	Expenditures through end of year:	$ 431,404
Spent to Date:	$ 381,404	2023 - 2027 Planned Expenditures:	$ 2,650,000
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 3,081,404
Project Balance	$ 64,384	Additional Funding Required	$ 2,585,616

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000	$ 50,000				$ 100,000
Environmental		$ 50,000				$ 50,000
Construction		$ 500,000	$ 2,000,000			$ 2,500,000
TOTAL	$ 50,000	$ 600,000	$ 2,000,000	$ -	$ -	$ 2,650,000

Estimated Funding Sources	Percentage	2023 Amount
Wastewater FCCs	100%	$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 18035

Project Name: EDHWWTP WAS DAFT Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The waste-activated-sludge dissolved-air-floatation-thickener (WAS DAFT) located at the El Dorado Hills Wastewater Treatment Plant (EDHWWTP) has reached the end of its useful life. The WAS DAFT is utilized to control the amount of microorganisms in the wastewater treatment process by thickening waste-activated sludge before is pumped to the anaerobic digester.

This project will rehabilitate the WAS DAFT concrete unit, replace the air dissolution system, replace the mechanical components within the unit, and update the PLC controller. Various mechanical components to be replaced include the center drive, distribution well, skimmer arm, bottom scraper arms, float box, baffle skirt, DAF feed well connection pipe, walkway system, and necessary valves, boxes, meters, and piping.

Basis for Priority:

Project is under construction. Wastewater at the EDHWWTP is biologically treated with waste-activated-sludge. The deteriorating WAS DAFT unit is utilized to control the amount of microorganisms to create an efficient treatment process. This rehabilitation project will ensure process function and reduce the risk of a spill during a storm event.

Project Financial Summary:			
Funded to Date:	$ 2,412,661	Expenditures through end of year:	$ 534,594
Spent to Date:	$ 434,594	2023 - 2027 Planned Expenditures:	$ 1,878,067
Cash flow through end of year:	$ 100,000	Total Project Estimate:	$ 2,412,661
Project Balance	$ 1,878,067	Additional Funding Required	$ 0

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 1,878,067					$ 1,878,067
TOTAL	$ 1,878,067	$ -	$ -	$ -	$ -	$ 1,878,067

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 20023

Project Name: Lift Station Communication Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

Existing PLCs at 20 of the District's 60 sewer lift stations are approximately 30 years old and 10 years beyond their expected useful life. Additionally, these PLCs only provide 10-20% of the monitoring capabilities compared to current standard PLC's (3 to 5 monitoring points versus 30) meaning these facilities have no ability to report pump failures or incrementally report on wet well levels before reaching the high water limit. Also, they can go up to 24 hours before alerting of a communications or control issue, while current standard PLCs will alert within 5 minutes. Locating replacement parts and technical support for the old PLCs is increasingly challenging.

This project will include electrical upgrades to the lift stations at Bass Lake Village, Diamond Industrial, Arlette, and Oak Ridge.

Basis for Priority:

This project will replace end-of-life assets to ensure reliability and continual operation of the communication network servicing the wastewater collection system.

Project Financial Summary:			
Funded to Date:	$ 95,000	Expenditures through end of year:	$ 77,507
Spent to Date:	$ 67,507	2023 - 2027 Planned Expenditures:	$ 1,120,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 1,197,507
Project Balance	$ 17,493	Additional Funding Required	$ 1,102,507

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 100,000	$ 100,000				$ 200,000
Environmental		$ 20,000				$ 20,000
Construction			$ 450,000	$ 450,000		$ 900,000
TOTAL	$ 100,000	$ 120,000	$ 450,000	$ 450,000	$ -	$ 1,120,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$82,507
			$0
Total	100%		$82,507

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 20040

Project Name: Deer Park LS SCADA Hardware Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project will replace and reprogram the end of life PLC hardware and associated SCADA application at this sewer lift station.

Basis for Priority:

Replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 32,285
Spent to Date:	$ 22,285	2023 - 2027 Planned Expenditures:	$ 65,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 97,285
Project Balance	$ 17,715	Additional Funding Required	$ 47,285

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 35,000					$ 35,000
Installation	$ 15,000					$ 15,000
Capitalized Labor	$ 15,000					$ 15,000
TOTAL	$ 65,000	$ -	$ -	$ -	$ -	$ 65,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$47,285
			$0
Total	100%		$47,285

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21007

Project Name: Town Center Force Main Phase 4 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Town Center force main and lift station were originally designed and constructed in 1980 to collect wastewater from Prospector's Plaza and pump it to the Motherlode force main at Pleasant Valley Road and Motherlode Drive. The Town Center force main was originally constructed of 8" asbestos cement (AC) pipe, which has experienced several failures causing SSO's in past years due to corrosion. The force main is in need of replacement with corrosion-resistant PVC to extend the life of this asset. Phase 4 is the final phase which will replace the force main from the upstream Town Center lift station to the beginning of phase 2A, south of Highway 50.

Project funding includes design completion and environmental only.

Basis for Priority:

This project will replace failing assets to ensure reliability and continual operation of the wastewater collection system.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 29,062
Spent to Date:	$ 24,062	2023 - 2027 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 129,062
Project Balance	$ 20,938	Additional Funding Required	$ 79,062

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design				$ 25,000	$ 25,000	$ 50,000
Environmental					$ 50,000	$ 50,000
Construction						$ -
TOTAL	$ -	$ -	$ -	$ 25,000	$ 75,000	$ 100,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21026

Project Name: St. Andrews Lift Station Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The St. Andrews Lift Station (SALS) was originally constructed in 1985 and serves approximately 5070 equivalent dwelling units. The lift station has undergone several upgrades throughout the years including new pumps, discharge piping, and electrical upgrades. This project will include discharge manifold modifications, upsizing of the bypass port for maintenance or emergency bypassing, and a programming update of the remote SCADA system. Although newer electrical equipment was previously installed, only a minimum amount of data points are collected and transmitted into the remote SCADA system. Increasing the amount of data remotely visible per District standards will aid in operational decision making to reduce the likelihood of sanitary sewer overflows.

Basis for Priority:

This project will optimize pump operation, maximize bypassing capabilities, and increase data remote visibility that informs operational decision making and reduces the likelihood sanitary sewer overflows, hazards to the public, and regulatory fines.

Project Financial Summary:			
Funded to Date:	$ 48,610	Expenditures through end of year:	$ 27,085
Spent to Date:	$ 17,085	2023 - 2027 Planned Expenditures:	$ 375,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 402,085
Project Balance	$ 21,525	Additional Funding Required	$ 353,475

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000	$ 25,000				$ 50,000
Environmental		$ 25,000				$ 25,000
Construction		$ 50,000	$ 250,000			$ 300,000
TOTAL	$ 25,000	$ 100,000	$ 250,000	$ -	$ -	$ 375,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$3,475
			$0
Total	100%		$3,475

Funding Comments:

2018	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21077

Project Name: EDHWWTP Secondary Effluent Pump Station Modifications

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The secondary effluent pump station at the EDHWWTP pumps treated flows from the secondary clarifier to the 66 MG storage reservoir or directly to the UV disinfection facility. During peak flow events air is entrained at the secondary clarifier and eventually air binds the pumps at the secondary effluent pump station causing the pumps to become ineffective. Once the pumps are air bound, auxiliary pumps must be rented to convey flow to the storage reservoir until flows recede.

This project would construct a small concrete vault upstream of the pump station allowing the entrained air to escape and preventing the air binding at the pump station moving forward.

Basis for Priority:

This programmatic project will enhance reliability at the wastewater treatment plant.

Project Financial Summary:			
Funded to Date:	$ 24,000	Expenditures through end of year:	$ 15,650
Spent to Date:	$ 15,650	2023 - 2027 Planned Expenditures:	$ 110,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 125,650
Project Balance	$ 8,350	Additional Funding Required	$ 101,650

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 5,000					$ 5,000
Environmental	$ 5,000					$ 5,000
Construction	$ 100,000					$ 100,000
						$ -
TOTAL	$ 110,000	$ -	$ -	$ -	$ -	$ 110,000

Funding Sources	Percentage	2018	Amount
Wastewater FCCs	100%		$101,650
Total	100%		$101,650

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 21081

Project Name: Motherlode Force Main Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Motherlode force main (MLFM) was originally constructed in 1977 and conveys wastewater from the El Dorado lift station approximately nine miles west to the Deer Creek Wastewater Treatment Plant. Six additional lift stations pump directly into the force main as well as several private lift stations. The MLFM was originally constructed with 12-inch asbestos cement pipe and has several peaks and valleys as it progresses through the terrain. As wastewater is pumped over the peaks in the force main, the high points regularly become empty and are susceptible to high levels of hydrogen sulfide gas corrosion. The long term impact of hydrogen sulfide gas exposure is varying levels of degradation in the pipe.

To date, approximately 50% of the forcemain has been replaced with larger diameter, plastic pipe. This project will replace approximately 3.3 miles of existing 12-inch asbestos cement pipe with 18-20-inch plastic pipe.

Basis for Priority:

This project will replace failing assets to ensure reliability and continual operation of the wastewater collection system.

Project Financial Summary:			
Funded to Date:	$ 307,010	Expenditures through end of year:	$ 284,441
Spent to Date:	$ 174,441	2023 - 2027 Planned Expenditures:	$ 15,050,000
Cash flow through end of year:	$ 110,000	Total Project Estimate:	$ 15,334,441
Project Balance	$ 22,569	Additional Funding Required	$ 15,027,431

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design						$ -
Environmental	$ 50,000					$ 50,000
Construction	$ 10,000,000	$ 5,000,000				$ 15,000,000
TOTAL	$ 10,050,000	$ 5,000,000	$ -	$ -	$ -	$ 15,050,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$10,027,431
			$0
Total	100%		$10,027,431

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 22035

Project Name: DCWWTP Blower Replacement

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Money	Board Approval:	11/14/22

Project Description:

This project will replace one blower unit at the Deer Creek Wastewater Treatment Plant (DCWWTP) that supplies forced air to the plants aeration basins. The existing unit has reached the end of its useful life and has limited operational flexibility which limits the range of supplied air staff can provide. Additionally, energy savings from newer blower technologies are expected to recoup new blower installation costs over a period of approximately seven years. The new blower unit is expected to have a twenty year service life.

Basis for Priority:

The new blower will provide increased operational and energy efficiencies which will allow for cost recover over a period of approximately seven years.

Project Financial Summary:			
Funded to Date:	$ 45,000	Expenditures through end of year:	$ 43,464
Spent to Date:	$ 9,464	2023 - 2027 Planned Expenditures:	$ 450,000
Cash flow through end of year:	$ 34,000	Total Project Estimate:	$ 493,464
Project Balance	$ 1,536	Additional Funding Required	$ 448,464

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction	$ 450,000					$ 450,000
TOTAL	$ 450,000	$ -	$ -	$ -	$ -	$ 450,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$448,464
Total	100%		$448,464

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 22039

Project Name: EDHWWTP Filter 5 and 6 Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Money	Board Approval:	11/14/22

Project Description:

As part of Title 22 recycled water requirements, the District installed four Trident brand filters at EDHWWTP between 1995 and 1999. These four filters utilized half pipe laterals with perforated screens and PVC underdrains to collect finished water within a sand and anthracite filter bed.

When the plant was expanded in 2007 Filter 5 and 6 were added, however, the underdrain system was changed by the manufacturer to a Multiblock underdrain that uses slotted concrete blocks, with HDPE collectors fitted with a stainless steel perforated plate for the filter underdrain. This underdrain configuration has significantly degraded in both Filter 5 and 6 likely due to the numerous dissimilar materials and flexible stainless steel plates. In spring of 2022, Filter 5 failed entirely and has since been taken offline.

A planned rehabilitation of Filter 6 will occur in 2026 unless it experiences a level of failure similar to Filter 5 in which case the rehabilitation will be escalated.

Basis for Priority:

The removal of Filter 5 from service has limited capacity at the EDHWWTP and eliminated any available redundancy for the other five filters. This limits operational flexibility, and places the District at significant risk for discharge violations if additional equipment should fail or be taken offline.

Project Financial Summary:			
Funded to Date:	$ 95,000	Expenditures through end of year:	$ 93,000
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 2,220,000
Cash flow through end of year:	$ 93,000	Total Project Estimate:	$ 2,313,000
Project Balance	$ 2,000	Additional Funding Required	$ 2,218,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Environmental	$ 10,000			$ 10,000		$ 20,000
Construction	$ 1,100,000			$ 1,100,000		$ 2,200,000
TOTAL	$ 1,110,000	$ -	$ -	$ 1,110,000	$ -	$ 2,220,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$1,108,000
Total	100%		$1,108,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Collections Pipeline Replacement and Rehabilitation Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District owns and operates four collection systems within El Dorado County. Aging infrastructure and limited funding necessitates active inspection and assessment of the collection system. This program will systematically develop projects to replace or rehabilitate the most critical infrastructure within the wastewater collection systems including, but not limited to pipelines and appurtenances.

Basis for Priority:

This programmatic project will replace or rehabilitate the most critical aging infrastructure in the collection system. One significant spill to waters of the state could cost the District $10 per gallon in fines.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 1,850,000
Cash flow through end of year:		Total Project Estimate:	$ 1,850,000
Project Balance	$ -	Additional Funding Required	$ 1,850,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 100,000	$ 150,000		$ 250,000
Environmental				$ 100,000		$ 100,000
Construction					$ 1,500,000	$ 1,500,000
TOTAL	$ -	$ -	$ 100,000	$ 250,000	$ 1,500,000	$ 1,850,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Collections SCADA Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to implement required updates to the collections SCADA application. Once master collections communication PLC is programmed and replaced, new SCADA system will be needed. This project will review the existing network rack and implement improvements needed per industry standards.

Basis for Priority:

The project will update the system to todays industry standards and improve reliability of a critical wastewater equipment.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 300,000
Project Balance	$ -	Additional Funding Required	$ 300,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 200,000					$ 200,000
Construction	$ 50,000					$ 50,000
Capitalized Labor	$ 50,000					$ 50,000
						$ -
TOTAL	$ 300,000	$ -	$ -	$ -	$ -	$ 300,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$300,000
			$0
Total	100%		$300,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: DCWWTP PLC Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to replace remaining aged PLC controllers at the facility. The spare parts are becoming scarce and very expensive to repair. This project will replace and reprogram the end of life PLC hardware and associated SCADA application at DCWWTP.

Basis for Priority:

Replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 450,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 450,000
Project Balance	$ -	Additional Funding Required	$ 450,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services			$ 75,000	$ 75,000	$ 75,000	$ 225,000
Construction			$ 50,000	$ 50,000	$ 50,000	$ 150,000
Capitalized Labor			$ 25,000	$ 25,000	$ 25,000	$ 75,000
						$ -
TOTAL	$ -	$ -	$ 150,000	$ 150,000	$ 150,000	$ 450,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: DCWWTP Process Control Device Integration

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This funding is designated to install process control hardware and instrumentation; project will provide system integration of existing monitoring and control devices; project will replace monitoring and control devices that are past the end of life cycle. The upgrades will aid in facility operations and improve efficiency of the system. DCWWTP lacks instrumentation and control devices in certain key areas of the plant. The improvements will contribute in energy savings at the plant. DCWWTP SCADA system lacks integration with CHWWTP, recycled water and radio system. This project will address needed remote facility integration and allow remote operations.

Basis for Priority:

CIP to replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 150,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Hardware	$ 35,000	$ 35,000				$ 70,000
Capitalized Labor	$ 15,000	$ 15,000				$ 30,000
Professional Services	$ 25,000	$ 25,000				$ 50,000
						$ -
TOTAL	$ 75,000	$ 75,000	$ -	$ -	$ -	$ 150,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$75,000
			$0
Total	100%		$75,000

Funding Comments: The project replaces existing facilities, therefore is funded by wastewater rates.

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: EDHWWTP PLC Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

Replacement of end of life PLC equipment at the El Dorado Hills Wastewater Treatment Plant.

Basis for Priority:

This project will replace end-of-life assets to ensure reliability and continual operation of the communication network servicing the El Dorado Hills Wastewater Treatment Plant.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 1,100,000
Cash flow through end of year:		Total Project Estimate:	$ 1,100,000
Project Balance	$ -	Additional Funding Required	$ 1,100,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 250,000			$ 250,000
Environmental			$ 50,000			$ 50,000
Construction				$ 400,000	$ 400,000	$ 800,000
TOTAL	$ -	$ -	$ 300,000	$ 400,000	$ 400,000	$ 1,100,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%	$	-
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Promontory Village Inflow & Infiltration Study

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The 2020 update of the El Dorado Hills Collection System Hydraulic Model indicated capacity issues in the Promontory Village subdivision. Flow monitoring indicates higher than normal peak flow rates which is typically due to inflow and infiltration (I&) within the collection system. If location(s) of I&I are determined then improvements will be focused on reducing peak wet weather flow rather than more costly system upgrades.

Basis for Priority:

The collection system model identified these gravity sewer pipelines as having capacity limitations. Performing an I&I study will attempt to located the source of additional flows during storm events. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 125,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 125,000
Project Balance	$ -	Additional Funding Required	$ 125,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design				$ 25,000	$ 100,000	$ 125,000
Environmental						$ -
Construction						$ -
TOTAL	$ -	$ -	$ -	$ 25,000	$ 100,000	$ 125,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: SCADA Wastewater Hardware Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This funding is designated to be a rolling CIP to replace end of life cycle wastewater SCADA hardware District wide. This program would focus on replacing and reprogramming of the end of life PLC hardware and associated SCADA reconfigurations. Many sites are beyond the 15 year life expectancy for the PLC hardware.

Basis for Priority:

Rolling CIP to replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 500,000
Project Balance	$ -	Additional Funding Required	$ 500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Hardware	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 200,000
Capitalized Labor	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 75,000
Professional Services	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 225,000
						$ -
TOTAL	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$100,000
			$0
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED
Project Name: Wastewater Asset Replacement Program
Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

This is an annual program to replace wastewater assets that have failed or reached end of useful life. This program differs from ongoing maintenance programs in that the equipment, facilities, and labor attributed to these assets constitute a replacement of a capitalized asset. Assets to be replaced or upgraded under this program include, but are not limited to mechanical, electrical and instrumentation systems, treatment plant and lift station equipment, generators, and collection system assets that with replacement will extend the life of the associated system or facility. Items to be replaced each year will be prioritized using ongoing condition assessments and the asset management policies of the district.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 2,200,000
Cash flow through end of year:		Total Project Estimate:	$ 2,200,000
Project Balance	$ -	Additional Funding Required	$ 2,200,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design						$ -
Environmental						$ -
Construction	$ 600,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 2,200,000
TOTAL	$ 600,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 2,200,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$600,000
Total	100%		$600,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Wastewater Lift Station Upgrade Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The District currently maintains sixty wastewater lift stations. Twenty-nine of these lift stations are within the Deer Creek Shed, and the remaining thirty-one are in the El Dorado Hills Shed.

The age, condition, and capacity of each station varies significantly. In order to prioritize rehabilitation and replacement efforts District staff will continue to assess and prioritize repairs at deficient lift stations. Repairs and upgrades will be prioritized and then designed with and intent of rehabilitating one lift station every other year, or bundling similar scopes such as roof or wet well rehabilitation across several smaller lift stations. District staff will also evaluate smaller projects aimed at rehabilitating or replacing portions of existing stations where possible to prolong the useful life of the remaining stations.

Basis for Priority:

This project provides replacement of failing components at this critical facility; thereby providing safe, reliable collection system assets.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 1,380,000
Cash flow through end of year:		Total Project Estimate:	$ 1,380,000
Project Balance	$ -	Additional Funding Required	$ 1,380,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 130,000			$ 130,000
Environmental				$ 50,000		$ 50,000
Construction				$ 1,200,000		$ 1,200,000
TOTAL	$ -	$ -	$ 130,000	$ 1,250,000	$ -	$ 1,380,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Wastewater Treatment Plant Assessments

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The Deer Creek and El Dorado Hills Wastewater Treatment Plants were originally constructed in the 1960's and have undergone several expansions beginning in the early 1990's. This assessment will look at each of the plants individually and provide a roadmap for future projects at the plants. Due to the overall age of the facilities, key elements of the existing treatment process need to be examined for rehabilitation or replacement to maintain permit compliance and proper capacity. The general goal and objectives are to review, evaluate, and assess the condition of the structures and equipment taking into account past and future maintenance activities and regulatory requirements. Additionally, recommendations will include timelines for the use in future CIP projects, including budgetary level cost estimates for each recommendation offered.

Basis for Priority:

Determine replacement and improvement strategy to support regulatory compliance, improve service reliability, and reduce maintenance costs.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 600,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 600,000
Project Balance	$ -	Additional Funding Required	$ 600,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 200,000	$ 200,000	$ 200,000		$ 600,000
Environmental						$ -
Construction						$ -
TOTAL	$ -	$ 200,000	$ 200,000	$ 200,000	$ -	$ 600,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: WWTP Process Improvement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

This program is to perform minor modifications to civil, mechanical, and electrical components within the wastewater treatment plants. Modifications included in this program, but not limited to, variable frequency drives, cathodic protection, and reconfiguration of piping.

Basis for Priority:

This programmatic project will enhance reliability at the wastewater treatment plants.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 875,000
Cash flow through end of year:		Total Project Estimate:	$ 875,000
Project Balance	$ -	Additional Funding Required	$ 875,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000
Environmental						$ -
Construction	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 750,000
TOTAL	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 875,000

Estimated Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$175,000
			$0
Total	100%		$175,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Collection System Emergency Bypass

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Crane **Board Approval:** 11/14/22

Project Description:

The proposed request will provide funding to purchase new portable emergency high-head and standard pumping and associated equipment. The proposed pumps and equipment will be designed to allow the wastewater collections department the ability to bypass/uninterruptedly-convey raw sewage from multiple lift stations in the event of emergency. The district owns and operates 60 sewer lift stations, several of these stations pump wastewater over significant elevation changes, which requires booster pumps to overcome the substantial discharge head. In an emergency situation standard portable pumping equipment cannot be utilized at these stations due to the discharge requirements. Only high-head bypass pumps are capable of pumping against the increased discharge head. Additionally, several of these stations convey significant flow and are located in areas adjacent to surface waters such as; Marina Village #1, Promontory #1, and St. Andrews lift stations. If bypass pumping is required due to an emergency at any of these locations, we do not currently own the equipment capable of managing flows and mitigating potential negative environmental impacts. Furthermore, rental of such pumps, while possible, is not readily available. Utilizing data from our updated collection system model, specifications for a high-head, high-flow trailer-mounted diesel powered emergency bypass pump and associated high pressure discharge hose have been developed. Currently the only emergency bypass pump in our equipment inventory is over 23 years old and significantly undersized. The second phase of this project will provide for the acquisition of an additional "standard-head" pump and accessories to supplement our current equipment.

Basis for Priority:

Provides equipment to respond to sewer related emergencies.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 530,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 530,000
Project Balance	$ -	Additional Funding Required	$ 530,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Pumping Equipment	$ 250,000	$ 200,000				$ 450,000
High Pressure Discharge Hose	$ 35,000	$ 25,000				$ 60,000
Accessories	$ 10,000	$ 10,000				$ 20,000
						$ -
TOTAL	$ 295,000	$ 235,000	$ -	$ -	$ -	$ 530,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$295,000
			$0
Total	100%		$295,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: EDHWWTP Spoils Management

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

El Dorado Hills Wastewater Treatment Plant (EDHWWTP) receives sewer vactor spoils and will soon receive hydroexcavation spoils and dry construction spoils from District maintenance activities in the service area. This project will construct improvements to contain odors, isolate stormwater run off, and streamline operation of spoils management.

Basis for Priority:

This project provides funding to construct proper containment for construction spoils to maintain No Exposure Coverage for the EDHWWTP NPDES permit.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 425,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 425,000
Project Balance	$ -	Additional Funding Required	$ 425,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design		$ 100,000				$ 100,000
Environmental		$ 25,000				$ 25,000
Construction			$ 300,000			$ 300,000
TOTAL	$ -	$ 125,000	$ 300,000	$ -	$ -	$ 425,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: El Dorado Hills Lift Station Consolidation

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Money **Board Approval:** 11/14/22

Project Description:

The 2019 El Dorado Hills Collection System Modeling Project identified capacity issues within the system as well as lift station consolidation opportunities. Six lift stations on the western side of El Dorado Hills, bordering Folsom Lake, can potentially be consolidated to a larger lift station near the Brown's Ravine lift stations. This project includes a Basis of Design Report to identify and describe necessary improvements to consolidate the six lift stations and compare to the alternative of continual operation and upgrades of the existing stations independently.

Basis for Priority:

Project will investigate operational efficiencies and methods to reduce Capital Improvement Expenditures via consolidating lift stations.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 150,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 75,000	$ 75,000				$ 150,000
Design						$ -
Construction						$ -
TOTAL	$ 75,000	$ 75,000	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$75,000
Total	100%		$75,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: El Dorado Lift Site Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The El Dorado lift station is located adjacent to Pleasant Valley Road in the town of El Dorado. The site has a large vacant area that is currently used to store spare pipe segments and appurtenances for routine or emergency repairs of the collection system. This project will dedicate funding to design and construct material storage bays and improve access to the site. Additionally, the existing wastewater vactor dump station will be improved for maneuverability and odor containment.

Basis for Priority:

Improve efficiency and provide safe and adequate storage.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 575,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 575,000
Project Balance	$ -	Additional Funding Required	$ 575,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 50,000			$ 50,000
Environmental			$ 25,000			$ 25,000
Construction				$ 500,000		$ 500,000
TOTAL	$ -	$ -	$ 75,000	$ 500,000	$ -	$ 575,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Wastewater Modeling

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District commissioned two hydraulic modeling updates for the collection system; one for the El Dorado Hills system and one for the Deer Creek system. As new developments are presented to the District and as capital projects are completed, it is beneficial to update the model to confirm available capacity or update capacity on a system level.

Basis for Priority:

The collection system model identifies gravity sewer pipelines that have capacity limitations. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 250,000
Project Balance	$ -	Additional Funding Required	$ 250,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Environmental						$ -
Construction						$ -
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Funding Sources	Percentage	2023	Amount
Wastewater FCCs	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

Recycled Water Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: PLANNED

Project Name: Recycled Water Asset Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

This is an annual program to replace or upgrade recycled water assets and facilities that have failed, reached the end of useful life, or require increased operational efficiency or redundancy. The equipment, facilities, and labor attributed to these assets constitute a replacement or installation of a capitalized asset, which distinguishes this program from ongoing maintenance programs. Assets and facilities to be replaced or upgraded under this program include, but are not limited to, mechanical, electrical and instrumentation systems, pump station equipment, generators, and distribution system assets that with replacement or upgrade will extend the life of the associated system or facility. Items that need to be replaced or upgraded each year will be prioritized based on ongoing condition assessments and the District's asset management policies.

Basis for Priority:

Program purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 500,000
Project Balance	$ -	Additional Funding Required	$ 500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 45,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 125,000
Environmental	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Construction	$ 50,000	$ 150,000	$ 50,000	$ 50,000	$ 50,000	$ 350,000
TOTAL	$ 100,000	$ 175,000	$ 75,000	$ 75,000	$ 75,000	$ 500,000

Funding Sources	Percentage	2023	Amount
Recycled Water Rates	100%		$100,000
			$0
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: PLANNED

Project Name: Recycled Water Distribution Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 11/14/22

Project Description:

The District owns and operates a recycled water distribution system that serves portions of El Dorado Hills and Cameron Park with reclaimed water. The recycled water system's original pipelines and appurtenances were installed in 1974 and are now in need of condition inspection and assessment to determine necessary replacements and improvements. This program will systematically develop projects to replace or rehabilitate most critical and high risk pipelines and appurtenances within the recycled distribution system.

Basis for Priority:

Program purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 925,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 925,000
Project Balance	$ -	Additional Funding Required	$ 925,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 45,000	$ 100,000				$ 145,000
Environmental	$ 5,000	$ 25,000				$ 30,000
Construction			$ 250,000	$ 250,000	$ 250,000	$ 750,000
TOTAL	$ 50,000	$ 125,000	$ 250,000	$ 250,000	$ 250,000	$ 925,000

Funding Sources	Percentage	2023	Amount
Recycled Water Rates	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: PLANNED

Project Name: Recycled Water Radio Path Design and Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path design would include radio study to determine the most optimal and reliable wireless communication options for the District's remote facilities. The design would include field radio path verification of the modeled radio telemetry design. This design will encompass recycled water facilities.

Basis for Priority:

Many remote facilities rely on antiquated serial radios. Quickly evolving technology requires EID to move to an IP based communication to retain maintainable parts. Performing large migrations without a proper design and proven concepts creates great risk for improper implementation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 75,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 75,000
Project Balance	$ -	Additional Funding Required	$ 75,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 35,000			$ 35,000
Construction			$ 25,000			$ 25,000
Capitalized Labor			$ 15,000			$ 15,000
						$ -
TOTAL	$ -	$ -	$ 75,000	$ -	$ -	$ 75,000

Funding Sources	Percentage	2023	Amount
Recycled Water Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

Hydroelectric Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17025

Project Name: Flume 45 Abutment Replacement

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Dawson **Board Approval:** 11/14/22

Project Description:

This section of Flume 45 is an elevated wood flume approximately 100 feet in length and last replaced in 1945. This portion of the flume was constructed to span a section of the historic rock bench that had previously failed. An exemption on a small section of the historic rock wall has been obtained by the USFS to help in the replacement of this section of flume. In 2014 the District crews made interim repairs to ensure the continued safe operation. The replacement of this 100 foot section of flume was approved by the Board and is currently under construction and scheduled to be complete by the end of 2022 to flow water, with final completion by June of 2023.

Basis for Priority:

The flume replacement is under construction.

Project Financial Summary:			
Funded to Date:	$ 3,660,804	Expenditures through end of year:	$ 3,390,804
Spent to Date:	$ 405,620	2023 - 2027 Planned Expenditures:	$ 270,000
Cash flow through end of year:	$ 2,985,184	Total Project Estimate:	$ 3,660,804
Project Balance	$ 270,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning/Env						$ -
Geo/Design						$ -
Construction	$ 250,000					$ 250,000
QCIP/Warranty	$ 20,000					$ 20,000
TOTAL	$ 270,000	$ -	$ -	$ -	$ -	$ 270,000

Estimated Funding Sources	Percentage	2023 Amount
Water FCCs	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19013

Project Name: Hydro Crew Room Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

The crew room at Camp 5 was built in 1951 and is in need of improvements. The room has been too small to provide seating for all staff working in the Hydro Division, requiring some people to stand during meetings. There has been only one unisex bathroom for over 20 employees. Hydro staff are progressing in construction to add an additional 300 sq feet of space to the crew room by removing a wall, and extending into a storage room. The single restroom is being modified to be ADA compliant, and to have two separate unisex sections. The building electrical panel, windows and doors are being upgraded to meet current standards. Construction was mostly completed in 2022, and funding carryover into 2023 is intended for purchasing flooring, furnishings, and lockers.

Basis for Priority:

The project is under construction.

Project Financial Summary:			
Funded to Date:	$ 327,294	Expenditures through end of year:	$ 297,294
Spent to Date:	$ 161,532	2023 - 2027 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 135,762	Total Project Estimate:	$ 327,294
Project Balance	$ 30,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
						$ -
Design Support	$ 10,000					$ 10,000
Construction	$ 20,000					$ 20,000
						$ -
TOTAL	$ 30,000	$ -	$ -	$ -	$ -	$ 30,000

Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19031
Project Name: Silver Lake Dam Replacement
Project Category: Regulatory Requirements

Priority: 1 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

The long-term reliability of the dam came into question in the spring of 2015 when a sink hole was discovered. In response, DSOD restricted the reservoir level, and the District conducted emergency repairs and a geotechnical investigation. The likely cause of the sink hole was the creation of voids in the dam as a result of rotting interior logs that have been encapsulated as fill and were part of the original rock and soil filled timber crib structure constructed in 1876. Other evidence of voids occurring within the fill of the dam is uneven crest settlement and shifting locations of leakage discharge. In addition, the upstream gunite face of Silver Lake Dam is at the end of its useful life and no longer reliable. Repairs have been employed since the late 1990's to stem leakage and extend the life of the 50-year old gunite. However, the gunite continues to thin, crack and crumble making repairs increasingly less durable and sustainable. Unforeseeable periods of leakage have also caused delayed filling or early drawdown of the reservoir resulting in loss of water supply and power generation. The leakage through the dam has to be controlled to acceptable rates in order to prevent creation of more voids in the dam as caused by soil particle migration (piping).

The District has evaluated rehabilitation/replacement alternatives to remediate the three major defects (upstream face, interior fill, spillway capacity). The alternatives analysis was submitted to FERC and DSOD in fall 2016, and District staff met with their representatives in January 2017. FERC and DSOD agreed with the District's preliminary findings that the most effective, reliable and least cost alternative is to replace the dam. The project will need to undergo a progression of design and environmental activities over the next several years. In 2022, the Design Criteria Memorandum and subsurface exploration plan was completed, and staff expects to conduct drilling and seismic refraction surveys during fall 2022 to support the next phases of design. In 2023, staff plans to complete 30% design along with initial environmental review. The project will require environmental assessment under CEQA, NEPA and a FERC License Amendment, as well as various federal, state and local permits. As these steps and the design evolve to better define the project, the District will have a basis for estimating construction costs (none included at this time). Construction is scheduled for 2027. Funding is expected to be subject to a future bond issuance.

Basis for Priority:

Compliance with FERC and DSOD dam safety program requirements.

Project Financial Summary:			
Funded to Date:	$ 475,648	Expenditures through end of year:	$ 431,833
Spent to Date:	$ 181,833	2023 - 2027 Planned Expenditures:	$ 3,270,000
Cash flow through end of year:	$ 250,000	Total Project Estimate:	$ 3,701,833
Project Balance	$ 43,815	Additional Funding Required	$ 3,226,185

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Environmental	$300,000	$300,000	$ 100,000	$ 50,000	$ 50,000	$ 800,000
Design	$680,000	$ 680,000	$ 680,000	$ 330,000	$ 100,000	$ 2,470,000
Construction						$ -
TOTAL	$ 980,000	$ 980,000	$ 780,000	$ 380,000	$ 150,000	$ 3,270,000

Estimated Funding Sources	Percentage	2023	Amount
Bond	100%		$936,185
			$0
Total	100%		$936,185

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 22036

Project Name: Forebay Revegetation

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

A carryover from the El Dorado Forebay Dam Modification Project is the successful establishment of vegetative cover on Forebay Dam, project-related areas near the dam and reservoir inlet, and in the soil borrow area. Previous efforts by the District's contractor have only been partially successful, and additional soil treatment, hydroseeding, mulching and possibly planting is needed to achieve satisfactory results. Conditions are difficult due to soil being highly compacted and acidic. The District has hired a restoration ecologist specializing in re-establishment of vegetative cover to help assess conditions and provide recommendations for treatment including soil amendments, seed mixes, mulch type, timing of application, and irrigation. This project is to re-establish vegetation to a satisfactory level meeting FERC and DSOD requirements for dam safety, and SWRCB requirements for SWPPP closure. Some of the necessary remaining treatment may be determined to be beyond the scope of the construction contract requiring the District to look at the most economical and effective ways to achieve satisfactory results.

Basis for Priority:

The District is obligated to meet FERC and DSOD dam safety requirements to establish an erosion-resistant cover on Forebay Dam, and to meet SWRCB SWPPP requirements by establishing 70% vegetative cover on disturbed areas of the project.

Project Financial Summary:			
Funded to Date:	$ 183,811	Expenditures through end of year:	$ 57,967
Spent to Date:	$ 42,967	2023 - 2027 Planned Expenditures:	$ 125,844
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 183,811
Project Balance	$ 125,844	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 125,844					$ 125,844
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 125,844	$ -	$ -	$ -	$ -	$ 125,844

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Hydro Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for the District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 215,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 215,000
Project Balance	$ -	Additional Funding Required	$ 215,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 35,000	$ 50,000	$ 35,000	$ -	$ 35,000	$ 155,000
Capitalized Labor	$ 15,000	$ 15,000	$ 15,000	$ -	$ 15,000	$ 60,000
						$ -
						$ -
TOTAL	$ 50,000	$ 65,000	$ 50,000	$ -	$ 50,000	$ 215,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17028

Project Name: Flume 48 Replacement/Tunnel option

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Flume 48 was originally constructed of wood in 1876 and supported by an un-mortared, hand-stacked rock bench located north of Highway 50 near Camp 5. In 1948, the wooden flume was completely replaced. District crews have been performing extensive maintenance work of the asset to extend the service life of the critically degraded structure until the full replacement can occur. The District will begin evaluating two replacement alternatives for this degraded flume. Alternative 1 is to stabilize the hand-stacked rock bench utilizing stabilization measures developed and employed at Flume 41 and the degraded wood flume would be replaced with steel reinforced precast flume. Alternative 2 would be to construct a 500 foot tunnel between Flume 48 and Highway 50 and abandon approximately 700 feet of canal and 448 feet of elevated wood flume. Option 2, if feasible, could result in significantly lower construction costs but would require acquisition of an easement on an adjacent parcel and a FERC boundary adjustment. The District was able to purchase the parcel that the majority of the tunnel would be placed in 2018. This parcel will also be used as a staging area whether or not the tunnel option is feasible. A geotechnical study was conducted in 2019 and determined that Option 2 is feasible. During the design process the costs of Options 1 and 2 will be determined. Design and construction costs are unknown at this time, and will be updated in 2023 after further alternatives analysis. Construction costs are shown from the 30% design and will be updated as design progresses. Funding will be timed with a future bond issuance that is yet to be determined.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that may result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the District's water supply would be out of service for an extended period to make emergency repairs resulting in possible interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ 461,912	Expenditures through end of year:	$ 388,633
Spent to Date:	$ 388,633	2023 - 2027 Planned Expenditures:	$ 6,587,668
Cash flow through end of year:		Total Project Estimate:	$ 6,976,301
Project Balance	$ 73,279	Additional Funding Required	$ 6,514,389

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning/Env	$ 37,668		$ 50,000	$ 50,000		$ 137,668
Design/Env			$ 200,000	$ 250,000		$ 450,000
Construction					$ 6,000,000	$ 6,000,000
Warranty-FERC QCIP						$ -
TOTAL	$ 37,668	$ -	$ 250,000	$ 300,000	$ 6,000,000	$ 6,587,668

Estimated Funding Sources	Percentage	2023 Amount
Bond	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 18010

Project Name: Penstock Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

Water is provided from Forebay Reservoir to the El Dorado Powerhouse through a 60-inch diameter penstock for power generation. FERC regulations and our standard operating procedures require the penstock to be inspected and assessed at regular intervals. This project was initiated in 2015 to perform a comprehensive assessment of the penstock and determine if any upgrades or replacements need to be made for continued reliability. The condition assessment continued into 2017 and identified the following needed improvements:

1) Improving access in the steepest section of penstock to support conducting O&M and capital improvements safely
2) Restoring grounds across compression couplings in the low-pressure section of penstock;
3) Relining the interior of the surge tank and the buried section between the penstock tunnel and surge tank at welded joints where the original lining was applied in the field;
4) Investigating restoring the tramway to service along the high-pressure penstock;
5) Improving the anchoring of the surge tank to meet seismic loading;

Work planned for 2023 includes construction for improving access on the steepest section of the penstock; In addition, 2023 work will include preparing plans and specifications, and conducting environmental review/permitting for subsequent phases. Relining of the surge tank and portions of the penstock are scheduled for 2024. The cost of improvements beyond 2023 will be updated upon completion of design for later phases. Penstock stabilization is being planned and performed under CIP 21016.

Basis for Priority:

The project is to maintain penstock safety and service reliability. The ability for the District to receive an average $5 million annually in power generation revenues depends on the availability of the penstock. The penstock is one of the highest pressure and oldest in the United States.

Project Financial Summary:			
Funded to Date:	$ 360,000	Expenditures through end of year:	$ 124,252
Spent to Date:	$ 109,252	2023 - 2027 Planned Expenditures:	$ 1,560,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 1,684,252
Project Balance	$ 235,748	Additional Funding Required	$ 1,324,252

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 30,000	$ 20,000	$ 10,000	$ 10,000	$ 10,000	$ 80,000
Design	$ 50,000	$ 50,000	$ 60,000	$ 50,000	$ 50,000	$ 260,000
Construction	$ 320,000	$ 400,000	$ 300,000	$ 100,000	$ 100,000	$ 1,220,000
						$ -
TOTAL	$ 400,000	$ 470,000	$ 370,000	$ 160,000	$ 160,000	$ 1,560,000

Estimated Funding Sources	Percentage	2023 Amount
Water FCCs	100%	$164,252
		$0
Total	100%	$164,252

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19021

Project Name: Canal RTU Replacement Control Sites

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement of alarm and spillway control sites located along the Project 184 canal. The current system has served the District well, unfortunately it is no longer supported by a modern computer. Costs will be revised when design is completed.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability and operational capabilities of the system. Additionally, new replacement parts are not available due to obsolescence. This system cannot be supported on a modern computer.

Project Financial Summary:			
Funded to Date:	$ 40,000	Expenditures through end of year:	$ 28,342
Spent to Date:	$ 28,342	2023 - 2027 Planned Expenditures:	$ 1,125,000
Cash flow through end of year:		Total Project Estimate:	$ 1,153,342
Project Balance	$ 11,658	Additional Funding Required	$ 1,113,342

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design/Planning	$ 125,000					$ 125,000
Construction		$ 300,000	$ 300,000	$ 300,000		$ 900,000
Capitalized Labor	$ 25,000	$ 25,000	$ 25,000	$ 25,000		$ 100,000
TOTAL	$ 150,000	$ 325,000	$ 325,000	$ 325,000	$ -	$ 1,125,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$138,342
			$0
Total	100%		$138,342

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19024H

Project Name: Echo Conduit Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

The Echo Conduit was installed in 1922 and is comprised of approximately 2,320 lineal feet of 36" diameter steel pipeline, 750 lineal feet of canal, and 1,106 lineal feet of tunnel. In 1953 and 1967, sections of the 36-inch diameter pipe were replaced. After experiencing a tunnel collapse in 2005, the timber-reinforced tunnel was lined with a 36" diameter HDPE pipeline, including filling the annular space with grout. The pipe is overall degraded and misshaped from snow load and rock fall, and is not a candidate for slip lining. While the pipeline has been maintained serviceable with weld repairs and neoprene patches held with steel band strapping, the extent of pipe wall thinning and deformation is resulting in diminishing options for repair. If the pipeline were to rupture, it could cause significant environmental damage and affect traffic safety on Highway 50.

Therefore, the pipeline section will need to be replaced in the near term with new pipe, footings and substructure in the elevated section. The current plans include considering a two-year phased approach for pipeline replacement based on access limitations, including replacement of the canal section with pipeline. Converting canal section to pipeline effectively improves capacity over the entire range of operating conditions, leading to fuller utilization of storage during the normal 3-week drawdown period between Labor Day and annual outage season starting in October. Typically over 1,500 acre feet of water is drawn from storage or directly diverted annually from Echo Lake for water supply and power generation. Construction costs for the rehabilitation will be updated upon completion of design. Conceptual engineering for the foundation, elevated section, pipeline, and consideration of constructability was completed in 2021. Detailed design and supplemental biological and cultural resource surveys are planned for 2026, and environmental review/permitting for 2027. Construction is planned over 2 summer seasons during 2028 and 2029.

Basis for Priority:

Maintaining operability of Echo Conduit provides the District continued use of this pre-1914 water right for consumptive water supply and power generation. Replacing the conduit restores diminished capacity as has occurred over time, and improves the District's ability to utilize its storage and direct diversion water rights.

Project Financial Summary:			
Funded to Date:	$ 100,000	**Expenditures through end of year:**	$ 90,096
Spent to Date:	$ 90,096	**2023 - 2027 Planned Expenditures:**	$ 180,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 270,096
Project Balance	$ 9,904	**Additional Funding Required**	$ 170,096

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning				$ 30,000	$ 70,000	$ 100,000
Design				$ 50,000	$ 30,000	$ 80,000
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 80,000	$ 100,000	$ 180,000

Estimated Funding Sources	Percentage	2023 Amount
Water FCCs	100%	$0
		$0
		$0
Total	**100%**	**$0**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21004

Project Name: A18 Fiber Communication Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to install fiber optic line from the new A18 building to the Upper Butterfly Valve House. Second phase of the project will replace end of life cycle fiber optic line that spans to the Powerhouse. The new fiber optic line will drastically improve the efficiency and reliability of the powerhouse operation and maintaining the Forebay lake level.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability and operational capabilities of the system. The existing fiber is aged and has no available spare fiber pairs.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 3,974
Spent to Date:	$ 3,974	2023 - 2027 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 303,974
Project Balance	$ 46,026	Additional Funding Required	$ 253,974

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services		$ 50,000				$ 50,000
Construction			$ 200,000			$ 200,000
Capitalized Labor		$ 25,000	$ 25,000			$ 50,000
						$ -
TOTAL	$ -	$ 75,000	$ 225,000	$ -	$ -	$ 300,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21013

Project Name: Flumes 45A, 46A, 47A, and 47B Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

The CIP will seek design services for Flume 45A, 46A, 47A, and 47B. These four flumes are similar in nature in that they are between 128 to 200 foot long elevated flumes located on previous landslide locations. A brief description of the flumes are as follows:

- Flume 45A is 155 feet in length and is constructed of wood supports with fiberglass flume section and was last replaced in 2001.
- Flume 46A is 128 feet in length and is a wood flume with timber supports and was last replaced in 2011.
- Flume 47A is 201 feet in length and is a wood flume with timber supports and was last replaced in 1990.
- Flume 47b is 128 feet in length and is a wood flume with timber supports and was last replaced in 1990.

Since these flumes are similar in nature it is believed that one general design can be done for all four flumes and reap a cost savings on the design process. Priority and costs were developed with the Canal and Flume Assessment Studies. Costs will be updated as design progresses.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the Districts water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ 553,268	Expenditures through end of year:	$ 359,881
Spent to Date:	$ 259,881	2023 - 2027 Planned Expenditures:	$ 3,900,000
Cash flow through end of year:	$ 100,000	Total Project Estimate:	$ 4,259,881
Project Balance	$ 193,387	Additional Funding Required	$ 3,706,613

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Construction 45A				$ 2,000,000		$ 2,000,000
Construction 46A						$ -
Construction 47A	$ 1,900,000			.		$ 1,900,000
Construction 47B						$ -
TOTAL	$ 1,900,000	$ -	$ -	$ 2,000,000	$ -	$ 3,900,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$1,706,613
			$0
			$0
Total	100%		$1,706,613

Funding Comments:

2023 CAPITAL IMPROVEMENT PLAN **Program:** **Hydroelectric**

Project Number: 21016

Project Name: Penstock Stabilization

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

Water is provided from Forebay Reservoir to the El Dorado Powerhouse through a 60-inch diameter penstock for power generation. The penstock tapers and bifurcates as it approaches the powerhouse. FERC regulations and our standard operating procedures require the penstock condition and suitability for reliable service to be assessed through inspection and comprehensive evaluations at regular intervals. This project was initiated in 2015 to perform a comprehensive assessment of the penstock and determine if any upgrades or replacements need to be made for continued reliability. The condition assessment continued into 2017 and identified the following needed improvements under this Penstock Stabilization CIP:

1) Stabilizing the bench and slopes above and below the penstock downstream of the penstock tunnel section where rockfall and landslide potential exists - planned for 2024;
2) Performing drainage improvements to the high-pressure penstock section where a channel continues to erode including around saddles and anchor blocks - planned for 2024

An updated geotechnical assessment and the design were initiated in 2021, and will continue into early 2023. Concurrently, the District will conduct environmental review/permitting such that stabilization and drainage improvements can be constructed in 2024. Other penstock improvements are being planned and performed under CIP 18010.

Basis for Priority:

The project is to maintain penstock stabilization and service reliability. The ability for the District to receive an average $5 million annually in power generation revenues depends on the reliability of the penstock. The high-head section of penstock operates up to 830 psi, and is the original hammer-forge welded steel pipe installed in 1924.

Project Financial Summary:			
Funded to Date:	**$ 400,611**	**Expenditures through end of year:**	**$ 380,280**
Spent to Date:	**$ 340,280**	**2023 - 2027 Planned Expenditures:**	**$ 770,000**
Cash flow through end of year:	**$ 40,000**	**Total Project Estimate:**	**$ 1,150,280**
Project Balance	**$ 20,331**	**Additional Funding Required**	**$ 749,669**

Description of Work	**Estimated Annual Expenditures**					
	2023	**2024**	**2025**	**2026**	**2027**	**Total**
Study/Planning	**$ 30,000**	**$ 20,000**	**$ 10,000**			**$ 60,000**
Design	**$ 50,000**	**$ 50,000**	**$ 60,000**			**$ 160,000**
Construction		**$ 450,000**	**$ 100,000**			**$ 550,000**
						$ -
TOTAL	**$ 80,000**	**$ 520,000**	**$ 170,000**	**$ -**	**$ -**	**$ 770,000**

Estimated Funding Sources	**Percentage**	**2023**	**Amount**
Water FCCs	100%		$59,669
			$0
			$0
Total	**100%**		**$59,669**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21028

Project Name: Powerhouse Automation Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

The project is to design, replace and reprogram end of life hydro-turbine governors, PLC hardware, and related SCADA reconfigurations.

Basis for Priority:

The project will enhance reliability of a critical power generation facility. This hardware is failing, and posing a service reliability and maintenance issue. The life of this equipment is cycling out. The original installation took place over 25 years ago. Parts for these units are no longer manufactured, and they are difficult to service.

Project Financial Summary:			
Funded to Date:	$ 269,460	Expenditures through end of year:	$ 96,640
Spent to Date:	$ 30,111	2023 - 2027 Planned Expenditures:	$ 575,000
Cash flow through end of year:	$ 66,529	Total Project Estimate:	$ 671,640
Project Balance	$ 172,820	Additional Funding Required	$ 402,180

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design						$ -
Construction	$ 500,000					$ 500,000
Capitalized Labor	$ 75,000					$ 75,000
TOTAL	$ 575,000	$ -	$ -	$ -	$ -	$ 575,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$402,180
			$0
			$0
Total	100%		$402,180

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 22014

Project Name: Flume 45 Section 3 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This section of Flume 45 is an elevated wood flume approximately 940 feet in length and last replaced in 2001. This portion of the flume was constructed to span a section of the historic rock bench that had previously failed and replaced by PG&E. Because of the historic rock wall, the design will need to be approved by the State Historic Preservation Office. The replacement of this flume section is scheduled to occur during the scheduled canal outage in the 2024. Construction cost estimates will be revised upon completion of the geotechnical assessment and design.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ 776,523	Expenditures through end of year:	$ 776,523
Spent to Date:	$ 283,145	2023 - 2027 Planned Expenditures:	$ 11,500,000
Cash flow through end of year:	$ 493,378	Total Project Estimate:	$ 12,276,523
Project Balance	$ -	Additional Funding Required	$ 11,500,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 100,000					$ 100,000
Design	$ 400,000					$ 400,000
Construction		$ 5,500,000	$ 5,500,000			$ 11,000,000
						$ -
TOTAL	$ 500,000	$ 5,500,000	$ 5,500,000	$ -	$ -	$ 11,500,000

Funding Sources	Percentage	2023	Amount
Bond	100%		$500,000
			$0
			$0
Total	100%		$500,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 22016

Project Name: Flume 46 Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Flume 46 is a 3340 foot long wooden flume that is located below the "Narrows". This is the longest wooden flume structure in the district and sits mostly on the edge of a very steep mountain side. The wooden flume is in good condition, but with the recent destruction and emergency replacement of four flumes due to the Caldor Fire, the District needs to prioritize the replacement of our remaining wooden flumes that are at greatest risk for future fires in the area. If Flume 46 was destroyed by a fire, the District would have a severe and prolonged water outage from this source due to the length of the flume and the long timeframe to reconstruct a flume of this magnitude in this location. The District will be prioritizing this long wooden flume for design. The District will first evaluate alternatives to replace this wooden structure with more permanent material, including construction of a large underground siphon to completely bypass the flume section. Design and construction costs will be updated in the next CIP. Staff has applied for hazard mitigation grant funding offered by CalOES/FEMA. A bypass plan is in place in the event of a wildfire occurring prior to the replacement.

Basis for Priority:

Flume 46 is part of the Project 184 conveyance system that provides one-third of the consumptive water supply for the District as well as hydropower generation.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 150,000
Project Balance	$ 50,000	Additional Funding Required	$ 100,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 150,000					$ 150,000
Design/Env						$ -
Construction				*	*	$ -
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$100,000
			$0
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: 14 Mile Tunnel Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

14 Mile Tunnel is approximately 490 feet long and delivers water from the Project 184 canal to the Forebay Reservoir. Due to water intrusion, the concrete near the upstream portal is beginning to weaken. The project will stabilize this section of the tunnel while another waterline replacement project eliminates the water intrusion. Construction cost estimates will be refined as the design progresses.

Basis for Priority:

The degradation of the existing concrete will continue to weaken the tunnel support and will lead to the failure of the upstream portion of the tunnel. This failure will mean that 1/3 of the Districts water supply will not be able to get to Forebay Reservoir for water consumption and hydroelectric generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 2,200,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 2,200,000
Project Balance	$ -	Additional Funding Required	$ 2,200,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design		$ 200,000				$ 200,000
Construction			$ 2,000,000			$ 2,000,000
						$ -
TOTAL	$ -	$ 200,000	$ 2,000,000	$ -	$ -	$ 2,200,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Annual Canal and Flume Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

Canals and flumes are assessed annually by District staff to assess and prioritize necessary improvements that will be implemented during the annual Canal outage. These improvements are needed to extend the service life of the asset and maintain system reliability. Improvements to the degraded canal and flume sections include materials, concrete, shotcrete, helicopter support, equipment, and District crew labor. Canal rehabilitation, flume, and spillway improvements are necessary in order to maintain reliability of the water supply. Annual system improvements will be determined by District Hydro Operations each spring for implementation to be achieved during the scheduled Canal outage. Expenditures for 2023, 2024, 2025, 2026, 2027 will include $75,000 for canal & flume maintenance such as re-lining and concrete repairs.

Basis for Priority:

These are projects that provide measurable advancement towards attaining the objectives of the District, but over which the District has a moderate level of control as to when they should be performed.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ 93,340
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 375,000
Cash flow through end of year:	$ 93,340	Total Project Estimate:	$ 468,340
Project Balance	$ 363,994	Additional Funding Required	$ 11,006

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 375,000
						$ -
TOTAL	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 75,000	$ 375,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Annual Reservoir and Dam Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

The District dams and reservoirs are in need of upgrades to extend their life and comply with safety standards. Many of these improvements are follow-up items/requirements resulting from inspections performed by staff, FERC and DSOD dam safety personnel in order to meet dam safety standards. Work planned for 2023 includes the following:
- Caples Lake Auxiliary Dam - Repair spalling concrete ($30K) -
Caples Lake - Investigate/assess outlet gate condition ($15K).
- Echo Lake - Restore rock armoring at the base of the upstream gunite face to eliminate undercutting by wave action ($35K) -
Weber Reservoir - Prepare design to modify outlet to add a low-flow regulating valve ($35K)
- Weber Dam - Rehabilitate upstream dam face ($20K)
- Lake Aloha Dam - Develop plan for adding remote control to outlet gate ($30K) -
Repair spalling to Stream Gage Weirs A-6 in Caples Creek and A-9 in Silver Fork American River ($50K)

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 570,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 570,000
Project Balance	$ -	Additional Funding Required	$ 570,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 30,000	$ 20,000				$ 50,000
Design	$ 35,000					$ 35,000
Construction	$ 135,000	$ 100,000	$ 150,000	$ 50,000	$ 50,000	$ 485,000
						$ -
TOTAL	$ 200,000	$ 120,000	$ 150,000	$ 50,000	$ 50,000	$ 570,000

Estimated Funding Sources	Percentage	2023 Amount
Water FCCs	100%	$200,000
		$0
		$0
Total	100%	$200,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Ditch SCADA Hardware Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement sites are: Crawford Ditch, North Fork Ditch, Camp Creek Ditch, and associated repeater radio system at Reservoir B. This system has served the district well and is no longer supported. This CIP will replace the existing system over multiple years.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability of the system. Additionally, new replacement parts are not available due to obsolescence. This system is not longer supported on a modern computer.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 200,000
Project Balance	$ -	Additional Funding Required	$ 200,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design				$ 50,000		$ 50,000
Construction					$ 150,000	$ 150,000
TOTAL	$ -	$ -	$ -	$ 50,000	$ 150,000	$ 200,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%	$	-
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 4 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Flume 4 is approximately 200 feet in length and is an elevated flume that spans a steep portion of the forest. This elevated section could not be quickly replaced after the Caldor Fire and thus underwent repairs. The wood substructure was constructed in 1993 and the wood members are currently undersized. In addition to the elevated section, there is just upstream of Flume 4 a section of canal that has a rock cribbed wall that has experienced a failure in 2022. This cribbed wall would be replaced with an MSE wall and have the drainage system upgraded. Funding is to initiate design in 2024. No construction costs are indicated.

Basis for Priority:

Fume 4 will continue to deteriorate potentially cause a flume failures that would result in significant impacts to the public and the South Fork of the American River. Additionally, 1/3 of the Districts water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 550,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 550,000
Project Balance	$ -	Additional Funding Required	$ 550,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 50,000					$ 50,000
Design		$ 500,000				$ 500,000
Construction						$ -
						$ -
TOTAL	$ 50,000	$ 500,000	$ -	$ -	$ -	$ 550,000

Funding Sources	Percentage	2023	Amount
Water FCC's	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 52A Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Flume 52A is approximately 377 feet in length and last replaced in the early 1953. It underwent a partial rebuild in 2013. The timbers are undersized and overstressed and in need of replacement. It is anticipated to be replaced with U-shaped canal on a mechanically stabilized earth bench. Priority and costs were developed with the Canal and Flume Assessments Studies. Cost will be updated as design progresses.

Basis for Priority:

The flume will continue to deteriorate, potentially causing flume failures that would result in significant impacts to environmentally sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 325,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 325,000
Project Balance	$ -	Additional Funding Required	$ 325,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning/Env			$ 25,000			$ 25,000
Design			$ 300,000			$ 300,000
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ 325,000	$ -	$ -	$ 325,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Hydro Equipment and Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 11/14/22

Project Description:

This is a program to replace equipment and facilities used in the hydro system that have failed or reached end of useful life. Funding will be used for hydro facilities rehabilitation, such as road and building improvements that will extend the life of the asset. In 2023, the powerhouse road, 5 Beat access road (SPW 44, 46), and Alarm 17 road all need to be graded, rocked and reditched. Improvements to Camp 5 include materials/sand shed. Assessment of the powerhouse is needed

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 600,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 600,000
Project Balance	$ -	Additional Funding Required	$ 600,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ -	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 600,000
						$ -
TOTAL	$ -	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 600,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Lakes Remote Telemetry Units Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement is for monitoring sites at Echo Lake, Aloha Lake, Silver Lake and associated radio communication equipment. This system has served the district well and is no longer supported.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability of the system. Additionally, new replacement parts are not available due to obsolescence. This system cannot be supported on a modern computer.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 325,000
Cash flow through end of year:		Total Project Estimate:	$ 325,000
Project Balance	$ -	Additional Funding Required	$ 325,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 50,000					$ 50,000
Construction		$ 200,000				$ 200,000
Capitalized Labor		$ 75,000				$ 75,000
						$ -
TOTAL	$ 50,000	$ 275,000	$ -	$ -	$ -	$ 325,000

Funding Sources	Percentage	2023 Amount
Water Rates	100%	$50,000
		$0
		$0
Total	100%	$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Powerhouse Turbine Runner Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 11/14/22

Project Description:

The Unit 1 and Unit 2 Pelton turbine runners (impulse turbines or water wheels) were installed in 1958 with a life expectancy of 30 - 40 years depending on operating and water conditions. It requires approximately 18 months to procure a new turbine runner if one were to fail. A spare turbine runner can be used for either of the two turbine-generator units as the units are identical. The estimated revenue loss of waiting for a new runner to be manufactured is $3 million based on loss of availability of one 10.5 MW unit for 18 months. The existing turbine runners are constructed of carbon steel and are not as resilient to wear and cracking as modern runners constructed of stainless steel. The District expended approximately $150,000 in welding and restoration of the two turbine runners in 2016. The primary risk of continuing to extend the service life of the aging turbine runners is that they can incur a sudden failure from stresses induced by previous weld repairs, and associated with the accumulation of start-ups and shutdowns of the turbine-generator units. While staff carefully inspects and monitors the condition of the runners for early warning signs, and makes repairs to areas subject to cracking and wear, the risk of sudden failure increases with time. The 2023 costs are to explore options for replacing the turbine runner with a modern design which will also consider improvements in efficiency (to produce more power per unit of water over a greater span of its operating range). The study will also evaluate the economy of purchasing two vs. one runner at a time considering the design will likely be custom, and there would be savings in casting two runners concurrently compared to at different times.

Basis for Priority:

Both generating units have turbine runners that have operated significantly past their predicted service life, and are subject to failure. The revenue loss in waiting for a new runner to be manufactured is approximately $3 million. Staff believes it is prudent to study options for replacing both runners together in consideration of: 1) Lost revenue associated with a risk of failure that increases over time; 2) Manufacturing cost savings of two runners together; and 3) Potential reliability/efficiency improvements. Preliminary indication from turbine suppliers is that efficiency improvements of new runners could yield additional annual generation revenue on the order of $100,000 - $200,000/year. This estimate would be updated with higher confidence when the District seeks proposals.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 100,000
Cash flow through end of year:		Total Project Estimate:	$ 100,000
Project Balance	$ -	Additional Funding Required	$ 100,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 50,000	$ 50,000				$ 100,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 100,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Spill 3 Crib Wall Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This section of canal has Spillway No. 3 and is located on the south side of the American River above the USFS 30-Mile Tract subdivision. Spillway No. 3 is no longer used due to the presence of erosive soils in the spillway channel. The spillway structure and canal bench at this location is supported by an earth fill bench and degraded timber crib wall, which was identified for replacement during a recent comprehensive inspection of all flumes and spillways in the Project 184 conveyance between Kyburz and Forebay Reservoir. In 2018 District staff placed temporary measures to buttress the canal to hold in place until design and construction can be completed. Priority for this project was developed with the Canal and Flume Assessment studies. Construction costs are not known. Cost will be developed as design progresses.

Basis for Priority:

The canal has temporary measures in place to keep the integrity in place. Failures that would result in significant impacts to environmentally sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 325,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 325,000
Project Balance	$ -	Additional Funding Required	$ 325,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning/Env	$ 25,000					$ 25,000
Design	$ 100,000	$ 200,000				$ 300,000
Construction						$ -
						$ -
TOTAL	$ 125,000	$ 200,000	$ -	$ -	$ -	$ 325,000

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$125,000
			$0
			$0
Total	100%		$125,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2023

Project Name: Canal Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This project will evaluate the Project 184 canal and provide a condition assessment report. This report will be used to categorize the canal system for future CIP projects. Canal assessments are planned to occur every 5 years to give an overall condition of the system and to prioritize projects.

Basis for Priority:

The canal system was last assessed in 2018. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a canal breach resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 50,000
Cash flow through end of year:		Total Project Estimate:	$ 50,000
Project Balance	$ -	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 50,000					$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$50,000
		$0
		$0
Total	100%	$50,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2024

Project Name: Siphon Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

Plume Creek and Alder Creek Siphon were last inspected in 2019 and 2018 respectively. Siphon assessments should be completed every five years to determine the condition of the siphon and to note any changes from the last inspection. A list of CIP projects will be developed from the assessment and a report generated. The inspection of the siphons are done with cameras that are mounted on guided remote operated vehicles and done while the siphon is empty.

Basis for Priority:

One third of the District's water supply would be out of service for an extended period in the event of a failure in the siphon resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 60,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 60,000
Project Balance	$ -	Additional Funding Required	$ 60,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning		$ 60,000				$ 60,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ 60,000	$ -	$ -	$ -	$ 60,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2025

Project Name: Canal Release Points Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This project will evaluate the Project 184 canal release points and provide a condition assessment report. This report will be used to categorize the release points system for future CIP projects. Canal release point assessments are planned to occur every 5 years to give an overall condition of the system, track changes, and to prioritize projects.

Basis for Priority:

The canal release points were evaluated in 2021. It takes 14 hours for water to travel from the American River Diversion to Forebay Reservoir, making spillway releases at intervals along the canal a critical component of the Project 184 operations. Evaluating the release points for erosion and overall condition is required by Condition No. 41 of our FERC license.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 80,000
Cash flow through end of year:		Total Project Estimate:	$ 80,000
Project Balance	$ -	Additional Funding Required	$ 80,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning			$ 80,000			$ 80,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ 80,000	$ -	$ -	$ 80,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2026

Project Name: Tunnel Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This project will evaluate the following tunnels and provide a condition assessment report:

- Mill to Bull Tunnel
- Hazel Creek
- Pacific
- Esmerelda
- El Dorado
- 14 Mile
- Camp Creek

The tunnels were inspected in 2021 as part of the 5 year assessment. This inspection will be done by EID staff only. Tunnel assessments are being scheduled every 5 years.

Basis for Priority:

The Project 184 tunnels should be inspected by competent persons every 5 years to determine what issues are needing to be addressed. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a tunnel collapse resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 50,000
Cash flow through end of year:		Total Project Estimate:	$ 50,000
Project Balance	$ -	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning				$ 50,000		$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 50,000	$ -	$ 50,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2027

Project Name: Flume Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

This project will provide structural and geotechnical evaluation on the wooden Flumes and geotechnical evaluation on the concrete flumes. Flume material, year built and length will also be verified and included in the update. This study is set for every five years to evaluate the flumes.

Basis for Priority:

The Project 184 flumes have not been fully evaluated by structural and geotechnical experts since around 2012. Flumes were last inspected in 2022. Additionally, one third of the District's water supply would be out of service for an extended period in the event of a flume failure resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 50,000
Spent to Date:	$ 69	2023 - 2027 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 49,931	Total Project Estimate:	$ 100,000
Project Balance	$ (0)	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning					$ 50,000	$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ -	$ 50,000	$ 50,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21003

Project Name: Diversion Repeater Site

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

The project is to design and implement more reliable communication path for the diversion facility and for the Project 184 upper country radio system. The repeater site would serve as a primary communication pathway and would be independent of unreliable service from PG&E and AT&T.

Basis for Priority:

The project will improve reliability of a critical water facility.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 7,962
Spent to Date:	$ 2,962	2023 - 2027 Planned Expenditures:	$ 175,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 182,962
Project Balance	$ 42,038	Additional Funding Required	$ 132,962

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 25,000					$ 25,000
Construction	$ 100,000					$ 100,000
Capitalized Labor	$ 50,000					$ 50,000
						$ -
TOTAL	$ 175,000	$ -	$ -	$ -	$ -	$ 175,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$132,962
			$0
			$0
Total	100%		$132,962

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21008

Project Name: Diversion - Facility Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

The project is to design and implement a more reliable power distribution from utility and backup generator. Currently the site has multiple voltage feeds, large voltage swings and suffers from load imbalances. The load imbalance and voltage swings are causing faster equipment degradation and increasing maintenance cost. Consolidating power to a single feed will alleviate the current problems and improve reliability of the site. The current generator is no longer sized adequately for the current load at the facility. This project will include installation of a larger generator.

Other Diversion facility improvements include relocating the air compressor/fish screen blower system outside of the existing control room to reduce heat load to electrical and network equipment and enclosing the compressor tank to prevent temperature issues.

Costs have been updated based on final design and the design engineers estimate. Project is scheduled to bid early next year for a Spring/Summer construction.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility.

Project Financial Summary:			
Funded to Date:	$ 341,636	Expenditures through end of year:	$ 216,587
Spent to Date:	$ 216,587	2023 - 2027 Planned Expenditures:	$ 544,144
Cash flow through end of year:		Total Project Estimate:	$ 760,731
Project Balance	$ 125,049	Additional Funding Required	$ 419,095

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design	$ 44,144					$ 44,144
Construction	$ 500,000					$ 500,000
						$ -
TOTAL	$ 544,144	$ -	$ -	$ -	$ -	$ 544,144

Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$419,095
			$0
			$0
Total	100%		$419,095

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 21009

Project Name: Diversion - Fish Ladder Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** TBD **Board Approval:** 11/14/22

Project Description:

The project is to design and add a new flow meter to precisely and more instantaneously measure instream flow releases reducing the over-release caused by the existing controls, and increasing the water that can be diverted into the El Dorado Canal and improve the fish ladder as required by CA Dept. of Fish & Wildlife. Schedule and costs will be updated as the project progresses.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 15,110
Spent to Date:	$ 15,110	2023 - 2027 Planned Expenditures:	$ 1,050,000
Cash flow through end of year:		Total Project Estimate:	$ 1,065,110
Project Balance	$ 34,891	Additional Funding Required	$ 1,015,110

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Permitting			$ 50,000			$ 50,000
Design/Permitting				$ 200,000		$ 200,000
Construction					$ 800,000	$ 800,000
						$ -
TOTAL	$ -	$ -	$ 50,000	$ 200,000	$ 800,000	$ 1,050,000

Funding Sources	Percentage	2023 Amount
Water FCCs	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Camp 5 Facility Power Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

The project is to design and implement more reliable power distribution from utility and backup generator. The site currently has multiple voltage feeds, large voltage swings, and suffers from load imbalances. The load imbalance and voltage swings are accelerating equipment degradation and increasing maintenance cost. Consolidating power to a single feed will alleviate the current problems and improve reliability of the site. The current generator is no longer sized adequately for the current load at the facility. This project would require installation of a larger generator.

Basis for Priority:

The project will improve power reliability to the facility.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 300,000
Project Balance	$ -	Additional Funding Required	$ 300,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 50,000			$ 50,000
Construction				$ 250,000		$ 250,000
						$ -
TOTAL	$ -	$ -	$ 50,000	$ 250,000	$ -	$ 300,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

Recreation Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: 21037

Project Name: Lakewood Dr. Stabilization/Mormon Immigrant Trail Shoulder Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

This project was identified in the "Planned Recreation Facility Replacement Program". There are two projects associated with this CIP:
1 - Stabilization of the bank at the boat ramp near the day use area
2 - Stabilization of the shoreline between Chimney and Hazel Campgrounds

In 2023, funding will be used for construction to stabilize the shoreline to protect water quality, roadways and day use areas. The area north of the Main Boat Launch has experienced extensive wave action erosion that requires stabilization to preserve a day use area. The improvements will include backfilling eroded areas and the placement of riprap.

In 2024, stabilization consists of extending the existing riprap installed in 2006 along the shoreline between Chimney and Hazel Campgrounds. This area has experienced ground movement over the last three winters, and preventative measures, including riprap, are needed to be placed to ensure Lakewood Drive does not slide into Jenkinson Lake as it did in 2006.

Basis for Priority:2

The project maintains and enhances an existing asset by stabilizing the shoreline and road shoulder, and improving access by installing a stairway and fencing to guide pedestrians to improved access points to the lake.

Project Financial Summary:			
Funded to Date:	$ 135,000	Expenditures through end of year:	$ 94,515
Spent to Date:	$ 94,515	2023 - 2027 Planned Expenditures:	$ 400,000
Cash flow through end of year:		Total Project Estimate:	$ 494,515
Project Balance	$ 40,485	Additional Funding Required	$ 359,515

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Capitalized Labor (construction management)	$ 10,000					$ 10,000
Construction Inspection	$ 15,000					$ 15,000
Design Services during Construction	$ 25,000					$ 25,000
Construction	$ 350,000					$ 350,000
						$ -
TOTAL	$ 400,000	$ -	$ -	$ -	$ -	$ 400,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$359,515
			$0
			$0
Total	100%		$359,515

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: PLANNED

Project Name: Recreation Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

This is a program to replace infrastructure at District-owned recreation facilities that have failed or reached end of useful life. Funding will be used for recreation facilities such as road and building improvements that will extend the life of the asset. Shoreline stabilization projects to protect water quality and existing assets such as road ways, boat ramps, day use areas and campgrounds. Need to make numerous repairs to the roadways within SPRA; all campground access roads need to be replaced and have storm water mitigation features incorporated. Within the next five years, the main park roadway and Lakewood Drive will need to be resealed. Access road to Scout Hill youth camp should be chip sealed, at a minimum, to reduce the amount of annual rehabilitation that occurs every spring. Lakewood Drive stabilization is to extend the existing riprap installed in 2006 along the shoreline between Chimney and Hazel Campgrounds. This area has seen ground movement over the last three winters and preventative measures, such as riprap, need to be implemented to ensure Lakewood Drive does not slide into Jenkinson Lake, as it did in 2006. Sierra Campground Loop is nearing the end of its useful life and needs to be resurfaced and improved with storm water control devices to reduce sediment laden runoff from entering Jenkinson Lake. Silver Lake West Campground and Sandy Cove Day Use area will need roadways and restroom's replaced due to end of life for those amenities.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 400,000
Cash flow through end of year:		Total Project Estimate:	$ 400,000
Project Balance	$ -	Additional Funding Required	$ 400,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Jenkinson Campground	$ 25,000	$ 125,000				$ 150,000
Scout Hill Paving			$ 100,000			$ 100,000
Hilltop CG Loop Paving				$ 25,000	$ 100,000	$ 125,000
Sierra CG Loop Paving					$ 25,000	$ 25,000
TOTAL	$ 25,000	$ 125,000	$ 100,000	$ 25,000	$ 125,000	$ 400,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$25,000
Total	100%		$25,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: 18023

Project Name: Acorn Day Use Area

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

Funds will be used to design an expansion of Day Use parking capacity near the entrance of Sly Park Recreation Area (SPRA) by creating a new day use parking area that will be known as the Acorn Day Use Area. The area will include the addition of 30 parking stalls, 2 handicap accessible parking stalls, 2 handicap accessible bathroom stalls, a handicap accessible trail to the lake, and scattered picnic tables along the trail. Funds will also be used to hire a consultant to look into the possibility of seeking grant funding to apply towards the development and construction of this project. The District will have a "shovel ready" project which will increase the possibility of seeking grant funding during 2022 or 2023 to offset the cost of construction in fall of 2023. SPRA has experienced an annual average increase of 8% in the number of day use visitors over the last 5 years, often resulting in the closure of the park on busy summer weekends due to safety concerns and a lack of parking and amenities. Increasing the day use capacity near the entrance of the park will help offset the amount of time the park is closed and allow the capture of some of the lost revenue. The rate of return on this project is estimated to be 15-20 years without grant funding.

Basis for Priority:

Revenue generation and increased customer satisfaction.

Project Financial Summary:			
Funded to Date:	$ 148,978	Expenditures through end of year:	$ 104,826
Spent to Date:	$ 104,826	2023 - 2027 Planned Expenditures:	$ 25,000
Cash flow through end of year:		Total Project Estimate:	$ 129,826
Project Balance	$ 44,152	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design	$ 5,000					$ 5,000
Study/Planning	$ 20,000					$ 20,000
TOTAL	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: PLANNED

Project Name: Sly Park Recreation Area Facility Improvements

Project Category: Master Planning

Priority: 3 **PM:** Certiberi **Board Approval:** 11/14/22

Project Description:

The scope of this project will be to analyze and implement park improvements as described in the Sly Park Master Plan. The addition of these new facilities will generate more income, enhance the level of environment protection, improve water quality, provide facilities that enhance the visitors experience, and increase the level of safety for park visitors and EID employees. These projects would include but would not be limited to;

1) Repositioning the Sly Park Recreation Area (SPRA) entrance gatehouse to increase the distance between the gate and CR E-16, thus reducing traffic back ups on E-16 and the potential for traffic accidents.
2) Expanding the number of day use facilities, improving and enlarging existing day use facilities and improving and enlarging the associated parking areas. This expansion/improvement would help reduce the need to close the park during periods of high use, resulting in increased revenue. These improvements would also reduce camper/day user conflict and provide a way to potentially lessen the impact to the Mormon Immigrant Trail accessed day use areas. Day Use access to SPRA was restricted for one (1) to three (3) hours every Sat & Sun, from 5/27/17-9/3/2017 due to reaching facility capacity thresholds.
3) Improved campsite parking spur delineation and campground roadways to reduce soil compaction and improve storm water runoff control and capture to reduce erosion and improve water quality. Currently, many of the day use areas and campgrounds in SPRA have minimal or zero storm water management systems in place. Storm water could be directed and contaminants captured before entering Jenkinson Lake by clearly delineating parking areas and improving roadways with culverts and oil separators. Clearly defined parking areas will also reduce the amount of soil compaction which will lead to increased revegetation throughout SPRA, thus improving water quality.

Basis for Priority:

Continued increased risk to the environment and water quality, health and safety risk for SPRA visitors and EID staff, revenue generation and increased customer satisfaction.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	$ -
Spent to Date:		**2023 - 2027 Planned Expenditures:**	$ 325,000
Cash flow through end of year:		**Total Project Estimate:**	$ 325,000
Project Balance	$ -	**Additional Funding Required**	$ 325,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Main DUA Expansion		$ 25,000	$ 125,000			$ 150,000
Bumpy Meadows / Waterfall Trailhead Parking and DUA Expansion						$ -
Pinecone DUA Paving						$ -
Main Boat Launch Road & Parking Lot Paving				$ 25,000	$ 125,000	$ 150,000
Day Use Area Upgrades					$ 25,000	$ 25,000
TOTAL	$ -	$ 25,000	$ 125,000	$ 25,000	$ 150,000	$ 325,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
Total	**100%**		**$0**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: PLANNED

Project Name: Silver Lake West Campground Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

The 2021 Caldor fire operations along the Highway 88 resulted in damage to the pavement at the District's Silver Lake West Campground. The District requested money from FEMA to assist with the repairs. The District will also perform replacement of the waterlines under the paving that will be replaced.

Basis for Priority:

Replacement of necessary damaged or destroyed assets.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 95,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 95,000
Project Balance	$ -	Additional Funding Required	$ 95,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design			$ 35,000			$ 35,000
Capitalized Labor				$ 25,000		$ 25,000
Construction				$ 115,000		$ 115,000
FEMA Reimbursement				$ (80,000)		$ (80,000)
TOTAL	$ -	$ -	$ 35,000	$ 60,000	$ -	$ 95,000

Funding Sources	Percentage	2023	Amount
Water Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

General District Projects

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 18055

Project Name: Hansen 7 Software Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sundaram **Board Approval:** 11/14/22

Project Description:

This project replaces the existing Hansen 7 enterprise software application with a modern enterprise solution providing superior features and functionality, including mobile device access and easier integration to other District systems. The project is anticipated to transform and streamline many current business processes and operations that now require time-consuming workarounds developed to overcome limitations in the current software.

Basis for Priority:

The Hansen 7 enterprise software application has reached the end of its useful and can no longer be adapted to meet business needs. The software is used daily by over 150 employees for customer service, utility billing, asset maintenance, and many other purposes.

Project Financial Summary:			
Funded to Date:	$ 11,008,557	Expenditures through end of year:	$ 6,553,044
Spent to Date:	$ 5,053,044	2023 - 2027 Planned Expenditures:	$ 4,455,500
Cash flow through end of year:	$ 1,500,000	Total Project Estimate:	$ 11,008,544
Project Balance	$ 4,455,513	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Consulting Services	$ 2,100,000	$ 837,500				$ 2,937,500
Software & Equipment	$ 48,000					$ 48,000
Capitalized Labor	$ 1,200,000	$ 270,000				$ 1,470,000
						$ -
TOTAL	$ 3,348,000	$ 1,107,500	$ -	$ -	$ -	$ 4,455,500

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
Total	**100%**		**$0**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 21042

Project Name: HQ Backup Power Modifications

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Money **Board Approval:** 11/14/22

Project Description:

This project upgrades the power distribution system at the Placerville Headquarters (HQ) building to include full generator backup for the whole building. Currently the majority of HVAC units, elevators, some bathroom fans and large portion of the older building are not backed during power outages. The fire suppression system and building alarms are also not properly backed up.

This project also incorporates Tesla battery storage equipment that is 100% funded under the California Public Utilities Commissions (CUPC) Self-Generation Incentive Program (SGIP) program. Incorporation of this storage equipment will allow the District to reduce electrical charges at HQ through peak shaving as well as provide full and instantaneous power backup to the building for limited durations.

Basis for Priority:

Project is under construction. Safety concerns due to lack of fire suppression system and building alarm when running on backup generator. Adequate air circulation in the building is currently not available when running on backup power. Grant funding, energy cost savings, limited duration battery backup power provides operational flexibility to operations staff during large power outages.

Project Financial Summary:			
Funded to Date:	$ 928,009	Expenditures through end of year:	$ 853,009
Spent to Date:	$ 194,462	2023 - 2027 Planned Expenditures:	$ 75,000
Cash flow through end of year:	$ 658,547	Total Project Estimate:	$ 928,009
Project Balance	$ 75,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Design						$ -
Construction	$ 50,000					$ 50,000
Capitalized labor	$ 25,000					$ 25,000
						$ -
TOTAL	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This program is intended to comply with regulatory requirements imposed by OSHA in regards to electrical safety of qualified workers. Majority of the electrical equipment in the District is no longer in compliance with the current regulatory requirements and National Fire Protection Association code (NFPA 70E 2021 Standard for Electrical Safety in the Workplace). In order for District to comply and avoid potential fines, Arc Flash Risk Assessment needs to be performed for each District facility that contains electrical hazards. Due to large amount of facilities and electrical equipment, this compliance requirement cannot be completed in a single year and must be separated into manageable portions. This program will assure District stays in compliance.

Basis for Priority:

Maintain electrical safety regulatory requirements of OSHA and NFPA70E. Determine replacement and improvement strategy to support regulatory compliance, improve service reliability and safety. This study will protect and preserve the health and safety of employees and the public.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 89,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 89,000
Project Balance	$ -	Additional Funding Required	$ 89,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Professional Services	$ 30,000	$ -	$ -	$ -	$ 35,000	$ 65,000
Capitalized Labor	$ 12,000	$ -	$ -	$ -	$ 12,000	$ 24,000
						$ -
						$ -
TOTAL	$ 42,000	$ -	$ -	$ -	$ 47,000	$ 89,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$25,200
Wastewater Rates	40%		$16,800
Total	100%		$42,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 18044

Project Name: WAN Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:** 11/14/22

Project Description:

Project implements new network router equipment and establishes new fiber-optic service delivery points to provide needed upgrades to the District's existing Wide Area Network (WAN) infrastructure. The project deploys a next generation solution to meet the District's site to site connectivity requirements, improves service reliability and performance while creating a more scalable and flexible architecture to meet future business needs.

The remaining location to complete for this project scope is Camino Heights in late 2022 or early 2023.

Basis for Priority:

Major elements of the District's Wide Area Network (WAN) essential to District operations, services, and security, have reached the end of their useful life and require replacement.

Project Financial Summary:			
Funded to Date:	$ 479,697	Expenditures through end of year:	$ 479,697
Spent to Date:	$ 448,061	2023 - 2027 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ 31,636	Total Project Estimate:	$ 494,697
Project Balance	$ (0)	Additional Funding Required	$ 15,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 15,000					$ 15,000
						$ -
TOTAL	$ 15,000	$ -	$ -	$ -	$ -	$ 15,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$9,000
Wastewater Rates	40%		$6,000
			$0
Total	100%		$15,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 19027

Project Name: Windows Server 2016 Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Stevenson **Board Approval:** 11/14/22

Project Description:

This project replaces about 60 individual Windows 2008 Server applications which have been in service for up to 10 years with the District's current Windows Server solution.

Basis for Priority:

The systems have reached their functional or technical limits and can no longer be adapted to meet essential needs, including regulatory, operational, technology, or security requirements. Continued use of obsolete or failing IT infrastructure causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse.

Project Financial Summary:			
Funded to Date:	$ 180,000	Expenditures through end of year:	$ 140,000
Spent to Date:	$ 120,000	2023 - 2027 Planned Expenditures:	$ 40,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 180,000
Project Balance	$ 40,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 40,000					$ 40,000
						$ -
TOTAL	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000

Funding Sources	Percentage	2023 Amount
Water Rates	60%	$0
Wastewater Rates	40%	$0
		$0
Total	100%	$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 19028

Project Name: Datacenter SCADA Segmentation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Proctor **Board Approval:** 11/14/22

Project Description:

The project replaces end-of-life network equipment and makes improvements to the secure gateway into the Supervisory and Data Acquision (SCADA) network. The SCADA network provides mission critical industrial process control of automated treatment and operations functions. The solution implements segmentation and controls between the District's business and SCADA networks that is designed to meet current security best practices while also improving performance and reliability.

Basis for Priority:

Equipment that comprises significant portions of the secure SCADA network gateway has reached the end of its useful life and requires replacement. If the aging equipment or operating system software was to fail or become unavailable for any reason, the best case scenario is a minor financial impact due to a loss of productivity. However, the potential for significant disruption, or worse, is very real.

Project Financial Summary:			
Funded to Date:	$ 324,569	Expenditures through end of year:	$ 297,280
Spent to Date:	$ 257,280	2023 - 2027 Planned Expenditures:	$ 27,000
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 324,280
Project Balance	$ 27,289	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 27,000					$ 27,000
						$ -
TOTAL	$ 27,000	$ -	$ -	$ -	$ -	$ 27,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 19029

Project Name: Wyse Laptop Replacement

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Parsons	Board Approval:	11/14/22

Project Description:

The project replaces a range of mobile computing equipment and operating system software with modern solutions providing superior features, functionality, and security. The equipment is used daily by a mobile workforce of over 100 staff to perform a wide array of mission critical and essential duties. Most users of the modern mobile equipment this project provides will further benefit from improved mobile capabilities of the Hansen 7 Software Replacement project (18055) anticipated to transform and streamline many current business processes and operations.

Basis for Priority:

The equipment and operating system software have reached the end of their useful life and require replacement. As the aging equipment fails, the best case scenario is a minor financial impact due to a loss of productivity. However, as the operating system becomes unsupported and increasingly vulnerable over time to compromise, the risk of significant disruption or worse is very real.

Project Financial Summary:			
Funded to Date:	$ 286,514	Expenditures through end of year:	$ 170,139
Spent to Date:	$ 130,139	2023 - 2027 Planned Expenditures:	$ 116,375
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 286,514
Project Balance	$ 116,375	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 116,375					$ 116,375
						$ -
TOTAL	$ 116,375	$ -	$ -	$ -	$ -	$ 116,375

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 22021

Project Name: Camino Heights SCADA Upgrade

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Proctor	Board Approval:	11/14/22

Project Description:

This project aims to replace existing the existing rack mounted servers at the SCADA site with a full hardware upgrade to match other SCADA sites. This will include 3 servers, VMware Licensing, 1 storage array, 2 switches, 2 firewalls and 1 stand-alone server rack with climate control.

Basis for Priority:

The current support for the Dell servers expired in July 2021 and is currently under support with Service Express. This site only has two servers and is currently monitored by Deer Creek Waste Water. The goal is to upgrade this site to be the same as the other 10 remote SCADA sites.

Project Financial Summary:			
Funded to Date:	$ 40,000	Expenditures through end of year:	$ -
Spent to Date:		2023 - 2027 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 100,000
Project Balance	$ 40,000	Additional Funding Required	$ 60,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 100,000					$ 100,000
						$ -
TOTAL	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2023	Amount
Wastewater Rates	100%		$60,000
			$0
			$0
Total	100%		$60,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 22032

Project Name: VMware License Purchase

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Proctor **Board Approval:** 11/14/22

Project Description:

Virtualization software is used continuously to provide computing, networking, security, and other technology backbone services. Its continued maintenance is critical to District operations. Staff routinely engage technical experts via the existing maintenance contract when planning required changes and certain maintenance activities. A maintenance contract also entitles the District to receive enhanced versions of the software as they are released by the manufacturer.

Basis for Priority:

The current maintenance contract for virtualization software expires July 29, 2022 and renewal is essential to ensure continuity of virtualization software performance.

Project Financial Summary:			
Funded to Date:	$ 260,000	Expenditures through end of year:	$ 20,000
Spent to Date:	$ 202,500	2023 - 2027 Planned Expenditures:	$ 20,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 40,000
Project Balance	$ 37,500	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 20,000					$ 20,000
						$ -
TOTAL	$ 20,000	$ -	$ -	$ -	$ -	$ 20,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Headquarter Facility Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Royal **Board Approval:** 11/14/22

Project Description:

The following building upgrade projects are planned for 2023 - 2027
2023: Reapply the membrane roof system with new energy efficent, fluid applied ASTEC roofing coating system. Install (30) new iWave air purifiers into existing units to controll fire smoke and other air quality issues. Upgrade Alerton control system to match the existing newer legacy Alerton IBEX EMS controls and sensoring system for the HVAC controls.
2024: Convert remaining indoor lighting to LED, upgrade fire alarm system pannel to new upgraded pannel, backup power supply for upper fleet yard to support fleet operations and warehouse operations.
2025: Walkway accessibility to H/Q building improvement.
2026: Covered parking improvement for upper parking lot. Parking and road improvement for construction and fleet yard.

Basis for Priority:

The Headquarters building and surrounding areas are in major need of improvements and updating for new reliable efficient systems and to maintain and enhance this large district asset.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 680,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 680,000
Project Balance	$ -	Additional Funding Required	$ 680,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 480,000	$ 200,000	$ -	$ -	$ -	$ 680,000
TOTAL	$ 480,000	$ 200,000	$ -	$ -	$ -	$ 680,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$288,000
Wastewater Rates	40%		$192,000
Total	**100%**		**$480,000**

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: IT Business Systems Replacement

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Sundaram	Board Approval:	11/14/22

Project Description:

Ongoing program to ensure the reliability, security, and performance of technologies and software used by staff daily to perform business processes in support of District operations. Technologies are typically a mix of cloud-based services and on-premise equipment or database software, and include:

- Administration Technologies: document management, accounting, purchasing, contracting, or support desk systems
- Engineering Technologies: asset management, drafting, modeling, analyzing, or construction management systems
- Operations Technologies: work management, specialty inspections, energy management, or laboratory information management systems

Business system technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Anticipated initiatives include:
2023 - Upgrade to next generation modeling software, develop contract management and IT change management solutions in ITSM software.
2024 - Develop plant operator rounds solution in LIMS software.
2025 - Upgrade to next generation GIS software.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Business system technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 455,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 455,000
Project Balance	$ -	Additional Funding Required	$ 455,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Admin & Finance Technology	$ 50,000	$ 25,000	$ 250,000			$ 325,000
Operations Technology		$ 30,000				$ 30,000
Engineering Technology	$ 25,000		$ 25,000	$ 50,000		$ 100,000
TOTAL	$ 75,000	$ 55,000	$ 275,000	$ 50,000	$ -	$ 455,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	60%	$45,000
Wastewater Rates	40%	$30,000
Total	100%	$75,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: IT Communication Systems Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:** 11/14/22

Project Description:

Ongoing program to ensure the reliability, security, and performance of technologies and software used by staff daily to communicate, collaborate, and coordinate with other staff, customers, vendors, regulators, and others in support of District operations. Technologies are typically a mix of cloud-based services and on-premise equipment, and include:

- Voice & Video Calling: telephones, voice or video gateway equipment, call processing or routing software
- Meeting Technology: audio-visual equipment and software to conduct and manage physical or virtual meetings
- Email & Messaging: software applications to compose, manage, search and securely send or receive message and file transmissions
- Sharing & Collaboration: software platforms for individuals, teams or groups to create and publish content to an intranet or the Internet

Communications and collaboration technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Communications and collaboration technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 525,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 525,000
Project Balance	$ -	Additional Funding Required	$ 525,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Voice & Video Calling Upgrades	$ 75,000	$ 50,000			$ 100,000	$ 225,000
Meeting Technology Upgrades	$ 25,000		$ 50,000	$ 100,000		$ 175,000
Cloud Email & Intranet Upgrades		$ 125,000				$ 125,000
TOTAL	$ 100,000	$ 175,000	$ 50,000	$ 100,000	$ 100,000	$ 525,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	60%		$60,000
Wastewater Rates	40%		$40,000
Total	100%		$100,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: IT End-User Technology Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:** 11/14/22

Project Description:

Ongoing program to ensure the reliability, security, and performance of workstations, productivity software and related technology used by staff daily to operate the District. End-user technologies include:
- Virtual Machines (VMs): cloud-based workstations served by Virtual Desktop Infrastructure (VDI), client terminals and imaging software
- Personal Computers (PCs): traditional physical desktop and laptop computers, operating software, and computer management software
- Personal Productivity Software Suites: common software applications to create, view, edit and manage files or documents
- Endpoint Security Software: software designed to secure workstations from a variety of cyber threats

End-user technologies evolve quickly and manufacturers will typically cease product support and security fixes when the product is beyond five years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Planned initiatives include:
2023-24: Windows 10 replacement on all physical PCs and VMs
2024: Virtual desktop infrastructure and VM image replacement
2024-25: Replace end-of-life VM terminals and physical PCs unable to support Win 10 replacement

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Personal productivity technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched personal computer systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 700,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 700,000
Project Balance	$ -	Additional Funding Required	$ 700,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
VM Upgrades		$ 200,000				$ 200,000
PC Upgrades		$ 50,000	$ 125,000		$ 100,000	$ 275,000
Personal Productivity & Security Software Upgrades	$ 25,000	$ 200,000				$ 225,000
TOTAL	$ 25,000	$ 450,000	$ 125,000	$ -	$ 100,000	$ 700,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	60%		$15,000
Wastewater Rates	40%		$10,000
Total	100%		$25,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: IT Environment Controls Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Tarbox **Board Approval:** 11/14/22

Project Description:

The project replaces 9 end-of-life air conditioning (AC) units and 6 wall-mount enclosures dedicated for IT equipment essential to operate critical District plants and facitlities. The current AC units have reached their end of useful life and are no longer reliable. The current wall-mount enclosures can no longer be adapted to meet new standard IT equipment size and environmental requirements.

Basis for Priority:

The units identified have reached the end of their service life and must be replaced. Failure to maintain a stable environment with adequate heat and dust control can quickly lead to overheating that shortens equipment life or causes equipment failure. Equipment failure can cause a loss of facility communications or process control that can disrupt service to customers, lead to regulatory violations and fines, or worse.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 350,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 350,000
Project Balance	$ -	Additional Funding Required	$ 350,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning	$ 5,000					$ 5,000
Design	$ 5,000					$ 5,000
Construction	$ 240,000	$ 100,000				$ 340,000
						$ -
TOTAL	$ 250,000	$ 100,000	$ -	$ -	$ -	$ 350,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$150,000
Wastewater Rates	40%		$100,000
Total	100%		$250,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: IT Network Infrastructure Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:** 11/14/22

Project Description:

Ongoing program to ensure the reliability, security, and performance of mission critical networking and data processing technologies include:
- Local & Wide Area Networks (LANs/WANs): network equipment providing connectivity to facilities, servers, workstations, and other services
- Data Processing & Storage: cloud or on premise platforms providing shared computing, data storage and backup
- Access & Identity Management: enterprise software to manage, monitor and control access to computers, software, data, and services
- Network Security Systems: equipment and software designed to monitor, detect, and respond to a variety of cyber threats

Network infrastructure technologies evolve steadily and manufacturers will typically cease new feature development 3 to 5 years after the product was initially released and usually end all support and security fixes when the product reaches about 5 to 10 years of age. The program tracks technologies in use at the District and provides modern, efficient, flexible, scalable, and secure replacement solutions before current equipment, systems, or services lose manufacturer support and/or fail with potentially catastrophic results.

Basis for Priority:

Continued use of obsolete or failing technology causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse. Network infrastructure technologies typically have Internet access which exposes them regularly to a multitude of advanced persistent cyber threats. While access to the Internet can provide tremendous benefit, outdated or unpatched computer systems or software can become compromised in a matter of minutes.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 1,650,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,650,000
Project Balance	$ -	Additional Funding Required	$ 1,650,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Network Upgrades	$ 300,000	$ 200,000	$ 75,000	$ 75,000	$ 75,000	$ 725,000
Server, Data Processing & Storage Upgrades	$ 400,000	$ 175,000		$ 100,000		$ 675,000
Identity, Access & Security Upgrades	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
TOTAL	$ 750,000	$ 425,000	$ 125,000	$ 225,000	$ 125,000	$ 1,650,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	60%		$450,000
Wastewater Rates	40%		$300,000
Total	100%		$750,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Security Equipment Reliability Program

Project Category: Regulatory Requirements

Priority: 2 **PM:** Newsom **Board Approval:** 11/14/22

Project Description:

Integrated security systems have been protecting District critical infrastructure and key resources since 2006, providing alarm verification through real-time CCTV system viewing of alarm events. As technology evolves and our systems reach end of life cycle we acquire the most effective solutions in hardware and software to maintain integrated security systems that provide timely detection and law enforcement response elements to mitigate theft, vandalism, trespassing, other malevolent incidents impacting critical infrastructure. The integrated system also provides an important emergency response capability required for compliance with the District Drinking Water Risk Assessment, FERC Security Assessment, Emergency Operations and Department Emergency Actions Plans as required by the Federal Safe Drinking Water Act, Title IV - Drinking Water Security and Safety, and America's Water Infrastructure Act of 2018.

Basis for Priority:

Meet the requirements of the Safe Drinking Water Act and America's Water Infrastructure Act through compliance with the District Drinking Water Risk Assessment, FERC Security Assessment, Department of Homeland Security, Federal Emergency Management Agency, and the Department of Energy requirements for Emergency Action Plans and Critical Infrastructure security.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 680,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 680,000
Project Balance	$ -	Additional Funding Required	$ 680,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Consulting Services	$ 70,000					$ 70,000
Replacement	$ 230,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 610,000
						$ -
TOTAL	$ 300,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 680,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	60%	$180,000
Wastewater Rates	40%	$120,000
		$0
Total	100%	$300,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: Planned

Project Name: Vehicle Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Royal **Board Approval:** 11/14/22

Project Description:

The following vehicle replacements are planned for 2023 - 2027.
2023: (3) 1/2 ton pickups, (1) 10 yard dump truck, (1) transfer truck, (2) 1-1/2 ton valve turn trucks, (1) 1 ton 4x4 service truck, (1) 3/4 ton 4x4 pickup truck, (1) JD50 excavator, (1) 3 axle equipment trailer. **Note**: (5) F150 1/2 ton trucks were ordered in 2022 but will not show up until 2023.
2024: (3) 1/2 ton pickups, (1) suv, (1) 3/4 ton utility 2x4 truck, (3) 1 ton utility truck 4x4, (1) 1 ton crew cab 4x4 pickup truck, (1) 1-1/2 ton utility 4x4 truck, (1) 52,000lb septic pumper truck, (1) 4 thousand gallon water truck. **Note**: (6) dump trucks and (1) 4 thousand gallon water truck were ordered in 2022 but will not show up until 2024.
2025: (3) 1/2 ton pickups, (4) suv's, (1) 3/4 ton pickup 4x4, (2) 1 ton utility 4x4 trucks, (2) 1 ton extended cab 4x4 trucks, (1) 1-1/2 ton utility 4x4 truck, (1) 1-1/2 ton contractor body 4x4 truck, (1) 1-1/2 ton crew cab 4x4 crew truck with power unit, (1) 21-24 ft patrol boat, (1) 410 backhoe, (1) fx40 vacuum excavation trailer.
2026: (12) 1/2 ton pickup's, (2) 4 door sedan's, (3) suv's, (5) 1 ton utility 4x4, (1) 3/4 ton utility 4x2 truck, (2) 1 ton flatbed 4x4 truck's, (1) jeep 4x4, (1) 410 backhoe,
2027: (3) 1/2 ton pickup's, (1) 1 ton utility 4x2 truck, (1) 1-1/2 ton flatbed dump 4x4, (1) 1-1/2 ton crew cab 4x4 crew truck with power unit, (1) sewer service foam truck, (1) sewer inspection camera van, (1) 410 backhoe

Basis for Priority:

Enhances District assets through life-cycle replacement of existing vehicles.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	
Cash flow through end of year:	$ -	Total Project Estimate:	$ -
Project Balance	$ -	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Vehicles/Equipment	$ 1,486,000	$ 2,107,000	$ 1,407,000	$ 1,521,000	$ 1,438,000	$ 7,959,000
						$ -
TOTAL	$ 1,486,000	$ 2,107,000	$ 1,407,000	$ 1,521,000	$ 1,438,000	$ 7,959,000

Estimated Funding Sources	Percentage	2023 Amount
Water Rates	60%	$891,600
Wastewater Rates	40%	$594,400
		$0
Total	100%	$1,486,000

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: Planned

Project Name: Windows 2012 Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Stevenson **Board Approval:** 11/14/22

Project Description:

This project replaces about 60 individual Windows 2012 Server applications which have been in service for up to 10 years with the District's current Windows Server solution.

Basis for Priority:

The systems have reached their functional or technical limits and can no longer be adapted to meet essential needs, including regulatory, operational, technology, or security requirements. Continued use of obsolete or failing IT infrastructure causes operational inefficiencies at a minimum, and quite possibly increased risk of service interruptions, regulatory fines, data breach, or worse.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ -
Cash flow through end of year:		Total Project Estimate:	$ -
Project Balance	$ -	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design	$ 13,500					$ 13,500
Implementation	$ 64,800					$ 64,800
						$ -
TOTAL	$ 78,300	$ -	$ -	$ -	$ -	$ 78,300

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$46,980
Wastewater Rates	40%		$31,320
			$0
Total	100%		$78,300

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 22022

Project Name: Network Perimeter Security Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Eberhard **Board Approval:** 11/14/22

Project Description:

IT staff have identified needed upgrades to the District's existing firewalls, two factor authentication and cellular modems infrastructure. The focus of this project is to design and deploy a next generation solution to meet the District's cyber security and backup data paths for site-to-site connectivity requirements. With an emphasis on incorporating a solution that reduces cost, speeds deployment, integrates security and creates a more agile architecture to support todays and future business needs.

Basis for Priority:

Major elements of the District's Network Perimeter essential to District operations, services, and security, have reached the end of their useful life and require replacement.

Project Financial Summary:			
Funded to Date:	$ 25,000	Expenditures through end of year:	$ 239,063
Spent to Date:	$ 3,063	2023 - 2027 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 236,000	Total Project Estimate:	$ 289,063
Project Balance	$ (214,063)	Additional Funding Required	$ 264,063

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Study/Planning						$ -
Design						$ -
Construction	$ 50,000					$ 50,000
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2023	Amount
Water Rates	60%		$158,438
Wastwater Rates	40%		$105,625
			$0
Total	100%		$264,063

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: SCADA Cyber Security Improvements

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This project will implement technology to identify and alert District staff as to nefarious network activity on the District's control systems network and harden the control network through further separation of the business and control network. Such activates would include: a persistent threat on our control network that breached our systems, malfunctioning equipment and detecting known vulnerabilities within our network. This system would also serve as a tool to actively defend and document cyberattacks. Separation would include a division of core systems.

Basis for Priority:

Establish a cybersecurity appliances to reduce risk and exposure time to cyber incidents on District's process control network related to the critical infrastructure.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 150,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
HW/SW					$ 35,000	$ 35,000
Professional Services					$ 100,000	$ 100,000
Capitalized Labor					$ 15,000	$ 15,000
TOTAL	$ -	$ -	$ -	$ -	$ 150,000	$ 150,000

Estimated Funding Sources	Percentage	2023	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
Total	100%		$0

Funding Comments:

2023	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: SCADA Master Plan Implementation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leanos **Board Approval:** 11/14/22

Project Description:

This CIP outlines improvements and sustainability plan as recommended by our hired consultant. Please refer to the SCADA Master Plan.

Basis for Priority:

Meet the requirements of the Department of Homeland Security to maintain Critical Infrastructure security and software up to date and supported.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2023 - 2027 Planned Expenditures:	$ 775,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 775,000
Project Balance	$ -	Additional Funding Required	$ 775,000

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
EDHWW SCADA upgrade			$ 450,000			$ 450,000
Camp 5 SCADA upgrade				$ 250,000		$ 250,000
SCADA Enterprise System Upgrade					$ 75,000	$ 75,000
TOTAL	$ -	$ -	$ 450,000	$ 250,000	$ 75,000	$ 775,000

Estimated Funding	Percentage	2023 Amount
Water Rates	60%	$0
Wastewater Rates	40%	$0
		$0
Total	100%	$0

Funding Comments: