

CITY OF GRAND JUNCTION

10-Year Capital Improvement Plan Update

Project No.: 203885
Date: July 9, 2025
Prepared By: Lauren Reidle, Ryan Rossell
Reviewed By: Leanne Hyatt
Subject: 10-Year CIP Supporting Documentation



1.0 INTRODUCTION

This project memorandum (PM) has been developed in support of the City of Grand Junction (City) 10-year Capital Improvement Plan (CIP) to document proposed projects from 2026 through 2035. Projects discussed in this PM are separated into four categories: in-progress and annually recurring projects; recommended studies and projects from the 2020 Master Plan (2020 MP) allocated as operating expenses; completed, eliminated, or deferred projects from the 2020 MP; and proposed projects for the 10-year CIP.

2.0 PROJECT COST DEVELOPMENT

The capital cost economic analysis method used in the 10-year CIP includes direct and indirect construction costs. The estimates were prepared using pricing from similar, local projects, conceptual unit cost factors, available vendor quotes, equipment pricing, historic pricing databases, and knowledge of typical rates for local construction crews using the Carollo Engineer's (Carollo) Cost Estimating System (CCES). The CCES is an estimating database that can be used for planning purposes to provide long-term budgeting estimates. It is important to realize that changes in the elements of any given project will alter the totals to some degree and that future changes in the cost of material, labor, and equipment can affect the total.

The cost estimates are consistent with the Association for the Advancement of Cost Engineering (AACE) International criteria for a Class 5 Planning Level or Design Technical Feasibility Estimate. For this class, the anticipated accuracy is typically -30 to + 50 percent. Class 5 estimates are used to determine a project's feasibility and to compare with alternative project options. As projects progress through the design phase, details are developed that allow for an increased level of precision.

The total project cost includes direct costs, and contingencies to account for unknowns which are detailed in Tables 1 and 2. Direct costs include subcontractor costs and costs for materials, labor, and construction equipment involved with installation. For planning-level estimates, construction cost factors are used to account for some construction costs and other indirect costs are assumed to be a percentage of construction or equipment costs. Construction services allowances were estimated by applying project-specific percent allowances for each discipline. A contingency of 30 percent was applied to the subtotal of

direct costs to account for the level of detail available in the current estimates and uncertainty in the construction market. The indirect (non-distributable) costs consist of general conditions, general contractor's overhead and profit, sales taxes, and bonds and insurance. Non-construction cost factors were also accounted for which include design/permitting, engineering services during construction (ESDC)/ construction management, and an owner-maintained project contingency. An example of a capital cost estimate is shown in Figure 1.

Table 1 Total Project Cost Considerations

Capital Cost Parameter	Assumption
Direct Costs	General cost basis for each project
Construction Cost Factors	Percentage of Direct Costs
Construction Services Allowances (site, civil and yard piping, structural, architectural, and demolition, coatings and finishes, heating, ventilation, and air conditioning [HVAC], plumbing, electrical instrumentation, and controls programming, etc.)	Varies, only applied to plant projects
Contingency	30% of direct costs with allowances
General Conditions	15% of construction cost
General Contractor Overhead and Profit	20% of construction cost
Sales Taxes	8.2% of materials cost
Bonds and Insurance	2.75% of construction cost
Non-Construction Cost Factors	Percentage of Total Construction Costs
Design and Permitting	10% of Total Construction Costs
Construction Management and Engineering Services During Construction (ESDC)	10% of Total Construction Costs if included. City self performs ESDC activities for linear infrastructure projects.
Owner Maintained Project Contingency	Varies based on project size and complexity (3% to 10%)

Table 2 Cost Calculation Summary

Capital Cost Parameter	Calculation
Direct Costs	General cost basis for each project
Construction Cost Factors	Calculated as a percentage of DC
Total Construction Costs	DC + CCF
Non-Construction Cost Factors	Calculated as a percentage of TCC
Total Project Cost	TCC + NCCF

Notes:

DC - Direct Costs; CCF - Construction Cost Factors; NCCF - Non-Construction Cost Factors; TCC - Total Construction Costs.

		UPDATED: Mar-25		
CLIENT: City of Grand Junction		BY: LR		
PROJECT: Phase 2 Summary		CHECKED: LH, JR		
Process Area: Multiple		Estimate Basis (year) = 2025		
		Mid point of Construction (year) = 2028		
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>RSPS Improvements</i>	1	LS	\$ 4,776,000	\$ 4,776,000
<i>Primary sludge and scum pump replacement</i>	1	LS	\$ 259,000	\$ 259,000
<i>Secondary clarifier rehabilitation</i>	1	LS	\$ 9,738,000	\$ 9,738,000
<i>Anaerobic digestion complex (two new digesters, control building, DAFT)</i>	1	LS	\$ 26,179,000	\$ 26,179,000
<i>Grease receiving station</i>	1	LS	\$ 4,615,000	\$ 4,615,000
<i>Misc asset replacements - grit weir elevation raise</i>	1	LS	\$ 150,000	\$ 150,000
			SUB TOTAL DIRECT COST	\$ 45,717,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	15	%		\$ 6,858,000
GC Overhead and Profit (including self perform)	20	%		\$ 9,143,000
Bonds and insurance	2.75	%		\$ 1,257,000
City of Grand Junction taxes (sales tax on materials at 50% assumption)	8.2	%		\$ 1,874,000
			TOTAL CONSTRUCTION COST	\$ 64,849,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Engineering, legal, administrative, construction management/esdc fees	16	%		\$ 10,311,000
Owner maintained project contingency	5.5	%		\$ 3,534,000
			TOTAL PROJECT COST (2025 \$'s)	\$78,694,000
Minus \$4M allocated in 2025 budget for original design services to be excluded from the 10-year CIP				\$74,694,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1. See individual project component cost estimate sheets for assumptions and uncertainties associated with each estimate.				
2. Design and permitting costs and engineering services during construction costs provided by the City.				

Figure 1 Capital Cost Estimate Example

2.1 Collection System Project Costs

For the linear collection system projects, recent bid tabs were used to develop costs for improvements by pipe diameter per linear foot (LF) of pipe. For the 10-year CIP, three bid tabs were reviewed, which are detailed in Table 3. The Chuluota & 29 Road project was used as the basis for the costs because it was the most recent typical sewer rehabilitation and repair (R&R) project with multiple bidders. The project included approximately 460 LF of new 8-inch sewer, and the total cost per LF was calculated to be \$344/LF. This unit cost was then adjusted for various pipe sizes as summarized in Table 4 to develop costs for the 10-year CIP. The percent increase for the larger diameter pipes accounts for the increased pipe and manhole material costs, larger excavations, and additional surface removals and replacements.

Table 3 City Bid Tab Summary

Project Name	Estimated Bid Date ⁽¹⁾	Project Details	Replacement Length, LF	Replacement Pipe Diameter	Cost/LF, \$/LF	Comment
Bahama's Way Sewer Replacement	September 2024	8-inch sewer removal and replacement. Typical R&R project.	1,802	8-inch	312	Not used. Single bidder.
Chuluota & 29 Road	March 2025	8-inch sewer removal and replacement. Typical R&R project.	655	8-inch	344	Cost basis for 10-year CIP. Included two bidders, utilized low bid.
Crosby Avenue Utility Relocation	March 2025	8-inch sewer install. Slipline project into existing 15-inch sewer.	460	8-inch	2,313	Not used. Single bidder, and not typical of future R&R projects.

Notes:

(1) Date assumed based on when data was provided by the City.

Table 4 Gravity Pipeline Replacement Costs

Diameter, inch	Unit Cost, \$/LF	Percent Increase, % ⁽²⁾
8	344 ⁽¹⁾	0%
10	379	10%
12	396	15%
15	430	25%
18	447	30%
21	465	35%
24	516	50%
27	533	55%
30	551	60%
33	568	65%
36	585	70%

Notes:

(1) Cost based on Chuluota & 29 Road bid tab provided by the City April 2025. Assumed these represent March 2025 dollars.

(2) Assumed percent increase from 8-inch replacement cost.

Lift station replacement costs were developed based on the 90 percent Lake Road Lift Station cost estimate developed by the City's engineering consultant for this project, dated July 2024. This estimate was provided by the City for use in developing lift station costs as no recent bid tabs were available. From that estimate, a cost curve was developed using the six-tenth rule to scale costs for all lift stations, and the anticipated capacity. The cost curve is presented in Figure 2.

Note, for the collection system project cost estimates, the construction cost factors, and non-construction costs factors were reduced because recent bid tabs and estimates were used to develop the costs. This typically meant the only factors applied were a 30 percent project contingency, 10 percent design and permitting, 10 percent construction management and engineering services during construction (if needed), and 10 percent owner maintained project contingency. Applied assumptions and factors are detailed in the project cost reference sheets included in Attachment A.

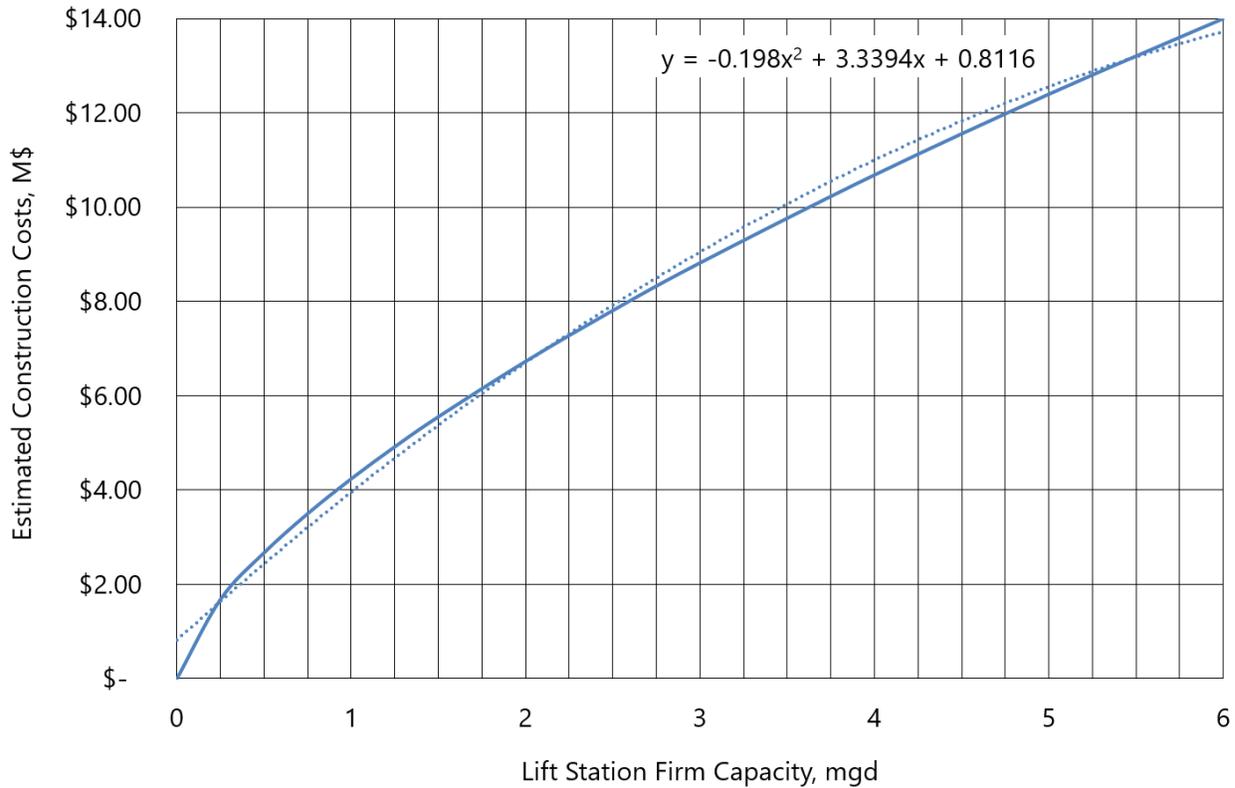


Figure 2 Lift Station Cost Curve

2.2 Escalation

The project costs were first developed as present value costs (March 2025), which are summarized in the project descriptions, and referenced in this PM. To finalize the 10-year CIP, construction costs were escalated to the midpoint of construction. The escalation factor used in the City's internal budgeting, rate studies, and financial evaluations were provided and was calculated most recently in 2023 at 3.9 percent. For the purposes of this evaluation, the costs in the 10-year CIP have been escalated by 4 percent annually throughout the 10-year planning horizon. Carollo's estimating group recommends using escalation values between 4 and 8 percent annually based on the historical inflation factors over the past 5 years. Escalation factors and project cost estimates have not accounted for potential tariffs leveraged on imports/exports, both of which may affect future construction prices. The provided 10-year CIP annual expenditure summary provided as Attachment B shows costs escalated to the midpoint year of construction.

3.0 PROJECT DEVELOPMENT

Projects included in the 10-year CIP originated from the 2020 MP and have subsequently been updated by the City. This section documents the projects from the 2020 MP that are categorized as:

- In-progress and annually recurring projects.
- Recommended studies and projects from the 2020 MP allocated as operating expenses.
- Completed, eliminated, or deferred projects from the 2020 MP.
- Proposed projects for the 10-year CIP (2026 through 2035).

3.1 In Progress and Annually Recurring Projects

A summary of the in-progress projects that will be included in the 10-year CIP are included in Table 5 and detailed in the following subsections. Additionally, projects that are classified as annual budgetary placeholders for rehabilitation and asset renewal are summarized in Section 3.1.2.

Table 5 Summary of In-Progress Projects⁽¹⁾

Project Name	Project Type (Collection or Treatment)	2020 Master Plan Scheduled Date	Current Status
Orchard Mesa River Siphon	Collection	Not included	Design: 2025 Construction: 2026
Grand Valley Byproducts Lift Station Replacement (CGVSD-2)	Collection	2023 - 2024	Design: 2025 Construction: 2027

Notes:

CGVSD – Central Grand Valley Sanitation District

(1) Projects that will be completed in 2025 are included in Section 3.3.

3.1.1 In Progress Collection System Projects

Each of the collection system projects identified in Table 5 is included in Table 6 and described in the following subsections. Costs for the Orchard Mesa River siphon project were provided by the City's engineering consultant in June 2025.

Table 6 Detailed Summary of In-Progress Collection System Projects

CIP ID ⁽¹⁾	Project Name	Current Status	Schedule Details	Project Costs ⁽²⁾
	Orchard Mesa River Siphon	Conceptual Design	Design ⁽³⁾ : 2025 Construction: 2026	2026: \$5.49M
CGVSD-2	Grand Valley Byproducts Lift Station Replacement	Conceptual Planning	Design ⁽³⁾ : 2025 Construction: 2027	2026: \$12.4M

Notes:

(1) Correlates to 2020 MP CIP ID. Only projects identified in the 2020 MP with a specific ID are included.

(2) Represents March 2025 dollars.

(3) Costs for design for each of these projects have been allocated as part of the 2025 budget and is therefore not included in the 10-year CIP starting in 2026.

3.1.1.1 Orchard Mesa River Siphon

The City is evaluating a new bridge sewer crossing on the Highway 50 bridge to replace the existing Orchard Mesa siphon. The project is being conceptually evaluated to determine project feasibility. It was not identified in the 2020 MP, but the City is evaluating it due to maintenance issues with the existing siphon.

The City's engineering consultant developed budgetary costs in June 2025, which are included in the 10-year CIP. No contingencies or cost factors were accounted for with this budget estimate for the 10-year CIP. It is anticipated design will be completed in 2025, and construction will start in 2026.

3.1.1.2 Grand Valley Byproducts Lift Station Replacement

In 2024 the City conceptually evaluated a new Grand Valley Byproducts Lift Station (project CGVSD-2 per the 2020 MP). The project will include replacing the existing lift station per the 2020 MP recommendations. The conceptual evaluation included a siting evaluation and estimating conceptual costs for the new lift station. As part of the 2020 Master Plan, this project was aligned with CGVSD-1 which included new gravity sewers upstream of the new lift station. Carollo recommends re-evaluating this inclusion during preliminary design of the lift station. For this update, it was assumed CGVSD-1 would be deferred beyond the 10-year planning horizon.

The costs were updated for the 10-year CIP using the cost assumptions detailed in Section 2.0. It is anticipated design will start in 2025, and construction will start in 2027.

3.1.2 Annual Recurring Asset Renewal and Rehabilitation Projects

Projects that are classified as annual budgetary placeholders for rehabilitation and asset renewal were summarized for the 10-year CIP. For the collection system, this includes annual sewer R&R, sewer improvement districts, and trunkline extension projects which are summarized in Table 7. For the Persigo Wastewater Treatment Plant (WWTP) this included an annual budgetary line item for miscellaneous improvements and asset replacement.

Table 7 Ongoing Annual Project Efforts Allocated in the 2020 MP and 10-Year CIP

Project Name	Current Status	Schedule Details	Capital Costs
2026 Sewer Replacement Projects	Design	2025: Design 2026: Construction	2026: \$4.0M
2027 Sewer Replacement Projects	Planning	2026: Design 2027: Construction	2026: \$0.5M 2027: \$4.0M
Sewer Line Replacement/Rehabilitation	Ongoing year to year as needed	2028 - 2035 Year 1: Design Year 2: Construction	2028-2035 Year 1: \$0.5M Year 2: \$4.0M
Sewer Improvements Districts	Ongoing year to year as needed	Ongoing 2026 - 2035	\$1.0M/year
Trunkline Extension Project	N/A	2029, 2035	\$2.5M/project
WWTP Improvements and Asset Replacement	Ongoing year to year as needed	Ongoing 2026 - 2035	2025: \$736K escalated at 5% annually

3.1.2.1 Ongoing Collection System R&R Projects

The City's CIP funds annual R&R throughout the collection system. This annual budgetary allocation includes funds for design/evaluation (year 1) and construction (year 2) of these projects. In the 10-year CIP, three line items/projects are included that account for ongoing work as detailed below.

- 2026 Sewer Replacement Projects:
 - » Design: 2025.
 - » Construction: 2026.
- 2027 Sewer Replacement Projects:
 - » Design: 2026.
 - » Construction: 2027.
- Sewer Line Replacement/Rehabilitation:
 - » Design and replacements for 2028 to 2035.
 - » Design: Year 1.
 - » Design: Year 2.

Per discussions with the City, \$4.5M is allocated annually (\$4.0M construction, \$500,000 design/evaluation) for these replacements. For future years, this base amount will be escalated for inflation. The design budget for the annual sewer replacements accounts for City staffing availability.

The City currently prioritizes and identifies R&R projects using a risk model for the collection system. The model accounts for system age, material, and other factors to identify needed R&R improvements. There are three different models used to develop prioritizations, which include a pessimistic, neutral, and optimistic model which can be applied to the pipe material or other factors to identify funding needs. The City indicated that generally all three models forecast 60 to 65 miles of existing sewers in need of rehabilitation or replacement within the 10-year CIP. This indicates that the City should plan to rehabilitate or replace 31,700 to 34,320 LF (6 to 6.5 miles) of sewer annually for the next 10 years. Additional details from this assessment provided by the City are included in Attachment C.

To determine if the current funding levels will be adequate to support R&R needs, a preliminary estimate of cured in place pipe (CIPP) lining and open cut repairs was performed, which is summarized in Table 8. For this evaluation replacement lengths were estimated assuming the sewers would be 10-inches and smaller. This is assumed because approximately 85 percent of the City's collection system is 10-inches and smaller. The lining cost was estimated to be \$90 per LF per discussions with a lining contractor. It was based on recent work for small diameter (8-inch) lining in the front range. The actual costs for CIPP lining will be affected by the following:

- Project or lining length.
- Pipe diameter.
- Pipe location.
- Lateral counts.
- Open cut repairs.
- Access limitations.
- Traffic control.

- Surface restoration limits.
- Cleaning or inspection needs.
- Bypass pumping requirements.

The open cut costs were estimated using a replacement cost of approximately \$380 (10-inch) per Table 4. Multiple scenarios were reviewed including assuming all open cut replacement (1), all lining (2), and a mix to achieve the required annual replacement needs (3). Given the current funding, the City could achieve their desired sewer R&R requirements. However, the project needs (open cut or lining), contractor and city staff availability, design requirements and budgets, condition assessment work, and City procurement requirements will need to be considered on an annual basis to achieve the replacement goals.

Table 8 Ongoing Collection System R&R Replacement Estimates

Scenario	Replacement Plan	Percent of Budget for Open Cut	Percent of Budget for Lining	Open Cut Budget, \$	Lining Budget, \$	Open Cut Length, LF	Lining Length, LF	Total Replacement Length, LF
1	All open cut	100	0	\$4.0M	\$0	10,566	0	10,566
2	All lining	0	100	\$0	\$4.0M	0	44,444	44,444
3	Mix to achieve replacement needs ⁽¹⁾	30	70	\$1.2M	\$2.8M	3,170	31,111	34,281

Notes:

(1) It is also feasible to use a higher percentage of lining to achieve the R&R goals; however, it is likely that some percentage of open cut repair will be required due to project conditions.

3.1.2.2 Sewer Improvement Districts

The City has established Sewer Improvement Districts (SID) to aid in removing septic systems from their service area. SIDs are identified in areas where multiple septic systems are located, to allow the City to work with homeowners to finance extensions to the City's collection system. These areas were identified and reviewed as part of the MP. The City would like to continue to include funds each year to help finance this effort for the duration of the 10-year CIP. An annual budget of \$1M (not escalated annually) is included each year for the 10-year CIP as directed by the City based on current funding levels for this program.

3.1.2.3 Trunkline Extension Projects

As part of the 2020 MP multiple trunkline extension projects were identified. However, specific projects were not included in the 10-year CIP due to the lack of recent or planned development in extension areas of the service area. Thus, to plan for and support funding for future trunkline extension projects within the service area, two separate extension projects are included. The first is allocated in 2029, and the second in 2035. The budget for each project, \$2.5M was estimated based on the updated average extension project budgets using the costs assumptions from Section 2.0. Assuming a 12-inch extension, this would fund approximately 6,300 LF of new sewer. Design of the extensions was not included in this budget.

3.1.2.4 Persigo WWTP Improvements and Asset Replacement

The City has allocated funds each year for miscellaneous asset replacement projects at the Persigo WWTP. In 2025 the allocated amount was \$736,000. This annual expenditure is captured in the 10-year CIP as an annual allocation that is escalated at 5 percent per year based on direction from City staff. As denoted in Section 3.2.1, the In-Plant Waste Lift Station R&R will be covered by this budget. The City noted that the pumps and discharge piping need to be rehabilitated or replaced in the next 3 years.

3.2 Recommended Studies and Projects from 2020 Master Plan Allocated as Operating Expenses

A summary of the studies, assessments, and projects included in the 2020 MP that are allocated in the City's operating expenses as opposed to capital expenses are shown in Table 9. As a result, these projects are not included in the 10-year CIP.

Table 9 Summary of Projects Previously Identified In 2020 MP Now Allocated through Wastewater Operating Budget

Project Name	Project Type (Collection or Treatment)
Biosolids Land Application Program / Biosolids Management Class B Program	Treatment
Updated Hydraulic Modeling, Flow Surveys, and Master Plan	Collection
Collection System Equipment	Collection
Odor Control Projects and Evaluations	Collection
Studies and Evaluation	Treatment
Ongoing Lift Station R&R ⁽¹⁾	Collection
Plant Water System Asset Revitalization Project	Treatment

Notes:

(1) City staff performed a condition assessment of their existing lift stations which they used to help prioritize their ongoing lift station R&R projects. It was last updated in 2022. The executive summary is provided as Attachment D.

3.2.1 Ongoing Lift Station R&R Projects and Lift Station Assessments

The City also self-performs some ongoing lift station R&R projects. These typically include equipment or pump replacement, and minor modifications. Specific lift station R&R projects were identified based on feedback from the City as detailed below. The City will fund these projects through their operational expenditure budget and therefore costs are not included in the 10-year CIP. It was discussed that an annual budget of \$200,000 should cover typical pump and equipment replacements. This value was estimated based on recent City projects to replace equipment at the El Poso Lift Station. This budget does not cover complete lift station replacements.

The projects below were identified based on City staff inspections, and a lift station assessment performed by the City in 2022. That assessment developed internally by the City, identified and prioritized replacement needs for the City's lift stations. The executive summary of the City's assessment is included as Attachment D. Carollo reviewed this document and agrees with the approach and methodology for assessment and prioritization. Based on the information provided in the document, the high priority lift stations are scheduled for rehabilitation in the near term. Since this assessment is 3 years old, a validation assessment either conducted by City staff or a third party is recommended within the next 2 years. A summary of the lift stations is included in Table 10.

3.2.1.1 El Poso Lift Station Replacement

This project was originally slated for 2034-2035 as part of the 2020 MP. However, in 2024 the City developed a plan to rehabilitate this lift station in 2025. The project was expedited because the lift station was found to be in poor condition.

The City is planning to procure and install the replacement equipment 2025.

3.2.1.2 Redlands Village Lift Station

The City has identified this lift station for an R&R project. They noted they are experiencing excessive pressures in the force main and may have failing check valves. Improvements will include reconfiguring and replacing the force main inside the wet well and adding two valve boxes with new check valves on the force main. The City is planning for design to occur in 2025, with construction to begin in 2026.

3.2.2 Persigo WWTP Land Application Program

As part of the 2020 MP, the biosolids reuse recommendation was for the City to develop its own internally operated land application program. After further analysis of beneficial reuse options and a pilot study to evaluate biosolids compost opportunities through a partnership with Delta Compost, the City will likely not pursue the internal land application program in favor of a biosolids composting partnership. As such, the costs associated with this program will primarily include operating expenses such as hauling and tipping fees and, therefore, is not included in the 10-year CIP.

Table 10 Lift Station R&R Summary

Lift Station Name	Major Lift Station?(¹)	Year Put in Service	Estimated Pump Replacement	Estimated Full Lift Station Replacement	Existing Capacity, mgd	Upgraded Capacity, mgd	10-year CIP Project	R&R Project(²)	Project Details
Cheyenne Drive		1976	1996	2026	0.53		No	No	-
Wellington		1976	1996	2026	0.65		No	No	-
Brach's		1978	1998	2028	0.27		N/A	N/A	To be abandoned as part of Lake Road Lift Station project.
Ridges #1	Yes	1978	1998	2028	0.86		N/A	N/A	To be abandoned as part of Lake Road Lift Station project.
Falls		1982	2002	2032	0.70		No	No	Part of deferred project.
Heather Ridge		1982	2002	2032	0.27		No	No	Part of deferred project.
Tiaro Rado	Yes	1983	2003	2033	6.55		No	No	Forcemain replaced in 2021.
El Poso		1984	2004	2034	0.84		No	Yes (2025)	Pumps are being replaced in 2025. Identified in MP for 2031-2034.
Mesa Mall		Replaced in 2024.	2044	2074	0.52		No	No	Pumps were replaced in 2024.
Grand Valley Byproducts	Yes	1989	2009	2039	1.13	1.26	Yes	N/A	Full replacement as part of CGVSD-1.
Alpine Meadows		1991	2011	2041	0.24		No	No	-
Panorama	Yes	1991	2011	2041	0.49		No	No	-
Coors		1995	2015	2045	0.91	0.75	No	No	-
Rosevale	Yes	1997	2017	2047	1.37	2.81	No	No	-

Lift Station Name	Major Lift Station?(¹)	Year Put in Service	Estimated Pump Replacement	Estimated Full Lift Station Replacement	Existing Capacity, mgd	Upgraded Capacity, mgd	10-year CIP Project	R&R Project(²)	Project Details
Safeway		1998	N/A	N/A	0.40		N/A	N/A	This lift station is owned by a third party and does need to be upgraded by the City. City only provides maintenance.
Monument		1999	2019	2049	0.42		No	No	-
DOE		2001	2021	2051	0.61		No	No	-
Desert Hills		2001	2021	2051	0.66		No	No	-
Fifth Street Bridge		2002	2022	2052	0.18		No	No	-
Red Mesa		2002	2022	2052	0.28		No	No	-
Connected Lakes	Yes	2003	2023	2053	0.85	1.23	No	No	Originally identified as part of GW-2 project which was removed from the 10-year CIP.
Redlands Village	Yes	2003	2023	2053	1.49	1.94	No	Yes (2025)	Force main replacement planned for 2025 as part of R&R project.
Ridges #2		2003	2023	2053	0.18		No	No	-
Spy Glass		2007	2027	2057	0.20		No	No	-
Railhead	Yes	2011	2031	2061	0.70	1.01	No	No	-
River Trail	Yes	2011	2031	2061	0.76		No	No	-
In-Plant Waste Lift Station		1984	2028	2028	Unknown		No	Yes(³)	City indicated pumps and discharge piping need to be replaced within 3 years.

Notes:

GW - goat wash; mgd - million gallons per day

(1) Major lift station designation assigned by City.

(2) R&R projects will not be included in the 10-year CIP as they will be handled through the City's operations and maintenance budget.

(3) This project will be funded through allocated funds included in the Persigo WWTP Improvements and Asset Replacement budget.

3.3 Completed, Eliminated, or Deferred Projects

A summary of the projects (some identified in the 2020 MPs) that have been completed, eliminated, or deferred is included in Table 10. Additional information on the completed projects and rationale for project deferral is provided in the following subsections.

Table 11 Summary of Completed, Eliminated, or Deferred Projects

CIP ID	Project Name	Project Type (Collection or Treatment)	Action	2020 MP Scheduled Date	Updated CIP Trigger
	Electrical Distribution Loop	Treatment	Deferred due to onsite investigations by the City's subcontractor. Scheduled to be revisited in five years.	2022	Based on future study evaluations on condition.
	Phase 1 Expansion Project	Treatment	Completed in 2025.	Multiple	
	Odor Control Improvements	Treatment	Completed.	2022	
	CNG Gas Storage / Enhanced Fueling Station	Treatment	Completed.	2022	
	VFD and Valve Replacements in Raw Sewage Pump Station	Treatment	Completed.	2023	
FB-1	Southside Interceptor Flow Balance Structure	Collection	Deferred due to updated hydraulic evaluations performed in 2024. Improvements not required until buildout.	2022	Buildout.
FV-1	Upsized Sewer Along 28 Road	Collection	Deferred to after 10-year CIP.	2031-2035	Review LOS with updated modeling. Coordinate with railroad crossing improvements.
FV-2	Updated Sewers Along Various Roads in FV Basin	Collection	Deferred to after 10-year CIP.	2031-2035	Review LOS in the area with updated modeling.
FV-3	Upsized Sewer Along 29 1/2 Road	Collection	Deferred to after 10-year CIP.	2031-2035	Review LOS in the area with updated modeling.
GW-1	Upsized sewer along Tiffany Drive/EI Rio Drive	Collection	Deferred due to lack of development in GW basin.	2026-2030	Development in the GW basin. Redlands Village Lift Station flows should be reviewed if rerouted.

CIP ID	Project Name	Project Type (Collection or Treatment)	Action	2020 MP Scheduled Date	Updated CIP Trigger
GW-2	Upsized Sewer Along S. Rim Drive	Collection	Eliminated due to Lake Road Lift Station project flow rerouting.	2031-2035	N/A
	Upsized Connected Lakes Lift Station	Collection			
	Upsized Connected Lakes Lift Station Force Main	Collection			
OM 1	Upsized Sewer Along B 1/2 Road, and B 3/4 Road	Collection	A portion (~670 LF) of OM-1 was completed in 2024 downstream of Unaweeep Ave. Rest of OM-1 included in 10-year CIP.	2024	N/A
OM-4	Upsized Sewer Along 27 Road	Collection	Deferred to after 10-year CIP.	2026-2030	Review LOS in the area with updated modeling.
OM-5	Upsized Sewer Along C Road	Collection	Deferred to after 10-year CIP.	2026-2030	Review LOS in the area with updated modeling.
RRN-1	Upsized Sewer Along River Road North	Collection	Deferred due to lack of extension development	2026-2030	As needed due to future development.
24R Ext-1	I-70 crossing	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
24R Ext-2	West of 24.5 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
24R Ext-3	24.5 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
24R Ext-4	East of 24.5 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-1	31 Road Extension	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-2	A 1/2 Road Extension	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-3	A 1/2 Road Extension to East	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-4	30 Road Extension at B Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-5	C Road Extension	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-6	30 Road Extension at B 1/2 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
OM Ext-7	B 1/2 Road Extension to 30 1/2 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.

PROJECT MEMORANDUM

CIP ID	Project Name	Project Type (Collection or Treatment)	Action	2020 MP Scheduled Date	Updated CIP Trigger
OM Ext-8	Forcemain from C Road to B 1/2 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
	New pump station	Collection			
RRN Ext-1	H Road Extension at 24 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-2	23.5 Road Extension	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-3	Mesa Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-4	H Road to I Road Along 22 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-5	21.5 Road Extension	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-6	I road to I 1/2 Road along 22 Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RRN Ext-7	23 Road Extension to Mesa Road	Collection	Deferred due to lack of extension development.	2030-2040	As needed due to future development.
RV Ext-1	Monument Road Extension	Collection	Deferred due to lack of extension development.	2020-2030	As needed due to future development.
	Lake Road Lift Station Replacement	Collection	Design completed in 2025, construction slated for 2026. The City has allocated funds for this project in the 2025 budget, shifting this project to "completed." Previously labeled "Power Road Lift Station" project, slated for 2021. Replaces Ridges Lift Station (Power Road) lift station project.	-	N/A
	Replace Falls and Heather Ridges lift Stations	Collection	Deferred due to lack of development.	2032-2033	As needed due to future development. City will consider elimination through future study.
	Tiara Rado Force Main Project	Collection	Completed.	2021	N/A
	Ridges Lift Station Improvements	Collection	Eliminated, replaced with Lake Road Lift Station.	2021-2022	N/A

Notes:

LOS - level of service

3.3.1 Persigo WWTP Project

The completed, deferred, or eliminated projects for the Persigo WWTP are discussed in the subsections below.

3.3.1.1 Persigo WWTP Phase 1 Expansion Project

The Persigo WWTP Phase 1 Expansion Project was initiated following the 2020 MP and is scheduled for completion in 2025. The following major improvements, as identified in the 2020 MP, were included in Phase 1:

- Flow equalization basin asset revitalization.
- Addition of two new aeration basins.
- Aeration basin asset revitalization, including:
 - » New fine bubble and coarse bubble diffusers.
 - » New return activated sludge (RAS), waste activated sludge (WAS), and mixed liquor return pumps.
 - » Anoxic baffle walls.
 - » Swing zones.
- New blower building.
- Disinfection capacity expansion and operational improvements.
- New dewatering building and solids storage, including centrifuge dewatering.
- Headworks asset replacements and hydraulic improvements, including two new mechanical screens.
- Disinfection.
- RAS/WAS pump replacements.
- Electrical improvements for all modified processes including new motor control centers.

3.3.1.2 Electrical Distribution Loop

The electrical distribution loop project includes installing duct banks across the facility to replace electrical medium voltage distribution cabling, which at times is in submerged manholes, and to provide plant-wide fiber connectivity to each facility for supervisory control and data acquisition (SCADA) integration.

Following an assessment of the electrical distribution loop by an electrical engineering consultant, it was determined that the project is not necessary in the near-term. The City will continue to monitor the loop and reassess the need for improvements every 5 years. The fiber connectivity portion of the project is currently under construction and will be completed by the end of 2025.

3.3.1.3 Additional Completed Persigo Projects

The following projects were included in the 2020 Master Plan and have been completed by the City:

- Odor control improvements.
- CNG gas storage/enhanced fueling station.
- VFD and valve replacements in the raw sewage pump station.

3.3.2 Collection System Projects

The completed, deferred or eliminated collection system projects are discussed below.

3.3.2.1 Lake Road Lift Station

The City is designing a new Lake Road Lift Station which is at the 90 percent design phase. This project includes constructing a new Lake Road Lift Station and abandoning the Ridges #1 and Brach's Market lift stations. As part of the 2020 MP, it was identified as the Power Road Lift Station/Ridges Lift Station Replacement project and was scheduled for 2021.

It is anticipated design will be completed in 2025, and construction will start in 2026. The 90 percent opinion of probable construction cost (OPCC) was estimated to be ~\$10.0 million. The funds for this project were allocated as part of the 2025 budget and therefore not included in the 10-year CIP.

3.3.2.2 Capacity Improvements

For the 10-year CIP, the City noted that most of the capacity improvements identified in the 2020 MP should be deferred due to development status within the service area. Thus, the only capacity improvement projects included in the 10-year CIP are the Orchard Mesa capacity improvements which are detailed in the next section. Additional details on elimination and/or deferral of three of the 2020 MP proposed near term capacity improvement projects, which were discussed with the City during the 10-year CIP update, are summarized below.

FB-1 Southside Interceptor Flow Balance Structure

In 2024 the City evaluated new flow balancing improvements for the southside interceptors (project FB-1 per the 2020 MP). The project will include two flow balancing structures to maximize capacity of the interceptor system. The evaluation included hydraulic modeling and final design (100 percent) of the proposed structures. Based on the modeling results, these structures are not needed until build-out conditions, so this project is not included in the updated 10-year CIP.

GW-2 Connected Lakes Lift Station

The Connected Lakes Lift Station was identified for replacement in the 2020 MP as part of project GW-2. However, the City has eliminated this project due to flow re-routing that is occurring in conjunction with the Lake Road Lift Station Project. Thus, GW-2 is eliminated from the planned project list.

Falls and Heather Ridges Lift Station

The Falls and Heathers Ridges Lift Stations were slated for full replacement in 2032 and 2033 as part of the 2020 MP. However, the City has elected to defer this project due to the lack of development in the sewer basin. Elimination of these lift stations will be evaluated as part of a future study.

3.3.2.3 Trunkline Extension Projects

The City indicated no growth is currently planned for the trunkline extension projects identified in the 2020 MP. Thus, all the previously identified trunkline extension projects have been deferred and are not included in the 10-year CIP. As indicated previously, two generic trunkline extension projects are captured

in the 10-year CIP as placeholders for potential extension projects within the next 10 years. In the future, funding for the developer and trunk extension projects should be updated and reviewed to align with plans for development within the service area.

3.4 10-Year CIP Proposed Project List

The remaining projects included in the 2020 MP(s), which are scheduled to be included in the 10-year CIP are shown in Table 12. Additional information regarding these projects is provided in the following subsections.

Table 12 Summary of projects included in the 10-year CIP (2026-2035)

Project Name	Project Type (Collection or Treatment)	2020 MP Scheduled Date	Schedule Details
Persigo Administration Building and Maintenance Shop	Treatment / Collection	2025-2027	Design: 2025-2026 Construction: 2026-2027
Phase 2 Improvements Project	Treatment	Various	Design: 2026 Construction: 2027-2030
Phase 3 Improvements Project	Treatment	Various	Design: 2035 Construction: 2036-2037
CGVSD Lift Station Replacement (CGVSD-2)	Collection	2023-2024	Design: 2025 Construction:2027
Orchard Mesa Sewer Capacity Improvements (OM-1) (Part 2)	Collection	2024	Design: 2030 Construction:2031
Orchard Mesa Sewer Capacity Improvements (OM-2)	Collection	2025	Design: 2032 Construction:2033
Orchard Mesa Sewer Capacity Improvements (OM-3)	Collection	2026-2030	Design: 2034 Construction:2035

3.4.1 Persigo WWTP Projects

3.4.1.1 Administration Building Project

This project includes construction of a new administration building and storage facility at the Persigo WWTP. The new administration building will combine the functions of the current Orchard Mesa facility and Persigo administration building and is assumed to be approximately 20,000 square feet for cost estimating purposes. The facility will include up to 20 offices, locker rooms, conference and training room, SCADA operations control room, laboratory, maintenance shop, break room, and garage space.

A portion of the design costs for this project were allocated as part of the 2025 budgeting process and are not included in the 10-year CIP starting in 2026.

3.4.1.2 Phase 2 Improvements Project

Some improvements that were slated for Phase 2 in the 2020 MP have been completed as part of Phase 1 Expansion Project or will be deferred to Phase 3. Improvements already completed in Phase 1 were summarized in Section 3.3.1.1. Improvements deferred to Phase 3 include primary clarifier rehabilitation

and expansion, except for primary sludge and scum pump replacements, which remain a higher priority for inclusion in Phase 2. Biosolids management program development, previously included in the 10-year CIP under Phase 2, will be funded through the City's operating expenses (Section 3.2.2).

The anaerobic digestion conversion project from Phase 2 in the 2020 MP is no longer needed. Instead of converting the aerobic digesters into solids storage, both the existing aerobic and anaerobic digesters will be abandoned or demolished. A new anaerobic digester complex, sized for future solids rates, will be built in the southeast corner of the site, next to the new dewatering building constructed as part of Phase 1.

The following major improvements are included in Phase 2:

- New anaerobic digestion complex in the southeast corner of the site, including two anaerobic digesters and a digester building for heating and pumping equipment.
- New grease receiving station.
- Secondary clarifier rehabilitation, including mechanism replacements.
- Raw Sewage Pump Station rehabilitation, including rehabilitation of the influent pumps, re-lining of the wet well, installation of a standby generator, and yard pipe/piping replacements.
- Primary sludge and scum pump replacements.

A portion of this project's design costs were allocated as part of the 2025 budget (\$4M) and are not included in the 10-year CIP. Costs for the construction portion of the project begin in 2027 and were escalated to the midpoint of construction, 2028 for the construction effort.

3.4.1.3 Phase 3 Improvements Project

Some improvements that were slated for Phase 3 in the 2020 MP have been completed as part of Phase 1 or were advanced to Phase 2. Improvements already completed in Phase 1 include the headworks facility screening capacity expansion, disinfection, and aeration basin expansion. Improvements advanced to Phase 2 include anaerobic digestion expansion.

The primary clarifier rehabilitation and expansion project was deferred from Phase 2 to Phase 3, except for primary sludge and scum pump replacements, which remain a higher priority in Phase 2.

The following major improvements are included in Phase 3:

- Addition of fourth secondary clarifier.
- Addition of third primary clarifier.
- Primary clarifier rehabilitation, including mechanism replacements.
- Biogas treatment system expansion.

3.4.2 Collection System Projects

3.4.2.1 Orchard Mesa Sewer Capacity Improvements (OM-1, OM-2, and OM-3)

As part of the 2020 MP, extensive improvements within the Orchard Mesa sewer basin were identified. This included five separate capacity improvement projects which were identified as near-term projects. However, as part of the 10-year CIP, only OM-1, OM-2, and OM-3 are included and detailed in Table 13.

The City provided recommendations for the design and construction timeline for these projects which are also included Table 13.

Table 13 Orchard Mesa Capacity Improvement Project

CIP ID ⁽¹⁾	Project Name	General Location	Planned Improvements	Schedule Details
OM-1	Orchard Mesa Sewer Capacity Improvements (OM-1) (Part 2)	Upsized sewers along B 1/2 and 3/4 Road	2,980 LF 15-inch	Design: 2030 Construction:2031
			4,892 LF 18-inch	
			8,096 LF 24-inch	
OM-2	Orchard Mesa Sewer Capacity Improvements (OM-2)	Upsized sewer along B 1/2 Road and Frontier Street	5,585 LF 12-inch	Design: 2032 Construction:2033
			4,079 LF 15-inch	
OM-3	Orchard Mesa Sewer Capacity Improvements (OM-3)	Upsized sewer along B Road	4,489 LF 15-inch	Design: 2034 Construction:2035

Notes:

(1) Correlates to 2020 MP CIP ID. Only projects identified in the 2020 MP with a specific ID are included.

(2) Represents March 2025 dollars.

Since the 2020 MP, only OM-1 has been changed or updated. The City noted that approximately 760 LF of the OM-1 project was completed as part of a recent project. The updated project extents are illustrated in Figure 3. Note, the project details, extents, and capacity should be reviewed with findings of the ongoing infiltration/inflow study for the Orchard Mesa sewer basin and flow monitoring in the basin.

4.0 10-YEAR CIP SUMMARY

A final summary of all proposed projects included in the 10-year CIP are summarized in Table 14. Detailed project cost estimates for each project are included in Attachment A and the annual expenditures schedule for the 10-year CIP is included as Attachment B.

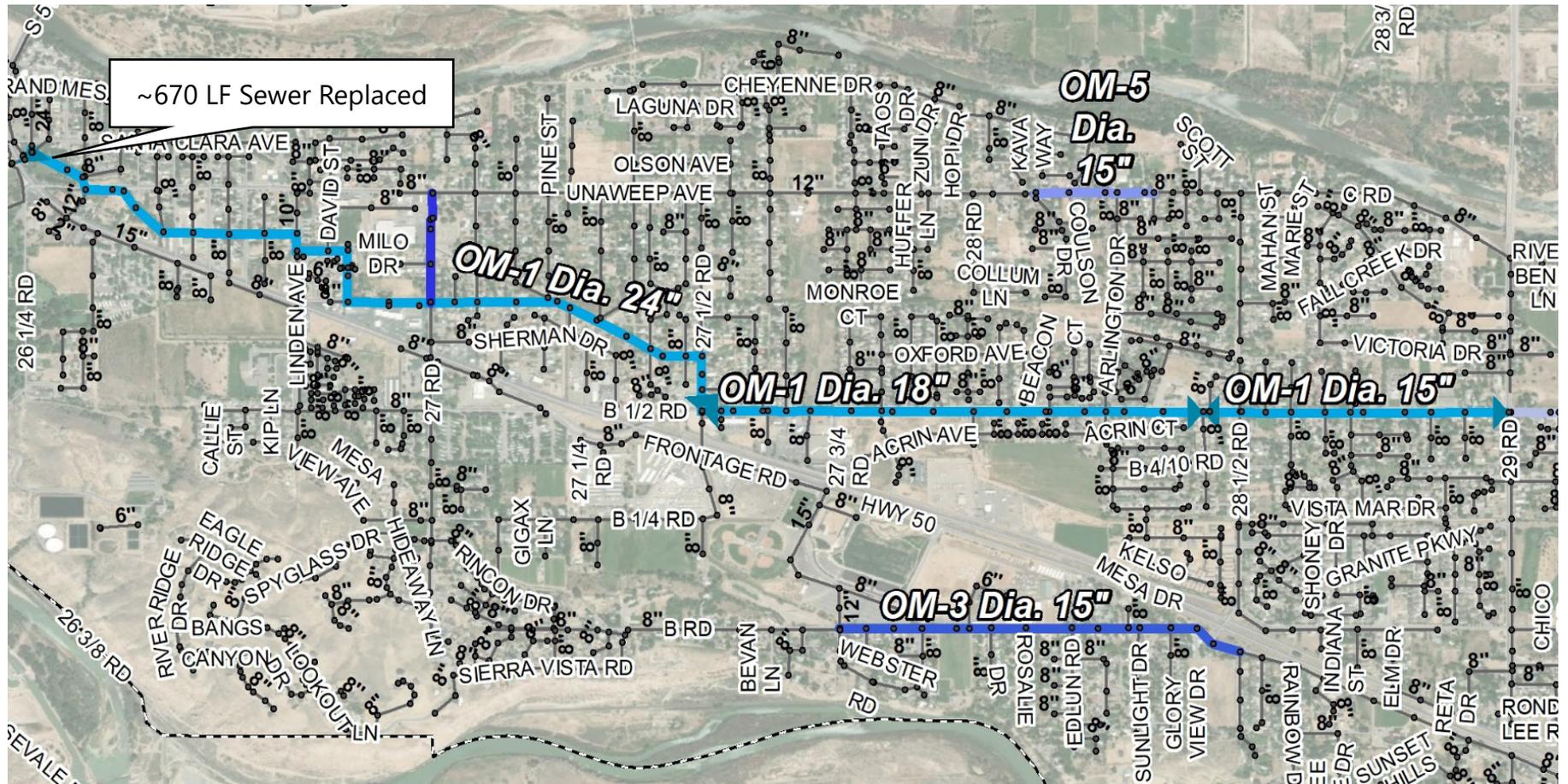


Figure 3 OM-1 Improvements Overview

Table 14 Summary of 10-year CIP Projects, Driver, and Costs

Project	Project Type (Collection / Treatment)	Project Components	Drivers	Timeline	Design and Permitting Costs, \$M, 2025	CM / ESDC, \$M, 2025 ⁽¹⁾	Total Construction Costs, \$M, 2025 ⁽²⁾	Total Project Costs, \$M, 2025
Orchard Mesa River Siphon	Collection	<ul style="list-style-type: none"> New HWY 50 bridge crossing downstream of OM basin Abandon OM siphon under Colorado River 	<ul style="list-style-type: none"> Siphon maintenance issues 	Design: 2025 Construction: 2026	-	-	\$5.49	\$5.49
CGVSD Lift Station Replacement (CGVSD-2)	Collection	<ul style="list-style-type: none"> Replace existing Grand Valley Byproducts Lift Station Does not include CGVSD-1 project 	<ul style="list-style-type: none"> Asset renewal Capacity improvement 	Design: 2025 Construction: 2027	\$1.01	\$1.01	\$10.4	\$12.4
2026 Sewer Replacement Projects	Collection	<ul style="list-style-type: none"> Annual sewer R&R budget for 2026 Includes design and construction of typical sewer R&R projects Budget estimated to replace ~10,500 LF of sewer per year 	<ul style="list-style-type: none"> Asset renewal Ongoing sewer R&R 	Design: 2025 Construction: 2026	N/A	N/A	\$4.00	\$4.00
2027 Sewer Replacement Projects	Collection	<ul style="list-style-type: none"> Annual sewer R&R budget for 2027 Includes design and construction of typical sewer R&R projects Budget estimated to replace ~10,500 LF of sewer per year 	<ul style="list-style-type: none"> Asset renewal Ongoing sewer R&R 	Design: 2026 Construction: 2027	\$0.50	N/A	\$4.00	\$4.50
Sewer Improvements Districts	Collection	<ul style="list-style-type: none"> Annual budget for sewer extensions to serve SID areas and eliminate septic tanks 	<ul style="list-style-type: none"> Sewer extensions Septic tank elimination 	Annually	N/A	N/A	N/A	\$1.00/year
Trunkline Extension Projects	Collection	<ul style="list-style-type: none"> Budget for future trunkline extension projects Estimated budget for ~6,300 LF 	<ul style="list-style-type: none"> Sewer extensions 	Project 1: 2029 Project 2: 2035	N/A	N/A	N/A	\$2.50/project
Orchard Mesa Sewer Capacity Improvements (OM-1) (Part 2)	Collection	<ul style="list-style-type: none"> Upsized sewers along B 1/2 and 3/4 Road 	<ul style="list-style-type: none"> Capacity improvement 	Design: 2030 Construction: 2031	\$1.00		\$10.9	\$12.0
Orchard Mesa Sewer Capacity Improvements (OM-2)	Collection	<ul style="list-style-type: none"> Upsized sewer along B 1/2 Road and Frontier Street 	<ul style="list-style-type: none"> Capacity improvement 	Design: 2032 Construction: 2033	\$0.52		\$5.67	\$6.20
Orchard Mesa Sewer Capacity Improvements (OM-3)	Collection	<ul style="list-style-type: none"> Upsized sewer along B Road 	<ul style="list-style-type: none"> Capacity improvement 	Design: 2034 Construction: 2035	\$0.25		\$2.76	\$3.01
Sewer Line Replacement/ Rehabilitation	Collection	<ul style="list-style-type: none"> Annual sewer R&R budget for 2028 and beyond Includes design and construction of typical sewer R&R projects Budget could cover open cut and lining projects. 	<ul style="list-style-type: none"> Asset renewal Ongoing sewer R&R 	Annually	\$0.50/year	N/A	\$4.00/year	\$4.50/year
Persigo WWTP Improvements and Asset Replacement	Treatment	<ul style="list-style-type: none"> Annual WWTP asset replacement and miscellaneous annual operational projects \$736,000 in 2025 and inflated by 5 percent annually per City's direction 	<ul style="list-style-type: none"> Operational efficiencies Asset revitalization 	Annually				\$0.74

Project	Project Type (Collection / Treatment)	Project Components	Drivers	Timeline	Design and Permitting Costs, \$M, 2025	CM / ESDC, \$M, 2025 ⁽¹⁾	Total Construction Costs, \$M, 2025 ⁽²⁾	Total Project Costs, \$M, 2025
Persigo Administration Building and Maintenance Shop	Treatment	<ul style="list-style-type: none"> New admin building and maintenance shop (20,000 sf) 	<ul style="list-style-type: none"> Existing and Future Service Operational Efficiencies Health and Safety Asset Revitalization 	Design: 2025-2026 Construction: 2026-2027	\$1.04	\$1.04	\$10.9	\$13.0
Phase 2 Improvements Project ⁽³⁾	Treatment	<ul style="list-style-type: none"> New anaerobic digester complex New grease receiving station Secondary clarifier rehabilitation Raw sewage pump station rehabilitation Primary sludge and scum pump replacements 	<ul style="list-style-type: none"> Existing and Future Service Operational Efficiencies Asset Revitalization Innovation Resource Recovery 	Design: 2026 Construction: 2027-2029	\$5.15	\$5.15	\$68.3	\$78.6
Phase 3 Improvements Project	Treatment	<ul style="list-style-type: none"> Addition of fourth secondary clarifier Addition of third primary clarifier Primary clarifier rehabilitation Biogas treatment system expansion 	<ul style="list-style-type: none"> Existing and Future Service Operational Efficiencies Asset Revitalization Resource Recovery 	Design: 2035 Construction: 2036-2037	\$2.56	\$2.56	\$26.9	\$32.0

Notes:

CM / ESDC - construction management / engineering services during construction

(1) The City's preference is to allocate all engineering costs, including ESDCs, during the design year. ESDC/CM costs are therefore allocated and escalated with the design costs and are not allocated as a portion of the construction costs during the year of construction.

(2) Total construction costs includes owner held contingency.

(3) Persigo WWTP Phase 2 Project includes \$4M of design services that was allocated in the 2025 budget and is not included in the 10-year CIP from 2026 through 2035. Construction costs on the 10-year CIP (Attachment B) have been inflated to the midpoint of construction for this project, 2028.

ATTACHMENT A **PROJECT COST ESTIMATES**

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPROVEMENT PLAN (CIP)

		UPDATED: Mar-25 BY : RR CHECKED: LH		
CLIENT City of Grand Junction PROJECT: OM-1	Estimate Basis (year) = 2025 Mid point of Construction (year) = 2031			
Project Description: This project includes upsizing the main trunk sewer through Orchard Mesa from 29 Road downstream to Unawep Avenue. The upsized sewers includes sections of 15, 18, and 24-inch sewers as illustrated in the figure. The sewers are needed to reduce surcharging through the Orchard Mesa sewer basin. The design flows should be verified before the alignment/pipe sizes are finalized. This project was included in the CIP as part of the 2008 plan, and similar to the 2008 study alternative alignments along 29 Road were evaluated as summarized in Chapter 6. This project needs to be correlated with the other design projects in the Orchard Mesa basin. Additional Details: This project should be coordinated with on-going flow monitoring and studies within the OM basin.				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Upsized sewer along B 1/2 Road.	2,980	LF	\$ 430	\$ 1,282,033
Upsized sewer along B 1/2 Road.	4,892	LF	\$ 447	\$ 2,188,783
Upsized sewer along B 3/4 Road. Reduced by 670 LF due to recent replacements	8,096	LF	\$ 516	\$ 4,179,600
BASE ASSET COST				\$ 7,650,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Construction contingency	30	%		\$ 2,295,000
SUBTOTAL DIRECT COST				\$ 9,945,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	0	%		\$ -
GC Overhead and Profit (including self perform)	0	%		\$ -
City of Grand Junction taxes (sales tax on materials at 50% assumption)	0	%		\$ -
Builders Risk and Insurance	0	%		\$ -
TOTAL CONSTRUCTION COST				\$ 9,945,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Design and Permitting	10	%		\$ 995,000
Owner maintained project contingency	10	%		\$ 995,000
TOTAL PROJECT COST (2025 \$'s)				\$ 11,935,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1) Engineering services during construction (ESDC) are not included in this estimate. The City completes ESDCs for their linear infrastructure projects internally.				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPROVEMENT PLAN (CIP)



UPDATED: Mar-25
 BY : RR
 CHECKED: LH

CLIENT City of Grand Junction
 PROJECT: OM-2

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2033

Project Description:

New sewers are required to minimize surcharge in the upper reaches of the Orchard Mesa sewer basin. The inverts of the sewers will need to be verified (model includes assumed inverts in this area). As illustrated in the figure the extension projects will need to be coordinated with this project as well. This project was included in the CIP as part of the 2008 study as a replacement pipe.

Additional Details: This project should be coordinated with on-going flow monitoring and studies within the OM basin.

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Upsized sewer along B 1/2 Road.	5,585	LF	\$ 396	\$ 2,210,518
Upsized sewer along Frontier Street.	4,079	LF	\$ 430	\$ 1,754,837
BASE ASSET COST				\$ 3,965,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Construction contingency	30	%		\$ 1,190,000
SUBTOTAL DIRECT COST				\$ 5,155,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	0	%		\$ -
GC Overhead and Profit (including self perform)	0	%		\$ -
City of Grand Junction taxes (sales tax on materials at 50% assumption)	0	%		\$ -
Builders Risk and Insurance	0	%		\$ -
TOTAL CONSTRUCTION COST				\$ 5,155,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Design and Permitting	10	%		\$ 516,000
Owner maintained project contingency	10	%		\$ 516,000
TOTAL PROJECT COST (2025 \$'s)				\$ 6,187,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1) Engineering services during construction (ESDC) are not included in this estimate. The City completes ESDCs for their linear infrastructure projects internally.

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPROVEMENT PLAN (CIP)



UPDATED: Mar-25
 BY: RR
 CHECKED: LH

CLIENT: City of Grand Junction
 PROJECT: OM-3

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2035

Project Description:

A new sewer is required to decrease surcharging along B Road. The new sewer size, capacity, and inverts should be coordinated with the downstream infrastructure. There may be some additional 12-inch sewer downstream of B Road that should be replaced. This project was not included in the CIP as part of the 2008 study (not identified as being capacity deficient).

Additional Details: This project should be coordinated with on-going flow monitoring and studies within the OM basin.

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Upsized sewer along B Road.	4,489	LF	\$ 430	\$ 1,931,224
			BASE ASSET COST	\$ 1,931,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Construction contingency	30	%		\$ 579,000
			SUBTOTAL DIRECT COST	\$ 2,510,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	0	%		\$ -
GC Overhead and Profit (including self perform)	0	%		\$ -
City of Grand Junction taxes (sales tax on materials at 50% assumption)	0	%		\$ -
Builders Risk and Insurance	0	%		\$ -
			TOTAL CONSTRUCTION COST	\$ 2,510,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Design and Permitting	10	%		\$ 251,000
Owner maintained project contingency	10	%		\$ 251,000
			TOTAL PROJECT COST (2025 \$'s)	\$ 3,012,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1) Engineering services during construction (ESDC) are not included in this estimate. The City completes ESDCs for their linear infrastructure projects internally.

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPROVEMENT PLAN (CIP)

		UPDATED: Mar-25 BY : RR CHECKED: LH		
CLIENT City of Grand Junction PROJECT: CGVSD-2	Estimate Basis (year) = 2025 Mid point of Construction (year) = 2027			
Project Description: A new lift station and forcemain is required to convey the future flows. The flows conveyed to the lift station should be verified with the future land use and industrial users. This project should be constructed/evaluated in conjunction with CGVSD-2. This project was not evaluated as part of the 2008 study (not in model).				
Additional Details: This project should be coordinated with CGVSD-1. Contingency on this project is decreased from 30% to 15% to provide for uncertainty with engineer's estimate used for Lake Roads Lift Station (used as local cost basis)				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Upsized CGVSD By-Products lift station.	1	-	\$ 8,155,560	\$ 8,155,560
Upsized CGVSD By-Products lift station forcemain.	1,354	LF	\$ 435	\$ 589,498
			BASE ASSET COST	\$ 8,745,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Construction contingency	15	%		\$ 1,312,000
			SUBTOTAL DIRECT COST	\$ 10,057,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	0	%		\$ -
GC Overhead and Profit (including self perform)	0	%		\$ -
City of Grand Junction taxes (sales tax on materials at 50% assumption)	0	%		\$ -
Builders Risk and Insurance	0	%		\$ -
			TOTAL CONSTRUCTION COST	\$ 10,057,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Design and Permitting, Construction Management and ESDC	20	%		\$ 2,011,000
Owner maintained project contingency	3	%		\$ 302,000
			TOTAL PROJECT COST (2025 \$'s)	\$ 12,370,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)



UPDATED: Mar-25
 BY: LR
 CHECKED: LH, JR

CLIENT: City of Grand Junction
 PROJECT: New Administration Building Located at the Persigo WWTP
 Process Area: Admin Building

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2027

Orchard mesa facility is 2,560 square feet and the Persigo admin building is 13,500 square feet. The new admin building will combine both facilities. Approximately 18-20 offices, locker rooms for ~ 40 staff, conference/training room for up to 90 staff with ability to partition into smaller room, new SCADA operations control room, laboratory for 4 staff with bench and hood space, maintenance shop for 8 plant mechanics and 1 electrician, kitchen/lunch room, garage space for 4 high bay jetter/vac trucks and 2 CCTV vans. Assume green field construction at Persigo.

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Operations/ Administration Building (including lab)	20,000	SF	\$ 400	\$ 8,000,000
BASE ASSET COST				\$ 8,000,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	0	%		\$ -
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	0	%		\$ -
Electrical, IC, Programming Allowances	0	%		\$ -
Equipment installation	0	%		\$ -
Construction contingency	30	%		\$ 2,400,000
SUBTOTAL DIRECT COST				\$ 10,400,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	0	%		\$ -
GC Overhead and Profit (including self perform)	0	%		\$ -
Bonds and insurance	0	%		\$ -
City of Grand Junction taxes (sales tax on materials at 50% assumption)	0.0	%		\$ -
TOTAL CONSTRUCTION COST				\$ 10,400,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Engineering, legal, administrative, construction management/esdc fees	20	%		\$ 2,080,000
Owner maintained project contingency	5	%		\$ 520,000
TOTAL PROJECT COST (2025 \$'s)				\$ 13,000,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1. Assume new Operations/Admin Bldg is larger than the combined square footage of the Orchard Mesa and Persigo Admin Bldg.
2. Allowances and non-construction factors such as general conditions are included in the direct costs.
3. Assume greenfield construction.
4. Assume no significant cost additions resulting from geotechnical investigation.
5. Cost estimating accuracy limited by unknowns of building design.

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		UPDATED: Mar-25		
		BY : LR		
		CHECKED: LH, JR		
CLIENT: City of Grand Junction		Estimate Basis (year) = 2025		
PROJECT: Phase 2 Summary		Mid point of Construction (year) = 2028		
Process Area: Multiple				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>RSPS Improvements</i>	1	LS	\$ 4,776,000	\$ 4,776,000
<i>Primary sludge and scum pump replacement</i>	1	LS	\$ 259,000	\$ 259,000
<i>Secondary clarifier rehabilitation</i>	1	LS	\$ 9,738,000	\$ 9,738,000
<i>Anaerobic digestion complex (two new digesters, control building, DAFT)</i>	1	LS	\$ 26,179,000	\$ 26,179,000
<i>Grease receiving station</i>	1	LS	\$ 4,615,000	\$ 4,615,000
<i>Misc asset replacements - grit weir elevation raise</i>	1	LS	\$ 150,000	\$ 150,000
			SUB TOTAL DIRECT COST	\$ 45,717,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	15	%		\$ 6,858,000
GC Overhead and Profit (including self perform)	20	%		\$ 9,143,000
Bonds and insurance	2.75	%		\$ 1,257,000
City of Grand Junction taxes (sales tax on materials at 50% assumption)	8.2	%		\$ 1,874,000
			TOTAL CONSTRUCTION COST	\$ 64,849,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Engineering, legal, administrative, construction management/esdc fees	16	%		\$ 10,311,000
Owner maintained project contingency	5.5	%		\$ 3,534,000
			TOTAL PROJECT COST (2025 \$'s)	\$78,694,000
Minus \$4M allocated in 2025 budget for original design services to be excluded from the 10-year CIP				\$74,694,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1. See individual project component cost estimate sheets for assumptions and uncertainties associated with each estimate.				
2. Design and permitting costs and engineering services during construction costs provided by the City.				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)



UPDATED: Mar-25
BY : LR
CHECKED: LH, JR

CLIENT: City of Grand Junction
PROJECT: Anaerobic Digestion Conversion and Expansion
Process Area: Anaerobic Digestion

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2028

Class V cost estimate for anaerobic digestion improvements to construct a new anaerobic digestion complex (two new 80 ft anaerobic digesters, heating and pumping equipment). (Phase 2)

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Site Work + Yard Piping	1	LS	\$ 2,100,000	\$ 2,100,000
Digester 1 Concrete	630	CY	\$ 1,400	\$ 882,000
Digester 1 Mixing (LM Mixing)	1	LS	\$ 461,000	\$ 461,000
Digester 1 Floating Steel Cover	1	LS	\$ 972,400	\$ 972,000
Digester 2 Concrete	630	CY	\$ 1,400	\$ 882,000
Digester 2 Mixing (LM Mixing)	1	LS	\$ 461,000	\$ 461,000
Digester 2 Floating Steel Cover	1	LS	\$ 972,400	\$ 972,000
Control Building Concrete	350	CY	\$ 1,400	\$ 490,000
Control Building Masonry	3,600	SF	\$ 90	\$ 324,000
Control Building Roof	3,600	SF	\$ 75	\$ 270,000
Control Building Piers	300	LF	\$ 300	\$ 90,000
Digested Sludge Pump	2	EA	\$ 100,000	\$ 200,000
Hot Water Boilers	2	EA	\$ 450,000	\$ 900,000
Heat Exchangers	6	EA	\$ 153,000	\$ 918,000
Allowance for drilled piers (consistent with Phase 1 foundations)	1	LS	\$ 200,000	\$ 200,000
Allowance digester coating (two digesters)	25,133	SF	\$ 90	\$ 2,262,000
DAFT Building	1,000	SF	\$ 500	\$ 500,000
DAFT process equipment and piping	1	LS	\$ 1,500,000	\$ 1,500,000
			BASE ASSET COST	\$ 14,384,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Structural / Architectural Allowance	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	10	%		\$ 1,438,400
Electrical, IC, Programming Allowances	30	%		\$ 4,315,200
Construction contingency	30	%		\$ 6,041,000
			SUBTOTAL DIRECT COST	\$ 26,179,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1. Assume new anaerobic digesters are 80 ft in diameter.
2. Assume new DAFT building with an area roughly equal to the existing DAFT area.
3. Cost estimating accuracy limited by unknowns of digester/building design.

APPENDIX 8.A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		UPDATED: Mar-25		
		BY : LR		
		CHECKED: LH, JR		
CLIENT	City of Grand Junction			
PROJECT:	New Grease Building and receiving station	Estimate Basis (year) =	2025	
Process Area:	Grease Bldg Project	Mid point of Construction (year) =	2028	
<p><i>Class V cost estimate for the new grease receiving station. Project estimate includes receiving station, additional yard piping, site electrical and allowance for heating the grease.</i></p>				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
FOG Receiving Station and pumping to digester	1	LS	\$ 2,400,000	\$ 2,400,000
Yard Piping Allowance	1	LS	\$ 450,000	\$ 450,000
Site Electrical Allowance	1	LS	\$ 550,000	\$ 550,000
Allowance for heating grease	1	EA	\$ 100,000	\$ 150,000
			BASE ASSET COST	\$ 3,550,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	0	%		\$ -
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Building Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	0	%		\$ -
Electrical, IC, Programming Allowances	0	%		\$ -
Equipment installation	0	%		\$ -
Construction Contingency	30	%		\$ 1,065,000
			SUBTOTAL DIRECT COST	\$ 4,615,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
<ol style="list-style-type: none"> 1. Assume FOG receiving station is constructed in the southeast corner of the Persigo site near the new anaerobic digesters. 2. Allowances are included in the direct costs. 3. Cost estimating accuracy limited by unknowns of building design. 				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		UPDATED: Mar-25 BY : LR CHECKED: LH, JR		
CLIENT: City of Grand Junction PROJECT: Secondary Clarifier rehabilitation and mechanism replacement Process Area: Secondary Treatment	Estimate Basis (year) = 2025 Mid point of Construction (year) = 2028			
Class V cost estimate for the rehabilitation of the existing secondary clarifiers and replacement of clarifier mechanisms. (Phase 2)				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>Clarifier 4 rehabilitation and tow bro mechanism</i>				
Tow Bro mechanism (Evoqua)	1	EA	\$ 773,100	\$ 773,100
Equipment install (by Evoqua)	1	LS	\$ 331,300	\$ 331,300
Demolition of existing mechanism and topping concrete	1	LS	\$ 165,500	\$ 165,500
Concrete topping	1	LS	\$ 60,000	\$ 60,000
Coatings (prep and paint mechanism)	1	LS	\$ 112,500	\$ 112,500
Electrical work to de-terminate and re-terminate to motor	1	LS	\$ 10,000	\$ 10,000
<i>Clarifier 1 and 2 rehabilitation and draft tube mechanism replacement</i>				
New tow bro mechanisms (replacement of draft tubes)	2	EA	\$ 773,100	\$ 1,546,200
Demolition of existing mechanism and topping concrete	2	EA	\$ 206,875	\$ 413,750
Concrete topping	2	EA	\$ 75,000	\$ 150,000
Coatings (prep and paint mechanism)	2	EA	\$ 112,500	\$ 225,000
Electrical work to de-terminate and re-terminate to motor	2	EA	\$ 10,000	\$ 20,000
Allowance for repair of RAS line - CIPP assumed	2	EA	\$ 200,000	\$ 400,000
BASE ASSET COST				\$ 4,207,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	5	%		\$ 210,350
Structural / Architectural Allowance (Including Demolition)	30	%		\$ 1,262,100
Electrical, IC, Programming Allowances	20	%		\$ 841,000
Construction contingency	30	%		\$ 3,218,000
SUBTOTAL DIRECT COST				\$ 9,738,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1. Assume existing mechanisms replaced with Tow-Bro type of style mechanism. May required additional concrete removal for demolition. 2. Assume increased structural allowance for center-well modifications (specifically) on two original clarifiers				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		UPDATED: Mar-25		
		BY : LR		
		CHECKED: LH, JR		
CLIENT	City of Grand Junction			
PROJECT:	RSPS - Raw Sewage Pump Station Asset Replacements	Estimate Basis (year) =	2025	
Process Area:	Raw Sewage Pump Station (RSPS)	Mid point of Construction (year) =	2028	
<i>Class V cost estimate to rehabilitate and replace assets in the Raw Sewage Pump Station.</i>				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Perform Vibration / Cavitation Analysis	1	LS	\$ 35,000	\$ 35,000
Rehabilitate Influent Pumps	5	LS	\$ 150,000	\$ 750,000
Replace wet well lining (50-60/sf)	5,000	SF	\$ 60	\$ 300,000
Allowance for header pipe replacement and painting	1	LS	\$ 200,000	\$ 200,000
Stand-by RSPS Generator	1	LS	\$ 800,000	\$ 800,000
Replace Flow EQ pipeline	285	LF	\$ 1,000	\$ 285,000
BASE ASSET COST				\$ 2,370,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	20	%		\$ 474,000
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	10	%		\$ 237,000
Electrical, IC, Programming Allowances	25	%		\$ 593,000
Construction contingency	30	%		\$ 1,102,000
SUBTOTAL DIRECT COST				\$ 4,776,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1. <i>Estimated 5,000 SF of surface area for wet well lining per record drawings.</i>				
2. <i>No structural or coatings as identified by WJE.</i>				
3. <i>El&C/programming allowance lowered due to large number of itemized direct costs.</i>				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)



UPDATED: Mar-25
BY: LR
CHECKED: LH, JR

CLIENT: City of Grand Junction
PROJECT: Primary Clarifier - Scum and Sludge Pump Replacement
Process Area: Primary Sludge Building and Clarifiers

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2028

Class V cost estimate for the replacement of the primary scum and sludge pumping systems. (Phase 2)

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
Replace Sludge Pumps	2	EA	\$ 66,853	\$ 134,000
Replace plunger-type pumps	2	EA	\$ 54,698	\$ 109,000
VFD Replacements	4	EA	\$ 70,000	\$ 280,000
BASE ASSET COST				\$ 523,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	15	%		\$ 78,000
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	15	%		\$ 78,000
Electrical, IC, Programming Allowances	35	%		\$ 183,000
Construction contingency	30	%		\$ 259,000
SUBTOTAL DIRECT COST				\$259,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1. Assume in-kind pump and VFD replacements.
2. Allowances provided for MCC-related updates.

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		Mar-25	
		UPDATED: BY : LR CHECKED: LH, JR	
CLIENT	City of Grand Junction		
PROJECT:	Phase 3 Summary	Estimate Basis (year) =	2025
Process Area:	Multiple	Mid point of Construction (year) =	2036

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>Additional secondary clarifier</i>	1	LS	\$ 5,548,000	\$ 5,548,000
<i>Additional primary clarifier and existing primary clarifier rehabilitation</i>	1	LS	\$ 9,318,000	\$ 9,318,000
<i>Biogas treatment system expansion</i>	1	LS	\$ 3,186,000	\$ 3,186,000
			BASE ASSET COST	\$ 18,052,000
GENERAL CONDITIONS, CONTRACTOR MARKUPS, TAXES, AND ESCALATION				
General Conditions Allowance	15	%		\$ 2,708,000
GC Overhead and Profit (including self perform)	20	%		\$ 3,610,000
Bonds and insurance	2.75	%		\$ 496,000
City of Grand Junction taxes (sales tax on materials at 50% assumption)	8.2	%		\$ 740,000
Cost Escalation to Mid-Point of Construction	4	%		
			TOTAL CONSTRUCTION COST	\$ 25,606,000
TOTAL PROJECT COST ALLOWANCES (NON-CONSTRUCTION)				
Engineering, legal, administrative, construction management/esdc fees	20	%		\$ 5,121,000
Owner maintained project contingency	5	%		\$ 1,280,000
			TOTAL PROJECT COST (2025 \$'s)	\$32,007,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER	
1. See individual project component cost estimate sheets for assumptions and uncertainties associated with each estimate.	

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)



UPDATED: Mar-25
BY: LR
CHECKED: LH, JR

CLIENT: City of Grand Junction
PROJECT: Addition of fourth secondary clarifier
Process Area: Secondary Treatment

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2036

Class V cost estimate for a fourth clarifier to provide operational redundancy and reliability when taking existing clarifiers offline for mechanism replacement. (Phase 3)

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS Secondary Clarifier No.3 Site Construction, concrete, metals, finishes, equipment, mechanical, electrical	1	LS	\$ 4,267,704	\$ 4,268,000
			BASE ASSET COST	\$ 4,268,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	0	%		\$ -
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	0	%		\$ -
Electrical, IC, Programming Allowances	0	%		\$ -
Equipment installation	0	%		\$ -
Construction contingency	30	%		\$ 1,280,000
			SUBTOTAL DIRECT COST	\$ 5,548,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1. Assumes existing electrical service would not need to be upsized for additional mechanical equipment and pumping.
2. Assumes clarifier RAS and WAS pumping upsized with asset revitalization improvements for RAS/WAS pumping.

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)

		UPDATED: Mar-25 BY : LR CHECKED: LH, JR		
CLIENT City of Grand Junction PROJECT: Primary Clarifier Asset Replacement and New Primary Clarifier Process Area: Primary Sludge Building and Clarifiers	Estimate Basis (year) = 2025 Mid point of Construction (year) = 2036			
<p><i>Class V cost estimate for the replacement and rehabilitation of the primary clarifiers and addition of the third primary clarifier</i></p>				
DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>Primary Clarifier No.3</i> Site Construction, concrete, metals, finishes, equipment, mechanical, electrical	1	LS	\$ 4,267,704	\$ 4,268,000
<i>Rebuild / Replace Primary Clarifier Mechanisms</i>	2	EA	\$ 1,450,000	\$ 2,900,000
BASE ASSET COST				\$ 7,168,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	0	%		\$ -
Structural / Architectural Allowance (Including Demolition)	0	%		\$ -
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	0	%		\$ -
Electrical, IC, Programming Allowances	0	%		\$ -
Construction contingency	30	%		\$ 2,150,000
SUBTOTAL DIRECT COST				\$ 9,318,000
UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER				
1. Assumes existing electrical service would not need to be upsized for additional mechanical equipment and pumping. 2. Assumes only two primary clarifiers in operation with a third for redundancy. Therefore, there is no increase in PS pumping capacity.				

ATTACHMENT A COST ESTIMATES FOR CAPITAL IMPLEMENTATION PLAN (CIP)



UPDATED: Mar-25
BY : LR
CHECKED: LH, JR

CLIENT City of Grand Junction
PROJECT: Biogas Expansion and Asset Revitalization
Process Area: Biogas System Assets

Estimate Basis (year) = 2025
 Mid point of Construction (year) = 2036

Class V cost estimate for rehabilitation and expansion of the existing 100cfm biogas treatment system.

DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
DIRECT COSTS				
<i>New Biogas Treatment System for Capacity</i>				
Sitework	1	LS	\$ 30,388	\$ 30,388
Equipment Pad	50	CY	\$ 790	\$ 39,504
BioCNG 100	1	EA	\$ 1,442,198	\$ 1,442,198
Piping Allowance	1	LS	\$ 121,551	\$ 121,551
BASE ASSET COST				\$ 1,634,000
ALLOWANCE FOR CONSTRUCTION SERVICES				
Site/Civil/Yard Piping Allowance	10	%		\$ 163,400
Structural / Architectural Allowance (Including Demolition)	10	%		\$ 163,400
Coatings and Finishes	0	%		\$ -
Mechanical System Allowance (HVAC, Plumbing, etc)	0	%		\$ -
Electrical, IC, Programming Allowances	30	%		\$ 490,000
Construction contingency	30	%		\$ 735,000
SUBTOTAL DIRECT COST				\$ 3,186,000

UNCERTAINTY WITH ESTIMATE, ADDITIONAL INFORMATION TO BE CONSIDERED FURTHER

1. Assume new biogas treatment system is located near the new anaerobic digesters.
2. Assume new biogas treatment system is and in-kind replacement for the existing system.

ATTACHMENT B 10-YEAR CIP / ANNUAL COST
PROJECTIONS



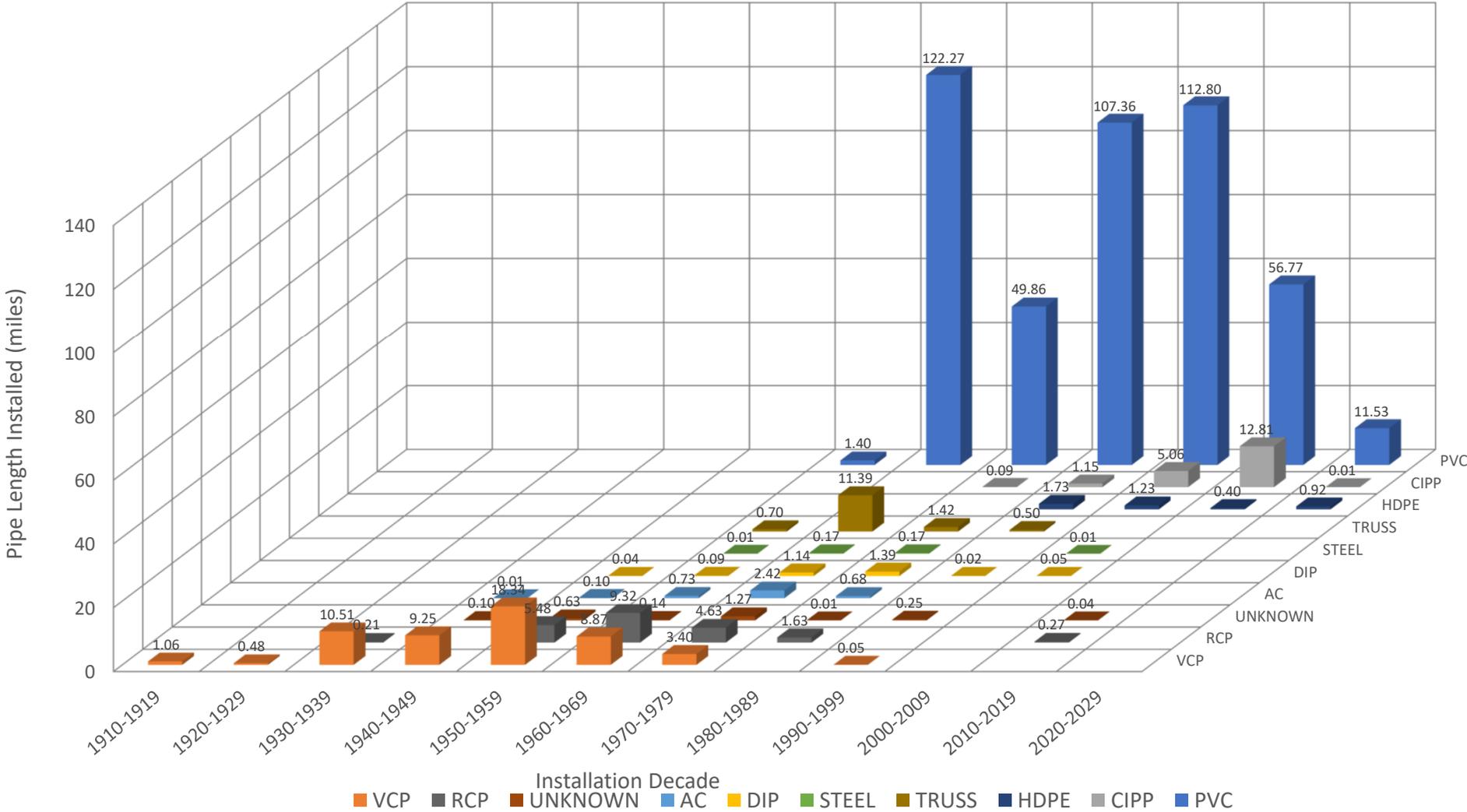
**2026 Recommended Joint Sewer Fund
Ten-Year Capital Plan
June 25, 2025**



Line #	Title	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Five-Year TOTAL	Ten-Year TOTAL
		2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2026-2030	2026-2035
Joint Sewer Fund													
1	OM river syphon	\$5,490,000										\$5,490,000	\$5,490,000
2	Grand Valley Byproducts Lift Station Replacement		\$12,370,000									\$12,370,000	\$12,370,000
3	2026 Sewer Replacement Projects	\$4,000,000										\$4,000,000	\$4,000,000
4	2027 Sewer Replacement Projects	\$520,000	\$4,330,000									\$4,850,000	\$4,850,000
5	Sewer Improvement Districts	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000	\$10,000,000
6	Trunkline Extension Projects				\$2,930,000						\$3,710,000	\$2,930,000	\$6,640,000
7	Capacity OM-1					\$1,220,000	\$13,850,000					\$1,220,000	\$15,070,000
8	Capacity OM-2							\$680,000	\$7,770,000			\$0	\$8,450,000
9	Capacity OM-3									\$360,000	\$4,090,000	\$0	\$4,450,000
10	Sewer Line Replacements/Rehabilitation		\$550,000	\$5,070,000	\$5,280,000	\$5,500,000	\$5,720,000	\$5,950,000	\$6,190,000	\$6,440,000	\$6,700,000	\$16,400,000	\$47,400,000
11	Persigo WWTP Improvements and Asset Replacement	\$770,000	\$810,000	\$860,000	\$910,000	\$960,000	\$1,010,000	\$1,070,000	\$1,130,000	\$1,190,000	\$1,250,000	\$4,310,000	\$9,960,000
12	Persigo WWTP Administration Building and Maintenance Facility	\$7,470,000	\$4,980,000									\$12,450,000	\$12,450,000
13	Phase 2 Wastewater Treatment Plant Expansion	\$6,300,000	\$5,390,000	\$28,470,000	\$35,390,000	\$6,930,000						\$82,480,000	\$82,480,000
14	Phase 3 Wastewater Treatment Plant Expansion (Design Only)										\$3,800,000	\$0	\$3,800,000
		\$25,550,000	\$29,430,000	\$35,400,000	\$45,510,000	\$15,610,000	\$21,580,000	\$8,700,000	\$16,090,000	\$8,990,000	\$20,550,000	\$151,500,000	\$227,410,000

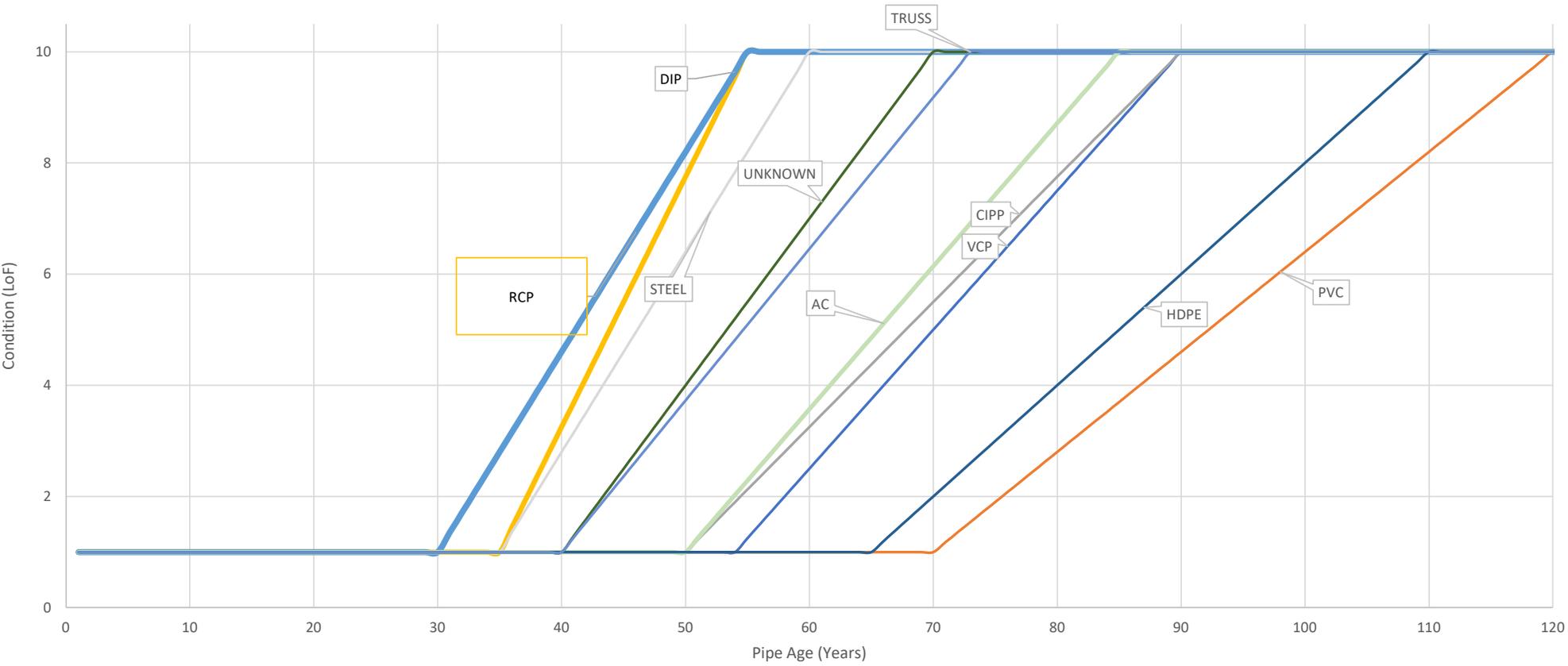
ATTACHMENT C **COLLECTION SYSTEM ASSESSMENT
DETAILS**

Sewer Pipe Inventory Profile



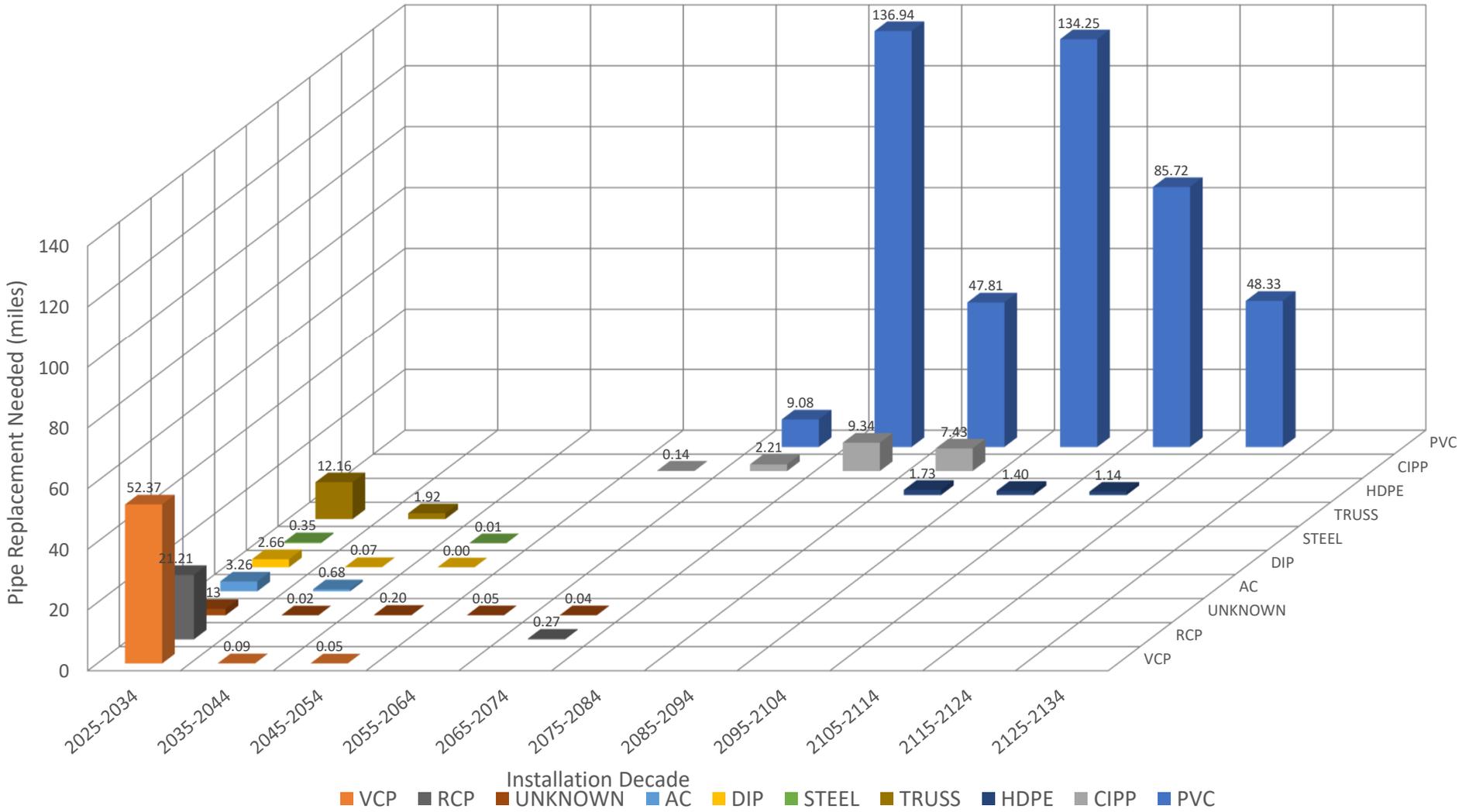
	Service Life (Years)				
Sewer Pipe Material	Pessimistic	Neutral	Optimistic		RISK MODEL (Age when LoF >= 0.8)
VCP	55	72	89		82
RCP	48	55	63		51
UNKNOWN	55	63	70		63
AC	55	70	85		77
DIP	40	50	60		49
STEEL	43	53	63		54
TRUSS	50	65	80		63
HDPE	90	100	110		100
CIPP	70	80	90		81
PVC	100	110	120		109

Condition Decay for Various Sewer Pipe Materials

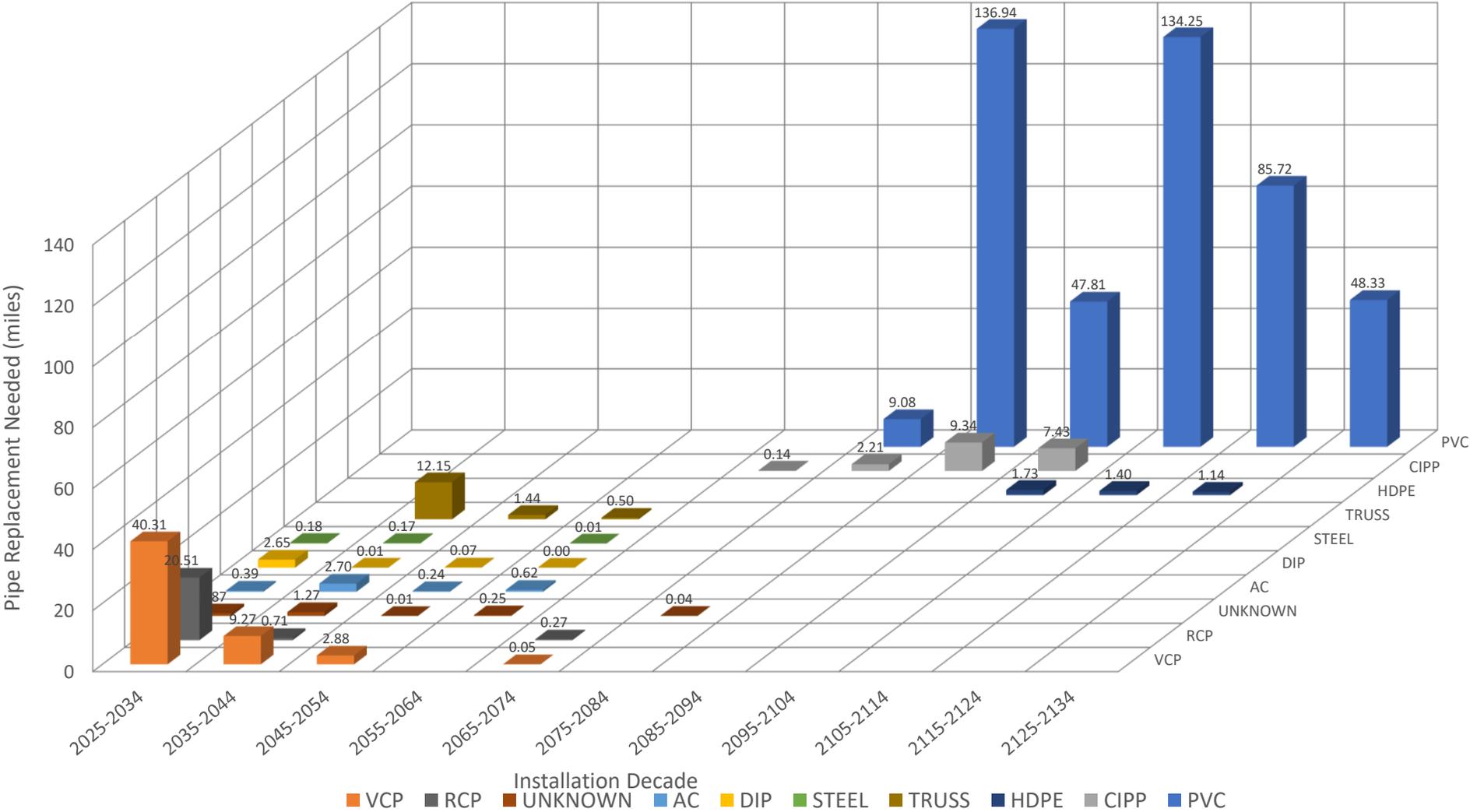


- VCP
- PVC
- CIPP
- RCP
- DIP
- AC
- STEEL
- HDPE
- UNKNOWN
- TRUSS

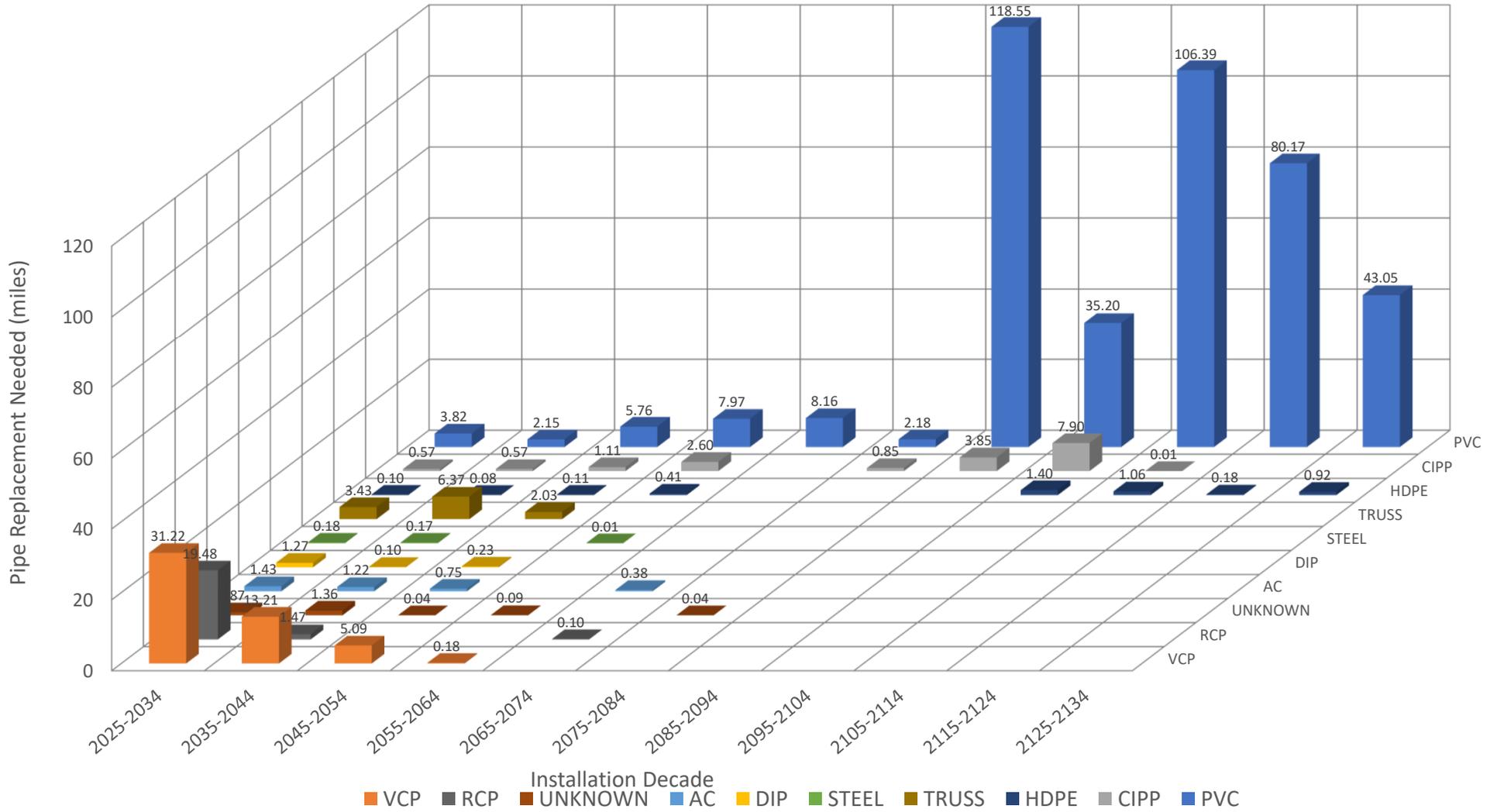
Projected Sewer Pipe Replacement Needs by Decade and Material (Pessimistic)



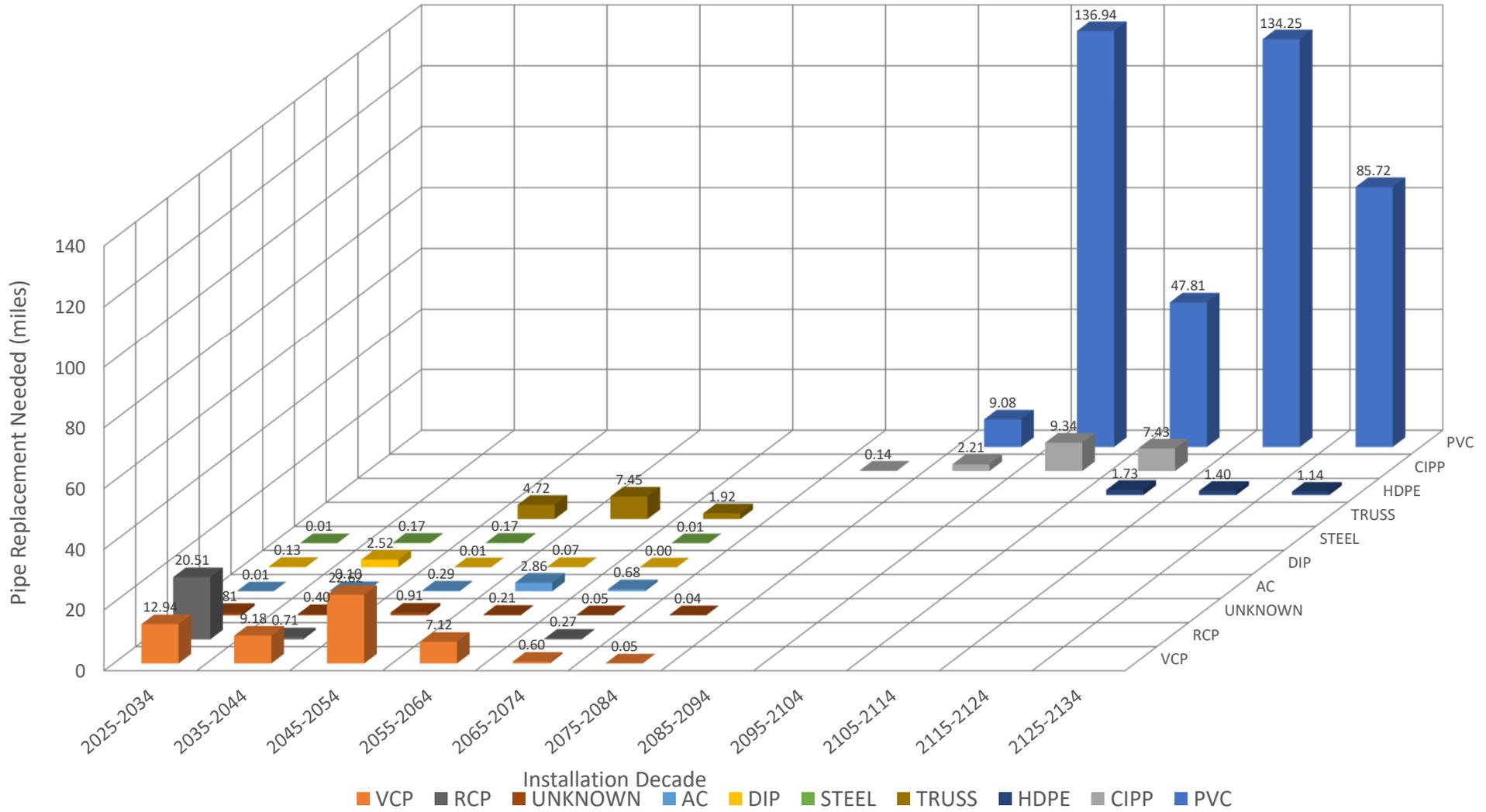
Projected Sewer Pipe Replacement Needs by Decade and Material (Neutral)



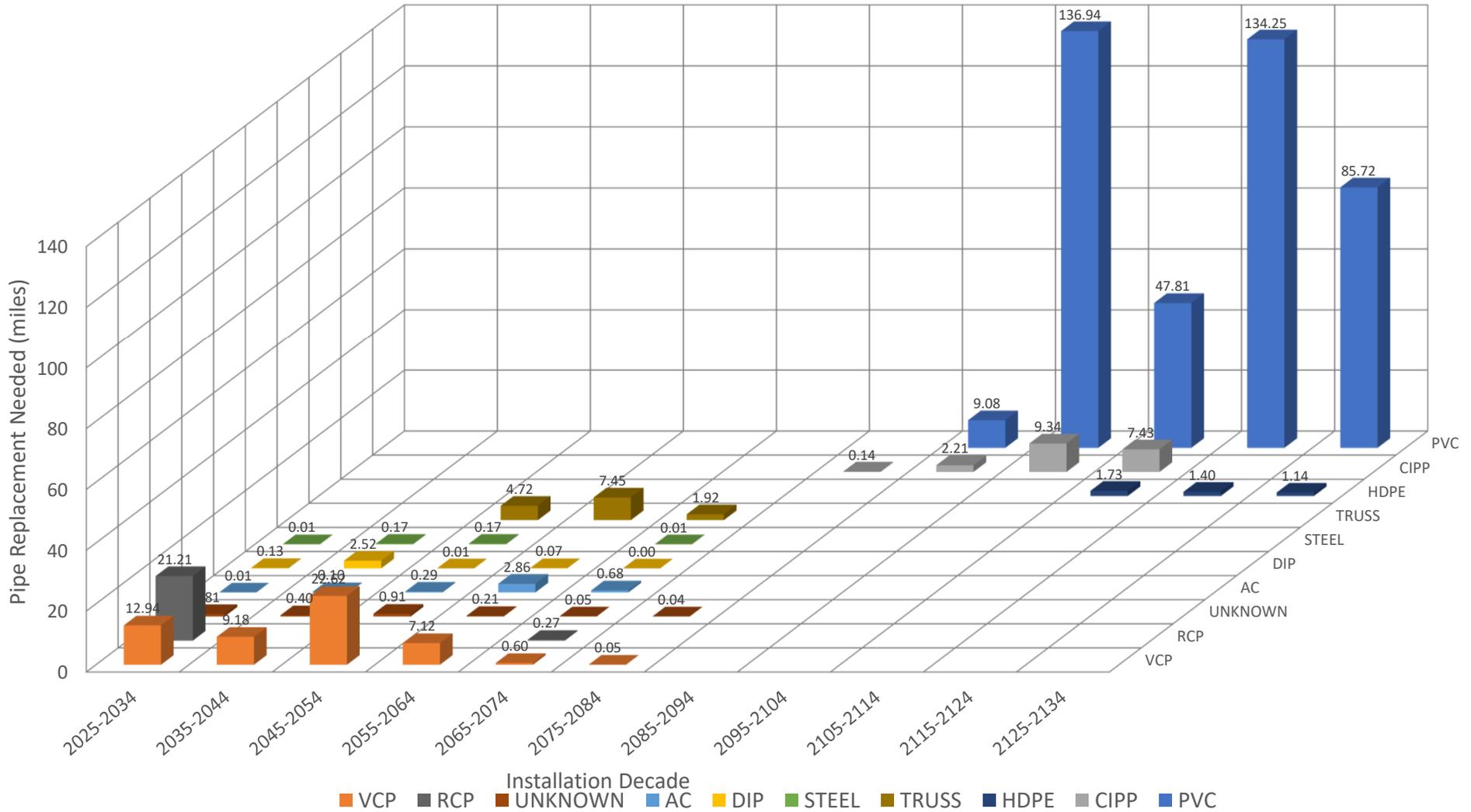
Projected Sewer Pipe Replacement Needs by Decade and Material (RISK MODEL)

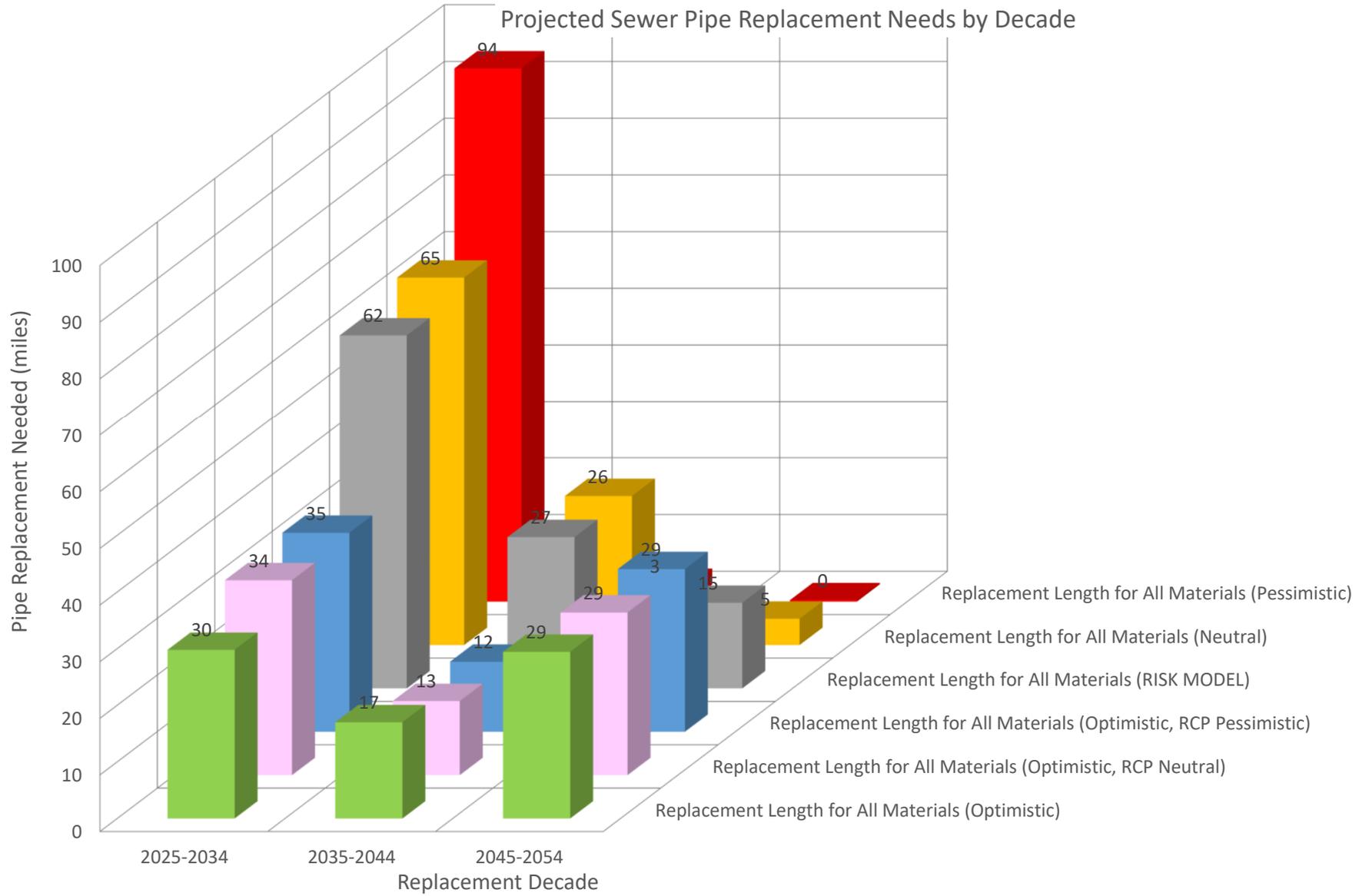


Projected Sewer Pipe Replacement Needs by Decade and Material (Optimistic, RCP Neutral)

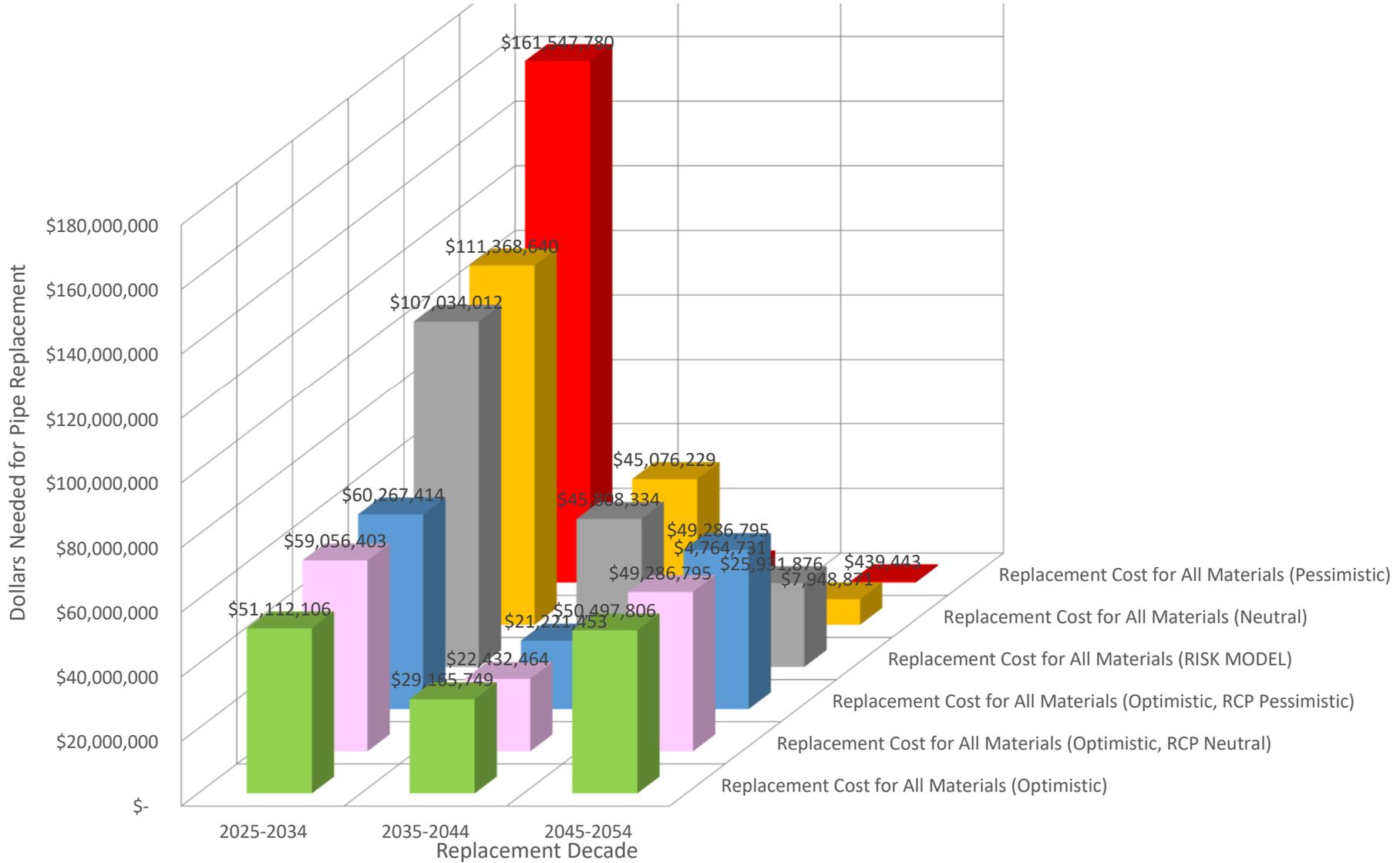


Projected Sewer Pipe Replacement Needs by Decade and Material (Optimistic, RCP Pessimistic)

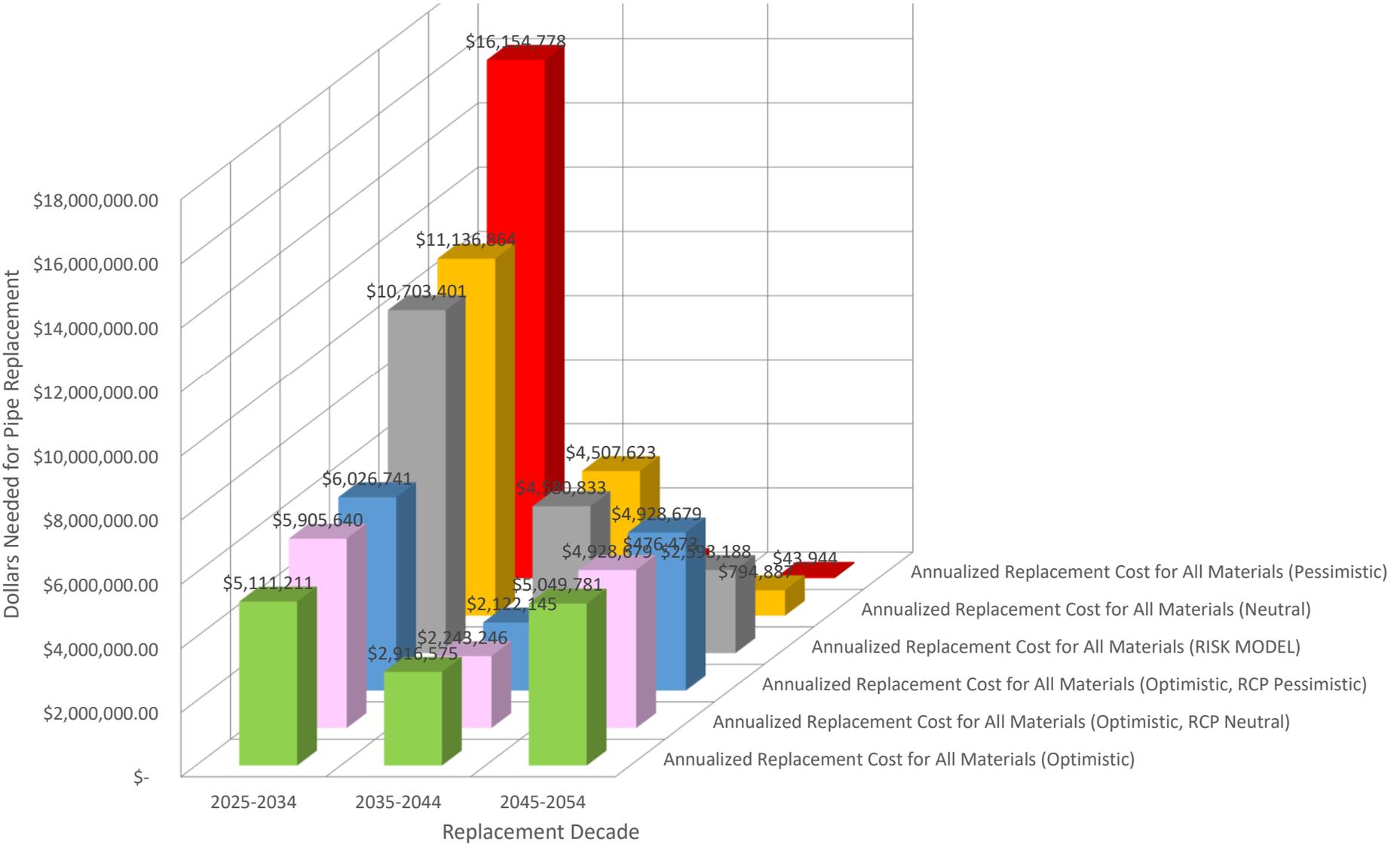




Projected Sewer Pipe Replacement Funding Needed by Decade



ANNUALIZED Projected Sewer Pipe Replacement Funding Needed by Decade



ATTACHMENT D 2022 LIFT STATION ASSESSMENTS:
EXECUTIVE SUMMARY

2022 Lift Station Assessments: Executive Summary

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UTILITIES ASSET MANAGEMENT SPECIALIST CITY OF GRAND JUNCTION

Overview and Evaluation

In Summer of 2022, The City of Grand Junction’s sewer lift stations underwent condition assessments to better understand and manage problems associated with aging infrastructure. 30 pump stations of varying criticality, configurations, sizes, and ages were included in this assessment.

Prior to this assessment, lift stations were given a high-level analysis in the *2020 Comprehensive Wastewater Basin Study Update (Carollo Engineers in association with JVA Consulting Engineers)* as well as limited analysis (only three stations) in the *2019 Lift Station Elimination Feasibility Study (JUB Engineers, Inc.)*. While useful, there was a need to build on these studies by gathering more information about each individual station.

For this recent effort, detailed field observations and ratings were made by a team of City staff. The three-person assessment team consisted of a Collection System Specialty Equipment Operator, a Plant Mechanic, and an Asset Management Specialist. Equipment ratings were analyzed to determine deficiencies, quantify risk exposure, and categorize problem type. City’s “Tier 1” Stations carry the highest criticality, and this factored into prioritizing corrective actions.

Findings

Based on field assessments, expected useful life is somewhat unique to a station’s configuration; “Above-ground” and “Deep-underground” stations are lasting longer than those with a “Shallow/moderate-depth underground” configuration. Also, real-world deterioration generally yields an effective useful life that is shorter than one found in a reference table. For example the *2020 Comprehensive Wastewater Basin Study Update* cites a useful life of 50 years for a lift station structure. Real-world findings are that the City’s lift station structures are lasting only 25 to 40 years. See the photos in Figure 1 below: while installed relatively recently in 1997, the Rosevale structure is showing severe structural corrosion. Based on observations like these, expected useful life numbers were “re-calibrated”. Refer to Table 1 below for a summary of station remaining useful life; note the configuration-specific expected useful lives (“re-calibrated”). Note that four of the five Tier-1 stations along with seven Tier-2 stations are at the end of their useful lives.

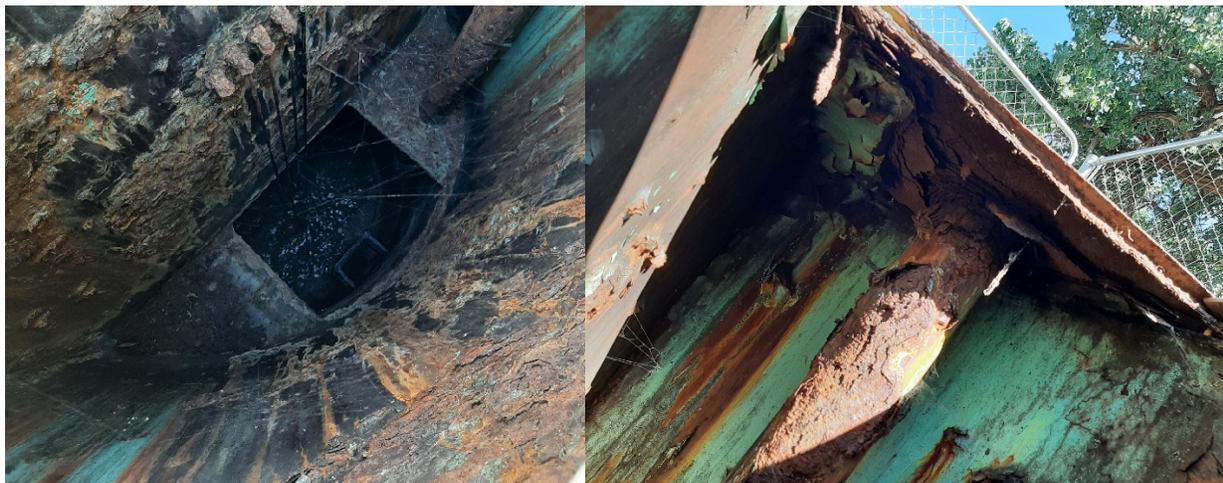


Figure 1: Evidence of severe structural corrosion: Rosevale wet-well, Installed 1997. Age of 25 years at time of photo: Aug 2022.

Table 1: Station Useful Life

Station	Response Tier	Station Configuration/Style	Installation year	Age (years)	Expected Useful Life	Remaining Useful Life	% of Useful Life Consumed
Ridges #1	1	Deep Underground	1978	44	40	0	100%
Rosevale	1	Shallow or Moderate Depth Underground	1997	25	25	0	100%
Mesa Mall	1	Above-ground	1984	38	35	0	100%
Tiara Rado	1	Deep Underground	1983	39	40	1	98%
Connected Lakes	1	Shallow or Moderate Depth Underground	2003	19	25	6	76%
El Poso	2	Above-ground	1984	38	35	0	100%
Falls	2	Above-ground	1982	40	35	0	100%
Wellington	2	Deep Underground	1976	46	40	0	100%
IPW Persigo	2	Submersible	1984	38	35	0	100%
Cheyenne	2	Above-ground	1976	46	35	0	100%
Heatheridge	2	Above-ground	1982	40	35	0	100%
Grand Valley Byproducts	2	Above-ground	1989	33	35	2	94%
Alpine Meadows	2	Above-ground	1991	31	35	4	89%
Panorama	2	Above-ground	1991	31	35	4	89%
Desert Hills	2	Shallow or Moderate Depth Underground	2001	21	25	4	84%
DOE	2	Shallow or Moderate Depth Underground	2001	21	25	4	84%
Coors	2	Submersible	1995	27	35	8	77%
Safeway	2	Above-ground	1996	26	35	9	74%
5th St Bridge	2	Environmental One (E-1)	2002	20	30	10	67%
Monument	2	Above-ground	1999	23	35	12	66%
Ridges #2	2	Environmental One (E-1)	2003	19	30	11	63%
Red Mesa	2	Large Above-ground	2002	20	35	15	57%
Redlands Village	2	Large Above-ground	2003	19	35	16	54%
Railhead	2	Shallow or Moderate Depth Underground	2011	11	25	14	44%
Spyglass	2	Above-ground	2007	15	35	20	43%
River Trail	2	Deep Underground	2011	11	40	29	28%
Brachs	2	Above-ground	2013	9	35	26	26%
Mesa Gardens	3	Submersible	1970	52	35	0	100%
30 Rd	3	Submersible	2001	21	35	14	60%
Basin 8	3	Submersible	2017	5	35	30	14%

Further evaluation revealed two distinct categories of problems: certain station issues are readily handled by City crews (O&M issues), while others likely require engineering support (structural and key station features). This summary report will focus on the issues requiring engineering support. Table 2 below is a snapshot of data that factored into the evaluation contained in the full Lift Station Assessment report.

Table 2: Station scoring of Deficiencies, Poor ratings, and Risk exposure

Station	Response Tier	SUM deficiencies of Core Station Feature issues, Structural Issues, and O&M issues	SUM Poor Ratings for Core Station Feature issues, Structural Issues, and O&M issues	SUM Risk Point Total for Core Station Feature issues, Structural Issues, and O&M issues
Ridges #1	1	49	15	126
Rosevale	1	32	9	94
Mesa Mall	1	30	4	85
Tiara Rado	1	21	4	74
Connected Lakes	1	15	4	75
El Poso	2	43	12	98
Grand Valley Byproducts	2	32	6	97
Falls	2	27	6	73
Wellington	2	34	10	79
Desert Hills	2	11	1	84
IPW Persigo	2	7	1	41
Coors	2	18	4	56
Red Mesa	2	9	2	78
Redlands Village	2	13	3	57
Cheyenne	2	15	0	65
Railhead	2	11	1	76
Alpine Meadows	2	19	3	71
Brachs	2	1	0	55
Heatheridge	2	10	1	55
River Trail	2	1	0	54
Monument	2	5	1	60
DOE	2	11	4	62
Panorama	2	11	0	41
Spyglass	2	2	0	65
Safeway	2	10	1	58
5th St Bridge	2	6	0	30
Ridges #2	2	3	1	18
Mesa Gardens	3	21	9	29
30 Rd	3	5	2	39
Basin 8	3	4	2	18

Table 3 below summarizes key recommendations in time increments over the next 12 years. Red shading is used for Tier 1 stations, yellow for Tier 2, and green for Tier 3. In the immediate time horizon, there are an array of needs.

Table 3: Timeline of Recommendations

		Panorama: WW Coating	
		Coors: WW Coating + Pipe Replacement	
		Safeway: Equipment Replacement	
		DOE: Replacement	
Brachs: Elimination		Red Mesa: Equipment Replacement	
IPW Persigo: WW Coating + Pipe Replacement		Monument: Elimination	
Grand Valley Byproducts: Replacement		Cheyenne: WW Coating + Equipment Replacement	
El Poso: WW Coating + Equipment Replacement	Mesa Gardens: Electrical Improvements	Heatheridge: Elimination	
Rosevale: Replacement	Railhead: WW Coating + Pipe Replacement	Falls: Elimination	Ridges #2: Elimination
Mesa Mall: Elimination	Wellington: WW Coating and Station Replacement	Desert Hills: Replacement	Alpine Meadows: Elimination
Ridges #1: Elimination	Connected Lakes: Possible WW Coating	Tiara Rado: WW Upsize + Station Replacement	Redlands Village: Equipment Replacement
Immediate	Near Term	Medium Term	Long Term
Within 0-2 years	Next 2-4 years	Next 4-8 years	Next 8-12 years
2023-2024	2025-2026	2027-2030	2031-2034

A number of these immediate needs are already being addressed:

- Ridges #1 and Brach’s will be eliminated once the new Lake Rd Lift Station is commissioned (Est. Q4 2024)
- The In-Plant-Waste Pump Station at Persigo WWTP is having new pipe installed (Jan. 2023)

Conclusion and Summary of Recommendations

Based on the 2022 Lift Station Assessments, the following stations have needs that should be addressed immediately.

Mesa Mall

Mesa Mall is a Tier-1 station at the end of its useful life. Ratings show a very high count of deficiencies in key station features and concerning overall risk score. Based on informal reviews, this station appears to be a candidate for elimination; there seem to be viable alternatives for gravity flow. Engineering support is needed to evaluate the feasibility and cost of various gravity flow alternatives and weigh those against a replace-in-kind approach. Once a strategy is selected, efforts should be made to fast-track design and construction. Recommended actions:

- Task 1 (completion needed by June 2, 2023): Evaluate replacement vs. gravity sewer connection and station elimination.
 - Opinion of probable construction costs for replacement and various alternatives
 - Land acquisition/easement impacts
 - Constructability
 - Regulatory Impacts
- Task 2 (completion needed by December 15, 2023): Deliver final documents:
 - 100% Design
 - Permitted
 - Construction docs

Rosevale

Rosevale is a Tier-1 station at the end of its useful life. Ratings show a very high count of deficiencies in key station features, features with Poor ratings, and high overall risk. Rosevale is not a candidate for elimination. Replacement must take into account significant future flow increases with an upstream Sewer Improvement District (septic to tap conversions). Engineering support is needed to evaluate future flow demands and size a replacement station accordingly. Recommended Action:

- Task 1 (completion by June 2, 2023): OPCC
- Task 2 (completion by December 15, 2023): Deliver final documents:
 - 100% Design
 - Permitted
 - Construction docs

El Poso

El Poso is a Tier-2 station at the end of its useful life. Ratings show a very high count of deficiencies in key station features, features with Poor ratings, and high overall risk. At a minimum, El Poso will need a wet-well coating system installed and in-kind replacement of above-ground station equipment (at this time it is unclear if the City would do that or request engineering services).

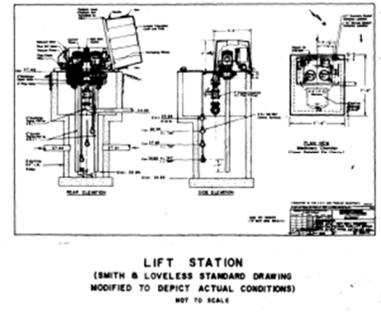
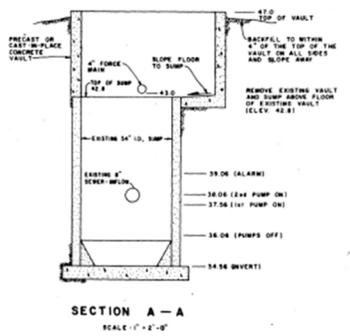
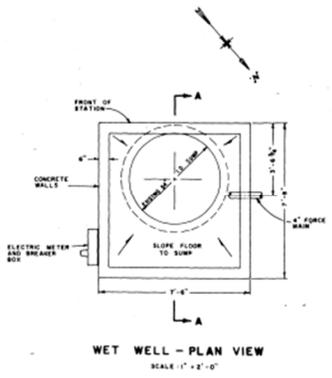
Grand Valley Byproducts

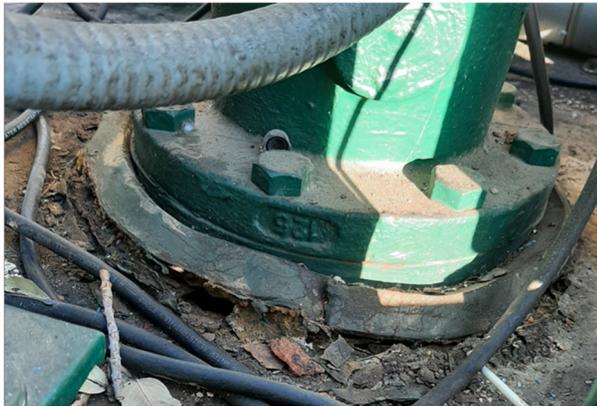
Grand Valley Byproducts is a Tier-2 station at the end of its useful life. Ratings show a very high count of deficiencies in key station features, features with Poor ratings, and high overall risk. This station has very significant flow increases anticipated. In the *2020 Comprehensive Wastewater Basin Study Update*, there are an array of upcoming capacity projects that will likely influence the demands on this station. The City needs to further analyze information before directing efforts with this station.

Persigo In-Plant Waste Pump Station

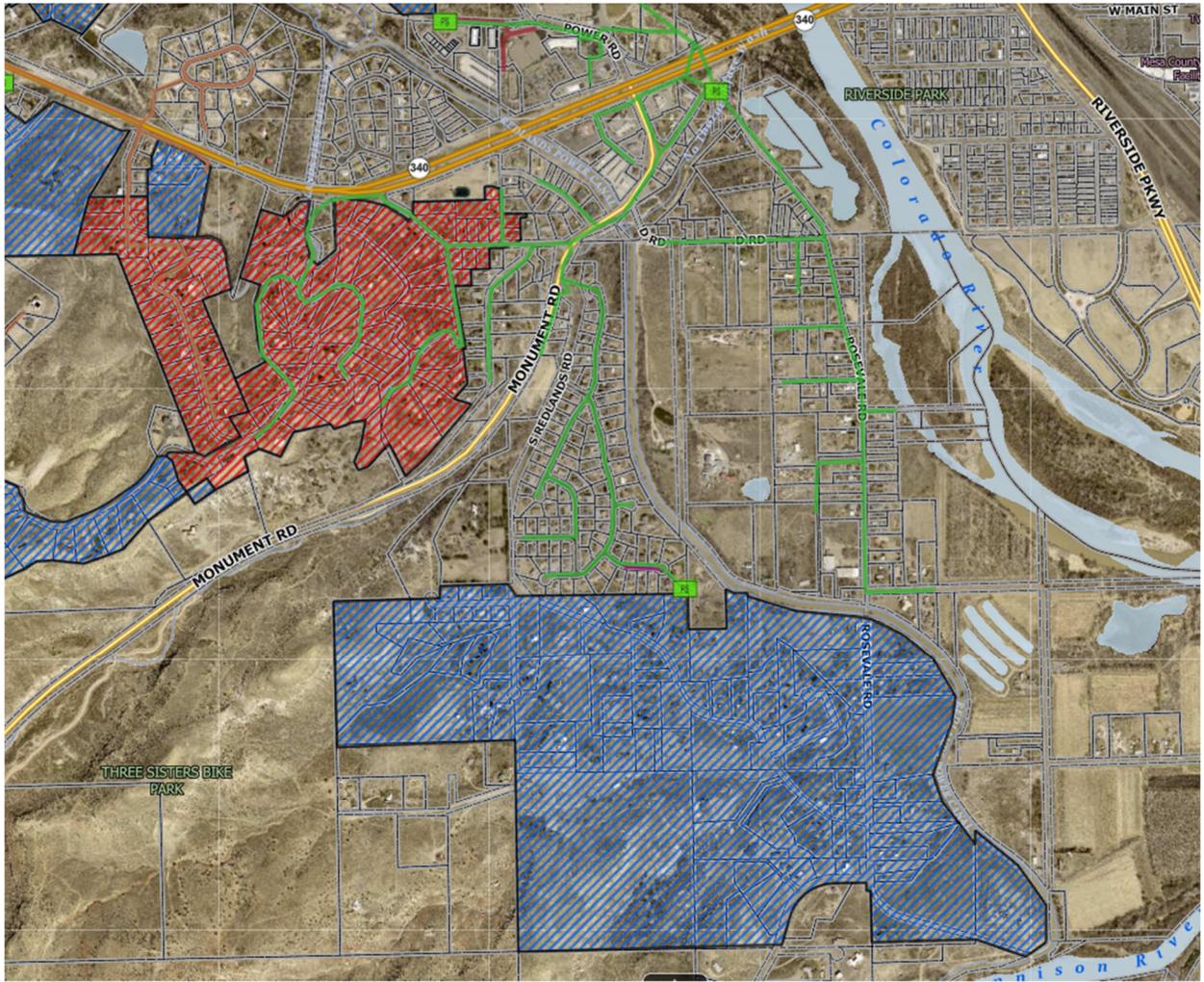
A wet-well coating system should be installed, perhaps as a bundle with El Poso and other candidate stations.

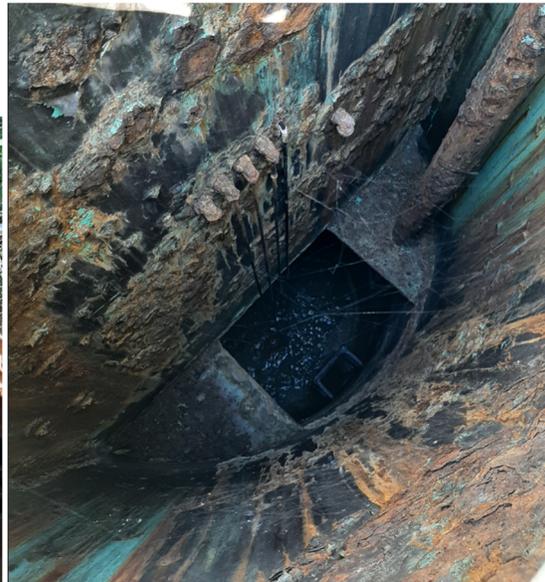
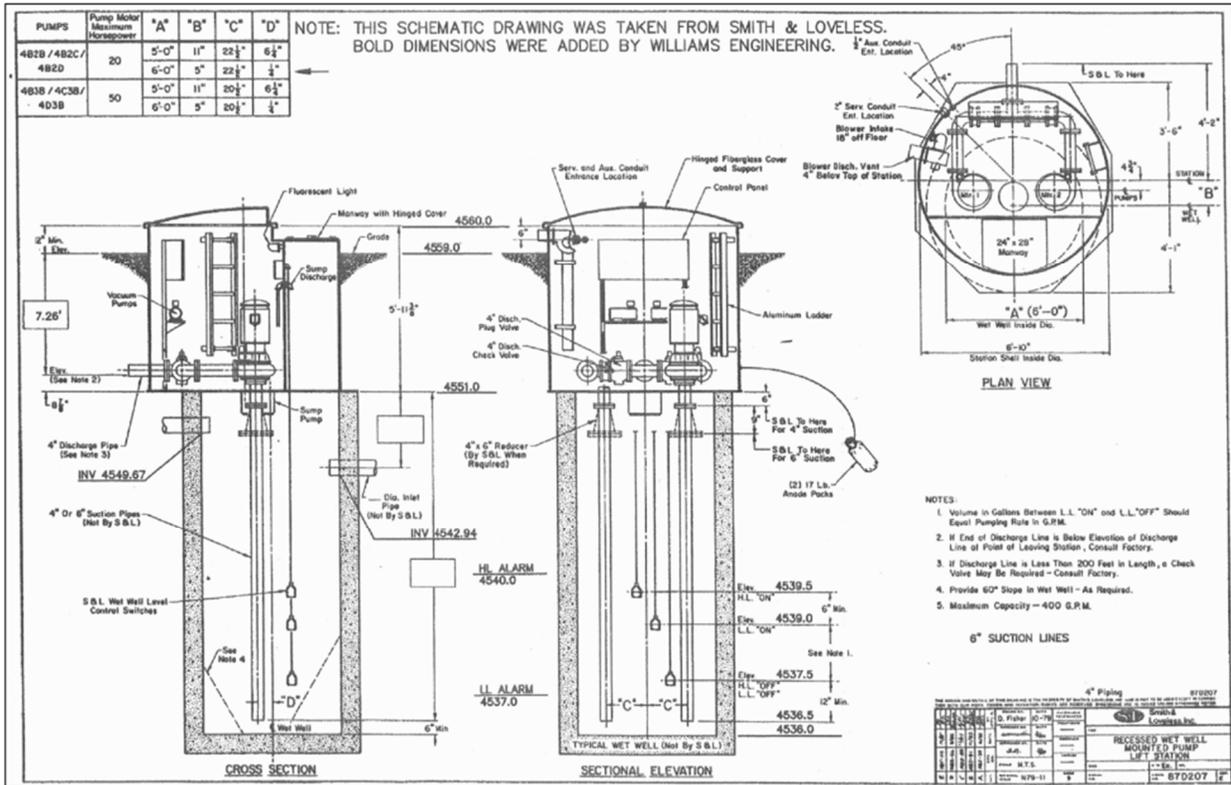
Addendum: Photos and additional information
 Mesa Mall



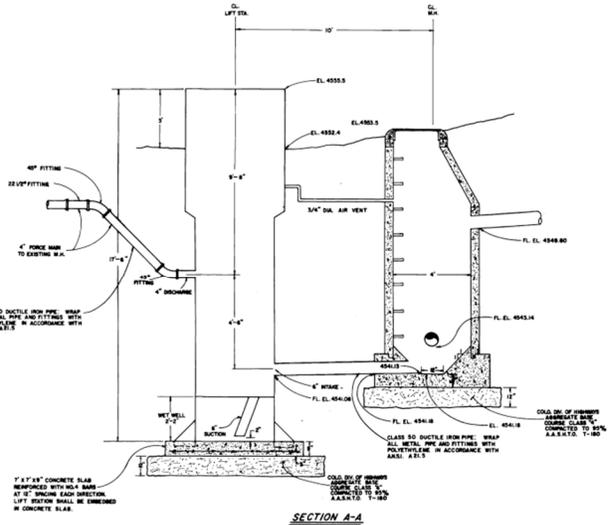
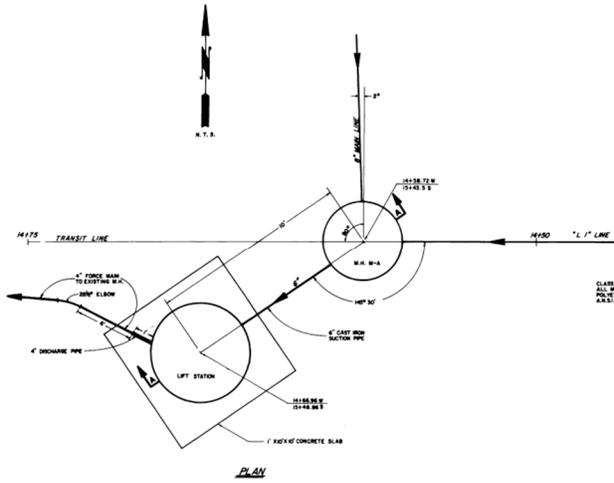


Rosevale





El Poso



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