



# Humboldt Community Services District

Fiscal Year 2023/24

Capital Improvement Program

With Details for

Fiscal Year 2023/24 – 2027/28

and Projections out to Fiscal Year 2043/44

Adopted June 27, 2023

## EXECUTIVE SUMMARY

The Humboldt Community Services District Fiscal Year 2023/24 Capital Improvement Plan (CIP) details the cost and scheduling for the anticipated capital projects and expenditures for the five-year period beginning with Fiscal Year 2023/24 and ending with Fiscal Year 2027/28. The plan also includes less detailed projections for anticipatable expenditures to the ten and twenty-year planning horizon. A table summarizing the capital expenses can be found below (Table 1). The FY 23-24 totals include \$800,000 that was budgeted for CIP projects that were planned for FY 22-23 and were not completed. These funds were rolled into FY 23-24. The FY 23-24 CIP also includes \$1M for repairing infrastructure that was damaged during the December 20, 2022 earthquake. The damage repair is grant funded by CalOES. Projected spending for new projects in FY 23-24 is \$2.7M. Additionally, the District has applied for \$8.6M in grant funding that will offset costs associated with various proposed CIP projects in future years.

Table 1: Summary of Humboldt Community Service District anticipated capital expenses out to the 20-year planning horizon.

	Current FY 22-23	Scheduled FY 23-24	Projected FY 24-25	Projected FY 25-26	Projected FY 26-27	Projected FY 27-28	Projected Years 6 to 10*	Projected Years 11 to 20**
		1	2	3	4	5		
Sewer Facilities	\$1,455,000	<b>\$543,029</b>	\$1,908,500	\$1,936,000	\$2,200,000	\$2,473,500	\$11,602,500	\$22,018,000
Sewer Mains	\$23,000	<b>\$1,333,000</b>	\$2,387,000	\$2,132,900	\$1,695,100	\$2,055,500	\$27,735,506	\$55,529,013
Water Facilities	\$268,700	<b>\$1,340,150</b>	\$1,080,850	\$1,065,350	\$1,153,850	\$1,011,350	\$5,450,500	\$7,326,000
Water Mains	\$249,900	<b>\$791,210</b>	\$341,700	\$341,700	\$1,511,110	\$1,125,000	\$20,075,000	\$40,150,000
Building and Yard	\$85,400	<b>\$92,500</b>	\$242,000	\$22,000	\$33,000	\$110,000	\$250,000	\$300,000
Vehicles and Equipment	\$405,000	<b>\$450,000</b>	\$70,000	\$0	\$70,000	\$70,000	\$1,650,000	\$3,300,000
Sewer Total	\$1,723,200.0	<b>\$2,372,279.0</b>	\$4,451,500.0	\$4,079,900.0	\$3,946,600.0	\$4,619,000.0	\$40,288,006.0	\$79,347,013.0
Water Total	\$763,800.0	<b>\$2,177,610.0</b>	\$1,578,550.0	\$1,418,050.0	\$2,716,460.0	\$2,226,350.0	\$26,475,500.0	\$49,276,000.0
Total	\$2,487,000	<b>\$4,549,889</b>	\$6,030,050	\$5,497,950	\$6,663,060	\$6,845,350	\$66,763,506	\$128,623,013
							Annual averages for 10 and 20 year projections	\$13,352,701      \$12,862,301
								20 Year Projected Grand Total
								\$227,459,818

\*column represents the cumulative expenses for the 5 years between year 6 and year 10

\*\*column represents the cumulative expenses for the 10 years between year 11 and year 20

## CONTENTS

Executive Summary.....	i
Introduction .....	1
Background .....	1
Water .....	2
Systematic Steel Main Replacement .....	2
Water Tank Rehab .....	3
Pump Station Rehab/Upgrade .....	3
Sewer .....	7
Martin Slough Lift Station Reversals .....	7
Lift Station Rehab.....	8
Trouble Spots (Enhanced Cleaning Locations).....	8
Systematic Sewer Line Replacement .....	9
Outside Agency Obligations .....	9
City of Eureka CIP .....	9
City of Eureka Wastewater Treatment Facility (COE-WTF) .....	10
Rolling Stock.....	13
Light Duty.....	13
Heavy Duty Equipment .....	13
Specialty Equipment .....	13
Office and Corporation Yard Improvements .....	15
Grant Program .....	17
Extended Projections .....	17
Ten Year .....	17
Twenty Year .....	17
Fifty Year .....	18

## INTRODUCTION

The Fiscal Year (FY) 2023/2024 Capital Improvement Program/Plan (CIP) is a five-year plan for budgeting and planning of District water and sewer facility and infrastructure improvements. The CIP is used to identify, prioritize and schedule necessary improvements. The CIP is also a tool to assist with rate setting and identification of funding sources for future projects. The CIP consists of projects that require major financial and human resources in a scheduled format. Interdependency of year-to-year project selections is a major consideration to ensure an efficient and orderly progression of improvements. Routine maintenance is not considered a capital improvement expense.

Criteria for CIP project selection includes projects that reduce maintenance and cost to the District, improve service and reliability, and provide for water security and infrastructure resiliency. The CIP is also used as the master plan for scheduled infrastructure replacements based on performance and useful life expectancy.

The CIP will inform and assist with the District's annual budgeting process as well as inform the rate and capacity charge setting process. The ten- and twenty-year projections are intended for planning purposes. These estimates represent known expenses that will impact the District's finances on a longer-term planning horizon than a standard five-year CIP does. These long-term projections do not represent an exhaustive list or project schedule. The ten- and twenty-year projections are intended to inform financial planning, rate setting and grant writing efforts so that the District can remain financially sustainable into the future.

The projected values reflected in these pages are in 2023 dollars with no consideration of potential inflation.

## BACKGROUND

The District was formed in 1952 to provide water and wastewater services to the unincorporated areas of Eureka. Over the years, the District has expanded the service area to include Myrtle town, Pine Hill, Humboldt Hill, Fields Landing, King Salmon, and Freshwater. Expansion was accomplished both by District construction of facilities, such as in Myrtle town and Cutten, and by acquisition of existing facilities such as the Pjalorsi water system in Humboldt Hill and the County Service Area No. 3 in King Salmon and Fields Landing.

Between 1974 and 1980, the Capital Improvement Program consisted mainly of equipment and plant purchases. From 1980 to 1990, the CIP included revenue bond financing of major water supply, distribution and storage projects. From 1990 onward, the District adopted a formal five-year CIP process that focused on steel main replacement and sewage lift station upgrades. The structured program has resulted in increases in production and project completion. Capital expenditures have also increased from an average of 10% to nearly 30% of total budget as the District's aging system requires replacement and improvements.

Ten- and twenty-year projections (titled Years 6-10 and Years 11-20 in the tables for clarity), developed for this plan, indicate that the District's capital expenditures will need to accelerate to keep pace with necessary renewal of the aging infrastructure some of which has already come the end of useful life. This includes over 114 miles of water mains and 73 miles of sewer mains, some of which will be approaching 100 years old at the end of the 20-year planning horizon.

In 2016, the City of Eureka received a Cease-and-Desist Order (CDO) regarding discharges to Humboldt Bay. At the time, the CDO required compliance with a "Blending Prohibition" by 2028 and full compliance with the State's Enclosed Bays and Estuaries Policy by 2032. At this time, the Waterboard is

considering a National Pollutant Discharge Elimination System (NPDES) Permit that requires compliance with these prohibitions by 2028 and 2042 respectively while at the same time rescinding the CDO. Currently, the City's estimate for compliance with the "Blending Prohibition" is as much as \$30M which will require a District contribution of about \$10M. That value is included in the 6-to-10-year and 11-to-20-year projection as a loan repayment to spread the cost over as much time as possible. There is no current estimate by the City for the cost to fully comply with the Enclosed Bays and Estuaries Policy. The District expects another large expenditure at the end of the 20 year horizon but for wastewater plant upgrades for compliance with the Enclosed Bays and Estuaries Policy. As the City does not have an estimate of the expected cost of compliance, no dollar value has been allocated for this anticipated expense.

## WATER

The District's water distribution and storage system is complex, consisting of twenty-two (22) different pressure zones, ten (10) water storage tanks containing 5.0 million gallons of storage capacity, and twelve (12) water booster pumping stations. The District's water related capital expenditure plan is detailed in Table 3 and Table 4.

Water supply is furnished by three sources. Approximately one half of the District's consumption is purchased from the Humboldt Bay Municipal Water District (HBMWD) through the Truesdale booster pump station; one quarter is purchased from the City of Eureka (who purchases it from HBMWD) through the Hubbard and Harris booster pump station; the final quarter is pumped from District owned wells located in the Humboldt Hill area that draw off of the Eureka Plain Groundwater Basin near the Elk River.

These three water sources supply the three major service areas of the District. Hubbard and Harris pump station (water purchased from the City of Eureka) supplies the northern area of Myrtle town, Mitchel Road, Freshwater and Pigeon Point (Freshwater/Mitchel Road Zone). Truesdale pump station (water purchased from HBMWD) supplies Cutten, Rosewood, a portion of Pine Hill, Ridgewood and Elk River (Ridgewood Zone). District well water supplies the southern area of Humboldt Hill, King Salmon, Fields Landing, College of the Redwoods and a portion of Pine Hill (Humboldt Hill Zone).

Using the District's current infrastructure, water can be moved from the Ridgewood zone to the Humboldt Hill Zone and to the Freshwater/Mitchel Road Zone. Water can also be moved from the Freshwater/Mitchel Road Zone to the Ridgewood Zone. Using current infrastructure, water cannot be moved from the Humboldt Hill Zone to the Ridgewood or Freshwater/Mitchel Road Zones. This could prove problematic during a regional emergency because all of the District's current wells are located in the Humboldt Hill Zone.

Interties also exist between the City of Eureka water system and the District for emergency purposes. In most places, the City of Eureka pressure grid is approximately 5 psi greater than the District pressure grid. There are areas where the District's delivered pressure is higher than the City's pressure at the District's boundary. Although these District service/supply interties exist, moving water from one service zone to another is complicated by undersized transmission mains and under capacity storage volume necessary to supply both zone demands concurrently.

### Systematic Steel Main Replacement

The systematic steel watermain replacement program was initiated in the early 1990s to replace approximately 15 miles of undersized watermain most of which was installed in the 1950s. There are a total of 8 steel main replacement (SMR) projects remaining with a total length of about a half a mile that

are scheduled over the next several years. Four of these SMR projects are schedule for the coming year. These projects are listed in Table 4, marked with an SMR for Steel Main Replacement.

### Water Tank Rehab

During FY 2017-18, the District performed an assessment of three water storage tanks; Walnut Drive 1MG, Ridgewood and Donna Drive. The inspections revealed that all three tanks required rehabilitation including recoating, structural rehabilitation and were in need of safety upgrades for fall protection, venting and cathodic protection. The Walnut Drive and Ridgewood tanks were the highest priority. The Walnut Drive 1MG tank rehabilitation was completed during FY 2020-2021 and the Ridgewood Tank rehabilitation was completed during FY 2021-2022. Due to the age and condition of the remaining District water storage tanks, all of the District’s tanks will be evaluated and rehabilitation will be scheduled accordingly.

During the five-year term of this Capital Improvement Plan, the following water storage tanks are scheduled for rehabilitation; Brier Lane 0.5MG (2023), Donna Drive 0.5MG (2025), Walnut Drive 0.5MG (2026) and the Cummings Road tank (2027). The District will rehabilitate the remaining tanks within the ten-year planning horizon. The following table provides some detailed information regarding the District’s water storage facilities (Table 2).

Table 2: The tabulated data shows details regarding the District's water storage tanks.

Water Storage Tank Data					
Location/Name	Volume (MG)	Height (Feet)	Diameter (Feet)	Date Constructed	Date Refurbished
Blue Spruce	1	35	72	2002	--
Brier Lane	0.5	32	52	1982	2023
Cummings	0.12	24	30	1991	Planned 2027
Dana Lane	0.375	30	48	1992	--
Donna Drive	0.5	24	61	1988	Planned 2025
Lentell	0.15	20	37	1992	--
Pigeon Point	0.17	24	35.5	1996	--
Ridgewood	0.5	52	40	1982	2021
Walnut Drive	1	40	67	1971	2020
Walnut Drive	0.5	34	50	1952	Planned 2026

### Pump Station Rehab/Upgrade

The District maintains twelve (12) water booster or pump stations. These include South Bay Well, Spruce Point Well, Blue Spruce Booster, Donna Drive Booster, Truesdale Pump Station, Ridgewood Pump Station, Hubbard Pump Station, Cummings Road Booster, Mitchel Road Booster, Lentell Booster, Kluck Booster, and Pigeon Point Booster. Some of these stations pump water out of the ground and up to a tank (South Bay Well and Spruce Point Well). Other stations move water from a low elevation up to a tank at a higher elevation and operate under level control (Blue Spruce Booster, Truesdale Pump Station, Ridgewood Pump Station, Cummings Road Booster, Mitchel Road Booster, Pigeon Point Booster, and Hubbard Pump Station). The remaining stations pressurize water using hydropneumatics to deliver water with sufficient pressure to connections whose elevation cannot be reached by the nearest pressure zone (Donna Drive Booster, Lentell Booster, and Kluck Booster).

In 2023, a shelter was constructed at South Bay Well to protect the wellhead and pump motor. In 2024, a third pump will be added to the Hubbard Pump Station and Ridgewood Booster Station to provide redundancy and supply resiliency. Over the next five years, Truesdale, the District’s primary pumping

station, will receive an updated Motor Control Cabinet (MCC) as well as replacement pumps. This project is necessary because installed equipment is past its useable life. The buildings that protect the Pigeon Point Booster Station and Donna Drive Booster Station will be rehabilitated in 2027. The MCC and aged pumps at the Hubbard Pump Station will be updated in 2028. Other projects will need to occur in the 6 to 20 year time frame but are not yet scheduled or budgeted.

HUMBOLDT CSD FISCAL YEAR 2023/2024 CAPITAL IMPROVEMENT PLAN (CIP)

Table 3: Capital improvements planned for Humboldt Community Services District water pumping and storage facilities.

WATER	Current FY 22-23	Scheduled FY 23-24	Projected FY 24-25	Projected FY 25-26	Projected FY 26-27	Projected FY 27-28	Projected Years 6 to 10*	Projected Years 11 to 20**	Comments
<b>WATER SYSTEM IMPROVEMENTS</b>									
<b>C=Contract</b>									
<b>PUMPING FACILITY UPGRADES</b>									
South Bay well	\$22,700								
AMR Program	\$25,000	\$155,100	\$155,100	\$155,100	\$155,100	\$155,100	\$775,500	\$1,551,000	Building 7,500 every ten years @ \$258.5/ea
SCADA Upgrade	\$25,000	\$110,000	\$110,000	\$110,000	\$110,000				Engineering 22/23 Rehabilitation 23/24 DOHS required
Brier Lane 0.5 MG Tank	\$42,000	\$726,000	\$10,000						Tank Rehab Upsize pump/ mod system
Donna Drive Hydro-tank	\$100,000	\$60,500							Engineering and Temp System 23/24 Rehab 24/25
Ridgewood Tank	\$12,000	\$50,000							Well Cleaning and New Column Pipe/Pump Third Pump Assembly
Hubbard 3rd Pump	\$10,000	\$36,300							Resolves Fireflow Issues
Donna Drive 0.5 MG Tank	\$32,000	\$51,000	\$726,000						New pumps/Upgrade Engineering 24/25 Rehabilitation 25/26
South Bay School Backflow Device		\$16,500							Engineering 25/26 Rehabilitation 26/27 Rehab/roofing/siding
Spruce Point Well		\$33,000							Siding, roofing and drainage
Ridgewood Water Booster Station		\$33,000							Reestablish a well on District owned property Replace failed well on District owned property
18th & Quaker PSV		\$5,500	\$5,500						Booster Station and Well
Humboldt County ADA Access		\$30,250	\$30,250	\$30,250	\$30,250	\$30,250			
Tuesdale WBS		\$30,250	\$44,000	\$726,000	\$726,000	\$726,000			
Walnut Drive 0.5 MG Tank		\$44,000	\$44,000						
Cummings Road Tank		\$17,000	\$17,000						
Pigeon Point WBS		\$71,500	\$71,500						
Donna Drive WBS		\$44,000	\$44,000						
Dena Lane Tank		\$100,000	\$100,000						
Hubbard MCC and Pumps Update							\$825,000		
Princeton Well									
Meyers Well									
Water Resiliency at Little CA St.									
Rehabilitate Remaining Tanks							\$3,850,000		
<b>Water Pumping Facilities Totals</b>	\$268,700	\$1,340,150	\$1,080,850	\$1,065,350	\$1,153,850	\$1,011,350	\$5,450,500	\$7,326,000	\$18,696,750

\* column represents the cumulative expenses for the 5 years between year 6 and year 10

\*\* column represents the cumulative expenses for the 10 years between year 11 and year 20



HUMBOLDT CSD FISCAL YEAR 2023/2024 CAPITAL IMPROVEMENT PLAN (CIP)

Table 4: Capital improvements planned for Humboldt Community Services District water main replacements.

<b>WATER</b>		Current	Scheduled	Projected	Projected	Projected	Projected	Projected	Projected	Comments
		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	Years 6 to 10*	Years 11 to 20**	
<b>CAPITAL IMPROVEMENTS - WATER</b>										
<b>WATER MAIN REPLACEMENTS</b> C=Contract										
<b>SMR=STEEL MAIN REPLACEMENT</b>										
<b>ACMR=ASBESTOS CEMENT MAIN REPLACEMENT</b>										
	LF									
New Connections		\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000	\$150,000	Water main replacements
Tower Lane	SMR 600	\$140,000								\$300/LF except as noted
Park Street Pavement Repair		\$39,000								
Christian Lane	SMR 150	\$42,900								
18th Street	SMR 450	\$5,000	\$133,650							New connections
Walnut EQ Repair		\$3,000	\$500,000							\$270/LF Plus Culvert
Stanford Court	SMR 100		\$29,700							Damage in Park Street Watermain Break
Temple Circle	SMR 130		\$38,610							Paving 22/23
Crane Street	SMR 250		\$74,250							\$300/LF 450 feet
Vista Tie In Phase 1	C 700			\$207,900						Grant Funded
Shady Lane	SMR 400			\$118,800						\$300/LF
Vista Tie In Phase 2	C 700				\$207,900					\$300/LF
Meadowood	SMR 400				\$118,800					\$300/LF
Mitchell Road	C 3400					\$1,309,000				Myrtle to Cummings on Mitchell Road \$350/LF
Beechwood Dr.	SMR 370					\$109,890				\$300/LF
Austin Court	SMR 260					\$77,220				\$300/LF
College Streets Upgrade	ACMR 3700						\$1,110,000			\$300/LF
AC Water Main Replacement Program	272694									AC Mains @ \$200/LF
<b>Water Main Replacement Totals</b>		\$249,900	\$791,210	\$341,700	\$341,700	\$1,511,110	\$1,125,000	\$20,000,000	\$40,000,000	\$64,585,620

\* column represents the cumulative expenses for the 5 years between year 6 and year 10

\*\* column represents the cumulative expenses for the 10 years between year 11 and year 20

## SEWER

The District's sewage collection system is straightforward in concept. All sewage collection gravity flows or is pumped to the City of Eureka's Elk River Wastewater Treatment Facility for treatment. By agreement, the District owns 32.1% of the current plant capacity. Annually the District sends approximately \$1.75M to the City of Eureka for operation and maintenance of the regional facility. This represents approximately 16 percent of the total operating expenses budgeted for FY 2023-24.

The hilly terrain and historical piecemeal development within the District resulted in a system that includes 28 sewer lift stations. For comparison, the McKinleyville Community Services District (MCSD) operates six stations, City of Arcata operates eight stations, and City of Fortuna operates five stations. The City of Eureka, which is adjacent to and with similar topography as the District, operates 26 stations. Under current operations, the District has no alternative but to upgrade and replace many of these stations to achieve reduced maintenance, emergency call-out and sewage overflow potential.

The District's sewer related capital expenditure plan is detailed in Table 5 and Table 6.

### Martin Slough Lift Station Reversals

In the early 1980's the concept of a regional sewage lift station serving both the City of Eureka and District customers in the Ridgewood, Pine Hill and City Golf Course area was explored. The stated objectives were threefold: 1) To eliminate approximately 3 major and 3 minor City and 13 minor District lift stations; 2) Reduce the large pumping and maintenance costs associated with pumping into cascading lift station systems, which pumps along an in-direct route, completely around the City through the cross-town interceptor and 3) Provide for future development of approximately 5,000 new residential units in the non-sewered areas of Westgate and Ridgewood.

Another stated benefit of this project is to redirect the City of Eureka's "O" Street sewage lift station to the new Martin Slough Interceptor, thereby freeing up capacity in the City's northeast (Myrtle town) sewage drainage area. Before the Martin Slough Interceptor project, the City's northeastern collection system, was at capacity.

Over the years, the project morphed into the Martin Slough Interceptor project for which construction was completed in 2015. By 2007, the concept project had been modified to the point that only ten of the District's lift stations had the potential to be "turned" or "reversed"; Artino, Sea Avenue, Pine Hill, Hidden Meadows, Alder, F Street, Hartman, D Street, Spruce, Campton, and the metering station at Hemlock. Of these ten, Campton has been "turned" and converted to a metering station, Sea Avenue is in the process of being "turned" and is expected to be completed during the summer of 2023, the Hemlock metering station will be eliminated with the Hemlock rerouting project that is scheduled to be completed 2026, Hartman Ln "reversal" is scheduled to be completed 2025, and F Street is scheduled to be "reversed" 2026.

The remaining six lift stations (Artino, Pine Hill, Hidden Meadows, Alder, D Street and Spruce) are not currently scheduled to be "turned." Some of these lift stations are currently listed in the ten-year projections. They will be prioritized and scheduled as it becomes cost effective to consider performing the necessary work to "turn" these stations. Most of these stations serve very small sewer sheds and the cost of performing the work necessary to "turn" them currently outweighs the resulting benefit. As development occurs within those sewer sheds, the economics associated with "tuning" these lift stations becomes more favorable.

In the case of Pine Hill, the Martin Slough interceptor project was modified at some point between planning and execution so that the Pine Hill lift station cannot flow to the Martin Slough Interceptor.

Turning the Pine Hill lift station will require major upgrades to one of the City of Eureka's lift stations, Pound Road. Additionally, the developable land in Westgate and Ridgewood have limited access to the Martin Slough Interceptor as it was constructed.

### Lift Station Rehab

The District currently maintains 28 lift stations; Hoover, Alder, Spruce, Foxwood, S. Broadway, Sequoia, Christine, Sea Avenue, Pine Hill, Bailey, Wellington, Beechwood, Moore Ln, Maple Ln, Perch, Buhne, King Salmon, Fields Landing, Blackberry, Hartman, Roth Ct, Artino, Hidden Meadows, Cedar Ridge, Liberty Bell, Edgewood, F Street, and D Street.

The anticipated life of a lift station is between 15 and 20 years. Given that there are nearly 30 lift stations, the District is continually performing rehabilitation activities on these assets. In fact, to keep pace with degradation, the District needs to rehab the equivalent of two lift stations per year. This is in the form of pump upgrades, replacement panel enclosures, rail replacements, lid replacements, and grouting/concrete. Rarely does the District undertake a complete lift station rehabilitation because the ongoing maintenance of the lift stations allows staff to spread the effort and expense across many years and avoid shutting down and re-routing an entire station to accommodate a rehabilitation project.

During the coming five-year period, the District will be performing rehabilitation work on 10 of the 28 lift stations. The lift stations being addressed during the current five-year CIP are Bailey, Artino, Allard, Roth Court, Pine Hill, Christine, Hoover, Beechwood, King Salmon, and Wellington. Additionally, a new lift station is proposed for the intersection of Mike Lane and Park Street and planned for FY 27-28. The District experiences emergency conditions at this location whenever there is excessive precipitation. A new lift station at this location would significantly reduce the probability of sewer overflow.

### Trouble Spots (Enhanced Cleaning Locations)

A "Trouble Spot" or "Enhanced Cleaning Location" is a location within the District's sewer collection system that has given the maintenance staff "trouble" and is in need of periodic attention. The District has a sewer maintenance program to deal with trouble spots in the collection system. When a problem is reported or detected, maintenance staff will investigate the issue to determine the root cause. If the cause of the problem is determined to be the District's infrastructure, (root intrusion, infrastructure degradation, sagging, damage, design issues, etc.) a project will be initiated and the area will be identified as a trouble spot. Once an area is identified as a trouble spot, that section, area or location is put on a list (work order) to be repaired and prioritized along with other District projects.

During the time between when a trouble spot is identified and when a permanent solution can be implemented, the maintenance staff will make periodic inspections and take temporary corrective action (sewer line cleaning, de-rooting, etc.) as needed. There are currently over 125 work orders for sewer main and lateral line repairs and over 35 for manhole and cleanout repairs that have resulted from the enhanced cleaning/trouble spot program. All 160 of these locations are trouble spots or enhanced cleaning locations that District staff must monitor and maintain until such time that a permanent solution can be implemented.

Trouble spots that are large enough to be considered capital improvements that will be repaired during the next five years include Dr. Office Lane (un-named road at 2826 Harris) 2024, Noe Street 2024, Walnut Drive at Hemlock 2025, Mesa/Bell Terrace 2025, London Drive at Burns 2026, Ridgewood Drive at Ridgewood Elementary 2026, Summit Ridge to David 2026, Worthington 2027 and Quaker to Mike reroute 2028. There is money included in the ten-year plan for additional trouble spot repairs but those future projects cannot be scheduled at this time because trouble spots develop over time as the system deteriorates.

## Systematic Sewer Line Replacement

As the infrastructure ages, the District must consider replacement. The systematic sewer line replacement program takes into account the age of the assets, the history of problems and repairs, critical loading to the asset, the material that the asset was constructed from, and the design life of the asset. As feasible, the District will schedule sewer line replacements for the most vulnerable assets. The most vulnerable of the District's in ground sewer assets are asbestos cement and clay pipes. Over 50 miles of the existing sewer system was constructed in the 1960s and 70s from asbestos cement composite pipe. This material does not hold up well to the sulfur compounds that off-gas from wastewater and must be replaced to reduce Inflow and Infiltration and to avoid catastrophic failure.

The District is planning to implement an infrastructure renewal program to address these high priority, aged and vulnerable assets. The program is scheduled for the 6-to-20-year timeframe with anticipating annual spending of \$3.5M. This accelerated schedule is necessary because all of this infrastructure is currently beyond its useable life and must be replaced.

## Outside Agency Obligations

The District is affected by several outside agencies including the City of Eureka, County of Humboldt and the State of California. These agencies impose programs or regulations that require District response. In the case of the County of Humboldt, the Pine Hill Bridge HDD project that was completed in FY 2020-2021 is an example of an outside agency obligation. The County determined that Pine Hill Bridge needed to be replaced. The District owns a watermain that serves as an interconnect between Humboldt Hill and Pine Hill. The District's watermain was attached to Pine Hill Bridge. The District's watermain would be out of service for the duration of the construction project to replace Pine Hill Bridge. This would isolate Humboldt Hill, King Salmon, Fields Landing, and College of the Redwoods from the rest of the District. These communities would be reliant only on the District's ability to provide well water. If there were a problem with the District's wells, the District would have no way to provide water to these communities.

A second example of a County imposed Capital Improvement is the County's ADA access project. The County is working to improve ADA access at intersections and other areas with high foot traffic by incorporating access ramps, bulb out aprons and high visibility, high traction surfaces as well as other improvements. Through the course of this work, the County will disturb many valve cans, meter boxes and other District assets. When these assets are affected by the County's project, the District supplies the materials and labor to ensure that the components are replaced to the District's standards. During FY 21-22 the County surprised the District with a pavement upgrade project on Humboldt Hill. This project resulted in about \$45,000 in District labor and materials, over several months, to raise the valve cans and sewer maintenance access points.

### City of Eureka CIP

The District's wastewater flows through several metered locations to the City of Eureka (COE, City), through some of their infrastructure and to the COE Wastewater Treatment Facility (COE-WTF). The contract with the City for wastewater treatment specifies that a portion of the City's capital improvements are the responsibility of the District. This includes 32.1 percent of capital improvements to the COE-WTF as well as specific pumping stations and trunk lines or interceptors. Additionally, the District is contractually obligated to pay for three percent of operation and maintenance to all of the City's wastewater collections and treatment infrastructure not covered by the afore-mentioned 32.1 percent. A line item is included in the District's Capital Improvement Plan to cover the anticipated expenses associated with the City's capital improvements.

### City of Eureka Wastewater Treatment Facility (COE-WTF)

In 2016, the City of Eureka received a Cease-and-Desist Order (CDO) regarding discharges to Humboldt Bay. At the time, the CDO required compliance with a “Blending Prohibition” by 2028 and full compliance with the State’s Enclosed Bays and Estuaries Policy by 2032. At this time, the Waterboard is considering a National Pollutant Discharge Elimination System (NPDES) Permit that requires compliance with these prohibitions by 2028 and 2042 respectively while at the same time rescinding the CDO. Currently, the City’s estimate for compliance with the “Blending Prohibition” is as much as \$30M which will require a District contribution of about \$10M. That value is included in the 6-to-10-year and 11-to-20-year projection as a loan repayment to spread the cost over as much time as possible. There is no current estimate by the City for the cost to fully comply with the Enclosed Bays and Estuaries Policy. The District expects another large expenditure at the end of the 20 year horizon but for wastewater plant upgrades for compliance with the Enclosed Bays and Estuaries Policy. As the City does not have an estimate of the expected cost of compliance, no dollar value has been allocated for this anticipated expense.

The City of Eureka has been operating under a Cease-and-Desist order (CDO) issued in 2016 from the North Coast Regional Water Quality Control Board (NCRWQCB) for discharging to Humboldt Bay. The requirements of the CDO have been rolled into the current Draft NPDES permit and, if adopted, the CDO will be rescinded. The requirements being imposed by the NCRWQCB include full secondary treatment (blending prohibition), including de-chlorination to all discharge flows to Humboldt Bay, as well as compliance with the applicable water quality objectives for ammonia (full Enclosed Bays and Estuaries Policy Compliance). In short, what this means is that the COE-WTF does not have sufficient capacity to treat all of the wastewater that is sent there nor does that facility have the ability to sufficiently remove ammonia from the waste stream. Additionally, the Waterboard may determine that the City cannot continue to discharge to Humboldt Bay at all by 2042.

Although detailed reports have not yet been furnished by the City that document the plans to come into compliance with the NCRWQCBs blending prohibition orders; the estimate at this time is that wastewater treatment plant upgrades could total as much as \$30M in 2030. The Wastewater Treatment Agreement with the City specifies that 32.1 percent of capital improvements to the COE-WTF are the responsibility of the District. There is a budgetary item in the ten-year projection of \$10M to cover the requisite upgrades to the COE-WTF. The District can opt to borrow money to cover this expense and spread the payments out over as much as 15 years.

The anticipated cost of full compliance with the Enclosed Bays and Estuaries Policy has not yet been addressed by the City. Compliance with this requirement as detailed in the current Draft NPDES Permit could result in very expensive upgrades to the City’s treatment facility and the District will be required to contribute to the cost of those upgrades. Based on the current agreement, that contribution will be 32.1% of the cost.



HUMBOLDT CSD FISCAL YEAR 2023/2024 CAPITAL IMPROVEMENT PLAN (CIP)

Table 6: Capital improvements planned for Humboldt Community Services District sewer mains.

SEWER	Current FY 22-23	Scheduled FY 23-24	Projected FY 24-25	Projected FY 25-26	Projected FY 26-27	Projected FY 27-28	Projected Years 6 to 10*	Projected Years 11 to 20**	Comments
<b>SEWER MAINS</b>									
<b>MAIN EXTENSION &amp; REPLACEMENTS</b>									
	C=Contract								
	M=Martin Slough Reversal								
	V=Vendor								
New Connections	\$4,000	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500			
Dr. Office Lane C	370								\$440/LF
Noe Street C		\$165,000							\$440/LF
Walnut EQ Repair C		\$162,000							Grant Funded
Hartman Lane M,C	900	\$500,000							Engineering 23/24 Reversal 24/25
Hemlock M,C	4500	\$71,500	\$396,000						Per footage and manhole count
Mesa /Bell Terrace/B-Loma C	700	\$275,000	\$275,000	\$275,000					Engineering and \$400/LF
South Broadway FM C	11700	\$44,000	\$308,000						\$440/LF
Walnut Drive Trouble Spot C	525	\$110,000	\$1,100,000	\$1,100,000	\$1,100,000	\$1,100,000	\$1,650,000		\$440/LF
Walnut Drive Laterals C			\$231,000						\$440/LF
F Street M,C	900		\$44,000						Engineering and \$440/LF
London Drive at Burns C	220		\$27,500	\$396,000					\$440/LF
Ridgewood Drive C	200			\$96,800					\$440/LF
Summit Ridge to David C	265			\$88,000					\$440/LF
Spruce SLS M,C	1215			\$116,600	\$534,600				Engineering 25/26 Reversal 26/27
Worthington St.	125			\$55,000					\$440/LF
Quaker Park Mike C	1000				\$400,000				\$440/LF
Humboldt Hill Sewer Sys					\$550,000				\$440/LF
Fields Landing FM	7150						\$2,750,000	\$5,500,000	\$440/LF
Martin Slough Reversals M							\$3,146,000		
Trouble Spots							\$1,650,000	\$3,300,000	
Gravity Main Replacement	265,000						\$1,650,000	\$4,950,000	\$200/LF District Wide AC and Clay
Foremain Replacement	12883						\$15,000,000	\$38,000,000	\$400/LF District Wide Aging Forcemains
							\$1,889,506	\$3,779,013	
<b>Sewer Main</b>	\$23,000	\$1,333,000	\$2,387,000	\$2,132,900	\$1,695,100	\$2,055,500	\$27,735,506	\$55,529,013	

\*column represents the cumulative expenses for the 5 years between year 6 and year 10

\*\*column represents the cumulative expenses for the 10 years between year 11 and year 20

## ROLLING STOCK

Rolling Stock includes all vehicles and construction equipment that the District owns. Some of the vehicles are used to transport personnel and equipment, others are used to transport materials to or from construction sites. Equipment includes tractors, trailers, truck mounted sewer cleaning and camera equipment, specialty underground boring equipment, and specialty large scale plumbing equipment. Rolling Stock covers any equipment that the District uses that is on tracks or wheels.

The District's current policies include replacement schedules for Rolling Stock based upon mileage, age, hours of operation, and repair history. If any of these criteria are exceeded, a piece of equipment becomes eligible for replacement. The District Management uses discretion to determine which equipment will be recommended for replacement based on the critical nature of the equipment, the expected longevity, redundant assets, and other contributing circumstances. Some equipment replacement is unavoidable while others are less necessary.

Details regarding the capital expenditures associated with the District's rolling stock can be found in Table 7.

### Light Duty

During the next five years, the District will be replacing a 2005 Dodge pickup, and two 2012 Ford construction trucks. All three of these vehicles are scheduled for replacement due to age, reliability and repair cost.

### Heavy Duty Equipment

During the next five years, the District does not have plans to replace any of the heavy equipment fleet.

### Specialty Equipment

The District's sewer camera van is currently scheduled for replacement. This critical piece of equipment allows District staff to see inside of sewer lines and identify problems before they manifest as emergencies. This equipment is critical to the District's systematic inspection program and to the enhanced cleaning/trouble spot program. The camera van is at the end of useful life because of age, repair history, obsolescence of onboard equipment and diminished reliability.





## OFFICE AND CORPORATION YARD IMPROVEMENTS

The District office and corporation yard are critical to the daily operation of the District's systems, assets, and services. This facility serves as a meeting place for personnel, work space for administration, customer service and engineering staff, a location to hold Board of Directors meetings as well as facilities for equipment and vehicle storage, maintenance and repair. As with the rest of the District's assets, the office and corporation yard requires capital improvement planning to keep the facilities useful, safe and up to date. During the current five-year planning period, the District will be completing repairs to the office building exterior, replacing the roof on the breakroom building, rehabilitating the small truck storage facility replacing the cover over the drying bed, repairing pavement in the corporation yard and the parking lot and planning the corporation yard expansion that will be necessary as growth occurs in the District.

The District's office and corporation yard related capital expenditure plan is detailed in Table 8.

HUMBOLDT CSD FISCAL YEAR 2023/2024 CAPITAL IMPROVEMENT PLAN (CIP)

Table 8: Capital improvements planned for Humboldt Community Services District's office and corporation yard.

REVENUE FUNDED		Current	Scheduled	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Comments
CAPITAL PROGRAM PROJECTIONS		FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	Years 6 to 10*	Years 6 to 10*	Years 11 to 20**	
<b>BUILDING, YARD &amp; PAVING IMPROVEMENTS</b>											
Office Building Exterior phase 1		\$50,000									
Office ADA		\$35,400	\$7,000	\$22,000							Front of Office
Vehicle Storage Upgrades			\$15,500								20% of building remodel cost
Yard Paving Repairs			\$35,000								VacCon Storage
Office Building and Breakroom Roof	C		\$35,000								Roof Replacement/Age
Office Building Exterior phase 2	C			\$110,000							North and back of Office
Small Truck Garage	C			\$110,000							Rehabilitation
Seal Coat Parking Lot	C				\$22,000						Front parking lot
Drying Bed Cover						\$33,000					Replacement
Yard Expansion	C						\$110,000	\$250,000			
Office and Yard Facility Upgrades										\$300,000	
<b>Building and Yard</b>		<b>\$85,400</b>	<b>\$92,500</b>	<b>\$242,000</b>	<b>\$22,000</b>	<b>\$33,000</b>	<b>\$110,000</b>	<b>\$250,000</b>	<b>\$300,000</b>		

\* column represents the cumulative expenses for the 5 years between year 6 and year 10

\*\* column represents the cumulative expenses for the 10 years between year 11 and year 20

## GRANT PROGRAM

In FY 2021-22, the District initiated a grant writing program to identify and procure assistance funding to help offset accelerating capital improvement costs. During FY 21-22 we focused efforts on FEMA's Hazard Mitigation Grant Program (HMGP). This program is coupled to the County's Hazard Mitigation Planning efforts that the District participates in. Projects identified in the District's Hazard Mitigation Plan are eligible for federal funding assistance through the HMGP.

The District has applied for over \$8.6M in grant funding and continues to identify and pursue grant opportunities. The current applications include a critical power project that will include standby generators at the Pine Hill, Bailey, and Artino SLS, and a flood hardening project at the Hoover SLS. Grants that have been awarded include a 2.2-mile forcemain replacement project connecting the South Broadway SLS to the COE-WTF, and earthquake repairs for infrastructure within Walnut Drive. Funds from these grants will directly offset the cost of the associated projects allowing the District to apply CIP money to other critical projects in future years. The grant writing program will continue into the future.

## EXTENDED PROJECTIONS

Historically, the Capital Improvement Plan is a five-year projection and schedule for capital projects and expenditures. This format captures some very important information about the near future of the District and helps to plan, prioritize and schedule projects that will impact the District's budget and workforce. What is missing from the CIP is a longer view of infrastructure needs based on the state of the system. The five-year CIP only addresses those projects that are immediately necessary and does not enable the District to plan and save for the much larger looming needs associated with aging infrastructure renewal.

This document incorporates ten and twenty-year projections that capture known long-term improvements that the District will need to undertake in the foreseeable planning horizon. Placing these items in print will enable staff to strategize and plan for the anticipated improvements that will be necessary in the future to keep District operations on track and sustainable.

Extended projections are included in all of the tables detailing capital expenditures planning (Table 3 through Table 8)

### Ten Year

The ten-year planning horizon includes some large expenditures that the District needs to be planning for. These include upgrading the COE-WTF, SCADA upgrades, Martin Slough reversals, force main replacements, gravity sewer replacements, water storage tank rehabilitation, and ongoing fleet replacement. These ten-year totals are not all inclusive, and are intended for budgetary planning purposes only. Over the ten-year horizon, the District will be facing \$66M in capital expenses. These projects and expenses are critical to the continued operation of the District and represent an accelerated level of spending as compared to the District's historic budgeting for capital improvements. The current capital expenditures over the next five years average \$5.9M annually. To meet the projected \$66M of expenditures at the ten-year horizon, the District will need accelerate annual spending to \$13M on capital improvements from year 6 through 10.

### Twenty Year

Similar to the ten-year projections, the twenty-year projections indicate anticipated expenditures for the twenty-year planning horizon. Again, these expenditures are not all inclusive, they do represent

anticipated expenditures that the District needs to plan for. Included on the twenty-year horizon are additional systematic main replacements (water and sewer), storage tank rehabilitation, source water development for resiliency, office/corporation yard improvements and expansion, as well as ongoing fleet replacement. Once again, these projection estimates are not all inclusive but represent those expenditures that can be anticipated that are not being addressed in the five-year CIPs.

The financial impact at the 20-year planning horizon is an additional \$130M. What this means is that the District should be planning for annual expenditures on the order of \$13M over the between years 6 and 20.

## Fifty Year

While it is impossible to accurately predict what will happen on the fifty-year planning horizon, the design life of most water and sewer infrastructure is fifty years. What this means is that a project that is constructed today will predictably be at its end of life in fifty years. Likewise, a project that was constructed in 1973 is currently at its end of life. The majority of the District's underground infrastructure was constructed well over fifty years ago and, therefore is already due for replacement.

Over the 20-year planning horizon, District staff have developed a plan to rehabilitate or replace the most vulnerable of this underground infrastructure. The total projected cost of combined underground infrastructure (water and sewer) rehabilitation and replacement over the next 20-years is \$157M. This suggests an annualized cost of \$7.9M over the 20-year planning horizon. This is based on the cost projections for only the most vulnerable assets that have suffered the effects of deferred maintenance.

The District owns and maintains a combined 190-miles of underground mains (water and sewer). The current cost per foot of construction used for budgetary purposes is \$440/linear-foot of pipe (for reference, the current engineering estimate of probable construction cost for the South Broadway Forcemain project is \$1,400/linear-foot and the engineer's estimated cost for the Walnut Earthquake Repair is over \$900/linear-foot). If the District were to create a plan to replace all underground infrastructure over a fifty-year schedule, using \$440/liner-foot, the resulting annual cost would also be \$7.9M. This is the same value as what is projected for the critically neglected infrastructure. What this says is that the District can anticipate CIP spending to continue at the rate projected for the 20-year planning horizon into perpetuity.