



Clark County
Water Reclamation
DISTRICT

Wastewater Update

June 3, 2025

***Reliably Sustaining Southern Nevada's
Most Precious Resource***



Serving Our Community By Responsibly Sustaining The Water Care Cycle

CCWRD Service Area



Clark County Water Reclamation District

***One Agency –
Regional in
Scope and
Responsibilities***

Indian Springs

**Las Vegas
Valley
(unincorporated)**

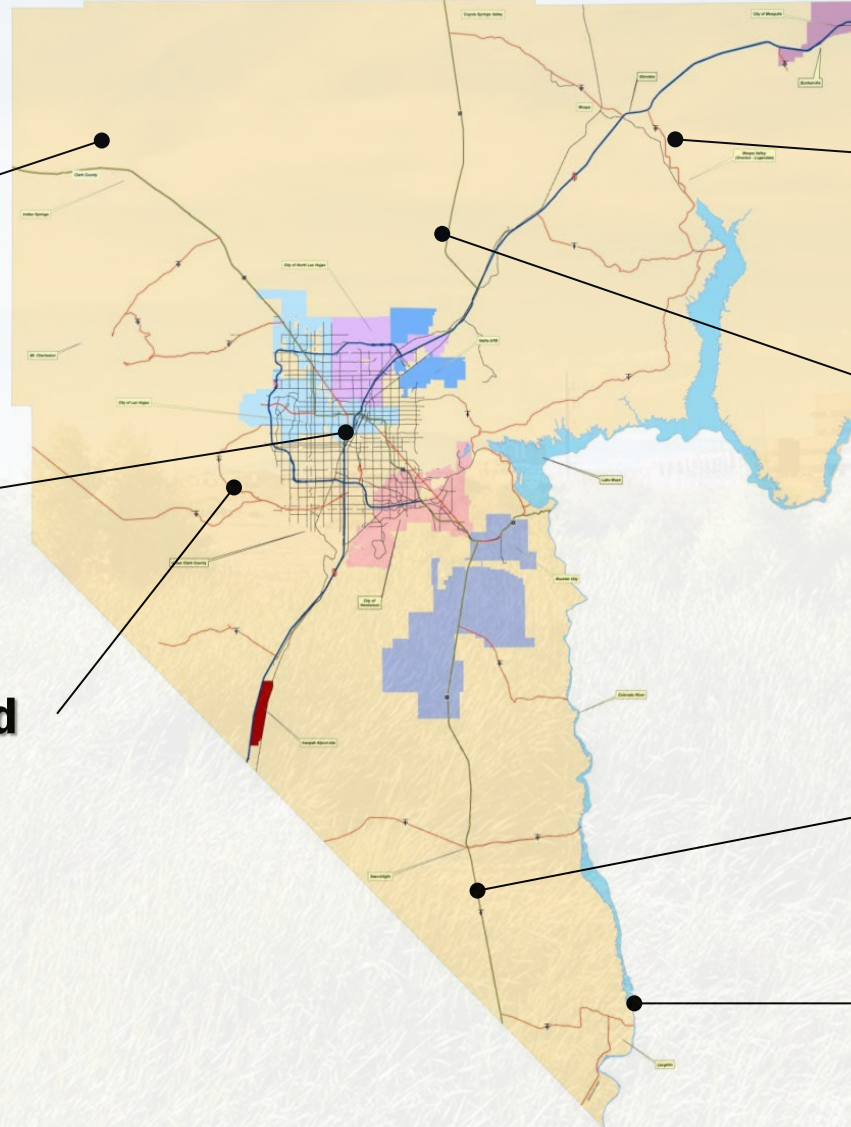
Blue Diamond

**Moapa Valley
(Overton, Logandale)**

Coyote Springs

Searchlight

Laughlin



CCWRD Treatment Plants - 2024



Facility	Facility Capacity in MGD	Average Daily Influent Flows in MGD	Average Daily Effluent Flows in MGD	Return Flow Credits in Ac-Ft/Year	Average Daily Reuse Flows in MGD
Flamingo WRC	120.0 *	112.56	111.292	124,663	1.40
Laughlin WRC	8.0	1.572	1.384	1,550	
Moapa Valley	0.75	0.161	—		
Indian Springs	0.50	0.124	—		
Searchlight	0.09	0.043	—		
Blue Diamond	0.044	0.014	—		
TOTALS:	129.38	114.474	112.676	126,213	1.40

*** Under Plant Expansion to 150.0 MGD**

Southern Nevada Region Wastewater Treatment Plants: 2024



Agency	Treatment Capacity in MGD	Average Daily Influent Flows in MGD	Average Daily Effluent Flows to Wash in MGD	Return Flow Credits in Ac-Ft/year	Average Daily Non-Potable Reuse in MGD
CCWRD	129.38 *	114.474	112.676	126,213	1.40
CLV	91.0	46.33	45.95	51,470	0.38
COH	48.0	24.26	17.83	19,972	6.43
CNLV	25.0	20.59	20.12	22,537	0.47
TOTALS:	293.38	205.65	196.57	220,192	8.68

*** FWRC under Plant Expansion to 150.0 MGD**



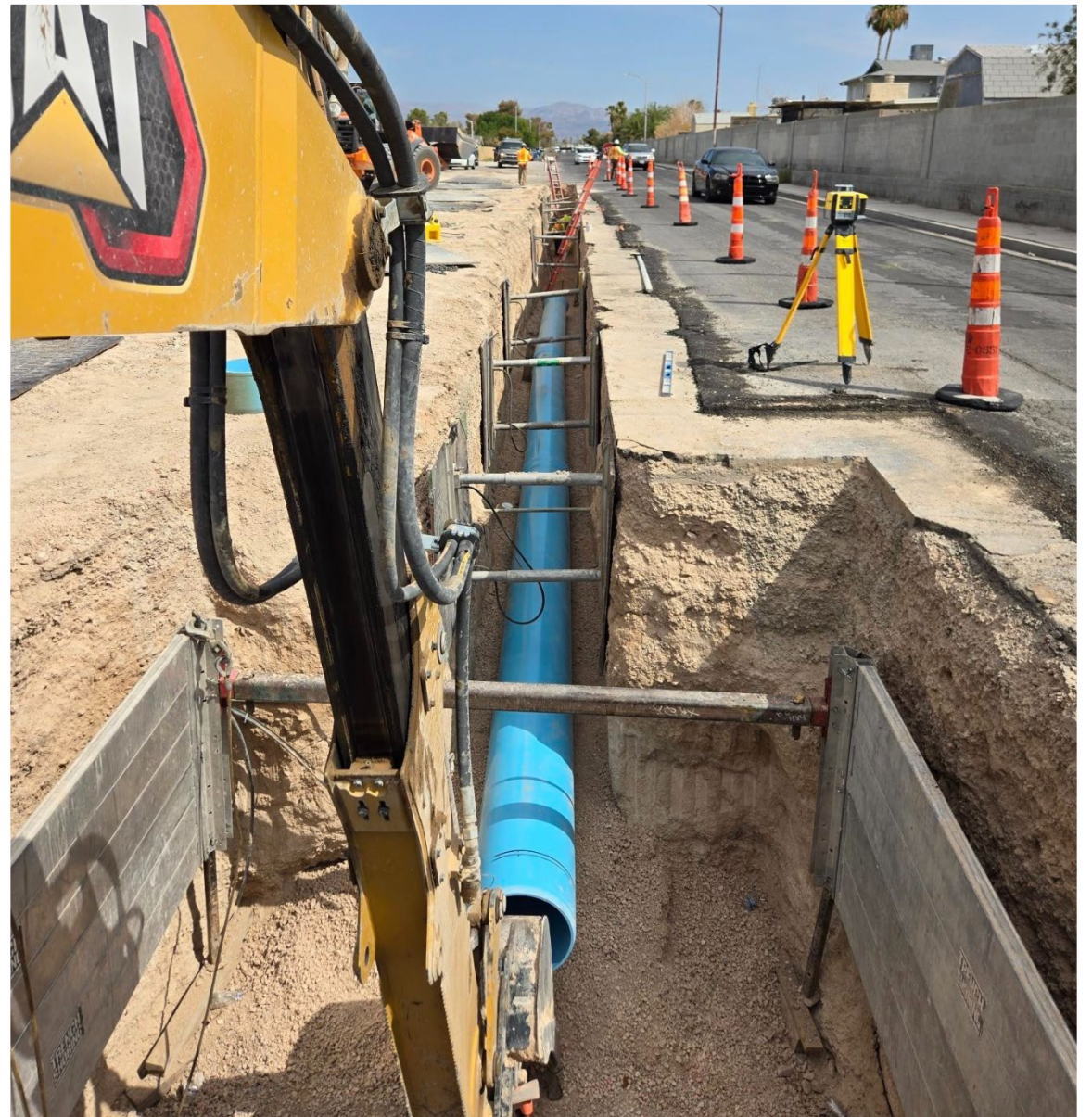
CCWRD Overview

- **Among Top 15 Largest Wastewater Agencies in The West**
- **Largest Wastewater Discharger on The Colorado River**
- **Largest Wastewater System and Treatment Plant in Nevada**
- **Unsung Backbone of Public Health and Environmental Protection**
- **Wastewater Professionals Protect Public Health, Preserve the Environment, and Power Community Resilience - One Drop At A Time**
- **Maintains Clean Water, Safe Communities, and Sustainable Ecosystems for Future Generations**

Collection System Overview

By The Numbers:

- **2,386 Miles of Pipe**
- **51,784 Manholes**
- **32 Odor Control Sites**
- **24 Lift Stations**
- **17 Siphons**
- **1 Junction Splitter Box with CLV: 1MGD**





Customer Base:

Over 274,500 Accounts, serving a population of 1.4 Million people (including the Las Vegas Strip)

Types of Users:

1. Domestic
2. Commercial
3. Industrial

The Pretreatment System:

1,531 sand/oil interceptors

3,734 FOGG interceptors

171 hydro-mechanical interceptors



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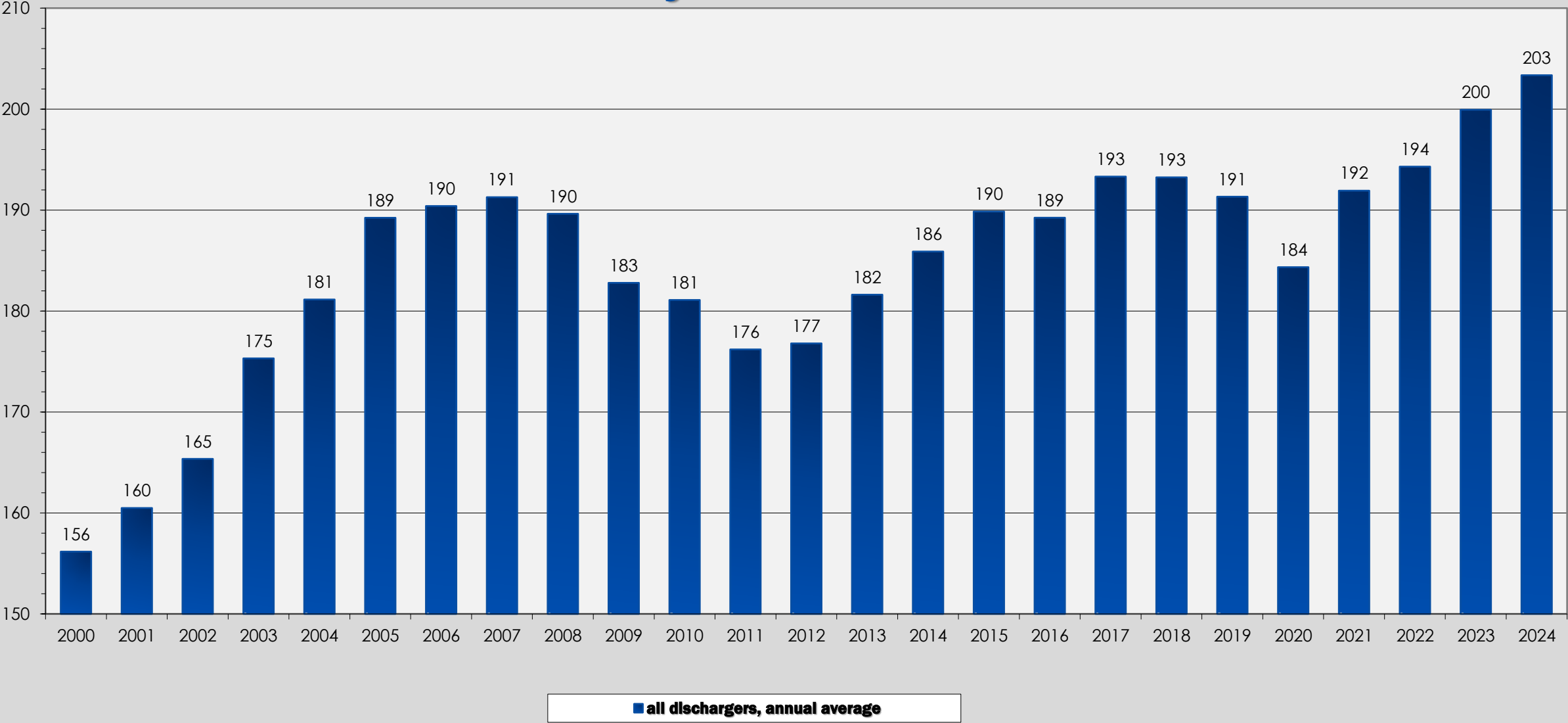
Sludge and Disposal Facts

- **500 tons of sludge is removed from the FWRC on a daily basis**
- **35 Republic Services Sludge Trucks a day enter and exit the Plant on Hollywood Boulevard**
- **Hollywood Blvd. is a critical route to the Apex Landfill**
- **Recognized in the top five “dirtiest jobs”**
- **Badge of Honor – Experiencing the Sludge Bay!**



In-Valley Influent Flows

Average, Million Gallons Per Day



RETURN FLOW CREDITS

Working With the End in Mind

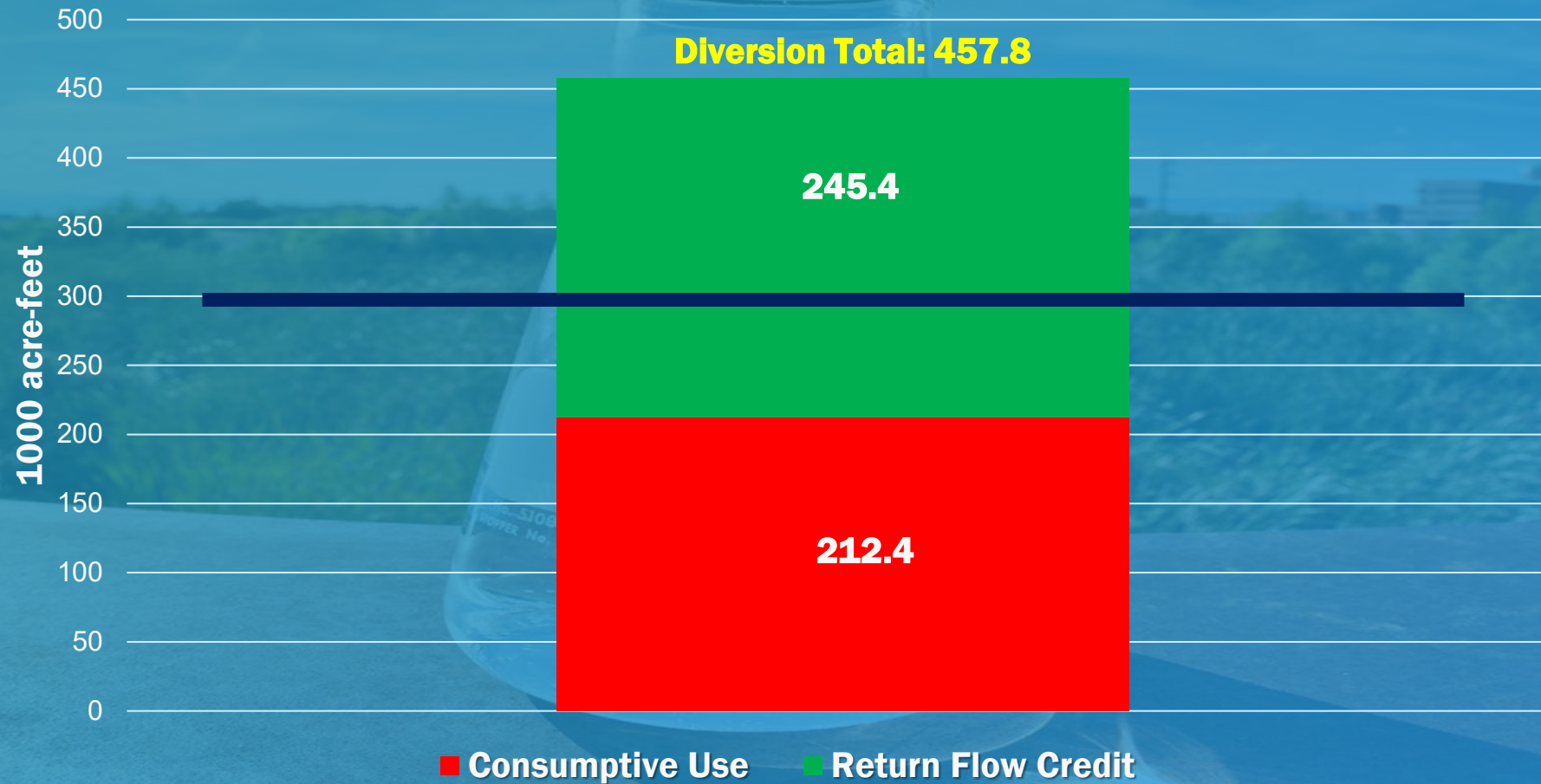


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Return Flow Credits

Nevada's Allotment=300,000;
With Tier 1 Drought Criteria = 279,000

Total Diversions for Colorado River - 2024



The Unseen Utility

Investing in the wastewater sector delivers a triple dividend:

- 1. It strengthens public health,**
- 2. Safeguards natural resources, and**
- 3. Drives sustainable economic growth**

Making it one of the highest-impact, lowest-visibility public services a jurisdiction can champion.



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CAPITAL IMPROVEMENT PROGRAM OVERVIEW

Constantly Investing in the Wastewater Infrastructure



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Capital Improvements Program Projections

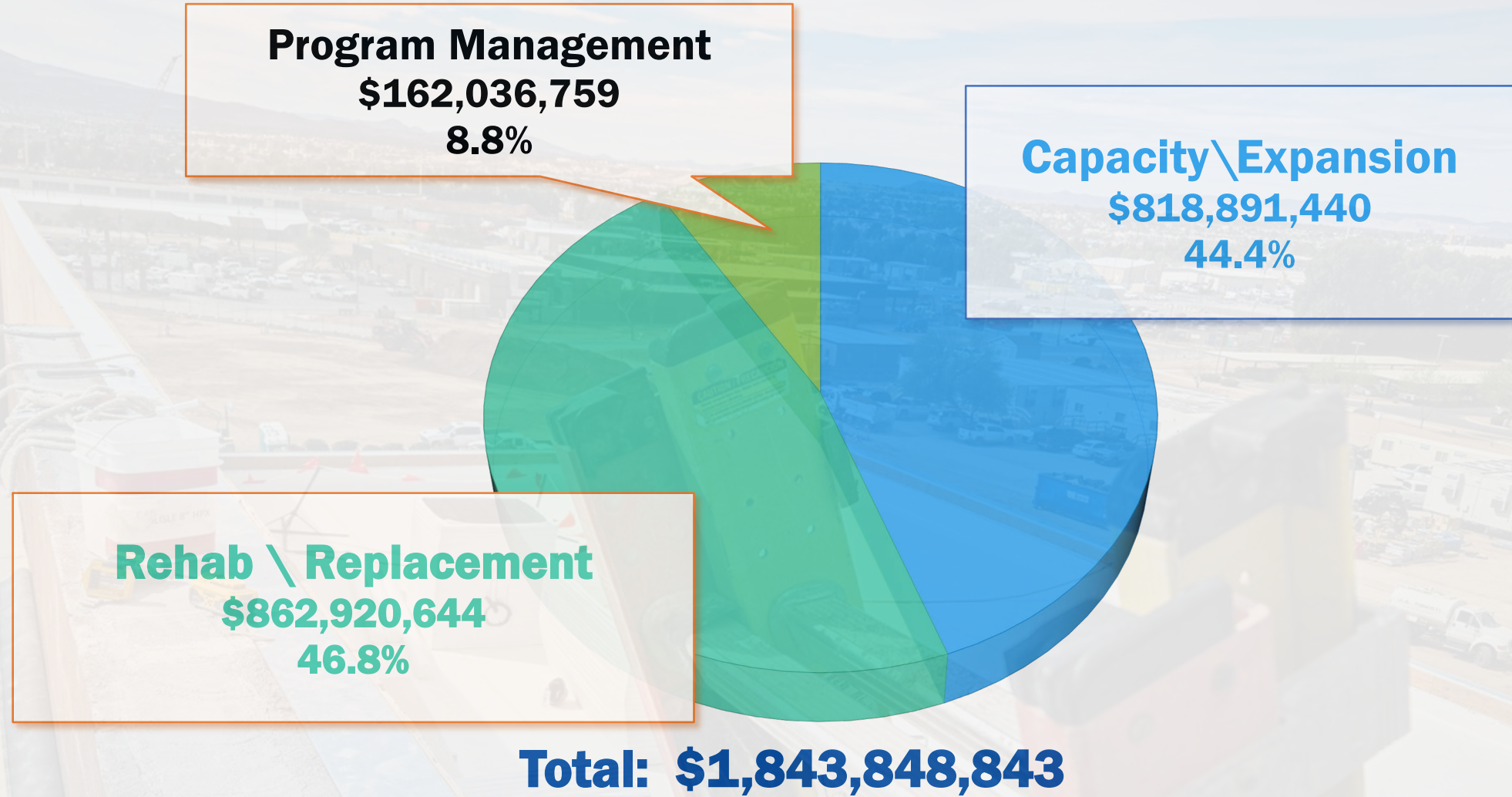
	Previous 10 Years Completed	5-year CIP Total	10-year CIP Total	15-year CIP Total
Capacity/Expansion	\$558.0 M	\$541.1 M	\$668.5 M	\$818.9 M
Rehabilitation and Replacement	\$561.8 M	\$486.7 M	\$743.1 M	\$862.9 M
Capital Staffing and Program Management	\$80.6 M	\$45.9 M	\$98.7 M	\$162.0 M
TOTAL	\$ 1.2 B	\$1.1 B	\$1.5 B	\$1.8 B

Capital Intense – Wastewater is Extremely Corrosive and Destructive



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Capital Improvements Program 15 Year Projections

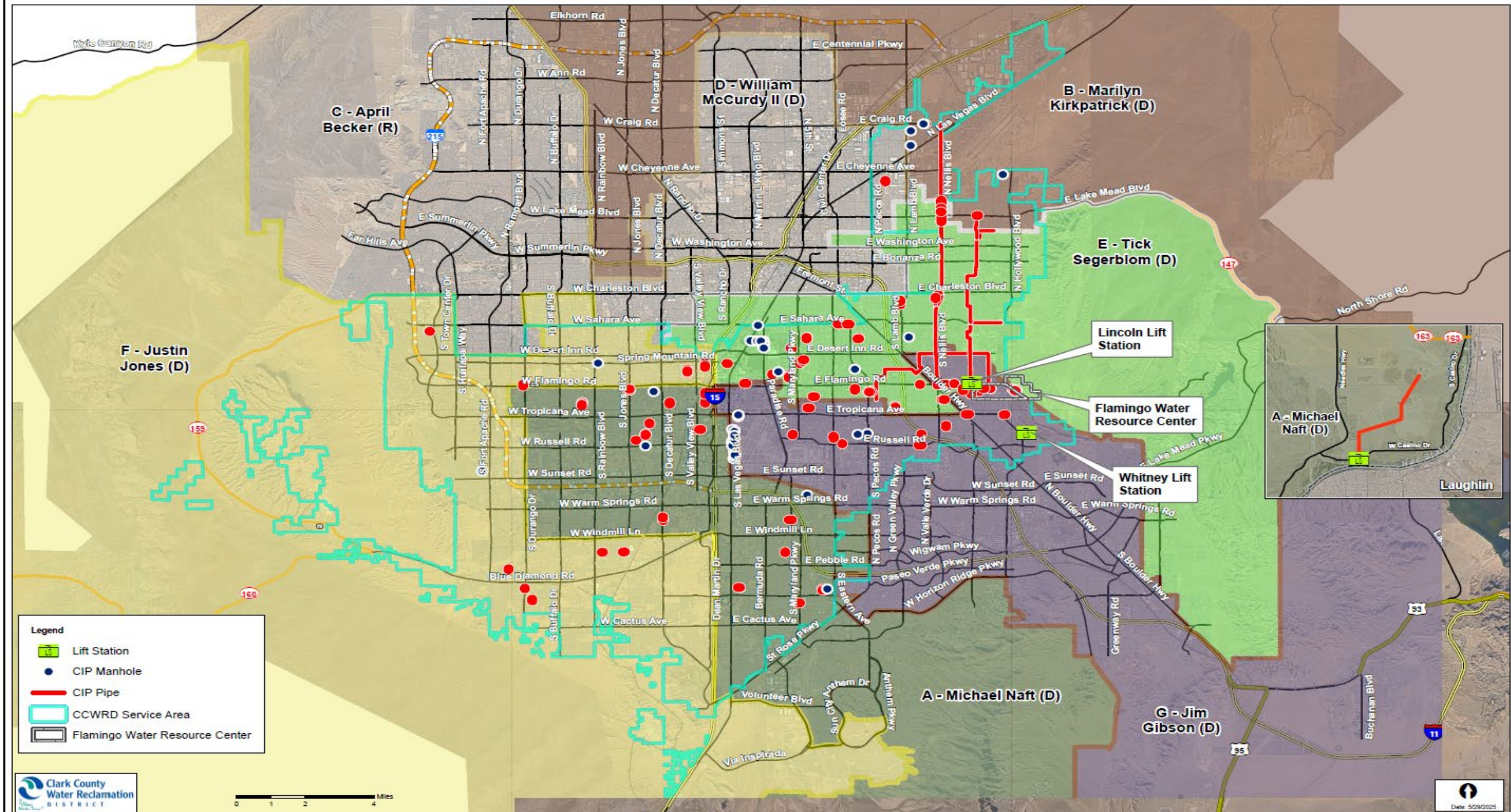


Program Management, Project Controls, Flow Monitoring, Condition Assessments



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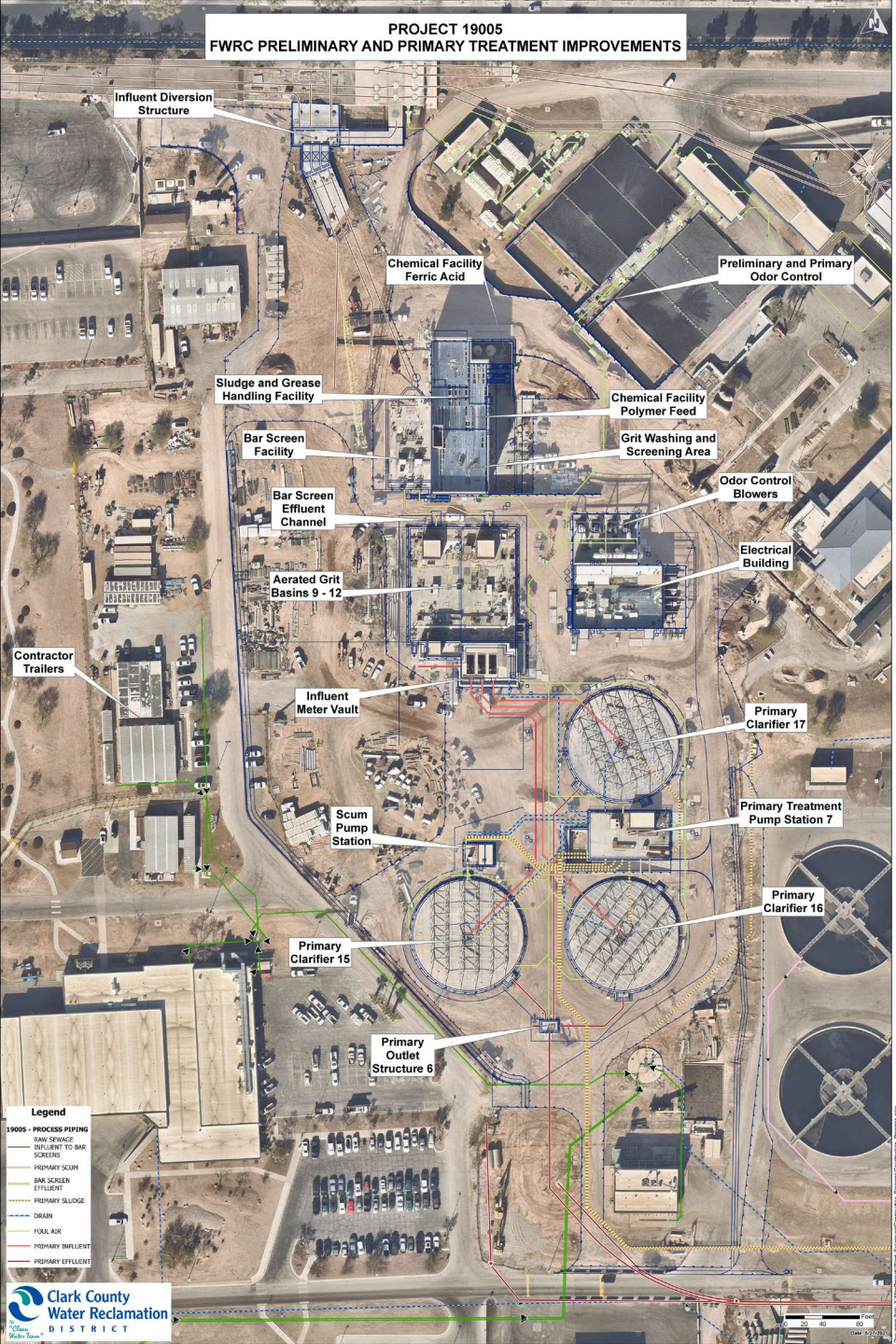
CAPITAL IMPROVEMENT PROGRAM PROJECTS



FLAMINGO WATER RESOURCE CENTER CAPACITY UPGRADE PROJECTS: 30 MGD CAPACITY EXPANSION



PROJECT 19005
FWRC PRELIMINARY AND PRIMARY TREATMENT IMPROVEMENTS



19005 – FWRC PRELIMINARY AND PRIMARY TREATMENT IMPROVEMENTS

Existing 84-inch Diameter Inflow Pipelines in the Process of Tapping



Existing 84-inch Diameter Inflow Pipelines Being Prepped for Tapping



19005 – 84-inch Diameter Pipe Joint Test





19005 – Polymer Room, Scum and Grease Loading Area



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19005 – Electrical Duct Bank and Concrete Placement

Miles of Conduit



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19005 – Placing Concrete with Pumper Truck at Trench Drain



19005 – New Clarifiers



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19007 – FWRC SECONDARY TREATMENT AERATION BASINS AND CLARIFIERS



CONTRACTOR
TRAILERS

PROJECT 19007
FWRC SECONDARY TREATMENT AERATION BASINS AND CLARIFIERS

AERATION BASINS
17, 18, AND 19

ELECTRICAL
BUILDING

TRANSFORMERS

SECONDARY
CLARIFIER 17

SECONDARY
CLARIFIER 18

SECONDARY
CLARIFIER 19

RAS PUMP
STATION NO. 7

BLOWER
BUILDING NO. 4

Legend

19007 - PROCESS PIPING

ELECTRIC VAULT
IRRIGATION

WAS

SCUM DISCHARGE
REUSE

EXISTING REUSE

DRAIN
FIBER DUCTBANK

SCUM DRAIN

RAS

ELECTRIC DUCTBANK

MIXED LIQUOR
SECONDARY EFFLUENT

PRIMARY EFFLUENT

SECONDARY EFFLUENT

STORM

EXISTING STORM

POTABLE WATER

EXISTING POTABLE WATER

19007 - Aeration Basin



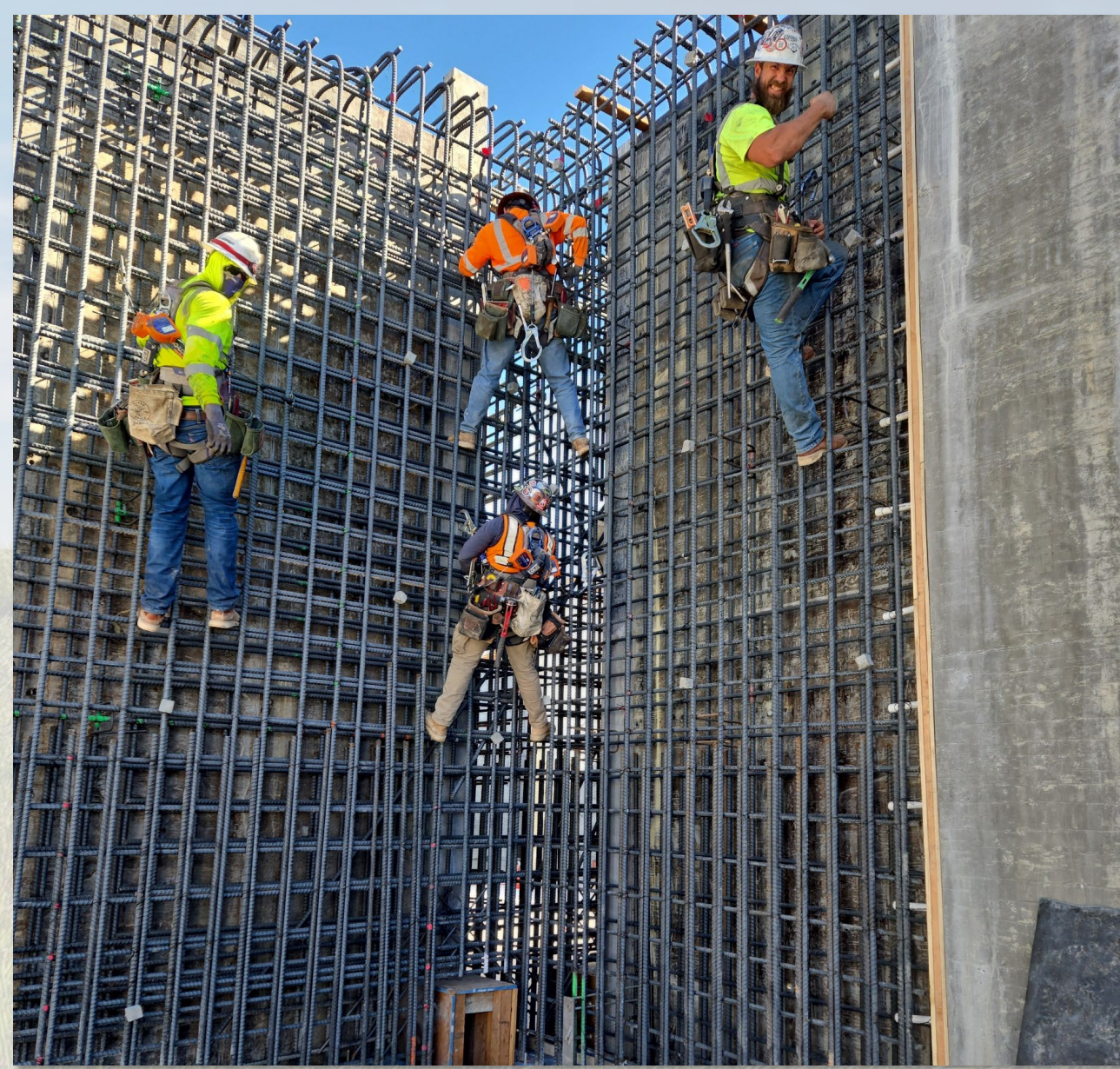
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19007 – Aeration Basin Concrete Placement



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19007 – Button-up Inspection of Aeration Basin Wall



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19007 – Secondary Clarifier 17



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19007 – Secondary Clarifier Interior Wall



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19007 – Overview of Secondary Clarifier 18



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19102 – FWRC PRIMARY SLUDGE THICKENING IMPROVEMENTS

**PROJECT 19102
FWRC PRIMARY SLUDGE THICKENING IMPROVEMENTS**



19002 – Sludge Thickeners



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An Economic Perspective:

3 Major Projects

- **1,000,000+ Contracted Man Hours Worked**
- **67,000+ Cubic Yards of Concrete Placed**
- **7,200+ Tons of Rebar Installed**
- **\$626 M in construction**

SEPTIC SYSTEM CONVERSION PILOT PROGRAM



Recovering Water Otherwise Forever Lost



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Septic System Conversion Pilot Program Status

Item	Data
Revenue Fund: Clark County Recovery Funds	\$15 Million
Total Septic System Conversions Completed (as of May 30, 2025)	133
Septic Conversions Under Construction	15
Working on Construction Proposals	2
Under Design Review	8
Average Construction Cost per Conversation	\$47,927
Average Burdened Cost per Conversion	\$71,890
Construction Fund Expended	\$6.37 Million
Burdened Program Costs	\$9.56 Million
Estimated Water Recovery (57,428 Gallons per property per year = 7.63 MG/year)	23.44 Ac-Ft
Estimated Water Recovery Cost per Acre-Foot Gained	\$271,944



Septics By Water Source

Jurisdiction	Estimated Septic Systems (In-Valley)	Estimated Septic Systems Served by Municipal Water*	Estimated Water Recovery, Eligible for RFC (Ac-Ft)	Estimated Septic Systems Served by Groundwater	Estimated Water Recovery, Not Eligible for RFC (Ac-Ft)
CCWRD	6,195	4,248	1,501	1,947	1,168
County Islands	4,430	1,651	466	2,779	1,667
Henderson	1,196	1,055	346	141	85
Las Vegas	1,885	1,257	415	628	377
North Las Vegas	602	401	132	201	121
TOTALS:	14,308	8,612	2,000 to 2,860	5,696	3,000 to 3,418
% of Total		60.2%		39.8%	

Pursuing Septics that are eligible for Return Flow Credits



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Proximity to Existing Sewer Mains

Jurisdiction	Estimated Active Septic Permits	Estimated Active Septic Permits with Sewer in the Property Frontage	Estimated Active Septic Permits with Sewer Within 400 LF	Estimated Active Septic Permits with Sewer Further Than 400 LF
CCWRD	6,195	1,414	2,609	2,172
County Islands	4,430	1,402	2,372	656
Henderson	1,196	262	365	569
Las Vegas	1,885	767	394	724
North Las Vegas	602	150	200	252
TOTALS:	14,308	3,995	5,940	4,373

1st Priority – the lowest hanging fruit



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NACWA National Environmental Achievement Award – Septic Conversion Program

- **In 2025, CCWRD received NACWA's National Environmental Achievement Award for the Septic Conversion Program.**
- **The award was based on the program's positive impact on the community in the areas of improved public health, environmental sustainability, and benefits to residents.**

A Huge Team Effort – Planning, Engineering, Survey, Construction Management, Inspections, Collection System, Public Outreach, Accounting, Project Controls



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Septic System “GIS” Layer

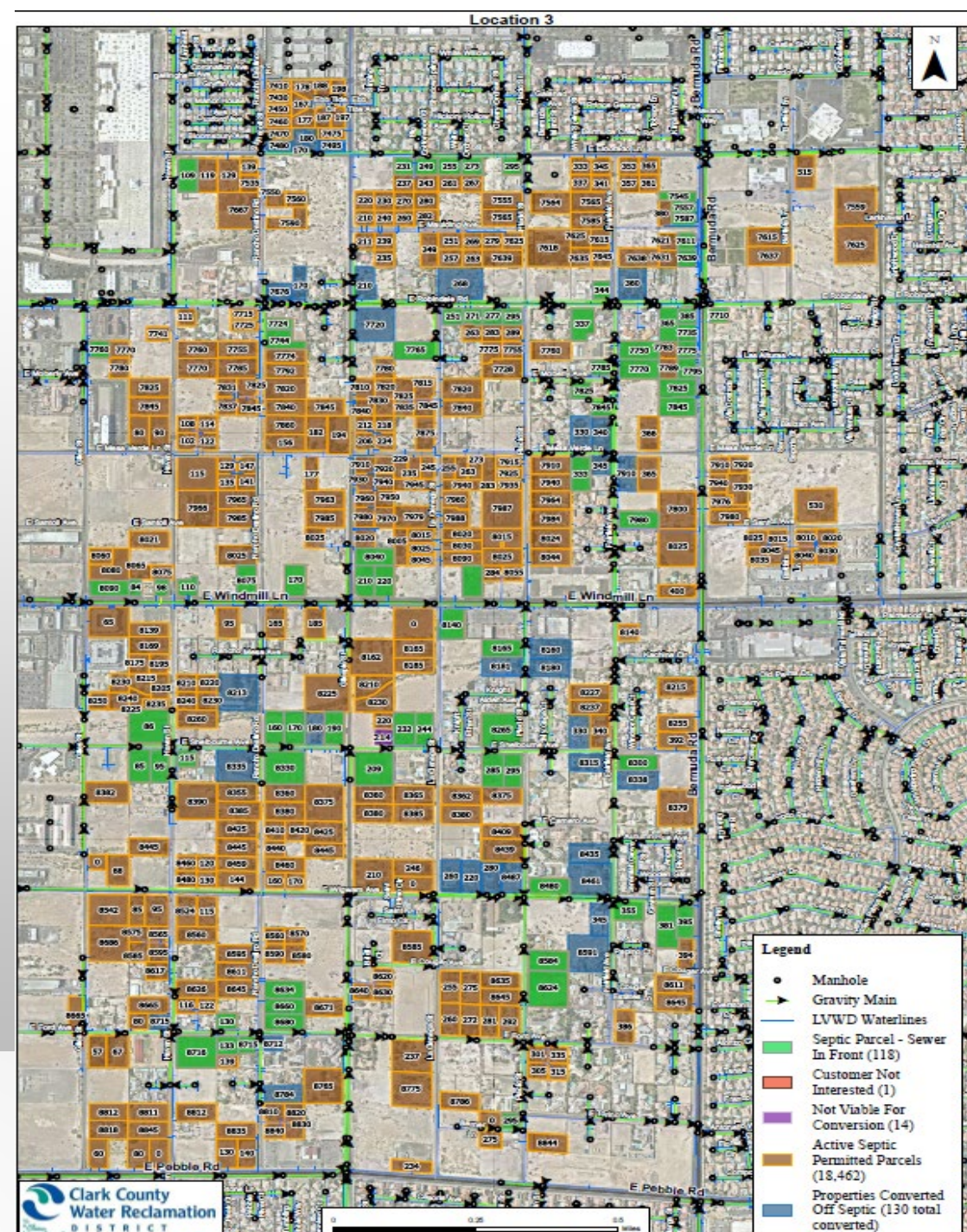
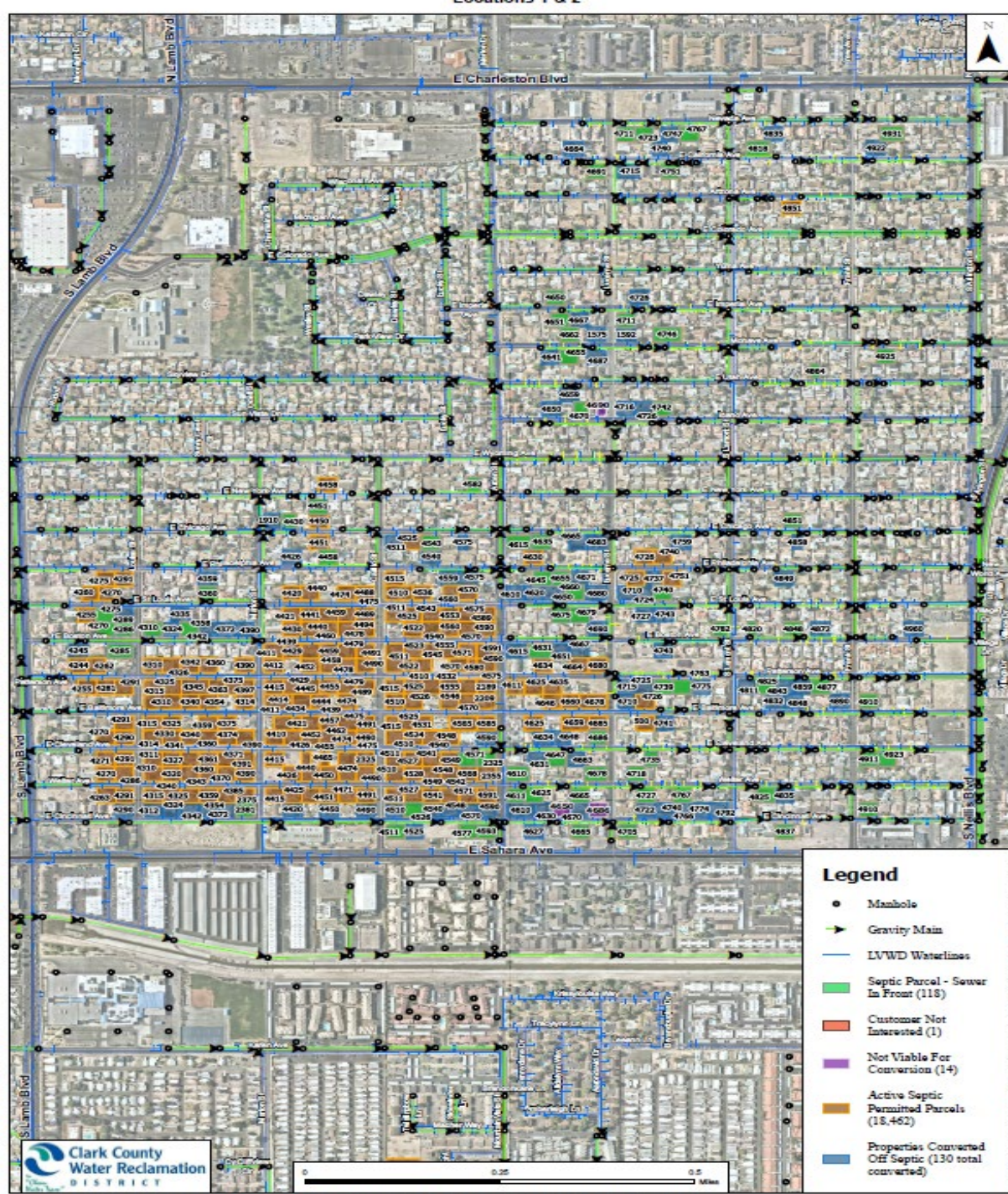
- **Coordination and Collaboration in developing a shared layer with SNHD in CCWRD’s GIS program**
- **Database Improvements, Data Elements Review, Data Accuracy Integrity, Combine shared layers of Interest (sanitary sewers, septic parcels, septic system data)**



Partnering with the “SNHD” to Improve Data and GIS



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WASTEWATER SURVEILLANCE

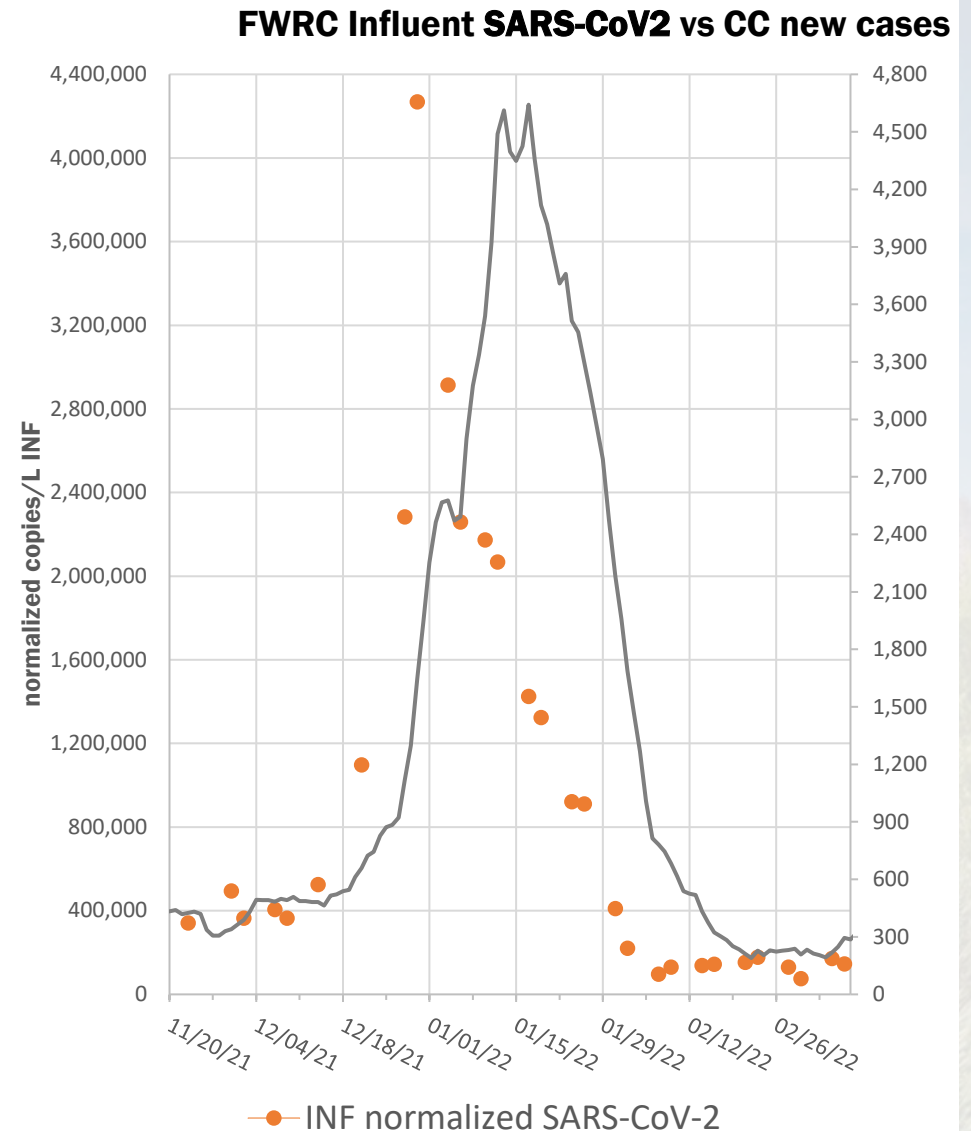
“WASTEWATER AS SCIENCE”



PROVEN LEADING INDICATOR

When Omicron hit in December 2021:

- **Our influent concentrations began to spike on December 21 and began to recede on January 4.**
- **Clinical cases in Clark County began to spike on December 28 and began to recede on January 18.**
- **Clear evidence that wastewater surveillance can be a leading indicator of outbreaks and subsidences.**





Key Elements of Wastewater Surveillance



1

CCWRD (and other wastewater agencies around the country) collect, process, and ship raw sewage (wastewater samples). To date, CCWRD has collected over 1,200 samples for this effort.

2

Highly-specialized laboratories with expertise in quantifying pathogens and identifying variants analyze the samples and disseminate the results.

3

Public health agencies (like the Southern Nevada Health District, the State of Nevada Office of Epidemiology, and the US Centers for Disease Control) interpret the data and act to protect public health.

CURRENT COLLABORATIONS

- **National Wastewater Surveillance System**
- **wastewaterSCAN program (Stanford and Emory Universities)**
- **Special Projects with Verily Laboratory**
- **Southern Nevada Water Authority (SNWA)**
- **Desert Research Institute (DRI)**
- **University of Nevada Las Vegas (UNLV)**
- **Southern Nevada Health District (SNHD)**
- **State of Nevada Office of Epidemiology**
- **US Centers for Disease Control (US CDC)**
- **National Association of Clean Water Agencies (NACWA)**

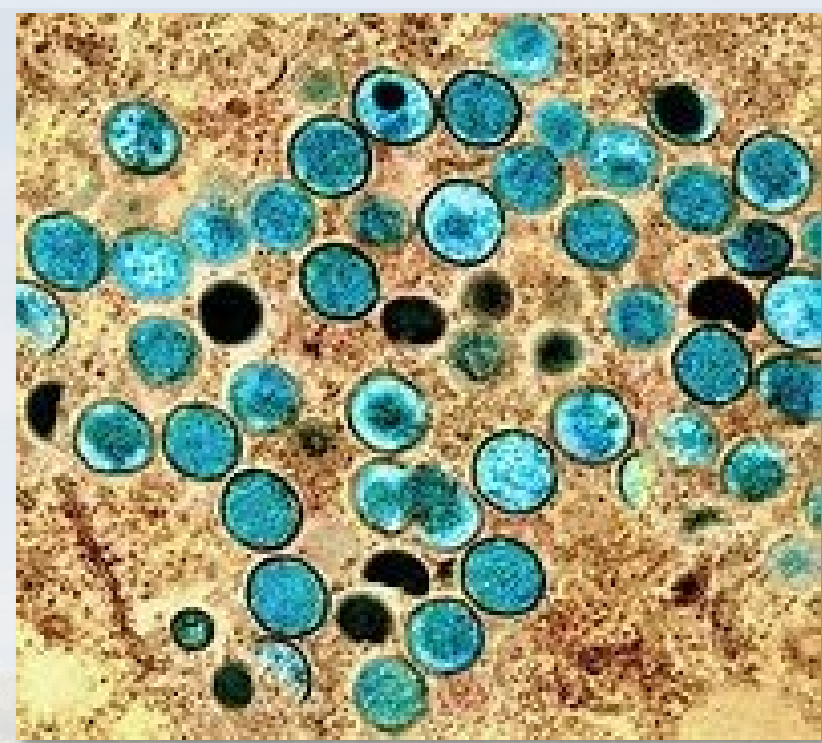


LAST WEEK'S DASHBOARD DATA

Data Period:	04/17/2025 - 05/29/2025 (last 6 weeks - 42 days)									
Pathogen / Location	SARS-CoV-2 (COVID)	RSV	Influenza A	Influenza B	Human Metapneumovirus	EVD68	Norovirus	Mpox Clade II	Candida auris	Hepatitis A
CCWRD Service Area*	Medium	Low	Low	Low	Low	Low	Medium	Low	Low	Low
Nationwide	Low	Low	Low	Low	Low	Low	Medium	Low	Low	Low
West	Low	Low	Low	Low	High	Low	Medium	Low	Low	Low
South	Low	Low	Low	Low	Low	Low	Medium	Low	Low	Low
Midwest	Low	Low	Low	Low	Low	Low	Medium	Low	Low	Low
Northeast	Low	Low	Low	Low	High	Low	Medium	Low	Low	Low
Salt Lake City, Utah	Low	Low	Low	High	High	Low	Medium	Low	Low	Low
Provo, Utah	Medium	Low	Low	Low	High	Low	Medium	Low	Medium	Low
Ontario, CA	Low	Low	Low	Low	High	Low	Low	Low	Low	Low
Los Angeles County, CA	Low	Low	Low	Low	High	Low	Low	Low	Low	Medium
San Diego, CA	Low	Medium	Low	Low	High	Low	Low	Low	Low	Low

WASTEWATER SURVEILLANCE MOVING FORWARD

- Continue to participate in local, state, and national programs
- Advancing “wastewater as a science”
- Continue collaborations (public health agencies, CDC, SNHD, and Nevada Office of Epidemiology)



- Continue to be a wastewater surveillance leader in serving the community

New COVID Strains will Continue to Evolve

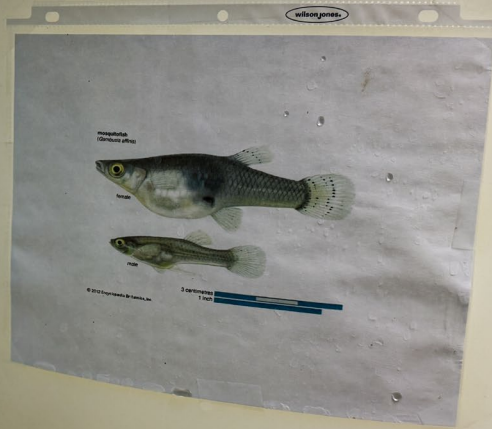


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Welcome to CCWRD Sea World!



**A partnership with
Clark County
Vector Control**





**Does a Whale of a
job!
Mosquitofish
(*Gambusia affinis*)**

Mosquitofish



Female



Male



COLLABORATIVE MATTERS OF INTEREST

- **Discussions with NV Energy – Recover & Reclaim Clark Generating Station Blow-Down Waters**
- **FWRC Energy Stabilization**
 - **Onsite Energy Capacity – pursuing 10 MW**
 - **Onsite Power Outages**
- **Republic Services “Leachate” Treatment & Recovery Study**
- **Inflow and Infiltration Studies**



REGULATORY MATTERS OF INTEREST

- **Impacts of Federal Policies on State and Local Wastewater Funds**
 - **Clean Water Act Funds for Rural Systems**
 - **Grants for Septic System Conversions**
 - **Grants for Wastewater Surveillance efforts, CDC monitoring**
 - **PFAS (fluorinated “forever chemicals”)**
- **Illegal Dumping – Pursuing Ordinance**
- **Direct and Indirect Potable Reuse Regulations**



OUR THANKS

- **To the Board**
 - **To our Community**
 - **To the Men and Women of the Clean Water Team**
-
- **We pride ourselves in being #1 in the #2 business!**
 - **When it comes to wastewater- you can count on us!**
 - **When it comes to your wastewater at home, we hope you are related to a plumber!**

Remember “Us” When You Flush!



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Questions?

Contact CCWRD

Strategic Services

publicinfo@cleanwaterteam.com

702-668-8046



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