

2024 Impact Fee Study

SAWS Water Recycling Centers

CIP

Bob K. Johnson, PMP, P.E.

Manager – Master Planning

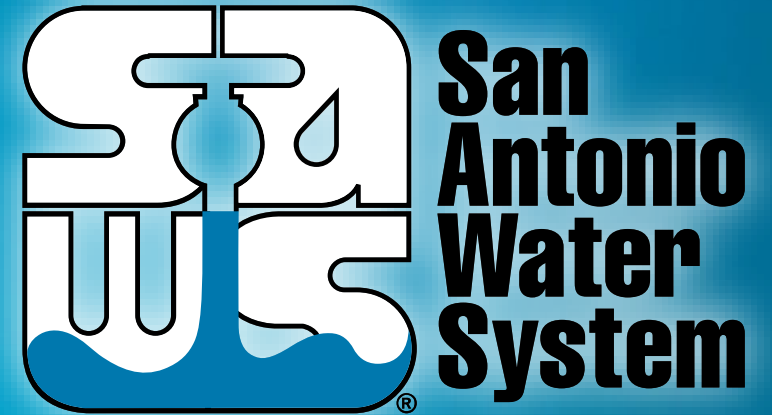
CIAC Meeting

September 27, 2023

Originally prepared by

Steven M. Clouse, former SAWS C.O.O.,

As a Briefing Item to the SAWS Board of Trustees, on June 7, 2022

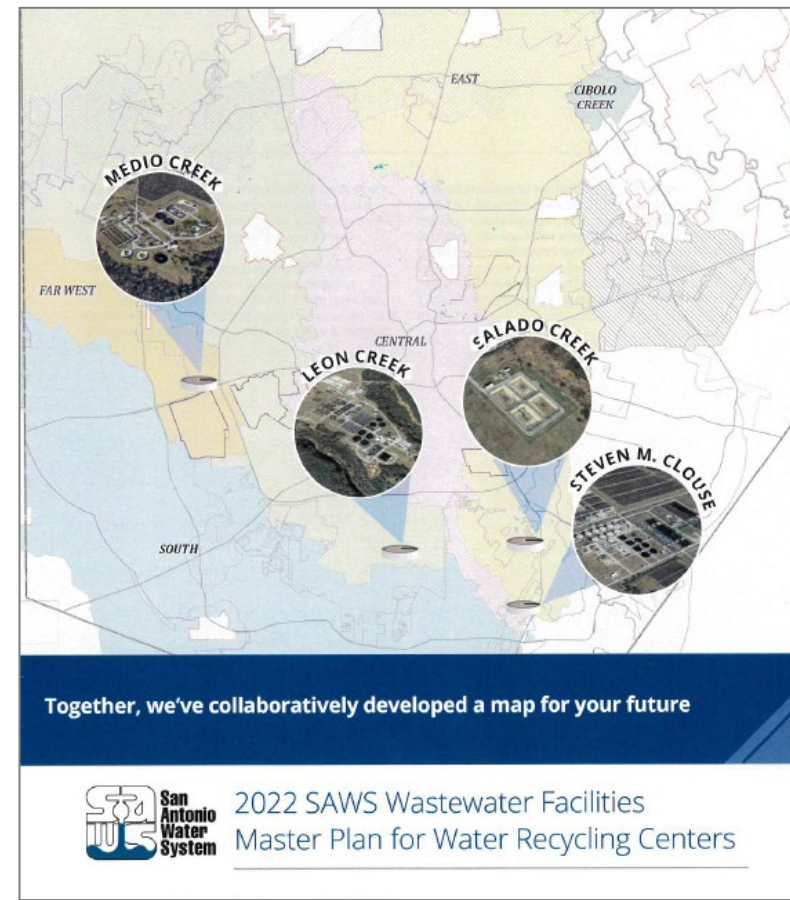


MAKING SAN ANTONIO
WATERFUL



The 2022 Plan

- Looks at the holistic needs of SAWS Wastewater Treatment Facilities over a 30-year horizon
- Considers growth, future regulatory requirements and condition of the facilities
- A 2-year process to complete, with future updates planned on 5-year cycles



1978 Wastewater Facility Plan

- Identified \$259,651,000 in construction improvements needed by 1983
 - \$1,150,250,390 in 2022 dollars
- 75 % Federal Govt contribution expected
- Led to the construction of the Steven M Clouse (Dos Rios) WRC

Cost of planned sewage treatment system soaring

By Jim Wood
Express City Hall Reporter

Soaring costs and reduced federal allocations have caused the city to begin a complete review of its plans for massive improvements to the sewage treatment system. If costs cannot be reduced, monthly sewer bills will skyrocket, an official said Wednesday.

"We're having to evaluate the whole program," commented Public Works Director Frank Kiolbassa.

Although the figures are not firm because final engineering has not been completed, he estimated the total cost of the program has risen to \$350 million. Initial estimates had pegged the cost at \$196 million.

Further, Kiolbassa said, the city can expect no more than \$50 million in assistance from the Environmental Protection Agency, which at one time had been counted to pay as much as 75 percent. However, revisions to the law and reduced appropriations by Congress have ruled that out, he said.

Yet the law requiring that federally established standards for effluent discharged from sewage treatment plants remains, so the city has no choice but to proceed with improvements to meet the standards, he said.

In an effort to hold down costs, the city and its engineering consultants are reviewing the entire program to see if changes can be made and variances obtained from state and federal agencies to modify the plans or stretch out the timetable for meeting the standards, currently with a 1988

Please see DOS RIOS, Page 15A

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WASTEWATER
FACILITY
PLAN

**CHAPTER
SIX**

**PROJECT
DEVELOPMENT**

FEDERAL GRANT C 481211

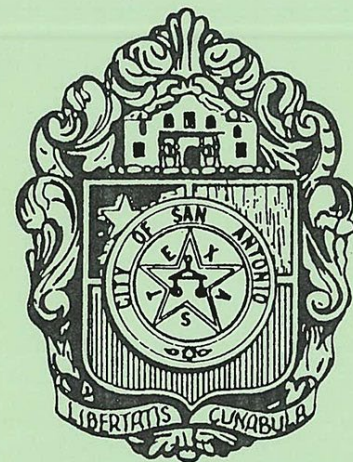
PAPE DAWSON, INC.
VICKREY & ASSOCIATES, INC.
LOCKWOOD, ANDREWS & NEWNAM, INC.



1991 Master Plan

- Plan was a requirement of “new” impact fee program and looked at “ultimate build out”.
- Identified \$782,300,000 in treatment system needs
 - \$1,728,949,300 in 2022 dollars
- Construction of New Wastewater Treatment Plants
 - Northeast Water Factory (48 mgd)
 - Northwest Water Factory (85 mgd)
 - Far West Water Factory (23 mgd)
 - Southwest Water Factory (24 mgd)
 - Elm Creek Water Factory (33 mgd)
 - Expansion of Dos Rios and Salado plants (69 mgd)

CITY OF SAN ANTONIO

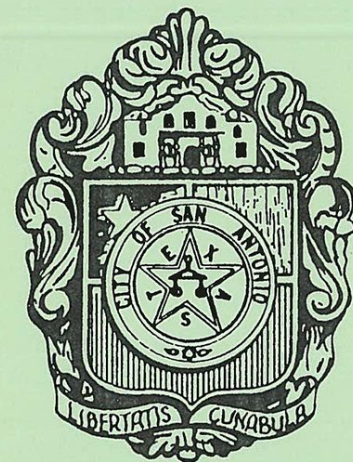


WASTEWATER
MASTER PLAN
JUNE , 1991

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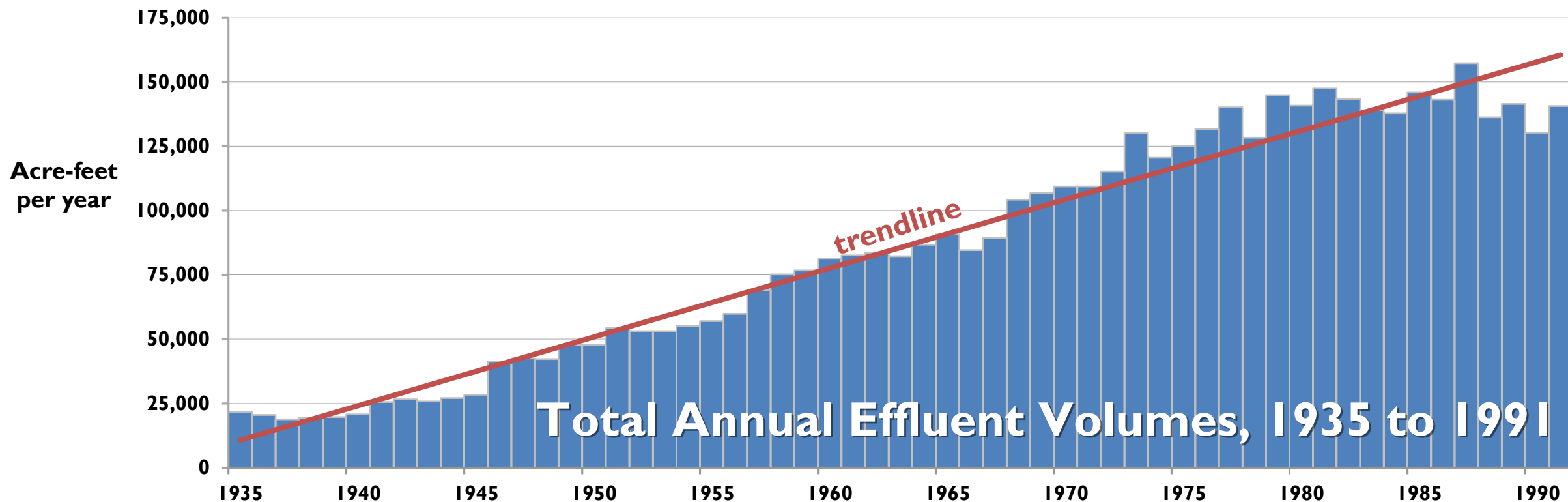
CITY OF SAN ANTONIO



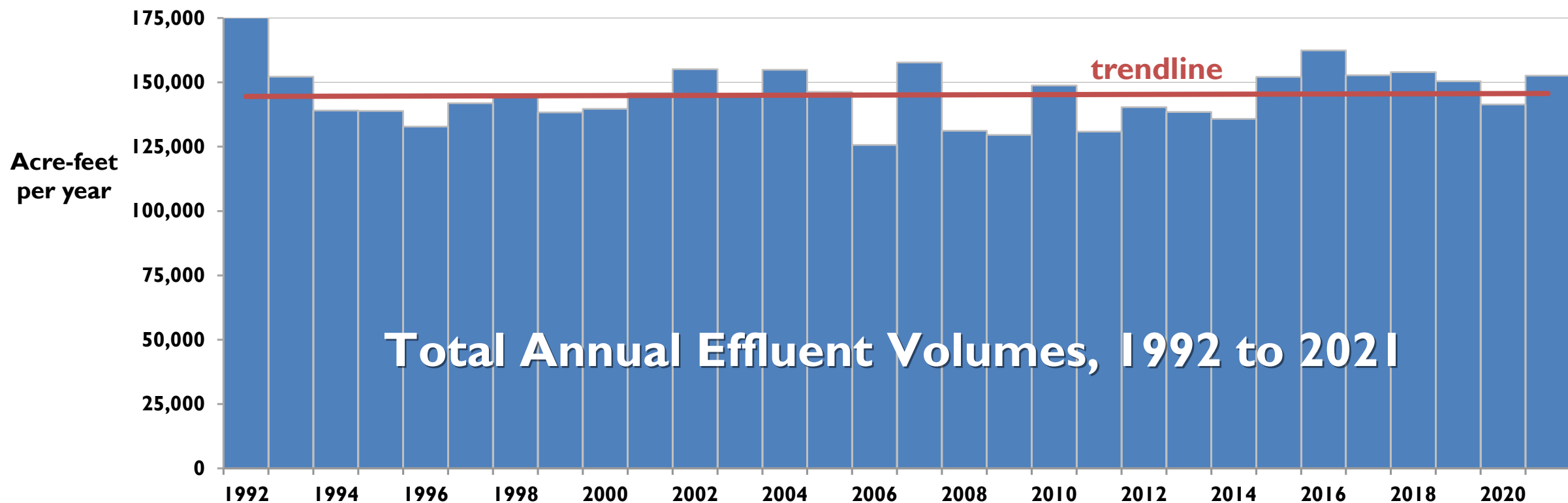
WASTEWATER
MASTER PLAN
JUNE , 1991

Total WRC Flows

1980s projection was 240,000 af by 2040



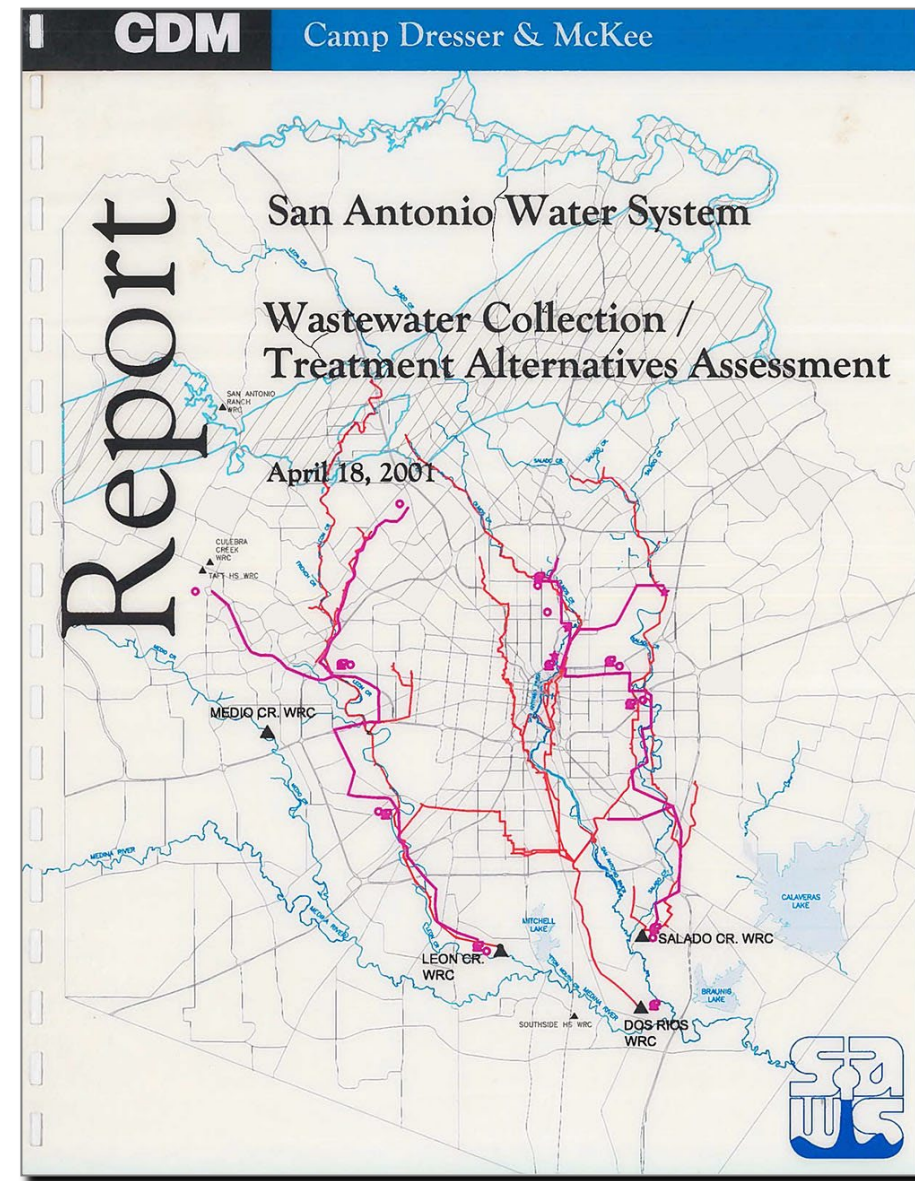
Water Conservation Programs Lead to Lower Effluent Flows



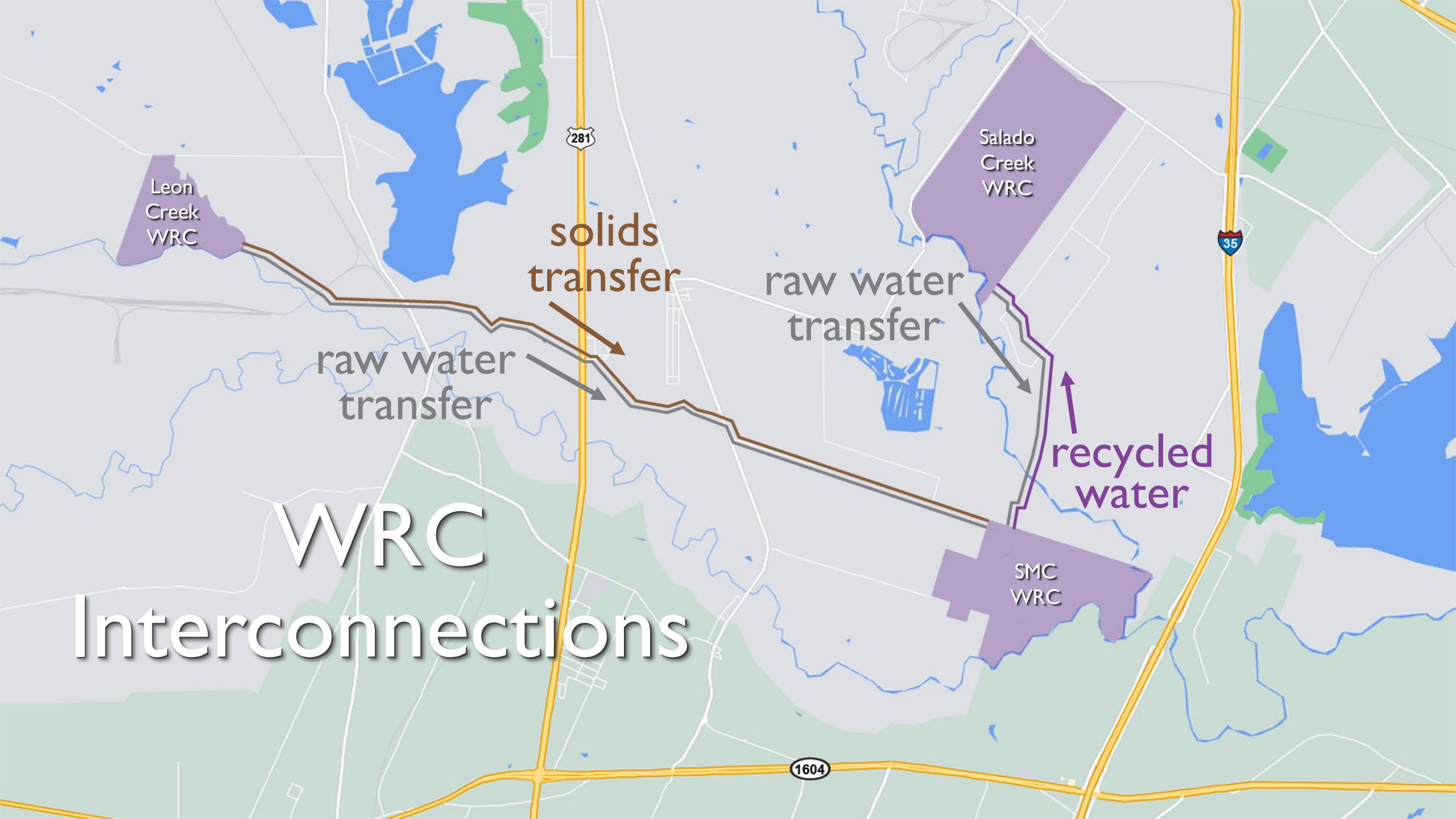
2001 Treatment Alternatives Plan

\$743,000,000 investment over a 15-year term

- All sludge treatment at Dos Rios
- Sewage pipelines to transfer flows from Salado and Leon to Dos Rios
- Recycled water pipelines from Dos Rios to East and West recycle system
- Expansion and upgrade of Medio Creek WRC
- Elimination of package facilities
- Elimination of Salado AND Leon Creek WRC



WRC Interconnections



The Master Plan Team developed holistic goals to filter project decisions



Used a 10-step process to develop the roadmap that projects potential future CIP projects



A weighted scoring of each driver was used to evaluate each CIP project

Scoring Component		Weight
No.	Driver Description	
1	Safety	25%
2	Regulatory	25%
3	Operation/ Maintainability	15%
4	Sustainability	15%
5	Capacity	10%
6	Customer Impacts	10%
Weighted Score		100%

Capacity Needs

- Average flows to the plants remain the same
- Peak flows increase at Leon and SMCWRC
- Stuff in the water increases over time

	Medio Creek WRC	Leon Creek WRC	Steven M. Clouse WRC
2020 (Current) Permitted P2HF (MGD)	40	92	250
2050 (Projected) Influent P2HF (MGD)	42	145	396

Flow projections are based on a five-year, six-hour duration storm

Capacity Needs

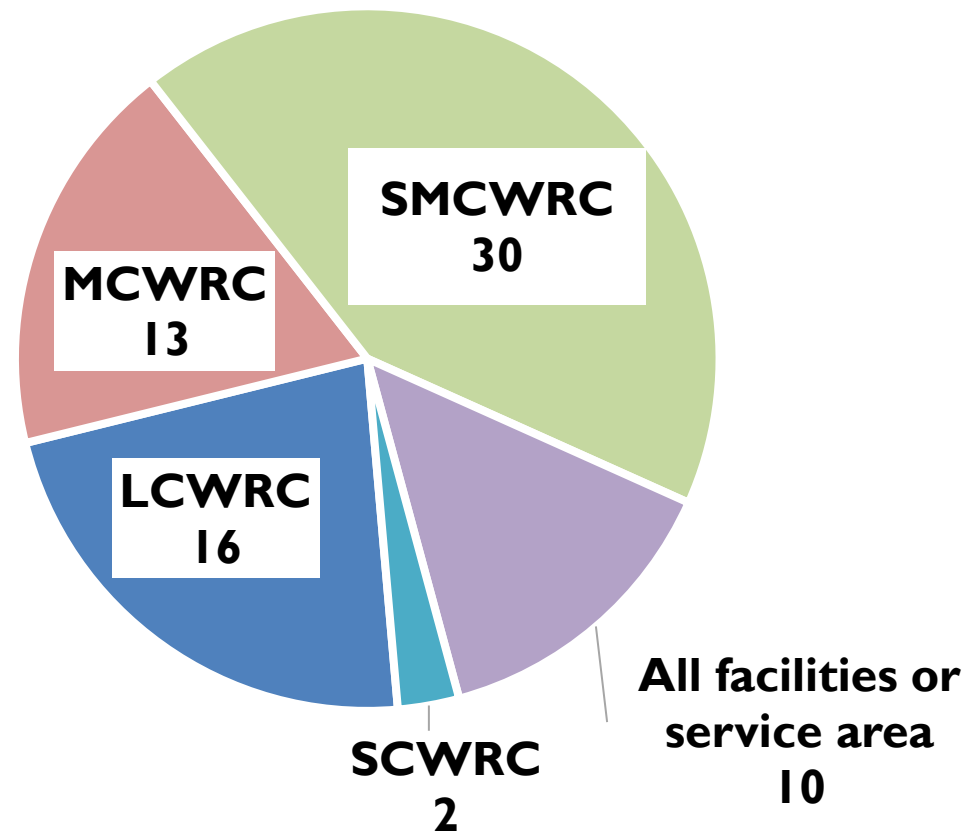
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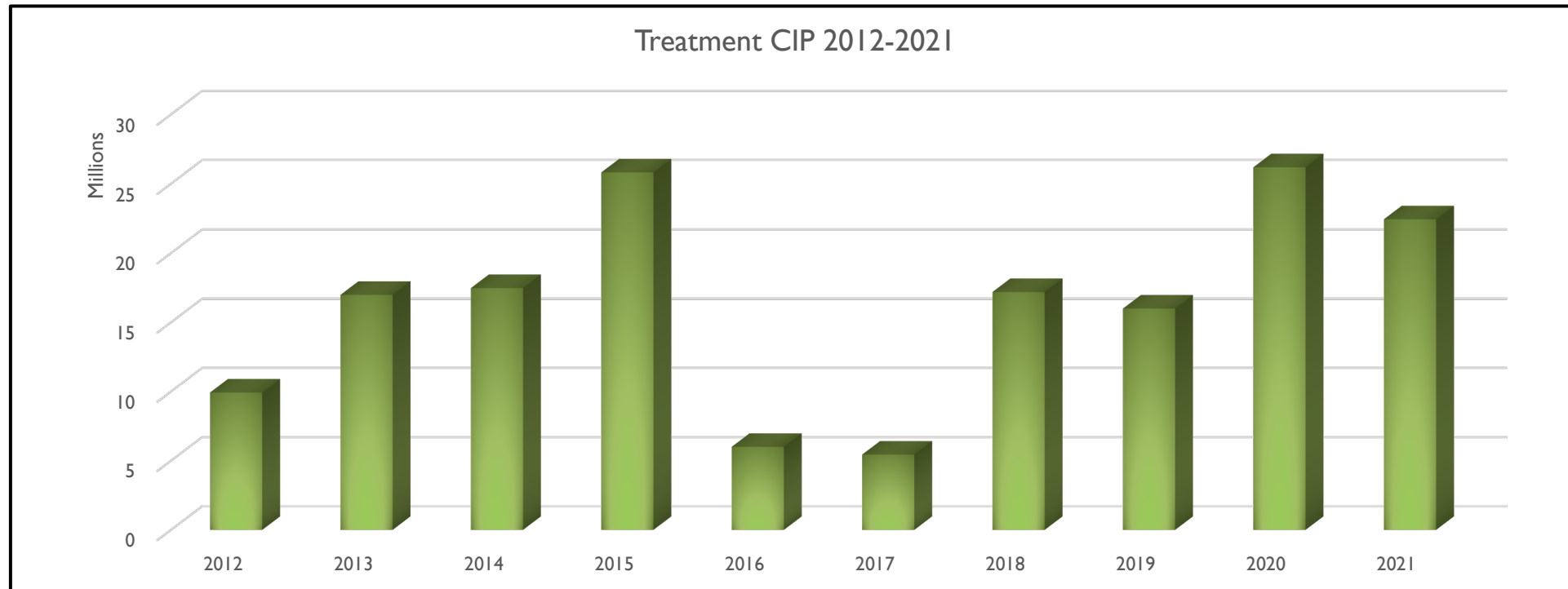
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The majority of the improvements are at the SMCWRC

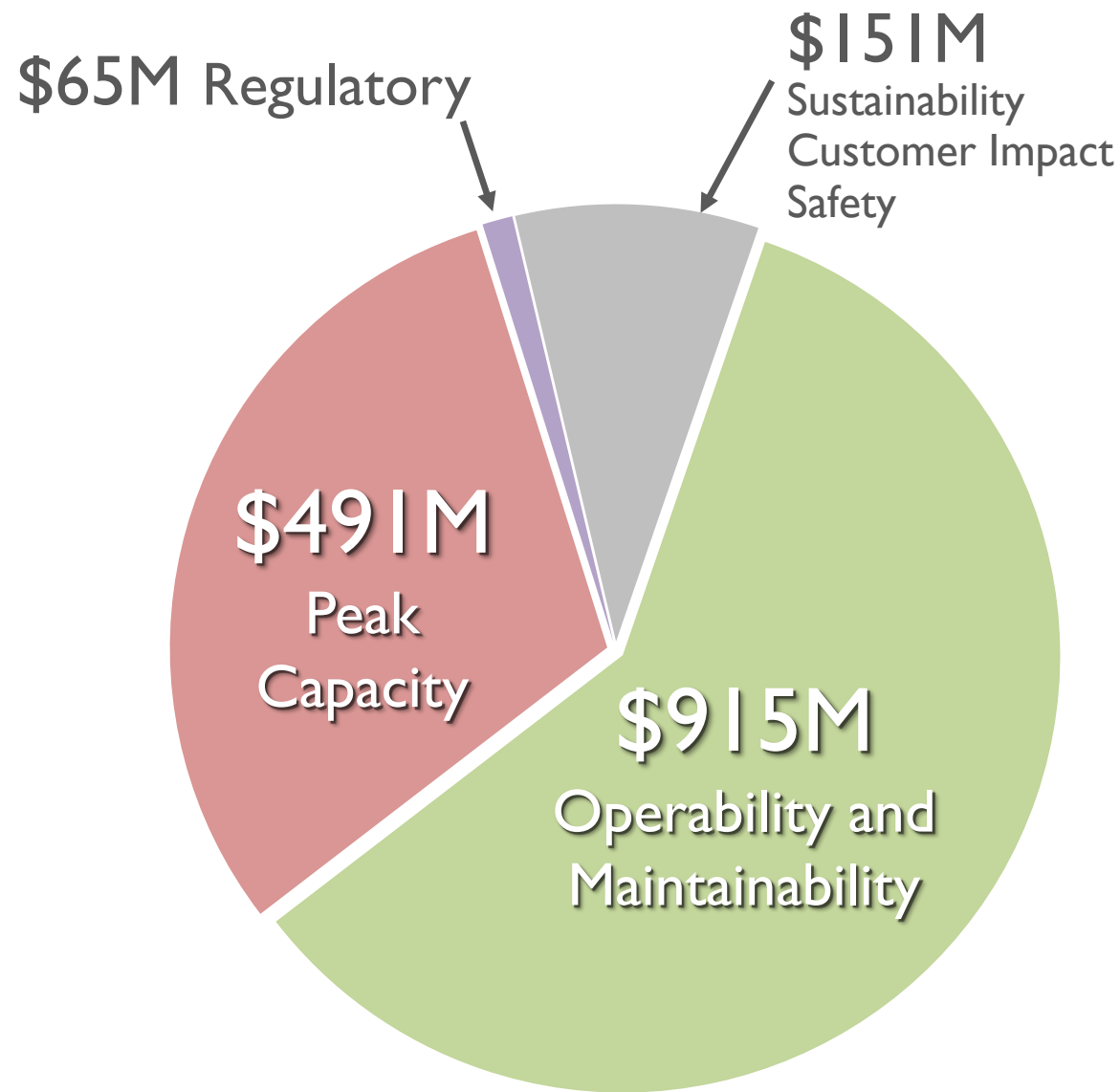
Number of Projects by Facility



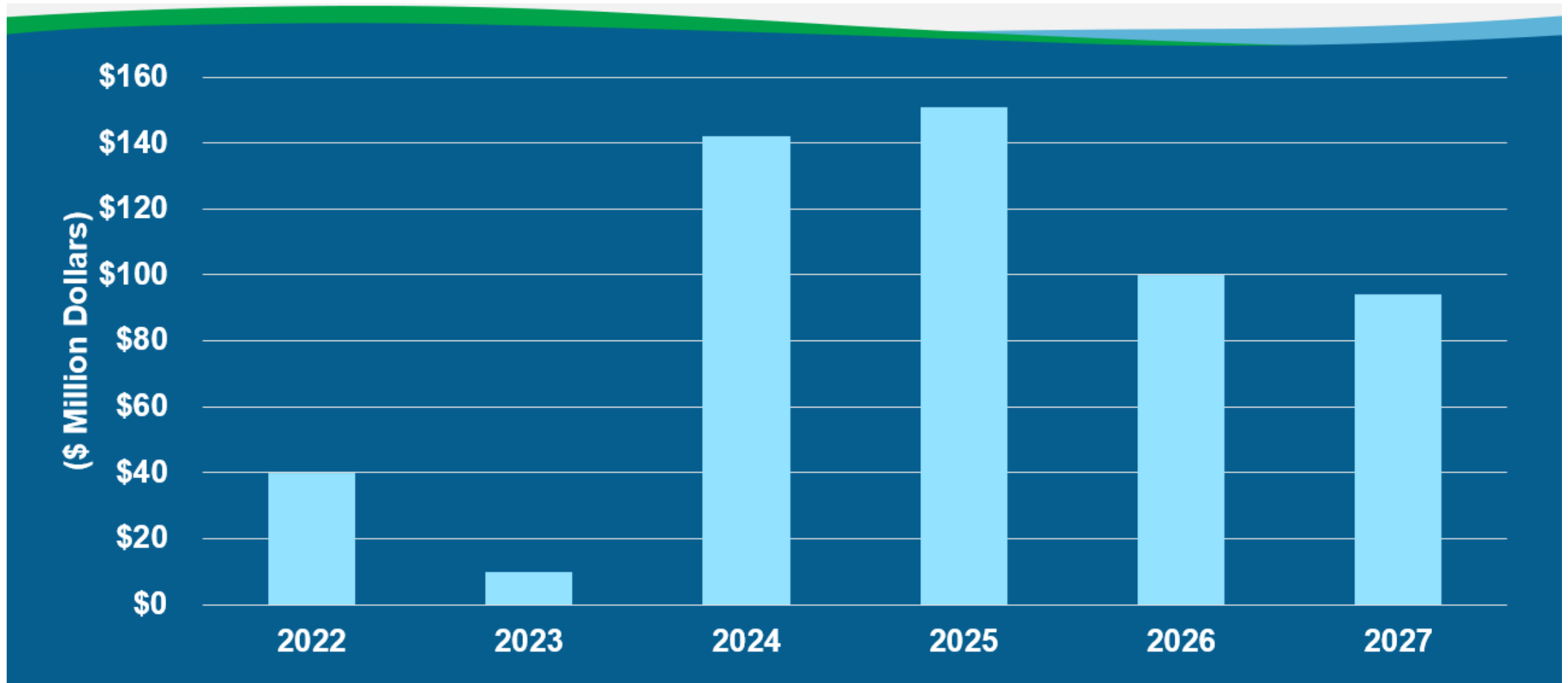
Recent Capital Investment in the WRCs



**Operability/
Maintainability or
simply
“Rehabilitation”
accounts for the
majority of the
needs**



Immediate needs start construction in 2024



Projects that are Immediate and Critical Needs



SMC WRC Aeration Blowers
(original 1987 equipment)



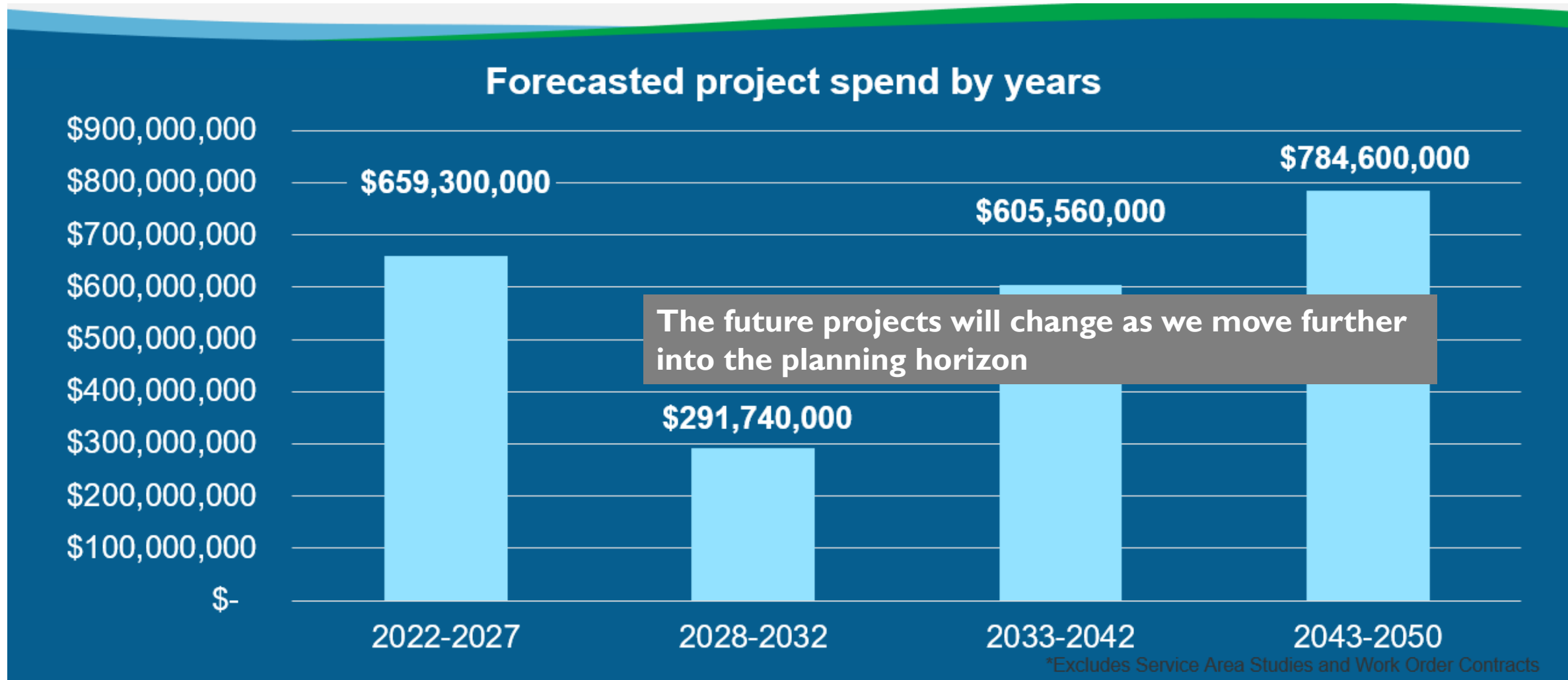
SMC WRC Belt Filter Presses
(some units completely rebuilt 3 times)

THE HIGHEST PRIORITY PROJECTS

Project Name	Start Date	Est. Completion
SMCWRC Biosolids System Upgrades	6/1/2022	3/31/2028
SMCWRC Secondary Treatment Expansion and Blower Improvements	6/1/2022	5/31/2027
LCWRC Flow Equalization Basin	6/1/2022	7/31/2026
SMCWRC Primary Process Expansion and Hydraulic Improvements	6/1/2022	11/30/2026
LCWRC Secondary and Tertiary Hydraulic and Capacity Improvements	7/1/2022	12/31/2026
SMCWRC Sidestream Phosphate Harvesting	7/1/2025	2/28/2029
SMCWRC Biological Nutrient Removal Improvements	2/1/2026	9/30/2030

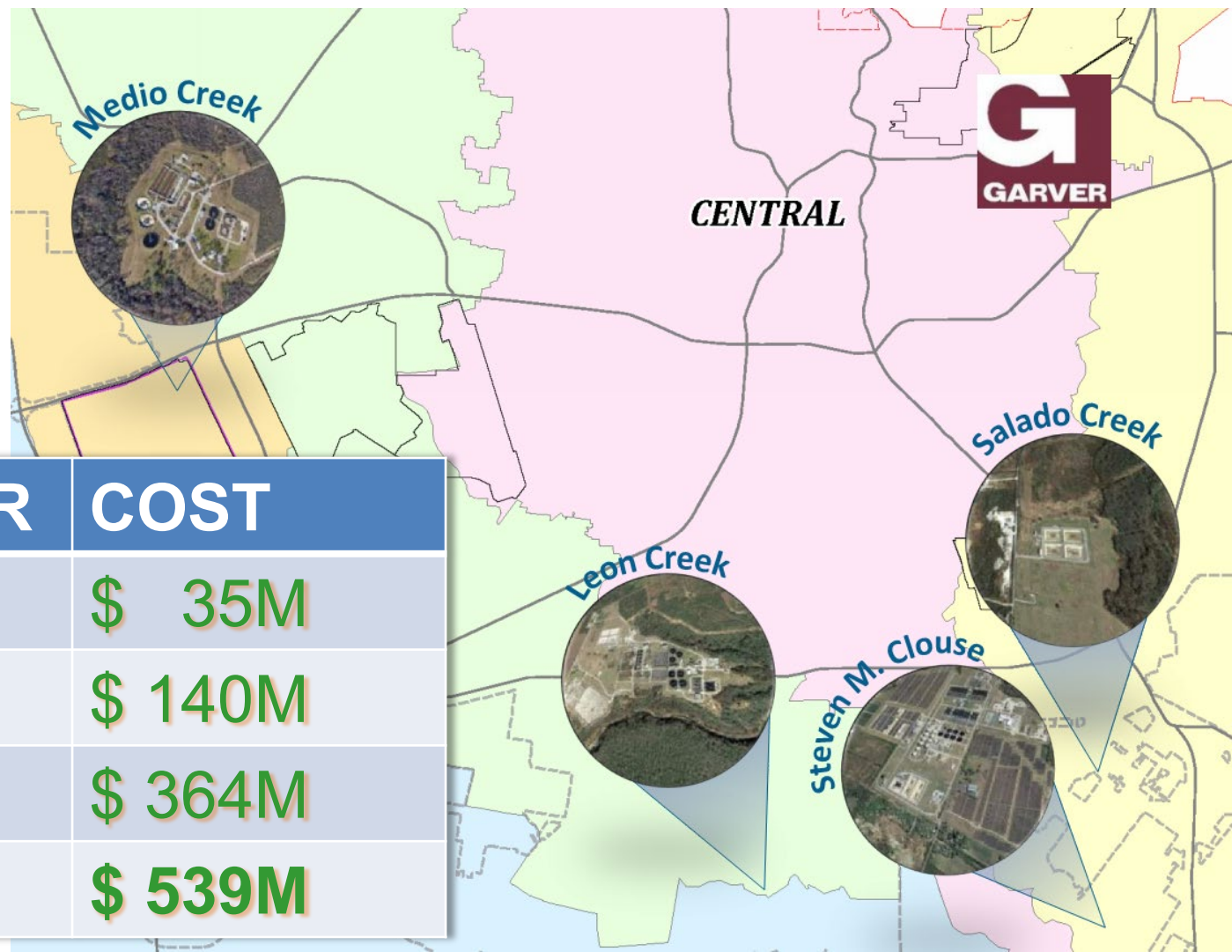
Adds Capacity

Forecasted Spending by Year



Wastewater Treatment Costs

- 10 year Window
- Adds capacity
- 17 projects
- 17% of Projects



WATER RECYCLING CENTER	COST
MEDIO	\$ 35M
LEON	\$ 140M
SM CLOUSE	\$ 364M
TOTAL	\$ 539M

Summary

- Continued and increased investment in wastewater treatment systems is required
- Engineering designs for work from this plan begin in late 2022
- Rehabilitation of existing plants is primary driver of funding needs
- Solids handling and aeration improvements at SMCWRC are most significant 5-year needs
- Plan needs to be updated on a 5-year cycle going forward

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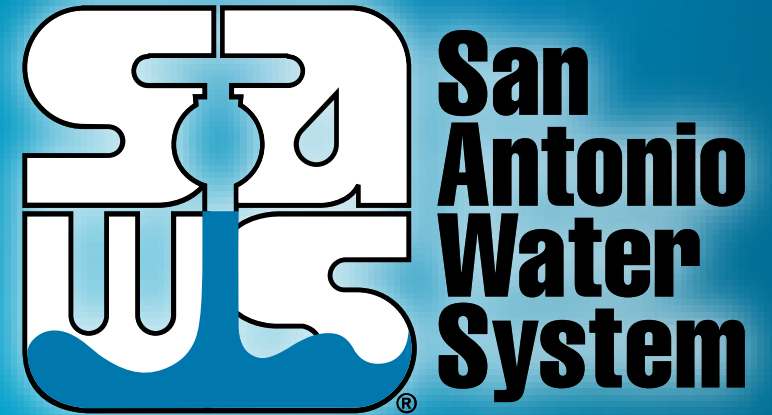
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