El Dorado Irrigation District

FIVE YEAR

Capital Improvement Plan

2021—2025

Approved October 26, 2020

2021-2025 CAPITAL IMPROVEMENT PLAN

Approved October 26, 2020

	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$1,854,762	$466,195	$407,671	$394,191	$305,682	$3,428,501
Water	$49,123,068	$15,342,185	$21,125,000	$19,595,000	$18,500,000	$123,685,253
Wastewater	$5,954,000	$4,790,000	$6,870,000	$12,560,000	$10,935,000	$41,109,000
Recycled Water	$150,000	$375,000	$590,000	$400,000	$400,000	$1,915,000
Hydroelectric	$13,270,000	$5,085,000	$4,425,000	$4,635,000	$7,200,000	$34,615,000
Recreation	$140,000	$160,000	$95,000	$150,000	$100,000	$645,000
General District	$7,832,000	$4,968,000	$2,875,000	$2,174,000	$2,108,000	$19,957,000
TOTAL	**$78,323,830**	**$31,186,380**	**$36,387,671**	**$39,908,191**	**$39,548,682**	**$225,354,754**

2020-2024 CAPITAL IMPROVEMENT PLAN

Approved October 15, 2019

	2020 PLANNED	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$5,721,762	$743,195	$464,671	$381,191	$392,682	$7,703,501
Water	$22,342,500	$25,813,750	$15,303,750	$14,023,750	$27,360,750	$104,844,500
Wastewater	$8,701,493	$6,195,000	$6,085,000	$4,855,000	$8,530,000	$34,366,493
Recycled Water	$175,000	$100,000	$550,000	$550,000	$550,000	$1,925,000
Hydroelectric	$19,615,000	$11,295,000	$4,310,000	$8,395,000	$6,460,000	$50,075,000
Recreation	$150,000	$150,000	$100,000	$200,000	$100,000	$700,000
General District	$2,600,000	$2,351,000	$1,997,000	$1,620,000	$1,290,000	$9,858,000
TOTAL	**$59,305,755**	**$46,647,945**	**$28,810,421**	**$30,024,941**	**$44,683,432**	**$209,472,494**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan

FERC Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
06019H	FERC: C35 Oyster Creek	FERC	1	10,000	10,000	10,000	10,000	0	40,000
06021H	FERC C37.8 Water Temperature	FERC	1	25,000	35,000	35,000	25,000	35,000	155,000
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	15,000	0	0	0	0	15,000
06087H	FERC C37.1 Fish Monitoring	FERC	1	75,000	75,000	0	0	0	150,000
06088H	FERC: C37.2 Macroinvertebrate Monitoring	FERC	1	65,000	65,000	0	0	0	130,000
06089H	FERC: C37.3 Amphibian Monitoring	FERC	1	105,000	0	0	0	0	105,000
06090H	FERC: C37.4 Riparian Species Composition	FERC	1	25,000	0	0	0	0	25,000
06091H	FERC: C37.5 Riparian Vegetation Recruitment	FERC	1	25,000	0	0	0	0	25,000
06092H	FERC: C37.7 Geomorphology Evaluation	FERC	1	75,000	0	0	0	0	75,000
06096H	FERC: C55 Heritage Resources	FERC	1	55,000	0	0	0	0	55,000
06097H	FERC: C59 Facility Management Plan	FERC	1	5,000	5,000	15,000	0	0	25,000
06098H	FERC: C46 thru C49 Recreation Resource Management	FERC	1	0	0	70,000	10,000	0	80,000
07003H	FERC: C37.9 Water Quality	FERC	1	80,000	0	0	80,000	0	160,000
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	51,762	53,195	54,671	56,191	57,682	273,501
07010H	FERC: C15 Pesticide Use	FERC	1	80,000	80,000	90,000	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	5,000	15,000	5,000	5,000	5,000	35,000
08025H	FERC C44 Noxious Weed Monitoring	FERC	1	45,000	30,000	30,000	30,000	30,000	165,000
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
PLANNED	FERC: C54 Visual Resources Management Plan	FERC	1	15,000	0	0	0	0	15,000
TOTAL:				**1,854,762**	**466,195**	**407,671**	**394,191**	**305,682**	**3,428,501**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
11032	Main Ditch - Forebay to Reservoir 1	WA	1	10,232,815	3,747,185	0	0	0	13,980,000
15024	Folsom Lake Intake Improvements Project	WA	1	28,740,253	0	0	0	0	28,740,253
16048	Outingdale Water Intake Replacement	WA	1	460,000	800,000	0	0	0	1,260,000
17016	El Dorado Main #1 PRS #5	WA	1	250,000	0	0	0	0	250,000
17035	Green Valley Bridge Relocation	WA	1	0	75,000	750,000	0	0	825,000
18048	Critical Water Facility Generators	WA	1	300,000	0	0	0	0	300,000
18065	El Dorado Hills Water Treatment Plant Automation Rehabilitation	WA	1	1,150,000	0	0	0	0	1,150,000
19008	EDM 1 Relocate / Camino Safety	WA	1	660,000	0	0	0	0	660,000
19010	Valley View Pump Station #3	WA	1	100,000	0	0	0	0	100,000
20002	DOT Construction Projects - Water	WA	1	30,000	30,000	30,000	30,000	30,000	150,000
20017	No Name Creek Diversion Gauging	WA	1	50,000	0	0	0	0	50,000
PLANNED	Placerville Drive Hangtown Creek Bridge Replacement	WA	1	60,000	300,000	0	0	0	360,000
PLANNED	Water Arc Flash Risk Assessment Program	WA	1	50,000	50,000	50,000	50,000	50,000	250,000
16003	Permit 21112 Change in Point of Diversion	WA	2	550,000	200,000	200,000	0	0	950,000
17011	Crestview Pump Station Replacement Project	WA	2	50,000	250,000	250,000	0	0	550,000
17048	Strawberry Raw Water Pump Station	WA	2	0	0	150,000	0	0	150,000
18040	Forebay Road Waterline Replacement	WA	2	0	0	15,000	1,950,000	0	1,965,000
19019	Strawberry Self Cleaning Screens	WA	2	50,000	0	0	0	0	50,000
19033	Reservoir A WTP PLC Replacement	WA	2	300,000	550,000	0	0	0	850,000
19036	Serviceline Replacement Program	WA	2	4,050,000	4,850,000	4,850,000	4,850,000	4,850,000	23,450,000
19050	Construction Storage Facility	WA	2	0	50,000	50,000	800,000	0	900,000
20001	AMR and Small Meter Replacement	WA	2	200,000	300,000	300,000	300,000	300,000	1,400,000
20016	Reservoir 2 - PRS #6	WA	2	0	0	0	0	800,000	800,000
20021	El Dorado Main #2 PRS #1	WA	2	50,000	0	0	0	0	50,000
20030	Drop Off Road Waterline Extension	WA	2	0	0	900,000	0	0	900,000
20034	El Dorado Hills WTP Flow Meter Upgrade Project	WA	2	250,000	0	0	0	0	250,000
20035	El Dorado Main #2 Air Release Valve Upgrade	WA	2	285,000	0	0	0	0	285,000
PLANNED	Folsom - EDH Water Treatment Plant Improvements Program	WA	2	50,000	100,000	100,000	100,000	100,000	450,000
PLANNED	Lower Ditch SCADA Hardware Upgrades	WA	2	0	0	50,000	150,000	0	200,000
PLANNED	Pressure Reducing Station Rehabilitation and Replacement Program	WA	2	0	0	655,000	1,275,000	1,375,000	3,305,000
PLANNED	Pump Station Rehabilitation and Replacement Program	WA	2	0	100,000	700,000	1,200,000	1,150,000	3,150,000

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
PLANNED	Reservoir 1 Water Treatment Plant Improvements Program	WA	2	0	100,000	175,000	350,000	450,000	1,075,000
PLANNED	SCADA Water Hardware Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Sly Park Intertie Improvements	WA	2	0	0	100,000	500,000	500,000	1,100,000
PLANNED	Sly Park Outlet Control Facility Improvements	WA	2	0	50,000	200,000	75,000	0	325,000
PLANNED	Sly Park - Reservoir A Water Treatment Plant Improvements Program	WA	2	0	100,000	400,000	100,000	100,000	700,000
PLANNED	Storage Replacement & Rehabilitation Program	WA	2	200,000	2,050,000	5,100,000	1,850,000	3,250,000	12,450,000
PLANNED	Transmission Assessment Project	WA	2	0	125,000	150,000	150,000	150,000	575,000
PLANNED	Transmission Slope Stabilization	WA	2	0	25,000	300,000	300,000	0	625,000
PLANNED	Valve Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Water Distribution Radio path design	WA	2	0	0	150,000	170,000	0	320,000
PLANNED	Water Facility Generators	WA	2	0	140,000	105,000	0	0	245,000
PLANNED	Waterline Replacement Program	WA	2	0	0	5,050,000	5,050,000	5,050,000	15,150,000
PLANNED	Wholesale Meter Replacement	WA	2	25,000	275,000	0	0	0	300,000
STUDY03	WTP Assessments	WA	2	400,000	350,000	0	0	0	750,000
STUDY10	Integrated Water Resources Master Plan	WA	2	200,000	200,000	0	0	0	400,000
STUDY15	El Dorado Main #2 Assessment	WA	2	180,000	180,000	0	0	0	360,000
PLANNED	EDM Flow Integration	WA	3	0	145,000	145,000	145,000	145,000	580,000
TOTAL				**49,123,068**	**15,342,185**	**21,125,000**	**19,595,000**	**18,500,000**	**123,685,253**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
16030	Solar Assessment Design	WW	1	110,000	0	0	0	0	110,000
17033	DCWWTP Process Control Design	WW	1	395,000	0	0	0	0	395,000
PLANNED	DOT Construction Projects - Wastewater	WW	1	10,000	10,000	10,000	10,000	10,000	50,000
PLANNED	Wastewater Arc Flash Risk Assessment Program	WW	1	50,000	50,000	50,000	50,000	50,000	250,000
STUDY09	Camino Heights WWTP Study	WW	1	200,000	0	0	0	0	200,000
15036	Silva Valley - El Dorado Hills Sewerline	WW	2	0	250,000	550,000	200,000	0	1,000,000
17023	Rancho Ponderosa LS Relocation/Abandonment	WW	2	0	0	80,000	800,000	0	880,000
17034	Wastewater Collections Facility Relocation	WW	2	3,105,000	0	0	0	0	3,105,000
17046	Strolling Hills Pipeline Improvements	WW	2	0	80,000	300,000	2,200,000	2,200,000	4,780,000
18003	Indian Creek Lift Station Upgrades	WW	2	80,000	320,000	1,330,000	0	0	1,730,000
18035	EDHWWTP WAS DAFT Rehabilitation	WW	2	0	1,150,000	1,150,000	0	0	2,300,000
18063	EDHWWTP Solar Inverters	WW	2	200,000	0	0	0	0	200,000
19005	Town Center Force Main PH4	WW	2	0	0	0	1,700,000	1,700,000	3,400,000
19032	Collections Master Radio PLC Replacement	WW	2	110,000	0	0	0	0	110,000
19045	Herbert Green Lift Station Inflow Mitigation	WW	2	49,000	0	0	0	0	49,000
19046	Diamond Industrial Lift Station Inflow Mitigation	WW	2	47,000	0	0	0	0	47,000
20023	Lift Station Communication Upgrades	WW	2	225,000	460,000	460,000	0	0	1,145,000
20040	Deer Park LS SCADA Hardware Replacement	WW	2	65,000	0	0	0	0	65,000
PLANNED	Collections Pipeline Replacement and Rehabilitation Program	WW	2	100,000	1,000,000	1,000,000	1,000,000	1,000,000	4,100,000
PLANNED	Collections SCADA Upgrade	WW	2	300,000	0	0	0	0	300,000
PLANNED	Deer Creek Collection System Modeling	WW	2	150,000	0	0	0	0	150,000
PLANNED	DCWWTP PLC Replacement Program	WW	2	0	0	150,000	150,000	150,000	450,000
PLANNED	EDHWWTP PLC Replacement Project	WW	2	0	250,000	250,000	300,000	300,000	1,100,000
PLANNED	Hydrovac Cleanout Station Equipment & Spoils Management	WW	2	98,000	0	0	0	0	98,000
PLANNED	Motherlode Forcemain Replacement Program	WW	2	0	200,000	200,000	3,200,000	3,200,000	6,800,000
PLANNED	Promontory Village Inflow & Infiltration Study	WW	2	0	25,000	100,000	0	0	125,000
PLANNED	SCADA Wastewater Hardware Replacement Program	WW	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	St. Andrews Lift Station Upgrades	WW	2	105,000	220,000	0	0	0	325,000
PLANNED	WWTP Assessments	WW	2	0	0	100,000	200,000	200,000	500,000
PLANNED	Wastewater Asset Replacement Program	WW	2	200,000	200,000	200,000	200,000	200,000	1,000,000

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
PLANNED	Wastewater Lift Station Upgrade Program	WW	2	80,000	150,000	300,000	1,800,000	1,500,000	3,830,000
PLANNED	WWTP Process Improvement Program	WW	2	175,000	325,000	325,000	325,000	325,000	1,475,000
PLANNED	UPS Integration	WW	3	0	0	0	125,000	0	125,000
STUDY14	Collections Radio Path Design	WW	3	0	0	215,000	200,000	0	415,000
TOTAL:				**5,954,000**	**4,790,000**	**6,870,000**	**12,560,000**	**10,935,000**	**41,109,000**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Recycled Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
PLANNED	Recycled Water Asset Planning	RW	2	50,000	100,000	0	0	0	150,000
PLANNED	Recycled Water Asset Program	RW	2	50,000	150,000	150,000	150,000	150,000	650,000
PLANNED	Recycled Water Distribution Program	RW	2	50,000	125,000	250,000	250,000	250,000	925,000
PLANNED	Recycled Water Radio Path Design and Replacement	RW	2	0	0	75,000	0	0	75,000
20026	K3 K4 Pump Station Integration	RW	3	0	0	60,000	0	0	60,000
20028	Recycled Valve Installation	RW	3	0	0	55,000	0	0	55,000
TOTAL:				**150,000**	**375,000**	**590,000**	**400,000**	**400,000**	**1,915,000**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
17051	Weber Dam Access	HY	1	50,000	0	0	0	0	50,000
19031	Silver Lake Dam Replacement	HY	1	200,000	300,000	300,000	300,000	400,000	1,500,000
17025	Flume 45 Abutment Replacement	HY	2	200,000	1,500,000	60,000	0	0	1,760,000
17028	Flume 48 Replacement/Tunnel option	HY	2	150,000	200,000	250,000	0	0	600,000
17041	Flume 30 Replacement	HY	2	10,200,000	100,000	0	0	0	10,300,000
18010	Penstock Improvements	HY	2	650,000	425,000	370,000	160,000	160,000	1,765,000
19021	RTU Replacement Control Sites	HY	2	50,000	225,000	325,000	175,000	0	775,000
19024	Echo Conduit Rehabilitation	HY	2	220,000	490,000	440,000	340,000	320,000	1,810,000
PLANNED	Annual Canal and Flume Program	HY	2	500,000	500,000	500,000	500,000	500,000	2,500,000
PLANNED	Annual Reservoir and Dam Program	HY	2	150,000	50,000	150,000	50,000	50,000	450,000
PLANNED	A18 Fiber Communication Improvements	HY	2	100,000	0	50,000	250,000	0	400,000
PLANNED	Diversion Facility Improvements	HY	2	0	170,000	500,000	100,000	840,000	1,610,000
PLANNED	Diversion Repeater Site	HY	2	50,000	50,000	125,000	0	0	225,000
PLANNED	Flume 4 Replacement Project	HY	2	0	0	0	25,000	250,000	275,000
PLANNED	Flume 52A Replacement Project	HY	2	0	0	75,000	200,000	2,500,000	2,775,000
PLANNED	Flumes 45A, 46A, 47A, and 47B Replacement	HY	2	50,000	150,000	150,000	2,300,000	2,000,000	4,650,000
PLANNED	Hydro Facility Replacement Program	HY	2	250,000	100,000	100,000	100,000	100,000	650,000
PLANNED	Powerhouse Automation Replacement	HY	2	150,000	250,000	350,000	0	0	750,000
PLANNED	Project 184 Remote RTU Replacement	HY	2	75,000	50,000	175,000	0	0	300,000
PLANNED	Spare Powerhouse Turbine Runner	HY	2	75,000	0	0	0	0	75,000
PLANNED	Spill 3 Crib Wall Replacement	HY	2	0	425,000	0	0	0	425,000
STUDY 2021	Tunnel Assessment	HY	2	50,000	0	0	0	0	50,000
STUDY 2022	Flume Assessment	HY	2	0	50,000	0	0	0	50,000
STUDY 2023	Canal Assessment	HY	2	0	0	50,000	0	0	50,000
STUDY 2024	Siphon Assessment	HY	2	0	0	0	60,000	0	60,000
STUDY 2025	Canal Release Points Assessment	HY	2	0	0	0	0	80,000	80,000
19013	Hydro Crew Room Upgrade	HY	3	0	0	180,000	0	0	180,000
PLANNED	Camp 5 Facility Power Improvements	HY	3	0	50,000	250,000	0	0	300,000
PLANNED	Project 184 LiDAR Survey	HY	3	100,000	0	0	0	0	100,000
PLANNED	Silver Lake Facility Power Improvements	HY	3	0	0	25,000	75,000	0	100,000
TOTAL:				**13,270,000**	**5,085,000**	**4,425,000**	**4,635,000**	**7,200,000**	**34,615,000**

El Dorado Irrigation District

2021 - 2025 Capital Improvement Plan
Recreation Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
PLANNED	Recreation Facility Replacement Program	RE	Hawkins	2	50,000	50,000	50,000	50,000	50,000	250,000
PLANNED	Sly Park Recreation Area Facility Improvements	RE	Hawkins	2	75,000	95,000	45,000	100,000	50,000	365,000
18023	Acorn Day Use Area	RE	Hawkins	3	15,000	15,000	0	0	0	30,000
TOTAL:					**140,000**	**160,000**	**95,000**	**150,000**	**100,000**	**645,000**

2021-2025 Capital Improvement Plan
General District

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PM	PRIORITY	2021 PLANNED	2022 PLANNED	2023 PLANNED	2024 PLANNED	2025 PLANNED	2021-2025 TOTAL
PLANNED	Cyber & Physical Security	GD	Eberhard	1	350,000	0	150,000	0	0	500,000
PLANNED	Security Equipment Reliability Program	GD	Alden	1	45,000	60,000	65,000	55,000	55,000	280,000
18044	WAN Upgrade	GD	Eberhard	2	50,000	50,000	0	0	0	100,000
18055	Hansen 7 Software Replacement	GD	Sundaram	2	4,500,000	2,800,000	0	0	0	7,300,000
19028	Datacenter SCADA Segmentation	GD	Proctor	2	276,000	0	0	0	0	276,000
19029	Wyse Laptop Replacement	GD	Tarbox	2	50,000	0	0	0	0	50,000
19044	Dream Reports Software	GD	Volcansek	2	225,000	0	0	0	0	225,000
PLANNED	HQ Backup Power Modifications	GD	Volcansek	2	275,000	225,000	0	0	0	500,000
PLANNED	Information Systems Replacement & Development	GD	Sundaram	2	295,000	365,000	165,000	125,000	0	950,000
PLANNED	Information Technology Infrastructure & Security	GD	Eberhard	2	200,000	200,000	750,000	150,000	50,000	1,350,000
PLANNED	SCADA Cyber Security Improvements	GD	Volcansek	2	0	0	350,000	0	0	350,000
PLANNED	SCADA Master Plan Implementation	GD	Volcansek	2	50,000	100,000	350,000	400,000	200,000	1,100,000
PLANNED	Vehicle Replacement	GD	Warden	2	1,366,000	1,018,000	1,045,000	1,444,000	1,803,000	6,676,000
18043	Wireless LAN Upgrade	GD	Eberhard	3	150,000	150,000	0	0	0	300,000
TOTAL:					**7,832,000**	**4,968,000**	**2,875,000**	**2,174,000**	**2,108,000**	**19,957,000**

FERC Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06019H

Project Name: FERC: C35 Oyster Creek

Project Category: Regulatory Requirements

Priority: 1 **PM:** Baron **Board Approval:** 10/26/20

Project Description:

Mandatory requirement of the FERC license. The District completed the installation of stabilization measures in Oyster Creek in 2019. Post-project monitoring 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:	$ 418,967
Spent to Date:	$408,967	2021 - 2025 Planned Expenditures:	$ 40,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 458,967
Project Balance	$ 70,983	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 10,000	$ 10,000	$ 10,000	$ 10,000		$ 40,000
						$ -
TOTAL	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -	$ 40,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021	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:** 10/26/20

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:	$ 316,500	Expenditures through end of year:	$ 299,599
Spent to Date:	$ 279,599	2021 - 2025 Planned Expenditures:	$ 155,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 454,599
Project Balance	$ 16,901	Additional Funding Required	$ 138,099

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$15,000	$25,000	$25,000	$15,000	$25,000	$ 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	$ 25,000	$ 35,000	$ 35,000	$ 25,000	$ 35,000	$ 155,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$8,099
		$0
		$0
Total	100%	$8,099

Funding Comments: Temperature monitoring is coordinated with water quality sampling every three years (e.g., 2021 and 2024)

2021	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:** 10/26/20

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). Project funding represents the cost as received by bid and awarded at the August 26, 2019 Board Meeting. The District is required to install a new water system within the campground to the source. The existing source is located approximately 2.5 miles away from the campground, however the District's well is located approximately 1 mile away. The District is working with the USFS to utilize the District's well as the new source to the campground. This portion of the project is still in design review and will be taken to the Board for award in early 2021. The project was awarded in 2019 and construction is scheduled to be complete in Fall 2020.

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 is requesting FERC and FS approval of a time extension to October 18, 2019 to allow additional time to complete consultation with the FS, complete environmental review, obtain the necessary permits, and construct the improvements.

Project Financial Summary:			
Funded to Date:	$ 2,919,282	Expenditures through end of year:	$ 2,892,609
Spent to Date:	$ 892,609	2021 - 2025 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:	$ 2,000,000	Total Project Estimate:	$ 3,892,609
Project Balance	$ 26,673	Additional Funding Required	$ 973,327

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction (Water System)	$ 1,000,000					$ 1,000,000
TOTAL	$ 1,000,000	$ -	$ -	$ -	$ -	$ 1,000,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$973,327
			$0
Total	100%		$973,327

Funding Comments:

2021	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:** 10/26/20

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:	$ 44,683
Spent to Date:	$ 44,683	2021 - 2025 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 59,683
Project Balance	$ 42,317	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$15,000	$0	$0	$0	$0	$ 15,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 15,000	$ -	$ -	$ -	$ -	$ 15,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments: Amphibian surveys also required if Lake Aloha spills; funding for amphibian surveys from CIP # 06089H

2021	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:** 10/26/20

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:	$ 290,000	Expenditures through end of year:	$ 268,720
Spent to Date:	$ 266,720	2021 - 2025 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ 2,000	Total Project Estimate:	$ 418,720
Project Balance	$ 21,280	Additional Funding Required	$ 128,720

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 60,000	$ 60,000				$ 120,000
Staff time	$ 15,000	$ 15,000				$ 30,000
						$ -
TOTAL	$ 75,000	$ 75,000	$ -	$ -	$ -	$ 150,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$53,720
		$0
		$0
Total	100%	$53,720

Funding Comments: Monitoring required every 5th and 6th year of the FERC license - next monitoring event in 2021/2022

2021	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:** 10/26/20

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:	$ 216,000	Expenditures through end of year:	$ 198,234
Spent to Date:	$ 188,234	2021 - 2025 Planned Expenditures:	$ 130,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 328,234
Project Balance	$ 17,766	Additional Funding Required	$ 112,234

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 60,000	$ 60,000				$ 120,000
Staff time	$ 5,000	$ 5,000				$ 10,000
						$ -
						$ -
TOTAL	$ 65,000	$ 65,000	$ -	$ -	$ -	$ 130,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$47,234
		$0
		$0
Total	100%	$47,234

Funding Comments: Monitoring required every 5th and 6th year of the FERC license - next monitoring event in 2021/2022

2021	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:** 10/26/20

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:	$ 293,000	Expenditures through end of year:	$ 284,692
Spent to Date:	$ 276,692	2021 - 2025 Planned Expenditures:	$ 105,000
Cash flow through end of year:	$ 8,000	Total Project Estimate:	$ 389,692
Project Balance	$ 8,308	Additional Funding Required	$ 96,692

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
FYLF/SNYLF monitoring	$ 75,000					$ 75,000
Staff time	$ 10,000					$ 10,000
SFAR flow fluctuations	$ 5,000					$ 5,000
Lake Aloha monitoring	$ 15,000					$ 15,000
						$ -
TOTAL	$ 105,000	$ -	$ -	$ -	$ -	$ 105,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$96,692
		$0
		$0
Total	100%	$96,692

Funding Comments: Flow fluctuation monitoring only required if license criteria is triggered. Monitoring at Lake Aloha is only necessary in years when a spill occurs over the auxiliary dams. FYLF/SNYLF monitoring required every five years of FERC license - next monitoring event in 2021.

2021	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:** 10/26/20

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:	$ 35,000	Expenditures through end of year:	$ 34,051
Spent to Date:	$ 34,051	2021 - 2025 Planned Expenditures:	$ 25,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 59,051
Project Balance	$ 949	Additional Funding Required	$ 24,051

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 20,000					$ 20,000
Staff time	$ 5,000					$ 5,000
						$ -
						$ -
TOTAL	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$24,051
		$0
		$0
Total	100%	$24,051

Funding Comments: Monitoring required every five years of FERC license - next monitoring event in 2021

2021	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:** 10/26/20

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:	$ 35,000	Expenditures through end of year:	$ 34,093
Spent to Date:	$ 34,093	2021 - 2025 Planned Expenditures:	$ 25,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 59,093
Project Balance	$ 907	Additional Funding Required	$ 24,093

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 20,000					$ 20,000
Staff Time	$ 5,000					$ 5,000
						$ -
						$ -
TOTAL	$ 25,000	$ -	$ -	$ -	$ -	$ 25,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$24,093
		$0
		$0
Total	100%	$24,093

Funding Comments: Monitoring required every five years of FERC license - next monitoring event in 2021.

2021	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:** 10/26/20

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:	$ 104,276	Expenditures through end of year:	$ 102,367
Spent to Date:	$ 102,367	2021 - 2025 Planned Expenditures:	$ 75,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 177,367
Project Balance	$ 1,909	Additional Funding Required	$ 73,091

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 65,000					$ 65,000
Staff time	$ 10,000					$ 10,000
TOTAL	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$73,091
			$0
			$0
Total	100%		$73,091

Funding Comments: Monitoring required every five years of FERC license - next monitoring event in 2021.

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06096H

Project Name: FERC: C55 Heritage Resources

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 10/26/20

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	2021 - 2025 Planned Expenditures:	$ 55,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 265,560
Project Balance	$ 69,020	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Reporting	$50,000					$ 50,000
Staff Time	$ 5,000					$ 5,000
						$ -
						$ -
TOTAL	$ 55,000	$ -	$ -	$ -	$ -	$ 55,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments: Funding is needed in 2021 to conduct an evaluation of the historic rock walls that are located along the El Dorado Canal.

2021 CAPITAL IMPROVEMENT PLAN Program: FERC

Project Number: 06097H

Project Name: FERC: C59 Facility Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:** 10/26/20

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. Items remaining to be evaluated include: buildings at Spillway 20A boathouse; the winch house at the surge chamber, and the water tank shed. The next plan update is scheduled for 2022. Future costs are subject to change based on the scope of the new plan. Access can now be made to potentially remove buildings in the vicinity of spillway 20, paint or restain remaining buildings, clear brush and trees by Camp 2 house.

Basis for Priority:

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

Project Financial Summary:			
Funded to Date:	$ 70,000	Expenditures through end of year:	$ 48,915
Spent to Date:	$ 48,915	2021 - 2025 Planned Expenditures:	$ 25,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 73,915
Project Balance	$ 21,085	Additional Funding Required	$ 3,915

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning			$ 15,000			$ 15,000
Design						$ -
Construction	$ 5,000	$ 5,000				$ 10,000
						$ -
TOTAL	$ 5,000	$ 5,000	$ 15,000	$ -	$ -	$ 25,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06098H

Project Name: FERC: C46 thru C49 Recreation Resource Management

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:** 10/26/20

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	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Survey			$ 70,000			$ 70,000
Reporting				$ 10,000		$ 10,000
TOTAL	$ -	$ -	$ 70,000	$ 10,000	$ -	$ 80,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: The Recreation Survey is required every 6 years of license implementation - the next survey will be performed in 2023 and agency consultation in 2024

2021	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:** 10/26/20

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:	$ 552,000	Expenditures through end of year:	$ 546,378
Spent to Date:	$ 546,378	2021 - 2025 Planned Expenditures:	$ 160,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 706,378
Project Balance	$ 5,622	Additional Funding Required	$ 154,378

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Monitoring	$ 40,000			$ 40,000		$ 80,000
Lab analysis	$ 25,000			$ 25,000		$ 50,000
Staff time	$ 15,000			$ 15,000		$ 30,000
TOTAL	$ 80,000	$ -	$ -	$ 80,000	$ -	$ 160,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$74,378
			$0
			$0
Total	100%		$74,378

Funding Comments: Monitoring required every three years of FERC license - next monitoring event in 2021.

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07005H

Project Name: FERC: C51.3 RM Echo Trailhead

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:** 10/26/20

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 pay the costs for toilet pumping and 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:	$ 25,093
Spent to Date:	$ 23,593	2021 - 2025 Planned Expenditures:	$ 40,000
Cash flow through end of year:	$ 1,500	Total Project Estimate:	$ 65,093
Project Balance	$ 4,907	Additional Funding Required	$ 35,093

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	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	2021 Amount
Water Rates	100%	$3,093
		$0
		$0
Total	100%	$3,093

Funding Comments:

2021	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:** Hawkins **Board Approval:** 10/26/20

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:

5. 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).

7. 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 at least twice each season (time to be determined by mutual agreement between the licensee and the FS) on Caples Lake and Silver Lake to share with 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:	$ 535,216	Expenditures through end of year:	$ 580,891
Spent to Date:	$ 530,891	2021 - 2025 Planned Expenditures:	$ 273,501
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 854,392
Project Balance	$ (45,675)	Additional Funding Required	$ 319,176

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Fees	$47,762	$49,195	$50,671	$52,191	$53,682	$ 253,501
Staff time	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 20,000
						$ -
						$ -
TOTAL	$ 51,762	$ 53,195	$ 54,671	$ 56,191	$ 57,682	$ 273,501

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$97,437
		$0
		$0
Total	100%	$97,437

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07010H

Project Name: FERC: C15 Pesticide Use

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:** 10/26/20

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:	$ 888,000	Expenditures through end of year:	$ 858,938
Spent to Date:	$ 828,938	2021 - 2025 Planned Expenditures:	$ 410,000
Cash flow through end of year:	$ 30,000	Total Project Estimate:	$ 1,268,938
Project Balance	$ 29,062	Additional Funding Required	$ 380,938

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	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	$ 80,000	$ 80,000	$ 90,000	$ 80,000	$ 80,000	$ 410,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$50,938
		$0
		$0
Total	100%	$50,938

Funding Comments: Need to update the plan in 2023 which is anticipated to cost approximately $10k

2021	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:** 10/26/20

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:	$ 642,000	Expenditures through end of year:	$ 619,269
Spent to Date:	$ 599,269	2021 - 2025 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 869,269
Project Balance	$ 22,731	Additional Funding Required	$ 227,269

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	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	2021	Amount
Water Rates	100%		$27,269
			$0
			$0
Total	100%		$27,269

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07030H

Project Name: FERC: C57 Transportation System Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:** 10/26/20

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. Plan updates include consultation with the Forest Service. Future costs are subject to change based on the scope of the new plan. Camp 1 culvert work is planned to be completed by the end of 2020.

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:	$ 94,852
Spent to Date:	$ 46,852	2021 - 2025 Planned Expenditures:	$ 35,000
Cash flow through end of year:	$ 48,000	Total Project Estimate:	$ 129,852
Project Balance	$ 10,148	Additional Funding Required	$ 24,852

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Develop Plan		$ 10,000				$ 10,000
Design						$ -
Construction	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
						$ -
TOTAL	$ 5,000	$ 15,000	$ 5,000	$ 5,000	$ 5,000	$ 35,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
	47%	$0
		$0
Total	147%	$0

Funding Comments: Have plans to replace Camp 1 culvert & have culvert. Need rental equipment , materials & labor.

2021 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:** 10/26/20

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 throughout the Project No. 184 boundary be conducted every 5 years.

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:	$ 272,342	Expenditures through end of year:	$ 269,358
Spent to Date:	$ 249,358	2021 - 2025 Planned Expenditures:	$ 165,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 434,358
Project Balance	$ 2,984	Additional Funding Required	$ 162,016

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Implementation	$40,000	$25,000	$25,000	$25,000	$25,000	$ 140,000
Reporting	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
						$ -
						$ -
TOTAL	$ 45,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 165,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$42,016
		$0
		$0
Total	100%	$42,016

Funding Comments: The monitoring plan requires the entire project area be surveyed every five years - this survey is scheduled to be conducted in 2021.

2021	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:** Hawkins **Board Approval:** 10/26/20

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 the 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:	$ 249,000	Expenditures through end of year:	$ 244,247
Spent to Date:	$ 219,247	2021 - 2025 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 444,247
Project Balance	$ 4,753	Additional Funding Required	$ 195,247

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	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	2021 Amount
Water Rates	100%	$35,247
		$0
		$0
Total	100%	$35,247

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: PLANNED

Project Name: FERC: C54 Visual Resources Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:** 10/26/20

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 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:

Project is required by Project No. 184 license conditions.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 15,000
Project Balance	$ -	Additional Funding Required	$ 15,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 15,000					$ 15,000
						$ -
TOTAL	$ 15,000	$ -	$ -	$ -	$ -	$ 15,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%	$15,000	
		$0	
		$0	
Total	100%	$15,000	

Funding Comments:

Water Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 11032

Project Name: Main Ditch - Forebay to Reservoir 1

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Delongchamp **Board Approval:** 10/26/20

Project Description:

The Upper Main Ditch is approximately three miles long and conveys a maximum of 15,080 acre-feet of raw water annually at a maximum rate of 40 cubic feet per second from Forebay Reservoir to the Reservoir 1 Water Treatment Plant. Because the Main Ditch is an unlined earthen canal, a portion of the flow up to 1,800 acre-feet per year on average, is lost to seepage and evapotranspiration. This water could be made available for drinking water or power generation. Piping the Upper Main Ditch provides: improved supply reliability; elimination of contamination potential; reduced operations and maintenance costs; water rights protection from unreasonable use claims; reduction in Folsom Reservoir pumping costs in the long term; and on an interim basis, increased hydroelectric revenues. Reclamation has committed a grant for $1 million for construction of the project. The District approved the Construction Contract on August 24, 2020. Construction is scheduled to begin in October 2020 and proceed through Spring 2022.

Basis for Priority:

Improves water quality, conserves water supply, protects health and safety of customer and the public and reduces operations costs. The project is under construction.

Project Financial Summary:			
Funded to Date:	$ 2,561,198	**Expenditures through end of year:**	$ 2,836,690
Spent to Date:	$ 2,416,690	**2021 - 2025 Planned Expenditures:**	$ 13,980,000
Cash flow through end of year:	$ 420,000	**Total Project Estimate:**	$ 17,816,690
Project Balance	$ (275,492)	**Additional Funding Required**	$ 14,255,492

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$8,100,000	$2,702,913				$ 10,802,913
Construction Management	$865,800	$288,600				$ 1,154,400
Construction Admin	$2,267,015	$755,672				$ 3,022,687
Subtotal	**$11,232,815**	**$3,747,185**				$ 14,980,000
Grant offsets	$1,000,000					$ 1,000,000
NET TOTAL	$ 10,232,815	$ 3,747,185	$ -	$ -	$ -	$ 13,980,000

Estimated Funding Sources	Percentage	2021	Amount
2020A Bond	100%		$10,508,307
Total	**100%**		**$10,508,307**

Funding Comments: The project replaces an existing facility, therefore is funded by water rates. The project was awarded a $1 million USBR Watersmart grant to apply to construction.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 15024

Project Name: Folsom Lake Intake Improvements Project

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Money **Board Approval:** 10/26/20

Project Description:

The Folsom Lake Raw Water Intake delivers EID water supplied from Folsom Lake to the El Dorado Hills Water Treatment Plant (EDHWTP) and is critical to service reliability for the El Dorado Hills service area. The intake is being upgraded to provide reliability, long-term operational needs, and temperature control within the El Dorado Hills service area. In 2005, the District entered into a cooperation agreement with the U.S. Bureau of Reclamation for the design and construction of a Temperature Control Device for the benefit and propagation of Chinook salmon and steelhead trout in the lower American River. The federal funding amount, which is specified for the District's facility pursuant to federal legislation, was fifty percent of the eligible costs. Federal funding of $7,075,777 is included in the project budget. The Board approved a Mitigated Negative Declaration for the project in 2019, and awarded construction and supporting contracts in February 2020. Construction is anticipated to run through 2021 with final completion in late 2021.

Basis for Priority:

The critical nature of this pump station, age and poor condition of pumps, number of repeated pump failures, difficulty obtaining and high cost of repair parts for 1958 vintage A-side booster pumps is the basis for Priority 1 ranking. This project is needed to maintain service and meet demand for public health and safety purposes.

Project Financial Summary:			
Funded to Date:	$ 44,305,997	Expenditures through end of year:	$ 8,483,944
Spent to Date:	$ 1,917,146	2021 - 2025 Planned Expenditures:	$ 28,740,253
Cash flow through end of year:	$ 6,566,798	Total Project Estimate:	$ 37,224,197
Project Balance	$ 35,822,053	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 280,000					$ 280,000
Geotechnical/Materials	$ 169,599					$ 169,599
Biological Monitoring	$ 54,901					$ 54,901
SWPPP	$ 27,000					$ 27,000
Design/Environmental	$ 300,000					$ 300,000
Construction management	$ 1,100,000					$ 1,100,000
Construction Costs	$ 30,000,000					$ 30,000,000
10% Contingency	$ 3,884,530					$ 3,884,530
USBR Cooperative Agreement Offset	$ (7,075,777)					$ (7,075,777)
TOTAL	$ 28,740,253	$ -	$ -	$ -	$ -	$ 28,740,253

Estimated Funding Sources	Percentage	2021	Amount
2020A Bond	100%		$0
			$0
Total	100%		$0

Funding Comments: 2020A Bond Issuance

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 16048

Project Name: Outingdale Water Intake Replacement

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The community of Outingdale is a satellite community, with only one source of water for public health and safety purposes. The source is the existing river intake which consists of a slotted well screen and flexible hose laid across the river bottom. During low river flow conditions, the intake screen experiences insufficient water cover and often vortexes and air binds the suction lift pumps. During the recent drought the river levels were sufficiently low to completely expose the intake screen and totally prevent the pumping or delivery of any water to the community. All water instead had to be delivered to Outingdale by utilizing a bulk water tanker truck to bring water from elsewhere within the District's distribution system. New facilities will include will have two low lift pumps with a capacity of 100 gpm each that will be pumped through a sand separator and into a small tank, and then two 100 GPM high lift pumps to lift water to the treatment plant.

Installation of the facilities will involve minor piping to tie-in the new pump station discharge piping to the existing pump station discharge piping, and abandonment of the old suction lift style centrifugal pumps. Electrical power and control will be placed inside of its own building adjacent to the new pump station. The proposed project will significantly improve the reliability of the water supply year round and allow operational flexibility during drought conditions. The design is complete as is environmental review. Construction needs to take place during the low demand months of winter as there will be a period of time that the District will need to truck water in while the new station is being constructed.

Basis for Priority:

Project will improve reliability of the Outingdale infrastructure and supply. The project was awarded Prop 84 implementation grant funding of $160,000 in 2016.

Project Financial Summary:			
Funded to Date:	**$ 186,500**	**Expenditures through end of year:**	**$ 161,213**
Spent to Date:	**$ 161,213**	**2021 - 2025 Planned Expenditures:**	**$ 1,260,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 1,581,213**
Project Balance	**$ 25,287**	**Additional Funding Required**	**$ 1,234,713**

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Engineering	$ 20,000					$ 20,000
Construction	$ 600,000	$ 800,000				$ 1,400,000
Subtotal	**$ 620,000**	**$ 800,000**	**$ -**	**$ -**	**$ -**	**$ 1,420,000**
Grant Offset	$ 160,000					$ 160,000
NET TOTAL	**$ 460,000**	**$ 800,000**	**$ -**	**$ -**	**$ -**	**$ 1,260,000**

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$434,713
Total	**100%**		**$434,713**

Funding Comments: Annual expenditures reflect cost offset by Prop 84 grant ($160,000).

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17016

Project Name: El Dorado Main #1 PRS #5

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The El Dorado Main #1 Pressure Reducing Station #5 (EDM1PRS5) is being rehabilitated to include two new sleeve valves, new isolation valves up stream and down stream, and complete recoating of all piping and the vault interior. The rehabilitation of this station will allow the District to re-operate EDM#1 to fill Reservoir 3, Reservoir 4, and Reservoir 5 to help take demand off of EDM #2. Currently, EDM #2 is in lead to fill each of these Reservoirs and EDM #1 is in lag, however EDM#1 PRS#5 is not operational as the valves have completely failed. The project was awarded for construction in 2020 and scheduled to be complete in 2021.

Basis for Priority:

Project is under construction.

Project Financial Summary:			
Funded to Date:	$ 1,014,276	Expenditures through end of year:	$ 727,311
Spent to Date:	$ 332,911	2021 - 2025 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ 394,400	Total Project Estimate:	$ 977,311
Project Balance	$ 286,965	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design						$ -
Construction	$ 250,000					$ 250,000
TOTAL	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%	$0	
Total	100%	$0	

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17035

Project Name: Green Valley Bridge Relocation

Project Category: State/County Road Projects

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

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 1,000 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 front 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, and building enclosure for the relocation of both pressure reducing stations, and is working to complete the relocation design to be bid once the County has received approval of all environmental documentation. The construction funding is an estimate based on the County's last plan drawing set and is subject to change based on revised drawings and roadway alignment. Additional funding may be required for additional pipe work to relocate existing stations.

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:	$ 90,776
Spent to Date:	$ 90,776	2021 - 2025 Planned Expenditures:	$ 825,000
Cash flow through end of year:		Total Project Estimate:	$ 915,776
Project Balance	$ 14,224	Additional Funding Required	$ 810,776

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor		$ 25,000				$ 25,000
Construction		$ 50,000	$ 750,000			$ 800,000
TOTAL	$ -	$ 75,000	$ 750,000	$ -	$ -	$ 825,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments: Relocation of existing facilities.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 18048

Project Name: Critical Water Facility Generators

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

Due to re-operation of the power grid by PG&E due to wild fire issues the District is in need of adding six emergency generators and associated power equipment to critical water facilities. The District does not maintain adequate emergency back-up power for many of the water pump stations. The facilities that are in immediate need of backup power include North Canyon Pump Station, Gold Ridge Pump Station, Moosehall Reservoir, Sportsman Pump Station, Ridgeview Pump Station, and Monte Vista Pump Station. The addition of these generators will provide for adequate backup power to maintain adequate water supply at times of prolonged power outages during the fire season. The District received approval from the County to install permanent generators at both Sportsman's Pump Station and Gold Ridge Pump Station. Staff will work on procuring permanent generators for these sites as well as completing installations at each.

Basis for Priority:

Ability to maintain critical water supply during fire season due to unreliable power source from PG&E.

Project Financial Summary:			
Funded to Date:	$ 2,033,427	Expenditures through end of year:	$ 1,592,032
Spent to Date:	$ 933,107	2021 - 2025 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ 658,925	Total Project Estimate:	$ 1,892,032
Project Balance	$ 441,395	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$ 300,000					$ 300,000
TOTAL	$ 300,000	$ -	$ -	$ -	$ -	$ 300,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%	$0	
Total	100%	$0	

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 18065

Project Name: El Dorado Hills Water Treatment Plant Automation Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The existing five automation controllers at the El Dorado Hills Water Treatment Plant have outlived their useful lives. This project, currently under construction, includes replacing the existing SCADA equipment and SCADA programming and configuration changes to meet the needs of the new equipment configuration.

Basis for Priority:

This project is currently under construction.

Project Financial Summary:			
Funded to Date:	$ 1,831,200	Expenditures through end of year:	$ 694,955
Spent to Date:	$ 208,155	2021 - 2025 Planned Expenditures:	$ 1,150,000
Cash flow through end of year:	$ 486,800	Total Project Estimate:	$ 1,844,955
Project Balance	$ 1,136,245	Additional Funding Required	$ 13,755

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Inspection	$ 50,000					$ 50,000
Construction	$ 1,100,000					$ 1,100,000
TOTAL	$ 1,150,000	$ -	$ -	$ -	$ -	$ 1,150,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$13,755
Total	100%		$13,755

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19008

Project Name: EDM 1 Relocate / Camino Safety

Project Category: State/County Road Projects

Priority: 1 **PM:** Delongchamp **Board Approval:** 10/26/20

Project Description:

The California Department of Transportation (Caltrans) is presently working on the "U.S. Highway 50 Camino Safety Project" to improve safety on Highway 50 in the Camino Corridor. The project will modify existing roadways to install a concrete median barrier, maintain existing acceleration/deceleration lanes at-grade intersections, construct a new mainline undercrossing to mitigate for loss of left-turn movements, construct access to the new mainline undercrossing for local connectivity, and construct a wildlife crossing. The project is in the Camino area, from Still Meadows Road to Upper Carson Road.

In 2020, the Board approved a utility agreement to share in the costs of relocation of EID facilities. To accommodate the project the District transmission lines EDM1 and EDM2 will need to be relocated. The relocation is included in Caltrans Project. The District is responsible for 100% of the relocation of EDM1 and Caltrans is responsible for 100% of the relocation of EDM2. Caltrans plans to relocate the pipeline in late 2020 and early 2021.

Basis for Priority:

The District has facilities in both Right of Way and an Easement that will be impacted by the project. The District must pay a portion of the relocation costs. The Board has previously approved a Utility Agreement for the work and the project is under construction.

Project Financial Summary:			
Funded to Date:	$ 1,210,000	Expenditures through end of year:	$ 549,136
Spent to Date:	$ 49,136	2021 - 2025 Planned Expenditures:	$ 660,000
Cash flow through end of year:	$ 500,000	Total Project Estimate:	$ 1,209,136
Project Balance	$ 660,864	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 200,000					$ 200,000
Construction	$ 460,000					$ 460,000
TOTAL	$ 660,000	$ -	$ -	$ -	$ -	$ 660,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments: Work involves relocation of existing facilities.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19010

Project Name: Valley View Pump Station #3

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Wilson **Board Approval:** 10/26/20

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 Valley View Pump Station is in need of adding a third pump due to increased demands in order to meet additional irrigation demand for the recycled water system. The pump station was designed to accommodate a third pump and the District has completed the purchase of the third pump and installed the concrete for the pump pedestal. The District is working on purchasing all the mechanical discharge piping for the addition of the pump. Furthermore, the District will need to relocate the flow meter out of the building due to space limitations.

Basis for Priority:

This project is currently under construction.

Project Financial Summary:			
Funded to Date:	$ 238,644	Expenditures through end of year:	$ 204,908
Spent to Date:	$ 169,908	2021 - 2025 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ 35,000	Total Project Estimate:	$ 304,908
Project Balance	$ 33,736	Additional Funding Required	$ 66,264

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 20,000					$ 20,000
Construction	$ 70,000					$ 70,000
Construction Inspection	$ 10,000					$ 10,000
TOTAL	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2021	Amount
FCCs	100%		$66,264
Total	100%		$66,264

Funding Comments: Work involves upgrading existing facilities for increased capacity to meet future demands.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20002

Project Name: DOT Construction Projects - Water

Project Category: State/County Road Projects

Priority: 1 **PM:** Delongchamp **Board Approval:** 10/26/20

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 the El Dorado County Department of Transportation (DOT). From time to time, DOT initiates a road project where either the 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. On August 10, 2015 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, State, 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:	$ 82,482	Expenditures through end of year:	$ 66,843
Spent to Date:	$ 31,843	2021 - 2025 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ 35,000	Total Project Estimate:	$ 216,843
Project Balance	$ 15,639	Additional Funding Required	$ 134,361

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design And Coordination	$30,000	$30,000	$30,000	$30,000	$30,000	$ 150,000
TOTAL	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 150,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$14,361
Total	100%		$14,361

Funding Comments: Typically work involves replacement or relocation of existing facilities. However, funding split will be further evaluated for each project.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20017

Project Name: No Name Creek Diversion Gauging

Project Category: Regulatory Requirements

Priority: 1 **PM:** Delongchamp **Board Approval:** 10/26/20

Project Description:

Senate Bill (SB) 88, signed by Governor Brown on June 24, 2015, mandated new diversion reporting and measurement requirements for all surface water rights holders within California who divert more than 10 acre-feet per year. SB 88 has a phased effective date between January 2017 and January 2018 depending on size of diversion. The District participated in an ACWA task force in an attempt to eliminate or modify these new requirements, but the law still passed and is now phasing into effect. Staff has initially evaluated the the District's water right portfolio and determined many of the facilities for the smaller water rights will require modification to add measurement and/or SCADA communication. In June of 2017, the District requested extensions for the remaining 4 diversions in need of gauging. No Name Creek is the last of the four needing to be completed and will be constructed in the 2021 Flume outage.

Basis for Priority:

If the District does not comply with this requirement, there would be unacceptable risk to the security of the District's water rights including civil liability up to $500 per day pursuant to Water Code Section 1846.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 26,237
Spent to Date:	$ 11,237	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 76,237
Project Balance	$ 23,763	Additional Funding Required	$ 26,237

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
No Name Creek Installation	$ 50,000					$ 50,000
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$26,237
Total	100%		$26,237

Funding Comments: Project consits of installation of new stream gauges to comply with new measurement requirements, project does not increase capacity.

2021	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:** 10/26/20

Project Description:

The City of Placerville will be replacing the existing Placerville Drive Hangtown Creek Bridge in 2022. Currently the District has an existing 8" waterline in the existing bridge to provide water to western Placerville. 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 construction to begin in the fall of 2022.

Basis for Priority:

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

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 360,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 360,000
Project Balance	$ -	Additional Funding Required	$ 360,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 60,000					$ 60,000
Construction		$ 300,000				$ 300,000
TOTAL	$ 60,000	$ 300,000	$ -	$ -	$ -	$ 360,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$60,000
Total	100%		$60,000

Funding Comments: Project consists of replacing existing waterline with a new waterline within the new bridge.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Volcansek **Board Approval:** 10/26/20

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 2018 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2021	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:** 10/26/20

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 authorized points of diversion and re-diversion to more effectively and efficiently meet the future water demands. The additional points of diversion are proposed at the District's existing El Dorado Diversion Dam near Kyburz and at Sacramento Municipal Utilities District's (SMUD) Slab Creek Dam/Reservoir or at SMUD's White Rock Powerhouse Penstock north of Placerville near Chili Bar. To take all or any portion of Permit 21112 water upstream of Folsom Reservoir, EID must successfully petition the State Water Resources Control Board (SWRCB) for permit changes to add points of diversion and rediversion. 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; prosecution of the Petition; evidentiary hearings before the SWRCB if any protests are unresolved; and potentially administrative appeals and litigation. The planned annual expenditures reflect a timeline for CEQA compliance and Petition prosecution in 2021-2023. Any post-SWRCB hearing proceedings would require additional funding. Following completion of CEQA compliance, Petition prosecution, and resolution of any protests, additional design and environmental studies will be required for construction of the new facilities.

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, maintaining compliance with regulatory and legal obligations regarding water operations, and maximizing existing water rights. The Change Petition process can take many years, particularly if it requires a hearing before the SWRCB. Although construction of the new diversion facilities will not commence for some time, it is prudent to begin this regulatory approval process well in advance of construction.

Project Financial Summary:			
Funded to Date:	$ 738,299	Expenditures through end of year:	$ 548,964
Spent to Date:	$ 198,964	2021 - 2025 Planned Expenditures:	$ 950,000
Cash flow through end of year:	$350,000	Total Project Estimate:	$ 1,498,964
Project Balance	$ 189,335	Additional Funding Required	$ 760,665

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Petition Prep/Modeling	$ 150,000					$ 150,000
CEQA/Environmental	$ 400,000	$ 100,000				$ 500,000
Petition Prosecution		$ 100,000	$ 100,000			$ 200,000
SWRCB Hearing			$ 100,000			$ 100,000
TOTAL	**$ 550,000**	**$ 200,000**	**$ 200,000**	**$ -**	**$ -**	**$ 950,000**

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$360,665
Total	**100%**		**$360,665**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17011

Project Name: Crestview Pump Station Replacement Project

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Wilson	Board Approval:	10/26/20

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 under ground 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:	$ 50,000	Expenditures through end of year:	$ 9,230
Spent to Date:	$ 9,230	2021 - 2025 Planned Expenditures:	$ 550,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 559,230
Project Balance	$ 40,770	Additional Funding Required	$ 509,230

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 50,000					$ 50,000
Construction		$ 250,000	$ 250,000			$ 500,000
TOTAL	$ 50,000	$ 250,000	$ 250,000	$ -	$ -	$ 550,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$9,230
Total	100%		$9,230

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 17048

Project Name: Strawberry Raw Water Pump Station

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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. Additionally, the District is working to adjust the water diversion right from the existing station to the District's property where the new station will be constructed. Construction is planned in 2024, but construction estimates are not included at this time as the design has not been finalized and potentially requires in stream work to complete the project. Additionally, the construction schedule will be dependent on all required environmental permits.

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:	$ 69,462
Spent to Date:	$ 69,462	2021 - 2025 Planned Expenditures:	$ 150,000
Cash flow through end of year:		Total Project Estimate:	$ 219,462
Project Balance	$ 29,538	Additional Funding Required	$ 120,462

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design			$ 150,000			$ 150,000
Construction				***		$ -
TOTAL	$ -	$ -	$ 150,000	$ -	$ -	$ 150,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021 CAPITAL IMPROVEMENT PLAN Program: Water

Project Number: 18040

Project Name: Forebay Road Waterline Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The waterline replacement 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. 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. The District has experienced approximately 9 leaks over the past 15 years on the 5,000 feet of 6" outside diameter steel, 6" and 8" asbestos cement pipe, in Forebay Road and surrounding streets between Pony Express Trail and Deep Haven Road. The District has reviewed the current climate for mainline installation and pavement restoration and the current cost is approximately $360 a linear foot. Project construction is deferred to 2024 in the CIP to meet financial plan objectives but 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:	$ 150,000	**Expenditures through end of year:**	$ 49,369
Spent to Date:	$ 49,369	**2021 - 2025 Planned Expenditures:**	$ 1,965,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 2,014,369
Project Balance	$ 100,631	**Additional Funding Required**	$ 1,864,369

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design			$ 15,000			$ 15,000
Construction				$ 1,800,000		$ 1,800,000
Construction Inspection				$ 150,000		$ 150,000
TOTAL	$ -	$ -	$ 15,000	$ 1,950,000	$ -	$ 1,965,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	**100%**		**$0**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19019

Project Name: Strawberry Self Cleaning Screens

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The District currently has two self-cleaning screens for the Strawberry Water Treatment Plant that filter water prior to entering the membrane plant. The existing screens are leaking and cannot be rebuilt. During a state inspection two years ago the screens were identified as a deficiency as they have various leaks. The District is working on a design that will include two new low pressure screens to better increase efficiency in the plant. The screens will be designed for the low pressure application and will have an electric motor to assist cleaning during backwash cycles. The filters will backwash less and minimize the volume of water that is currently present in the backwash tank at the plant reducing operating costs. This project will be constructed by District crews including all mechanical piping and electrical work.

Basis for Priority:

Replacement of inefficient and obsolete infrastructure will support regulatory compliance, service reliability, and reduce maintenance costs.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 46,288
Spent to Date:	$ 43,288	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 3,000	Total Project Estimate:	$ 96,288
Project Balance	$ 3,712	Additional Funding Required	$ 46,288

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 5,000					$ 5,000
Construction	$ 45,000					$ 45,000
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$46,288
			$0
			$0
Total	100%		$46,288

Funding Comments: Work involves upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19033

Project Name: Reservoir A WTP PLC Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

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.

Basis for Priority:

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:	$ 97,990	Expenditures through end of year:	$ 92,133
Spent to Date:	$ 67,133	2021 - 2025 Planned Expenditures:	$ 850,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 942,133
Project Balance	$ 5,857	Additional Funding Required	$ 844,143

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 50,000	$ 50,000				$ 100,000
Res A Construction	$ 250,000	$ 500,000				$ 750,000
TOTAL	$ 300,000	$ 550,000	$ -	$ -	$ -	$ 850,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%	$	300,000
			$0
			$0
Total	100%		$300,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19036

Project Name: Serviceline Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Russell **Board Approval:** 10/26/20

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:	$ 2,119,863	Expenditures through end of year:	$ 920,523
Spent to Date:	$ 920,523	2021 - 2025 Planned Expenditures:	$ 23,450,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 24,370,523
Project Balance	$ 1,199,340	Additional Funding Required	$ 22,250,660

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Construction (Various)	$ 4,000,000	$ 4,800,000	$ 4,800,000	$ 4,800,000	$ 4,800,000	$ 23,200,000
TOTAL	$ 4,050,000	$ 4,850,000	$ 4,850,000	$ 4,850,000	$ 4,850,000	$ 23,450,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$2,850,660
Total	100%		$2,850,660

Funding Comments: Project has no planned increase in potable water delivery capacity, therefore funding is 100% water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 19050

Project Name: Construction Storage Facility

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 10/26/20

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. 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 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:	$ 23,569
Spent to Date:	$ 8,569	2021 - 2025 Planned Expenditures:	$ 900,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 923,569
Project Balance	$ 26,431	Additional Funding Required	$ 873,569

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design/Permitting		$ 50,000	$ 50,000			$ 100,000
Construction				$ 800,000		$ 800,000
TOTAL	$ -	$ 50,000	$ 50,000	$ 800,000	$ -	$ 900,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20001

Project Name: AMR and Small Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Heape **Board Approval:** 10/26/20

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 September 1, 2020 there are 29,545 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:	$ 150,000	Expenditures through end of year:	$ 150,000
Spent to Date:	$105,500	2021 - 2025 Planned Expenditures:	$ 1,400,000
Cash flow through end of year:	$ 44,500	Total Project Estimate:	$ 1,550,000
Project Balance	$ -	Additional Funding Required	$ 1,400,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Implementation	$175,000	$275,000	$275,000	$275,000	$275,000	$ 1,275,000
Capitalized Labor	$25,000	$25,000	$25,000	$25,000	$25,000	$ 125,000
TOTAL	$ 200,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,400,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$200,000
Total	100%		$200,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20016

Project Name: Reservoir 2 - PRS #6

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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 Reservoir 2-6 Pressure Reducing Station is in need of replacement due to maintenance issues due to infrastructure that has outlived its useful life. Additionally, the current valves do not have the ability to transfer 40 CFS from Reservoir 1 water treatment plant to Reservoir 2. The valves that are currently in use are undersized as there is limited access to the vault and when the original sleeve valves failed staff was unable to repair with like sized valves. The project has been deferred to 2025 due to other priorities and 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:	$ 204,226	Expenditures through end of year:	$ 169,808
Spent to Date:	$ 19,808	2021 - 2025 Planned Expenditures:	$ 800,000
Cash flow through end of year:	$ 150,000	Total Project Estimate:	$ 969,808
Project Balance	$ 34,418	Additional Funding Required	$ 765,582

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction					$ 800,000	$ 800,000
TOTAL	$ -	$ -	$ -	$ -	$ 800,000	$ 800,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%	$0	
Total	100%	$0	

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20021

Project Name: El Dorado Main #2 PRS #1

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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. El Dorado Main #2 Pressure Reducing Station #1 is in need of replacing one of the 14" valve with a 12" valve for better control of the station. The existing station has a 6", 2-14", and a 16" pressure reducing valves that were designed by the Bureau of Reclamation. Not having a step valve between the 6" and the 14" makes it nearly impossible to control the station during winter flows. The 14" valve does not have the capability of meeting the flow rates above the 6" valve and is forced to stop and start thus causing pressure swings in EDM#2. This project will consist of removing the northern 14" valve and replacing it with a 12" and all necessary piping and valving to install the smaller valve.

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:	$ 50,000	Expenditures through end of year:	$ 44,609
Spent to Date:	$ 29,609	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 94,609
Project Balance	$ 5,391	Additional Funding Required	$ 44,609

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$ 50,000					$ 50,000
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$44,609
Total	100%		$44,609

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	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:** 10/26/20

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 two Pressure Reducing Stations. This project may be combined with other waterline replacement projects in the area such as Forebay Road. The project has been deferred in the CIP to meet financial plan objectives, but may be accelerated if funding is available.

Basis for Priority:

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

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 44,609
Spent to Date:	$ 29,609	2021 - 2025 Planned Expenditures:	$ 900,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 944,609
Project Balance	$ 5,391	Additional Funding Required	$ 894,609

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction			$ 850,000			$ 850,000
Capitalized Labor			$ 50,000			$ 50,000
TOTAL	$ -	$ -	$ 900,000	$ -	$ -	$ 900,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments: Work involves planning the replacement and upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20034

Project Name: El Dorado Hills WTP Flow Meter Upgrade Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

The District has two finished water meters that have outlived their useful lives and are in need of being replaced. The meters are for the finished water pumps that send water to the District's 820 and 960 pressure zones. The need to replace end of life major EDH Flow meters with a higher degree of accuracy while being able to provide validation reporting to California Water Boards in order to comply with tightening Regulations. Flow meters replacement would require extensive work due to changing technologies. For improved accuracy concerning major State reporting flows to and from the Treatment facility would require full bore mag meters. This would necessitate excavation to install the meters and installation of larger vault for future maintenance needs.

Basis for Priority:

Flow meters need to upgraded to meet current Drinking Water Permit for El Dorado Hills Water Treatment Plant.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 46,301
Spent to Date:	$ 26,301	2021 - 2025 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 296,301
Project Balance	$ 3,699	Additional Funding Required	$ 246,301

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$ 250,000					$ 250,000
TOTAL	$ 250,000	$ -	$ -	$ -	$ -	$ 250,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$246,301
Total	100%		$246,301

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 20035

Project Name: El Dorado Main #2 Air Release Valve Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 10/26/20

Project Description:

The District is in need of replacing all the air release valves on El Dorado Main #2 in advance of the condition assessment. The existing air release valves were installed on the pipeline in 1975 and are in need of replacement. As part of this project the new valves will have unions installed on both the water and air side to allow for quick removal during the pipeline assessment so that a camera can be installed into the pipeline. Furthermore, these valves will be updated to current AWWA standards including above ground vent piping. The project has been bid and is scheduled for Board award in October 2020.

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:	$ 15,000	Expenditures through end of year:	$ 57,878
Spent to Date:	$ 7,878	2021 - 2025 Planned Expenditures:	$ 285,000
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 342,878
Project Balance	$ (42,878)	Additional Funding Required	$ 327,878

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 35,000					$ 35,000
Construction	$ 250,000					$ 250,000
TOTAL	$ 285,000	$ -	$ -	$ -	$ -	$ 285,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$327,878
Total	100%		$327,878

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Folsom - EDH Water Treatment Plant Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

This program consists of targeted process, control and facility improvements from the Folsom Lake Intake to and including the El Dorado Hills Water Treatment Plant. Several improvements have been identified to insure regulatory compliance, increased service reliability, reduced maintenance expenditures and extended facility life. Individual improvements may change and/or be replaced with other more critical improvements as priorities are set and projects developed. Cost estimates are at the conceptual level of confidence. As projects are better defined, individual project numbers will be established. This also includes facility improvement funding available for any unplanned assets that have failed or been found to have reached their service life and need to be replaced throughout the distribution system or treatment plant.

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. 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Facility Improvements	$ 50,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 450,000
TOTAL	$ 50,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 450,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%	$50,000	
Total	100%	$50,000	

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

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Lower Ditch SCADA Hardware Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Design			$ 50,000			$ 50,000
Construction				$ 150,000		$ 150,000
TOTAL	$ -	$ -	$ 50,000	$ 150,000	$ -	$ 200,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%	$	-
Total	100%		$0

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

2021	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:	Wilson	Board Approval:	10/26/20

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. PRS replacement has been deferred in the CIP to meet financial plan objectives.

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:		2021 - 2025 Planned Expenditures:	$ 3,305,000
Cash flow through end of year:		Total Project Estimate:	$ 3,305,000
Project Balance	$ -	Additional Funding Required	$ 3,305,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design & Construction	$0	$0	$655,000	$1,275,000	$1,375,000	$ 3,305,000
TOTAL	$ -	$ -	$ 655,000	$ 1,275,000	$ 1,375,000	$ 3,305,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2021	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:** Wilson **Board Approval:** 10/26/20

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. 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:		2021 - 2025 Planned Expenditures:	$ 3,150,000
Cash flow through end of year:		Total Project Estimate:	$ 3,150,000
Project Balance	$ -	Additional Funding Required	$ 3,150,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design		$ 100,000	$ 100,000			$ 200,000
Oak Lane (Abandonment)				$ 100,000		$ 100,000
Ridgeview			$ 600,000	$ 1,000,000		$ 1,600,000
Swansboro				$ 100,000	$ 650,000	$ 750,000
Quartz					$ 500,000	$ 500,000
Monte Vista						$ -
Upper Rancho Del Sol						$ -
TOTAL	$ -	$ 100,000	$ 700,000	$ 1,200,000	$ 1,150,000	$ 3,150,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Reservoir 1 Water Treatment Plant Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

This program consists of targeted process, control and facility improvements at the Reservoir 1 Water Treatment Plant. This also includes any improvements to the Strawberry Water Treatment Plant facility as determined by life cycled assets or regulatory requirements. Several improvements have been identified to insure regulatory compliance, increased service reliability, reduced maintenance expenditures and extended facility life. Individual improvements may change and/or be replaced with other more critical improvements as priorities are set and projects developed. Cost estimates are at the conceptual level of confidence. As projects are better defined, individual project numbers will be established. This also includes facility improvement funding available for any unplanned assets that have failed or been found to have reached their service life and need to be replaced throughout the distribution system or treatment plant. This also includes the SCADA upgrade which includes the complete replacement of all existing equipment and upgrade to current District standards.

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. 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:		2021 - 2025 Planned Expenditures:	$ 1,075,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,075,000
Project Balance	$ -	Additional Funding Required	$ 1,075,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Facility Improvements		$ 100,000	$ 100,000		$ 100,000	$ 300,000
Design SCADA Improvements			$ 75,000			$ 75,000
Construction SCADA Improvements				$ 350,000	$ 350,000	$ 700,000
TOTAL	$ -	$ 100,000	$ 175,000	$ 350,000	$ 450,000	$ 1,075,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: SCADA Water Hardware Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021 Amount
Water Rates	100%	$100,000
		$0
		$0
Total	100%	$100,000

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

2020	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Sly Park Intertie Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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, the 2020 Basis of Design Report (BODR) 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 updated BODR in 2020 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 $26 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. Construction of the project continues to be deferred in the CIP and will depend on the timing and financial viability of a future bond issuance. 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:	$ 599,552	**Expenditures through end of year:**	$ 542,606
Spent to Date:	$ 542,606	**2021 - 2025 Planned Expenditures:**	$ 1,100,000
Cash flow through end of year:		**Total Project Estimate:**	$ 1,642,606
Project Balance	$ 56,946	**Additional Funding Required**	$ 1,043,054

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Engineering			$ 50,000	$ 300,000	$ 300,000	$ 650,000
Environmental			$ 50,000	$ 150,000	$ 150,000	$ 350,000
Right of Way				$ 50,000	$ 50,000	$ 100,000
Construction Management/Inspection						$ -
Construction						$ -
TOTAL	$ -	$ -	$ 100,000	$ 500,000	$ 500,000	$ 1,100,000

Estimated Funding Sources	Percentage	2020	Amount
Water FCCs	100%		$0
Total	**100%**		**$0**

Funding Comments: Construction would likely be funded by a future bond issuance.

2021	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:** Wilson **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Design		$ 50,000	$ 75,000	$ 75,000		$ 200,000
Electrical Construction			$ 125,000			$ 125,000
Valve Construction						$ -
TOTAL	$ -	$ 50,000	$ 200,000	$ 75,000	$ -	$ 325,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments: Project involves maintenance to extend the life of existing assets, with no planned increase in potable water delivery capacity, therefore funding is 100% water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Sly Park - Reservoir A Water Treatment Plant Improvements Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

This program consists of targeted process, control and facility improvements from the Sly Park Reservoir intake to and including the Reservoir A Water Treatment Plant. This also includes any improvements to the Outingdale Water Treatment Plant facility as determined by life cycled assets or regulatory requirements. Several improvements have been identified to insure regulatory compliance, increased service reliability, reduced maintenance expenditures and extended facility life. Individual improvements may change and/or be replaced with other more critical improvements as priorities are set and projects developed. Cost estimates are at the conceptual level of confidence. As projects are better defined, individual project numbers will be established. This also includes facility improvement funding available for any unplanned assets that have failed or been found to have reached their service life and need to be replaced throughout the distribution system or treatment plant.

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. 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Facility Improvements		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000
Access Road Restoration			$ 300,000			$ 300,000
TOTAL	$ -	$ 100,000	$ 400,000	$ 100,000	$ 100,000	$ 700,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Storage Replacement & Rehabilitation Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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:		2021 - 2025 Planned Expenditures:	$ 12,450,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 12,450,000
Project Balance	$ -	Additional Funding Required	$ 12,450,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design/Planning	$ 200,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 600,000
Reservoir 1 Concrete Storage Tank		$ 1,950,000	$ 2,500,000			$ 4,450,000
Reservoir 1 Concrete Contact Tank			$ 2,500,000			$ 2,500,000
Moose Hall Aluminum Dome				$ 1,750,000		$ 1,750,000
Reservoir 6					$ 3,000,000	$ 3,000,000
Greenstone (Abandonment)					$ 150,000	$ 150,000
Ridgeview						$ -
Dolomite						$ -
TOTAL	$ 200,000	$ 2,050,000	$ 5,100,000	$ 1,850,000	$ 3,250,000	$ 12,450,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$200,000
Total	100%		$200,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Transmission Assessment Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 10/26/20

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:		**2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
960 EDH #1		$ 125,000				$ 125,000
EDM #1			$ 150,000			$ 150,000
DSM #1				$ 150,000		$ 150,000
POM RES C to RES 7					$ 150,000	$ 150,000
EDM #1 Lateral 8.0						$ -
TOTAL	$ -	$ 125,000	$ 150,000	$ 150,000	$ 150,000	$ 575,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
Total	**100%**		**$0**

Funding Comments: Project may involve an increase in sizing from an existing 18" to a 24" pipeline.

2020	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Transmission Slope Stabilization

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Engineering		$ 25,000				$ 25,000
Stabilization EDM#2			$ 300,000	$ 300,000		$ 600,000
Stabilization Moose Hall						$ -
TOTAL	$ -	$ 25,000	$ 300,000	$ 300,000	$ -	$ 625,000

Estimated Funding Sources	Percentage	2020	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2021	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:** 10/26/20

Project Description:

The District has many isolation valves in both the transmission and 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 to a larger area where isolation is possible. If the valve cannot be repaired it will be replaced 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Water Rates	100%		$100,000
Total	100%		$100,000

Funding Comments: Projects involve upgrade of existing facilities and no planned increase in capacity, therefore funding is 100% water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Distribution Radio Path Design

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path design would include a radio study to determine most optimal and reliable wireless communication options for the District's remote facilities. The design would identify future backbone SCADA and business network locations. The design would also include field radio path verification of the modeled radio telemetry design. This design will encompass water 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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Radio Path Study			$ 75,000			$ 75,000
Radio Path Survey				$ 50,000		$ 50,000
Radio Path Design			$ 50,000	$ 100,000		$ 150,000
Capitalized Labor			$ 25,000	$ 20,000		$ 45,000
TOTAL	$ -	$ -	$ 150,000	$ 170,000	$ -	$ 320,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water Facility Generators

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

Due to re-operation of the power grid by PG&E due to wild fire issues the District is in need of adding two permanent generators and associated power equipment to critical water facilities. The District purchased mobile generators for Sportsman's Hall Pump Station and Gold Ridge Pump Station for immediate use due to not having enough property to set permanent generators. The District continued to work with El Dorado County in an effort to place permanent generators at each of these pump stations. The County recently approved the District to install a permanent generator at each site. Through this planned CIP the District wants to purchase two generators and complete installation. The mobile generators for these sites will be repurposed to fleet needs to provide backup power during generator failures at Reservoir 1 WTP, Reservoir A WTP, Saint Andrews LS, or any pump station not currently supplied with backup generators. The addition of these generators will provide for adequate backup power to maintain adequate water supply at times of prolonged power outages during the fire season or flex alerts. Staff will work on procuring permanent generators for these sites as well as completing installations at each.

Basis for Priority:

Ability to maintain critical water supply during fire season due to unreliable power source from PG&E.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 Planned Expenditures:	$ 245,000
Cash flow through end of year:		Total Project Estimate:	$ 245,000
Project Balance	$ -	Additional Funding Required	$ 245,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design & Consulting		$ 25,000	$ 25,000			$ 50,000
Bid Construction			$ 50,000			$ 50,000
Permanent Construction Gold Ridge			$ 15,000			$ 15,000
Permanent Construction Sportsman's			$ 15,000			$ 15,000
Procuring Stationary Generators		$ 115,000				$ 115,000
TOTAL	$ -	$ 140,000	$ 105,000	$ -	$ -	$ 245,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Waterline Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

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. 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:		2021 - 2025 Planned Expenditures:	$ 15,150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 15,150,000
Project Balance	$ -	Additional Funding Required	$ 15,150,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design			$ 50,000	$ 50,000	$ 50,000	$ 150,000
Construction (Various)			$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 15,000,000
TOTAL	$ -	$ -	$ 5,050,000	$ 5,050,000	$ 5,050,000	$ 15,150,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: Planned

Project Name: Wholesale Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

This program replaces old and inaccurate large wholesale meters in the District. The project is mission 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 to under reporting large wholesale meters.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	
Spent to Date:		2021 - 2025 Planned Expenditures:	
Cash flow through end of year:		Total Project Estimate:	
Project Balance		Additional Funding Required	

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$25,000					$ 25,000
Cedar Ravine 6" Replacement		$275,000				$ 275,000
TOTAL	$ 25,000	$ 275,000	$ -	$ -	$ -	$ 300,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$25,000
Total	100%		$25,000

Funding Comments: Projects involve upgrade of existing facilities and no planned increase in capacity, therefore funding is 100% water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: STUDY03

Project Name: WTP Assessments

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Dawson **Board Approval:** 10/26/20

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 offered. Phase 1 of the water treatment plant assessment project has been approved by the Board, however Phase 2 will be negotiated and brought to the board for approval at the completion of the first phase. The CIP reflects an estimate for costs associated with Phase 2 based on Phase 1 costs.

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:	$ 439,863	Expenditures through end of year:	$ 344,434
Spent to Date:	$ 304,434	2021 - 2025 Planned Expenditures:	$ 750,000
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 1,094,434
Project Balance	$ 95,429	Additional Funding Required	$ 654,571

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning Reservoir A WTP	$ 100,000	$ 90,000				$ 190,000
Study/Planning El Dorado Hills WTP	$ 100,000	$ 90,000				$ 190,000
Study/Planning Reservoir 1 WTP	$ 100,000	$ 90,000				$ 190,000
Study/Planning Strawberry WTP	$ 100,000	$ 80,000				$ 180,000
TOTAL	$ 400,000	$ 350,000	$ -	$ -	$ -	$ 750,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$304,571
Total	100%		$304,571

Funding Comments: The project prioritizes existing WTP assets and provides triggers for necessary upgrades and replacement based on reliability and maintenance factors, therefore is funded by water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: STUDY10

Project Name: Integrated Water Resources Master Plan

Project Category: Master Planning

Priority: 2 **PM:** Mueller **Board Approval:** 10/26/20

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 (to be completed separately by July 2021) 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.

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:	$ 50,000	Expenditures through end of year:	$ 14,625
Spent to Date:	$ 14,625	2021 - 2025 Planned Expenditures:	$ 400,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 414,625
Project Balance	$ 35,375	Additional Funding Required	$ 364,625

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 200,000	$ 200,000				$ 400,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 200,000	$ 200,000	$ -	$ -	$ -	$ 400,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$164,625
			$0
			$0
Total	100%		$164,625

Funding Comments:

2021	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:** 10/26/20

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 replacamement 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:	$ 30,357
Spent to Date:	$ 357	2021 - 2025 Planned Expenditures:	$ 360,000
Cash flow through end of year:	$ 30,000	Total Project Estimate:	$ 390,357
Project Balance	$ 24,643	Additional Funding Required	$ 335,357

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 30,000	$ 30,000				$ 60,000
Technical Memo	$ 150,000	$ 150,000				$ 300,000
TOTAL	$ 180,000	$ 180,000	$ -	$ -	$ -	$ 360,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$155,357
Total	100%		$155,357

Funding Comments: The project prioritizes future capital improvement projects on El Dorado Main #2 based on condition assessment of the pipeline.Projects are based on maintenance and condition assessment, therefore is funded by water rates.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: EDM Flow Integration

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Wilson **Board Approval:** 10/26/20

Project Description:

Design and install 5-7 Pressure Reducing Station monitoring sites on El Dorado Main #1 transmission line. 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, insertion Cla-VAL flow meters, upstream and downstream pressure transmitters, 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:	$ -	2021 - 2025 Planned Expenditures:	$ 580,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 580,000
Project Balance	$ -	Additional Funding Required	$ 580,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design						$ -
Construction		$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 500,000
Capitalized Labor		$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 80,000
						$ -
TOTAL	$ -	$ 145,000	$ 145,000	$ 145,000	$ 145,000	$ 580,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: Project involves providing visibility to an existing transmission system, with no planned increase in potable water delivery capacity, therefore funding is 100% water rates.

Wastewater Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 16030

Project Name: Solar Assessment Design

Project Category: Regulatory Requirements

Priority:	1	PM:	Money	Board Approval:	10/26/20

Project Description:

In October 2015 the Board directed staff to investigate power mitigation projects. Three projects were initially identified, in-conduit hydro for Tank 3 and Tank 7, and the addition of a solar field. Later in September 2017 the Board approved staff to move forward with a Basis of Design Report (BODR) to identify any available tariffs and/or grants available to the District. Following a successful request for proposal (RFP) process staff negotiated with Borrego Solar to enter into three power purchase agreements (PPA) at the El Dorado Hills and Deer Creek Wastewater Treatment Plants.

Mobilization and site work for the new solar facilities began at the EDHWWTP in September 2020. The Commercial Operation Date for the EDHWWTP is planned for June of 2021, followed by DCWWTP in September of 2021. District staff, supported by the District's consultant TerraVerde, will provide engineering review and construction management services throughout the construction phase of these projects and engage with PG&E to minimize costs for interconnection upgrades and finalize contract requirements prior to commissioning the new facilities.

Basis for Priority:

The project is under construction.

Project Financial Summary:			
Funded to Date:	$ 955,163	Expenditures through end of year:	$ 556,658
Spent to Date:	$ 541,658	2021 - 2025 Planned Expenditures:	$ 110,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 666,658
Project Balance	$ 398,505	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction/CM	$ 60,000					$ 60,000
Capitalized Labor	$ 50,000					$ 50,000
						$ -
						$ -
TOTAL	$ 110,000	$ -	$ -	$ -	$ -	$ 110,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 17033

Project Name: DCWWTP Process Control Design

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Money **Board Approval:** 10/26/20

Project Description:

This project's scope is a complete update of Deer Creek's SCADA system. The update will replace antiquated PLC and SCADA comnenets at the plant as well as adding or correcting automation solutions which were identified during the design phase of the project. This project will give plant staff the tools to ensure reliability, regulatory compliance, operating efficiency, and power consumption reporting are properly controlled at the plant moving forward.

Construction is expected to be complete February 2021.

Basis for Priority:

The project is under construction.

Project Financial Summary:			
Funded to Date:	$ 2,056,356	Expenditures through end of year:	$ 416,331
Spent to Date:	$ 416,331	2021 - 2025 Planned Expenditures:	$ 395,000
Cash flow through end of year:		Total Project Estimate:	$ 811,331
Project Balance	$ 1,640,025	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 20,000					$ 20,000
Construction Management	$ 75,000					$ 75,000
Construction PLC Replacements	$ 300,000					$ 300,000
						$ -
TOTAL	$ 395,000	$ -	$ -	$ -	$ -	$ 395,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: Planned

Project Name: DOT Construction Projects - Wastewater

Project Category: State/County Road Projects

Priority: 1 **PM:** Money **Board Approval:** 10/26/20

Project Description:

The Board has directed staff to streamline contracting procedures with the El Dorado County Department of Transportation (DOT) for the two agencies' joint projects. EID has many water and sewer lines in roads maintained by the DOT. From time to time, DOT initiates a road project where either EID water or wastewater 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. On August 10, 2015 the Board reauthorized the Master Reimbursement Agreement which is utilized for such projects. The agreement is valid 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 wastewater 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, State, 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:	$ 22,623	Expenditures through end of year:	$ 3,068
Spent to Date:	$ 1,068	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 2,000	Total Project Estimate:	$ 53,068
Project Balance	$ 19,555	Additional Funding Required	$ 30,445

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$5,000	$5,000	$5,000	$5,000	$5,000	$ 25,000
Construction						$ -
Inspection/CM	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
TOTAL	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 50,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Wastewater Arc Flash Risk Assessment Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Volcansek **Board Approval:** 10/26/20

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 2018 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Wastewater Rates	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

2021 CAPITAL IMPROVEMENT PLAN Program: Wastewater

Project Number: STUDY09

Project Name: Camino Heights WWTP Study

Project Category: Regulatory Requirements

Priority: 1 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The Camino Heights Wastewater Treatment Plant 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 will be performed and improvements to reduce peak wet weather flow will be recommended.

This study will more accurately define current disposal capacity and the viability and effectiveness of various improvement projects. Because improvement projects are not defined at this time, construction expenditures are not shown within this CIP planning horizon. The 2021 expenditures are for the study only.

Basis for Priority:

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

Project Financial Summary:			
Funded to Date:	$ 118,122	Expenditures through end of year:	$ 115,121
Spent to Date:	$ 75,121	2021 - 2025 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 315,121
Project Balance	$ 3,001	Additional Funding Required	$ 196,999

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 200,000					$ 200,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$196,999
			$0
Total	100%		$196,999

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 15036

Project Name: Silva Valley - El Dorado Hills Sewerline

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The 2013 Wastewater Facility Master Plan (WWMP) identified 2,100 feet of the 18"/21" sewer line along Silva Valley Road and 4,500 feet of 18" sewer line between Silva Valley Rd and the EDH Wastewater Treatment Plant as needing capacity upsizing in the future. In order to further 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 has been incorporated into the District collection system model to determine remaining pipeline capacity. The current capacity analysis indicates the peak wet weather flow rate in 12,000 feet of pipeline exceeds design capacity and of that 4,700 feet is in a surcharged condition, i.e. water backing up into manholes. Additional wet weather flow data has been collected to calibrate the model further.

The hydraulic modeling update in 2020 included a refinement of necessary pipeline sizing as well as a list of improvement options. A Basis of Design (BODR) report is needed to determine the most cost effective and constructable 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:

The collection system model identified these gravity sewerlines as having 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:	$ 220,920	Expenditures through end of year:	$ 213,306
Spent to Date:	$ 153,306	2021 - 2025 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:	$ 60,000	Total Project Estimate:	$ 1,213,306
Project Balance	$ 7,614	Additional Funding Required	$ 992,386

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 150,000				$ 150,000
Environmental		$ 100,000	$ 100,000			$ 200,000
Easement Acquisition			$ 250,000			$ 250,000
Design			$ 200,000	$ 200,000		$ 400,000
Construction					***	$ -
						$ -
TOTAL	$ -	$ 250,000	$ 550,000	$ 200,000	$ -	$ 1,000,000

Estimated Funding Sources	Percentage	2021 Amount
Wastewater FCCs	100%	$0
Total	100%	$0

Funding Comments: The project provides capacity for new wastewater customers, therefore is funded with wastewater FCCs.

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 17023

Project Name: Rancho Ponderosa LS Relocation/Abandonment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 10/26/20

Project Description:

The existing Rancho Ponderosa Wastewater Lift Station was constructed without securing a viable property easement to access and service the lift station. Additionally, the existing site is constrained and difficult to access with maintenance equipment. The lift station currently serves 16 EDU's. 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 continued access to the site which requires that the District pay the property owner on a monthly basis for access and that the station be relocated.

This project will evaluate relocating the lift station. Engineered plans and specifications and a construction contract will then be developed for the selected alternative.

Basis for Priority:

Project is required by law, regulation, contract, agreement, or license.

Project Financial Summary:			
Funded to Date:	**$ 160,680**	**Expenditures through end of year:**	**$ 76,997**
Spent to Date:	**$ 76,997**	**2021 - 2025 Planned Expenditures:**	**$ 880,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 956,997**
Project Balance	**$ 83,683**	**Additional Funding Required**	**$ 796,317**

Description of Work	**Estimated Annual Expenditures**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Design			**$ 80,000**			**$ 80,000**
Construction				**$ 800,000**		**$ 800,000**
Inspection/CM						**$ -**
TOTAL	**$ -**	**$ -**	**$ 80,000**	**$ 800,000**	**$ -**	**$ 880,000**

Estimated Funding Sources	**Percentage**	**2021**	**Amount**
Wastewater FCCs	100%		$0
Total	**100%**		**$0**

Funding Comments:

2021 CAPITAL IMPROVEMENT PLAN Program: Wastewater

Project Number: 17034

Project Name: Wastewater Collections Facility Relocation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The corporation yard used to support the sewer collection crew will be moved from Bass Lake to El Dorado Hills Wastewater Treatment Plant. The Bass Lake property has been sold to the El Dorado Hills CSD and the sewer collection crew is scheduled to relocate in 2021/2022.

Basis for Priority:

The Bass Lake property has been sold and the District is currently leasing back the property.

Project Financial Summary:			
Funded to Date:	$ 956,167	Expenditures through end of year:	$ 719,886
Spent to Date:	$ 469,886	2021 - 2025 Planned Expenditures:	$ 3,105,000
Cash flow through end of year:	$ 250,000	Total Project Estimate:	$ 3,824,886
Project Balance	$ 236,281	Additional Funding Required	$ 2,868,719

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 365,000					$ 365,000
Construction	$ 3,230,000					$ 3,230,000
Inspection/CM	$ 365,000					$ 365,000
Permitting	$ 70,000					$ 70,000
Proceeds from Bass Lake Sale	$ (925,000)					$ (925,000)
TOTAL	$ 3,105,000	$ -	$ -	$ -	$ -	$ 3,105,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$2,868,719
			$0
Total	100%		$2,868,719

Funding Comments: Bass Lake sale proceeds are included above to offset the cash flow expenditures

2021	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:** 10/26/20

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 and elevated flows have been experienced.

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 as a candidate for increased capacity. The Basis of Design report will address system capacity concerns in terms of proper pipe sizing and odor and corrosion control.

Basis for Priority:

Maintain and enhance existing assets.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 34,681
Spent to Date:	$ 24,681	2021 - 2025 Planned Expenditures:	$ 4,780,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 4,814,681
Project Balance	$ 15,319	Additional Funding Required	$ 4,764,681

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 80,000				$ 80,000
Design			$ 300,000			$ 300,000
Construction				$ 2,000,000	$ 2,000,000	$ 4,000,000
Inspection/CM				$ 200,000	$ 200,000	$ 400,000
TOTAL	$ -	$ 80,000	$ 300,000	$ 2,200,000	$ 2,200,000	$ 4,780,000

Estimated Funding Sources	Percentage	2021 Amount
Wastewater FCCs	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021 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:** 10/26/20

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 be replaced 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 site improvements including a four foot retaining wall and new fencing will be installed around the lift station perimeter. 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:

The lift station will continue to degrade, increasing the risk of potential failures in the future. This could result in hazards to the public and regulatory fines.

Project Financial Summary:			
Funded to Date:	$ 348,388	**Expenditures through end of year:**	$ 330,677
Spent to Date:	$ 270,677	**2021 - 2025 Planned Expenditures:**	$ 1,730,000
Cash flow through end of year:	$ 60,000	**Total Project Estimate:**	$ 2,060,677
Project Balance	$ 17,711	**Additional Funding Required**	$ 1,712,289

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$ 80,000					$ 80,000
Construction		$ 300,000	$ 1,200,000			$ 1,500,000
Inspection/CM		$ 20,000	$ 130,000			$ 150,000
TOTAL	$ 80,000	$ 320,000	$ 1,330,000	$ -	$ -	$ 1,730,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$62,289
			$0
Total	**100%**		**$62,289**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 18035

Project Name: EDHWWTP WAS DAFT Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

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.

The PLC that controls the WAS DAFT was replaced in 2020 as a predecessor to the structural and mechanical upgrades. The project has been deferred one year to meet financial plan objectives.

Basis for Priority:

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. If the WAS DAFT were to fail, the treatment process would be highly in-efficient and the risk of a spill during a storm event would be increased.

Project Financial Summary:			
Funded to Date:	$ 434,408	Expenditures through end of year:	$ 283,909
Spent to Date:	$ 203,909	2021 - 2025 Planned Expenditures:	$ 2,300,000
Cash flow through end of year:	$ 80,000	Total Project Estimate:	$ 2,583,909
Project Balance	$ 150,499	Additional Funding Required	$ 2,149,501

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design						$ -
Construction		$ 1,000,000	$ 1,000,000			$ 2,000,000
Inspection/CM		$ 150,000	$ 150,000			$ 300,000
TOTAL	$ -	$ 1,150,000	$ 1,150,000	$ -	$ -	$ 2,300,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 18063

Project Name: EDHWWTP Solar Inverters

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

This project is to address the end-of-useful life solar inverters at the El Dorado Hills Wastewater Treatment Plant. One of the four original central inverters has already failed and has been replaced in the recent past. The existing central inverter technology is being phased out in the solar industry and is being replaced by string inverters. This project will assess the current production and remaining life of the solar panels, determine viable options for inverter replacement, and implement the most appropriate replacement solution.

In 2020, the necessary studies were completed to determine the proper central inverter replacement technology. The replacement equipment has been purchased and installation will occur in 2021.

Basis for Priority:

This project will replace failing assets to ensure reliability and continual operation of the existing solar field at El Dorado Hills Wastewater Treatment Plant.

Project Financial Summary:			
Funded to Date:	$ 228,000	Expenditures through end of year:	$ 204,105
Spent to Date:	$ 34,105	2021 - 2025 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ 170,000	Total Project Estimate:	$ 404,105
Project Balance	$ 23,895	Additional Funding Required	$ 176,105

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 150,000					$ 150,000
Inspection/CM	$ 50,000					$ 50,000
TOTAL	$ 200,000	$ -	$ -	$ -	$ -	$ 200,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$176,105
			$0
Total	100%		$176,105

Funding Comments:

2020	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 19005

Project Name: Town Center Force Main PH4

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Carrington	Board Approval:	10/26/20

Project Description:

The Town Center Force Main and lift station were originally designed and constructed in 1980 to collect Prospector's Plaza wastewater and pump to the Mother Lode Force Main at Pleasant Valley Road and Mother Lode Drive. Town Center Force Main was constructed out of 8" asbestos cement (AC) pipe which has experienced several failures causing SSO's in the past few years due to corrosion. The force main is in need of replacement with PVC which will withstand the corrosive raw sewage. 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.

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:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 Planned Expenditures:	$ 3,400,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 3,400,000
Project Balance	$ -	Additional Funding Required	$ 3,400,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction				$ 1,600,000	$ 1,600,000	$ 3,200,000
Inspection/CM				$ 100,000	$ 100,000	$ 200,000
TOTAL	$ -	$ -	$ -	$ 1,700,000	$ 1,700,000	$ 3,400,000

Funding Sources	Percentage	2020	Amount
Wastewater FCCs	100%		$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 19032

Project Name: Collections Master Radio PLC Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The Project is to design, install, and program a new Sewer Collections master PLC. The District's current master PLC has passed its End of Life cycle and District staff is finding it difficult to locate and purchase affordable replacement parts to keep this unit in service.

Basis for Priority:

End of Life cycle replacement for PLCs / radios controlling wastewater collections. The SCADA Group highly recommends immediate replacement to significantly reduce the risks of communication failures in the collection system.

Project Financial Summary:			
Funded to Date:	$ 175,200	Expenditures through end of year:	$ 102,682
Spent to Date:	$ 42,682	2021 - 2025 Planned Expenditures:	$ 110,000
Cash flow through end of year:	$ 60,000	Total Project Estimate:	$ 212,682
Project Balance	$ 72,518	Additional Funding Required	$ 37,482

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 100,000					$ 100,000
Inspection/CM	$ 10,000					$ 10,000
TOTAL	$ 110,000	$ -	$ -	$ -	$ -	$ 110,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$37,482
			$0
Total	100%		$37,482

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 19045

Project Name: Herbert Green Lift Station Inflow Mitigation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 10/26/20

Project Description:

The wet well at the Herbert Green Lift Station has been submerged under high rainfall and flow conditions during past high-intensity storm events. This allows large quantities of stormwater inflow into the District's waste water system during these events which then need to be treated at the Deer Creek Wastewater Treatment Plant.

This project includes minor site grading, paving, and drainage improvements to help reduce stormwater inflow at this location.

Basis for Priority:

Project will reduce inflow to the collection system and the potential for sanitary sewer overflows.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 1,000
Spent to Date:	$ 1,000	2021 - 2025 Planned Expenditures:	$ 49,000
Cash flow through end of year:		Total Project Estimate:	$ 50,000
Project Balance	$ 49,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$ 40,000					$ 40,000
Inspection/CM	$ 9,000					$ 9,000
TOTAL	$ 49,000	$ -	$ -	$ -	$ -	$ 49,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 19046

Project Name: Diamond Industrial Lift Station Inflow Mitigation

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Money	Board Approval:	10/26/20

Project Description:

The wet well at the Diamond Industrial Lift Station has been submerged under high rainfall and flow conditions during past high-intensity storm events. This allows large quantities of stormwater inflow into the District's waste water system during these events which then need to be treated at the Deer Creek Wastewater Treatment Plant.

This project provides minor site grading, paving, and drainage improvements to help reduce stormwater inflow at this location.

Basis for Priority:

Project will reduce inflow into the collection system and the potential for sanitary sewer overflows.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 3,000
Spent to Date:	$ 3,000	2021 - 2025 Planned Expenditures:	$ 47,000
Cash flow through end of year:		Total Project Estimate:	$ 50,000
Project Balance	$ 47,000	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Construction	$ 40,000					$ 40,000
Inspection/CM	$ 7,000					$ 7,000
TOTAL	$ 47,000	$ -	$ -	$ -	$ -	$ 47,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
Total	100%		$0

Funding Comments:

2021 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:** 10/26/20

Project Description:

Existing PLCs at 20 of 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 nearly impossible.

This project will include electrical upgrades to stations Bar J, North Uplands, Bass Lake Village, Summit 5, Diamond Industrial, Starbuck, and Summit View No. 1.

Basis for Priority:

End of Life cycle replacement for PLCs / radios controlling wastewater collections. These units are 10 years beyond end of life (15 years in some cases) and require above normal maintenance attention. The District struggles with finding parts and keeping these units in service. The SCADA Group highly recommends immediate replacement to significantly reduce the risks of sanitary sewer overflows (SSO).

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 44,572
Spent to Date:	$ 4,572	2021 - 2025 Planned Expenditures:	$ 1,145,000
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 1,189,572
Project Balance	$ 5,428	Additional Funding Required	$ 1,139,572

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$ 25,000					$ 25,000
Construction	$ 200,000	$ 400,000	$ 400,000			$ 1,000,000
Inspection/CM		$ 60,000	$ 60,000			$ 120,000
TOTAL	$ 225,000	$ 460,000	$ 460,000	$ -	$ -	$ 1,145,000

Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$219,572
			$0
			$0
Total	100%		$219,572

Funding Comments:

2021	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:** Volcansek **Board Approval:** 10/26/20

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:	$ 35,000
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 65,000
Cash flow through end of year:	$ 35,000	Total Project Estimate:	$ 100,000
Project Balance	$ 15,000	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	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	2021	Amount
Wastewater Rates	100%		$50,000
			$0
Total	100%		$50,000

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

2021	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:** 10/26/20

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 collections system 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:		2021 - 2025 Planned Expenditures:	$ 4,100,000
Cash flow through end of year:		Total Project Estimate:	$ 4,100,000
Project Balance	$ -	Additional Funding Required	$ 4,100,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$ 100,000					$ 100,000
Construction		$ 900,000	$ 900,000	$ 900,000	$ 900,000	$ 3,600,000
Inspection/CM		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000
TOTAL	$ 100,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 4,100,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$100,000
Total	100%		$100,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Collections SCADA Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Wastewater Rates	100%		$300,000
			$0
			$0
Total	100%		$300,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Deer Creek Collection System Modeling

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The 2013 Wastewater Facility Master Plan (WWMP) identified several pipes and lift stations in the Deer Creek collection system as nearing capacity. In order to further refine the extent and timing of improvements required, flow monitoring and survey work to determine manhole invert and ground elevations was completed under Project 14001 and 14002 in 2014. Flow monitoring will be incorporated into the District collection system model to determine remaining pipeline capacity. The hydraulic modeling update in 2021 will include a refinement of necessary pipeline sizing as well as a list of improvement projects.

Basis for Priority:

The collection system model will identify gravity sewerlines 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 150,000					$ 150,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$150,000
			$0
			$0
Total	100%		$150,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: DCWWTP PLC Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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 of 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	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:** 10/26/20

Project Description:

Replacement of end of life PLC equipment.

Basis for Priority:

This hardware is failing and has been a service reliability and maintenance issue. This equipment is life cycled out. The original installation was over 25 years ago. Parts are no longer being made for these units and they are difficult to service.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design		$ 250,000				$ 250,000
Construction PLC 5			$ 250,000			$ 250,000
Construction PLC 3				$ 300,000		$ 300,000
Construction PLC 6					$ 300,000	$ 300,000
						$ -
TOTAL	$ -	$ 250,000	$ 250,000	$ 300,000	$ 300,000	$ 1,100,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%	$	-
Total	100%		$0

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Hydrovac Cleanout Station Equipment & Spoils Management

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Crane **Board Approval:** 10/26/20

Project Description:

This will provide funding to purchase new equipment that will be utilized at El Dorado Hills WWTP to clean the hydro-cleaner dump station and spoils management area. The dump station is utilized by sewer line cleaning crews to dump the materials that are collected during their line cleaning operations. This dump station, located outside at EDHWWTP head-works has no associated odor control equipment. The station requires regular cleaning to keep odors from becoming an issue. With the relocation of the Collection System Operations to the EDHWWTP facility, the dump station will see increased use and require more frequent cleaning. Additionally, the relocation will mean that construction spoils will be brought to the EDHWWTP site for temporary storage prior to final disposal. This equipment will be utilized to help move spoils, sweep the roadways, and provide dust control. The project includes funds for purchase of a Skid steer loader as well as necessary accessories such as loader bucket, pick-up broom, roof mounted water tank, pallet forks, and counter weight.

Basis for Priority:

Improve efficiency and provides equipment to maintain spoils management area and prevent nuisance odors

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2021 - 2025 Planned Expenditures:**	$ 98,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 98,000
Project Balance	$ -	**Additional Funding Required**	$ 98,000

Description of Work	**Estimated Annual Expenditures**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Skid Steer Loader	$ 68,000					$ 68,000
Accessories	$ 30,000					$ 30,000
						$ -
TOTAL	$ 98,000	$ -	$ -	$ -	$ -	$ 98,000

Estimated Funding Sources	**Percentage**	**2021**	**Amount**
Wastewater Rates	100%		$98,000
Total	**100%**		**$98,000**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Motherlode Forcemain Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The Motherlode Forcemain (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 lift station 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 four of the nine mile long forcemain has been replaced with larger diameter, plastic pipe. This programmatic project aims to analyze the condition of existing 12-inch asbestos pipe in multiple locations and systematically replace the remaining five miles of pipe. The 2021-2025 Capital Improvement Plan includes a high-level estimate for construction expenditures of 2.5 miles of forcemain replacement. As the design is finalized, estimates of construction expenditures will be refined and additional replacement phases will be included.

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:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 Planned Expenditures:	$ 6,800,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 6,800,000
Project Balance	$ -	Additional Funding Required	$ 6,800,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 100,000				$ 100,000
Design		$ 100,000	$ 200,000			$ 300,000
Construction				$ 3,000,000	$ 3,000,000	$ 6,000,000
Inspection/CM				$ 200,000	$ 200,000	$ 400,000
TOTAL	$ -	$ 200,000	$ 200,000	$ 3,200,000	$ 3,200,000	$ 6,800,000

Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	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:** 10/26/20

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 sewerlines 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 25,000	$ 100,000			$ 125,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ 25,000	$ 100,000	$ -	$ -	$ 125,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: SCADA Wastewater Hardware Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:	$ -	**2021 - 2025 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**					
	2021	**2022**	**2023**	**2024**	**2025**	**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**	**2021**	**Amount**
Wastewater Rates	100%		$100,000
			$0
Total	**100%**		**$100,000**

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

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: St. Andrews Lift Station Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

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 installation of a discharge flow meter for more efficient pump control, 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:

Optimizing pump operation, increasing bypassing capabilities, and increasing data remote visibility will aid in operational decision making and reduce the likelihood sanitary sewer overflows, hazards to the public, and regulatory fines.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$ 50,000					$ 50,000
Construction	$ 50,000	$ 200,000				$ 250,000
Inspection/CM	$ 5,000	$ 20,000				$ 25,000
TOTAL	$ 105,000	$ 220,000	$ -	$ -	$ -	$ 325,000

Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$105,000
			$0
			$0
Total	100%		$105,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: WWTP Assessments

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

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 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 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning			$ 100,000	$ 200,000	$ 200,000	$ 500,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ 100,000	$ 200,000	$ 200,000	$ 500,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: The project prioritizes existing WWTP assets and provides triggers for necessary upgrades and replacement based on reliability and maintenance factors, therefore is funded by wastewater rates.

2021	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:** 10/26/20

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:		2021 - 2025 Planned Expenditures:	$ 1,000,000
Cash flow through end of year:		Total Project Estimate:	$ 1,000,000
Project Balance	$ -	Additional Funding Required	$ 1,000,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,000,000
						$ -
TOTAL	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,000,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$200,000
			$0
Total	100%		$200,000

Funding Comments: Funding split based on available plant capacity

2021	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:** 10/26/20

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 be completing a condition assessment of several common lift station deficiencies in 2021. Using the recommendations of the condition assessment future projects will be prioritized and then designed with and intend of rehabilitating one lift station every other year. 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. Expenditures have been deferred in the CIP to meet financial plan objectives however individual projects may be accelerated if funding is available.

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:		2021 - 2025 Planned Expenditures:	$ 3,830,000
Cash flow through end of year:		Total Project Estimate:	$ 3,830,000
Project Balance	$ -	Additional Funding Required	$ 3,830,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 80,000					$ 80,000
Design		$ 150,000	$ 300,000	$ 300,000		$ 750,000
Construction				$ 1,500,000	$ 1,500,000	$ 3,000,000
TOTAL	$ 80,000	$ 150,000	$ 300,000	$ 1,800,000	$ 1,500,000	$ 3,830,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater FCCs	100%		$80,000
			$0
Total	100%		$80,000

Funding Comments:

2021	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:** 10/26/20

Project Description:

This project is to perform minor modifications to civil, mechanical, and electrical components within the wastewater treatment plants. Modifications included in this project 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:		2021 - 2025 Planned Expenditures:	$ 1,475,000
Cash flow through end of year:		Total Project Estimate:	$ 1,475,000
Project Balance	$ -	Additional Funding Required	$ 1,475,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design/CM	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000
Construction	$ 150,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 1,350,000
TOTAL	$ 175,000	$ 325,000	$ 325,000	$ 325,000	$ 325,000	$ 1,475,000

Estimated Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$175,000
Total	100%		$175,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: UPS Integration

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

This CIP funding is to integrate control panel UPS devices to the SCADA network at all waste water treatment facilities. The integration will provide early warnings for the impeding failures, reminders when batteries need to be replaced and valuable statistical information. The control panel UPS devices provide battery backup for the PLC's controlling the area process. Critical and compliance information can be lost if UPS device fails upon power outages event.

Basis for Priority:

This project will reduce equipment failures and emergency response costs associated with loss of area process control systems.

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Professional Services				$ 50,000		$ 50,000
Software				$ 50,000		$ 50,000
Capitalized Labor				$ 25,000		$ 25,000
						$ -
TOTAL	$ -	$ -	$ -	$ 125,000	$ -	$ 125,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: STUDY14

Project Name: Collections Radio Path Design

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path design would include a radio study to determine most optimal and reliable wireless communication options for the District's remote facilities. The design would identify future backbone SCADA and business network locations. The design would also include field radio path verification of the modeled radio telemetry design. This design will encompass wastewater collections and treatment 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:	$ -	2021 - 2025 Planned Expenditures:	$ 415,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 415,000
Project Balance	$ -	Additional Funding Required	$ 415,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Radio Path Study			$ 90,000			$ 90,000
Radio Path Survey				$ 75,000		$ 75,000
Radio Path Design			$ 100,000	$ 100,000		$ 200,000
Capitalized Labor			$ 25,000	$ 25,000		$ 50,000
TOTAL	$ -	$ -	$ 215,000	$ 200,000	$ -	$ 415,000

Funding Sources	Percentage	2021	Amount
Wastewater Rates	100%		$0
			$0
Total	100%		$0

Funding Comments:

Recycled Water Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: PLANNED

Project Name: Recycled Water Asset Planning

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

Due to the overall age and evolving operation of the facilities, key elements of the existing distribution system need to be examined for hydraulic operation as well as rehabilitation or replacement. The general goal and objectives are to study, review, evaluate, and assess the condition and status 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 service reliability and reduce maintenance costs.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 50,000	$ 100,000				$ 150,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ 100,000	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2021	Amount
Recycled Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2021	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:** 10/26/20

Project Description:

This is an annual program to replace or upgrade recycled water assets that have failed, reached end of useful life, or would increase operational efficiency. This program differs from ongoing maintenance programs in that the equipment, facilities, and labor attributed to these assets constitute a replacement or installation of a capitalized asset. Assets 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 to be replaced or upgraded 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:	$ -	2021 - 2025 Planned Expenditures:	$ 650,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 650,000
Project Balance	$ -	Additional Funding Required	$ 650,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Construction		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 400,000
						$ -
TOTAL	$ 50,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 650,000

Funding Sources	Percentage	2021	Amount
Recycled Water Rates	100%		$50,000
			$0
Total	100%		$50,000

Funding Comments:

2021	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:** 10/26/20

Project Description:

The District owns and operates a recycled water distribution system to provide reclaimed water to portions of El Dorado Hills and Cameron Park. Original pipelines and appurtenances in the recycled water system 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:

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 50,000	$ 25,000				$ 75,000
Design		$ 100,000				$ 100,000
Construction			$ 250,000	$ 250,000	$ 250,000	$ 750,000
Inspection/CM						$ -
TOTAL	$ 50,000	$ 125,000	$ 250,000	$ 250,000	$ 250,000	$ 925,000

Funding Sources	Percentage	2021	Amount
Recycled Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2021	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:** Volcansek **Board Approval:** 10/26/20

Project Description:

This CIP follows recommendations outlined in the SCADA masterplan. The radio path design would include radio study to determine 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 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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	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	2021	Amount
Recycled Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: 20026

Project Name: K3 K4 Pump Station Integration

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Carrington **Board Approval:** 10/26/20

Project Description:

The K3/K4 Pump Station Integration Project will install communication components at the recycled water pump station and perform programming for remote access and remote tracking of pump station performance data. This information will be used to update a system wide hydraulic model to determine system deficiencies and possible improvement projects.

Basis for Priority:

Determine replacement and improvement strategy to support service reliability and reduce maintenance costs.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 20,000
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 60,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 80,000
Project Balance	$ 30,000	Additional Funding Required	$ 30,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design			$ 10,000			$ 10,000
Construction			$ 50,000			$ 50,000
Inspection/CM						$ -
TOTAL	$ -	$ -	$ 60,000	$ -	$ -	$ 60,000

Funding Sources	Percentage	2021	Amount
Recycled Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recycled Water

Project Number: 20028

Project Name: Recycled Valve Installation

Project Category: Reliability & Service Level Improvements

Priority:	3	PM:	Carrington	Board Approval:	10/26/20

Project Description:

This project will include installation of a new 18-inch valve within the recycled water system.

Basis for Priority:

The new valve will provide operational flexibility.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 27,972
Spent to Date:	$ 12,972	2021 - 2025 Planned Expenditures:	$ 55,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 82,972
Project Balance	$ 22,028	Additional Funding Required	$ 32,972

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design			$ 10,000			$ 10,000
Construction			$ 45,000			$ 45,000
Inspection/CM						$ -
TOTAL	$ -	$ -	$ 55,000	$ -	$ -	$ 55,000

Funding Sources	Percentage	2021	Amount
Recycled Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

Hydroelectric Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17051

Project Name: Weber Dam Access

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Heape **Board Approval:** 10/26/20

Project Description:

District staff routinely inspect Weber dam and the communication device located at the top of the dam. Currently staff must climb up steep terrain and over slippery rock to get to the top of the right and left abutments of the dam. The current access route is difficult during dry weather conditions and can be hazardous during wet weather conditions. This project is needed to provide safe access to staff that routinely access the dam. The project will include new stairways leading to the top of the dam on the right abutment.

Basis for Priority:

This project is needed to improve the safe access for staff to inspect and maintain the facility.

Project Financial Summary:			
Funded to Date:	$ 110,000	Expenditures through end of year:	$ 90,378
Spent to Date:	$ 85,378	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 140,378
Project Balance	$ 19,622	Additional Funding Required	$ 30,378

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 50,000					$ 50,000
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

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

Priority: 1 **PM:** Kessler **Board Approval:** 10/26/20

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 beginning in 2021 with preparing a Basis of Design Memorandum, conducting a geotechnical investigation to establish foundation conditions, and performing initial environmental review and permitting. 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). Funding is expected to be subject to a future bond issuance.

This project continues the work of the previously approved and funded PN's 11005H and 06017H.

Basis for Priority:

Compliance with FERC and DSOD dam safety program requirements.

Project Financial Summary:			
Funded to Date:	$ 75,648	Expenditures through end of year:	$ 7,000
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 1,500,000
Cash flow through end of year:	$ 7,000	Total Project Estimate:	$ 1,507,000
Project Balance	$ 68,648	Additional Funding Required	$ 1,431,352

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$200,000	$200,000				$ 400,000
Design/Environmental		$ 100,000	$ 300,000	$ 300,000	$ 400,000	$ 1,100,000
Construction						$ -
TOTAL	$ 200,000	$ 300,000	$ 300,000	$ 300,000	$ 400,000	$ 1,500,000

Estimated Funding Sources	Percentage	2021 Amount
Water FCCs	100%	$131,352
		$0
Total	100%	$131,352

Funding Comments: Preliminary construction cost estimate not included in 5 year planning horizon. Construction is assumed to take place beyond 5-years due to design, environmental and regulatory approval processes.

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17025

Project Name: Flume 45 Abutment Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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 and the design will need to be approved by the State Historic Preservation Office. In 2014 the District crews made interim repairs to ensure the continued safe operation. The replacement of this entire flume is scheduled to occur during the scheduled canal outage in the future. This project will only address the abutment section. 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:	$ 50,000	Expenditures through end of year:	$ 22,122
Spent to Date:	$ 12,122	2021 - 2025 Planned Expenditures:	$ 1,760,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 1,782,122
Project Balance	$ 27,878	Additional Funding Required	$ 1,732,122

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning/Env	$ 50,000					$ 50,000
Geo/Design	$ 150,000					$ 150,000
Construction		$ 1,500,000				$ 1,500,000
QCIP/Warranty			$ 60,000			$ 60,000
TOTAL	$ 200,000	$ 1,500,000	$ 60,000	$ -	$ -	$ 1,760,000

Estimated Funding Sources	Percentage	2021 Amount
Water FCCs	100%	$172,122
		$0
		$0
Total	100%	$172,122

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17028

Project Name: Flume 48 Replacement/Tunnel option

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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 2021 after further alternatives analysis. Construction costs are not shown and will likely be timed with a future bond issuance 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:	$ 274,971	Expenditures through end of year:	$ 200,589
Spent to Date:	$ 190,589	2021 - 2025 Planned Expenditures:	$ 600,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 800,589
Project Balance	$ 74,382	Additional Funding Required	$ 525,618

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning/Env	$ 50,000					$ 50,000
Design/Env	$ 100,000	$ 200,000	$ 250,000			$ 550,000
Construction				***	***	$ -
Warranty-FERC QCIP						$ -
TOTAL	$ 150,000	$ 200,000	$ 250,000	$ -	$ -	$ 600,000

Estimated Funding Sources	Percentage	2021 Amount
Water FCCs	100%	$75,618
		$0
		$0
Total	100%	$75,618

Funding Comments: Construction funding will likely be from future bond proceeds

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 17041

Project Name: Flume 30 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

Project Description:

Flume 30 is approximately 350 feet in length and last replaced by PG&E in the early 1990's. Abutment stability measures were implemented during the outage of 2011 to ensure the continued integrity of the entire flume. In 2015, visual inspections and core samples of the wooden structural timbers were collected and analyzed. The findings of the inspection show that when the flume was replaced in the 1990's undersized structural timber was used. This condition is compounded today by the degradation of the sills over the last 25 years that have resulted in overstressing of the wood flume support structure. In 2015, District crews added additional posts and sills and installed additional supports to the cantilevered ends of each sill end to stabilize the flume to ensure safe operation of the asset until a complete replacement can occur. The project will need to ensure that the trail to the diversion structure on Bull Creek is maintained, the Bull Creek diversion is preserved, the rock wall abutment will need to be reconstructed and the flume converted to concrete. The construction costs are estimated on the 75% design and will be refined to the CIP upon completion of the design drawings and specifications.

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:	$ 705,415	Expenditures through end of year:	$ 705,415.40
Spent to Date:	$ 426,284	2021 - 2025 Planned Expenditures:	$ 10,300,000
Cash flow through end of year:	$ 279,131	Total Project Estimate:	$ 11,005,415
Project Balance	$ (0)	Additional Funding Required	$ 10,300,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Capitalized Labor	$ 400,000					$ 400,000
Geo/Design						$ -
Construction	$ 9,800,000					$ 9,800,000
Warranty/QCIP		$ 100,000				$ 100,000
TOTAL	$ 10,200,000	$ 100,000	$ -	$ -	$ -	$ 10,300,000

Estimated Funding Sources	Percentage	2021	Amount
2020A Bond	100%		$10,200,000
			$0
			$0
Total	100%		$10,200,000

Funding Comments: 2020A Bond Issuance

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 18010

Project Name: Penstock Improvements

Project Category: Reliability & Service Level Improvements

Priority:	2	PM:	Kessler	Board Approval:	10/26/20

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. The cost of improvements beyond 2020 will be developed upon completion of design for later phases.

1) Improving access to support conducting O&M and capital improvements safely
2) 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
3) Performing drainage improvements to the high-pressure penstock section where a channel continues to erode including around some of the anchor blocks
4) Stabilizing the bench d/s of the penstock tunnel section where rockfall and landslide potential exists
5) Improving the anchoring of the surge tank to meet seismic loading; Work planned for 2020-early 2021 includes developing plans and specifications, conducting environmental review/permitting, and initiating construction in 2021 for accomplishing items 1, 3 and 4 above. The repair costs will be updated as part of the plan development efforts.

Basis for Priority:

The project is to maintain penstock safety and service reliability. The ability for the District to receive $5 million - $10 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:	$ 100,000	Expenditures through end of year:	$ 79,572
Spent to Date:	$ 54,572	2021 - 2025 Planned Expenditures:	$ 1,765,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 1,844,572
Project Balance	$ 20,428	Additional Funding Required	$ 1,744,572

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 100,000	$ 50,000	$ 10,000	$ 10,000	$ 10,000	$ 180,000
Design	$ 150,000	$ 75,000	$ 60,000	$ 50,000	$ 50,000	$ 385,000
Construction	$ 400,000	$ 300,000	$ 300,000	$ 100,000	$ 100,000	$ 1,200,000
						$ -
TOTAL	$ 650,000	$ 425,000	$ 370,000	$ 160,000	$ 160,000	$ 1,765,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$629,572
		$0
		$0
Total	100%	$629,572

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19021

Project Name: RTU Replacement Control Sites

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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.

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:	$ 19,615
Spent to Date:	$ 4,615	2021 - 2025 Planned Expenditures:	$ 775,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 794,615
Project Balance	$ 20,385	Additional Funding Required	$ 754,615

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 25,000	$ 50,000				$ 75,000
Construction		$ 150,000	$ 300,000	$ 150,000		$ 600,000
Capitalized Labor	$ 25,000	$ 25,000	$ 25,000	$ 25,000		$ 100,000
						$ -
TOTAL	$ 50,000	$ 225,000	$ 325,000	$ 175,000	$ -	$ 775,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$29,615
			$0
			$0
Total	100%		$29,615

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 19024

Project Name: Echo Conduit Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 10/26/20

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 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 and the supporting substructure. The current plans include considering a multi-year phased approach for pipeline replacement, and also considering replacement of the canal section with pipeline. Typically over 1,500 acre feet of water is transferred annually from Echo Lake for water supply and power generation. The total revenue from Echo Lake water can exceed $350,000 annually. Construction costs for the rehabilitation will be estimated upon completion of design. Currently, we are performing preliminary engineering for the foundation, elevated section supports, and pipeline, and developing a constructability plan in consideration of limited locations for access. Following preliminary design, detailed design and supplemental Biological and Cultural Resource surveys are planned for 2021.

Basis for Priority:

The Echo conduit needs to be repaired so the District can continue to use this water supply. The water rights are pre-1914 and are critical for drought years and to provide revenue from power generation.

Project Financial Summary:			
Funded to Date:	$ 100,000	Expenditures through end of year:	$ 92,218
Spent to Date:	$ 67,218	2021 - 2025 Planned Expenditures:	$ 1,810,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 1,902,218
Project Balance	$ 7,782	Additional Funding Required	$ 1,802,218

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 100,000	$ 50,000	$ 20,000	$ 20,000	$ 10,000	$ 200,000
Design	$ 120,000	$ 40,000	$ 20,000	$ 20,000	$ 10,000	$ 210,000
Construction		$ 400,000	$ 400,000	$ 300,000	$ 300,000	$ 1,400,000
						$ -
TOTAL	$ 220,000	$ 490,000	$ 440,000	$ 340,000	$ 320,000	$ 1,810,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCS	100%		$212,218
			$0
			$0
Total	100%		$212,218

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Annual Canal and Flume Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Gibson **Board Approval:** 10/26/20

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.

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:	$ -
Spent to Date:		2021 - 2025 Planned Expenditures:	$ 2,500,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 2,500,000
Project Balance	$ 363,994	Additional Funding Required	$ 2,136,006

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 2,500,000
						$ -
TOTAL	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 2,500,000

Estimated Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$136,006
			$0
			$0
Total	100%		$136,006

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Annual Reservoir and Dam Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Gibson **Board Approval:** 10/26/20

Project Description:

The District dams and reservoirs need of upgrades to extend their life and comply with safety standards. The staff gauge at Caples Reservoir is deteriorated, missing elevation numbers and needs to be replaced. The conduit that holds the lake level transducer was replaced but needs to be secured to the lake bottom. Both of these jobs will require divers to perform the work. The boom logs at Caples Lake are at the end of their service life and need to be replaced ($45k). FERC identified some Echo Lake improvements to eliminate the undercutting at the dam and seal the cracks and joints. The outlet valve at Weber Reservoir is deteriorating and needs to be replaced and the dam upstream face is spalling and needs to be improved. The Emergency Action Plan for Caples Reservoir needs to be expanded to additional inundation maps as requested by DSOD. Other unforeseen activities typically arise as a result of the District's surveillance and monitoring program, and as identified in FERC's and DSOD's annual inspections to maintain the dams in conformance with dam safety standards.

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 150,000	$ 50,000	$ 150,000	$ 50,000	$ 50,000	$ 450,000
						$ -
TOTAL	$ 150,000	$ 50,000	$ 150,000	$ 50,000	$ 50,000	$ 450,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$150,000
			$0
			$0
Total	100%		$150,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: A18 Fiber Communication Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Professional Services	$ 25,000		$ 25,000			$ 50,000
Construction	$ 50,000			$ 200,000		$ 250,000
Capitalized Labor	$ 25,000		$ 25,000	$ 50,000		$ 100,000
						$ -
TOTAL	$ 100,000	$ -	$ 50,000	$ 250,000	$ -	$ 400,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$100,000
			$0
			$0
Total	100%		$100,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Diversion Facility Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 10/26/20

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 the following: 1) Relocating the air compressor/fish screen blower system outside of the existing control room to reduce heat load to electrical and network equipment. 2) Adding 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 3) Extending the fish ladder as required by CA Dept. of Fish & Wildlife The planned sequencing for the project anticipates design of the generator upgrade, building extension, air compressor relocation, and flow meter in 2022 with construction in 2023. Design and permitting of the fish ladder extension is planned for 2024 with construction in 2025.

Basis for Priority:

The project will improve reliability and improve operational capabilities of a critical water facility.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 1,610,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,610,000
Project Balance	$ -	Additional Funding Required	$ 1,610,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 20,000	$ 50,000	$ 50,000	$ 20,000	$ 140,000
Design		$ 150,000	$ 50,000	$ 50,000	$ 20,000	$ 270,000
Construction			$ 400,000		$ 800,000	$ 1,200,000
						$ -
TOTAL	$ -	$ 170,000	$ 500,000	$ 100,000	$ 840,000	$ 1,610,000

Funding Sources	Percentage	2021 Amount
Water FCCs	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Diversion Repeater Site

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 225,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 225,000
Project Balance	$ -	Additional Funding Required	$ 225,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 25,000	$ 25,000				$ 50,000
Construction			$ 100,000			$ 100,000
Capitalized Labor	$ 25,000	$ 25,000	$ 25,000			$ 75,000
						$ -
TOTAL	$ 50,000	$ 50,000	$ 125,000	$ -	$ -	$ 225,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 4 Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

Project Description:

Flume 4 is a 400 foot long wood flume last replaced by PG&E in 1993. The wood timbers are undersized and overstressed and subject to failure. This flume is currently anticipated to be replaced by helicopter with prefabricated flume sections. The design phase of this project will look to see if the helicopter option can be replaced with using heavy equipment and establishing permanent access to the flume. Priority and costs were developed with the Canal and Flume Assessment studies. Costs will be updated as design progresses. Construction is anticipated in 2026.

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:	$ -	2021 - 2025 Planned Expenditures:	$ 275,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 275,000
Project Balance	$ -	Additional Funding Required	$ 275,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning/Env				$ 25,000		$ 25,000
Design					$ 250,000	$ 250,000
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 25,000	$ 250,000	$ 275,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 52A Replacement Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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 and 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:	$ -	2021 - 2025 Planned Expenditures:	$ 2,775,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 2,775,000
Project Balance	$ -	Additional Funding Required	$ 2,775,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning/Env			$ 25,000			$ 25,000
Design			$ 50,000	$ 200,000		$ 250,000
Construction					$ 2,500,000	$ 2,500,000
						$ -
TOTAL	$ -	$ -	$ 75,000	$ 200,000	$ 2,500,000	$ 2,775,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021 CAPITAL IMPROVEMENT PLAN **Program:** **Hydroelectric**

Project Number: PLANNED

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

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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. It 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:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2021 - 2025 Planned Expenditures:**	$ 4,650,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 4,650,000
Project Balance	$ -	**Additional Funding Required**	$ 4,650,000

Description of Work	**Estimated Annual Expenditures**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Study/Planning/Env	$ 50,000					$ 50,000
Design		$ 150,000	$ 150,000	$ 300,000		$ 600,000
Construction				$ 2,000,000	$ 2,000,000	$ 4,000,000
						$ -
TOTAL	$ 50,000	$ 150,000	$ 150,000	$ 2,300,000	$ 2,000,000	$ 4,650,000

Funding Sources	**Percentage**	**2021**	**Amount**
Water FCCs	100%		$50,000
			$0
			$0
Total	**100%**		**$50,000**

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: PLANNED

Project Name: Hydro Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Gibson **Board Approval:** 10/26/20

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. The penstock road and Camp 2 road needs to be graded, rocked and reditched in 2021. Camp 5 improvements including materials / sand shed.

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:	$ -	**2021 - 2025 Planned Expenditures:**	$ 650,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 650,000
Project Balance	$ -	**Additional Funding Required**	$ 650,000

Description of Work	**Estimated Annual Expenditures**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Study/Planning						$ -
Design						$ -
Construction	$ 250,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 650,000
						$ -
TOTAL	$ 250,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 650,000

Estimated Funding Sources	**Percentage**	**2021**	**Amount**
Water Rates	100%		$250,000
Total	**100%**		**$250,000**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Powerhouse Automation Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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 has been a service reliability and maintenance issue. The life of this equipment is cycling out. The original installation was over 25 years ago. Parts for these units are no longer being made and they are difficult to service.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 Planned Expenditures:	$ 750,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 750,000
Project Balance	$ -	Additional Funding Required	$ 750,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 100,000					$ 100,000
Construction		$ 200,000	$ 300,000			$ 500,000
Capitalized Labor	$ 50,000	$ 50,000	$ 50,000			$ 150,000
TOTAL	$ 150,000	$ 250,000	$ 350,000	$ -	$ -	$ 750,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$150,000
			$0
			$0
Total	100%		$150,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Project 184 Remote RTU Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Design	$ 50,000					$ 50,000
Construction		$ 25,000	$ 150,000			$ 175,000
Capitalized Labor	$ 25,000	$ 25,000	$ 25,000			$ 75,000
						$ -
TOTAL	$ 75,000	$ 50,000	$ 175,000	$ -	$ -	$ 300,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$75,000
			$0
			$0
Total	100%		$75,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Spare Powerhouse Turbine Runner

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kessler **Board Approval:** 10/26/20

Project Description:

The 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 of the two turbines 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 $6 million based on loss of availability of one 10 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 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 2021 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 powerhouse turbine-generator units have turbine runners that operated significantly past their predicted service life and are subject to failure. The revenue loss for waiting for a turbine wheel to be manufactured is approximately $6 million. Staff believes it is prudent to study options for replacing the runners, either minimally to maintain a spare, or to consider replacing both runners in light of overall manufacturing cost savings, and potential reliability/efficiency improvements.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning	$ 75,000					$ 75,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 75,000	$ -	$ -	$ -	$ -	$ 75,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	100%	$75,000
		$0
		$0
Total	100%	$75,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Spill 3 Crib Wall Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning/Env		$ 25,000				$ 25,000
Design		$ 400,000				$ 400,000
Construction			***	***		$ -
						$ -
TOTAL	$ -	$ 425,000	$ -	$ -	$ -	$ 425,000

Funding Sources	Percentage	2021	Amount
Water FCC's	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: Construction costs unknown until further study

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: STUDY 2021

Project Name: Tunnel Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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 Pacific, El Dorado, and Mill to Bull tunnels were inspected during the 2016 outage. Pacific, Camp Creek, and Hazel Creek Tunnels were inspected during the 2017 outage. 14 Mile tunnel was inspected in 2015 and was lengthened in the Forebay dam rehab project.

This report will be used to categorize the tunnels for future CIP projects. 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:	$ -	**2021 - 2025 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**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Study/Planning	$ 50,000					$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	**Percentage**	**2021**	**Amount**
Water Rates	100%		$50,000
			$0
			$0
Total	**100%**		**$50,000**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2022

Project Name: Flume Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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. Intermittent checking of the flumes has been done in 2017 and 2019. 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:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 50,000				$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ 50,000	$ -	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2023

Project Name: Canal Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning			$ 50,000			$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ 50,000	$ -	$ -	$ 50,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2024

Project Name: Siphon Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning				$ 60,000		$ 60,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ 60,000	$ -	$ 60,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: STUDY 2025

Project Name: Canal Release Points Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Mutschler **Board Approval:** 10/26/20

Project Description:

This project will evaluate the Project 184 canal release points 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 and to prioritize projects.

Basis for Priority:

The canal release points have not had an assessment done since 1999 and no priorities set to determine what work needs to be completed and what issues are needing to be addressed. 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:	$ 50,000	Expenditures through end of year:	$ 799
Spent to Date:	$ 799	2021 - 2025 Planned Expenditures:	$ 80,000
Cash flow through end of year:		Total Project Estimate:	$ 80,799
Project Balance	$ 49,201	Additional Funding Required	$ 30,799

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning					$ 80,000	$ 80,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ -	$ -	$ -	$ -	$ 80,000	$ 80,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2021 CAPITAL IMPROVEMENT PLAN Program: Hydroelectric

Project Number: 19013

Project Name: Hydro Crew Room Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Kessler **Board Approval:** 10/26/20

Project Description:

The crewroom at Camp 5 was built in 1951 and is in need of some improvements. The room is too small for the amount of staff working in the Hydro Division requiring some people to stand during meetings. There is only one unisex bathroom for over 20 employees. The plan is to add an additional 300 sq feet of space to the crew room by removing a wall, and extending into a storage room. There are 2 different ceiling heights that would be redone. At the same time, the ceiling lights will be upgraded to LED energy efficient lighting. The restroom will be modified to be ADA compliant, and to have two separate unisex sections. The building electrical panel will be upgraded to meet current electrical standards. The heating and air conditioning air distribution unit and ductwork will be relocated. County permits are needed to perform the recommended remodeling. The project has been deferred in the CIP to help meet financial plan objectives but may be accelerated if funding is available.

Basis for Priority:

The crewroom was built in 1951 and needs improvements to comply with ADA standards, improve lighting efficiency and upgrade an outdated electrical panel.

Project Financial Summary:			
Funded to Date:	$ 92,871	Expenditures through end of year:	$ 26,680
Spent to Date:	$ 26,680	2021 - 2025 Planned Expenditures:	$ 180,000
Cash flow through end of year:		Total Project Estimate:	$ 206,680
Project Balance	$ 66,191	Additional Funding Required	$ 113,809

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning			$ 10,000			$ 10,000
Design			$ 20,000			$ 20,000
Construction			$ 150,000			$ 150,000
						$ -
TOTAL	$ -	$ -	$ 180,000	$ -	$ -	$ 180,000

Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Camp 5 Facility Power Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

The project is to design and implement 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 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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Design		$ 50,000				$ 50,000
Construction			$ 250,000			$ 250,000
						$ -
TOTAL	$ -	$ 50,000	$ 250,000	$ -	$ -	$ 300,000

Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Project 184 LiDAR Survey

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Mutschler **Board Approval:** 10/26/20

Project Description:

Project 184 was last surveyed in 2015. Since that time the 2017 and 2019 storm events have cause the landscape to change. The LiDAR surveys are used in design of the Project 184 improvements and have saved the District money in field surveys that would have been needed to complete design of access roads to the flume and canal sections as well as the flumes and canals themselves.

Basis for Priority:

The LiDAR survey saves the District money by providing detailed survey data that can be used for design purposes as well as in helping located access to the Project 184 system that do no show up on conventional maps (i.e. logging roads) The alternative access' that the LiDAR showed were very helpful in the 2017 storms.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Survey	$ 100,000					$ 100,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2021	Amount
Water Rates	100%		$100,000
			$0
			$0
Total	100%		$100,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Silver Lake Facility Power Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

The project is to design and implement a reliable power distribution from the utility and a backup generator. Currently the site is powered by solar panels and a large battery bank. Due to heavy tree shading and high elevation, this site is operating near power loss. Adding utility power and small backup generator will provide consistent and reliable power for critical lake gate operations, while eliminating a large battery bank at a remote location as well.

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study/Planning			$ 25,000			$ 25,000
Design				$ 25,000		$ 25,000
Construction				$ 50,000		$ 50,000
						$ -
TOTAL	$ -	$ -	$ 25,000	$ 75,000	$ -	$ 100,000

Funding Sources	Percentage	2021	Amount
Water FCCs	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

Recreation Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: PLANNED

Project Name: Recreation Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Hawkins **Board Approval:** 10/26/20

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. Main park roadway, Lakewood Drive, will need to be resealed within the next 5 years. 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 Dr. 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, riprap, need to be put in place to ensure Lakewood Dr. does not slide into Jenkinson Lake, as it did in 2006. Sierra Campground Loop is reaching end of 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:		2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Lakewood Dr. Stabilization	$ 50,000					$ 50,000
Pinecone CG Loop Paving		$ 50,000				$ 50,000
Sierra CG Loop Paving			$ 50,000			$ 50,000
Scout Hill Paving				$ 50,000		$ 50,000
Silver Lake West CG & Sandy Cove DUA					$ 50,000	$ 50,000
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$50,000
Total	100%		$50,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: PLANNED

Project Name: Sly Park Recreation Area Facility Improvements

Project Category: Master Planning

Priority: 2 **PM:** Hawkins **Board Approval:** 10/26/20

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 too; 1) Repositioning the 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 would provide a means potentially reduce the impact to the MET 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. By clearly delineating parking areas and improving roadways with culverts and oil separators, storm water could be directed and contaminates captured before entering Jenkinson Lake. 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:		2021 - 2025 Planned Expenditures:	$ 365,000
Cash flow through end of year:		Total Project Estimate:	$ 365,000
Project Balance	$ -	Additional Funding Required	$ 365,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Pinecone DUA Paving	$ 75,000					$ 75,000
Main DUA Expansion		$ 95,000				$ 95,000
Other Projects			$ 45,000	$ 100,000	$ 50,000	$ 195,000
TOTAL	$ 75,000	$ 95,000	$ 45,000	$ 100,000	$ 50,000	$ 365,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	100%		$75,000
Total	100%		$75,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	Recreation

Project Number: 18023

Project Name: Acorn Day Use Area

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Hawkins **Board Approval:** 10/26/20

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 securing 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 securing grant funding during 2021 or 2022 to offset the cost of construction in 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:

Project Financial Summary:			
Funded to Date:	$ 148,978	Expenditures through end of year:	$ 77,903
Spent to Date:	$ 47,903	2021 - 2025 Planned Expenditures:	$ 30,000
Cash flow through end of year:	$ 30,000	Total Project Estimate:	$ 107,903
Project Balance	$ 71,075	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Design	$ 5,000	$ 5,000				$ 10,000
Study/Planning	$ 10,000	$ 10,000				$ 20,000
TOTAL	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 30,000

Funding Sources	Percentage	2021 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments: Construction costs in 2023 will be offset by grant funding. The 50k allocated will be used to meet any potential matching funding or administrative cost that are not covered by grant funds the district might incur.

General District Projects

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Cyber & Physical Security

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Eberhard **Board Approval:** 10/26/20

Project Description:

Ongoing program to defend District information assets and systems from successful cyber attacks utilizing modern cybersecurity solutions and a depth in defense architecture.

Basis for Priority:

Information assets and systems critical to the District's mission and ongoing operation must be effectively safeguarded from unauthorized use, disclosure, modification, damage, or loss. Hackers and other threat actors are continuously developing and launching new and increasingly sophisticated attacks against the District, and the consequences of a successful attack include service interruptions, regulatory fines, data breach, or worse.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Study Physical-Cyber Security Integration	$100,000					$ 100,000
SEIM System	$ 125,000					$ 125,000
NAC System	$ 125,000					$ 125,000
IAM System			$ 150,000			$ 150,000
						$ -
TOTAL	$ 350,000	$ -	$ 150,000	$ -	$ -	$ 500,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	60%	$210,000
Wastewater Rates	40%	$140,000
		$0
Total	**100%**	**$350,000**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Security Equipment Reliability Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Alden **Board Approval:** 10/26/20

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:	$ -	2021 - 2025 Planned Expenditures:	$ 280,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 35,000
Project Balance	$ -	Additional Funding Required	$ 280,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning		$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 20,000
Design		$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 40,000
Construction	$ 45,000	$ 45,000	$ 50,000	$ 40,000	$ 40,000	$ 220,000
						$ -
TOTAL	$ 45,000	$ 60,000	$ 65,000	$ 55,000	$ 55,000	$ 280,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	60%		$27,000
Wastewater Rates	40%		$18,000
			$0
Total	**100%**		**$45,000**

Funding Comments: After review of the current system and ongoing project to improve our security posture I have made some small adjustments to our expense planning to continuously evaluate and improve our system with the goal to proactively plan for end of life cycle replacement of hardware, evaluate our compliance with applicable regulation's and design our integrated security system to comply with and protect our critical infrastructure and our personnel.

2021	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:** 10/26/20

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.

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:	$ 349,697	Expenditures through end of year:	$ 260,539
Spent to Date:	$ 225,539	2021 - 2025 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ 35,000	Total Project Estimate:	$ 360,539
Project Balance	$ 89,158	Additional Funding Required	$ 10,842

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 50,000	$ 50,000				$ 100,000
						$ -
TOTAL	$ 50,000	$ 50,000	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2021	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:** 10/26/20

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:	$ 616,000	Expenditures through end of year:	$ 615,872
Spent to Date:	$ 315,272	2021 - 2025 Planned Expenditures:	$ 7,300,000
Cash flow through end of year:	$ 300,600	Total Project Estimate:	$ 7,915,872
Project Balance	$ 128	Additional Funding Required	$ 7,299,872

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Consulting Services	$ 1,500,000	$ 1,000,000				$ 2,500,000
Software & Equipment	$ 700,000					$ 700,000
Capitalized Labor	$ 2,300,000	$ 1,800,000				$ 4,100,000
						$ -
TOTAL	$ 4,500,000	$ 2,800,000	$ -	$ -	$ -	$ 7,300,000

Funding Sources	Percentage	2021 Amount
Water Rates	60%	$2,699,923
Wastewater Rates	40%	$1,799,949
		$0
Total	100%	$4,499,872

Funding Comments:

2021 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:** 10/26/20

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:	$ 30,000	Expenditures through end of year:	$ 4,283
Spent to Date:	$ 4,283	2021 - 2025 Planned Expenditures:	$ 276,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 280,283
Project Balance	$ 25,717	Additional Funding Required	$ 250,283

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 276,000					$ 276,000
						$ -
TOTAL	$ 276,000	$ -	$ -	$ -	$ -	$ 276,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$150,170
Wastewater Rates	40%		$100,113
			$0
Total	100%		$250,283

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: 19029

Project Name: Wyse Laptop Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Tarbox **Board Approval:** 10/26/20

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 potential for significant disruption, or worse, is very real.

Project Financial Summary:			
Funded to Date:	$ 286,514	Expenditures through end of year:	$ 107,529
Spent to Date:	$ 70,529	2021 - 2025 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 37,000	Total Project Estimate:	$ 157,529
Project Balance	$ 178,985	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 50,000					$ 50,000
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$0
Wastewater Rates	40%		$0
			$0
Total	100%		$0

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 19044

Project Name: Dream Reports Software

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

This CIP project funding is to develop automated reports that will aid the District in analyzing pump and motor (wire to water) efficiencies for water and wastewater facilities. These reports will empower operators and management with the information necessary to make informed decisions about pump operation including time of day use and set points that ultimately affect energy consumption and cost.

Basis for Priority:

The District's currently lacks an integrated reporting solution for compliance data. The current process to collect, analyze, and produce compliance reports is complicated, labor intensive, and time consuming.

Project Financial Summary:			
Funded to Date:	$ 18,000	Expenditures through end of year:	$ 10,584
Spent to Date:	$ 5,584	2021 - 2025 Planned Expenditures:	$ 225,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 235,584
Project Balance	$ 7,416	Additional Funding Required	$ 217,584

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Software	$ 100,000					$ 100,000
Consulting	$ 75,000					$ 75,000
Capitalized Labor	$ 50,000					$ 50,000
						$ -
TOTAL	$ 225,000	$ -	$ -	$ -	$ -	$ 225,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$130,550
Wastewater Rates	40%		$87,034
			$0
Total	100%		$217,584

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: HQ Backup Power Modifications

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

The funding is for upgrading the power distribution system at the Placerville HQ building to include generator backup for the whole building. Currently majority of HVAC units, elevators, some bathroom fans and large portion of the older building are not backed. Fire suppression system and building alarm are not properly backed up.

Basis for Priority:

Safety concern 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.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Design	$ 50,000					$ 50,000
Construction	$ 200,000	$ 200,000				$ 400,000
Capitalized labor	$ 25,000	$ 25,000				$ 50,000
						$ -
TOTAL	$ 275,000	$ 225,000	$ -	$ -	$ -	$ 500,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$165,000
Wastewater Rates	40%		$110,000
			$0
Total	100%		$275,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: Information Systems Replacement & Development

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sundaram **Board Approval:** 10/26/20

Project Description:

Ongoing technology program that develops new solutions to replace obsolete information systems and business processes which no longer meet business or information security needs. The program analyzes functional and technical requirements, plus industry best practices to deliver modern, efficient, adaptable, secure, and innovative solutions before current systems or processes fail with potentially catastrophic results.

Basis for Priority:

Information systems and business processes are critical to the District's mission and ongoing operation. Over time they can reach 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 systems or processes 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:	$ -	2021 - 2025 Planned Expenditures:	$ 950,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 950,000
Project Balance	$ -	Additional Funding Required	$ 950,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Upgrade Obsolete Hansen (IPS)	18055 Hansen 7 Upgrade	18055 Hansen 7 Upgrade				$ -
Develop Condition Based Maintenance System (IPS)			$ 50,000	$ 50,000		$ 100,000
Replace Obsolete Aerial Imagery (ArcGIS)	$ 50,000		$ 50,000			$ 100,000
Develop Fleet Telematics & Tracking System (IPS)		$ 100,000				$ 100,000
Upgrade Sewer CCTV Inspection System (Pipelogix & ArcGIS/IPS)	$ 30,000					$ 30,000
Replace EOL Business Information Systems (Win 2012 obsolete in 2024)		$ 50,000	$ 50,000			$ 100,000
Develop Automated SCADA Compliance & Operational Reporting (DreamReports)	19044 Dream Reports					$ -
Develop Operator Rounds & Decision Support System (IntelaTrac & IPS)		$ 150,000				$ 150,000
Develop Energy Use & Management System (EnergyMetrix)	$ 165,000	$ 15,000	$ 15,000			$ 195,000
Develop Contract & Risk Management System (Agiloft)		$ 50,000				$ 50,000
Develop CIP & Project Planning System (Agiloft)	$ 50,000					$ 50,000
Study to upgrade FIS & HRIS to ERP Solution				$ 75,000		$ 75,000
TOTAL	$ 295,000	$ 365,000	$ 165,000	$ 125,000	$ -	$ 950,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	60%		$177,000
Wastewater Rates	40%		$118,000
Total	**100%**		**$295,000**

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: Information Technology Infrastructure & Security

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:** 10/26/20

Project Description:

Ongoing program that ensures the reliability, security, and performance of the complex technology infrastructure that serves the District's varied information systems and communications requirements. The program analyzes functional and technical requirements, plus industry best practices to deliver modern, efficient, flexible, scalable, secure, and innovative solutions before current equipment, systems, or services fail with potentially catastrophic results.

Basis for Priority:

The complex and expansive information technology environment is critical to the District's mission and ongoing operation. Over time the components, which includes equipment, systems, platforms, and services, can reach 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:	$ -	2021 - 2025 Planned Expenditures:	$ 1,350,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,350,000
Project Balance	$ -	Additional Funding Required	$ 1,350,000

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Replace EOL End-User Computer Equipment					$ 50,000	$ 50,000
Replace EOL Document Center Equipment (Kyocera)				$ 100,000		$ 100,000
Replace EOL IT Network & Communications Equipment	$ 100,000	$ 100,000				$ 200,000
Replace EOL IT Service Hosts (Win 2012 obsolete in 2024)		$ 50,000	$ 100,000	$ 50,000		$ 200,000
Replace EOL Data Center Computer Equipment (Datrium)		$ 50,000	$ 650,000			$ 700,000
Replace EOL IT Environment & Life Safety Systems	$ 100,000					$ 100,000
TOTAL	$ 200,000	$ 200,000	$ 750,000	$ 150,000	$ 50,000	$ 1,350,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	60%		$120,000
Wastewater Rates	40%		$80,000
Total	**100%**		**$200,000**

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: SCADA Cyber Security Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

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. 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.

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:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
HW/SW			$ 200,000			$ 200,000
Professional Services			$ 100,000			$ 100,000
Capitalized Labor			$ 50,000			$ 50,000
TOTAL	$ -	$ -	$ 350,000	$ -	$ -	$ 350,000

Estimated Funding Sources	Percentage	2021	Amount
Water Rates	60%		$210,000
Wastewater Rates	40%		$140,000
Total	100%		$350,000

Funding Comments:

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: PLANNED

Project Name: SCADA Master Plan Implementation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Volcansek **Board Approval:** 10/26/20

Project Description:

This CIP outlines an improvements and sustainability plan as recommended by our hired consultant. Please refer to the SCADA Master Plan.

Basis for Priority:

There is potential for "wasted work" and great operational inefficiencies amounting to hundreds of thousands of dollars or more by moving forward on SCADA development without following a written plan or standard.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2021 - 2025 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					
	2021	2022	2023	2024	2025	Total
Process Automation and HMI Improvements	$ 50,000					$ 50,000
Master Plan Update		$ 100,000				$ 100,000
Res 1 SCADA upgrade			$ 350,000			$ 350,000
EDHWW SCADA upgrade				$ 400,000		$ 400,000
SCADA Enterprise System Upgrade					$ 200,000	$ 200,000
TOTAL	$ 50,000	$ 100,000	$ 350,000	$ 400,000	$ 200,000	$ 1,100,000

Estimated Funding Sources	Percentage	2021 Amount
Water Rates	60%	$30,000
Wastewater Rates	40%	$20,000
		$0
Total	100%	$50,000

Funding Comments:

2021 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: **Planned**

Project Name: **Vehicle Replacement**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Warden** **Board Approval:** **10/26/20**

Project Description:

The following vehicle replacements are planned for 2021 - 2025.

2021: 5-1/2 ton 4X4 pickups, 1-4X4 SUV's, 2-1 ton 4X4 service truck, 2-1 1/2 ton 4X4 service truck with crane, 1-1 1/2 ton 4X4 service truck with power unit, 1- used 20,000 lb crane truck, 1-4 thousand gal water truck, 1- 1 ton water valve truck, 1- snow cat.
2022: 3-used 6-7 yard dump trucks, 6-1/2 ton 4X4 pickup, 2- 1 1/2 ton 4X4 service truck, 2- 4X4 suv, 1- compact excavator, 2- 4X4 quad runners.
2023: 4-1/2 ton 4X4 pickups, 3-used 6-7 yard dump trucks,1-used 10 yard dump truck, 1-used transfer truck, 1- 1 1/2 ton 4X4 service truck, 1-1 ton 4X4 service truck.
2024: 5-1/2 ton 4X4 pickups, 5-1 ton 4X4 service trucks, 1- vacume pumper truck 52,00 lb, 1- 1 1/2 ton 4X4 service truck, 1-4X4 SUV's.
2025: 1- 410 4X4 backhoe, 1- 21' boat, 4 4X4 SUV's, 1- vacume pumper truck 52,00 lb, 3- 1/2 ton 4X4 pickups, 1-1 1/2 ton 4X4 service truck with power unit, 2- 1 ton 4X4 service truck, 1- 3/4 ton 4X4 pickup, 1- 1 1/2 ton 4X4 flat bed, 1- vacuum excavation trailer.
The planned expenditures are listed below.

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:	**$ -**	**2021 - 2025 Planned Expenditures:**	**$ 6,676,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 6,676,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 6,676,000**

Description of Work	**Estimated Annual Expenditures**					
	2021	**2022**	**2023**	**2024**	**2025**	**Total**
Vehicles	**$ 1,366,000**	**$ 1,018,000**	**$ 1,045,000**	**$ 1,444,000**	**$ 1,803,000**	**$ 6,676,000**
						$ -
						$ -
TOTAL	**$ 1,366,000**	**$ 1,018,000**	**$ 1,045,000**	**$ 1,444,000**	**$ 1,803,000**	**$ 6,676,000**

Estimated Funding Sources	**Percentage**	**2021 Amount**
60% Water Rates	60%	$819,600
40% Wastewater Rates	40%	$546,400
		$0
Total	**100%**	**$1,366,000**

Funding Comments: Funding sources will be based on each vehicle cost center (water or wastewater)

2021	CAPITAL IMPROVEMENT PLAN	Program:	General District

Project Number: 18043

Project Name: Wireless LAN Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Eberhard **Board Approval:** 10/26/20

Project Description:

Project implements wireless networks and network access control security system in all major District facilities. The project establishes new secure Wi-Fi service delivery points to provide needed network access to mobile devices within the District's plants, corporate yards, and office buildings which frequently lack cellular service coverage. The project provides a modern solution to meet the District's growing mobile workforce connectivity requirements, improves network security and performance while creating a more scalable and flexible architecture to meet current and future business needs.

Basis for Priority:

The District's mobile workforce frequently encounters poor or no cellular service within District plants, corporate yards, and buildings. Mobile communications provide staff with mission critical alerts and decision support to ensure safety, service quality and reliability, while also increasing efficiency.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 45,241
Spent to Date:	$ 35,241	2021 - 2025 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 345,241
Project Balance	$ 4,759	Additional Funding Required	$ 295,241

Description of Work	Estimated Annual Expenditures					
	2021	2022	2023	2024	2025	Total
Study/Planning						$ -
Design						$ -
Construction	$ 150,000	$ 150,000				$ 300,000
						$ -
TOTAL	$ 150,000	$ 150,000	$ -	$ -	$ -	$ 300,000

Funding Sources	Percentage	2021	Amount
Water Rates	60%		$87,144
Wastewater Rates	40%		$58,096
			$0
Total	100%		$145,241

Funding Comments: