Budget Committee (final): March 4, 2019
Prelim Budget Board Meeting: March 28, 2019
Final Budget Board Meeting: June 27, 2019

Carmel Area Wastewater District
Budget – Volume II
2019-20

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Carmel Area Wastewater District

2019-20

Board of Directors

Ken White	Board President
Gregory D'Ambrosio	Director (Budget Committee)
Michael Rachel	Director
Robert Siegfried	Director (Budget Committee)
Charlotte F. Townsend	Director

Management Staff

Barbara Buikema	General Manager
Robert Wellington	Legal Counsel
Ed Waggoner	Operations Superintendent
Daryl Lauer	Collection System Superintendent
Rachel Lather	Principal Engineer
Patrick Treanor	Plant Engineer
James Grover	Principal Accountant
Chris Foley	Maintenance Superintendent

Mission Statement

Carmel Area Wastewater District is a special district dedicated to protecting the public Health and the environment by the cost-effective collection and treatment of wastewater and the return of clean water to the environment.

Carmel Area Wastewater District
2019-20

Table of Contents

Capital Budget

Message

2019-20 Capital Budget

Capital Projects/Maintenance Budget & Long-Range Plan

The District established its long range, 15-year plan, at the Treatment Plant facilities in 2012. The District retained Kennedy/Jenks Consultants in March 2012 to perform a condition survey of the assets at the treatment plant and to develop an asset database to document and analyze the asset condition data. Based on the findings from the survey the District embarked on a program to improve the management of the wastewater treatment plant. The 15-year capital improvement program that staff and Kennedy/Jenks developed is the foundation for what we are doing today. Engineering, Operations, and Management staff have all committed to maintaining and extending the original 15-year plan to ensure we are keeping pace with replacement needs.

In 2018 the District completed the same asset management process for the Collection system by engaging West Yost Associates to review and prioritize the asset condition of all pump stations and infrastructure underground. We received the report from West Yost and are in the process of transferring it to a 15-year budget document. We believe that we have approximately $40M in collection system rehabilitation in front of us and are using the findings to best schedule it for the future.

A few of the main projects we have moving forward are as follows:

Collection Department

Replace Hydro-Vacuum Truck ($410K): The 2008 VacCon Combination Hydro Cleaning – Vacuum truck has over 10 years of service and 10,000 hours of run time. This unit has frequent and heavy duty use and is critical from the District to be able to continue its level of service and rapid response to the public.

Hatton Canyon Sewer Line Rehabilitation ($1.45M): State Parks owns the land in Hatton Canyon and the District holds an easement for sewer. The District's infrastructure is underwater during winter storms and our risk of a sanitary sewer spill has greatly increased because of the roadway failure. The sewer line that flow through Hatton canyon are approximately 60 years old and are made of Vitrified Clay Pipe (VCP). The pipe size is 8 inch and is almost a mile in length that starts north of the Carmel High in the canyon and flows to Carmel Valley Road. We applied

for and anticipate receiving a $1M grant from the Federal Emergency Management Agency (FEMA)/Office of Emergency Services (OES).

Rio Road Cure in Place Pipe Lining Project ($1.34M): Portions of this line were identified in the Asset Management Plan performed by West Yost Associates as having severe defects. Because the project is downstream of the proposed Rancho Canada Subdivision and the upper Rancho Canada Golf Course pipeline relocation project, we would like to complete the project prior to the upstream improvements. Lining requires no environmental permit and minimal design.

Supervisory Control & Data Acquisition (SCADA) Replacement at all Pump Stations ($450K): the SCDA Programmable Logic Controls (PLC) are outdated and no longer supported by the vendor. The Treatment Plant has upgraded a portion of their PLC/SCADA under Phase 1. Staff plans to integrate the upgrade with implementation of Ignition software. This means both the treatment plant and collection pump stations will operate under the same software system.

Treatment Plant

WWTP Elec/Mech Rehab & Sludge Holding Tank ($750K): this project is a multi-area project at the plant aimed at addressing risk of failure in various areas that involves replacing aged equipment electrical and mechanical work in existing buildings. The project was developed to mitigate risk of failure based on the original Kennedy/Jenks asset management risk assessment. The project focuses on electrical systems that are well past their useful life and are critical to operation. The current sludge holding tank was built in the 1930s and is also past its useful life.

Standby Power Reliability Project ($730K): the existing 450kW generator has controls which are obsolete and can no longer be maintained. To improve reliability the District would like to decommission the 450kW generator and run the plant entirely off the existing 750kW generator.

To improve fault tolerance a trailer mounted 750kW generator would be purchased in this project to serve as a fully redundant backup to the existing 750kW generator.

Microturbine Integration Project ($510K): the microturbine gas conditioning system is in poor condition. A new package system would be an improvement over the existing system which is not integrated. A new gas conditioning system could be sized so that the microturbines could operate at maximum production given that a larger 60kW generator was recently installed.

Renewal & Replacement (R&R) – Long Range Plan within the Operating Budget

The average annual maintenance and repairs budget projected for the Secondary Treatment Plant over 15 years is estimated to be in the range of $900,000 per year. This estimate includes asset materials, installation costs, construction markups, contingency, and engineering costs. We estimate that the amount of average annual maintenance and repairs budget for the Collection System should also be in the range of $800,000 per year. We view the annual renewal and replacement efforts as equally significant as the capital projects on the drawing board. The efforts to maintain and improve the plant require that both efforts proceed simultaneously.

Total Replacement Cost vs. CIP/Maintenance Budget

On a percentage basis, the 15-year average annual investment in capital improvement projects is estimated to range between 2% and 4% annually of the total estimated replacement cost of the Secondary Treatment Plant. The corresponding maintenance budget is estimated to equate between 0.60% to 1.4% of the total estimated replacement cost of the Secondary Treatment Plant. We believe those percentages are reasonable. An annual renewal budget of 3% assumes that the assets are renewed at a rate of once every 33 years; 4% assumes a renewal rate of once every 25 years. The average of all assets average useful life list in the Kennedy/Jenks plan database is about 38 years.

It is likely that we will need to strategize and prioritize projects to stretch our financial resources as much as possible. We believe that our current strategy of pay-as-you-go remains viable for the long term if we schedule projects and rehabilitation efforts tightly. A basic cash flow analysis shows us that it is possible – what that analysis doesn't account for it the unanticipated. Clearly those unanticipated events do happen, we know that. We also know that we are facing a significant challenge ahead in dealing with the impacts of sea level rise.

Fundamental Service Goals for our Facility

The mission of CAWD is to safely, reliably, and cost-effectively treat wastewater to meet regulatory compliance and return this treated wastewater back to the environment. The fundamental an dstrategic levels of services are the guiding principles for what the treatment plan should be set to accomplish. If assets are not serving to meet these levels of service then they should be rehabilitated, replace,d phased out of operation, or removed from service. The fundamental levels of service that speak to our mission include:

- To be compliant with all current regulatory waste discharge permits and to be positioned to comply with probably future regulations.
- To be cost effective in operating and maintaining the District's facilities.
- To invest in safety practices to eliminate personal injuries or environmental hazards from occurring at District facilities.
- To apply fail safe systems and redundancy to maintain reliability.
- To provide secondary treated wastewater to the Reclamation Project tertiary microfiltration/reverse-osmosis plant.
- To plan for and appropriately handle severe flooding events which can occur at the treatment plant.

Budget

Summary

Carmel Area Wastewater District
Budget Summary
2019-20

Description	2017-18 Actual	2017-18 Budget	2017-18 % of Budget	Estimated thru 06-30-19 Actual	Estimated thru 06-30-19 Budget	Estimated thru 06-30-19 % of Budget	Proposed 2019-20 Budget	% Chg. Prior Yr. Actual	Projected 2020-21 Budget	% Chg. Prior Yr. Budget
Beginning Fund Balance	27,069,122	27,069,122		26,799,177	26,799,177		31,501,398	117.55%	28,734,474	-8.78%
Operating Revenues	9,216,169	8,524,382	108.12%	9,609,956	9,261,993	103.76%	9,887,416	102.89%	10,311,436	4.29%
	9,216,169	**8,524,382**	108.12%	**9,609,956**	**9,261,993**	103.76%	**9,887,416**	102.89%	**10,311,436**	4.29%
Op Expend. (less deprec.)										
Treatment	2,167,286	2,613,270	82.93%	2,388,590	2,713,652	88.02%	2,855,757	119.56%	3,162,412	10.74%
Maintenance - Plant	1,104,963	1,345,282	82.14%	1,326,525	1,695,392	78.24%	1,876,166	141.43%	1,790,962	-4.54%
Maintenance - Field	46,070	136,045	33.86%	50,873	100,625	50.56%	0	0.00%	0	n/a
Administration	994,588	1,611,047	61.74%	1,036,331	1,572,510	65.90%	1,685,964	162.69%	1,537,307	-8.82%
Collection	1,043,752	1,115,413	93.58%	1,039,961	1,237,424	84.04%	1,705,959	164.04%	1,377,610	-19.25%
Reclamation Project	503,168	519,945	96.77%	457,183	457,133	100.01%	471,937	103.23%	485,633	2.90%
Waste to Energy	6,014	0	n/a	323	0	n/a	9,108	2820.14%	2,108	-76.85%
Brine Disposal	13,940	0	n/a	4,460	0	n/a	7,910	177.35%	7,910	0.00%
Total Operating Exp	**5,879,780**	**7,341,003**	80.10%	**6,304,247**	**7,776,736**	81.07%	**8,612,801**	136.62%	**8,363,942**	-2.89%
Operating Gain/(Loss) (exclusive of depreciation)	3,336,389	1,183,380	281.94%	3,305,709	1,485,257	222.57%	1,274,615	38.56%	1,947,494	52.79%
Depreciation Expense	2,414,401	2,661,000	90.73%	2,669,000	2,669,000	100.00%	2,669,000	100.00%	2,669,000	0.00%
Amortization Expense	0	4,860	0.00%	4,860	4,860	100.00%	4,860	100.00%	4,860	0.00%
Operating Gain/(Loss)	**921,988**	**(1,482,481)**	-62.19%	**631,849**	**(1,188,603)**	-53.16%	**(1,399,245)**	-221.45%	**(726,366)**	-48.09%
Non Operating Revenues	4,251,236	4,407,067	96.46%	3,959,788	3,719,631	106.46%	3,341,282	84.38%	4,420,458	32.30%
Non Operating Expend.	215,119	216,506	99.36%	166,275	213,762	77.79%	215,625	129.68%	216,963	0.62%
Net Income/(Loss)	**4,958,105**	**2,708,081**	183.09%	**4,425,362**	**2,317,266**	190.97%	**1,726,412**	39.01%	**3,477,129**	101.41%
Capital Budget										
Equipment Purchases										

Carmel Area Wastewater District
Budget Summary
2019-20

Description	2017-18 Actual	2017-18 Budget	2017-18 % of Budget	Estimated thru 06-30-19 Actual	Estimated thru 06-30-19 Budget	Estimated thru 06-30-19 % of Budget	Proposed 2019-20 Budget	% Chg. Prior Yr. Actual	Projected 2020-21 Budget	% Chg. Prior Yr. Budget
Administration	7,000	7,000	n/a	0	0	n/a	14,000	n/a	0	-100.00%
Maintenance	58,013	58,013	n/a	200,000	200,000	100.00%	0	0.00%	0	n/a
Collections	90,000	90,000	100.00%	0	0	n/a	410,000	n/a	145,000	-64.63%
Treatment	103,438	103,438	100.00%	33,000	33,000	100.00%	17,800	53.94%	163,500	818.54%
Capital Improvement Projects										
Administration	30,000	30,000	n/a	0	0	n/a	0	n/a	20,000	n/a
Maintenance	95,000	95,000	n/a	0	0	n/a	0	n/a	0	n/a
Collections	1,270,000	1,270,000	100.00%	1,000,000	2,210,000	45.25%	3,725,000	372.50%	1,294,000	-65.26%
Treatment	44,000	44,000	100.00%	164,001	164,001	100.00%	305,396	186.22%	65,000	-78.72%
Treatment Long Term Capit	5,945,000	5,945,000	100.00%	1,000,000	4,265,331	23.44%	2,695,000	269.50%	5,299,000	96.62%
Total Capital Budget	**7,642,451**	**7,642,451**	100.00%	**2,397,001**	**6,872,332**	34.88%	**7,167,196**	299.01%	**6,986,500**	-2.52%
Ending Fund Balance	**26,799,177**	**24,800,612**	108.06%	**31,501,398**	**24,917,970**	126.42%	**28,734,474**	91.22%	**27,898,963**	-2.91%

Capital Budget

Summary

2019-20

Carmel Area Wastewater District

Capital Budget Summary 2019-20

	ITEM	ALLOCATION						Totals
		Admin	Maintenance	Collection	Treatment	PBCSD	Recla-mation	
1	CIP Projects for Administration	0						0
2	CIP Maintenance - Plant		0					0
3	CIP Projects for Collection System			3,725,000				3,725,000
4	CIP Projects for Treatment & Disposal				187,944	93,831	23,621	305,396
5	CIP Long Term Capital Plan for Treatment & Disposal				1,772,552	884,948	37,500	2,695,000
	Total CIP	0	0	3,725,000	1,960,496	978,779	61,121	6,725,396
1	Capital Equipment - Administration	14,000						14,000
2	Capital Equipment - Maintenance		0					0
3	Capital Equipment - Collections			410,000				410,000
4	Capital Equipment - Treatment				5,936	2,964	8,900	17,800
	Total Capital Outlay	14,000	0	410,000	5,936	2,964	8,900	441,800
	Total CIP & Capital Outlay 18-19	**14,000**	**0**	**4,135,000**	**1,966,432**	**981,743**	**70,021**	**7,167,196**

Capital Budget

Summary

2020-21

Carmel Area Wastewater District

Capital Budget Summary 2020-21

	ITEM	ALLOCATION						Totals
		Admin	Maintenance	Collection	Treatment	PBCSD	Recla-mation	
1	CIP Projects for Administration	20,000						20,000
2	CIP Maintenance - Plant		0					0
3	CIP Projects for Collection System			1,294,000				1,294,000
4	CIP Projects for Treatment & Disposal				36,685	18,315	10,000	65,000
5	CIP Long Term Capital Plan for Treatment & Disposal				3,412,038	1,703,462	183,500	5,299,000
	Total CIP	20,000	0	1,294,000	3,448,723	1,721,777	193,500	6,678,000
1	Capital Equipment - Administration	0						0
2	Capital Equipment - Maintenance		0					0
3	Capital Equipment - Collections			145,000				145,000
4	Capital Equipment - Treatment				14,507	7,243	141,750	163,500
	Total Capital Outlay	0	0	145,000	14,507	7,243	141,750	308,500
	Total CIP & Capital Outlay 19-20	**20,000**	**0**	**439,000**	**3,463,230**	**1,729,020**	**335,250**	**5,986,500**

Capital Projects & Purchases

Administration

2019-2020

CAWD Administration Dept

FY 2019/20 *thru* 2023/24

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	Unscheduled
CAPITAL PROJECTS							
1	Interior Painting		$ 20,000				
2	Replace Administrative Office Carpeting						$ 20,000
3	Update bathrooms - new tile & paint						$ 25,000
4	Replace Administrative Office Furnaces						$ 6,500
5	Admin Roof				$ 70,000		
6	Front Porch Settling - repairs						$ 35,000
CAPITAL PURCHASES							
a	Admin Copy Machine/Scanner/Fax	$ 14,000					
b	Server Replacement				$ 11,000		
c	General Manager's Sedan						$ 30,000
	TREATMENT & DISPOSAL TOTAL	**$ 14,000**	**$ 20,000**	**$ -**	**$ 81,000**	**$ -**	**$ 116,500**
	RECLAMATION SHARE	$ -	$ -	$ -	$ -	$ -	$ -
	PBCSD SHARE	$ -	$ -	$ -	$ -	$ -	$ -
	CAWD COST	**$ 14,000**	**$ 20,000**	**$ -**	**$ 81,000**	**$ -**	**$ 116,500**

1 **FY 2019-20 Budget**

Carmel Area Wastewater District

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 20 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Project Name: Interior Painting
Dept.: Admin
5 yr. Cap Projection: $ 20,000
CY Budget -
GL Account:

Asset Description

The District has not had the interior building walls painted since 1990. There has been some "touch up" work over the years, but we've reached the point where there are repairs that need to be done (i.e. cracks, separation at corners, chipping, etc.) and then the entire office repainted. Base boards in the main hallway were painted in 2016 as part of floor tile project. We would like to keep the "teal" wallpaper in entry and boardroom intact.

Year Built: 1990
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 5 Moderate Deterioration

Justification

Interior paint is faded and cracked in multiple places due to normal wear and tear. The bulding interior has not had a complete re-paint and repair 30 years.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	3	In-house Repair Work less than $1,000
Total COF:	10	Probability of Failure: Good

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other	-	-	20,000		-	-	-	$20,000
Total		-	20,000.00	$0	-	-	- $	20,000

2 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Replace Administrative Office Carpeting
Dept.: Admin
5 yr. Cap Projection: $ 20,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: Administration
Avg Useful Life: 20 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 5 = Future
Carry Forward: No

Asset Description

It is anticipated that the Administration office building carpeting, which has never been replaced, will need to be replaced within the next 5 years. 400 square yards at $45/yd. To prolong the carpet life, staff proposes to include a maintenance item to professionally clean the carpets every six months. The proposed carpet replacement will remain an unscheduled expense and be re-evaluated each year.

Year Built: 1990
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 5 Moderate Deterioration

Justification

The carpeting in the Board room and offices needs to be replaced due to normal wear.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	13	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 20,000	$ 20,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000	$ 20,000

3 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Update bathrooms - new tile & paint
Dept.: Admin
5 yr. Cap Projection: $ 25,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The bathrooms in the Admin Offices were tiled and painted in 1990 when the building was completed. After 28 years it is time to update the paint and tile.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): 2009
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

The bathrooms show normal signs of wear due to time. Additionally, they appear "dated" and should be freshened up to appear more modern and meet current code.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF		
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	3	In-house Repair Work less than $1,000
Total COF:	12	

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 25,000	$ 25,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000	$ 25,000

4 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Replace Administrative Office Furnaces
Dept.: Admin
5 yr. Cap Projection: $ 6,500
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

It is anticipated that the Administrative Office building furnaces will need to be replaced at some future date. There are a totla of three furnaces in the building. We have had intermittent repairs to the system and replaced one unit in Jan 2009.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): 1990
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

The furnaces are on a "run to fail" basis because they can be replaced quickly via a local Heating and Cooling technician.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	10	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor							$	$ -
Engineering							$	$ -
Parts & Supplies							$	$ -
Chemicals							$	$ -
Utility							$	$ -
Other							$ 6,500	$ 6,500
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,500	$ 6,500

5 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Admin Roof
Dept.: Admin
5 yr. Cap Projection: $ 70,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 30 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The roof at the Admin offices is composite shingle. The average lifespan of asphalt shingles ranges from 20 to 40 years.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): 1990
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

The roof will be 32 years old in 2022. While we will continue to monitor its condition it is estimated that it will be ready for replacement at this time.
Currently the plan is to replace with like roofing.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	10	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor					$ 70,000			$ 70,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 70,000	$ -	$ -	$ 70,000

6 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Front Porch Settling - repairs
Dept.: Admin
5 yr. Cap Projection: $ 35,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 50 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The concrete front porch to the Admin Building has settled approximately 1-2 inches since it was initially poured in 1990. Settlement is likely due to improper/non existant footings/foundations under the steps.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): 1990
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

The options to solve this problem include: (1) Rip out and build new, (2) Dig underneath and jack it up a bit above where it belongs, pour a new footer below, and then set it back down, and (2) Leave it as is and build something new over the top of it that makes it "disappear".
Mudjacking, also referred to as slabjacking, concrete raising or pressure grouting, is the process of raising concrete slabs by hydraulically pumping a grout mixture mixed with cement under the concrete slab. This procedure may provide a solution to the settling experienced on the building front porch.
The District will invite contractors experienced in these techniques to the site for analysis of which method will provide the best results.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	10	

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor							$	$ -
Engineering							$	$ -
Parts & Supplies							$	$ -
Chemicals							$	$ -
Utility							$	$ -
Other							$ 35,000	$ 35,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,000	$ 35,000

a **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Admin Copy Machine/Scanner/Fax
Dept.: Admin
5 yr. Cap Projection: $ 14,000
CY Budget $ 14,000
GL Account:

Contact: Buikema
Area Administration
Asset Type: Office Equip
Avg Useful Life: 10 years
Est Residual Life: 0
% Consumed Life: 100
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The current machine was purchased in July 2013 for $10,732. The technician advises that the typical lifespan is 5-7 years. We have had an increasing number of service calls on the machine this past year -- annectodally it seems the service calls are generally the third week of the month when the board packet need to be produced. The machine is no longer reliable for heavy print jobs. Budget assumes a 4% increase per year from 2013 or a 26-30% cost increase in total and the inclusion of a pedestal with additional paper drawers to accommodate regular, legal, and ledger paper.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 3 Minor Defects Only

Justification

The Admin copy machine receives considerable use every working day and is a critical piece of office equipment. While technology will certainly continue to change, based on current average usage we are planning for its replacement with an equivalent machine. This machine carries the largest load of copy and print volume for the District and is the conduit between copy/scan/fax/email of documents in Admin. The usage on this machine is heavy due to printing of board packets and other admin material. Staff must have the ability to print/scan/fax from the Admin Office to ensure continued work flow without interruption.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	1	No Cost
Total COF:	10	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering		$14,000						$ 14,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 14,000	$ -	$ -	$ -	$ -	$ -	$ 14,000

b **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Server Replacement
Dept.: Admin
5 yr. Cap Projection: $ 11,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 5 years
Est Residual Life: 4 years
% Consumed Life: 20%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Dell Optiplex server located in Admin was installed in 2017. It functions as the email server and data server for Admin offices.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

This server was replaced in 2017. We replace servers on a rotating five year basis to ensure reliability and ability to keep up with technology. The older servers become, the less value they produce on the efficiency level. Stretching out the lifespan would mean an increase in business risk as we rely on hardware that is unsupported or that cannot be fixed in a timely manner. There is also a greater chance of losing sensitive data or that the Admin Office ends up offline for an extended period. Because Admin employees spend at least 6 hrs/day on a computer reliability is critical.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	1	No Cost
Total COF:	22	

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor							$	-
Engineering							$	-
Parts & Supplies					$ 11,000		$	11,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ -	$ 11,000	$ -	$ -	$ 11,000

c **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: General Manager's Sedan
Dept.: Admin
5 yr. Cap Projection: $ 30,000
CY Budget $ -
GL Account:

Contact: Lather
Area Administration
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life: 8 yrs
% Consumed Life: 20%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The current vehicle (Hyundai Santa Fe) was purchased in 2016 and has 13,428 miles on the odometer. We estimate this car will last over 100,000 miles. Replacement is estimated after 10+ years.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

This vehicle is used by all staff for daily business meetings, conferences, and training. While it is predominately used by Administration staff, it is available to plant staff or the Board for travel to conferences/training. The ability to handle up to four large adults comfortably makes this vehicle quite useful.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	1	No Cost
Total COF:	10	

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor								$ -
Engineering								$ -
Parts & Supplies							$ 30,000	$ 30,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,000	$ 30,000

Capital Purchases

Collections Dept.

2019-2020

CAWD Collections Dept - Capital Equipment

FY 2019/20 *thru* 2024/25

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	2024/25	Unscheduled
1	Replace Hydro-Vacuum Truck (#4)	$ 410,000						
2	Replace Generac Portable Generator		$ 80,000					
3	Replace Pump Round Truck (# 8)		$ 65,000					
4	Replace Generator and ATS at Hacienda			$ 75,000				
5	Replace Electrical Control Panel at Hacienda Pump Station			$ 55,000				
6	Replace Collection Superintendent Truck (#17)			$ 45,000				
7	Replace Pumps at Hacienda Pump Station			$ 20,000				
8	Replace Pumps at Monte Verde Pump Station				$ 25,000			
9	Replace Pumps at Bay & Scenic Pump Station				$ 25,000			
	TREATMENT & DISPOSAL TOTAL	**$ 410,000**	**$ 145,000**	**$ 195,000**	**$ 50,000**	**$ -**	**$ -**	
	RECLAMATION SHARE	$ -	$ -	$ -	$ -	$ -	$ -	
	PBCSD SHARE	$ -	$ -	$ -	$ -	$ -	$ -	
	CAWD COST	**$ 410,000**	**$ 145,000**	**$ 195,000**	**$ 50,000**	**$ -**	**$ -**	

1 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Hydro-Vacuum Truck (#4)
Dept: Collections
Total Cost: $ 410,000
CY Budget $ 410,000
GL Account:

Contact: Lauer
Area Vehicle
Asset Type: Vehicle Fleet
Avg Useful Life: 10 years
Est Residual Life: 1 year
% Consumed Life 90
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

Replacement of Unit #4, 2008 Vaccon Combination Hydro Cleaning - Vacuum truck: Unit #4 currently serves as the District's primary hydro cleaning and SSO response vehicle. It's 3/4 inch hose has a smaller diameter allowing a longer hose section to be used (800 ft.), greatly increasing our reach into easements. The truck's ability to vacuum up areas affected by SSO's greatly increases our containment and mitigation efforts. The truck's vacuum and water pressure capabilities also allow us to use it as a hydro excavator. This process enables us to dig down to affected pipe lines to be repaired or for exploratory "potholes" to investigate the location of assets without damaging other known or unknown structures or utilities within the work zone. It has 800 gallons of usable water storage and 5 cubic yards of removed liquid and debris capacity with decanting capabilities.

Year Built: 2008
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 7 Significant Deterioration

Justification

This vehicle has over 10 years of service and over 10,000 hours of run time. This vehicle is a purpose built machine with lots of mechanical parts and computerized controls. With the frequent and heavy duty use it endures, the cost of servicing and repairing of this unit continues to increase the older this unit get's. This unit had the top end of the engine rebuilt in January 2015 and in 2018 the unit had transmission problems. The auxiliary motor that supplies the water pressure for pipeline service continues to experience many electrical issues due to shorts in wiring and faulty computers. For the District to be able to continue its level of service and rapid response this vehicle need to be reliable and ready to use at anytime. This vehicle is also utilized for emergency spill clean up for the City of Carmel, storm drain cleaning and when called upon by the Fire Departments. The unit is at the end of it's useful life and needs to be replaced to provide a reliable level of service for emergency response.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 5 Cannot be down a week
Safety COF 3 Minor Inconvenience
Spill/Odor/Noise COF 7 Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF
Process Functionality COF 5 Maintaining Process Functionality requires staff divert from other work
Cost COF 5 Major In-House Repair Work less than $25,000
Total COF: 25 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Predictive & Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies		$ 410,000					$	410,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 410,000	$ -	$ -	$ -	$ -	$ -	$ 410,000

2 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Generac Portable Generator
Dept: Collections
Total Cost: $ 80,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Pump Station
Asset Type: Vehicle Fleet
Avg Useful Life: 20 years
Est Residual Life: 5 years
% Consumed Life 75
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: No

Asset Description

The 1999 Generac 44 kW 270/480 volt 61 amp 3 phase portable diesel generator. This generator is typically used at the Bay and Scenic pump station but is also capable of providing back up power for all pump stations. Currently, all the stations are undergoing compatibility upgrades so this Generator can be deployed and quickly connected at all stations. Additionally, this generator is set up to run a bypass pump in the event of an emergency or through routine maintenance. This generator may also be utilized at the plant on a nonemergency basis.

Year Built: 1999
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 7 Significant Deterioration

Justification

Recent maintenance and load testing has increased the reliability of this unit for a few additional years. The two areas of major concern are: (1)generators get deployed in residential areas & noise is always a concern and (2) it will not meet the new emissions standards. Quieting technologies have improved over the last couple of decades and emissions standards have become more stringent. This generator is used primarily at Bay & Scenic pump station and must be "ready to go" given the pivotal nature of this station. This generator is a tier 0 motor in regards to emissions and the Air Board is requiring a tier 4 motor by 2020, the District needs to be prepared to meet these requirements by 2020.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 7 Cannot be down 1 day
Safety COF
Spill/Odor/Noise COF 3 Short Duration, Small qty. Event Onsite: No Complaints
Permit/Environmental COF 9 Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF 7 Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF 3 In-house Repair Work less than $1,000
Total COF: 29 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies	$	80,000					$	80,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 80,000	$ -	$ -	$ -	$ -	$	80,000

3 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Pump Round Truck (# 8)
Dept: Collections
Total Cost: $ 65,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Vehicle
Asset Type: Vehicle Fleet
Avg Useful Life: 10 years
Est Residual Life: 1 year
% Consumed Life:
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Ford F-250 is one of the District's first response vehicles for most emergencies, and second response vehicle in the event of an Sanitary Sewer Overflow (SSO). It is an integral part of the Collections System operations and maintenance. On board are tools used to mitigate SSO's, make repairs in the field, mark out sewer lines when USA tickets are requested and for other repairs as needed. This truck is also the primary vehicle used for towing the standby generators to pump stations. It has a utility bed that provides lots of storage for all the required tools for essential field functions and roof racks to transport lengths of pipe, ladders and other materials. Additionally, this truck is the only vehicle with a crane on it, which is used to hoist pumps into and out of wet wells for service and replacement.

Note: Life of asset is based on # years plus mileage

Year Built: 2009
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 7 Significant Deterioration

Justification

This unit has a slight engine oil leak that has had it in the repair shop a couple of times over the past few years. During the last inspection the dealership noted that the rear main oil seal was the cause of the oil leak and that the repair would be over $5,000. Staff agreed that the district would monitor the leak and that it would be cost effective to replace the truck in 20/21 due to mileage, age and reliability needs. It is recommended that this vehicle be retired from the CAWD fleet and sold.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 3 Cannot be down a month
Safety COF 3 Minor Inconvenience
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF 3 Routine Operations to maintain process functionality
Cost COF 3 In-house Repair Work less than $1,000
Total COF: 12 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Predictive & Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies		$	65,000				$	65,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$	65,000	$ -	$ -	$ -	$ -	$ 65,000

4 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replacement of Generator and ATS Power Service Panel at Hacienda PS
Dept: Collections
Total Cost: $ 75,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Pump Station
Asset Type: Pump Station
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life 85
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

The generator and automatic power transfer switch at the Hacienda pump station. In the event that the utility power supply goes out, the generator supplies electricity and the transfer switch is responsible for controlling the flow of electricity when line power goes out and is then restored. Without this, the generator and utility supplying power running at the same time would damage the station. The station requires 240 volt AC, 60 Hz, 100 Amp, 25 kW, 3 phase power.

55000

Year Built: 2003
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 5 Moderate Deterioration

Justification

This generator, automatic transfer switch, and power service panel are 25 years old and at the end of their service life. Although still functional, it is recommended they are replaced prior to failure. The generator has been in service for many years and is requiring much more maintenance than in prior years. The block heater has been plagued with issues, the exhaust is worn through the muffler. It is not a quiet generator which generates complaints from neighbors. Newer automatic transfer switch's (ATS) have the capability of switching over in the case of a "brown out," which is loss of one but not all phases of supplied electricity. The older one still in service is unable to distinguish this difference and therefore will allow the pumps to run without adequate power which in turn could damage them. The power service panel is very old and designed for pump system equipment that is no longer active at this station. An update of this panel will align it more with our current system needs. Therefore the investment to replace these necessary components is strongly recommended to bring this system up to par with the systems that are already in service at our other pump stations. The potential for increased sewer hook-ups in the valley could require upsizing this generator. At this time the budget does not account for upsizing.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 7 Cannot be down 1 day
Safety COF
Spill/Odor/Noise COF 5 Short Duration; Small qty Event Offsite; Small no. of Complaints
Permit/Environmental COF 3 Violate Daily Max Effluent
Process Functionality COF
Cost COF 5 Major In-House Repair Work less than $25,000
Total COF: 13 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Predictive & Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies				$ 75,000				$ 75,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ 75,000	$ -	$ -	$ -	$ 75,000

5 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Electrical Control Panel at Hacienda Pump Station
Dept: Collections
Total Cost: $ 55,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Pump Station
Asset Type: Electrical
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life 80
Category: Capital Improvement
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

The Control Panel at Hacienda Pump Station was installed in 1999 and houses all the breakers, motor starters, and delicate electronics that keep the pump station operational.

Year Built: 1999
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 3 Minor Defects Only

Justification

The Control Panel at Hacienda Pump Station was installed in 1999. The Pump Station has had several major upgrades since the control panel was installed. A new generator Transfer switch is scheduled for 17/18 and the service panel was installed in 16/17. This upgrade will complete the pump station electrical improvements and will be good for years to come. At time of scheduled replacement, this control panel will have been in service for 24 years.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 7 Cannot be down 1 day
Safety COF
Spill/Odor/Noise COF 7 Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF
Process Functionality COF 5 Maintaining Process Functionality requires staff divert from other work
Cost COF 5 Major In-House Repair Work less than $25,000
Total COF: 24 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies				$ 55,000			$	55,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ 55,000	$ -	$ -	$ -	$ 55,000

6 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Collection Superintendent Truck (#17)
Dept: Collections
Total Cost: $ 45,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Vehicle
Asset Type: Vehicle Fleet
Avg Useful Life: 15 years
Est Residual Life: 5 years
% Consumed Life 75
Category: Capital Equipment
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

Chevy 4X4 truck (Unit #17) primary use as the Collection Superintendent's vehicle with a duel purpose of employee conference vehicle. This vehicle was purchased in 2009 and currently has 85,000 miles on it.

Year Built: 2009
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 5 Moderate Deterioration

Justification

Replacement of the 2009 Chevy 4x4 (Unit #17) which currently has 85,000 miles on it. This truck is the Collections Superintendent truck as well as the main vehicle for transportation of the Collection staff to/from conferences and training. Staff is looking at a crew cab truck as the replacement of the current quad cab, this would fit the entire staff of (5) and give Collections the ability to use one vehicle to attend events that require all of the Staff.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 3 Cannot be down a month
Safety COF 3 Minor Inconvenience
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF 3 Routine Operations to maintain process functionality
Cost COF 5 Major In-House Repair Work less than $25,000
Total COF: 14 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Predictive & Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering								
Parts & Supplies			$	45,000			$	45,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ 45,000	$ -	$ -	$ -	$ 45,000

7 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name:	Replace Pumps at Hacienda Pump Station
Dept:	Collections
Total Cost:	$ 20,000
CY Budget	$ -
GL Account:	

Contact:	Lauer
Area	Pump Station
Asset Type:	Electrical
Avg Useful Life:	25 years
Est Residual Life:	5 years
% Consumed Life	80
Category:	Capital Improvement
Urgency:	4 = Less Important
Carry Forward:	No

Asset Description

Direct replacement of existing 3102 Flygt pumps at Hacienda pump station: These pumps are installed in the wet well at Hacienda and lift the wastewater from the lower elevation to a higher elevation at which point the wastewater can then gravity flow its way to the plant.

Year Built:	1999
Rehabilitation Date (Extending life of Asset):	n/a
Rehab Life Extension:	n/a
Asset Condition Rating:	3 Minor Defects Only

Justification

Staff will complete a two year baseline of pump efficiency testing at all pump stations and will monitor these pump for a drop in efficiency and a rise in electrical usage. At the time of replacement the pumps will be almost 20 years old and will not be as efficient as new pumps leading to higher costs of operation. Over time, cavitation can cause pitting on the impellers which causes imbalances that lead to vibration wear. Rocks and metals can find their way into the sewer causing damage as they crack, pit, and break the impellers and volutes. Currently the pumps are in satisfactory condition; however, we are taking a proactive planning stance and will adjust its position in the budget if required as we get closer to 2022/23.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF		
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF		
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	24	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Management	Preventative Maintenance
Non Asset Risk Management	

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies				$ 20,000			$	20,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ 20,000	$ -	$ -	$ -	$ 20,000

8 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name:	Replace Pumps at Monte Verde Pump Station
Dept:	Collections
Total Cost:	$ 25,000
CY Budget	$ -
GL Account:	

Contact:	Lauer
Area	Pump Station
Asset Type:	Pump Station
Avg Useful Life:	20 years
Est Residual Life:	5 years
% Consumed Life	75
Category:	Capital Equipment
Urgency:	3 = Important
Carry Forward:	No

Asset Description

Flygt model 3127 pumps at Monte Verde and 16th. These pumps were installed in the wet well at Monte Verde during the station upgrade in 2003.

Year Built:	2003
Rehabilitation Date (Extending life of Asset):	n/a
Rehab Life Extension:	n/a
Asset Condition Rating:	3 Minor Defects Only

Justification

Staff will complete a two year baseline of pump efficiency testing at all pumps stations and will monitor these pumps for a drop in efficiency and a rise in electrical usage. At the time of replacement the pumps will be almost 20 years old and might not be as efficient as new pumps leading to higher costs of operation. Over time, cavitation can cause pitting on the impellers that lead to vibration wear due to imbalances. Rocks and metals can find their way into the sewer causing damage as they crack, pit, and break the impellers and volutes. Currently the pumps are in satisfactory condition; however, we are taking a proactive planning stance and will adjust its position in the budget if required as we get closer to 2022/23.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF		
Spill/Odor/Noise COF	5	Short Duration; Small qty Event Offsite; Small no. of Complaints
Permit/Environmental COF	3	Violate Daily Max Effluent
Process Functionality COF		
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	20	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Management	Preventative Maintenance
Non Asset Risk Management	

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies					$ 25,000		$	25,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ -	$ 25,000	$ -	$	25,000

9 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Replace Pumps at Bay & Scenic Pump Station
Dept: Collections
Total Cost: $ 25,000
CY Budget $ -
GL Account:

Contact: Lauer
Area Pump Station
Asset Type: Pump Station
Avg Useful Life: 20 years
Est Residual Life: 5 years
% Consumed Life 75
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: No

Asset Description

Flygt model 3127 pumps at Bay & Scenic pump station. These pumps are a dry pit installation that took place during the station upgrade in 2004.

Year Built: 2004
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 3 Minor Defects Only

Justification

Staff will complete a two year baseline of pump efficiency testing at all pumps stations and will monitor these pumps for a drop in efficiency and a rise in electrical usage. At the time of replacement the pumps will be almost 20 years old and might not be as efficient as new pumps leading to higher costs of operation. Over time, cavitation can cause pitting on the impellers that lead to vibration wear due to imbalances caused by the damage. Rocks and metals can find their way into the sewer causing these same effects as they crack, pit, and break the impellers and volutes. Currently the pumps are in satisfactory condition; however, we are taking a proactive planning stance and will adjust its position in the budget if required as we get closer to 2022/23.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 7 Cannot be down 1 day
Safety COF
Spill/Odor/Noise COF 9 Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF 9 Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF 5 Maintaining Process Functionality requires staff divert from other work
Cost COF 5 Major In-House Repair Work less than $25,000
Total COF: 35 Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Management Predictive & Preventative Maintenance
Non Asset Risk Management

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies					$ 25,000		$	25,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ 25,000

Capital Projects

Collections Dept.

2019-2020

CAWD Collections Dept - CIP

FY 2019/20 *thru* 2033/34

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	Unscheduled
1	Rio Road CIPP Lining Project	$ 1,340,000										
2	SCADA Replacement- All Pump Stations (Second Phase)	$ 450,000										
3	Carmel Meadows Pipeline (Carry Over)	$ 160,000	$ 1,164,000									
4	Dewatering Pit at Treatment Plant (30% Treatment)											$ 70,000
5	Hatton Canyon Pipeline Pipe Bursting	$ 1,450,000										
6	Upper Rancho Canada Pipe Relocation	$ 200,000	$ 100,000	$ 1,200,000								
7	Upsize Rancho Canada Subdivision Trunkline											$ 410,000
8	Bay/Scenic PS Rehabilitation		$ 30,000	$ 150,000	$ 500,000							
9	Scenic Pipe Bursting			$ 100,000	$ 670,000							
10	Lincoln Ave. Pipe Bursting 4th to 10th				$ 100,000	$ 710,000						
11	Dolores Ave. Pipe Bursting 1st to 8th				$ 100,000	$ 665,000						
12	Monte Verde Area Pipe Bursting					$ 100,000	$ 2,100,000					
13	Mission, San Carlos & Junipero-Ocean to 2nd					$ 100,000			$ 825,000			
14	Pipe Bursting West of Highway 1						$ 100,000	$ 1,400,000	$ 900,000			
15	Rio Road Bio-Swale Pipeline Replacement											$ 800,000
16	Carmel Village Pipe Bursting - Commercial Core							$ 100,000		$ 1,500,000	$ 1,500,000	
17	High Meadows Canyon line	$ 125,000										
	Collections TOTAL	**$ 3,725,000**	**$ 1,294,000**	**$ 1,450,000**	**$ 1,370,000**	**$ 1,575,000**	**$ 2,200,000**	**$ 1,500,000**	**$ 1,725,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,280,000**
	FEMA Grant Funding	$ 1,000,000		$ -	$ -	$ -	$ -					$ -
	PBCSD Share		$ -									$ 21,000
	CAWD COST	**$ 2,725,000**	**$ 1,294,000**	**$ 1,450,000**	**$ 1,370,000**	**$ 1,575,000**	**$ 2,200,000**	**$ 1,500,000**	**$ 1,725,000**	**$ 1,500,000**	**$ 1,500,000**	**$ 1,259,000**

1 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Rio Road CIPP Lining Project
Dept.: Collections
5 yr. Cap Projection: $ 1,340,000
CY Budget $ 1,340,000
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: Collections Gravity
Avg Useful Life: 40 years
Est Residual Life: 5 years
% Consumed Life: 100
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

The asset is approximately 4000 feet of 24 to 27 inch diameter Asbestos Cement Pipe (ACP) trunkline that runs along Rio Road in Carmel.

Year Built: 1968
Rehabilitation Date (Extending life of Asset): 2019
Rehab Life Extension: 60
Asset Condition Rating: PACP=5

Justification

Portions of the pipeline have been identified in the Asset Management Plan as having severe defects that require replacement in the next 5 years. This pipeline is downstream of the proposed Rancho Cañada Subdivision and the upper Rancho Canada Golf Course pipeline relocation projects. This project needs to be completed prior to the anticipated upstream improvements (i.e. Rancho Canada Subdivision) in order to reduce by-pass pumping costs during construction and to eliminate structural defects prior to adding more flow into the pipe. The lining of the Rio Road pipeline requires no environmental permits and minimal design. In addition, it is the only ACP pipeline in the District and lining this pipe is best solution. This pipeline is the main trunkline collecting sewage from the pipelines east of Highway 1.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours	
Safety COF			
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage	
Permit/Environmental COF			
Process Functionality COF			
Cost COF			
Total COF:	19	Probability of Failure:	95%

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management: n/a

Funding Source

Primary Capital Reserves

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 1,240,000						$ 1,240,000
Engineering		$ 100,000						$ 100,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 1,340,000	$ -	$ -	$ -	$ -	$ -	$ 1,340,000

2 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: SCADA Replacement- All Pump Stations (Second Phase)
Dept.: Collections
5 yr. Cap Projection: $ 510,000
CY Budget $ 450,000
GL Account:

Contact: Lather
Area SCADA
Asset Type: N/A
Avg Useful Life: 20 years
Est Residual Life: 1 year
% Consumed Life: 98%
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

SCADA (Supervisory Control & Data Acquisition) units are located at all District Pump Stations. The SCADA systems used at the pump stations are programmable logic control interfaces. Once set up, they automate the pump station. Examples of controlled systems include the pumping process, wet well conditions, alarm notifications, reporting current state conditions.

Year Built: 1998
Rehabilitation Date (Extending life of Asset): 2018-19
Rehab Life Extension: 20
Asset Condition Rating: 8

Justification

These SCADA PLC-5 controls are outdated and many of the components are hard to find. The PLC-5 (Programmable Logic Controller) component is no longer made. Newer PLC models offer an easier user interface, smaller footprint and more options. The Treatment plant has upgrading a portion of the PLC/SCADA under phase 1, staff has been saving and using old components to provide Collections SCADA with a bridge until the replacement. The reliability of the PLC and other components are a few of the reason the Treatment plant is upgrading their SCADA as well. Staff plans to integrate the collection SCADA into the Ignition software. Staff worked with Frisch Engineering to design new panels and PLC layouts and go out for purchas of parts in budget year 18/19.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF		
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF		
Process Functionality COF		
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	19	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management: n/a

Funding Source

Primary Capital Budget

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 100,000						$ 100,000
Engineering	$ 60,000	$ 150,000						$ 210,000
Parts & Supplies		$ 200,000						$ 200,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 450,000	$ -	$ -	$ -	$ -	$ -	$ 510,000

3 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Carmel Meadows Pipeline (Carry Over)
Dept.: Collections
5 yr. Cap Projection: $ 1,354,000
CY Budget $ 117,152
GL Account:

Contact: Lather
Area Collections Force
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life: 5 years
% Consumed Life: 98%
Category: Capital Improvement
Urgency: 1 = Critical
Carry Forward: yes

Asset Description

The project consists of replacing 1300 feet of Ductile Iron Pipe (DIP) on a aerial span and eight manholes by constructing a small pump station at the end of Mariposa Drive to collect the sewage and pump it in a new pipeline on Ribera Road to Calle la Cruz Pump Station. This project is located on a easement parallel to Ribera Road and was originally installed in the early 1960's.

Year Built: 1960's
Rehabilitation Date (Extending life of Asset): 2021-22
Rehab Life Extension: 60
Asset Condition Rating: PACP =5

Justification

This pipeline is located downhill of the homes on aerial supports directly above Carmel Lagoon. There have been multiple spills along this pipeline. The expansion of the lagoon has resulted in ponding water adjacent to the footings of the aerial supports. Future work to increase flows in the lagoon will exacerbate this problem and the best solution is to remove the pipeline from this location. The project includes removing the existing pipe supports and returning landscape to natural state.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF	10	Permit Jeopardized Environmental Damage Requires Remediation
Process Functionality COF		
Cost COF	10	Regulatory Fines and Lawsuits + Emergency Contractor Needed (greater than $1 Million)
Total COF:	40	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor			$ 1,104,000					$ 1,104,000
Engineering & Environmental	$ 30,000	$ 160,000	$ 60,000					$ 250,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$	160,000	$ 1,164,000	$ -	$ -	$ -	$ -	$ 1,354,000

4 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Dewatering Pit at Treatment Plant (30% Treatment)
Dept.: Collections
5 yr. Cap Projection: $ 70,000
CY Budget $ -
GL Account:

Contact: Lather
Area Collections Gravity
Asset Type: N/A
Avg Useful Life: 50 years
Est Residual Life:
% Consumed Life:
Category: Capital Improvement
Urgency: 3 = Important
Carry Forward: yes

Asset Description

Collection dump pit is a place for the dewatering of debris that has been collected in the Vacon vacuum truck. While Collections is the primary user of this, the Treatment plant has used this area in the past also. Once the debris has been dumped into the pit drains will carry the liquid to the headworks to be properly disposed of. Currently the District has a hole dug and dumps into the large hole and water is left to evaporate or be absorbed.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: N/A

Justification

The District needs a contained area to properly decant and dispose of debris collected in the vacuum truck. The construction of this disposal area will remove water and not allow it to be absorbed directly into the ground. This project is pending Costal Commission permitting.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF	1	No change in Process Functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	32	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: 70% Collections, 30% Treatment — Capital Reserves — Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor		$ -						$ 70,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ -	$ -	$ -	$ -	$ -	$ -	$ 70,000

5 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Hatton Canyon Pipeline Pipe Bursting
Dept.: Collections
5 yr. Cap Projection: $ 1,015,048
CY Budget $ 1,450,000.00
GL Account:

Contact: Lather
Area N/A
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life: 1 year
% Consumed Life: 98%
Category: Capital Improvement
Urgency: 1 = Critical
Carry Forward: Yes

Asset Description

Eight inch diameter Vitrified Clay Pipe (VCP) sewer collection line located in an easement on State Parks land in Hatton Canyon. The pipeline's bell and spigot connections are not strong enough to stay in place when the area is flooded during rain events and roadway failures. The pipeline was originally constructed over 60 years ago and is about a mile in length, spanning from Camerl High School to Carmel Valley Road.

Year Built: 1960s
Rehabilitation Date (Extending life of Asset): 2020
Rehab Life Extension: 20
Asset Condition Rating: PACP=5

Justification

The District has had three major overflows over the past 20 years. The District experienced a large SSO resulting in 145,000 gallons of sewage flowing directly into the Hatton creek and then into the Carmel river ultimately ending up in the Ocean. Staff is currently working with MNS Engineering for designs for the replacement of this sewer line. This project and the Hatton road project will be both completed at the same time. Staff is in the review process with FEMA & CalOES grant funding. Design and Environmental permitting is 90% complete.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF		
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF		
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	38	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Reserves

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 650,000	$ -					$ -
Engineering	$ 215,048							$ 215,048
Parts & Supplies		$ 800,000						$ 800,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 1,450,000	$ -	$ -	$ -	$ -	$ -	$ 1,015,048

6 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Upper Rancho Canada Pipe Relocation
Dept.: Collections
5 yr. Cap Projection: $ 1,500,000
CY Budget $ 200,000
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: Collections Gravity
Avg Useful Life: 50 years
Est Residual Life: 1 year
% Consumed Life: 100%
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

This project is for the relocation of an existing sewer trunk line that serves the eastern most assets of the District and is located within the proposed County Park at Rancho Canada. Line segments starting at R1006 on Via Mallorca and end at R903 where the subdivision trunk line connects. The upstream trunk line varies in size from 12 inch to 8 inch and is Truss pipe material that was installed in the early 1970's. Rancho Canada has converted one of its golf courses to a subdivision of Single Family Dwellings (SFD's) and donated the other golf course land to Monterey Regional Park System.

Year Built: 1966
Rehabilitation Date (Extending life of Asset): 2021
Rehab Life Extension: 100 years
Asset Condition Rating: Capacity Issues =5

Justification

Rancho Canada subdivision is currently planning to install a new alignment of the 12 inch sewer trunk line that currently runs through the property. It would be in the District's best interest to take advantage of this opportunity on this project to upsize the pipeline with a pipe diameter of 15" (ID - Inside Diameter) for future capacity demands. The developer is requesting the District fund the difference in cost from 12 inch to 15 inch. Staff has approached the Regional Park District with plans to extend this pipeline at the end of the Rancho Canada subdivision all the way to Via Mallorca at the increased size of 15". If more of the Carmel Valley area is annexed into our system, we will benefit from this upgrade now by not incurring the future costs of needing to upgrade later when it is realized the initial pipe capacity was insufficient to convey the potential wastewater generated. The District's extension would include roughly 1,900 ft. of pipe replacement and 6 manholes. A repayment formula for new connections will be developed as part of this project.

Reimbursement plan for additional connections will be based on formula (estimated contribution to flow/total flows) x total shared costs.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF		
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF		
Cost COF	10	Regulatory Fines and Lawsuits + Emergency Contractor Needed (greater than $1 Million)
Total COF:	9	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor				$ 1,200,000				$ 1,200,000
Engineering & Environmental		$ 200,000	$ 100,000					$ 300,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 200,000	$ 100,000	$ 1,200,000	$ -	$ -	$ -	$ 1,500,000

7 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Upsize Rancho Canada Subdivision Trunkline
Dept.: Collections
5 yr. Cap Projection: $ 410,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: Collections Gravity
Avg Useful Life: 40 years
Est Residual Life: 1 year
% Consumed Life: n/a
Category: Maintenance
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

This will ultimately result in the relocation of current sewer trunk lines that serves the eastern most assets of the District. Line segments starting at R1006 on Via Mallorca and ending at S807 on Rio Rd. vary in size from 12 inch to 8 inch and is Truss pipe material that was installed in the early 1970's. Rancho Canada has proposed converting one of its golf courses to a subdivision of Single Family Dwellings (SFD's) and donated the other golf course land to Monterey Regional Park System.

Year Built: 1970s
Rehabilitation Date (Extending life of Asset): n/a
Rehab Life Extension: n/a
Asset Condition Rating: 4 Capacity Issues

Justification

Rancho Canada subdivision is currently planning to install a new alignment of the 12 inch sewer trunk line that currently runs through the property. It would be in the District's best interest to take advantage of this opportunity on this project to upsize the pipeline with a pipe diameter of 24" (ID - Inside Diameter) because the existing line is at capacity and there is a strong potential for existing upstream parcels on septic to go to sewer. The developer is requesting that the District fund the difference in cost from 12 inch to 24 inch. Staff has approached the Regional Park District with plans to extend this pipeline at the end of the Rancho Canada subdivision all the way to Via Mallorca at the increased size of 24". If more of the Carmel Valley area is annexed into our system, we will benefit from this upgrade now by not incurring the future costs of needing to upgrade later when it is realized the initial pipe capacity was insufficient to convey the potential wastewater generated. The developer met with the District Engineer and is planning to start subdivision grading work in late spring of 2019, The time frame for this work has been moved to FY19/20.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF		
Spill/Odor/Noise COF	3	Short Duration, Small qty. Event Onsite: No Complaints
Permit/Environmental COF		
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	18	

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary: Capital Reserves
Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor							$ 410,000	$ 410,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 410,000	$ 410,000

8 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: Bay/Scenic PS Rehabilitation
Dept.: Collections
5 yr. Cap Projection: $ 680,000
CY Budget $ -
GL Account:

Contact: Lather
Area Collections Gravity
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life: 10 years
% Consumed Life: 98%
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

Bay & Scenic pump station is currently serving more than 200 properties in the Carmel Point area and has been in service since the 1950's. It is an important asset to prevent sewage from spilling into the ocean.

Year Built: 1950's
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension: 30
Asset Condition Rating: 8

Justification

The pump station is located immediately adjacent to the Pacific Ocean underneath the public roadway. Due to existing topography, this pump station cannot be relocated or otherwise decommissioned. For several years staff has observed erosion and deterioration of the decorative Carmel stone facade that protects the pump station from ocean forces during high tides and storm surges. In 2008 the County performed hardscaping (shotcrete) of some of the banks to help protect the slopes and extend the life of the roadway. Since that time erosion of the sandstone has continued and is becoming a concern to staff. Since the pump station is in relatively good condition and has provided more than 60 years of continuous service, staff recommends repairing the exterior wall and sandstone which is beginning to crack and fall off into the ocean. Due to the critical location of this pump station, all of the regulatory agencies with jurisdiction over the area (Coastal Commission, NMFS) and the anticipated expense to accomplish repairs, staff recommends the development of design plans to prolong the life of this asset within the existing manholes and structure, rather than relocating it. Due to the proximity to the Pacific ocean this pump station has been included in the District wide sea level rise study.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF		
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF		
Process Functionality COF		
Cost COF	10	Regulatory Fines and Lawsuits + Emergency Contractor Needed (greater than $1 Million)
Total COF:	29	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor					$ 500,000			$ 500,000
Engineering			$ 30,000	$ 150,000				$ 180,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -		$ 30,000	$ 150,000	$ 500,000	$ -	$ -	$ 680,000

9 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Scenic Pipe Bursting
Dept.: Collections
5 yr. Cap Projection: $ 770,000
CY Budget $ -
GL Account:

Contact: Lather
Area N/A
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life:
% Consumed Life: 98%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Scenic serves properties along the far west side of town next to the ocean.'s. It is an important asset to prevent sewage from spilling into the ocean.

Year Built: 1950s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 8

Justification

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF		
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF		
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	26	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor					$ 670,000			$ 670,000
Engineering				$ 100,000				$ 100,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ 100,000	$ 670,000	$ -	$ -	$ 770,000

10 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Lincoln Ave. Pipe Bursting 4th to 10th
Dept.: Collections
5 yr. Cap Projection: $ 810,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 80 years
Est Residual Life: 5 years
% Consumed Life: 98%
Category: Capital Improvement
Urgency: 3 = Important
Carry Forward: No

Asset Description

This asset is 3650' of 6" pipe on Lincoln that runs from 4th ave to 10th. These segments of pipe have been in service for over 100 years now.

Year Built: 1920's
Rehabilitation Date (Extending life of Asset): 2023-24
Rehab Life Extension: 100
Asset Condition Rating: 8

Justification

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated. It is directly upstream of the Bay & Scenic pump station and will potentially be included in the same bid packet with the pump station upgrades. It is staff's recommendation to do the work in the same fiscal year to limit the impact to the community to one fiscal year rather than separate years.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	29	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor						$ 710,000		$ 710,000
Engineering					$ 100,000			$ 100,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 100,000	$ 710,000	$ -	$ 810,000

11 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Dolores Ave. Pipe Bursting 1st to 8th
Dept.: Collections
5 yr. Cap Projection: $ 765,000
CY Budget $ -
GL Account:

Contact: Lather
Area Structure
Asset Type: Collections Gravity
Avg Useful Life: 40 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

Dolores Ave 1st to 8th serves properties through the mid section of town.

Year Built:
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating:

Justification

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor						$ 665,000		$ 665,000
Engineering					$ 100,000			$ 100,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 100,000	$ 665,000	$ -	$ 765,000

12 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Monte Verde Area Pipe Bursting
Dept.: Collections
5 yr. Cap Projection: $ 2,200,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Monte Verde Ave Pipe serves properties through the mid section of town.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$ 2,100,000	$ 2,100,000
Engineering						$ 100,000		$ 100,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 2,100,000	$ 2,200,000

13 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Mission, San Carlos & Junipero-Ocean to 2nd
Dept.: Collections
5 yr. Cap Projection: $ 925,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Mission, San Carlos & Junipero Pipe serves properties through the mid section of town.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	26-27	Total
Labor								$ -
Engineering						$ 100,000	$825,000	$ 925,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 825,000	$ 925,000

14 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Pipe Bursting West of Highway 1
Dept.: Collections
5 yr. Cap Projection: $ 2,400,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

West of Hwy 1 serves properties through the mid section of town.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

Condition Rating / Consequence of Failure (COF)

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	24-25	25-26	26-27	Total
Labor								$ -
Engineering					$ 100,000	$ 1,400,000	$ 900,000	$ 2,400,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 100,000	$ 1,400,000	$ 900,000	$ 2,400,000

15 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Rio Road BioSwale- Sewer Line Replacement
Dept.: Collections
5 yr. Cap Projection: $ 800,000
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

Rio Road on the west side of Hwy 1 across from the Mission

Year Built: Pre 1960
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

Condition Rating / Consequence of Failure (COF)

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated. Monterey County is planning to repair the bioswale located above our line contingent upon grant funding.

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor							$ 800,000	$ 800,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 800,000	$ 800,000

16 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Carmel Village Pipe Bursting - Commercial Core
Dept.: Collections
5 yr. Cap Projection: $ -
CY Budget $ -
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Assorted pipe bursting through Carmel-by-the-Sea in the commercial section

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 4

Justification

Rehabilitaton based upon Asset Study performed by West Yost Associates in 2018

Condition Rating / Consequence of Failure (COF)

According to the Asset Management Plan, this section of pipelines has a high consequence of failure and was included in the list of high priority lines to be rehabilitated.

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Reserves Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

17 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: High Meadows Canyon line
Dept.: Collections
5 yr. Cap Projection: $ 125,000.00
CY Budget $ 125,000.00
GL Account:

Contact: Lather
Area Sewer Lines
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

This sewer line segment N791 to N797 is 237 feet long and is 8 inches in size made of cast iron pipe (CIP). This trunk line services the High Meadow's Terrace, High Meadows Land and the Ridge condos area and is located in a canyon easement off of High Meadows Drive

Year Built: 1966
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 8

Justification

During a manhole evaluation that was conducted during the summer of 2017 staff noticed a crack developing at one of the CIP bell and spigots. Staff attempted a CCTV inspection of the sewer line and found that the line back graded towards the bell and spigot and staff could not properly view the crack from inside. Staff performed a temporary repair both internal and external at the crack on the bell. Staff informed the District Engineer of the problem and a field visit was performed. During the visit a complete inspection of the segment was done. Staff noted that the CIP line was in a low spot of the canyon and a drainage channel was now formed over the sewer line putting the sewer pipe in the water most of the year. Staff would like to relocate the sewer line on teh hillside outof the water channel and reinforce the crossing of the sewer line where it crosses the creek.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	3	Minor inconvenience
Spill/Odor/Noise COF	5	Short Duration; Small qty event offsite
Permit/Environmental COF		
Process Functionality COF	1	No change in Process Functionality
Cost COF		
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plan Rehablitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other		$ 125,000						$ 125,000
Total		$ 125,000	$ -	$ -	$ -	$ -	$ -	$ 125,000

Capital Equipment Purchases

Treatment Plant

2019-2020

CAWD Treatment Dept - Capital Purchases

FY 2019/20 *thru* 2024/25

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	24/25	Unscheduled
1	Ammonia Distillation Unit (50% Reclamation)	$ 17,800						
2	Laboratory Muffle Furnance (50% Reclamation)		$ 13,500					
3	Laboratory Ion Chromatograph (90% Reclamation)		$ 150,000					
4	Laboratory BOD incubator (50% Reclamation)			$ 13,000				
5	Laboratory Autoclave (50% Reclamation)			$ 16,000				
6								
7								
	TREATMENT & DISPOSAL TOTAL	**$ 17,800**	**$ 163,500**	**$ 29,000**	**$ -**	**$ -**	**$ -**	**$ -**
	RECLAMATION SHARE	$ 8,900	$ 141,750	$ 14,500	$ -	$ -	$ -	$ -
	PBCSD SHARE	$ 2,964	$ 7,243	$ 4,829	$ -	$ -	$ -	$ -
	CAWD COST	**$ 5,936**	**$ 14,507**	**$ 9,672**	**$ -**	**$ -**	**$ -**	**$ -**

1 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name:	Ammonia Distillation Unit (50% Reclamation)
Dept:	Treatment
Total Cost:	$ 17,800
CY Budget	$ 17,758
GL Account:	

Contact:	Waggoner
Area	Misc Structures
Asset Type:	Support Equipment
Avg Useful Life:	15 years
Est Residual Life:	1 year
% Consumed Life:	98%
Category:	Capital Equipment
Urgency:	1 = Critical
Carry Forward:	No

Asset Description

The Ammonia Distillation unit is used to digest ammonia in the wastewater to obtain a mg/L values that is used for plant process control for all processes in the plant including anaerobic digestion. The same value results are used for the NPDES Permit on the ocean outfall line for both Secondary and Tertiary Pollutants limitations.

Year Built:	Jan-03
Rehabilitation Date (Extending life of Asset):	Feb-18
Rehab Life Extension:	1 year
Asset Condition Rating:	10 Replace

Justification

The current Ammonia Distillation unit (Foss Kjeltec 2200) has been in operation since January 2003. The Foss North American, Inc. representative has informed CAWD staff that Foss ended their support services and has no replacement parts available to purchase after 2018. CAWD staff recommendation is to purchase the current replacement model Foss Kjeltec 8200 distillation unit recommended by the manufacturer.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF	$ 22	Probability of Failure: Moderate

Asset Risk Management Strategy

Capital Improvement Risk	Rehabilitation/Replacement
Maintenance Risk Management	Predictive & Preventative Maintenance
Non Asset Risk Management	Strategic Changes to Level of Service

Funding Source

Primary Capital Budget 50% Secondary Reclamation 50%

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 5,720						$ 5,720
Engineering								$ -
Parts & Supplies		$ 11,130						$ 11,130
Chemicals								$ -
Utility								$ -
Other		$ 908						$ 908
Total		$ 17,758	$ -	$ -	$ -	$ -	$ -	$ 17,758

2 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name:	Laboratory Muffle Furnance (50% Reclamation)
Dept:	Treatment
Total Cost:	$ 13,500
CY Budget	$ -
GL Account:	

Contact:	Waggoner
Area	Misc Structures
Asset Type:	Support Equipment
Avg Useful Life:	10 years
Est Residual Life:	5 years
% Consumed Life:	75
Category:	Capital Equipment
Urgency:	3 = Important
Carry Forward:	Yes

Asset Description

The muffle furnace is used in the laboratory to provide the Operations Department with process control data on the Volatile Total Suspended Solids. The data from the percent volatile solids is used for monthly and annual NPDES reporting.

Year Built:	2011
Rehabilitation Date (Extending life of Asset):	16-Apr
Rehab Life Extension:	2 years
Asset Condition Rating:	3 minor Defects Only

Justification

The muffle furnace was purchased during 2011 and repaired in 2016. The service report stated that this unit model is no longer produced and parts are limited at this time.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF	$ 18	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk ı	Rehabilitation/Replacement
Maintenance Risk Management	Corrective Maintenance
Non Asset Risk Management	Strategic Changes to Level of Service

Funding Source

Primary Capital Budget Secondary Reclamation 50%

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies				$13,500				$ 13,500
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ -	$ -	$ 13,500	$ -	$ -	$ -	$ 13,500

3 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name:	Laboratory Ion Chromatograph (90% Reclamation)
Dept:	Treatment
Total Cost:	$ 150,000
CY Budget	$ -
GL Account:	

Contact:	Waggoner
Area	Misc Structures
Asset Type:	Support Equipment
Avg Useful Life:	10 years
Est Residual Life:	1 year
% Consumed Life:	97
Category:	Capital Equipment
Urgency:	2 = Very Important
Carry Forward:	Yes

Asset Description

The Ion Chromatograph unit is a Laboratory instrument used to analyze various chemical constituents for the process control and reporting for the Reclamation Project.

Year Built:	Jul-05
Rehabilitation Date (Extending life of Asset):	N/A
Rehab Life Extension:	N/A
Asset Condition Rating:	9 Rehab unlikely

Justification

The Ion Chromatography unit is coming to the end of its useful life as outlined by the manufacturer service representative. The manufacture of the Ion Chromatory unit will stop supporting parts and services in the next two years. Once that support stops replacement parts and consumables will become difficult to obtain along with service request of the equipment.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	5	Violate weekly average Effluent Limitation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF	$ 22	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk	Rehabilitation/Replacement
Maintenance Risk Management	Corrective Maintenance
Non Asset Risk Management	Strategic Changes to Level of Service

Funding Source

Primary	Capital Budget 10%	Secondary	Reclamation 90%

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies			$ 150,000					$ 150,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ -	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

4 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name:	Laboratory BOD incubator (50% Reclamation)
Dept:	Treatment
Total Cost:	$ 13,500
CY Budget	$ -
GL Account:	

Contact:	Waggoner
Area	Misc Structures
Asset Type:	Support Equipment
Avg Useful Life:	10 years
Est Residual Life:	5 years
% Consumed Life:	72%
Category:	Capital Equipment
Urgency:	2 = Very Important
Carry Forward:	Yes

Asset Description

The BOD incubator is used to incubate the BOD analysis samples at a specific temperature of 20.0 C. This is a NPDES required analysis for Tertiary DMR and for CAWD NPDES permit.

Year Built:	2004
Rehabilitation Date (Extending life of Asset):	9-Jul
Rehab Life Extension:	2 years
Asset Condition Rating:	3 Minor Defects Only

Justification

The incubator was purchased in 2004 and remains operating 24 hours a day and is close to its average useful life. Service technicians replaced the cooling compressor in 2017 which can give the unit 2 to 3 years of useful service. The BOD analysis is a NPDES permit requirement making this a critical equipment in the laboratory to remain compliant to the permits.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be Down 8 hours
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF	$ 20	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk	Rehabilitation/Replacement
Maintenance Risk Management	Predictive & Preventative Maintenance
Non Asset Risk Management	Strategic Changes to Level of Service

Funding Source

Primary: Capital Budget 50% — Secondary: Reclamation 50%

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies				$ 13,000				$ 13,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ -	$ -	$ 13,000	$ -	$ -	$ -	$ 13,000

5 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name:	Laboratory Autoclave (50% Reclamation)
Dept:	Treatment
Total Cost:	$ 16,000
CY Budget	$ -
GL Account:	

Contact:	Waggoner
Area	Misc Structures
Asset Type:	Support Equipment
Avg Useful Life:	20 years
Est Residual Life:	1 year
% Consumed Life:	89
Category:	Capital Equipment
Urgency:	3 = Important
Carry Forward:	Yes

Asset Description

The autoclave is used to conduct NPDES permit coliform tests and to destroy samples that are completed prior to disposal. It is essential to complete the permit required analysis and maintain compliance with EPA and ELAP requirements.

Year Built:	Jun-93
Rehabilitation Date (Extending life of Asset):	N/A
Rehab Life Extension:	N/A
Asset Condition Rating:	8 Rehab unlikely

Justification

The autoclave unit has reached the end of the service life recommended by the manufacturer.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF	$ 22	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk	Rehabilitation/Replacement
Maintenance Risk Management	Predictive & Preventative Maintenance
Non Asset Risk Management	Strategic Changes to Level of Service

Funding Source

Primary: Capital Budget 10% | Secondary: Reclamation 50% | Reclamation 90%

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies				$ 16,000				$ 16,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ -	$ -	$ 16,000	$ -	$ -	$ -	$ 16,000

Capital Projects (In-house)

Treatment Plant

2019-2020

CAWD Treatment Dept - CIP

FY 2019/20 *thru* 2024/25

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	24/25	Unscheduled
1	Effluent Building Wet Well Mixing System (50% CAWD/50% Reclamation split)	$ 20,000	$ 20,000					
2	1 Water System pipe-line Corrosion Control	$ 30,000						
3	Operation Building Basement Rehabilitation	$ 30,000	$ 20,000					
4	Cart Charging Area and Parking	$ 25,000	$ 25,000					
5	Clarifier Coating Project (carry forward)	$ 127,190						
6	SCADA Historian/Domain Controller (50% Recl)	$ 11,244						
7	Dream Report software for SCADA & LIMS (50% Recl)	$ 15,998						
8	Replace SCADA Historian (Maint Project)	$ 20,000						
9	Install Domain Controller for SCADA (Maint Project)	$ 20,000						
10	Mainsaver Connect Mobile Module (Maint Project)	$ 5,964						
	TREATMENT & DISPOSAL TOTAL	**$ 305,396**	**$ 65,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	RECLAMATION SHARE	$ 23,621	$ 10,000	$ -	$ -	$ -	$ -	$ -
	PBCSD SHARE	$ 93,831	$ 18,315	$ -	$ -	$ -	$ -	$ -
	CAWD COST	**$ 187,944**	**$ 36,685**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Long Term Capital Projects are on Separate Worksheet

1 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Effluent Building Wet Well Mixing System (50% CAWD/50% Reclamation split)
Dept: Treatment
Total Cost: $ 60,000
CY Budget $ 40,000
GL Account:

Contact: Waggoner
Area Outfall
Asset Type: Support Equipment
Avg Useful Life: 20 years
Est Residual Life: 20 years
% Consumed Life $ -
Category: Capital Improvement
Urgency: 1 = Critical
Carry Forward: Yes

Asset Description

Effluent Building Wet Well Mixing System

Year Built: 1972
Rehabilitation Date: 2018
Rehab Life Extension: 20 Years
Asset Condition Rating: 7 Up Grade

Justification

The Effluent Building Wet Well receives flows from the treatment plant secondary clarifier(s) and/or the Reverse Osmosis System. The secondary clarifier(s) effluent flow stream contains settleable solids that can settle out in the wet well. The RO Reject flow stream is a highly concentrated brine that can precipitate out both settleable and suspended solids. These settleable solids from both of these flow streams have caused NPDES violations. This is due to the low flow and lack of velocity in the wet well which allows settleable solids collect in "dead" areas of the wet well and can accumulate to the point where the Laboratory permit composite sampler grabs these concentrated solids thus causing a permit violation. The low flow is due to Reclamation, the wet well is too large for the lower flows. Staff has determined that a mixing system will help these settleable solids to stay suspended allowing the composite samples to be represented of the effluent flow stream, and then be discharged to the ocean.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	3	Violate Daily Max Effluent
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	20	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Mgmt	Preventative Maintenance
Non Asset Risk Mgmt	Strategic Changes to Level of Service

Funding Source

Primary: Capital Improvement
50% Reclamation

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor			$ 15,000					$ 15,000
Engineering								$ -
Parts & Supplies		$ 40,000						$ 40,000
Chemicals								$ -
Utility								$ -
Other			$ 5,000					$ 5,000
Total		$ 40,000	$ 20,000	$ -	$ -	$ -	$ -	$ 60,000

2 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: 1 Water System pipe-line Corrosion Control
Dept: Treatment
Total Cost: $ 30,000
CY Budget $ 30,000
GL Account:

Contact: Waggoner
Area 1 Water System
Asset Type: Support Equipment
Avg Useful Life: 20 years
Est Residual Life: 20 years
% Consumed Life $ -
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

New Chemical Feed System to prevent corrosion on the Number 1 Water System metal piping through out the plant.

Year Built: 1972
Rehabilitation Date: N/A
Rehab Life Extension: N/A
Asset Condition Rating:

Justification

The number 1 Water Distribution System was installed in the early 1970's when the secondary processes were constructed at CAWD. The main piping is Ductile Iron pipe with service laterals of copper and galvanize pipe to major buildings and safety showers. In 2017 the number 1 Water System Air Gap and booster pump system was added to replace the old air gap and booster systems. For years before this upgrade the plant has had issues with rust colored water coming from the safety showers, eye washes and laboratory sinks through out the facility. Prompting staff to purchase portable eye wash stations and adding water filter systems to the safety showers throughout the facility.
Staff is proposing to purchase a Two Pump Chemical Feed Skid to be able to add Corrosion Control inhibitors to the number 1 water system to reduce the corrosion through the Distribution System thus allowing the use of the safety showers and eyewashes with out the need of filtering systems. Adding the Corrosion inhibitors can also extend the life of the distribution piping system and reducing the possibility of corrosion induced water leakage.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	26	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Moderate Repair
Maintenance Risk Mgmt	Predictive & Preventative Maintenance
Non Asset Risk Mgmt	Strategic Changes to Level of Service

Funding Source

Primary Capital Improvement

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 10,000						$ 10,000
Engineering								$ -
Parts & Supplies		$ 15,000						$ 15,000
Chemicals		$ 2,500						$ 2,500
Utility								$ -
Other		$ 2,500						$ 2,500
Total		$ 30,000	$ -	$ -	$ -	$ -	$ -	$ 30,000

3 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Operation Building Basement Rehabilitation
Dept: Treatment
Total Cost: $ 50,000
CY Budget $ 30,000
GL Account:

Contact: Waggoner
Area Ops Bldg
Asset Type: Support Equipment
Avg Useful Life: 20 years
Est Residual Life: 1 year
% Consumed Life $ 100
Category: Capital Improvement
Urgency: 3 = Important
Carry Forward: Yes

Asset Description

Operations Building (Building Number 30), Basement Rehabilatation.

Year Built: 1972
Rehabilitation Date: N/A
Rehab Life Extension: N/A
Asset Condition Rating: Good

Justification

The original design of the building in this area included a woman's bathroom with shower, men's locker room and a storage area for Personal Protective Equipment (PPE) (i.e.. Rain gear, Haz-mat equipment and janitorial supplies). During Phase I construction all of this space was demolished to allow for new electrical and plumbing chase runs for various areas of the treatment plant. Staff would like to reinstall a gender neutral bathroom in the basement with a shower to decontaminate PPE, a laundry area to clean and store Personal Protective Equipment, having a centralize area for the PPE it will allow for better inventory control of all PPE equipment. Included in the cost would be a second sump pump to prevent flooding of the area.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service idenfinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	12	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Mgmt	Corrective Maintenance
Non Asset Risk Mgmt	Take Asset out of Service

Funding Source

Primary Capital Improvement

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor	$	$ 15,000	$ 13,000					$ 28,000
Engineering	$	$ 5,000						$ 5,000
Parts & Supplies	$	$ 7,000	$ 7,000					$ 14,000
Chemicals								$ -
Utility								$ -
Other	$	$ 3,000						$ 3,000
Total	$	$ 30,000	$ 20,000	$ -	$ -	$ -	$ -	$ 50,000

4 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Cart Charging Area and Parking
Dept: Treatment
Total Cost: $ 50,000
CY Budget $ 25,000
GL Account:

Contact: Foley
Area Misc Structures
Asset Type: Support Equipment
Avg Useful Life: 20 years
Est Residual Life: 20 years
% Consumed Life $ -
Category: Capital Improvement
Urgency: 1 = Critical
Carry Forward: Yes

Asset Description

Electric Cart charging area at the Old Chemical Storage Building (Building Number 35).

Year Built: 2019
Rehabilitation Date: N/A
Rehab Life Extension: N/A
Asset Condition Rating: Good

Justification

Currently, there is no central location to charge the electric utility carts and golf carts or a place to park the work bicycles that plant staff uses daily out of the elements. These vehicles are stored overnight through out the treatment plant and exposed to the elements. Staff is planning to build a sheltered area (metal awning with fencing for security of the equipment) adjacent to building number 35. This would include charging stations for the electric utility carts and storage for the plant's work bicycles.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	1	No Cost
Total COF:	8	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Mgmt.	Predictive & Preventative Maintenance
Non Asset Risk Mgmt.	Take Asset out of Service

Funding Source

Primary Capital Improvement

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor	$	$ 12,000	$ 18,000					$ 30,000
Engineering	$	$ 3,000						$ 3,000
Parts & Supplies	$	$ 10,000	$ 7,000					$ 17,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$	$ 25,000	$ 25,000	$ -	$ -	$ -	$ -	$ 50,000

5 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Clarifier Coating Project (carry forward)
Dept: Treatment
Total Cost: $ 127,190
CY Budget $ 127,190
GL Account:

Contact: Foley
Area Secondary Clarifiers
Asset Type: Process Equip (Liquid)
Avg Useful Life: 40 years
Est Residual Life: 1 year
% Consumed Life 99%
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

The Secondary Clarifiers remove suspended and floatble biomass from the mixed liquor coming from the Aeration Basins. These tanks are critical to permit compliance. Secondary Clarifier #2 has been fully reconditioned. Secondary Clarifier #1 was scheduled for the same conditioning in FY18-19. The coating portion of work was carried forward to current vear.

Year Built: 1976
Rehabilitation Date: 18-Mar
Rehab Life Extension: 20
Asset Condition Rating: 1

Justification

Inspection revealed that the structure is in good shape. Some coating repair was needed and an overal rehab completed with new drive mechanisma nd island. Every 10-12 years the Clarifiers will be taken down and serviced. Down tmes have been staggered between the 4 clarifiers.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	3	Short Duration, Small qty. Event Onsite: No Complaints
Permit/Environmental COF	3	Violate Daily Max Effluent
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	18	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Mgmt Predictive & Preventative Maintenance
Non Asset Risk Mgmt

Funding Source

Primary Capital Equipment
Carry forward from 2018-19

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering		$ 127,190					$	127,190
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$	$ 127,190	$ -	$ -	$ -	$ -	$ -	$ 127,190

6 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: SCADA Historian/Domain Controller (50% Recl)
Dept: Treatment
Total Cost: $ 11,244
CY Budget $ 11,244
GL Account:

Contact: Waggoner
Area Ops Bldg
Asset Type: SCADA
Avg Useful Life: 20 years
Est Residual Life: 1 year
% Consumed Life 100%
Category: Capital Equipment
Urgency: 1 = Critical
Carry Forward: Yes

Asset Description

Software that collects SCADA data Historian and allows reports to be generated from the collected data to send to California State Water Board - Central Coast Region

Year Built: 1994
Rehabilitation Date:
Rehab Life Extension:
Asset Condition Rating: End of Useful life

Justification

Current Historian is no longer supported by vendor. With the new Ignition Program Based SCADA system an upgraded Historian/Domain Report controller is needed tobuild Operatins Reports for the staff and the California State Water Board - Central Coast Region

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	31	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Mgmt	Predictive & Preventative Maintenance
Non Asset Risk Mgmt	Strategic Changes to Level of Service

Funding Source

Primary Capital Equipment 50% Reclamation
Carry forware from 2018-19

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other		$ 11,244					$	11,244
Total		$ 11,244	$ -	$ -	$ -	$ -	$ -	$ 11,244

7 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Dream Report software for SCADA & LIMS (50% Recl)
Dept: Treatment
Total Cost: $ 15,998
CY Budget $ 15,998
GL Account:

Contact: Waggoner
Area Ops Bldg
Asset Type: SCADA
Avg Useful Life: 20 years
Est Residual Life: 1 year
% Consumed Life 99%
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

Software that collects from SCADA data and LIMS data and prepares reports to be generated from the collected data to send to California State Water Board - Cental Coast Region and other regulatory agencies.

Year Built:
Rehabilitation Date:
Rehab Life Extension:
Asset Condition Rating:

Justification

With the new Ignition SCADA System beingimplemented facility wide, Dream Report Software replaces the obsolete Report Builder so the reporting can be done through the new ignition SCADA system.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	30	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk	Plan Rehabilitation/Replacement
Maintenance Risk Mgmt	Predictive & Preventative Maintenance
Non Asset Risk Mgmt	Strategic Changes to Level of Service

Funding Source

Primary — Capital Improvement — 50% Reclamation
Carry forward from 2018-19

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other		$ 15,998					$	15,998
Total		$ 15,998	$ -	$ -	$ -	$ -	$ -	$ 15,998

8 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Replace SCADA Historian (Maint Project)
Dept: Treatment
Total Cost: $ 20,000
CY Budget $ 20,000
GL Account:

Contact: Foley
Area Ops Bldg
Asset Type: SCADA
Avg Useful Life: 15 years
Est Residual Life: 1 year
% Consumed Life 90%
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: Yes

Asset Description

SCADA Historian records all regulatory and process data for the Treatment plant. This system is required for regulatory compliance.

Year Built: 1986
Rehabilitation Date:
Rehab Life Extension:
Asset Condition Rating:

Justification

The current historian is a part of the RSView software which is being phased out as part of the software upgrade to Ignition. The new historian software will provide better functionality and reporting. The RSView software is no longer supported and is obsolete.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	10	Permit Jeopardized Environmental Damage Requires Remediation
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	37	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Mgmt
Non Asset Risk Mgmt

Funding Source

Primary Capital Improvement
Carry forward from 2018-18 Budget

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies		$ 20,000					$	20,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 20,000	$ -	$ -	$ -	$ -	$ -	$ 20,000

8 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Install Domain Controller for SCADA
Dept: Treatment
Total Cost: $ 20,000
CY Budget $ 20,000
GL Account:

Contact: Foley
Area Ops Bldg
Asset Type: SCADA
Avg Useful Life: 15 years
Est Residual Life:
% Consumed Life
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

The Domain Controller for SCADA will provide login security to the SCADA system and prevent unauthorized access or tampering

Year Built:
Rehabilitation Date:
Rehab Life Extension:
Asset Condition Rating:

Justification

This control system provides an important function to ensure cyber security best practices for water/wastewater critical infrastructure. This will integrate with the Ignition software and prevent external unauthorized access. The treatment plant does reequire external remote monitoring of some equipment and processes by vendors and on call staff. This system will provide the security needed to allow this gateway.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	5	Minor Injury/Health Risk (Readily Treatable)
Spill/Odor/Noise COF		
Permit/Environmental COF	10	Permit Jeopardized Environmental Damage Requires Remediation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	30	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Mgmt
Non Asset Risk Mgmt

Funding Source

Primary Capital Improvement
Carry forward from 2018-19 budget

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies		$ 20,000					$	20,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 20,000	$ -	$ -	$ -	$ -	$ -	$ 20,000

8 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: Mainsaver Connect Mobile Module
Dept: Treatment
Total Cost: $ 5,964
CY Budget $ 5,964
GL Account:

Contact: Foley
Area Ops Bldg
Asset Type: Computer/Network
Avg Useful Life: 15 years
Est Residual Life:
% Consumed Life
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: Yes

Asset Description

The Mainsaver Connect Mobile Module allows operations and maintenance staff to access work orders, O&M manuals, and equipment maintenance history in the field while they are working. This will give staff access to the Mainsaver CMMS system from field tablets. Staff will also be able to use scanning equipment to check out tools, equipment and inventory and apply to work orders.

Year Built:
Rehabilitation Date:
Rehab Life Extension:
Asset Condition Rating:

Justification

This tool will increase staff productivity and improve maintenance records, provide timely information about equipment and will improve safety by providing field access to lockout tag out, fall protection data, and other maintenance standard operating procedures. Staff will be able to check out inventory and provide real-time asset control and inventory tracking. This system is the first step in "just-in-time" inventory management and ordering.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact 9 Cannot be down 8 hours
Safety COF
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF
Cost COF
Total COF: 9

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk Plan Rehabilitation/Replacement
Maintenance Risk Mgmt
Non Asset Risk Mgmt

Funding Source

Primary Capital Improvement
Carry forward from 2018-19 budget

Budget Impact/Other

	Prior Yr	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies		$ 5,964					$	5,964
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 5,964	$ -	$ -	$ -	$ -	$ -	$ 5,964

Long Term Capital

Treatment Plant

2019-2020

CARMEL AREA WASTEWATER DISTRICT TREATMENT PLANT
LONG TERM CAPITAL PROJECTS - FY 2019/20 - 2033/34

Item #	Project Number	PROJECT	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	Unscheduled	Total
WWTP - Elec/Mech Rehab & Sludge Holding Tank Replacement Project																			
1	18-01	WWTP Elec/Mech Rehab & Sludge Holding Tank Replac Design (4% Reclamation)	$450,000																*$450,000*
1	18-01	WWTP Elec/Mech Rehab & Sludge Holding Tank Replac Project Construction (4% Reclamation)	$300,000	$4,400,000	$3,900,000														*$8,600,000*
1	18-01	WWTP Elec/Mech Rehab & Sludge Holding Tank Project SCADA Programming		$75,000	$75,000														*$150,000*
1	18-01	WWTP Elec/Mech Rehab & Sludge Holding Const Mgmt and ESDC (4% Reclamation)		$450,000	$450,000														*$900,000*
1	18-01	WWTP Elec/Mech Rehab & Sludge Holding Project O&M Manual				$50,000													*$50,000*
PLANNED PROJECTS																			
2		Critical Process Minor Onsite Flood Adaptations (15% Reclamation)	$50,000	$50,000															*$100,000*
3	18-05	PLC/SCADA Programming	$60,000																*$60,000*
4	18-07	Digester No. 1 and No. 2 - Cleaning	$125,000																*$125,000*
5	18-08	Standby Power Reliability Project	$730,000																*$730,000*
6	18-10	Aeration Basin Improvements	$140,000																*$140,000*
7		WWTP Perimeter Tree Planting	$60,000			$60,000				$75,000					$25,000				*$220,000*
8		Perimeter Fencing	$150,000																*$150,000*
9		Cathodic Protection Testing and Maintenance	$30,000				$100,000					$30,000					$30,000		*$190,000*
10		Lunch Room MCC Replace with Panelboard (Collection 10%)		$140,000															*$140,000*
11		Chlorine Contact Channel Pipe Gallery Rehab		$44,000															*$44,000*
12		Plant Paving, Vault Lids, and Drainage		$50,000			$150,000												*$200,000*
13		Lagoon Crossing Rehabilitation			$400,000														*$400,000*
14		RAS Pump/Piping Rehab			$100,000														*$100,000*
15		Main Potable Water and Gas Main Replacement				$100,000	$100,000												*$200,000*
16	18-11	Microturbine Integration Project	$510,000																*$510,000*
17		Replace Older Turblex Blower				$530,000													*$530,000*
18		Roofing Repairs					$90,000												*$90,000*
19		Influent Pump Station Wet Well Repairs					$90,000												*$90,000*
20		Maintenance Storage Containers					$175,000												*$175,000*
21		Plant Bridge Retrofit Project					$100,000	$300,000											*$400,000*
22		Digester No. 1 - Rehabilitation						$660,000											*$660,000*
23		Operations Building HVAC and Plumbing Systems Repairs						$155,000											*$155,000*
24		Septage Waste Receiving Station							$500,000										*$500,000*
25		Staff Office Trailer Replacements								$300,000									*$300,000*
26		Ocean Outfall Rehabilitation											$1,000,000						*$1,000,000*
27		Next Generation PLC/SCADA Upgrades Phase 1															$500,000		*$500,000*
28		Air Monitoring																$15,000	*$15,000*
29		Sea Level Rise Flood Mitigation																Unknown	*Unknown*
PROCESS AREA REHABILITATION AND MAINTENANCE PROJECTS																			
30		Misc. Yard Piping Rehab and Maintenance Projects	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000		*$1,350,000*
31		Influent/Headworks/Primary Rehab and Maintenance Projects							$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000		*$900,000*
32		EQ/Blowers/Aeration/Secondary Rehab and Maintenance Projects (Partial Reclamation)							$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000		*$1,800,000*
33		Chlorination/Dechlorination/Effluent Rehab and Maintenance Projects (Partial Reclamation)							$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000		*$900,000*
34		DAFT/Digestion/Dewatering Rehab and Maintenance Projects (Partial Reclamation)							$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000		*$900,000*
		TREATMENT & DISPOSAL TOTAL	**$2,695,000**	**$5,299,000**	**$5,015,000**	**$830,000**	**$895,000**	**$1,205,000**	**$1,090,000**	**$965,000**	**$590,000**	**$620,000**	**$1,590,000**	**$590,000**	**$615,000**	**$590,000**	**$1,120,000**	**$15,000**	***$23,724,000***
		RECLAMATION SHARE (1)	$37,500	$183,500	$156,000				$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000		*$917,000*
		PBCSD SHARE	$884,948	$1,703,462	$1,618,047	$276,390	$298,035	$401,265	$342,990	$301,365	$176,490	$186,480	$509,490	$176,490	$184,815	$176,490	$352,980	$4,995	*$7,594,731*
		CAWD COST	**$1,772,553**	**$3,412,039**	**$3,240,953**	**$553,610**	**$596,965**	**$803,735**	**$687,010**	**$603,635**	**$353,510**	**$373,520**	**$1,020,510**	**$353,510**	**$370,185**	**$353,510**	**$707,020**	**$10,005**	***$15,212,269***
		(1) PBCSD to pay 1/3 of costs. (After Reclamation portion deducted, if applicable) unless otherwise noted. *Projects in italics are not funded directly by PBCSD*															15 Yr total	$15,202,264	*$15,212,269*
TECHNICAL STUDIES (EXPENSED TO O&M - SHOWN HERE FOR PLANNING PURPOSES)																			
35		Coastal Hazards Monitoring Plan	$35,000					$15,000					$15,000						*$65,000*
36		Life Expectancy Analysis		$35,000															*$35,000*
37		Coastal Hazards Response Plan				$100,000													*$100,000*
38		Miscellaneous Technical Studies	$90,000	$90,000	$150,000	$50,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	*$2,030,000*
		TOTAL TECHNICAL STUDIES	$125,000	$125,000	$150,000	$150,000	$150,000	$165,000	$150,000	$150,000	$150,000	$150,000	$165,000	$150,000	$150,000	$150,000	$150,000	$150,000	*$2,230,000*

1 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **WWTP - Elec/Mech Rehab & Sludge Holding Tank Replacement Project**
Dept.: Treatment
5 yr. Cap Projection: $10,150,000
CY Budget $750,000
GL Account:

Contact: Treanor
Area Multiple
Asset Type: N/A
Avg Useful Life: N/A
Est Residual Life: N/A
% Consumed Life: N/A
Category: Capital Improvement
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

The WWTP Rehabilitation Phase II Projects is a multi-area project at the WWTP aimed at addressing risk of failure in the Influent Pump Station, Headworks, 3W/Chlorine Analyzer Building, Effluent Building and Sludge Storage Tank. Most of the work involves replacing aged equipment electrical and mechanical work in existing buildings.

Influent Building - Replacement of existing Motor Control Center (MCC) and electrical/controls equipment. Replacement of 1 Influent pump with 2 smaller pumps.
Headworks Building - Replacement of existing Motor Control Center (MCC) and electrical/controls equipment. Replacement of existing auger screen with articulating rake screens. Replacement of existing grit tank collector mechanism in kind.
3W/Chlorine Analyzer Building - Replacement of existing Motor Control Center (MCC) and electrical/controls equipment.
Effluent Building - Replacement of existing Motor Control Center (MCC) and electrical/controls equipment. Replacement of motors on existing Effluent Pumps.
Sludge Holding Tank - Demolition of three old digesters/sludge holding tanks and replacement with one steel sludge holding tank. Work in this area includes piping demolition for piping associated with old tanks.

Year Built: 1930s, 1950s, 1970s, 1980s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

This project was developed to mitigate risk of failure based on Kennedy/Jenks Phase 2 asset management risk assessment. The project is highly focused on electrical systems that are well past their useful life and are critical to operations. The sludge holding tank work is to address the fact that the current sludge holding tank was built in the 1930s and is past its useful life. Three existing sludge tanks that no longer meet seismic code will be removed and one new tank will be installed.

Reclamation Share is for the Lab standby power feeder and for the electrical work associated with the brine effluent pump in the Effluent Building.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact		
Safety COF	9	Major Health Risk (Chronic/Long Recovery) or Death
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	34	Probability of Failure: High

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget
4% Reclamation

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$300,000	$2,200,000	$1,900,000				$ 4,400,000
Engineering	$400,000	$450,000	$450,000	$450,000	$50,000			$ 1,400,000
Parts & Supplies			$2,200,000	$2,000,000				$ 4,200,000
Chemicals								$ -
Utility								$ -
Other			$75,000	$75,000				$ 150,000
Total	$ 750,000	$ 4,925,000	$ 4,425,000	$ 50,000	$ -	$ -	$ -	$ 10,150,000

2 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Critical Process Minor Onsite Flood Adaptations (15% Reclamation)**
Dept.: Treatment
5 yr. Cap Projection: $100,000
CY Budget $50,000
GL Account:

Contact: Treanor
Area Multiple
Asset Type: N/A
Avg Useful Life: 25 years
Est Residual Life: N/A
% Consumed Life: N/A
Category: Capital Improvement
Urgency: 3 = Important
Carry Forward: No

Asset Description

There are a few areas of the WWTP that may be vulnerable to inundation during a 100-year river flooding event. Although the likelihood of inundation is low and the impact short term, it would be prudent to mitigate any possible impacts of flooding on the treatment process. The areas that could be further adapted to avoid flooding inundation are:

Headworks Basement - The Headworks basement is below the 100-year flood level and therefore was equipped with a flood proof ships door. This door needs to be replaced to keep the
Influent Access Hatch - The Influent access hatch elevation is below the 100-year flood level and could leak water into the influent during a flood which could lead to overflows. The hatch would be water proofed to keep inflow of water into the treatment system during possible 100-year flooding.

Secondary Effluent Diversion Structure Hatches - The Secondary Effluent Diversion Structure (SED) was built by the Reclamation project and the hatch is very close to being below the 100-year flood plain and with increased flooding due to climate change could allow water to inflow into the treatment process which could lead to backups. The hatch would be water

Chlorine Contact Channel Hatches - The Chlorine Contact Channel access openings are very close to being below the 100-year flood plain and with increased flooding due to climate change could allow water to inflow into the treatment process which could lead to backups. The openings would be water proofed to keep inflow of water into the treatment system

Waste Gas Burner - The Waste Gas Burner could be impacted during a flood as the water could get high enough to put the flame out. The Waste Gas Burner could be raised up a few feet to keep it from being inundated during a 100-year flood event. Alternatively the Digester Heater could be set up to burn all the Digester Gas during a flood.

Year Built: 1970s, 1980s, 2018
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 2

Justification

The above vulnerabilities were identified during the development of the CAWD Sea Level Rise Study. The likelihood of failure due to flooding is low probability, however the efforts to make the above adaptations is minimal and will help mitigate possible issues during flooding.

Reclamation Share is for the work to flood proof the Secondary Effluent Diversion Structure Hatches.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact		
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	23	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		20000	$ 20,000					$ 40,000
Engineering								$ -
Parts & Supplies		30000	$ 30,000					$ 60,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 50,000	$ 50,000	$ -	$ -	$ -	$ -	$ 100,000

3 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **PLC/SCADA Programming**
Dept.: Treatment
5 yr. Cap Projection: $50,000
CY Budget $50,000
GL Account:

Contact: Treanor
Area Multiple
Asset Type: SCADA
Avg Useful Life: 15 years
Est Residual Life: 0 Years
% Consumed Life: 100%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

PLC Programming in ongoing efforts to optimize the WWTP operations. Half of the WWTP still operates on the antiquated "RsView" SCADA platform. CAWD has been gradually migrating plant controls to a updated SCADA platform called Ignition. The Phase 1 work moved much of the plant to the Ignition System, but there is still ongoing work to migrate other systems to the new platform. This work will continue after FY19/20 during the Phase 2 implementation.

Year Built: 1990s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 8

Justification

Improving plant operability via SCADA improvements is a benefit to CAWD in that there are less call outs when SCADA is operating properly and it makes it easier for operators to run the plant so more time can be spent on necessary maintenance activities. Furthermore, having a reliable SCADA system that is not out of date improves CAWD's ability to avoid spills and meet operating permit requirements.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact		
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	27	Probability of Failure: High

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 60,000						$ 60,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ 60,000

4 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Digester No. 1 and No. 2 - Cleaning**
Dept.: Treatment
5 yr. Cap Projection: $125,000
CY Budget $125,000
GL Account:

Contact: Treanor
Area Digesters
Asset Type: Structure
Avg Useful Life: 10 years
Est Residual Life: 10 years
% Consumed Life: 50%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The District will hire a professional digester cleaning company to empty and clean existing Digesters #1 and Old Digester #2 (planned for demolition in Phase 2). After Digester #1 has been cleaned thoroughly the District will inspect the inside of the digester and assess the condition of the concrete structure and the steel cover. Rehabilitation of condition issues is schedule later in the LTCIP.

Year Built: 1976
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

Digester #1 has not been cleaned and serviced in over 19 years. Cleaning should occur over 10 years as a rule of thumb. Staff has noted some signs of structural deterioration.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact		
Safety COF	9	Major Health Risk (Chronic/Long Recovery) or Death
Spill/Odor/Noise COF	5	Short Duration; Small qty Event Offsite; Small no. of Complaints
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	3	Routine Operations to maintain process functionality
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	25	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 125,000						$ 125,000
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 125,000	$ -	$ -	$ -	$ -	$ -	$ 125,000

5 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Standby Power Reliability Project**
Dept.: Treatment
5 yr. Cap Projection: $730,000
CY Budget $730,000
GL Account:

Contact: Treanor
Area Standby Power
Asset Type: Process Equip (Gas)
Avg Useful Life: 30 years
Est Residual Life: 1 year
% Consumed Life: 100%
Category: Capital Equipment
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

This project would involve purchasing a trailer mounted 750kW generator to serve as a full capacity backup to the existing standby system in case the existing 750kW generator were to fail. The Main Switchgear would be reprogrammed to run off one generator with a standby (instead of the current split bus system). This would allow removal of the existing 450kW generator (which has obsolete controls and is not capable of powering the entire WWTP if the 750kW were to fail during a power outage).

Year Built: 1970
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

The existing 450kW generator has controls which are obsolete and can no longer be maintained. The District currently has two standby generators that power a portion of the treatment plant (split system). The generators are not fully redundant and no reliability in the current two generator system. Only the 750kW generator can run the entire WWTP. The 450kW generator can't run the entire plant and would trip out if it was switched to provide load to the whole switchgear. To improve reliability CAWD would like to decommission the 450kW generator and run the plant entirely off the existing 750kW generator. To improve fault tolerance a trailer mounted 750kW generator would be purchased in this project to serve as a fully redundant backup to the existing 750kW generator.

The existing 450kW generator has experienced mechanical issues this past year. In October 2018 it failed to start. Parts were difficult to obtain and will only be increasingly so.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact		
Safety COF	9	Major Health Risk (Chronic/Long Recovery) or Death
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	43	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 50,000						$ 50,000
Engineering		$ 25,000						$ 25,000
Parts & Supplies		$ 655,000						$ 655,000
Chemicals		-						$ -
Utility								$ -
Other								$ -
Total		$ 730,000	$ -	$ -	$ -	$ -	$ -	$ 730,000

6 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Aeration Basin Improvements**
Dept.: Treatment
5 yr. Cap Projection: $ 140,000.00
CY Budget $ 140,000.00
GL Account:

Contact: Treanor
Area Aeration Basins
Asset Type: Process Equip (Liquid)
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life: N/A
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Aeration Basins and Blower System need repairs. The inlet slide gates to basins 5 and 6 are broken and staff believes there may be a small leak in the underground blower air piping. The aeration process is inefficient in denitrification and baffles are planned to be installed to reduce short circuiting and extend the anaerobic sections of the aeration basins.

Year Built: 1992
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: 15 years
Asset Condition Rating: 6

Justification

The aeration system including the blowers is critical for treating the wastewater to remove BOD and other nutrients such as nitrites that effect the chlorination system and the downstream membrane facilities. This project has been developed to fix some broken components (slide gates and potential leak in underground blower air line) and to improve the efficiency of the aeration system to improve water quality.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	30	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 50,000						$ 50,000
Engineering								$ -
Parts & Supplies		$ 90,000						$ 90,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ 140,000

7 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **WWTP Perimeter Tree Planting**
Dept.: Treatment
5 yr. Cap Projection: $120,000
CY Budget $60,000
GL Account:

Contact: Treanor
Area
Asset Type: N/A
Avg Useful Life: 100 years
Est Residual Life: 50 years
% Consumed Life: 50%
Category: Capital Improvement
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

Planning and landscaping around the treatment plant. This will include looking into possibly replacing the non-native eucalyptus trees around the perimeter of the treatment plant with native tree species. The project will start with a study and plan to determine costs, sequencing schedule, and visual impacts.

Year Built: 1970s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 5 Moderate Deterioration

Justification

The trees surrounding the treatment plant are 40 years old. There is a need to have a long term plan for these trees which could include replacement with native species over the next 20 years to provide an environmental benefit to the surrounding area. Staff currently has a maintenance schedule for trimming the existing eucalyptus which is a costly activity due to the number of trees and the height. The current study will evaluate the long term feasibility and benefits/disadvantages of using native trees as a visual screen instead of the eucalyptus.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	9	Major Health Risk (Chronic/Long Recovery) or Death
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	20	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget
Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 60,000			$ 60,000		$	120,000
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other							$	-
Total		$ 60,000	$ -	$ -	$ 60,000	$ -	$ -	$ 120,000

8 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Perimeter Fencing**
Dept.: Treatment
5 yr. Cap Projection: $150,000
CY Budget $150,000
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: Structure
Avg Useful Life: 25 years
Est Residual Life: 0 years
% Consumed Life: 100%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Fencing around the Treatment Plant facility has deteriorated and should be replaced. Replacement of fencing around Treatment Plant with 8' chain link.

Year Built: 1970s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 8

Justification

This work is necessary to maintain security of the WWTP site.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF		
Total COF:	7	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 50,000						$ 50,000
Engineering								$ -
Parts & Supplies		$ 100,000						$ 100,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ 150,000

9 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Cathodic Protection Testing and Maintenance**
Dept.: Treatment
5 yr. Cap Projection: $130,000
CY Budget $30,000
GL Account:

Contact: Treanor
Area Yard Piping
Asset Type: Process Equip (Liquid)
Avg Useful Life: 50 years
Est Residual Life: 25 years
% Consumed Life: 50%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Cathodic protection is used to protect the Outfall Pipe, and Influent Piping. It is a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell. A simple method of protection connects the metal to be protected to a more easily corroded "sacrificial metal" to act as the anode. The sacrificial metal then corrodes instead of the protected cathode metal. The District will continue to test the Cathodic protection system as necessary to maintain knowledge of the condition of the critical underground process piping.

Year Built: 1970s, 1980s, 1990s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 3 Minor Defects Only

Justification

Underground process piping is difficult to assess due to the fact that it is buried and not visible. Maintaining the cathodic protection system helps to mitigate the chances of failure due to corrosion. Testing the cathodic protection system allows staff to understand how corrosion may be effecting buried infrastructure. Testing the cathodic protection system provides some information that is useful, but it doesn't provide all information needed to determine the condition of buried piping.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	32	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget
Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering		$30,000				$100,000	$	130,000
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ 30,000	$ -	$ -	$ -	$ 100,000	$ -	$ 130,000

10 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Lunch Room MCC Replace with Panelboard (Collection xx%)**
Dept.: Treatment
5 yr. Cap Projection: $140,000
CY Budget $0
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: Electrical
Avg Useful Life: 25 years
Est Residual Life: 1 year
% Consumed Life: 100%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Lunch Room MCC is a remnant of when this building used to be used for chlorine feed and also as a lab. Now this building is a lunch room and doesn't need 480V power. This project would replace the existing 480V MCC in the lunch room with a 120V panelboard more suitable for this building.

Year Built: 1950s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 8

Justification

The existing MCC is past its useful life and no longer appropriate as electrical equipment for this building.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	5	Minor Injury/Health Risk (Readily Treatable)
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	14	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor			$ 30,000					$ 30,000
Engineering			$ 20,000					$ 20,000
Parts & Supplies			$ 90,000					$ 90,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ 140,000	$ -	$ -	$ -	$ -	$ 140,000

11 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Chlorine Contact Channel Pipe Gallery Rehab**
Dept.: Treatment
5 yr. Cap Projection: $44,000
CY Budget $0
GL Account:

Contact: Treanor
Area Chlor/Dechlor Bldg.
Asset Type: Process Equip (Liquid)
Avg Useful Life: 40 years
Est Residual Life: 15 years
% Consumed Life: 62%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Chlorine Contact Channel Pipe Gallery Piping is welded steel and subject to external corrosion in certain locations that are damp or subject to galvanic corrosion. This project would involve recoating of the piping to mitigate pinhole corrosion.

Year Built: 1980s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 6

Justification

The Chlorine Contact Channel piping conveys all of the secondary treated water to the chlorination process. Failure of this piping would result in emergency repairs having to be done and potential permit violations.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	3	Short Duration, Small qty. Event Onsite: No Complaints
Permit/Environmental COF	5	Violate Weekly Average Effluent Limitation
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	41	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor			$ 22,000					$ 22,000
Engineering								$ -
Parts & Supplies			$ 22,000					$ 22,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ 44,000	$ -	$ -	$ -	$ -	$ 44,000

12 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Plant Paving, Vault Lids, and Drainage**
Dept.: Treatment
5 yr. Cap Projection: $200,000
CY Budget $0
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: N/A
Avg Useful Life: 35 years
Est Residual Life: 15 years
% Consumed Life: 62%
Category: Maintenance
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

Asphalt and drainage improvements inside the treatment plant grounds. Replacement of failing vault lids in various locations.

Year Built: Various
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 7 Significant Deterioration

Justification

The WWTP paved areas are used for vehicle and equipment movement around the plant, pavement and drainage needs to be maintained to provide for efficient movement around the WWTP. There are numerous vault lids in paved and unpaved areas that have broken hinges and therefore are unsafe to open and close to do inspections and operations work.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	20	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$	25,000		$	75,000	$	100,000
Engineering							$	-
Parts & Supplies		$	25,000		$	75,000	$	100,000
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$	50,000	$ -	$ -	$ 150,000	$ -	$ 200,000

13 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Lagoon Crossing Rehabilitation**
Dept.: Treatment
5 yr. Cap Projection: $400,000
CY Budget $0
GL Account:

Contact: Treanor
Area Outfall
Asset Type: Structure
Avg Useful Life: 50 years
Est Residual Life: 15 years
% Consumed Life: 70%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

Rehabilitation of Lagoon Crossing Structure. Project may include driving a new set of piles in the middle of the lagoon to maintain the existing structure long term.

Year Built: Various
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 6

Justification

The Outfall Pipeline and Calle La Cruz Forcemain are in acceptable condition. Two pile bents in the middle of the lagoon could be at risk of failure during high storm flow velocities. Long term rehabilitation would address any structural deficiencies.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	1	No change in Process Functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	41	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget
Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies				$ 400,000				$ 400,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ 400,000	$ -	$ -	$ -	$ 400,000

14 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **RAS Pump/Piping Rehab**
Dept.: Treatment
5 yr. Cap Projection: $100,000
CY Budget $0
GL Account:

Contact: Treanor
Area RAS Pump Bldg.
Asset Type: Pipe (Process Exposed)
Avg Useful Life: 30 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

The RAS Pump and Piping in the basement of the RAS building are currently abandoned after the Phase 1 project installed two new pumps. One pump and some piping were kept in case CAWD wanted to add redundancy to the RAS Pumping system. This project would rehabilitate a small amount of piping and connect the old pump to the new MCC to serve as a backup RAS pump.

Year Built: Various
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 6

Justification

RAS pumping is critical to the secondary process. A small investment in rehabilitation of the old pump would provide additional redundancy.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	10	Sustained Event impacting offsite, Media Attention, Minor Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	1	No change in Process Functionality
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	41	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor				$ 40,000				$ 40,000
Engineering				$ 15,000				$ 15,000
Parts & Supplies				$ 45,000				$ 45,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ -	$ 100,000

15 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Main Potable Water and Gas Main Replacement**
Dept.: Treatment
5 yr. Cap Projection: $200,000
CY Budget $0
GL Account:

Contact: Treanor
Area Yard Piping
Asset Type: Pipe (Misc.)
Avg Useful Life: 30 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

The potable water and natural gas feed into the plant currently go through the existing under river encasement. The condition of these pipelines are unknown. Schedule 80 PVC piping is not to code.

Year Built: 1980s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 6

Justification

The potable water and natural gas utility lines entering the plant are critical to the day to day operations at the WWTP and CAWD is budgeting to potentially install new lines.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	5	Short Duration; Small qty Event Offsite; Small no. of Complaints
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	32	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget — Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor						$ 50,000		$ 50,000
Engineering					$ 50,000			$ 50,000
Parts & Supplies					$ 50,000	$ 50,000		$ 100,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 100,000	$ 100,000	$ -	$ 200,000

16 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Microturbine Integration Project**
Dept.: Treatment
5 yr. Cap Projection: $510,000
CY Budget $0
GL Account:

Contact: Treanor
Area Digester Control Bldg.
Asset Type: Process Equip (Gas)
Avg Useful Life: 20 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 4 = Less Important
Carry Forward: No

Asset Description

Additional Upgrades to the Microturbine system to integrate the new 60 kW turbine. Upgrades would include a new gas conditioning system with greater capacity to handle more gas.

Year Built: 2010s
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 6

Justification

The Microturbine Gas Conditioning System is in poor condition. The gas compressor failed this year and is being replaced. The gas conditioning system has many components that are in poor condition and therefore it may be more cost effective to build a complete package system instead of continuing to fix minor components and have extended outages of the microturbine energy production due to component failures. Going with a new package system would be an improvement over the existing system which is not integrated. Also, a new gas conditioning system could be sized so that the microturbines could operate at maximum production given that a larger 60kW generator was installed recently.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	3	Minor Inconvenience
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	16	Probability of Failure: High

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$ 160,000						$ 160,000
Engineering		$ 30,000						$ 30,000
Parts & Supplies		$ 320,000						$ 320,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ 510,000	$ -	$ -	$ -	$ -	$ -	$ 510,000

17 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Replace Older Turblex Blower**
Dept.: Treatment
5 yr. Cap Projection: $530,000
CY Budget $0
GL Account:

Contact: Treanor
Area Blower Bldg.
Asset Type: Process Equip (Gas)
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 5 = Future
Carry Forward: No

Asset Description

Continuous air supply is a critical component for aeration processes within wastewater treatment. A reliable low pressure blower system with full redundancy is essential to provide continuous operation of the critical aeration process. This project will include evaluating installation of a smaller blower, or replacement of the Lamson blower that was installed in the 1970's.

Year Built: 1972, 1992
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 7 Significant Deterioration

Justification

Two blowers are required to provide redundancy for the aeration process. The new turblex blower was installed in 2017 and is currently the lead blower. The old turblex blower will have been in service 25 years in 22/23 and may need to be replaced since it will be at its average useful life. If it is determined that energy savings could benefit the District during low flow periods, a smaller blower may be proposed.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	9	Cannot be down 8 hours
Safety COF	5	Minor Injury/Health Risk (Readily Treatable)
Spill/Odor/Noise COF	5	Short Duration; Small qty Event Offsite; Small no. of Complaints
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	40	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor					$ 100,000			$ 100,000
Engineering								$ -
Parts & Supplies					$ 430,000			$ 430,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ 530,000	$ -	$ -	$ 530,000

18 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Roofing Repairs**
Dept.: Treatment
5 yr. Cap Projection: $90,000
CY Budget $0
GL Account:

Contact: Treanor
Area Various
Asset Type: Structure
Avg Useful Life: 25 years
Est Residual Life: 1 year
% Consumed Life: 40%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Operations Building, Influent Building, and the Headworks control room have concrete roofs with an asphaltic built up roofing system common to commercial buildings. The asphaltic roof system can degrade over time which allows rainwater to leak onto the concrete roof which is not water tight. The concrete structure of the roof will not need to be repaired, just the water barrier on top.

Year Built: 1990
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 4

Justification

During the rainy season water can leak through an old asphaltic roof system resulting in potential water intrusion into buildings with equipment and personnel. Maintaining water tight roofs avoids any damage to equipment or safety issues created by pooling water indoors.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	5	Cannot be down a week
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	14	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor						$ 45,000		$ 45,000
Engineering								$ -
Parts & Supplies						$ 45,000		$ 45,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 90,000	$ -	$ 90,000

19 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Influent Pump Station Wet Well Repairs**
Dept.: Treatment
5 yr. Cap Projection: $90,000
CY Budget $0
GL Account:

Contact: Treanor
Area Influent Building
Asset Type: Structure
Avg Useful Life: 50 years
Est Residual Life: 20 years
% Consumed Life: 40%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The influent wet well provides storage during pumping of plant influent to the Headworks. The wet well is subject to corrosive conditions which degrade concrete over time and if left unchecked the corrosion can extend into the rebar which is much more expensive to repair than the outer concrete layer.

Year Built: 1982
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 6

Justification

The influent wet well is a critical component of the conveyance of the raw wastewater to the treatment system. Repairing the concrete as a preventative maintenance activity avoids degradation of reinforcing steel which would be much more costly to repair and damaging to the structural integrity. This wet well was identified in the asset management risk evaluations as being a candidate for repairs in the near term due to Consequence of Failure and Probability of Failure.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	49	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor						$ 55,000		$ 55,000
Engineering								$ -
Parts & Supplies						$ 35,000		$ 35,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 90,000	$ -	$ 90,000

20 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Maintenance Storage Containers**
Dept.: Treatment
5 yr. Cap Projection: $175,000
CY Budget $0
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: N/A
Avg Useful Life: 40 years
Est Residual Life: 40 years
% Consumed Life: N/A
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: No

Asset Description

The maintenance department requires storage onsite for inventory, and for mechanical maintenance consumables such as grease and oil. Recently various storage containers have been used and located around the plant for onsite storage and other portable plastic containment sheds have been used for grease and oil storage near the Maintenance Building. This project would include purchase of additional sea containers for storage of grease and oil, and centralizing all of the storage containers in one area to improve efficiency and organization of inventory and consumables storage.

Year Built: N/A
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: N/A

Justification

The sea containers that are currently used for storage of inventory are located at the back of the plant and are inefficient to use because they are located far from the rest of the maintenance and inventory storage areas. Furthermore, the existing plastic sheds used to store oil and grease are difficult to use because the doors seize up and access is inefficient. This project is intended to improve efficiency of maintenance work by centralizing inventory storage in a central sea container area and add sea containers that are designed for storing oil and grease.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	1	No Cost
Total COF:	6	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering						$175,000		$ 175,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 175,000	$ -	$ 175,000

21 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Plant Bridge Retrofit Project**
Dept.: Treatment
5 yr. Cap Projection: $100,000
CY Budget $0
GL Account:

Contact: Treanor
Area N/A
Asset Type: Structure
Avg Useful Life: Over 50 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 5 = Future
Carry Forward: No

Asset Description

CAWD owns a pedestrian bridge over the Carmel River that continues to be a valuable asset for staff to access the North side of the river where CAWD maintains our natural gas service and also main trunk system lines. The fact that the bridge is intact after almost 90 years of service with essentially no maintenance is an indication of the quality of the construction. However, the bridge was evaluated by a structural design firm in 2011 and was found to have deficiencies during a large seismic event and vulnerable if it is hit by a large tree during an extreme flood event. If this structure could be rehabilitated it could potentially be used in the future as a pedestrian bridge for potential future coastal scenic walking trails connecting the State Park to

Year Built: 1930s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 7 Significant Deterioration

Justification

The bridge over the river is currently of value to the District in terms of access to assets on the North side of the river and also for access to the WWTP from the North if the plant access road is flooded. Maintaining this bridge is possible. Building a bridge like this today would be extremely costly compared to the cost to rehabilitate the existing bridge. Also, there may be value to the community in the future for coastal trails. Allowing this asset to fall into disrepair could end up being regretful due to the benefits now and potentially in the future.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	9	Major Health Risk (Chronic/Long Recovery) or Death
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	1	No Cost
Total COF:	14	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering						$100,000	$300,000	$ 400,000
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 300,000	$ 400,000

22 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Digester No. 1 - Rehabilitation**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Digesters
Asset Type: Process Equip (Solid)
Avg Useful Life: Over 50 years
Est Residual Life: 25 years
% Consumed Life: 50%
Category: Maintenance
Urgency: 2 = Very Important
Carry Forward: No

Asset Description

Digester #1 is one of two digesters which serve the treatment plant. This tank is essential to providing digestion process redundancy. This digester needs maintenance to the cover and the walls. After the Digester has been cleaned it will be inspected to determine the extent of interior repairs that are necessary.

Year Built: 1972
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

The Digester tanks are critical for stabilization of sludge before dewatering to meet Class B biosolids disposal regulations. CAWD has two functional primary digesters that are intended for long term service. The two tanks are necessary for redundancy so treatment can be maintained during maintenance of one digester. Digester 1 needs repairs to concrete walls and to the steel cover to keep this tank in good condition. Delaying this work would result in more expensive repairs being required in the future.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	34	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$ 250,000	$ 250,000
Engineering							$100,000	$ 100,000
Parts & Supplies							$ 310,000	$ 310,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 660,000	$ 660,000

23 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Operations Building HVAC and Plumbing Systems Repairs**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Digesters
Asset Type: Process Equip (Solid)
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Operations Building provides staff work area with workstations for operators, contains a conference room that is used frequently, houses the main computer and SCADA servers for the treatment plant, and houses the main electrical switchgear. The HVAC system will need to be replaced for this building including heating and air conditioning, and the louvers in the switchgear room need to be replaced to keep salt air out of the electrical room. Also, the basement plumbing needs to be renovated.

Year Built: 1972
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

The Operations Building houses several critical systems of the WWTP including the main electrical switchgear and the main computer and SCADA servers. Keeping the air quality in the building cool and dry will extend the life of these expensive assets. Improving the HVAC systems in this building will improve the indoor air quality and will keep the switchgear and SCADA equipment in good condition.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	34	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$ 50,000	$ 50,000
Engineering							$ 15,000	$ 15,000
Parts & Supplies							$ 90,000	$ 90,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 155,000	$ 155,000

24 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Septage Waste Receiving Station**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: Support Equipment
Avg Useful Life: 30 years
Est Residual Life:
% Consumed Life: 0%
Category: Capital Improvement
Urgency: 5 = Future
Carry Forward: No

Asset Description

Construction of a new Wet Waste/Septage receiving station to be located adjacent to the new Digester. Station would be able to receive up to 10,000gal/day (2 tankers of ~ 5,000 gal size) of material and would be injected directly into the Digester to avoid increasing the biological load on the aeration system.

Year Built: N/A
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: N/A

Justification

Preliminary design of a septage receiving facility was conducted by Kennedy/Jenks Consultants and it was concluded that the construction of this facility would pay for itself in revenue in about 10 years. Staff feels that this service would be a good source of revenue and will benefit local septic haulers in that they wouldn't have to drive as far to dispose of the waste. Adding a septage receiving facility is not critical to the operation of the treatment plant or to improving reliability. The existing grease receiving station can be utilized for food waste but not for septage. This project can be re-evaluated every couple of years to see if there is merit or desire for CAWD to provide septage receiving.

There is potential to build a partnership with PSTS - the hauling service headquartered in Carmel Valley. Currently they are hauling to Monterey 1 Water; however, they acknowledge they would save money in fuel costs and labor if they could dispose of septage at a closer facility.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	1	No Cost
Total COF:	6	Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	25-26	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$500,000	$ 500,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000

25 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Staff Office Trailer Replacements**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Misc. Structures
Asset Type: Structure
Avg Useful Life: 25 years
Est Residual Life: 5 years
% Consumed Life: 80%
Category: Capital Equipment
Urgency: 3 = Important
Carry Forward: No

Asset Description

Staff currently use mobile trailers for office space at the WWTP. All of the trailers require repeated maintenance to fix leaks in the siding when it rains. It is anticipated that in about 8 to 10 years these trailers will need to be replaced or undergo extensive repairs due to age.

Year Built: 2010
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: 7 Significant Deterioration

Justification

About 7 staff members at the WWTP use office trailers as their daily workspace. These trailers are critical for these staff to do their work and so they need to be maintained or replaced.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	3	Cannot be down a month
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	5	Maintaining Process Functionality requires staff divert from other work
Cost COF	1	No Cost
Total COF:	12	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	26-27	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 300,000	$ 300,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 300,000	$ 300,000

26 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Ocean Outfall Rehabilitation**
Dept.: Treatment
Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Outfall
Asset Type: Structure
Avg Useful Life: 50 years
Est Residual Life: 20 years
% Consumed Life: 60%
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The outfall pipeline was installed in the 1970s and has experienced a break only one time - in 2007. That break in the pipeline cost $647,504 to repair. The cause of the break remains unknown. Repair to the WWTP outfall in the event annual inspections reveal a defect or emergency repair as a result of storm damage. This item is being scheduled for 29/30 but the actual timeframe will depend on ongoing inspections of the outfall.

Year Built: 1970
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 2

Justification

The ocean outfall is a critical asset to the NPDES permit as the diffusion in the outfall is required by the permit to meet the initial dilution requirements. The design of the outfall appears to be very good in that it is bedded on the granite shelf and the ocean-facing side is concrete encased for protection.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	7	Cannot be down 1 day
Safety COF	5	Minor Injury/Health Risk (Readily Treatable)
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	7	Violate Monthly Average Effluent Limitation or Fail Class B Biosolids
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	7	Emergency Contractor Needed to Address Failure (less than $500,000)
Total COF:	34	Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	29-30	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 1,000,000	$ 1,000,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ 1,000,000

27 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Next Generation PLC/SCADA Upgrades Phase 1**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area
Asset Type: SCADA
Avg Useful Life: 15 years
Est Residual Life: 15 years
% Consumed Life:
Category: Maintenance
Urgency: 5 = Future
Carry Forward: No

Asset Description

Upgrades to PLC and SCADA equipment to keep up with obsolescence of technology. Most likely PLC equipment and SCADA software currently installed will be obsolete in 15 years with newer technology providing better service.

Year Built: 1972
Rehabilitation Date (Extending life of Asset): Jul-17
Rehab Life Extension: 25
Asset Condition Rating: 2

Justification

SCADA software and PLC equipment are critical to the monitoring and operation of the WWTP. These assets can fail and the availability of replacement parts is a driver for replacement as technology changes.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	7	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF	7	Maintaining Process Functionality Requires Emergency Outside Assistance
Cost COF	5	Major In-House Repair Work less than $25,000
Total COF:	45	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget — Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	33-34	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 500,000	$ 500,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000

28 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Air Monitoring**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area
Asset Type: Instrumentation
Avg Useful Life: 10 years
Est Residual Life:
% Consumed Life: 0%
Category: Maintenance
Urgency: 5 = Future
Carry Forward: No

Asset Description

Installation of air quality sampling equipment to be connected via WIFI so that data can be web enabled. Air quality equipment and specifications will be specified by Monterey Bay Air Quality Board so that data can be correlated with local databases. Includes purchase of equipment, installation, web enabled programing and research needed to reduce ongoing costs.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating:

Justification

Board of Directors discussion in 2016 resulted in the Board request to include investigation into air quality monitoring. Air quality data gathered will be site specific and can be utilized to develop a correlation between employee respiratory health and air quality. In addition, any data gathered on site can be compared to other regional air quality monitors to view any variations. No health issues have been reported or are identified. This proposal was developed from a discussion on preventative illness.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	1	Can be out of service indefinitely
Safety COF	1	No impact to Safety
Spill/Odor/Noise COF	1	No Effect on Spills/Odors/Noise
Permit/Environmental COF	1	No Impact to Environment
Process Functionality COF	1	No change in Process Functionality
Cost COF	1	No Cost
Total COF:	6	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management: Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	Unscheduled	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$ 15,000	$ 15,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ 15,000

29 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Sea Level Rise Flood Mitigation**
Dept.: Treatment
Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area
Asset Type: Structure
Avg Useful Life: 50 years
Est Residual Life:
% Consumed Life:
Category: Capital Improvement
Urgency: 3 = Important
Carry Forward: No

Asset Description

Some future work to mitigate impacts of climate change. CAWD completed a sea level rise study in 2018 that indicates that the treatment plant will be vulnerable to increased riverine flooding resulting from climate change. The plant has been designed to operate during floods, however if the base flood elevation increases then improvements would need to be made to mitigate higher flood levels.

Year Built: 1970s - 2010s
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension:
Asset Condition Rating: 2

Justification

Increased riverine flood levels onsite in future extreme sea level rise scenarios could cause NPDES permit violations.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	10	Cannot be down 1 hour
Safety COF	7	Moderate Injury/Health Risk (Short Recovery)
Spill/Odor/Noise COF	9	Short Duration; Large qty Event offsite; Aggressive Complaints; No Property Damage
Permit/Environmental COF	9	Minor Environmental Damage, but Ecosystem can Recover
Process Functionality COF	9	Loss of Process Functionality for less than 1 week
Cost COF	9	Regulatory Fines and Lawsuits + Emergency Contractor Needed (less than $1 Million)
Total COF:	53	Probability of Failure: Low

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other							$	-
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

30 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Misc. Yard Piping Rehab and Maintenance Projects**
Dept.: Treatment
5 yr. Cap Projection: $450,000
CY Budget $90,000
GL Account:

Contact: Treanor
Area Various
Asset Type: Pipe (Process Buried)
Avg Useful Life: 50 years
Est Residual Life:
% Consumed Life:
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

After inspections of select buried piping segments that have a high consequence of failure, it may be found that the buried pipeline should be rehabilitated. An allowance is estimated for rehabilitation of buried piping in the WWTP.

Buried piping with a high consequence of failure and selected for possible rehabilitation include:
#1 Water Distribution Piping, #3 Water Distribution Piping, Natural Gas Piping, Influent Piping, Secondary Clarifier #1 Effluent Piping, Piping between the Headworks and Primary Clarifiers

Year Built: Various
Rehabilitation Date (Extending life of Asset):
Rehab Life Extension: 30
Asset Condition Rating: 5 Moderate Deterioration

Justification

Piping level of service to carry fluids, gas or chemicals without leaks or breaks. Leaks and breaks should be proactively mitigated to avoid spills to the environment.

Failure Modes Addressed:
1. Lack of proactive failure mitigation and condition assessment of buried piping.
2. The condition of buried piping is unknown however due to the prevalent corrosion that can occur in wastewater process piping it is likely that condition issues exist in some buried piping.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact
Safety COF
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF
Cost COF
Total COF:

Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Corrective Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor		$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$ 270,000
Engineering								$ -
Parts & Supplies		$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$ 270,000
Chemicals								$ -
Utility								$ -
Other								$ -
Total		$ 90,000	$ 90,000	$ 90,000	$ 90,000	$ 90,000	$ 90,000	$ 540,000

31 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Influent/Headworks/Primary Rehab and Maintenance Projects**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Various
Asset Type: Various
Avg Useful Life: Various
Est Residual Life: Various
% Consumed Life: Various
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Influent/Headwork/Primary provides removal provides influent conveyance of wastewater and removal of settleable solids. To maintain these facilities in good condition will require future investment in rehabilitation and maintenance activities. The exact work is not known at this time. The budget for this maintenance project work is a small percentage of the replacement cost of these assets as developed in the asset management work.

Year Built: Various
Rehabilitation Date (Extending life of Asset): Various
Rehab Life Extension: Various
Asset Condition Rating: Various

Justification

Exact project work is not known at this time. Investment in maintenance activities to address condition issues will keep existing infrastructure from degrading and requiring major replacement work.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact
Safety COF
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF
Cost COF
Total COF:

Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	25-26	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$100,000	$ 100,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 100,000

32 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **EQ/Blowers/Aeration/Secondary Rehab and Maintenance Projects (Partial Reclamation)**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Various
Asset Type: Various
Avg Useful Life: Various
Est Residual Life: Various
% Consumed Life: Various
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The Blowers/Aeration/Secondary processes provide removal of Biological Oxygen Demand and light settleable solids. To maintain these facilities in good condition will require future investment in rehabilitation and maintenance activities. The exact work is not known at this time. The budget for this maintenance project work is a small percentage of the replacement cost of these assets as developed in the asset management work.

Year Built: Various
Rehabilitation Date (Extending life of Asset): Various
Rehab Life Extension: Various
Asset Condition Rating: Various

Justification

Exact project work is not known at this time. Investment in maintenance activities to address condition issues will keep existing infrastructure from degrading and requiring major

Reclamation share of work will be dependent on whether portion of work is for the benefit of reclamation production. The Equalization (EQ) system and the nitrification optimization systems which are in this area are mostly required by Reclamation.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact
Safety COF
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF
Cost COF
Total COF:

Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary: Capital Budget

Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	25-26	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$200,000	$ 200,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,000	$ 200,000

33 **FY 2019-20 Budget**

Carmel Area Wastewater District

Project Name: **Chlorination/Dechlorination/Effluent Rehab and Maintenance Projects (Partial Reclamation)**

Dept.: Treatment

5 yr. Cap Projection: $0

CY Budget $0

GL Account:

Contact: Treanor

Area Various

Asset Type: Various

Avg Useful Life: Various

Est Residual Life: Various

% Consumed Life: Various

Category: Maintenance

Urgency: 3 = Important

Carry Forward: No

Asset Description

The Chlorination/Dechlorination/Effluent processes provide disinfection and chlorine residual prior to the Reclamation Microfilters and provide inactivation of viruses and bacteria removal prior to discharge to the environment or to the Reclamation Project. To maintain these facilities in good condition will require future investment in rehabilitation and maintenance activities. The exact work is not known at this time. The budget for this maintenance project work is a small percentage of the replacement cost of these assets as developed in the asset management work.

Year Built: Various

Rehabilitation Date (Extending life of Asset): Various

Rehab Life Extension: Various

Asset Condition Rating: Various

Justification

Exact project work is not known at this time. Investment in maintenance activities to address condition issues will keep existing infrastructure from degrading and requiring major

Reclamation share of work will be dependent on whether portion of work is for the benefit of reclamation production. The chlorination systems are interconnected between the Secondary Plant and Reclamation.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact

Safety COF

Spill/Odor/Noise COF

Permit/Environmental COF

Process Functionality COF

Cost COF

Total COF:

Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement

Maintenance Risk Management: Predictive & Preventative Maintenance

Non Asset Risk Management:

Funding Source

Primary: Capital Budget

Secondary:

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	25-26	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$100,000	$ 100,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 100,000

34 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **DAFT/Digestion/Dewatering Rehab and Maintenance Projects (Partial Reclamation)**
Dept.: Treatment
5 yr. Cap Projection: $0
CY Budget $0
GL Account:

Contact: Treanor
Area Various
Asset Type: Various
Avg Useful Life: Various
Est Residual Life: Various
% Consumed Life: Various
Category: Maintenance
Urgency: 3 = Important
Carry Forward: No

Asset Description

The DAFT/Digestion/Dewatering systems provide treatment of sludge and waste streams and removal of solids from the treatment plant. To maintain these facilities in good condition will require future investment in rehabilitation and maintenance activities. The exact work is not known at this time. The budget for this maintenance project work is a small percentage of the replacement cost of these assets as developed in the asset management work.

Year Built: Various
Rehabilitation Date (Extending life of Asset): Various
Rehab Life Extension: Various
Asset Condition Rating: Various

Justification

Exact project work is not known at this time. Investment in maintenance activities to address condition issues will keep existing infrastructure from degrading and requiring major

Reclamation share of work will be dependent on whether portion of work is for the benefit of reclamation production. The DAFT system is used by the Reclamation Project for treatment of MF Backwash and membrane cleaning waste.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact
Safety COF
Spill/Odor/Noise COF
Permit/Environmental COF
Process Functionality COF
Cost COF
Total COF:

Probability of Failure: Medium

Asset Risk Management Strategy

Capital Improvement Risk: Plant Rehabilitation/Replacement
Maintenance Risk Management: Predictive & Preventative Maintenance
Non Asset Risk Management:

Funding Source

Primary Capital Budget

Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	25-26	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other							$100,000	$ 100,000
Total	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 100,000

35 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Coastal Hazards Monitoring Plan**
Dept.: Treatment
5 yr. Cap Projection: See O&M Budget
CY Budget See O&M Budget
GL Account:

Contact: Treanor
Area WWTP
Asset Type: N/A
Avg Useful Life: N/A
Est Residual Life: N/A
% Consumed Life: N/A
Category: Study
Urgency: 3 = Important
Carry Forward: No

Asset Description

Per Coastal Commission - The Coastal Hazards Monitoring Plan shall establish the framework and parameters for: 1) regularly monitoring flood and other coastal hazards at the Plant and management responses, 2) identifying how those hazards are impacting and affecting the operations of the Plant, 3) identifying changes necessary to allow continued appropriate and required functioning of the Plant, 3) identifying changes necessary to allow continued appropriate and required functioning of the plant, 4) identifying flood/hazard "triggers" to establish when actions need to be pursued in response to specific flood/hazard events, and 5) evaluating how area and regional projects regarding flood control projects proposed in the vicinity of the

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: N/A

Justification

This work is being proposed by the California Coastal Commission as part of Coastal Development Permitting

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	N/A
Safety COF	N/A
Spill/Odor/Noise COF	N/A
Permit/Environmental COF	N/A
Process Functionality COF	N/A
Cost COF	N/A
Total COF:	N/A

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other		$35,000					$15,000	$ 50,000
Total		$ 35,000	$ -	$ -	$ -	$ -	$ 15,000	$ 50,000

36 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Life Expectancy Analysis**
Dept.: Treatment
5 yr. Cap Projection: See O&M Budget
CY Budget See O&M Budget
GL Account:

Contact: Treanor
Area WWTP
Asset Type: N/A
Avg Useful Life: N/A
Est Residual Life: N/A
% Consumed Life: N/A
Category: Study
Urgency: 3 = Important
Carry Forward: No

Asset Description

Per Coastal Commission - The analysis to include an evaluation of the annual and long-term costs of maintaining the existing Plant at its current location including maintaining and repairing existing treatment processes and responding to coastal hazards risk (including flood proofing and other flood management activities).

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: N/A

Justification

This work is being proposed by the California Coastal Commission as part of Coastal Development Permitting

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	N/A
Safety COF	N/A
Spill/Odor/Noise COF	N/A
Permit/Environmental COF	N/A
Process Functionality COF	N/A
Cost COF	N/A
Total COF:	N/A

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor							$	-
Engineering							$	-
Parts & Supplies							$	-
Chemicals							$	-
Utility							$	-
Other			$35,000				$	35,000
Total	$ -	$ -	$ 35,000	$ -	$ -	$ -	$ -	$ 35,000

37 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Coastal Hazards Response Plan**
Dept.: Treatment
5 yr. Cap Projection: See O&M Budget
CY Budget See O&M Budget
GL Account:

Contact: Treanor
Area WWTP
Asset Type: N/A
Avg Useful Life: N/A
Est Residual Life: N/A
% Consumed Life: N/A
Category: Study
Urgency: 3 = Important
Carry Forward: No

Asset Description

Per Coastal Commission - A response plan shall build upon the sea level rise work already completed, and the coastal hazards monitoring and WWTP life expectancy analysis. This study shall compare the costs and benefits of maintaining the WWTP in its current location beyond 2049 (including flood mitigation costs) vs relocating the treatment facilities.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: N/A

Justification

This work is being proposed by the California Coastal Commission as part of Coastal Development Permitting

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	N/A		
Safety COF	N/A		
Spill/Odor/Noise COF	N/A		
Permit/Environmental COF	N/A		
Process Functionality COF	N/A		
Cost COF	N/A		
Total COF:	N/A	Probability of Failure:	N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other					$100,000			$ 100,000
Total	$ -	$ -	$ -	$ -	$ 100,000	$ -	$ -	$ 100,000

38 **FY 2019-20 Budget**
Carmel Area Wastewater District

Project Name: **Miscellaneous Technical Studies**
Dept.: Treatment
5 yr. Cap Projection: See O&M Budget
CY Budget See O&M Budget
GL Account:

Contact: Treanor
Area WWTP
Asset Type: N/A
Avg Useful Life: N/A
Est Residual Life: N/A
% Consumed Life: N/A
Category: Study
Urgency: 3 = Important
Carry Forward: No

Asset Description

Technical studies as may be necessary to evaluate technical issues or opportunities at the WWTP.

Year Built: N/A
Rehabilitation Date (Extending life of Asset): N/A
Rehab Life Extension: N/A
Asset Condition Rating: N/A

Justification

Being prepared for opportunities or issue mitigations by advance study/review will allow CAWD to be proactive in management and operation of the WWTP.

Condition Rating / Consequence of Failure (COF)

Loss of Service Impact	N/A
Safety COF	N/A
Spill/Odor/Noise COF	N/A
Permit/Environmental COF	N/A
Process Functionality COF	N/A
Cost COF	N/A
Total COF:	N/A

Probability of Failure: N/A

Asset Risk Management Strategy

Capital Improvement Risk:
Maintenance Risk Management:
Non Asset Risk Management:

Funding Source

Primary Capital Budget Secondary

Budget Impact/Other

	Prior Yr.	19-20	20-21	21-22	22-23	23-24	24-25	Total
Labor								$ -
Engineering								$ -
Parts & Supplies								$ -
Chemicals								$ -
Utility								$ -
Other		$90,000	$90,000	$150,000	$50,000	$150,000	$150,000	$ 680,000
Total		$ 90,000	$ 90,000	$ 150,000	$ 50,000	$ 150,000	$ 150,000	$ 680,000

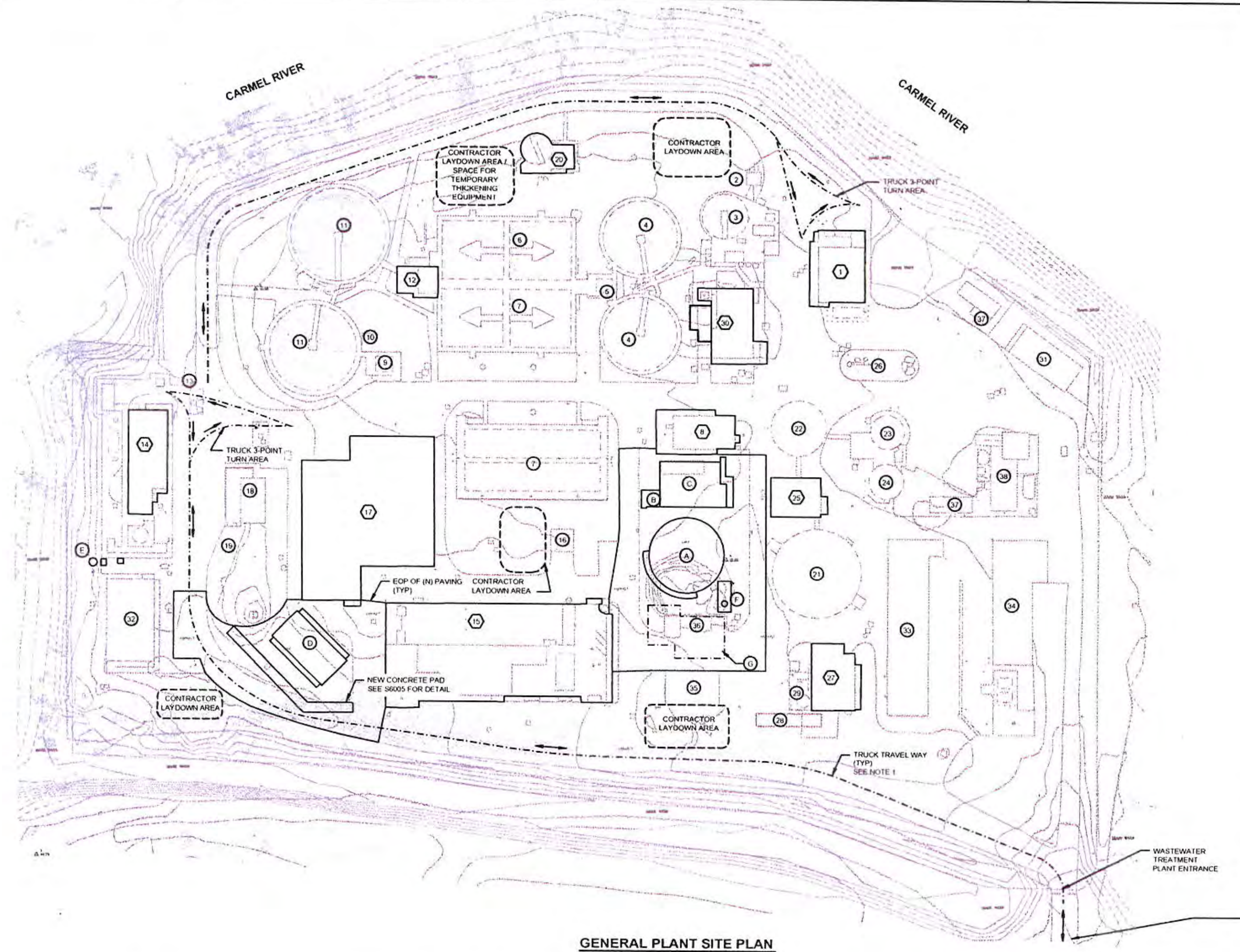
Reclamation

CAWD/PBCSD Reclamation Project

FY 2019/20 *thru* 2024/25

Project #	PROJECT	19/20	20/21	21/22	22/23	23/24	24/25
CAPITAL PROJECTS							
1	Effluent Wet Well Mixing system (50% Recl)	$10,000	$10,000				
2	SCADA Historian/Domain Controller (50% Recl)	$5,622					
3	Dream Report Software for SCADA & LIMS (50% Recl)	$7,999					
4	WWTP Elec/Mech Rehab & Sludge Holding (Design) 4%	$18,000					
5	WWTP Elec/Mech Rehab & Sludge Holding (Construct) 4%	$12,000	$176,000	$156,000			
6	Critical Process Minor Onsite Fllod Adaptations (15% Recl)	$7,500	$7,500				
CAPITAL PURCHASES							
a	Ammonia Distillation Unit (50% Recl)	$8,900					
b	Laboratory Muffle Furnace (50% Recl)		$6,750				
c	Laboratory Ion Chromatograph (90% Recl)		$135,000				
d	Laboratory BOD incubator (50% Recl)			$6,500			
e	Laboratory Autoclave (50% Recl)			$8,000			
	RECLAMATION SHARE TOTAL	**$70,021**	**$335,250**	**$170,500**	**$0**	**$0**	**$0**

Budget Maps



GENERAL PLANT SITE PLAN

0 20 40 60
1"=40'

EXISTING STRUCTURES

1 INFLUENT PUMP STATION / STANDBY GENERATOR BUILDING
2 INFLUENT MANHOLE STRUCTURE
3 HEADWORKS
4 PRIMARY SEDIMENTATION TANKS
5 ANOXIC SELECTOR STRUCTURE
6 EQUALIZATION TANK
7 AERATION BASINS
8 BLOWER BUILDING
9 MIXED LIQUOR DISTRIBUTION STRUCTURE
10 MIXED LIQUOR FLOWMETER VAULT
11 SECONDARY SEDIMENTATION TANKS
12 RAS/WAS PUMP STATION
13 SECONDARY EFFLUENT DIVERSION STRUCTURE
14 CHLORINATION BUILDING
15 TERTIARY BUILDING
16 GYPSUM FEED SILO
17 MICROFILTRATION / REVERSE OSMOSIS FACILITY
18 EFFLUENT PUMP STATION
19 OUTFALL PIPE
20 DISSOLVED AIR FLOTATION THICKENER
21 DIGESTER NO 1
22 OLD DIGESTER NO 2
23 DIGESTER NO 3
24 DIGESTER NO 4 (SLUDGE HOLDING TANK)
25 DIGESTER CONTROL BUILDING
26 WASTE GAS BURNER
27 DEWATERING BUILDING
28 DEWATERED SLUDGE TRUCK PARKING
29 GREASE RECEIVING STATION
30 OPERATIONS BUILDING
31 CONCRETE SLAB
32 LABORATORY
33 VEHICLE STORAGE BUILDING
34 MAINTENANCE SHOP
35 EQUIPMENT STORAGE BUILDING
36 MATERIALS STORAGE BINS
37 OFFICE TRAILER
38 EMPLOYEE BREAK BUILDING

NEW STRUCTURES

A DIGESTER NO 2
B FERRIC CHLORIDE STORAGE
C DIGESTER NO 2 CONTROL BUILDING
D HYPO/SBS STORAGE
E STORMWATER PUMP STATION
F WASTE GAS BURNER

FUTURE STRUCTURES

G FUTURE SEPTAGE/VACTOR RECEIVING STATION

EXISTING STRUCTURES TO RECEIVE NEW WORK

1 INFLUENT PUMP STATION / STANDBY GENERATOR BUILDING
8 BLOWER BUILDING
12 RAS/WAS PUMP STATION
14 CHLORINATION BUILDING
15 TERTIARY BUILDING
17 MICROFILTRATION / REVERSE OSMOSIS PAD
20 DISSOLVED AIR FLOATATION THICKENER
25 DIGESTER CONTROL BUILDING
27 DEWATERING BUILDING
30 OPERATIONS BUILDING

LEGEND

(A) NEW AND FUTURE STRUCTURES
(#) EXISTING STRUCTURES
⟨#⟩ EXISTING STRUCTURES TO RECEIVE NEW WORK

NOTES

1 TRUCK ACCESS IS REQUIRED IN AND OUT OF THE WWTP SITE AS PART OF REGULAR OPERATIONS CONTRACTOR SHALL MAINTAIN ACCESS FOR TRUCKS DURING CONSTRUCTION ALONG THE TRUCK TRAVEL WAYS SHOWN CONTRACTOR SHALL PROVIDE TRENCH PLATES GRAVEL ROADS AND/OR OTHER MEANS OF MAINTAINING TRUCK ACCESS DURING CONSTRUCTION
2 CONTRACTOR TRUCK ACCESS IN AND OUT OF CONSTRUCTION AREAS SHALL BE VIA THE TRUCK TRAVEL WAYS SHOWN EXCEPT AS IS NECESSARY FOR CONSTRUCTION AT THE (E) OPERATIONS BUILDING, (E) BLOWER BUILDING AND (E) INFLUENT BUILDING
3 PROVIDE SIGNAGE TO WARN VEHICLES TRAVELING NORTHBOUND AND SOUTHBOUND ON HIGHWAY 1 OF CONSTRUCTION VEHICLES ENTERING ONTO HIGHWAY 1 FROM THE PLANT ACCESS ROAD THE SIGNAGE SHALL BE INSTALLED NORTHBOUND AND SOUTHBOUND OF THE INTERSECTION OF THE PLANT ACCESS ROAD AND HIGHWAY 1 AT 200 FEET AND 100 FEET FROM THE INTERSECTION A MINIMUM OF 4 SIGNS SHALL BE PROVIDED SIGNS SHALL BE VISIBLE SUCH THAT VEHICLES TRAVELING IN BOTH DIRECTIONS ON HIGHWAY 1 ARE WARNED OF THE INTERSECTION AHEAD AND POSSIBILITY OF CONSTRUCTION VEHICLES ENTERING ROAD
4 REFER TO SPECIFICATION SECTION 01550 FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS

100% DESIGN

NO	REVISION	DATE	BY

SCALES
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY

DESIGNED SJE
DRAWN SJE
CHECKED JMW

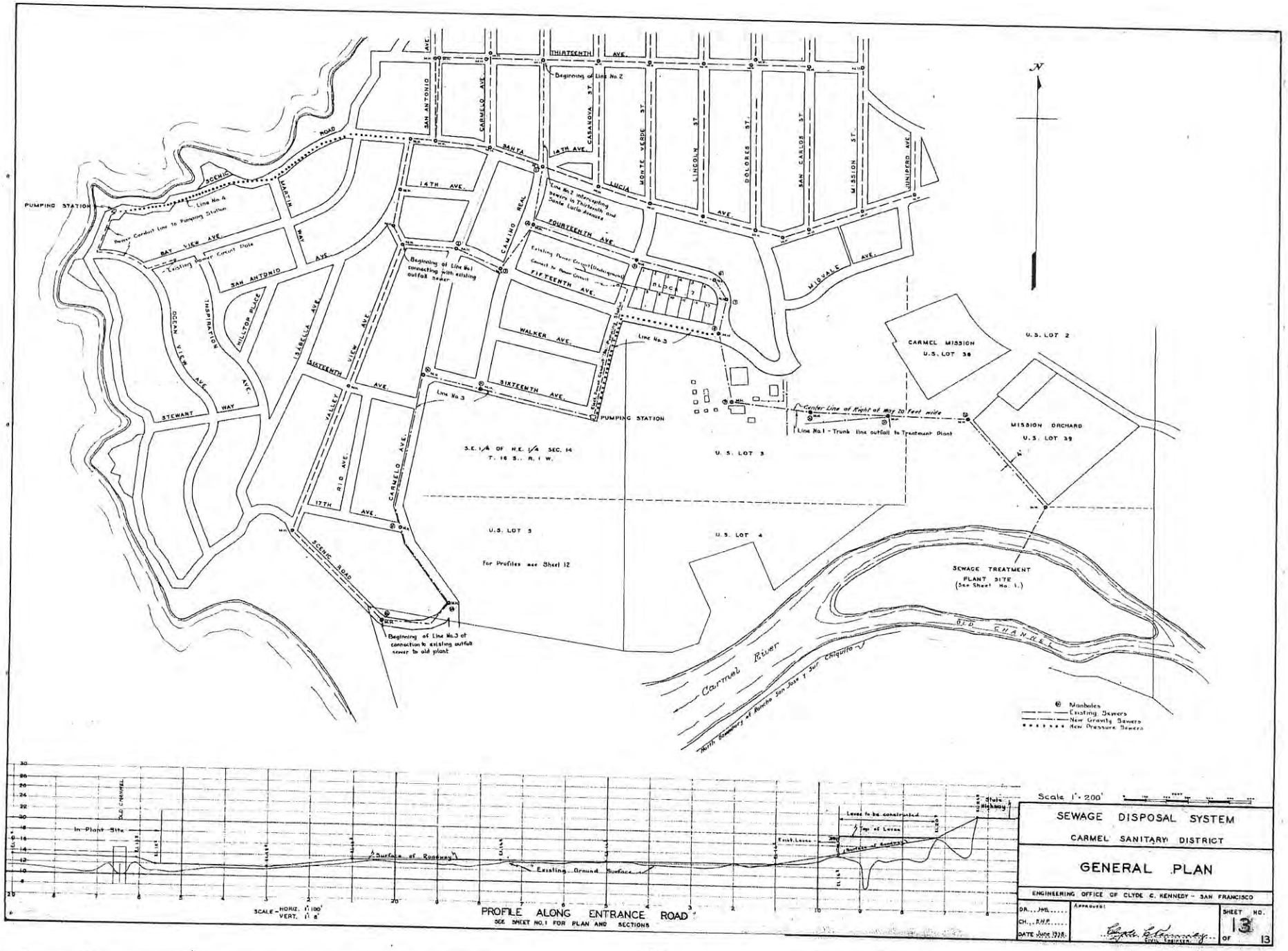
CARMEL AREA WASTEWATER DISTRICT
CARMEL
WWTP REHABILITATION PROJECT - PHASE 1

Kennedy/Jenks Consultants
303 SECOND STREET, SUITE 300 SOUTH, SAN FRANCISCO, CALIFORNIA 94107

GENERAL PLANT SITE PLAN

FILE NAME
JOB NO 1366019.00
DATE JANUARY 2015
SHEET G0007

N:\2013\1366019.00-CAWD-WWTP-Rehab\1366019-G0007.dwg PATRICK TREANOR 11/12/2015 9:07 AM



PROFILE ALONG ENTRANCE ROAD

SEE SHEET NO.1 FOR PLAN AND SECTIONS

Scale 1" = 200'

SEWAGE DISPOSAL SYSTEM

CARMEL SANITARY DISTRICT

GENERAL PLAN

ENGINEERING OFFICE OF CLYDE C. KENNEDY - SAN FRANCISCO

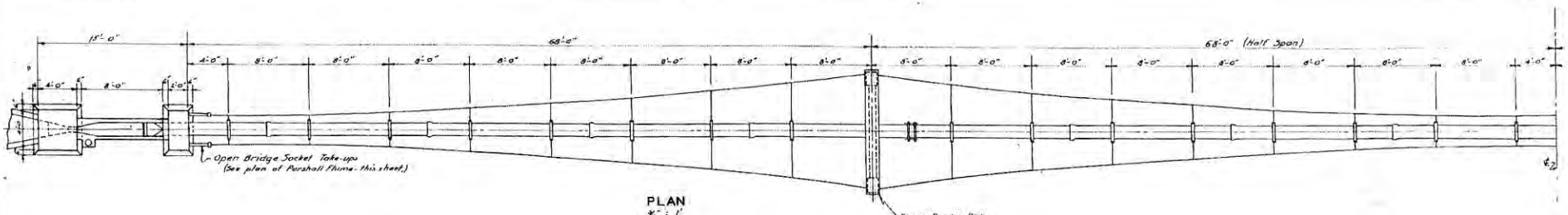
DR. JHL

CH. RHR

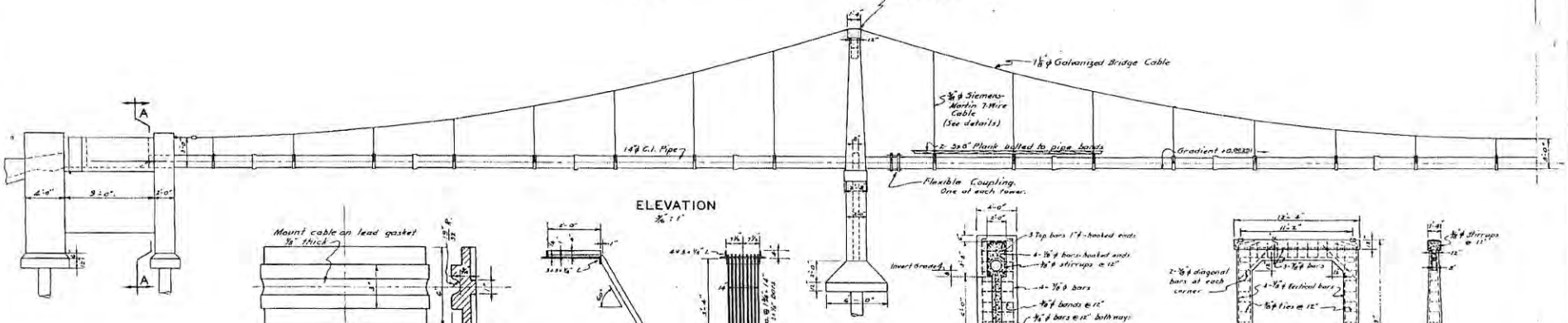
DATE June 1938.

Approved:

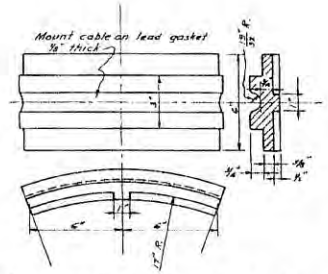
SHEET NO. 13 OF 13



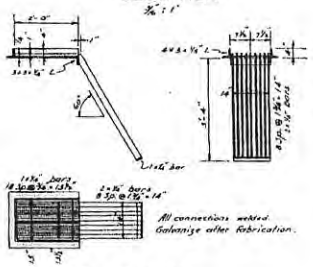
PLAN
3/16" : 1'



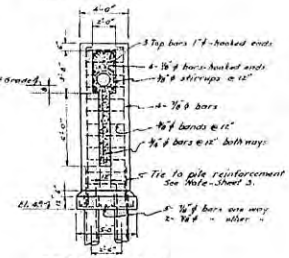
ELEVATION
3/16" : 1'



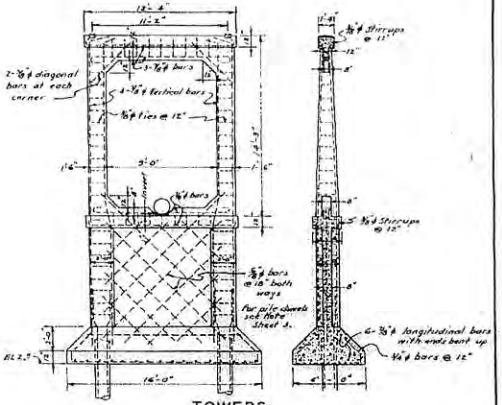
CAST BRONZE BEARING PLATE
4 wanted
3" : 1'



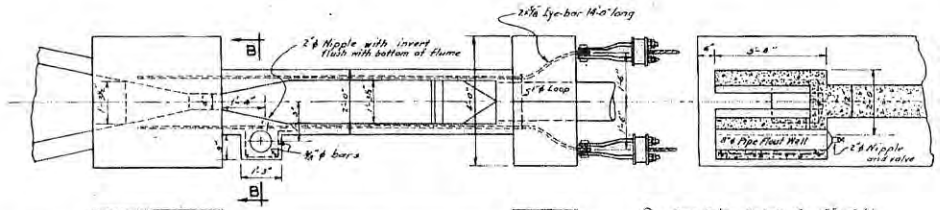
BAR SCREEN
1/2" : 1'

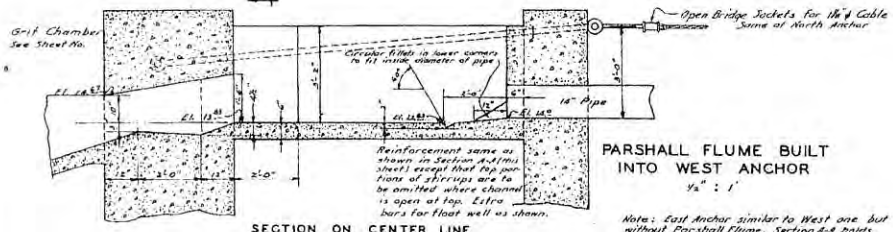


SECTION A - A
3/16" : 1'



TtowERS
3/16" : 1'

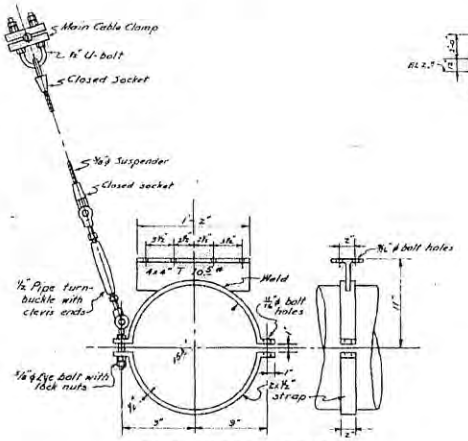




SECTION ON CENTER LINE

PARSHALL FLUME BUILT INTO WEST ANCHOR
1/4" : 1'

Note: East Anchor similar to West one but without Parshall Flume. Section A-A holds for all points between columns and 14" pipe extends through.



PIPE HANGER BANDS AND SUSPENDERS
1 1/2" : 1'
32 wanted

Bolt 2 - 3x8" planks to 4 x 4 - 7" T with 1/2" carriage bolts. Space planks 1 1/2" apart, use planks 16'-0" long and stagger end joints.

SEWAGE DISPOSAL SYSTEM
CARMEL SANITARY DISTRICT

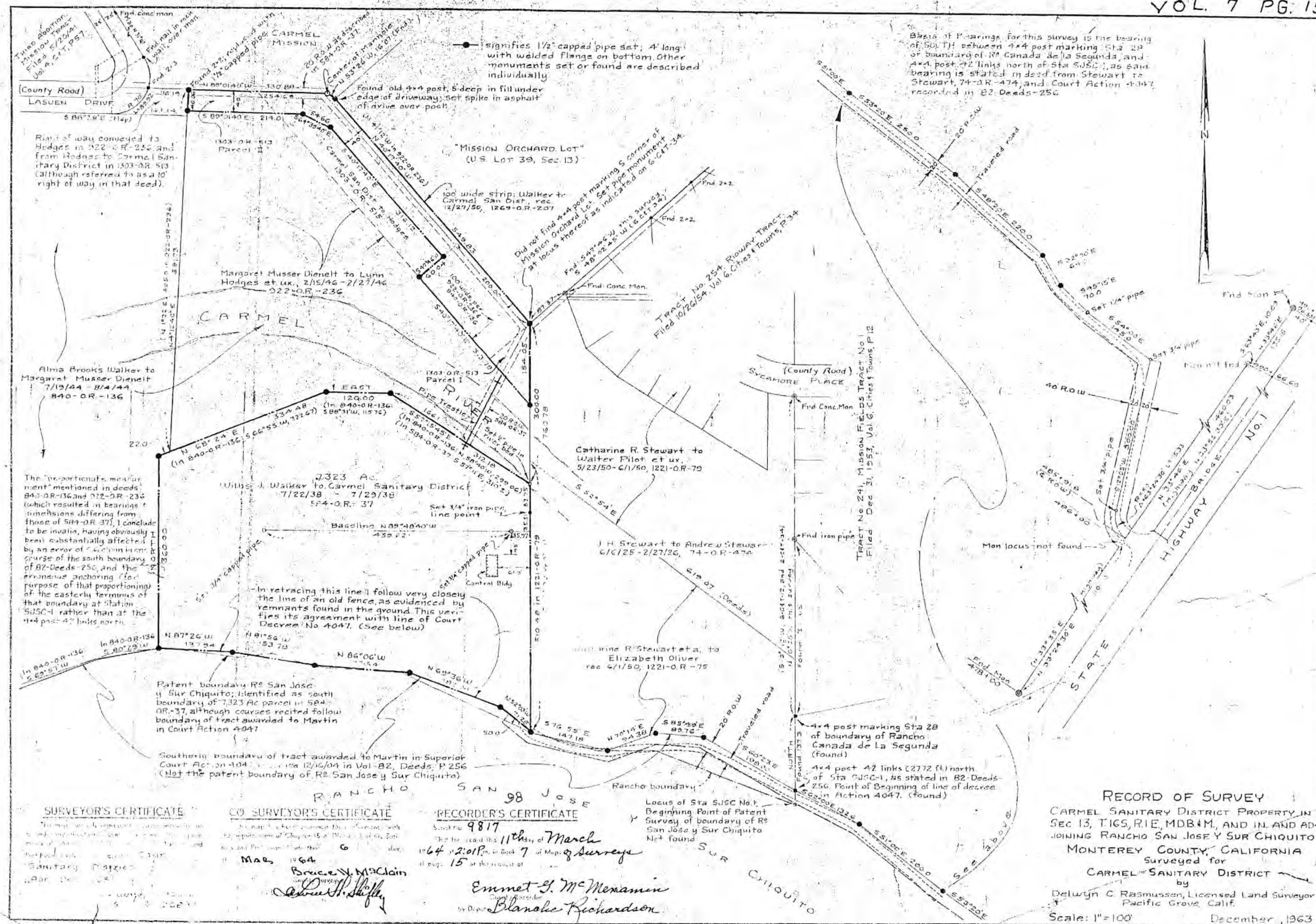
SUSPENSION BRIDGE FOR SEWER CROSSING OVER CARMEL RIVER

ENGINEERING OFFICE OF CLYDE C. KENNEDY - SAN FRANCISCO

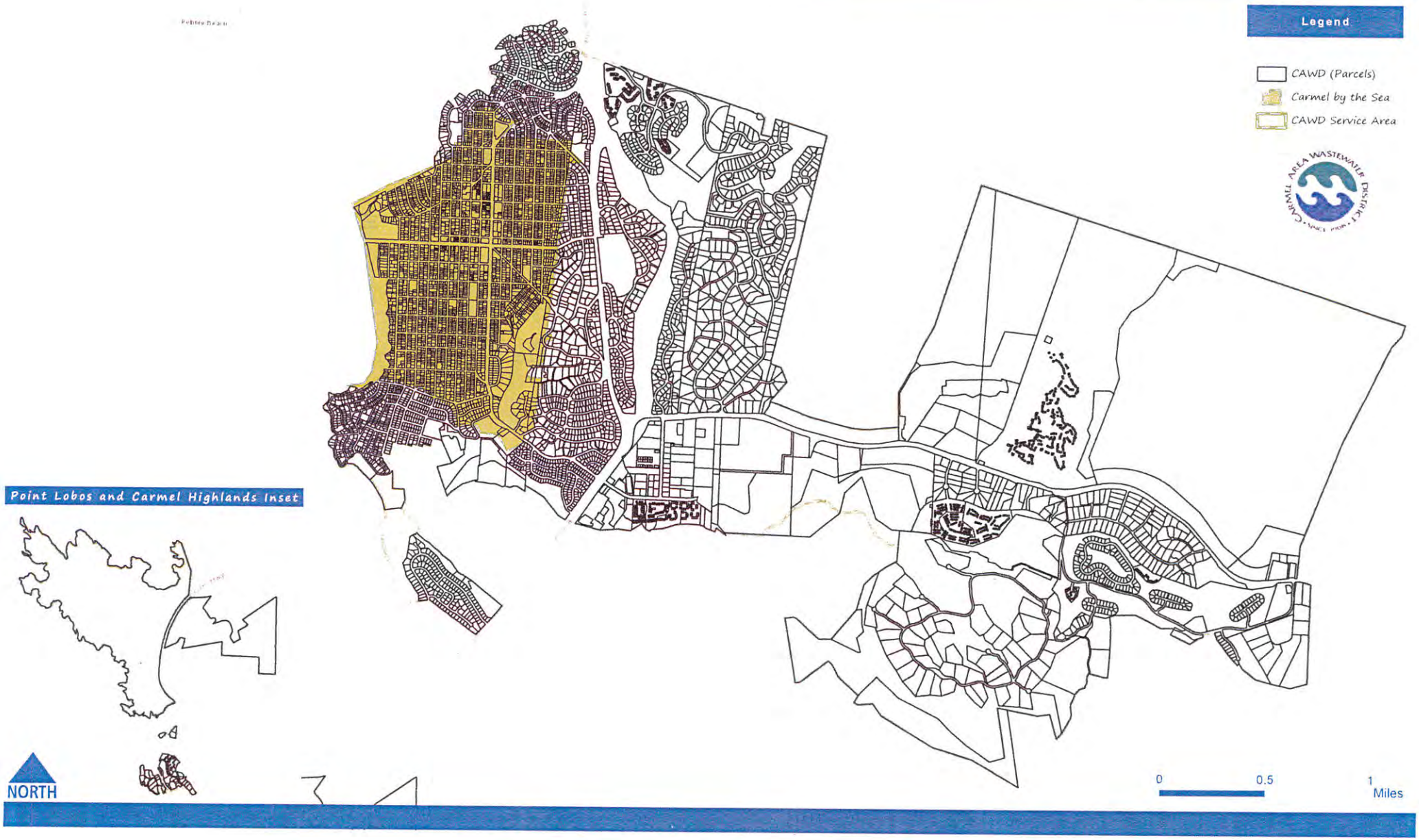
DR. ...WD.....
CH. ...RHP.....
DATE June 1918

APPROVED:
Clyde C. Kennedy
CIVIL ENGINEER.

SHEET NO. 9 OF 13


RECORD OF SURVEY
CARMEL SANITARY DISTRICT PROPERTY IN SEC 13, T.16S, R.1E, MDB&M., AND IN AND ADJOINING RANCHO SAN JOSE Y SUR CHIQUITO
MONTEREY COUNTY, CALIFORNIA
Surveyed for
CARMEL SANITARY DISTRICT
by
Delwyn C. Rasmussen, Licensed Land Surveyor
Pacific Grove, Calif.
Scale: 1"=100'
December, 1963
signifies 1½" capped pipe set, 4' long with welded flange on bottom. Other monuments set or found are described individually.
Basis of Bearings for this survey is the bearing of SOUTH between 4x4 post marking Sta. 28 of boundary of Rº Canada de la Segunda, and 4x4 post 42 links north of Sta SJSC-1, as said bearing is stated in deed from Stewart to Stewart, 74-O.R.-474, and Court Action 4047, recorded in 82-Deeds-256.
(County Road)
LASUEN DRIVE
CARMEL MISSION
"MISSION ORCHARD LOT"
(U.S. Lot 39, Sec. 13)
Found old 4x4 post, 5' deep in fill under edge of driveway; set spike in asphalt of drive over post.
Right of way conveyed to Hodges in 922-O.R.-236 and from Hodges to Carmel Sanitary District in 1303-O.R.-513 (although referred to as a 10' right of way in that deed).
100' wide strip: Walker to Carmel San. Dist., rec. 12/27/50, 1269-O.R.-207
Margaret Musser Dienelt to Lynn Hodges et ux., 2/15/46 - 2/27/46, 922-O.R.-236
Alma Brooks Walker to Margaret Musser Dienelt 7/19/44 - 8/4/44, 840-O.R.-136
CARMEL RIVER
7.323 Ac.
Willis J. Walker to Carmel Sanitary District 7/22/38 - 7/29/38 584-O.R.-37
Set 3/4" iron pipe line point
Control Bldg
In retracing this line I follow very closely the line of an old fence, as evidenced by remnants found in the ground. This verifies its agreement with line of Court Decree No 4047. (See below)
Patent boundary Rº San Jose y Sur Chiquito; identified as south boundary of 7.323 Ac parcel in 584-OR-37, although courses recited follow boundary of tract awarded to Martin in Court Action 4047
Southerly boundary of tract awarded to Martin in Superior Court Action 4047 ... rec 12/16/04 in Vol-82, Deeds, P 256 (Not the patent boundary of Rº San Jose y Sur Chiquito)
Did not find 4x4 post marking S corner of Mission Orchard Lot. Set pipe monument at locus thereof as indicated on 6-C&T-34.
TRACT No. 254, RIOWAY TRACT, Filed 10/26/54, Vol. 6, Cities & Towns, P.34
Catharine R. Stewart to Walter Pilot et ux, 5/23/50 - 6/1/50, 1221-O.R.-79
J. H. Stewart to Andrew Stewart 6/6/25 - 2/27/26, 74-O.R.-474
Elizabeth Oliver rec 6/1/50, 1221-O.R.-75
TRACT No. 241, MISSION FIELDS TRACT No. 1, Filed Dec 31, 1953, Vol 6, Cities & Towns, P 12
(County Road) SYCAMORE PLACE
Fnd Conc. Mon
Fnd iron pipe
4x4 post marking Sta 28 of boundary of Rancho Canada de La Segunda (found)
4x4 post 42 links (27.72 ft.) north of Sta SJSC-1, as stated in 82-Deeds-256. Point of Beginning of line of decree in Action 4047. (found)
Locus of Sta SJSC No 1, Beginning Point of Patent Survey of boundary of Rº San Jose y Sur Chiquito Not found
Rancho boundary
RANCHO SAN JOSE Y SUR CHIQUITO
STATE HIGHWAY No. 1
Mon locus not found
Fnd Mon
Traveled road
20' R.O.W.
40' R.O.W.
Set 3/4" pipe
SURVEYOR'S CERTIFICATE
CO-SURVEYOR'S CERTIFICATE
RECORDER'S CERTIFICATE
Filed No. 9817
Filed for record this 11th day of March 1964 at 2:01 P.m. in Book 7 of Maps of Surveys at page 15 at the request of
Emmet G. McMenamin
Blanche Richardson
Bruce W. McClain
Mar 1964

Carmel Area Wastewater District - Service Area with Parcels



Technical Terms

Technical Terms

Account – A record of a business transaction.

Accounting System – The structure of records and procedures that discovers, records, classifies, summarizes, and reports information on the financial position and results of operations of the District as a governmental entity.

Accrual Basis – The recognition of a revenue or expense in a fiscal year even though the actual cash may not be received or paid until the following year.

Adoption – Formal action by the Board of Directors. The adoption of the budget sets the financial framework for subsequent fiscal year(s).

Agency Treatment Charges – Revenues derived from long-term contracts with other entities to whom the District provides sewage treatment, such as Pebble Beach Community Services District and California State Parks at Point Lobos.

Allocation of Expenses – The manner in which revenues and expenses are accounted for in the different service functions of the District. For example: sewage collection, treatment and disposal. This function is further divided into Operations and Maintenance (O&M), Capital Purchases, and Capital Improvement Program (CIP).

Amortization – The spreading out of capital expenses for intangible assets over a specific period of time (usually over the asset's useful life) for accounting purposes. Amortization is similar to depreciation, which is used for tangible assets, and to depletion, which is used with natural resources.

Assets – Resources owned by the District

Asset Management – Maintaining a desired level of service for optimal asset performance at the lowest life-cycle cost. Lowest life-cycle cost refers to the best appropriate cost for rehabilitating, repairing or replacing an asset.

Authorized Positions – Number of staff positions authorized for the fiscal year.

Average Dry Weather Flow – The average non-storm flow over 24 hours during the dry months of the year (May through September). It is composed of the average sewage flow and the average dry weather inflow and infiltration.

Biochemical Oxygen Demand – the amount of dissolved oxygen needed (i.e. demanded) by aerobic biological organisms to break down organic material present in in a given water sample at certain temperature over a specific time period. BOD is used as a guage of the effectiveness of wastewater treatment plants.

Biosolids – Sludge residual from the treatment process.

Budget – The District's financial plan for a given period of time, which includes revenues, expense, and other expenditures that provide funding for services provided to

District customers. It contains an Operating Budget and a Capital Budget.

- Operating Budget – The financial plan for non-capital revenues and expenses.
- Capital Budget – The financial plan of capital expenditures, part of the long-range plan.

Capital Assets – Assets owned by the District that have a useful life of more than 1 year and a cost of over $10,000. Capital assets include land, buildings, machinery, equipment, and major improvements and rehabilitation that extend the useful life of an asset by 1 year or more.

Capital Improvement Program (CIP) – Accounts for revenues, capital contributions, and repayments, and allocates designated resources for capital improvements such as construction, purchase of new facilities and equipment, or major reconstruction of existing infrastructure.

Clean Water Act (CWA) – The primary federal law in the United States governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and non point pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

Cogeneration – Production of energy as a result of utilizing the by-products of the solids treatment process.

Computerized Maintenance Management System (CMMS) – A software package that is used for inventory control, procurement management, fixed asset condition assessment and maintenance repair management. The District uses a CMMS product called MainSaver.

Contingency – Reserves included in each fiscal year budget as an allowance for unanticipated expenses.

Connection Fees – Governed by Ordinance No. 85-2. Connection fees represent one-time contributions of resources to the District, imposed on all new connections to the District. The intent of these fees is to recover the capacity cost of sewer facilities within the existing system.

Cost of Living Adjustment (COLA) – An increase in wage compensation to offset the adverse conditions of inflation on salaries, or a provision for price increases based on the historical index of general inflation. Labor negotiation adjustments are based on the Consumer Price Index-Wage Earners San Francisco-Oakland Bay Area (CPI-W) for the period of December of the preceding year through December of the current year.

Depreciation – Loss in asset value over the useful life of a capital asset as a result of wear, deterioration, or obsolescence.

District Service Charges – Revenues received from customers for serwer services, under Ordinance No. 2015-01.

Effluent – Treated wastewater.

Enterprise Fund – Accounts for operations and business activities in a manner similar to

a private business, where the intent is that the costs of providing services to the general public are recovered primarily through user fees.

Fiscal Year (FY) – a 12-month financial measurement period between July 1 and June 30.

Fund – A fiscal accounting entity with a self-balancing set of accounts recording cash and other financial resource, liabilities and equity. Funds are segregated based on specific services or objectives in accordance with special regulations, restrictions, or limitations.

Grants – Contributions by other governmental entities or organizations to provide funding for a specific project.

Interest Income – Revenues received by the District from investments.

Lift Station – facilities to move wastewater from lower to higher elevation.

Long-Range Plan – The District maintains a long-range Construction Plan. It details planned projects by cost and target year. During each budget cycle, the planned projects for the next 2 years are moved into the budget document and the Board approves necessary funds for their implementation. The plan forecasts both capital project requirements and long-term needs for major repairs and maintenance of the sewer system.

Net Position – The difference between assets plus deferred outflow of resources, and liabilities plus deferred inflow of resources.

Non-operating – Enterprise fund revenues or expenses that are not a result of its primary service activities.

National Pollutant Discharge Elimination System (NPDES) – Introduced in 1972, it is a permit system for regulating point sources of pollution. Point sources may not discharge pollutants to surface waters without a permit from the NPDES system. The system is managed by the United States Environmental Protection Agency (EPA) in partnership with state environmental agencies.

Operating Expenses – Costs incurred by the District in the course of service to customers.

Operating Revenues – Funds received by the District through its normal business operations.

Operation & Maintenance (O&M) – Accounts for revenues and expenses related to the day-to-day operations of sewer services.

Ordinance – A local law set forth by the Board of Directors.

Other or Miscellaneous – Revenues or expenses aggregated on the financial statements for accountability purposes.

Overhead Rates – The purpose of overhead rates is to recover the cost of benefits, non-productive time, and other resources, such as administration and engineering services.

Overhead Recovery – Revenues from the application of overhead rates to actual staff salaries, for time spent on projects and

assignments in renewal and replacement and capital improvement projects.

Permits and Inspection Fees – Fees imposed to cover the cost of issuing sewer permits, inspecting sewer work, and maintaining permanent District records. Those fees are governed by Ordinance No. 85-1.

Proposition 218 – Passed by California voters on November 5, 1996 with effective date of July 1, 1997, it requires local governments to obtain the approval of property owners in a local ballot measure before levying a new or increased tax assessment of those property owners. In 2006, the California Supreme Court ruled that Proposition 218 applies to local water, recycling and sewer charges.

Renewal and Replacement (R&R) – Accounts for revenues and expenses associated with repairs on maintenance of collections and treatment facilities or equipment.

Resolution – A special or temporary order of the Board of Directors. A resolution requires less formality that a statute or ordinance.

Revenues – Income received by providing services, or from investment or other sources.

Sewer Rates – Fees paid by customers for sewer services. The District utilizes a rate model that was designed by the State Water Resources Board and includes components for biochemical oxygen demand (BOD), suspended solids (SS) and flow.

Suspended Solids – Refers to small solid particles which remain in suspension in water as a colloid or due to the motion of the water. It is used as one indicator of water quality.