

# **DEXTER WILSON ENGINEERING, INC.**

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CONSULTING ENGINEERS

## **LEUCADIA WASTEWATER DISTRICT SEWER SYSTEM MANAGEMENT PLAN FISCAL YEAR 2023 AUDIT**

October 20, 2023

**LEUCADIA WASTEWATER DISTRICT  
SEWER SYSTEM MANAGEMENT PLAN  
FISCAL YEAR 2023 AUDIT**

October 20, 2023



*10-20-2023*

**Prepared by:  
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2234 Faraday Avenue  
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Job No. 103-019/7

# DEXTER WILSON ENGINEERING, INC.

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October 20, 2023

103-019/7

Leucadia Wastewater District  
1960 La Costa Avenue  
Carlsbad, CA 92009

Attention: Paul Bushee, General Manager

Subject: Leucadia Wastewater District Sewer System Management Plan Fiscal Year  
2023 Audit

The Leucadia Wastewater District's (District) Sewer System Management Plan (SSMP) was adopted by the District Board and certified by the General Manager in June 2019. The purpose of the SSMP is to memorialize and publicly present in a central document the programs and activities utilized by the District to effectively manage its wastewater collection system. The SSMP requires audits at least every three years. The District has decided to conduct annual audits.

The purpose of this letter-report is to present the Fiscal Year 2023 (FY23) Audit (the fourth audit of the 2019 readoption of the District's SSMP) in fulfillment of the District's SSMP requirements. The Audit consists of completing the Section IX SSMP Evaluation Checklist and Section X SSMP Audit Checklist. These checklists are accompanied by summaries of the SSMP activities for the year.

### **Section IX SSMP Evaluation Checklist**

The Statewide Waste Discharge Requirements (WDR) governing sanitary sewers specify that each Wastewater Collection Agency shall:

- evaluate the implementation and effectiveness of the Enrollee's SSMP in preventing spills,
- evaluate the Enrollee's compliance with the WDR,
- identify SSMP deficiencies in addressing ongoing spills and discharges to waters of the State; and
- identify necessary modifications to the SSMP to correct deficiencies.

Maintaining the applicability of the SSMP to District activities necessitates ongoing evaluation of the activities the District performs, their success, and improvement, if necessary. The Section IX SSMP Evaluation Checklist (Evaluation Checklist) is used on an annual basis to evaluate the applicability and effectiveness of the District's SSMP.

In completing the Evaluation Checklist (found in Attachment A), we find that, in general, the District's activities, programs, and efforts meet or exceed the requirements of the WDR and SSMP. Minor changes were made to the SSMP to reflect the overall WDR update. However, the changes do not necessitate a re-adoption of the SSMP prior to the scheduled August 2, 2025 revision, per the required six year cycle. In completing the Evaluation Checklist, there are several items to note, as discussed in the Audit Discussion section below.

### **Section X SSMP Audit Checklist**

The Statewide WDRs governing sanitary sewers specify that the District shall conduct periodic internal audits, appropriate to the size of the system and the number of spills. These audits must occur, at a minimum, every three years and a report must be prepared and kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the WDR and SSMP requirements, including the identification of any deficiencies in the SSMP and the steps taken to correct them.



The District has chosen to conduct their SSMP audit on an annual basis. In completing the Audit Checklist, we find all requirements of the checklist to be current and implemented. The completed Audit Checklist for FY23 can be found in Attachment B.

### **Audit Discussion**

The following paragraphs highlight notable elements of the FY23 Audit organized by the relevant SSMP Section. Additional notes can be found on the Evaluation Checklist in Attachment A.

**Sections I, II, and III (District Goals, Organization, and Legal Authority).** No appreciable changes have occurred to the District's Goals, Organization, or Legal Authority since the 2019 SSMP. The statewide WDR which governs the SSMP was revised/updated and became effective on June 5, 2023. District staff have been active in this process toward reissuance of the WDR including attending virtual State Water Board workshops and updating pertinent SOPs. There were two new field services staff hired in FY23.

**Section IV (Preventative Maintenance Program).** General statistics regarding the District's preventative maintenance activities are provided in Attachment C. Also in Attachment C, Exhibit C-1 graphically illustrates those areas within the District which are readily accessible for hydrocleaning and closed circuit television (CCTV) inspection and those areas which have additional needs or requirements in order to hydroclean or CCTV, such as the need for significant traffic control procedures or night work due to day time traffic volume or wastewater flows.

Exhibit C-2 tracks the general progress of CCTV inspections in the District. Per the District's SSMP, the District strives to CCTV their entire system every three years. The District is on track to meet its goal of CCTV inspecting its 200 mile gravity sewer system within a three-year timeframe. However, in review of Exhibit C-2, there are select areas within the District which have not been CCTV inspected in the last three years. These areas will be CCTV inspected in FY24.

The District has decided to reduce the CCTV inspection frequency of select gravity sewer lines with additional requirements (El Camino Real and the Batiquitos influent) to five year intervals similar to the Lanikai sewer line. These will be further assessed and a determination of CCTV inspection frequency will be made at the overall SSMP update.

In FY20, the District's portable flow meters (Echo meters) were relocated to strategic gravity sewer locations which are difficult to clean and CCTV inspect. In addition to monitoring capacity, the meters have assisted in determining whether the frequency of the resource intensive cleaning and CCTV activities of these locations can be extended. These locations are also being further evaluated in terms of inflow and infiltration.

In FY16, the District began introducing foam treatments in pipelines and manholes for the treatment of roots. The initial results were favorable and the District has incorporated foam treatment into the regular schedule of preventative maintenance activities. Additional line segments and manholes utilized foam treatment for root control in FY23.

In FY21, a mutual maintenance services and equipment agreement between the District and Olivenhain Municipal Water District (OMWD) was prepared. The agreement enables the District to have access to OMWD's hydraulic valve turning equipment services. These services will be utilized to exercise three large valves every six months at the major District pump stations. In return, the District will provide services to clean two of OMWD's pump station wet wells.

The District's Asset Management Plan (AMP) was revised in April 2023. Progress throughout FY23 with respect to the AMP (and other asset planning efforts) is summarized in the Attachment I letter-report at the end of the audit. The District's revised AMP is summarized as well in Attachment I.

The FY23 SOP training schedule can be found in Attachment D and all updated SOPs are included on a CD in Attachment E.

**Section VI (Spill Emergency Response Plan).** An overall update to the District's Spill Emergency Response Plan (SERP), previously titled Overflow Emergency Response Plan (OERP), was completed in FY23. The OERP had been reviewed and revised (as needed) on

an annual basis since the original SSMP adoption in 2009 by the District. Per the new Statewide WDR update, the OERP was required to be updated and implemented as the SERP per the Order's guidance.

**Section VII (Sewer Pipe Blockage Control Program).** Only one spill has been attributable to a FOG sewer pipe blockage since FY11, continuing the District's SSMP determination that a formal FOG control program is not warranted at this time. The District continues to require BMP agreements for all new FSEs as well as further continuing its outreach via newsletters, door hangers, inspections, etc. Additionally, the District is training field staff and conducting inspection of grease interceptors/traps in shopping plazas that show significant corrosion of manholes (42 inspections in FY23). District FSE inspections have included notification of sufficient grease cleaning as well as ensuring that certified grease haulers are being utilized by the FSEs.

**Section VIII (System Evaluation and Capacity Assurance).** The District continues to monitor (and address as necessary) the presence of scale in the Alga Hills area. The area was most recently CCTV inspected in FY23 and is hydrocleaned as deemed necessary. Any defects discovered during the CCTV inspections are incorporated into the District's Repair Priority List.

Inflow domes have been installed in 2,687 of the District's 5,103 manholes to aid in reducing inflow. The District will continue to repair/replace inflow domes as it becomes necessary. Figure 1 shows the locations where inflow domes have been installed throughout the District.

Smoke testing was performed in the Leucadia area FY23. A majority of the defects were found along private laterals and cleanouts.

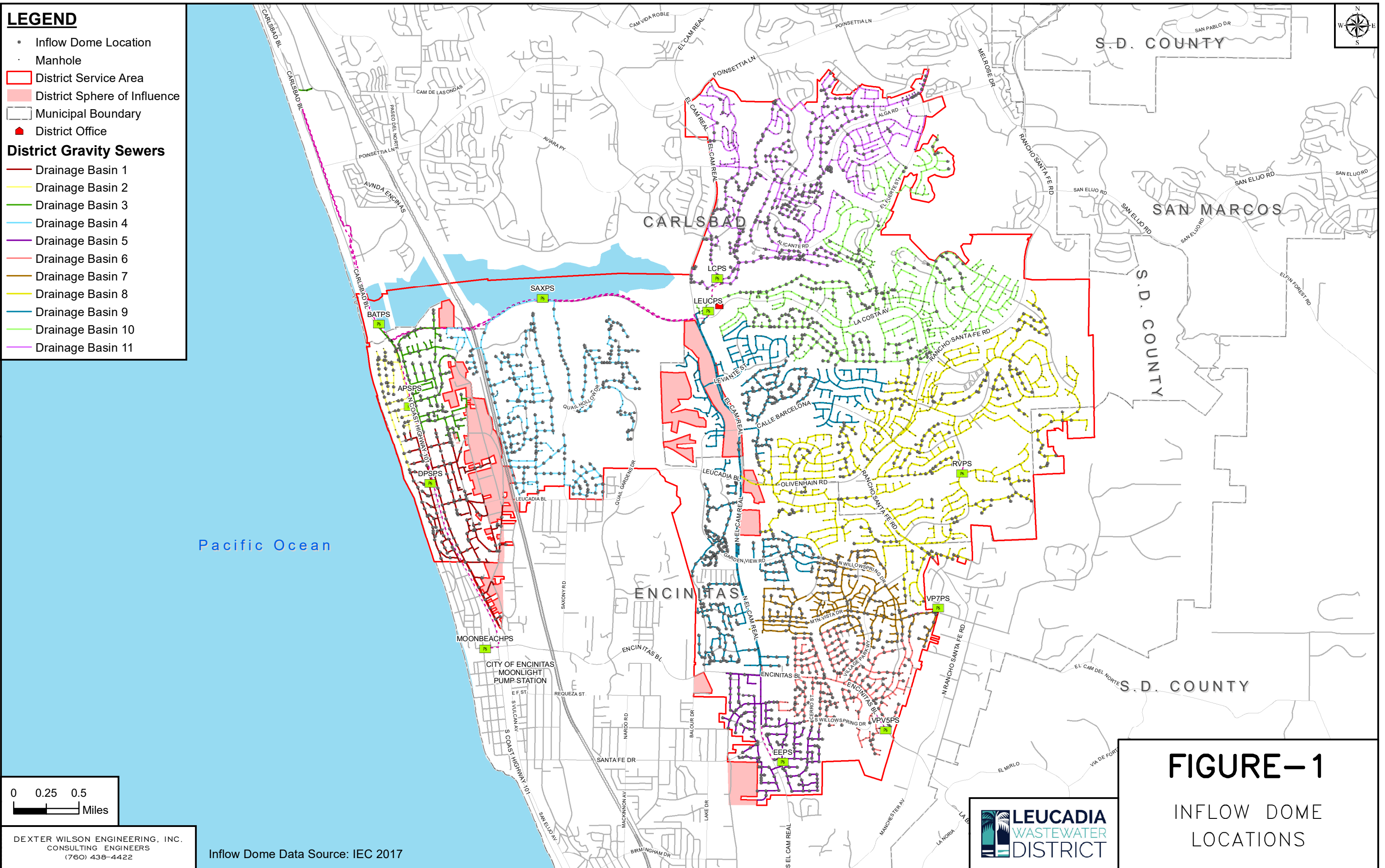
Flow analyses of the District were conducted as part of the District's 2008, 2013, 2018, and 2023 AMPs. All four documents concluded that estimates of average and peak ultimate flows are within the design values of the District and less than the flows utilized in the District's detailed capacity analyses conducted as part of the 1999 Wastewater Master Plan. There are no capacity-driven replacement projects currently identified for the District. For reference, the current buildout flows for the District are projected to be 4.7 mgd in comparison to the 1999 Master Plan where buildout flows were projected at 6.5 mgd.

**LEGEND**

- Inflow Dome Location
- Manhole
- ▭ District Service Area
- ▭ District Sphere of Influence
- ▭ Municipal Boundary
- ▣ District Office

**District Gravity Sewers**

- Drainage Basin 1
- Drainage Basin 2
- Drainage Basin 3
- Drainage Basin 4
- Drainage Basin 5
- Drainage Basin 6
- Drainage Basin 7
- Drainage Basin 8
- Drainage Basin 9
- Drainage Basin 10
- Drainage Basin 11



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Inflow Dome Data Source: IEC 2017

# FIGURE-1

INFLOW DOME  
 LOCATIONS



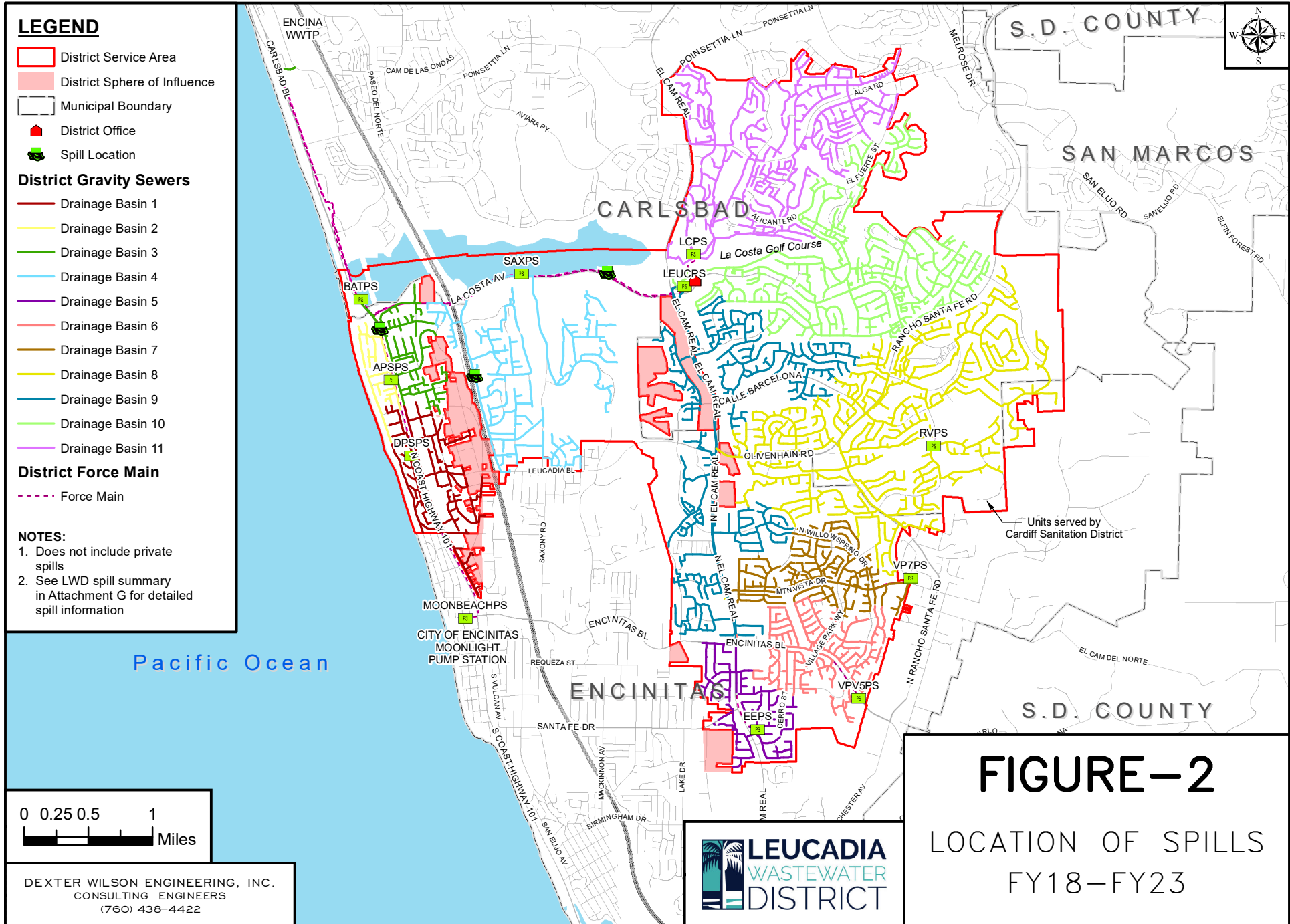
The District's monthly flow comparison for FY22 and FY23 can be found in Attachment F. In comparison to FY22, average daily flows have slightly increased in FY23.

Other FY23 system evaluation activities included the continuance of converting the Inframap data transfer to a cloud-based system.

**Section IX (Monitoring, Measurement, and Program Modifications).** The District's Spill Summary from the most recent SSMP update in 2018 through June 30, 2023 can be found in Attachment G. No spills occurred in FY23.

Spill review checklists for each spill event are on file at the District office. Figure 2 identifies the location of each spill in a public line or manhole since most recent SSMP update. There were four private lateral spills in FY23 totaling 115 gallons which were all captured and vacuumed up. The District does not own, operate, or maintain laterals that connect into its collection system. The District responds to and assists with the clean-up of private lateral spills as a courtesy to residents. Spill occurrence, volume, and lateral reimbursement continues to decline which demonstrates the District's successful preventative maintenance programs.

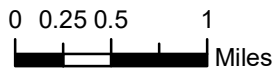
**Section XI (Communication Program).** The District has made the 2019 SSMP and subsequent audits available on its website. The District also actively posts to Facebook to communicate generally with the public. Examples of Facebook posts by the District in FY23 included reminders about the problems that wipes and grease cause in the sewer system, tips on how customers can better maintain their private sewer plumbing, keeping easements clear, and information on District activities such as smoke testing, routine maintenance work/traffic control, etc. Additionally, SSMP updates and SSMP Audits are formally presented to the Engineering Committee and Board of Directors.



**LEGEND**

- District Service Area
- District Sphere of Influence
- Municipal Boundary
- 🏠 District Office
- 🚰 Spill Location
- District Gravity Sewers**
- Drainage Basin 1
- Drainage Basin 2
- Drainage Basin 3
- Drainage Basin 4
- Drainage Basin 5
- Drainage Basin 6
- Drainage Basin 7
- Drainage Basin 8
- Drainage Basin 9
- Drainage Basin 10
- Drainage Basin 11
- District Force Main**
- Force Main

- NOTES:**
1. Does not include private spills
  2. See LWD spill summary in Attachment G for detailed spill information



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**FIGURE-2**  
 LOCATION OF SPILLS  
 FY18-FY23

### **Recommended SSMP Edits**

Attachment H to this audit document is a place holder for specific edits to the 2019 SSMP; there are no edits/change recommended to the SSMP based on the FY23 Audit. The revisions stemming from the SERP update are included for reference. Future edits, if necessary, will be documented in the SSMP change log (Appendix B of the SSMP and Attachment H of subsequent audits). Future edits/revisions to the SSMP will be evaluated to determine whether or not they are significant enough to warrant re-adoption of the District's SSMP prior to the scheduled August 2, 2025 revision.

### **Summary of Recommendations**

The following section summarizes recommended items as a result of the FY23 Audit:

- Ensure that La Costa Golf Course and La Costa Avenue, Alga Road, and Rancho Santa Fe Road sewers, which all require additional measures (e.g. traffic control, easements, etc.), maintain cleaning/CCTV cycles (See Attachment C, specifically locations 7 and 13). The La Costa Golf Course and Batiquitos influent gravity sewers are recommended to be scheduled for CCTV inspection next.
- Ensure that the planned O&M activities (e.g. hydroclean and CCTV inspect every 5 years) for the Lanikai and Occidental sewer lines are on track (see AMPI memorandum Attachment A). The Occidental sewer line was hydrocleaned by Carlsbad in FY22.
- Complete all applicable scheduled SOP trainings in FY24 (see Attachment D for reference).
- Ensure that revised SERP is implemented and integrated into District training.



Paul Bushee  
October 20, 2023  
Sewer System Management Plan Fiscal Year 2023 Audit

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**Next Steps**

This SSMP FY23 Audit should be received and filed by the District Board as well as retained for inclusion in the current District's 2019 SSMP. Please be sure to post this FY23 Audit on the District's website and include a hardcopy in the District's 2019 SSMP counter copy. We appreciate the opportunity to have worked with the District on this project. Should you have any questions please do not hesitate to contact us.

Dexter Wilson Engineering, Inc.



Steven Henderson, P.E.

NF:SH:ah

Attachment(s)



## **LIST OF ATTACHMENTS**

A – SSMP Evaluation Checklist

B – SSMP Audit Checklist

C – District Preventative Maintenance Statistics

D – SOP Training Schedule

E – Field Services SOPs

F – District Flow Comparison FY22 to FY23

G – LWD Spill Summary through June 30, 2023

H – SSMP Revisions

I – Letter-Report to LWD General Manager Regarding AMP Implementation

**ATTACHMENT A**

**SSMP EVALUATION CHECKLIST**

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Yes	No	Update Needed in SSMP? *	Date	Staff Interviewed	Actions and Notes
<b>Sections I, II, III (District Goals, Organization, Legal)</b>						
1. Has there been an appreciable change in the Strategic Plan?		✓		8/17/23	DTS	
2. Was the current organizational chart included in the annual financial plan?	✓			8/17/23	FSS	
3. Were the District goals addressed in the annual Fiscal Year Tactics & Action Plan?	✓			8/17/23	FSS	
4. Has the District's Legal Authority been reviewed considering new regulations?	✓			8/17/23	DTS	A general WDR revision was put into effect in June 2023. The District's Legal Authority complies with current regulations.
5. If appropriate for three year review cycle, has the District's Standard Spec been reviewed for necessary changes?	✓			9/29/23	DE	Standard Spec was updated in April 2022.
6. Was the staff size and organizational chain of command sufficient for implementation of the preventative maintenance programs and spill response?	✓			8/17/23	FSS & DE	
7. In review of the spill causes and environmental impacts (if any), would additional staff or a change in District organization lessened or eliminated the spill cause and environmental impact?		✓		8/17/23	FSS & DE	There were no spills in FY23.
8. In review of the spill causes and environmental impacts (if any), was the sufficient legal authority for the District to respond and take action as necessary?	✓			8/17/23	FSS & DE	There were no spills in FY23.

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Yes	No	Update Needed in SSMP? *	Date	Staff Inter-viewed	Actions and Notes
<b>Section IV (Preventative Maintenance Program)</b>						
1. Have all new construction or rehabilitation projects been entered into the GIS database?	✓			8/17/23	FSS	
2. Have the new pipelines, manholes, and updates from the field been included in CMMS?	✓			8/17/23	FSS	
3. Were all scheduled preventative maintenance activities in the CMMS completed as scheduled? If not, determine cause and if additional staff is necessary to complete required schedule.						
a. Hydrocleaning	✓			8/24/23	FSS	Was on target.
b. CCTV Video Inspection	✓			8/24/23	FSS	Was on target.
c. Release Valve Exercising	✓			8/17/23	FSS	Exercised every 6 months.
d. Isolation Valve Exercising	✓			8/17/23	FSS	Exercised every 3 months.
e. Pump Station Inspection	✓			8/17/23	FSS	Inspected every month.
f. Smoke Testing	✓			8/17/23	FSS	Was performed on approximately 11,000 linear feet in FY23. A total of 20 defects were identified. A majority of the defects were found along private laterals and cleanouts.
g. Foam Root Control	✓			8/17/23	FSS	Was performed on 17 line segments in FY 29 amounting to 3,982 LF.
h. Lateral Reimbursement Program	✓			8/17/23	FSP	Processed and approved 25 Lateral Reimbursement Applications in FY23 for a total of \$59k of \$100k budgeted.
4a. Are pipeline CCTV inspections on-track for complete system inspection every 3 years?	✓			9/29/23	FSS	CCTV inspection statistics the past 3 years show the District is meeting its 3 year goal of 200 total inspected miles. In FY23, the District will need to prioritize the gravity line segments highlighted in Exhibit C-2 to remain on track for the 3-year inspection interval.
4b. Are the "special" areas as identified in Attachment C on track to be CCTV inspected every 3 years?		✓		9/29/23	FSS	Primarily yes with the exception of La Costa Golf Course (Location 7) and Batiquitos Influent (Location 13). Location 7 is scheduled for inspection in early FY24 and Location 13 is scheduled for inspection in late FY24.

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Yes	No	Update Needed in SSMP? *	Date	Staff Inter-viewed	Actions and Notes
5. Is the pipeline and manhole Rehab Priority List up-to-date and being addressed?	✓			8/17/23	DE & FSP	
6. Have the annual Cathodic inspections been completed and recommendations implemented?	✓			8/17/23	DTS	Annual inspection was completed in February 2023.
7. Has the Pump Station Condition Assessment been completed and projects scheduled?	✓			8/17/23	DTS	IEC performed the pump station inspection in March 2020. Projects have been scheduled as appropriate. Next assessment is scheduled for FY24.
8. Have the following standard operating procedures been reviewed and up-to-date?	✓			8/17/23	FSS	
a. SOP – Collection System Maintenance						
b. SOP – Video Inspection Procedure						
c. SOP – Easement Inspection Duties						
e. SOP – Pump Station Operator Duties						
f. SOP – Pump Station Odor Control						
g. SOP – Switching Force Main Lines						
h. SOP – By-pass Pumping for Satellite Pump Stations						
i. SOP – District Pipeline Location and Markout						
j. SOP – Traffic Control Procedures						
k. SOP – Emergency Procedures for						
l. SOP – Emergency By-pass Pumping for Batiquitos Pump Station						
9. Has the appropriate ongoing training for these SOPs been conducted and recorded?	✓			9/29/23	FSS	SOP training information was provided by District and via Tactics and Actions Plan.
<b>Section V (Design and Performance Provisions)</b>						
1. Has the LWD Standard Spec been sufficient to address design and construction needs?	✓			8/18/23	DE	
2. Has the LWD Standard Spec been sufficient to address inspection and testing needs?	✓			8/18/23	DE	

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Yes	No	Update Needed in SSMP? *	Date	Staff Inter-viewed	Actions and Notes
<b>Section VI (Spill Emergency Response Plan)</b>						
1. Have the following standard operating procedures and the attachments been reviewed and up-to-date?						
a. SOP – Spill Emergency Response Plan						
b. SOP – Pump Station Alarm Response	✓			9/29/23	FSS & FSP	The revised SOP book was reviewed and amended as needed with the changes from FY23. The SERP was revised and updated per the new WDR (previously titled "Overflow Emergency Response Plan" OERP).
c. SOP – Posting and Sampling						
d. SOP – SCADA Alarms and Alpha						
e. SOP – Standby Duty Operator (On Call)						
f. SOP – Reporting Spills						
2. Has the appropriate ongoing training for these SOPs been conducted?	✓			8/17/23	FSS	
3. Have the newly hired employees been provided with these procedures and trained on these procedures, as appropriate?	✓			8/17/23	FSS	Two new field services employees were hired in FY23.
4. Has the LRO certified No Spill for each month (when applicable)?	✓			8/17/23	FSS	
5. Has the Collection System Questionnaire been updated in CIWQS?	✓			8/17/23	FSS	Going forward this has been revised to "Annual Report" per new WDR.
<b>Section VII (Sewer Pipe Blockage Control Program)</b>						
1. Were permits processed for new food establishments in the District?	✓			8/17/23	DE	
a. If so, is there a BMP agreement on file?	✓			8/17/23	DE	
2. In review of the spill causes for the year, have any been attributable to FOG?		✓		8/17/23	FSS	
3. In review of the spill causes for the past 24 months have there been three FOG-related spills? This would trigger the District to conduct a comprehensive formal evaluation of implementing a formal FOG Control Program.		✓		8/17/23	FSS	
4. Were FOG outreach and prevention activities (newsletters, door hangers, inspections, samples) performed?	✓			8/17/23	FSS	42 FOG inspections were performed in FY23.
<b>Section VIII (System Evaluation &amp; Capacity Assurance)</b>						
1. Did the monthly board meeting agenda packets include the appropriate flow summary?	✓			8/17/23	FSS	
2. Have evaluations continued with respect to the inflow and infiltration?	✓			8/17/23	FSS	Smoke testing was performed in FY23.

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Update Needed in SSMP? *		Date	Staff Interviewed	Actions and Notes
	Yes	No			
<b>Section IX (Monitoring, Measurement, &amp; Program Modifications)</b>					
1. Has the checklist evaluation been completed for the fiscal year?	✓		9/29/23	DE	
2. Are there changes that need to be made to the Spill Review Checklist?		✓	9/29/23	FSS	Was updated as part of overall SERP revision in May 2023.
3. Are there changes that need to be made to the evaluation checklist?		✓	9/29/23	DE	
a. If yes, are the changes substantial enough such that the SSMP needs to be revised? SSMP revisions will typically occur on a 6-year basis. The following is a list of items which would trigger a revision of the SSMP prior to the standard 6-year cycle update. Other minor changes within the District's organization, procedures, & activities would not necessitate an SSMP revision, but would be captured in the next revision cycle.	N/A		9/29/23	DE	
i. A substantial change in organization such that the chain of command for spill response or reporting are altered.	N/A		9/29/23	DE	
ii. A substantial change in the regulations such that the District's legal authority (Standard Spec) is deemed by District counsel to provide insufficient authority to the District.	N/A		9/29/23	DE	
iii. A substantial change in regional board reporting policy (or other regulatory agency) such that standard operating procedures for spill response must be substantially re-written.	✓		9/29/23	DE	Was updated as part of overall SERP revision in May 2023.
iv. Review spill causes deems a formal FOG Control Program must be implemented.	N/A		9/29/23	DE & FSS	Although FOG has not been the cause of any spill experienced by the District, manhole inspections near FSEs have resulted in the implementation of FOG inspection of grease interceptors
v. The ongoing monitoring of District flow results indicates that the current conclusion that sufficient capacity exists in the District collection system to accommodate buildout flows is no longer valid	N/A		9/29/23	DE	

**Leucadia Wastewater District SSMP Evaluation Checklist for FY2023**

**Date Evaluation Completed: August 17, 2023 - October 20, 2023**

*Last Date Checklist Revised: October 20, 2023*

Monitoring, Measurement, and Modification Question	Yes	No	Update Needed in SSMP? *	Date	Staff Inter-viewed	Actions and Notes
4. Were there any Notice and Order letters issued by the District?	✓			9/29/23	FSP	Letters were issued as a result of smoke testing conducted in FY23.
a. If yes, are there any recommended changes to Legal Authority (ordinances, agreements, plan check process, etc.) which warrant revision as a result of issuing Notice and Orders?		✓		8/17/23	FSP	No changes necessary. The wastewater ordinance was last updated in FY21 with improved enforcement language. The improvements allow for the collection of fines through property tax collection in addition to direct payment to the District.
<b>Section X Evaluation (SSMP Program Audits)</b>						
1. Has the SSMP Program Audit been completed for the fiscal year?	✓			9/29/23	DE	
2. Are there changes that need to be made to the Audit checklist?		✓		9/29/23	DE	
<b>Section XI Evaluation (Communication Program)</b>						
1. Is the SSMP section of the District website up-to-date? And has the SSMP status been relayed to the public?	✓			8/17/23	FSS	
2. Has the District continued to attend meetings with Encina Wastewater Authority, the City of Carlsbad, and the City of Encinitas as appropriate?	✓			8/17/23	DE	
3. In review of the spill causes and environmental impacts (if any), would additional ongoing communication with the Encina Wastewater Authority, the City of Carlsbad, or the City of Encinitas lessened or eliminated the spill cause and environmental impact?		✓		8/17/23	FSS	There were no spills in FY23.
<b>* If an update is needed in the SSMP,</b>						
1. Determine if the update is significant enough to warrant re-development and re-adoption of the SSMP prior to the 6-year re-adoption schedule						
2. describe the update needed						

NA- Not Applicable  
 DE - District Engineer  
 GM - General Manager  
 GC - General Counsel

RDD - Reviewed District Documents  
 DTS - Director of Technical Services  
 FSS - Field Services Superintendent or Supervisor  
 FSP - Field Services Specialist



**ATTACHMENT B**

**SSMP AUDIT CHECKLIST**

<b>Leucadia Wastewater District SSMP FY23 Audit Checklist</b>			
<b>Section</b>	<b>Requirement</b>	<b>SSMP Current</b>	<b>SSMP Implemented</b>
I - Goals	Reduce, prevent, and mitigate spills	X	X
II - Organization	Designate Legal Responsible Oversight	X	X
	Organizational Chart	X	X
	Contact info for SSMP implementation	X	X
III - Legal Authority	Prevent illicit discharges	X	X
	Require proper design and construction	X	X
	Ensure access to facilities	X	X
	Limit FOG	X	X
	Enforce violations	X	X
IV - O&M Program	Up to date mapping	X	X
	Describe routine PM program	X	X
	Rehabilitation and replacement plan	X	X
	Proper training	X	X
	Equipment and replacement part inventories	X	X
V - Design and Performance Provisions	Design and construction standards for new facilities	X	X
	Design and construction standards for rehab and replacement facilities	X	X
	Procedures and standards for inspection and testing of new facilities	X	X
	Procedures and standards for inspection and testing of rehab facilities	X	X
VI - Spill Emergency Response Plan	Notification procedures	X	X
	Response plan	X	X
	Appropriate training	X	X
	Procedures for emergency operations	X	X
	Program to contain and prevent spills from reaching waters	X	X
VII - Sewer Pipe Blockage Control Program	Determine if applicable	X	X
VIII - System Capacity Assurance	Capacity evaluation up to date	X	X
	Design criteria in place	X	X
	Capacity enhancement measures	X	X
	Schedule	X	X
IX - MMM	Maintain relevant info	X	X
	Monitor implementation	X	X
	Assess success of PM program	X	X
	Update program elements	X	X
	Identify and illustrate spill trends	X	X
X - SSMP Audits	Conduct annual audit	X	X
	Prepare audit report	X	X
	Record changes made/corrective action taken	X	X
XI - Communication Program	Communicate regarding preparation	X	X
	Communicate regarding performance	X	X
	Communicate with surrounding agencies	X	X

**ATTACHMENT C**

**DISTRICT PREVENTATIVE  
MAINTENANCE STATISTICS**

FY-23

Production Chart

	Jul	Aug	Sep	Oct	Nov
CCTV Inspections (YTD 69.4 Miles)	5.79	4.58	3.80	5.65	5.41
Hydro Cleaning (YTD 223.6 Miles)	10.15	36.65	33.78	22.80	22.02
FOG Inspections (YTD 42)	4	4	6	4	4
Easements	0.00	0.00	0.00	0.00	0.00
Service Calls	1	6	1	2	6
Inflow Domes (YTD 22-23)	2455				
	2,687				

Hydro cleaning & CCTV Statistics

	Hydro Cleaning	SMA's	Total Hydroclean	Total Hydroclean	CCTV
	Footage (LF)	Footage (LF)	Footage (LF)	Footage (miles)	Footage (LF)
July	30,678	22,902	53,579	10.15	30,545
August	170,856	22,647	193,503	36.65	24,203
September	178,369	-	178,369	33.78	20,053
October	75,252	45,124	120,376	22.80	29,816
November	107,041	9,233	116,274	22.02	28,573
December	81,460		81,460	15.43	19,316
January	40,801	46,100	86,901	16.46	34,698
February	56,900	70	56,970	10.79	22,332
March	76,350	255	76,605	14.51	23,467
April	35,639	47,561	83,200	15.76	52,475
May	40,292	474	40,766	7.72	37,683
June	92,349		92,349	17.49	43,243
Totals Per Year	985,987	194,366	1,180,352	223.55	366,404
Totals Per Month	82,165.54	16,197.15	98,362.69	18.63	30,533.66

## CCTV INSPECTIONS WITH ADDITIONAL REQUIREMENTS

Location #	Location	Additional Requirements Needed	Status	Clean/CCTV Frequency	FY Due Date
1	RSF Road - Camino De Los Coches to Avenida Aragon	Traffic Control	CCTV'd in FY22	3	FY25
2	RSF Road - Calle Acevo to Avenida Aragon	Traffic Control	CCTV'd in FY21	3	FY24
3	La Costa Ave - Piraeus St to Saxony PS	Traffic Control	CCTV'd in FY21	3	FY24
4	ECR - Enci Blvd to Leucadia Blvd	Night Work	CCTV'd in FY22	5	FY27
5	ECR - Leucadia Blvd to Levante (Green Valley )	Easement hydro-cleaning	CCTV'd in FY22	5	FY27
6	ECR - Levante to 300' north of La Costa Ave	Traffic Control	CCTV'd in FY22	5	FY27
7A	La Costa Golf Course (North Portion)	Coordination w/ golf course	CCTV'd in FY19	3	FY22
7B	La Costa Golf Course (East Portion)	Coordination w/ golf course	CCTV'd in FY19	3	FY22
9	Alga Road and El Camino Real	Traffic Control	CCTV'd in FY21	3	FY24
10	La Costa Ave	Traffic Control	CCTV'd in FY21	3	FY24
11	RSF Road - Paseo Lupino to La Costa Avenue	Traffic Control	CCTV'd in FY22	3	FY25
12	Scotts Valley Easement	Night Work	CCTV'd in FY21	3	FY24
13	Influent Gravity Line to Batiquitos PS	Night Work	CCTV'd in FY19	5	FY24

Last revised 9-29-2023



# LEGEND

Leucadia Wastewater District Boundary

## Existing Facilities

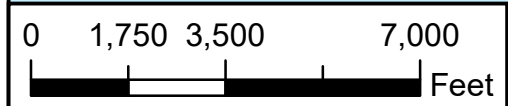
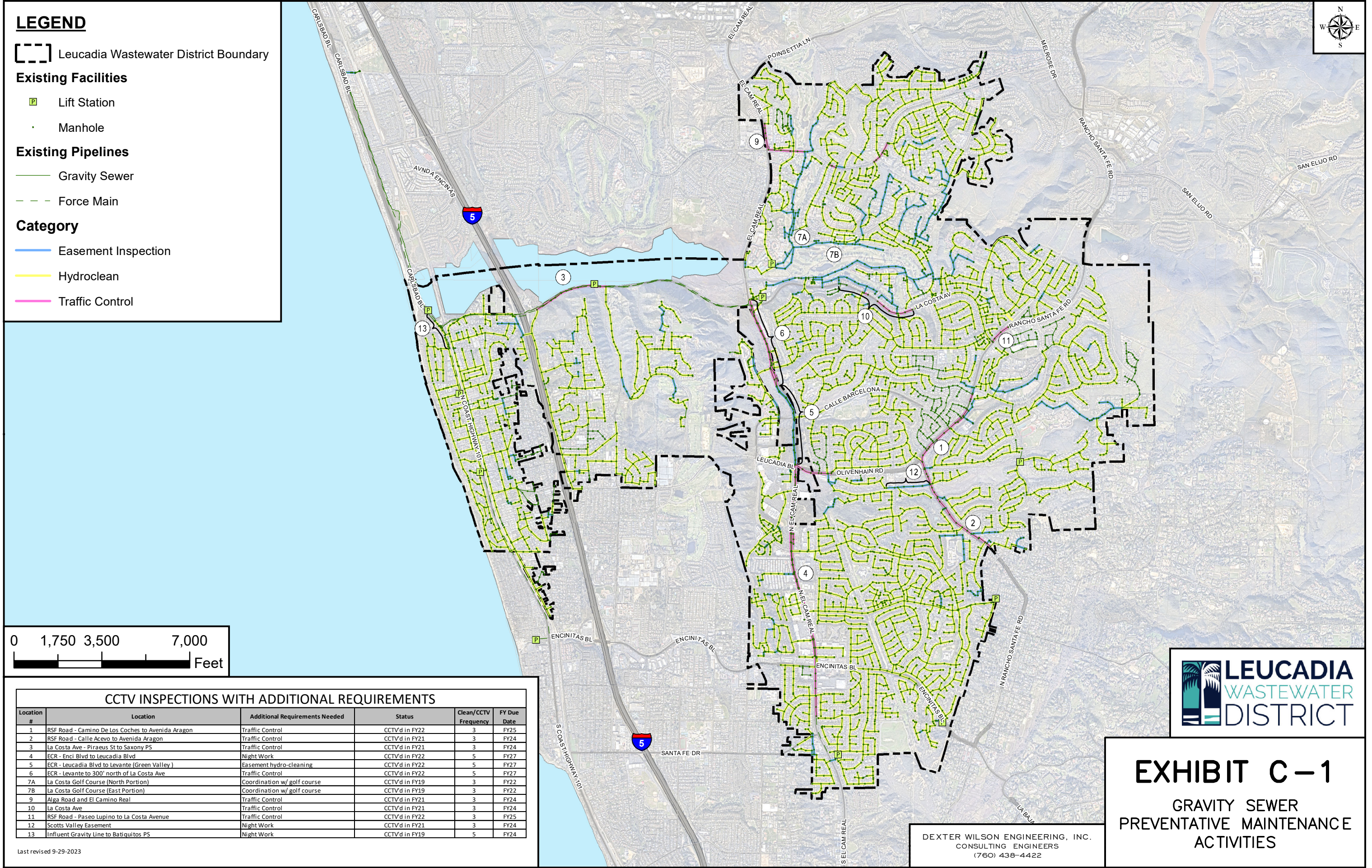
- Lift Station
- Manhole

## Existing Pipelines

- Gravity Sewer
- Force Main

## Category

- Easement Inspection
- Hydroclean
- Traffic Control



### CCTV INSPECTIONS WITH ADDITIONAL REQUIREMENTS

Location #	Location	Additional Requirements Needed	Status	Clean/CCTV Frequency	FY Due Date
1	RSF Road - Camino De Los Coches to Avenida Aragon	Traffic Control	CCTV'd in FY22	3	FY25
2	RSF Road - Calle Acevo to Avenida Aragon	Traffic Control	CCTV'd in FY21	3	FY24
3	La Costa Ave - Piraeus St to Saxony PS	Traffic Control	CCTV'd in FY21	3	FY24
4	ECR - Enci Blvd to Leucadia Blvd	Night Work	CCTV'd in FY22	5	FY27
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9	Alga Road and El Camino Real	Traffic Control	CCTV'd in FY21	3	FY24
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11	RSF Road - Paseo Lupino to La Costa Avenue	Traffic Control	CCTV'd in FY22	3	FY25
12	Scotts Valley Easement	Night Work	CCTV'd in FY21	3	FY24
13	Influent Gravity Line to Batiquitos PS	Night Work	CCTV'd in FY19	5	FY24

Last revised 9-29-2023



# EXHIBIT C-1

## GRAVITY SEWER PREVENTATIVE MAINTENANCE ACTIVITIES

DEXTER WILSON ENGINEERING, INC.  
CONSULTING ENGINEERS  
(760) 438-4422

Date Saved: 10/23/2023 8:38:00 AM  
Document Path: \\nario\GIS\103019-7\2023\_Update\Final\Exhibits\Exhibit C-1\_PreventativeMaintenance\_Updated\_2023-09\_11x17.mxd



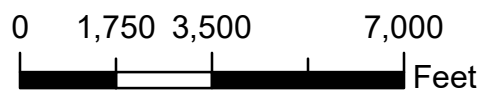
**LEGEND**

**CCTV Gravity Sewer Inspection by Date**

- 3 Years Since CCTV
- Leucadia Wastewater District Boundary

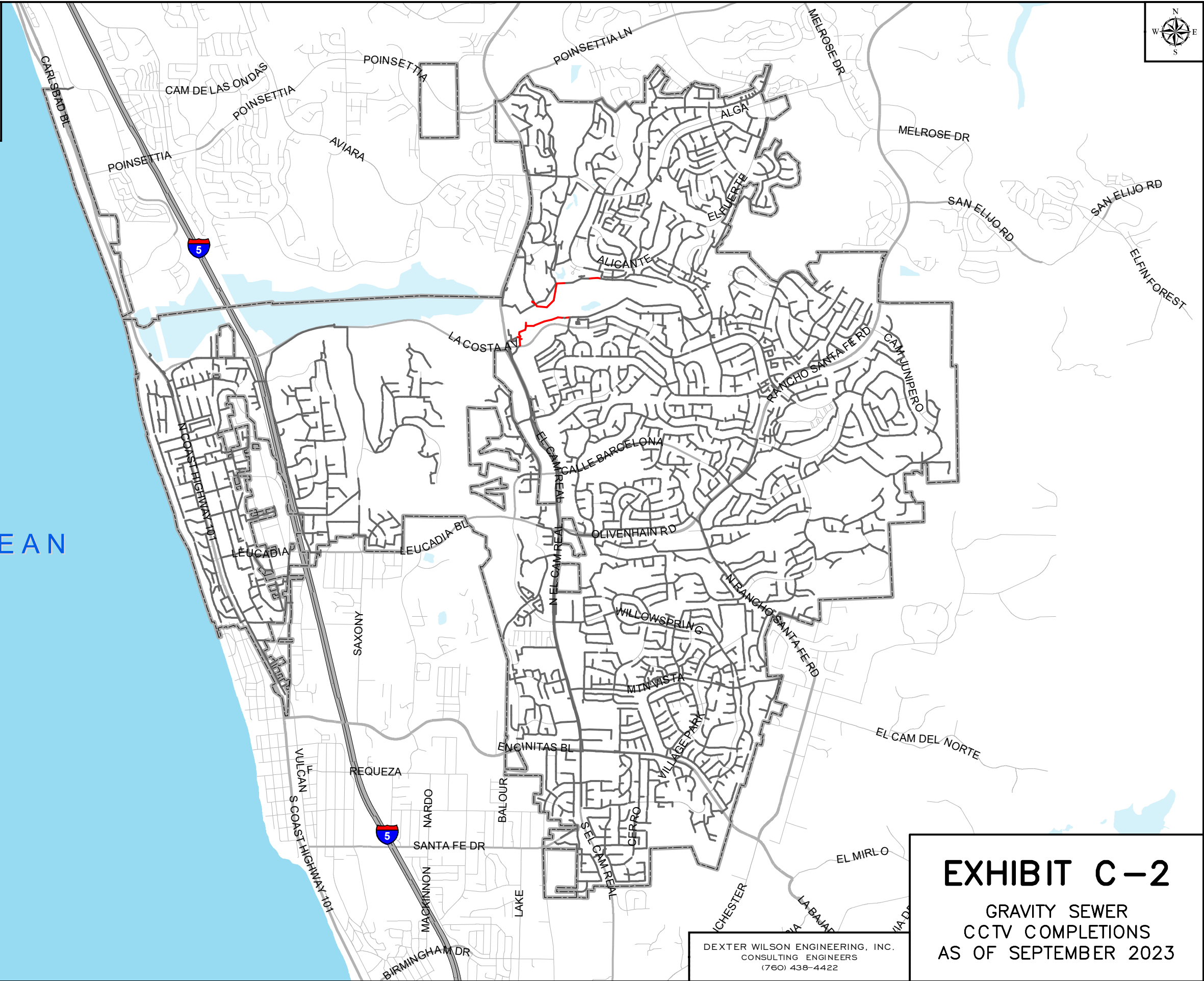


PACIFIC OCEAN



DEXTER WILSON ENGINEERING, INC.  
CONSULTING ENGINEERS  
(760) 438-4422

**EXHIBIT C-2**  
GRAVITY SEWER  
CCTV COMPLETIONS  
AS OF SEPTEMBER 2023



**ATTACHMENT D**

**SOP TRAINING SCHEDULE**



# Leucadia Wastewater District

## Standard Operating Procedures Training Schedule FY-23

---

### Date Completed:

1. Collection System Maintenance Duties	Jun. 2021
2. Video Inspection Duties	Nov. 2019
3. Easement Inspection Duties	Jun. 2021
4. By pass pumping Avocado & Diana Response Plan	Mar. 2022
5. Standby Duty Operator (On Call) Duties	Sep. 2020
6. Pump Station Operator Duties	Sep. 2020
7. Pump Station Odor Control	Mar. 2023
8. Switching Force Main Lines	Nov. 2020
9. District Pipeline Location and Mark Out	Jun. 2021
10. Pump Station Alarm Response	Dec. 2020
11. SCADA Alarms	Jun. 2022
12. Spill Emergency Response Plan	May 2023
13. Reporting Spills	Sep. 2021
14. Posting and Sampling Waters Impacted by a Spill	Jan. 2023
15. Traffic Control Procedures	Jan. 2022
16. Emergency Procedures for Air Release Valves	Nov. 2020
17. Rating and Repair of Manholes and Mainlines	Feb. 2021
18. Emergency By-Pass Pumping for Batiquitos Pump Station	Feb. 2023
19. Chemical Delivery	Jun. 2019
20. Lock Out / Tag out	Jun. 2022

### Additional Training:

21. Flagger Safety (Every 2 years)	Jan. 2022
22. Gafner Water Reclamation Plant SWPPP	Apr. 2021
23. Confined Space Training	Jan. 2022
24. Active Shooter Class	Oct. 2018

## **ATTACHMENT E**

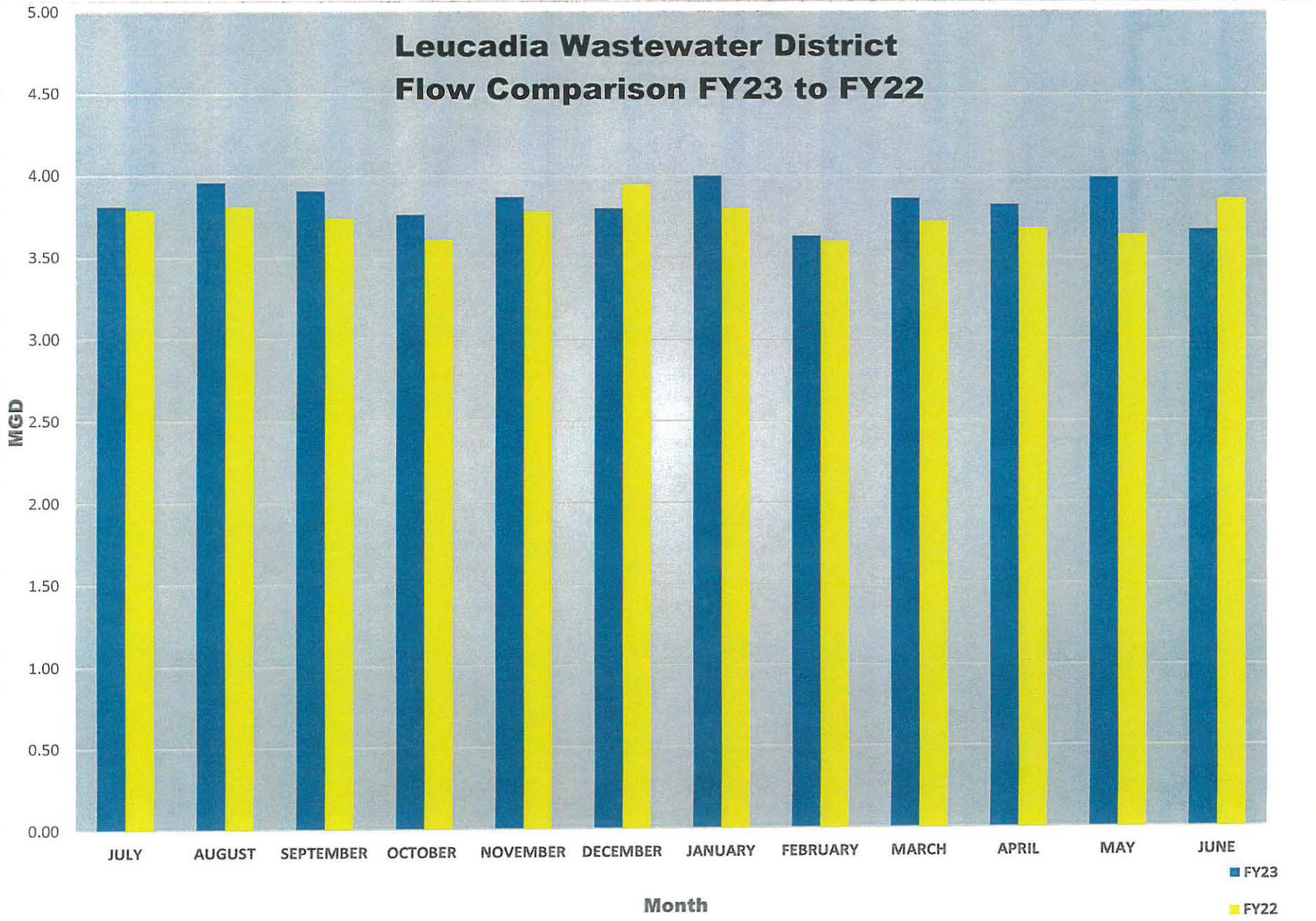
### **FIELD SERVICES SOPs**

List of SOPs Available on CD:

1. Collection System Maintenance Duties
2. Video Inspection Duties
3. Easement Inspection Duties
4. By-Pass pumping Avocado & Diana Response Plan
5. Standby Duty Operator (On Call
6. Pump Station Operator Duties
7. Pump Station Odor Control
8. Switching Force Mains
9. District Pipeline Location and Mark Out
10. Pump Station Alarm Response
11. SCADA Alarms
12. Spill Emergency Response Plan
13. Reporting Spills
14. Posting and Sampling Waters Impacted by a Spill
15. Traffic Control Procedures
16. Emergency Procedures for Air Release Valves
17. Rating and Repair of Manholes and Mainlines
18. Emergency By-Pass Pumping for Batiquitos Pump Station
19. Chemical Delivery
20. Lock Out / Tag out
21. Flagger Safety
22. Gafner Water Reclamation Plant SWPPP
23. Confined Space Training
24. Active Shooter Class

**ATTACHMENT F**

**DISTRICT FLOW COMPARISON FY22 TO FY23**



**ATTACHMENT G**

**LWD SPILL SUMMARY THROUGH JUNE 30, 2023**



**ATTACHMENT H**

**SSMP REVISIONS**

*(TO BE ADDED AS NECESSARY)*

## Table of Contents

EXECUTIVE SUMMARY

SECTION I – Goals

SECTION II – Organization

SECTION III – Legal Authority

SECTION IV – Operation and Maintenance Program

SECTION V – Design and Performance Provisions

SECTION VI – ~~Spill~~ Emergency Response Plan

SECTION VII – FOG Control Program

SECTION VIII – System Evaluation and Capacity Assurance Plan

SECTION IX – Monitoring, Measurement, and Program Modifications

SECTION X – SSMP Program Audits

SECTION XI – Communication Program

APPENDIX A – Official Adoption of the 2019 SSMP

APPENDIX B – SSMP Change Log

APPENDIX C – Audits of 2019 SSMP

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## Executive Summary

The purpose of this Sewer System Management Plan (SSMP) is to document and publicly present in a central document the programs and activities utilized by the Leucadia Wastewater District (the District or LWD, system ID: 9SSO11210) in effectively managing its wastewater collection system.

### Regulatory Background

On May 2, 2006, in an effort to reduce the occurrences of sanitary sewer spills (spills) within California, a Statewide General Waste Discharge Requirement (Statewide WDR) was adopted that imposed several new requirements on all agencies that operate sewage collection systems. To date, the District has complied with all provisions prescribed in the Statewide WDR, including enrollment in electronic spill reporting, the establishment of its legal authority to enforce sewer ordinances, certification of the complete initial SSMP implementation on June 8, 2009 by the General Manager, and subsequent audits of all SSMPs.

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On July 30, 2013, revisions to the Monitoring and Reporting Program for the Statewide WDR were adopted. The adoption included revisions of spill category definitions; revisions to notification, reporting, and record keeping requirements; and enhancement of water quality monitoring requirements. The overall General Order for Sanitary Sewer Systems was updated and became effective June 5, 2023.

This 2019 SSMP is the 5-year update to the 2014 SSMP (as required by the Statewide WDR), will be re-certified by the Board of Directors and reported to the State Board.

### SSMP Development

Dexter Wilson Engineering, Inc., a consulting engineering firm, was tasked to assist the District in completing its SSMP. Prior to drafting this SSMP, every aspect of the District's activities and programs to prevent spills and to assure the proper system operation and maintenance were carefully reviewed and validated by the District. This included checks of: staff training, programs, operating procedures, historic data, and planning documents like the LWD Standard Specifications, the Asset Management Plan, and the Financial Plan Update. This review determined that the programs, procedures, plans, and management practices required for the Statewide WDR have been in place at the District for many years and are the basis for its outstanding record of environmental protection and regulatory compliance.

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As an over-arching document, the SSMP strives to integrate programs and activities from the staff level to the Board level to insure that all components of District are connected and effective in preventing spills. Dexter Wilson Engineering, Inc. completed annual audits of the District's 2009 and 2014 SSMP and guided the District in the development of this 2019 version. The annual audit exceeds the WDR requirement of biennial audits and reflects the District's commitment to a proactive approach toward preventing spills.

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## Section VI – Spill Emergency Response Plan

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### Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify the development and implementation of an spill emergency response plan as an element of each Wastewater Collection Agency's Sanitary Sewer Management Plan (SSMP). This element identifies the agency's practices to protect public health and the environment in the event of a spill.

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### Leucadia Wastewater District Actions

The District has developed and implemented a Spill Emergency Response Plan (SERP) which standardizes the District's response actions to the report of a possible sanitary sewer spill, identifies the safety precautions and industry practices to ensure public and environmental health and safety, and identifies the internal and external notification and reporting requirements. Key required components of this SSMP element are discussed in the following sections.

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An essential component of the SERP is the identification of the proper notification procedures to the appropriate parties. This includes regulatory agencies and other external agencies, as well as District management. A list of emergency contractors is also provided. Pages 1 through 3 of the plan provide the specific procedures for who should be contacted regarding the spill, starting with the person who actually receives the initial reporting call. One of the first steps required of the person receiving the call is to notify the Field Services Supervisor and/or Superintendent who has the responsibility, as the plan specifies, to make all required notifications within the required timeframes. The specific officials who are to be notified are listed in SERP. The plan also identifies procedures to address emergency operations, such as traffic and crowd control, while adhering to District safety procedures.

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In addition to general spill response practices, the plan identifies specific additional steps which should be followed for a particular spill cause. For example, if the spill is due to the loss of power at a pump station, the first responder is required to immediately request a portable emergency generator, even though six of the ten stations have one onsite.

In the event of a spill, the SERP identifies the procedures to contain and prevent any discharge to surface waters and the plan also directs first responders to first make all practical efforts to stop and contain the spill, to correct the cause of the spill, and evaluate the feasibility of secondary containment or collection. These containment steps help to minimize any impact to the environment as a result of the spill.

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Additionally, to further minimize or correct any adverse impact, the plan procedures specify that any wash-water, debris, and contaminated soil are collected and properly disposed of. Finally, the Field Service Supervisor/Superintendent directs, in concert with the appropriate agencies, directs sampling protocols, if necessary, to determine the environmental impact and remediation of the spill. For public health and safety, this step also includes working with regulatory agencies for posting of signs, as necessary (e.g., at beach or lagoon). The District maintains a standard posting and sampling procedure which would be modified to incorporate the concerns of any regulatory authorities, as necessary, as part of the spill response. For spills greater than 50,000 gallons, the Water Quality Monitoring Program reporting would be implemented to provide the appropriate sampling and documentation.

To ensure that all appropriate personnel are adequately trained on the spill response plan procedures, the plan discusses how new employees are made aware of the response plan and identifies the Field Services Supervisor and/or Superintendent responsibilities for regular training and hands-on spill response drills. The District's SCADA response procedure details how staff should respond to SCADA alarms.

Prevention of spills is paramount to the District. As part of the new hire process, all field services staff are provided with the standard list of duties which promote safety and emphasize the importance of ensuring that District facilities and infrastructure remain or are returned to operational status as quickly as possible with emphasis on ensuring a prompt and capable response to trouble reports and system alarm conditions.

Contractors performing work within the District, along with approval, are provided spill response information and direction for the related project at the pre-construction meeting.

**District Documents Included With This Section**

- SOP – ~~Spill~~ Emergency Response Plan
- SOP – Reporting Sanitary Sewer ~~Spills~~
- SOP – Pump Station Alarm Response
- SOP – Posting and Sampling Procedure
- SOP – SCADA Alarms and Alarm Text Pages
- SOP – Standby Duty Operator (On Call)
- SOP – Emergency Procedures for Air Release Valves

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**ATTACHMENT I**

**LETTER-REPORT TO LWD GENERAL MANAGER  
REGARDING AMP IMPLEMENTATION**

# **DEXTER WILSON ENGINEERING, INC.**

WATER • WASTEWATER • RECYCLED WATER

CONSULTING ENGINEERS

**LEUCADIA WASTEWATER DISTRICT  
FISCAL YEAR 2023  
ASSET MANAGEMENT PLAN  
IMPLEMENTATION & CAPITAL PROJECTS**

October 20, 2023

**LEUCADIA WASTEWATER DISTRICT  
FISCAL YEAR 2023  
ASSET MANAGEMENT PLAN  
IMPLEMENTATION & CAPITAL PROJECTS**

October 20, 2023



*10-20-2023*

**Prepared by:  
Dexter Wilson Engineering, Inc.  
2234 Faraday Avenue  
Carlsbad, CA 92008  
760-438-4422**

Job No. 103-019/7

# DEXTER WILSON ENGINEERING, INC.

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DEXTER S. WILSON, P.E.  
ANDREW M. OVEN, P.E.  
NATALIE J. FRASCHETTI, P.E.  
STEVEN J. HENDERSON, P.E.  
FERNANDO FREGOSO, P.E.  
KATHLEEN L. HEITT, P.E.  
WILLIAM W. TODD, P.E.

October 20, 2023

103-019/7

Leucadia Wastewater District  
1960 La Costa Avenue  
Carlsbad, CA 92009

Attention: Paul Bushee, General Manager

Subject: Leucadia Wastewater District Fiscal Year 2023 Asset Management Plan  
Implementation and Capital Projects

The purpose of this letter-report is to summarize the Leucadia Wastewater District's (District) Asset Management Plan Implementation activities and capital projects. The compilation of these efforts summarizes the District's management of its sanitary sewer system assets for the Fiscal Year 2023 (FY23).

This document will assist in the District's FY23 Sewer System Management Plan (SSMP) Audit.

## BACKGROUND

With no substantial changes to the service area and an estimation that the District is presently at 90 percent of buildout, the focus of the District's 2023 Asset Management Plan (AMP) remained on the repair, rehabilitation, and replacement of existing assets as compared to anticipation of growth-related projects.

The AMP provided recommended inspection schedules for each asset class as well as general recommendations for asset management plan implementation (AMPI).

### **AMP IMPLEMENTATION ACTIVITIES**

The following section discusses the AMPI Activities which took place over FY23.

#### **April 2023 Asset Management Plan Recommendations**

The AMP was updated in April 2023. The following section seeks to track the status of each operation and maintenance recommendation provided in the April 2023 AMP. The order presented below generally follows the order in which the recommendation occurred within the AMP. This table will serve as a reference point into the future as a means of AMPI tracking until the AMP is updated once again in the 2028 timeframe.

<b>Summary of LWD 2023 AMP Implementation Activities (Revised June 30, 2023)</b>	
April 2023 Asset Management Plan Recommendations	
<b>Recommendation</b>	<b>FY23 Status</b>
Identify and track locations of lined manholes and inflow domes.	Inflow dome locations are being tracked per Figure 1 in SSMP Audit document.
Continue submetering in areas of known or suspected inflow and infiltration.	Temporary echo meters relocated as needed and smoke testing was performed in 2023.
Maintain a current GIS layer of the Repair Priority List.	
Populate “Yes/No” column in Repair Priority List to indicate whether the line has previously been repaired and add reference to prior project/work order as appropriate.	The details of repair(s) can be elaborated in the comments column.



Paul Bushee

October 20, 2023

Fiscal Year 2023 Asset Management Plan Implementation and Capital Projects

<b>Summary of LWD 2023 AMP Implementation Activities (Revised June 30, 2023)</b>	
April 2023 Asset Management Plan Recommendations	
<b>Recommendation</b>	<b>FY23 Status</b>
Track Repair Priority List Completions, Miscellaneous Line Repairs, and Capital Improvement Projects in GIS/Inframap.	Incorporating miscellaneous line repairs. Manholes are now inputted into GIS.
When lining a pipeline in an area with chronic root issues, the lateral joints should be addressed, via either a top hat, T-liner, or other means.	Is still being considered on a case by case basis.
When possible, spot repairs of pipelines should be addressed by lining the entire pipe segment, particularly on pipes greater than 40 years in age.	Waterworks is tasked to evaluate whether a segment requires spot repair prior to lining the segment. If only a spot repair is necessary then the segment is not CIPP lined to reduce cost. One spot repair was completed in FY22 which did not include a CIPP liner. Spot repairs will continue at select locations in FY24.
Aggregate manhole linings into a stand-alone project to take advantage of economies of scale.	The FY24 Gravity Pipeline Project was changed to a Manhole Rehabilitation project based on this recommendation.
Gravity pipeline projects in the 5-Year CIP include: a. FY 2023 Gravity Pipeline Rehabilitation Project b. Annual Gravity Pipeline and Manhole Rehabilitation Projects c. Miscellaneous Line Repair (Pipelines and Manholes) d. Headquarters Buildings e. SCADA Upgrades f. Lateral Replacement/Backflow Preventer Program	a. To be completed in early FY24. b. Continued in FY23. c. Miscellaneous line repairs continued in FY23 (12 manholes). d. Carpet replacement on the first floor was completed in FY23. e. SCADA upgrades completed in FY23 f. District approved 25 lateral grant applications that totaled \$59,000.

Paul Bushee

October 20, 2023

Fiscal Year 2023 Asset Management Plan Implementation and Capital Projects

<b>Summary of LWD 2023 AMP Implementation Activities (Revised June 30, 2023)</b>	
April 2023 Asset Management Plan Recommendations	
<b>Recommendation</b>	<b>FY23 Status</b>
Projects in the 20-Year CIP include: Annual Gravity Pipeline and Manhole Rehabilitation Projects	Continued in FY23.
Evaluate pump size at each station based on actual flow generation rates and anticipated peak buildout flows when pump replacement dictates.	Will occur as design project approaches for pump station. Completed for Leucadia PS, Encinitas Estates PS and Village Park No. 7. Diana PS and Rancho Verde are in process of this evaluation.
Further evaluate bypassing the Batiquitos Pump Station (for a portion of the District's flow) by pumping directly from the Leucadia Pump Station into one of the Batiquitos force mains.	Not intending to pursue at this time.
Beyond FY24, stagger future pump station inspection efforts based on the previous inspection, age of the asset, needs identified by the District, and the projected date of project implementation.	IEC performed Pump Station inspections/evaluations based on this stagger approach in FY20. Next assessment scheduled for FY24.
Consider the preparation of a detailed checklist of component inspections for each station. The basis for this would be prior inspection reports with additions by staff as appropriate.	A pre-inspection input list has been previously prepared by Field Services.
Consider the maintenance of a pump station component tracking database. This would be used to track improvements and associated costs to better project future spending. This would combine the efforts already occurring as part of the SSMP audit process as well as the financial tracking done for capital asset depreciation.	This is an ongoing task included in Attachment C.
Continue efforts to reduce inflow and infiltration via inflow dome installation in manholes, smoke testing, and lining projects with lateral top hats.	Continued in FY23.
The following replacement-based capital improvement projects are recommended or are planned by the District and are included in the District's 5-Year CIP: a. Batiquitos Emergency/Overflow Basin Inspection b. Batiquitos Pump Station Upgrade Project (includes the Emergency Basin Lining and Pump Installation) c. Diana Pump Station Upgrade Project d. Rancho Verde Pump Station Improvement Project e. Village Park 7 Pump Station Rehabilitation Project f. Pump Station Condition Assessment	a. Inspection occurred in FY23. b. Emergency basin lining epoxy coating anticipated in FY24. c. Easement procurement anticipated in FY24. d. Project design in progress. Working the Ranch

<b>Summary of LWD            2023 AMP Implementation Activities            (Revised June 30, 2023)</b>	
April 2023 Asset Management Plan Recommendations	
<b>Recommendation</b>	<b>FY23 Status</b>
g. Annual Cathodic Protection Assessment	at Carlsbad HOA for expansion of the pump station easement to complete design. e. Construction was completed in FY23. f. Assessment scheduled for FY24 g. Continued in FY23.
Destructive Testing of Metallic Force Mains L1 and B3. Internal Inspection of L1 or B3.	Destructive Testing: L1 scheduled for FY24. B3 scheduled for FY 27. Condition Inspection: L1 scheduled for FY26. B3 scheduled for FY29.
The following replacement-based capital improvement projects are recommended or are planned by the District and are included in the District's 5-Year CIP. a. L1 Destructive Testing b. L1 Internal Condition Inspection c. B3 Destructive Testing	a. Scheduled for FY24. b. Scheduled for FY24. c. Scheduled for FY27.
Update composite figures for each force main based on record drawings of recent improvements.	
Include \$15,000 in annual long-term capital expenses related to cathodic protection repairs and improvements.	Complete.

**FY23 Capital Improvements**

The following table summarizes the capital projects which were implemented by the District in FY23.

Paul Bushee

October 20, 2023

Fiscal Year 2023 Asset Management Plan Implementation and Capital Projects

---

<b>Summary of LWD AMP Implementation Activities (Revised June 30, 2023)</b>	
<b>Capital Improvements</b>	
<b>Project</b>	<b>FY23 Status</b>
North SD County Regional Recycled Water Project	The District continued to participate in the regional project to increase recycled water use. A lobbying contract was executed with BlueWater Strategies (formerly The Furman Group) to lobby for the Title XVI and WRDA funds.
Gravity Pipeline Rehabilitation	District to rehabilitate deficient segments of ACP and VCP gravity pipelines. The raising of manholes, as part of Carlsbad and Encinitas' annual street overlay projects, is paid through this account. The District has implemented its Repair Priority List procedure via the FY23 project to perform its gravity pipeline rehabilitation/replacement program.
Rancho Verde Pump Station Rehabilitation	Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.
Batiquitos Pump Station Emergency Basin	In FY23, the District performed a condition assessment of the emergency basin which included visual evaluations and collecting concrete cores from within the structure. An epoxy liner will be installed within the emergency basin to reduce the concrete exposure to hydrogen sulfide. Batiquitos Pump Station Emergency Basin Project budgeted for FY24.
Poinsettia Station Gravity Line	The project was completed in February 2020. Soft costs associated with the project have not been finalized yet with SANDAG.
Encinitas Estates Pump Station Replacement	Construction was completed.
Diana Pump Station Upgrade	The 2018 AMP recommended that an upgrade of the pump station be completed to include pump control upgrade, replacement of the main breaker and pump replacement. Currently, the pump station does not have an emergency generator for operation during a loss of power. The installation of an emergency generator will be accommodated around the acquisition of an easement across the street. In February 2023 the easement purchase offer was reissued at the request of the HOA Board of Directors. The HOA Board is working with the residents to approval the easement sale. Construction is anticipated in FY24.
Village Park No. 7 Pump Station Replacement	Construction was completed in FY23.

### **Leucadia and Batiquitos Pump Station Force Main Work**

The evaluation of the Leucadia and Batiquitos Pump Station force mains has been ongoing since 2009 with Dexter Wilson Engineering, Inc.'s development of a formal evaluation plan. A historical summary of previous force main activities is shown in Attachment D. A summary of the past fiscal year and planned future activities is discussed on the next page.

As of FY13, the District has been conducting cathodic protection surveys of the four force mains on an annual basis as recommended and performed by RFYeager. Cathodic Protection improvements with respect to these force mains as described in IEC's May 2011 technical memo are included within Attachment D.

The Batiquitos force main discharge section (B3) was pro-actively replaced in FY20 due to suspected internal corrosion stemming from exposure to air when the flow transitions from pressurized to gravity.

Plans have been developed to address the replacement of certain portions of the Secondary Effluent Force Main (B1). A Coalition and WIIN federal grant was awarded in August 2021 to the North San Diego Water Reuse Coalition via the Water Infrastructure Improvements for the Nation Act for this project. The Coalition received a second WIIN Award in August 2022. Additionally, in June 2022 the Coalition was awarded a San Diego Integrated Regional Water Management (IRWM) Program Prop 1 Round 2 grant. However, while waiting for the grant appropriations the B1 had two failures in November 2022. Therefore, the B1 section was replaced and realigned under an emergency basis. Construction was completed in March 2023.

### **MISCELLANEOUS COLLECTION SYSTEM IMPROVEMENTS**

The list of collection system improvements (outside of CIP projects) performed in FY23 are provided in Attachment B in this letter-report.

## **PUMP STATION IMPROVEMENTS**

Pump station improvements at all District pump stations are tracked in Attachment C in this letter-report.

## **CAPITAL ACQUISITIONS**

The purpose of this section is to summarize the District's FY23 capital acquisitions as related to operation and maintenance.

### **FY23 Capital Acquisitions**

- CCTV Van Retrofit
- Replacement of CCTV Equipment
- New Critical inventory (Domes/Rings/Couplings)
- Vactor Nozzle Kit
- Upgrade SCADA System
- Sharepoint Upgrade
- New Dell Servers and Workstations

Paul Bushee  
October 20, 2023  
Fiscal Year 2023 Asset Management Plan Implementation and Capital Projects

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We recommend this letter-report be filed with all of the District's AMPI documents and referred to as the AMPI activities continue. We appreciate the opportunity to have worked with you on the District's ongoing asset management planning. Please contact us with any questions.

Dexter Wilson Engineering, Inc.



Steven Henderson, P.E.

NF:SH:ah

Attachment(s)

A – Lanikai and Occidental O&M Tracking

B – Miscellaneous Sewer Line and Manhole Repairs

C – Pump Station Tracking

D – Force Main Tracking

**ATTACHMENT A**

**LANIKAI AND OCCIDENTAL O&M TRACKING**



LANIKAI GRAVITY SEWER ASSET TRACKING (District is Lead Agency)		
Date	Activity Type	Description
Dec-10	O&M	Hydroclean and CCTV Inspection by Affordable Pipeline Services. Resulted in recommendation to CIPP line eastern portion from Franciscan Rd to Occidental Line.
		Design Complete
		Contract Issued
		Construction Begins
		Abandoned due to B2 break
FY13		CIPP Project still on hold due to B2 break
		Metallic manhole rings and cover were replaced with composite rings and covers
FY14/15		The portion from Franciscan to the Occidental manhole was lined as part of the B2 Replacement (approx. 385 ft).
2015	O&M	Hydrocleaned and CCTV Inspected
FY17	O&M	Hydrocleaned in Fall of 2016
FY20	Repair	Poinsettia Station Project - Included casing extension under existing railroad, new steel casing in parallel with the existing 24-inch SDR 26 PVC pipeline
<i>2022/2023</i>	<i>O&amp;M</i>	<i>Planned Hydrocleaning and CCTV Inspection</i>

*Items in Italics are Planned*

Updated: September 2023

OCCIDENTAL SEWER ASSET TRACKING (Carlsbad is Lead Agency)		
Date	Activity Type	Description
Dec-10	O&M	Hydroclean and CCTV Inspection (as possible) by Affordable Pipeline Services and confined space entry MH inspection by V&A. Resulted in rehab recommendations. Also, V&A recommended 5 year inspection.
Nov-11	Repair	Carlsbad bid and subsequent award to Charles King Company.
Dec-12	Repair	7 of the 8 manholes were rehabilitated by the Charles King Company. Section CIPP lined.
	Repair	8th manhole (at Lanikai) to be rehabilitated when Lanikai Lining Project resumes
FY14	Repair	The junction manhole was lined by Carlsbad
FY17	O&M	Hydrocleaned in Fall of 2016 by Carlsbad
FY21	O&M	CCTV Inspected in Spring of 2021 by Carlsbad
FY22	O&M	Hydrocleaned in FY22 by Carlsbad

*Items in Italics are Planned*

Updated: September 2023

**ATTACHMENT B**

**MISCELLANEOUS SEWER LINE AND MANHOLE REPAIRS**

Date Found	Line Segment / Manhole	Location	Segment Footage	Defect(s)	Pipe Type	Repair Type	Repair Priority	Depth (in feet)	Pipe Size (inches)	Install Date	Age	Previous Repairs (YES/NO)	Estimated Cost to Repair	Comments
	CO 08-9070	Coolngreen Way	N/A	CO frame/cover cracked	N/A	Replace CO	3	5	N/A	1976	47			Repaired by Ayala on 3/13/2023
	MH 08-88901	Calle Pinon Easement	N/A	Roots	N/A	Epoxy Liner	3	16	N/A	2002	21			Repaired by Ayala on 3/22/2023
	MH 07-1830	Splitrail Drive Easement	N/A	Roots	N/A	Epoxy Liner	3	7	N/A	1980	41			Repaired by Ayala on 3/22/2023
	MH 07-1840	Splitrail Drive Easement	N/A	Roots	N/A	Epoxy Liner	3	12	N/A	1980	41			Repaired by Ayala on 3/22/2023
	MH 09-1465	Via Montoro	N/A	Roots	N/A	Epoxy Liner	3	7	N/A	1980	41			Repaired by Ayala on 3/22/2023
	MH 04-1370	Sky Loft Lane Easement	N/A	Heavy roots	N/A	Epoxy Liner	3	12	N/A	1974	49			Repaired by Ayala on 3/22/2023
	MH 09-7170	Best Buy Plaza	N/A	Corrosion	N/A	Epoxy Liner	3	11	N/A	1997	26			Repaired by Ayala on 3/22/2023
	MH 09-7180	Best Buy Plaza	N/A	Infiltration	N/A	Epoxy Liner	3	12	N/A	1997	24			Repaired by Ayala on 3/22/2023
	MH 04-1690	Burgundy Road	N/A	Roots	N/A	Epoxy Liner	2	7.5	N/A	1969	52			Repaired by Ayala on 6/19/2023
	MH 08-1780	Meadowglen Lane	N/A	Roots	N/A	Epoxy Liner	2	6	N/A	1987	34			Repaired by Ayala on 6/19/2023
	MH 11-1160	Caringa Way	N/A	Roots	N/A	Epoxy Liner	2	7	N/A	1990	31			Repaired by Ayala on 6/19/2023
	MH 08-9625	Corte Vera Cruz Easement	N/A	Roots	N/A	Epoxy Liner	2	17	N/A	1985	36			Repaired by Ayala on 6/19/2023

**ATTACHMENT C**

**PUMP STATION TRACKING**

Summary of LWWD Pump Station Improvements and Recommendations (revised June 30, 2023)

Pump Station	Improvement Category	FY 2020				FY 2021				FY 2022				FY 2023 and FY 2024			
		FY 2020		FY 2021		FY 2022		FY 2023 and FY 2024		FY 2020		FY 2021		FY 2022		FY 2023 and FY 2024	
Batiquitos	Controls	None		None		None		None		None		None		None			
	Electrical	None		None		None		None		None		None		None			
	Mechanical	Vaughn Conditioning Pump		None		Design completed for submersible pump in emergency basin		Full inspection in FY23, an epoxy liner will be installed within the emergency basin in FY24.		None		None		None			
	Structural	None		None		Design completed for relining of emergency basin		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Leucadia	Controls	Leucadia Pump Station Rehabilitation Project		Continuation of Leucadia Pump Station Rehabilitation Project		Leucadia Pump Station Rehabilitation Project completed July 30, 2021.		None		None		None		None			
	Electrical	Leucadia Pump Station Rehabilitation Project		Continuation of Leucadia Pump Station Rehabilitation Project		Leucadia Pump Station Rehabilitation Project completed July 30, 2021.		None		None		None		None			
	Mechanical	Leucadia Pump Station Rehabilitation Project		Continuation of Leucadia Pump Station Rehabilitation Project		Leucadia Pump Station Rehabilitation Project completed July 30, 2021.		None		None		None		None			
	Structural	Leucadia Pump Station Rehabilitation Project		Continuation of Leucadia Pump Station Rehabilitation Project		Leucadia Pump Station Rehabilitation Project completed July 30, 2021.		None		None		None		None			
	Regulations	Leucadia Pump Station Rehabilitation Project		Continuation of Leucadia Pump Station Rehabilitation Project		Leucadia Pump Station Rehabilitation Project completed July 30, 2021.		None		None		None		None			
La Costa	Controls	None		None		None		None		None		None		None			
	Electrical	None		None		None		None		None		None		None			
	Mechanical	None		None		None		None		None		None		None			
	Structural	None		None		None		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Saxony	Controls	None		None		None		None		None		None		None			
	Electrical	None		None		None		None		None		None		None			
	Mechanical	None		None		None		None		None		None		None			
	Structural	None		None		None		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Avocado	Controls	Pump Deragger Controller		PLC replacement		PLC replacement		None		None		None		None			
	Electrical	None		None		None		None		None		None		None			
	Mechanical	None		None		None		None		None		None		None			
	Structural	None		None		None		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Diana	Controls	Pump Deragger Controller		PLC replacement		PLC replacement		None		None		None		None			
	Electrical	None		Replacement of main breaker and addition of emergency generator		Replacement of main breaker and addition of emergency generator		Continued effort to obtain emergency generator easement.		None		None		None			
	Mechanical	None		Pump replacement		Pump replacement		None		None		None		None			
	Structural	None		Replace concrete in vaults to properly drain water		Replace concrete in vaults to properly drain water		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Encinitas Estates	Controls	None		Design completed and existing lift station to be replaced with a submersible pump station		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed in January 2022		None		None		None			
	Electrical	None		Design completed and existing lift station to be replaced with a submersible pump station		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed in January 2022		None		None		None			
	Mechanical	None		Design completed and existing lift station to be replaced with a submersible pump station		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed in January 2022		None		None		None			
	Structural	None		Design completed and existing lift station to be replaced with a submersible pump station		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed in January 2022		None		None		None			
	Regulations	None		Design completed and existing lift station to be replaced with a submersible pump station		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed in January 2022		None		None		None			
Village Park 5	Controls	None		None		None		None		None		None		None			
	Electrical	None		None		None		None		None		None		None			
	Mechanical	None		None		None		None		None		None		None			
	Structural	None		None		None		None		None		None		None			
	Regulations	None		None		None		None		None		None		None			
Village Park 7	Controls	None		None		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed construction.		None		None		None			
	Electrical	None		None		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed construction.		None		None		None			
	Mechanical	None		None		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed construction.		None		None		None			
	Structural	None		None		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed construction.		None		None		None			
	Regulations	None		None		Smith and Loveless packaged pump station to be replaced with a submersible pump station.		Pump station replacement project completed construction.		None		None		None			
Rancho Verde	Controls	None		PLC replacement		None		Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.		None		None		None			
	Electrical	None		None		None		Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.		None		None		None			
	Mechanical	None		None		None		Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.		None		None		None			
	Structural	None		None		None		Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.		None		None		None			
	Regulations	None		None		None		Project design in progress. Working with the Ranch at Carlsbad HOA for expansion of the pump station easement to complete design.		None		None		None			

Planned Improvements are in italics. PS Inspection does not include force mains (FMs on separate inspection schedule).

**ATTACHMENT D**

**FORCE MAIN TRACKING**

Summary of LWWD Force Main Improvements and Recommendations (revised June 30, 2022)

Force Main	Improvement Summary													
	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	
L1	None	A contract was executed with RYeager for the design of the force main cathodic protection project. The project was bid in August 2012 and completed on February 12, 2013.	Cathodic test stations were relocated.	The L1 Force Main was sampled and evaluated for internal and external corrosion. The field survey data for L1 was indicative of a DIP without cathodic protection.	Design activities on L1 began to replace only the section west of Interstate 5 not including the railroad bridge. L1 will return to standby status with L2 being primary.	The design of the replacement for the western segment of L1 was completed.	Work commenced on the L1 western portion on March 3, 2017 and was completed on August 8, 2017. during construction of the western section of L1, a leak was found in the above-grade railroad bridge. A change order was issued to CIPP line the railroad bridge section and construction is nearing completion.	Closeout of the L1 western section replacement and repair projects completed the near-term CIP projects related to the Leucadia and Batiquitos Pump Station force mains.	None	Air-Vac valves were repaired.	Replacement of depleted sacrificial anode.	None	None Destructive testing scheduled for FY24.	
L2	None		Cathodic test stations were repaired and/or replaced.	None	L2 due to its construction of high quality PVC and excellent current condition, was not slated for any repairs or replacement	None	None	None	None	None	Air-Vac valves were repaired.	Replacement of depleted sacrificial anode.	None	None
B1 (Failsafe)	The following tasks were completed regarding these force mains as a result of the 2009 plan, subsequent evaluations, and the May 2010 break in B2 near the bridge crossing.  - In early 2011, the IEC "Batiquitos Force Main Repair Project" replaced, in place, approximately 1,100 feet each of B1(failsafe), B2, and B3 from the Batiquitos Pump Station to the San Marcos Creek Bridge and approximately 400 feet each of B1, B2, and B3 from the northern end of the San Marcos Creek Bridge to the north. B1 was replaced with 14-inch PVC. B2 and B3, both 24-inch ductile iron pipe, were replaced with 24-inch DR18 C905 PVC.  - Sections of B2, B3, and the Fail Safe line (B1) were inspected.  - The estimated remaining useful life of B2 is 12 years and B3 is 14 years.		None	Design of the B1 and B2 replacement was completed.	The District began design and construction of the replacement of B1 (failsafe). This was understood to be a unique opportunity for the replacement due to the fact that B1 can be placed in the same trench as B2, significantly reducing construction costs compared to replacing B1 as a separate project.	None	None	None	None	None	None	Grant approval for replacement of portions of B1.	None	A Coalition and WIIN federal grant was awarded in August 2021 to the North San Diego Water Reuse Coalition via the Water Infrastructure Improvements for the Nation Act for this project. The Coalition received a second WIIN Award in August 2022. Additionally, in June 2022 the Coalition was awarded a San Diego Integrated Regional Water Management (IRWM) Program Prop 1 Round 2 grant. However, while waiting for the grant appropriations the B1 had two failures in November 2022. Therefore, the B1 section was replaced and realigned under an emergency basis. Construction was completed in March 2023.
B2			Cathodic test stations were repaired and/or replaced. The discharge end of B2 failed when it was connected to the B1 (failsafe) to bypass the Lanikai Gravity Sewer.		The B2 Force Main Replacement Project commenced on October 20, 2014 and included the CIPP lining of the Lanikai Line. The project was completed on November 3, 2015.	None	None	None	None	None	None	None	None	None
B3	- The cathodic protection improvements identified in RYeager's May 2010 report were recommended to be implemented. Ultrasonic testing was recommended to be conducted in the future.			Cathodic test stations were repaired and/or replaced.	None	None	None	None	None	None	None	Discharge section was replaced.	None	None

Planned Improvements are in italics.

<b>CATHODIC PROTECTION IMPROVEMENTS (<i>status</i>)</b>			
<b>Year</b>	<b>Phase</b>	<b>Activity</b>	<b>Estimated Cost</b>
2011	1	Ultrasonic Testing of L1 to establish baseline corrosion ( <i>pending results of FY13 coupon testing</i> )	\$27,000
		Locate and/or repair missing and damaged test stations on L1, L2, B2, and B3 ( <i>complete FY13</i> )	\$16,500
		L2 supplemental cathodic protection ( <i>complete</i> )	\$30,000
		B2 cathodic protection ( <i>complete</i> )	\$40,000
		B3 cathodic protection ( <i>complete</i> )	\$40,000
		TOTAL	\$153,500
2015	2	Ultrasonic Testing of L1, B2, and B3 ( <i>complete</i> )	\$90,000
2015	3	Replacement of B2 (8,463 ft) ( <i>complete</i> )	\$2,700,000
2017	3	Replacement of L1 West Section ( <i>complete</i> )	\$1,700,000
2020	4	Replacement of B3 Discharge Section ( <i>complete</i> )	\$535,500
2025	4	Replacement of B3 (8,332 ft)	\$2,600,000
Ongoing (post Ph. 1)		Annual Cathodic Protection Surveys (to begin after Phase 1 is complete)	\$5,000 per year