AGENDA

EAST ORANGE COUNTY WATER DISTRICT

ENGINEERING AND OPERATIONS COMMITTEE MEETING

Thursday, November 14, 2024 at 9:00 A.M.
185 N. McPherson Road, Orange, California

1. Call meeting to order

2. Public communications to the Committee

3. Additional items arising after posting of agenda

Informational Items

4. RZ System Status, Well Levels, and Water Use – Handout
5. WZ System Status and Water Use – Handout
6. Sewer System Status and Permit Reports
7. District Office Power
8. Hazard Mitigation Plan, Risk Assessment, and Emergency Plan Update

Action Items

9. Sewer Master Plan and Management Plan Award

10. Adjournment

Members of the public shall be permitted to speak as to both agendized and non-agendized items, as reflected in the agenda. Those wishing to speak may submit a speaker request or by verbally indicating their desire to comment at the time the item is called. Additionally, members of the public may, but are not required to, e-mail comments to Sylvia Prado at sprado@eocwd.com up to 30 minutes before the Committee meeting, and such comments shall be provided to the Committee. Members of the public wishing to attend the meeting that require disability-related or other reasonable modifications or accommodation to facilitate such attendance should contact Ms. Prado at (714) 538-5815 or the e-mail provided as soon as feasible before the meeting to make such request.

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the East Orange County Water District Engineering & Operations Committee in connection with a matter subject to discussion or consideration at an open meeting of the Engineering & Operations Committee are available for public inspection in the District's office, 185 McPherson Road, Orange, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available via phone or email request to Ms. Sylvia Prado at (714) 538-5815 or sprado@eocwd.com.

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE

FROM: GENERAL MANAGER

SUBJECT: RETAIL ZONE SYSTEM STATUS, WELL LEVELS, AND WATER USE

DATE: NOVEMBER 14, 2024

Background

This memo serves as cover for the water use and well reports. The RZ Water Use Report and the Well Pumping and Static Water Level Report will be handed out at the meeting.

Recommendation

Informational

Attachment(s) None

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE

FROM: GENERAL MANAGER

SUBJECT: WHOLESALE ZONE WATER USE REPORT

DATE: NOVEMBER 14, 2024

Background

This memo serves as cover for the Wholesale Zone water demand and imported water report. The Wholesale Zone Water Demand and Imported Water Delivery Balance Report will be handed out at the meeting.

Recommendation

Informational

Attachment(s) None

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE
FROM: GENERAL MANAGER
SUBJECT: SEWER SYSTEM STATUS AND PERMIT REPORT
DATE: NOVEMBER 14, 2024

Background

There were no sewer spills in October. The monthly Permit Report for October is attached.

Recommendation

Informational

Attachment(s) Permit Report

October 2024 - Permits

Connection Address	Type of Development	Permit No	APN	Date Issued	Sewer				Wholesale Zone	Retail Zone	Total
					Regional CFCC (OCSD) Fees	Local Sewer Capacity Fees	Inspection	Total Sewer			
1892 Lemon Heights Dr. Santa Ana, CA 92705	S2S & ADU (N)	24-024	502-362-15	10/4/2024	$ 7,602.00	$ 10,598.00	$ 800.00	$ 19,000.00	$ -	$ -	$ 19,000.00
14492 Oxford Ave. Tustin, CA 92780	ADU (N)	24-068	432-301-24	10/10/2024	$ 1,325.54	$ 5,185.43	$ -	$ 6,510.97	$ 1,079.00	$ 1,079.00	$ 8,668.97
14042 Brenan Way. Santa Ana, CA 92705	SFR (N) ADU (N)	24-070	401-061-04	10/23/2024	$ 5,029.54	$ 5,312.30	$ 800.00	$ 11,141.84	$ 540.85	$ -	$ 11,682.69
14022 Brenan Way. Santa Ana, CA 92705	SFR (N) ADU (N)	24-071	401-061-03	10/23/2024	$ 1,325.54	$ 2,540.59	$ 800.00	$ 4,666.13	$ 431.02	$ -	$ 5,097.15
1432 Olwyn Dr. Tustin, CA 92780	SFR (R)	24-074	103-533-07	10/3/2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13142 Laurinda Way & 17821 Whitney Dr, Santa A	ADU (N)	24-075	395-211-28	10/22/2024	$ 565.72	$ 1,155.34		$ 1,721.06	$ 196.01	$ -	$ 1,917.07
17531 Medford Ave. Tusitn, CA 92705	ADU (N)	24-076	395-162-69	10/7/2024	$ 391.52	$ 1,178.67	$ -	$ 1,570.19	$ 120.00	$ -	$ 1,690.19
14042 Newport Ave. Tustin, CA 92780	Development	24-078	432-074-07	10/8/2024	$ 268,621.31	$ 268,102.90	$ -	$ 536,724.21	$ 77,314.00	$ -	$ 614,038.21
19642 Vista del Valle, Santa Ana, CA 92705	ADU (N)	24-082	393-241-23	10/21/2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Totals					**$ 284,861.17**	**$ 294,073.23**	**$ 2,400.00**	**$ 581,334.40**	**$ 79,680.88**	**$ 1,079.00**	**$ 662,094.28**

October 2024 - In the Pipeline

Connection Address	Type of Development	Permit No	APN	Permit Status
12221 Circula Panorama, Santa Ana, CA	ADU (N) JADU (N)	23-077	094-212-06	Pending customer payment and signature
14192 Yorba St. Tustin, CA 92780	SFR (N)	24-012	401-231-38	Pending customer response
11931 Arroyo Dr. Santa Ana, CA 92705	ADU (N)	24-044	502-151-03	Pending customer response
14232 Newport Ave. Tustin, CA 92780	Commerical (N)	24-045	432-073-01	Pending solution
16791 McFadden Ave. Tustin, CA 92780	Commerical (R)	24-057	402-301-42	Pending customer payment and signature
13121 Shasta Way, Santa Ana, CA 92705	ADU (N)	24-059	093-331-01	Pending customer response
13782 Ridgecrest Cir. Tusitn, CA 92780	ADU (N)	24-060	395-291-25	Pending customer response
12334 Circula Panorama, Santa Ana, 92705	SFR (N)	24-067	094-221-28	Pending revised plans
12862 Panorama Pl. Santa Ana, CA 92705	SFR (R)	24-065	393-053-02	Pending revised plans
1272 Arroyo Lindo Dr. Santa Ana, CA 92705	SFR (R)	24-069	502-154-16	Pending customer response
1052 & 1056 Andrews St. Tustin, CA 92780	SFR (R) ADU (N)	24-073	500-171-15	Pending revised plans
1042 & 1046 Andrews St. Tustin, CA 92780	SFR (R) ADU (N)	24-077	500-171-16	Pending revised plans
2171 Lemon Height Dr. Santa Ana, CA 92705	SFR (N)	24-079	502-334-19	Pending revised plans
18252 Leon Way, Tustin, CA 92780	ADU (N)	24-080	401-483-03	Pending revised plans
13172 Dean St. Tustin, CA 92780	ADU (N)	24-081	103-222-37	Pending customer payment and signature
11372 Skyline Dr. Santa Ana, CA 92705	ADU (N)	24-083	502-372-34	Pending customer response

R - Remodel
N - New
E - Existing

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE

FROM: GENERAL MANAGER

SUBJECT: DISTRICT OFFICE POWER

DATE: NOVEMBER 14, 2024

Background

The new District Administration Building is a critical part of the District's infrastructure, and it was constructed to Essential Services Building standards. In accordance with code requirements and to supplement power, a 50 kw solar system consisting of 48 solar panels was installed on the roof. In addition, a 20 kwh battery provides backup power for short duration outages and is leveraged to reduce power costs. For emergency situations, when utility power is not available and additional power is needed, power is supplied by an emergency diesel backup generator. The permit has been approved by AQMD and the long lead time generator is expected to be received November 13th and installed immediately following.

Recommendation

Informational

Attachment(s): None

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE

FROM: GENERAL MANAGER

SUBJECT: HAZARD MITIGATION PLAN, RISK ASSESSEMENT, AND EMERGENCY PLAN UPDATE

DATE: NOVEMBER 14, 2024

Background

The District's Local Hazard Mitigation Plan (LHMP) addresses natural disasters including fire, flood, earthquake, landslide, drought and climate change threats. Mitigation plans are required to receive Federal Emergency Management Agency (FEMA) mitigation project grants in accordance with the Disaster Mitigation Act of 2000 (Stafford Act). Benefits of mitigation planning include: identifying actions for risk and future damage reduction that are agreed upon by stakeholders and the public, focusing resources on the greatest risks and vulnerabilities, building partnerships by involving citizens, organizations, and businesses, increasing education and awareness of threats and hazards, communicating priorities to State and Federal officials, and aligning risk reduction with other community objectives. The District's most recent plan was completed in December 2020 and it is due for its 5-year update which will incorporate the new 2023 standards.

In compliance with California's Standardized Emergency Management System, the National Incident Management System, and the America's Water Infrastructure Act (AWIA) of 2018, the District also completed a Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) update in December 2020 and June 2021 respectively. To meet regulatory requirements the plans are due for revision and certification by December 2025 and June 2026 respectively.

A Request for Proposal for updating the LHMP, RRA, and ERP was sent to five qualified consultants with previous experience preparing such documents. Three firms, Herndon Solutions group, West Yost, and Black & Veatch attended the pre-proposal meeting and submitted proposals by the November 7th due date. Staff and the District's consultant Kari Schumaker are in the process of reviewing and ranking the proposals and a summary of the proposals will be handed out at the meeting.

Funding for the hazard mitigation planning effort will be provided in part by FEMA Hazard Mitigation Grant funds. In August 2023, the District applied for grant funds through CalOES and was notified of the sub-award in September 2024. The $150,000 award requires a 25% local funds cost share.

Recommendation

Informational

Attachment(s): None

MEMO

TO: ENGINEERING AND OPERATIONS COMMITTEE

FROM: GENERAL MANAGER

SUBJECT: SEWER MASTER PLAN AND MANAGEMENT PLAN AWARD

DATE: NOVEMBER 14, 2024

Background

Master plans are critical to the District's future financial planning efforts as they provide assessment of the capital facilities current condition, remaining useful life, and plans for repair and future replacement. The capacity of the District's facilities is also assessed and recommendations made regarding expansion and capacity upgrades. The District's most recent Sewer Master Plan was completed in 2018 and the Sewer System Management Plan in 2019. Updates to the Sewer Master Plan and Sewer System Management Plan (SSMP) are recommended considering infrastructure improvements, regulation changes, and regulatory timeline requirements.

Staff sent a Request for Proposal (RFP) for the Sewer Master Plan and SSMP updates to five consultants. Two consultants, Dopudja & Wells (DW) and Akel Engineering (AE), attended the pre-proposal meeting and submitted proposals. The other consultants declined citing insufficient resources and other reasons. As was experienced with the water master plan RFP, the project size is suited to small engineering firms, which are few, and it is difficult to attract larger engineering firms with the limited scope. While only two firms submitted, staff believes both would produce a good report. DW submitted the lower cost proposal of $204,600 compared to AE's proposal of $370,267. At staff's request, an optional task was added to the proposal to assess laterals currently connected to OCSAN and develop plans for reconnection to EOCWD to comply with OCSAN's current standards. DW's proposed cost for this optional task is $28,530. Staff reviewed the proposals, finds DW's proposal to be consistent with the level of effort, and recommends award of the project, in the amount of $233,130 with the optional task, to DW based on their team and overall excellent value. It should be noted that none of the proposals received met the schedule in the RFP and staff finds DW's proposed schedule acceptable.

Recommendation

That the Committee recommend the Board award a Professional Services Agreement in the amount of $233,130 to Dopudja & Wells to complete the Sewer Master Plan and SSMP.

Attachment(s): Dopudja & Wells Proposal

EAST ORANGE COUNTY WATER DISTRICT

Proposal

Sewer Master Planning Services

October 15, 2024

Submitted By

Dopudja & Wells consulting

Table of Contents

Dopudja & Wells consulting

October 15, 2024

Mr. Jeff Smyth, P.E.
Engineering Manager
East Orange County Water District
185 N. McPherson Road
Orange, CA 92869

SUBJECT: Request for Proposals for Sewer Master Plan and Sewer System Management Plan

Dear Mr. Smyth,

Dopudja & Wells Consulting (Dopudja & Wells) understands that the East Orange County Water District (EOCWD) is soliciting proposals for sewer collection system master planning services. Additionally, EOCWD wished to update its Sewer System Management Plan (SSMP) to maintain regulatory compliance.

Dopudja & Wells team members have performed collection system planning, modeling, calibration, and hydraulic impact studies throughout Southern California. Our approach to collection system planning projects, honed through this experience, has been developed for EOCWD as follows:

1. Make the Contributing Agencies into Stakeholders for developing clear land use planning projections
2. Develop a fully updated hydraulic model for this and future evaluations
3. Correctly identify and classify flows that are taking capacity in EOCWD's collection sSystem.

Dopudja & Wells is excited to bring our staff's reputations and decades of experience successfully solving planning challenges to EOCWD. In reviewing our proposal, we're confident you will agree that we have completed a list of projects that would rival many firms of larger size and longer history. We ask that you call our references and discuss our performance on these projects to find out how much value we can add when our strengths align with our clients' requirements.

Please do not hesitate to contact Stephen Dopudja at stephen.dopudja@dopudjawells.com or at 949.842.4370 if there are any questions.

Sincerely,

Dopudja & Wells Consulting

Stephen Dopudja, P.E. – President and Project Principal

Jon Wells, P.E. – Project Manager

Understanding and Approach

The East Orange County Water District (District, EOCWD) is seeking an engineering consultant to prepare a master plan (2025 Sewer Master Plan) and sewer system management plan update (2025 SSMP Update) for the District's sewer collection system. The District last completed a sewer master plan in 2018 (2018 Sewer Master Plan), and last updated the SSMP in 2019

The EOCWD sewer service area includes a large portion of the City of Tustin, portions of the City of Orange, and portions of unincorporated County of Orange. These agencies are collectively identified as the Contributing Agencies in this proposal. The sewer service area for the District includes approximately 17,000 connections and 90,000 people. The number of connections and the number of people served have the potential for growth because of septic conversions, land use densification project, including high-rise multifamily development, and Accessory Dwelling Unit (ADU) development.

The District is seeking to prepare the 2025 Sewer Master Plan for the sewer service area in order to evaluate system capacity and system condition; to make recommendations for required infrastructure improvements, repair, replacement, rehabilitation, and additions; and to prepare a long-range Capital Improvements Program (CIP). These improvement plans must account for significant areas in the sewer system that are on septic systems and must include a long-range plan for future septic conversion.

The purpose of the District's request for a 2025 SSMP Update is to ensure compliance with the State Water Board Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2022-0103-DWQ (Sanitary Sewer Systems General Order). The latest updates to this order must be considered in the development of the 2025 SSMP Update.

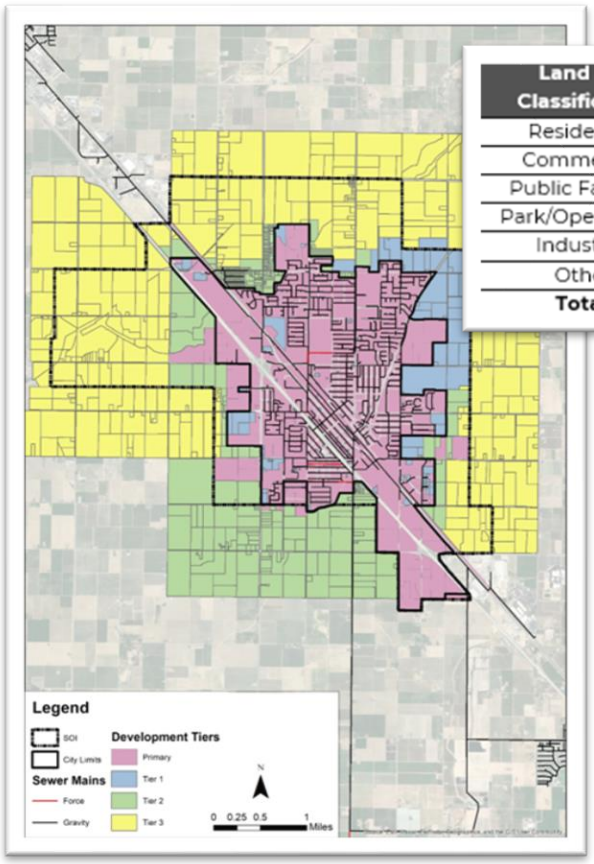
To meet the objectives of the District for these planning documents as described above, Dopudja & Wells has identified the following key elements to our approach for this effort:

- Make the Contributing Agencies into Stakeholders for developing clear land use planning projections
- Develop a fully updated hydraulic model for this and future evaluations
- Correctly identify and classify flows that are taking capacity in the District's Collection System

Make the Contributing Agencies into Stakeholders for Developing Clear Land Use Planning Projections

Effective collection system planning requires accurate land use planning projections. The District is at a disadvantage in developing such projections, because unlike a city with a collection system, the District does not control the land use that contributes flows to its collection system.

Dopudja & Wells has experience developing master plans in similar situations and understands that the most effective plan in these cases is to treat the land use agencies as active stakeholders in the planning process. By collaborating closely with the Contributing Agencies, rather than treating them as afterthoughts to the process; we are able to actively engage with the Contributing Agencies to inform them how effective collection system planning can facilitate their potential development efforts.



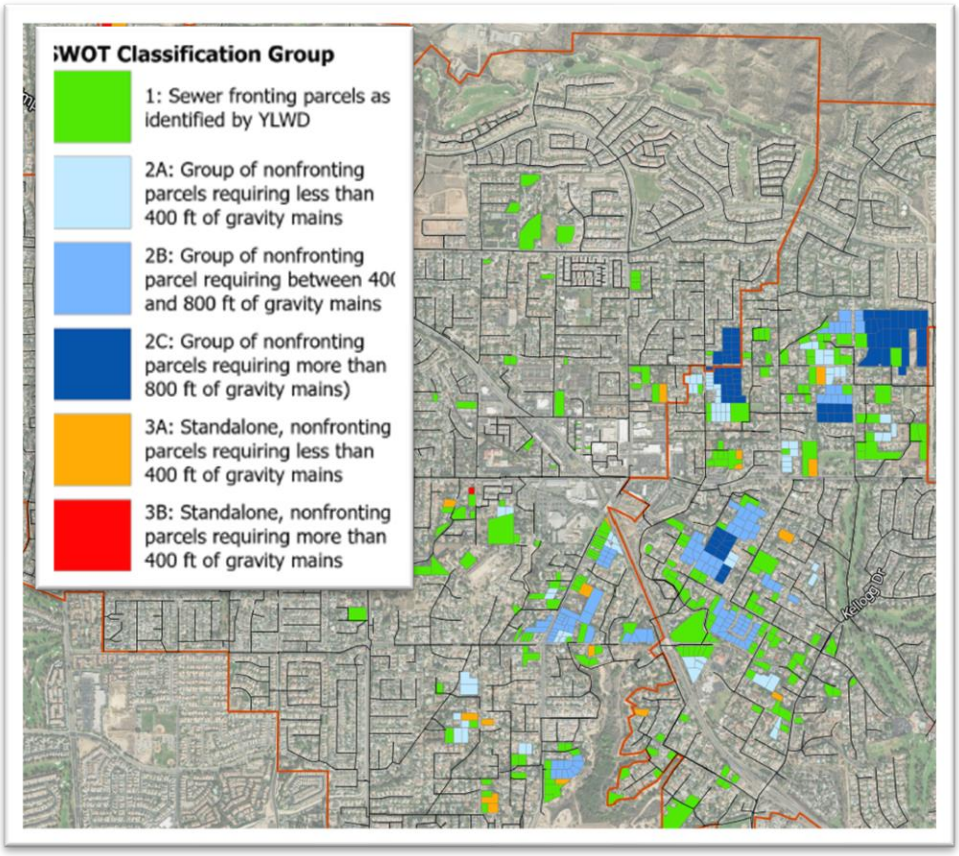
Land Use Classification	LAND USE AREA (acres)			
	Primary	Tier 1	Tier 2	Tier 3
Residential[2]	322	734	1483	1800
Commercial[3]	364	19	257	732
Public Facilities	22	3	69	0
Park/Open Space	20	31	63	3
Industrial[4]	74	54	99	1728
Other[5]	0	22	162	3223
Totals	802	863	2133	7484

Dopudja & Wells is completing a collection system master plan for the Selma Kingsburg Fowler County Sanitation District. Independent land use projections were developed for each City, incorprating the unique planning circumstances for each.

In the EOCWD sewer service area, it will be critical to identify the following land use conditions:

- Vacant parcels with development potential
- Developed parcels with potential for densification
- Potential ADU areas
- Septic conversion opportunities

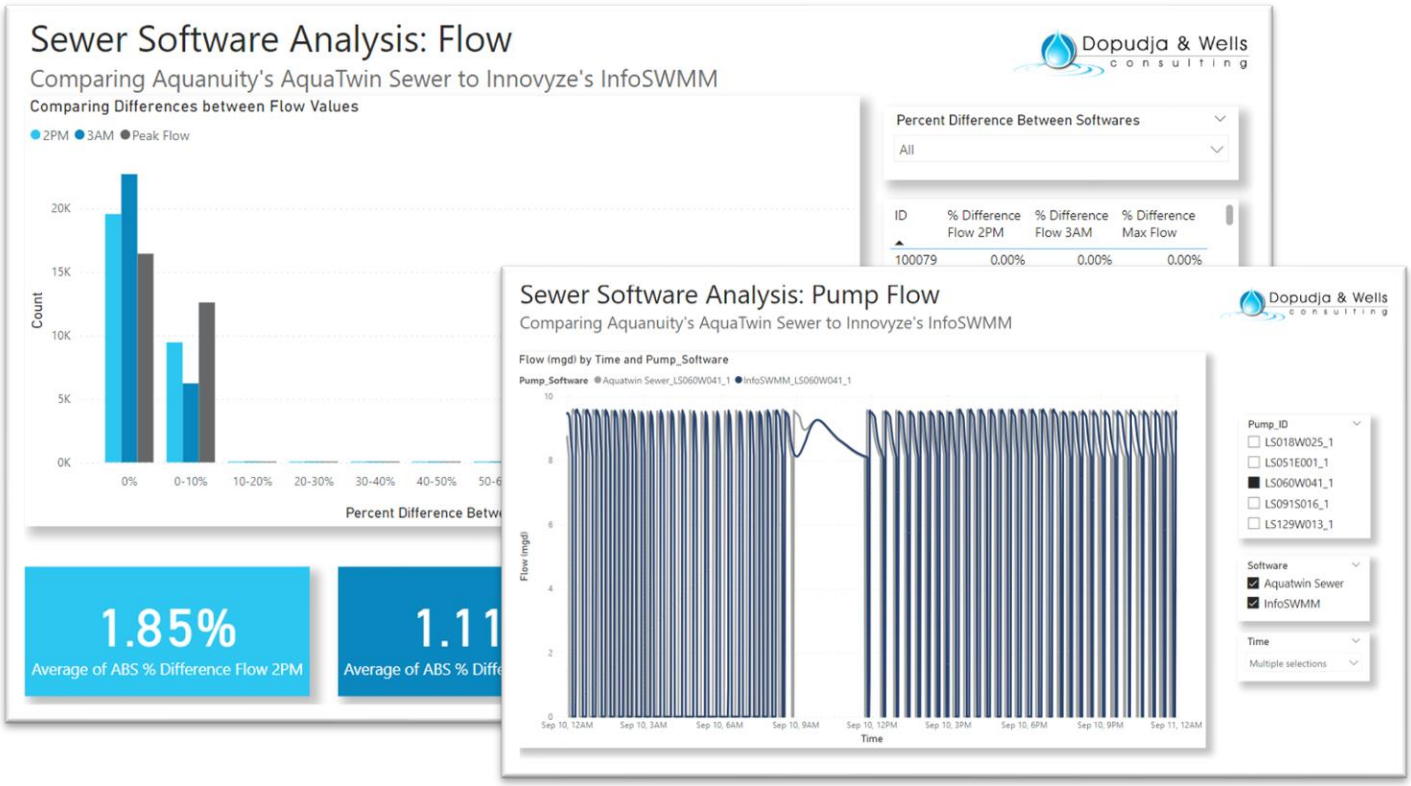
With regard to the septic conversion opportunities, we understand that not all septic parcels are well suited for connection to the collection system. Based upon the EOCWD's existing Septic Study in conjunction with our own research, we will "triage" the septic parcels into three tiers: 1) Easiest to Convert, 2) Possible to Convert, and 3) Unlikely to Convert.



Dopudja & Wells is completing a septic to sewer evaluation for Yorba Linda Water District that uses the triage classification described above.

Develop a Fully Updated Hydraulic Model for This and Future Evaluations

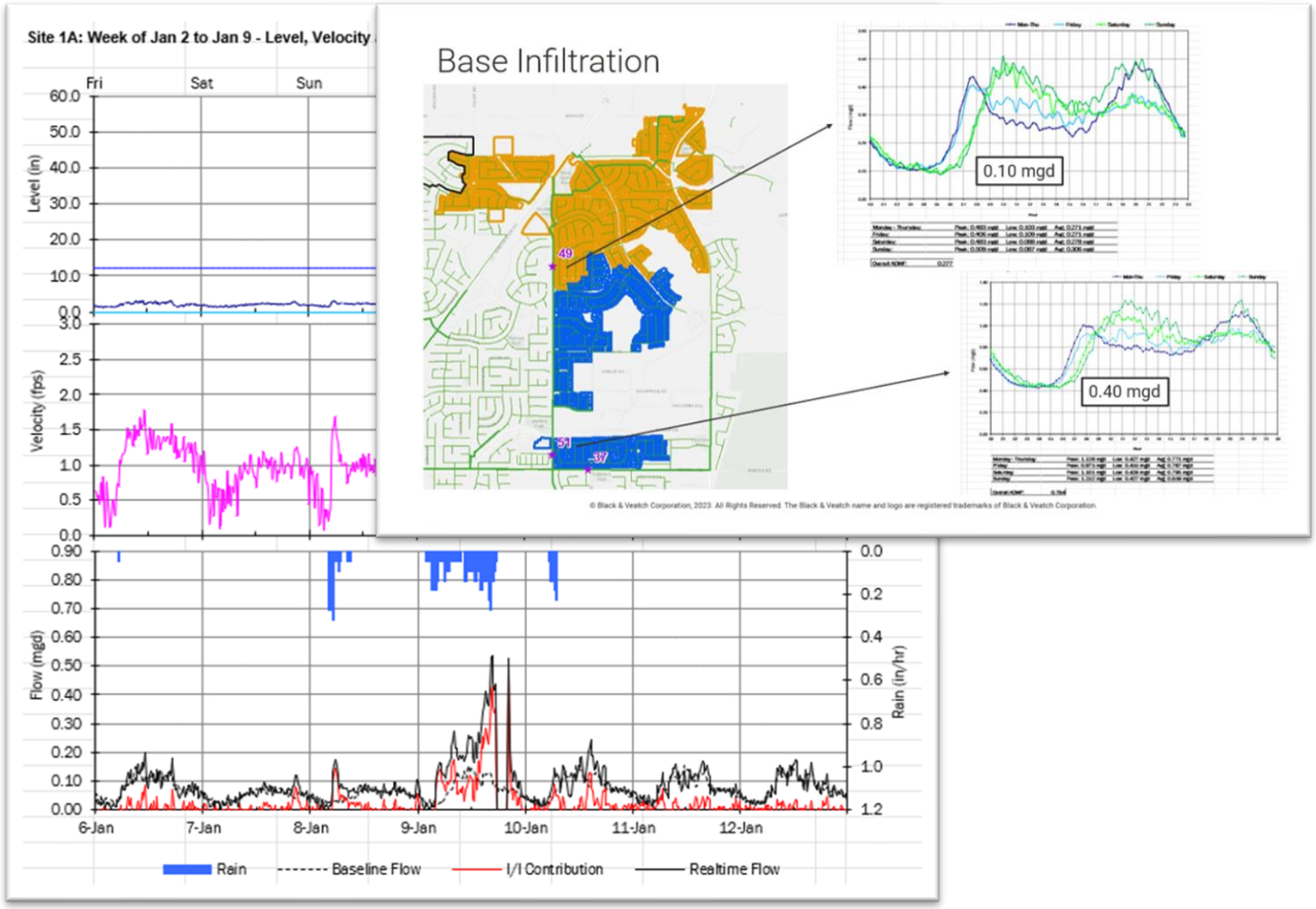
The District's current hydraulic model utilizes the InfoSewer hydraulic modeling software. The modeling engine for this software is essentially static, although it allows for extended period simulations. Because this software is being sunsetted by the software company, the District's hydraulic model will need to be converted. This conversion is actually a fantastic opportunity to develop a fully dynamic hydraulic model that will better evaluate the capacity available in the District's collection system. The updated model will incorporate diurnal patterns and dynamic inflow and infiltration values gathered from flow monitoring data. This enhanced capability will provide a more comprehensive assessment of the District's capacity and identify periods of capacity constraints in the system.



Dopudja & Wells has completed several InfoSewer and InfoSWMM hydraulic model conversion projects to create updated hydraulic models, and has developed PowerBI tools to confirm accurate conversions as shown for IRWD above.

Correctly Identify and Classify Flows That Are Taking Capacity in the District's Collection System

It is easy to underestimate how much capacity is taken up in a collection system by flows that are not generated by collection system customers/users. Non-sanitary flows in the collection system can include Rainfall Dependent Inflow and Infiltration (RDII) as well as Base Infiltration (BI). Dopudja & Wells has extensive experience in deconstructing flow monitoring data into sanitary flows, BI flows, and RDII flows. In some cases, rather than focusing on improvement projects involving pipeline or pump station capacity increases, external flow elimination programs can be more cost effective solution for improving system capacity.



Dopudja & Wells performs statistical estimation of Base Infiltration for all flow monitoring data. In residential areas with high night-time as shown above, it is likely that Base Infiltration is contributing heavily to flows.

Scope of Work

The scope of work for the 2025 Master Plan and the 2025 SSMP Update is provided below. Deliverables are shown in BLUE. Meetings/workshops, presentations, and planned collaboration are shown in RED.

Task S-1 Request, Catalog, and Review Existing Documents and Data

Subtask S-1.1 Review Existing Documents and Data

Dopudja & Wells will submit and maintain a data request log for information including, but not limited to current and proposed land use data, current hydraulic model, water billing data for flow development, flow meter data, and as-built drawings. Dopudja & Wells will review the 2018 Master Plan, 2020 Addendum, Septic Report, land use information, water use data, GIS and flow monitoring data, and other relevant available information.

Subtask S-1.2 Deliver Chapter 2: Existing System Description

Based on the data collected in Task S-1, we will update the description of the existing system and submit Draft Chapter 2 - Existing System Description to the District for review.

Task S-2 Create Development Timeline

Subtask S-2.1 Development Outreach

Dopudja & Wells will schedule one outreach meeting with each Contributing Agency's planning department. The purpose of the outreach meeting will be understand where each Contributing Agency is in the General Plan Update schedule, to understand what projection timeframes (2025, 2030, 2040, Beyond) make the most sense for development projection, and to understand the known and projected developments for each Agency in as much detail as possible. Development will be quantified to Equivalent Dwelling Units (EDUs) and acres of non-residential development to the extent possible.

Subtask S-2.2 Timeline Development

Based upon data gathered from each Contributing City in the outreach phase, Dopudja & Wells will developed a detailed development timeline for each City, quantified into EDU and acreage units. The timeframes inside the timeline will be determined through the process, but at least four timeframes will be identified.

Subtask S-2.3 Lead Land Use Development Workshop

Subtask S-2.4 Deliver Chapter 3: Study Area Land Use and Development

Based on the data collected in Task S-2, we will develop and submit Draft Chapter 3 – Study Area Land Use to the District for review

Task S-3 Develop and Implement Flow Monitoring Plan

Subtask S-3.1 Develop Flow Monitoring Plan

Using the District's GIS, hydraulic model, and collaboration with District Staff, Dopudja & Wells will develop a flow monitoring plan that

appropriately gathers both dry weather and wet weather collection system calibration information. Field reconnaissance of potential flow monitoring sites will be conducted, and alternative sites will be developed based upon field conditions. The plan will a contingency for developing wet weather data in the case there is a lack of wet weather events. This contingency will include using historical plant data combined with historical rainfall data to update wet weather factors until wet weather data can be gathered.

Subtask S-3.2 Perform Flow Monitoring

Flow Monitoring will be performed directly by the District

Subtask S-3.3 Review and Deconstruct Flow Monitoring Data Results

Dopudja & Wells will review the flow monitoring results provided by the District and deconstruct the raw data into flow components necessary for hydraulic modeling and capacity evaluation.

Task S-4 Develop Existing and Future Flow Projections

Subtask S-4.1 Develop Dry Weather Flow Factors

Using the data from the flow monitoring task described above, supplemented with water billing data from the Member Cities where necessary, Dopudja & Wells will calculate dry weather flow factors including base flow generation per EDU, base flow generation per acreage of non-residential flow, and groundwater infiltration per acre, where present.

Subtask S-4.2 Develop Wet Weather Flow Factors

Using the data from the flow monitoring task described above, Rainfall Dependent Inflow and Infiltration (RDII) factors will be developed in terms of RTK values. Rainfall data will be reviewed to develop an appropriate design storm to be combined with the RTK factors for wet weather simulations. As discussed above, if wet weather flow data is not available, historical plant and rainfall data will be used to develop preliminary updated wet weather factors.

Subtask S-4.3 Project Existing and Future Flows

The dry and wet weather flow factors will be combined with the development timeline to develop existing and future flow projections for the District.

Subtask S-4.4 Lead Flow Projection Review Workshop

Subtask S-4.5 Deliver Chapter 4: Existing and Future Study Area Flows

Based on the data collected in Task S-4, we will develop and submit Draft Chapter 4 - Existing and Future Flows to the District for review.

Task S-5 Hydraulic Model Update and Calibration

Subtask S-5.1 Develop Model Transition Plan

Working with the District and software vendors as necessary, Dopudja & Wells will develop a hydraulic model transition plan for the District's InfoSewer model. There are a variety of options available to the District,

and the best plan in the long-term interests of the District will be developed. A Technical Memorandum will be delivered with the plan.

Subtask S-5.2 Perform Confirmation Update for Infrastructure

Dopudja and Wells will coordinate with the District's GIS administrator to confirm model infrastructure.

Subtask S-5.3 Perform Dry Weather Calibration

Dopudja & Wells will calibrate average and peak flow and level information at each of the flow monitoring locations, as well as at the treatment plant if data is available. Values will be calibrated to within 10% of field values as the standard.

Subtask S-5.4 Perform Wet Weather Calibration

Dopudja & Wells will calibrate total RDII and peak RDII values at each of the 15 locations from the flow monitoring, as well as the treatment plant if data is available. Values will be calibrated to within 10% of field values as the standard.

Subtask S-5.5 Lead Calibration Workshop

Subtask S-5.6 Deliver Chapter 5: Hydraulic Model Update and Calibration

Based on the data collected in Task S-5, we will develop and submit Draft Chapter 5 – Hydraulic Model Update and Calibration to the District for review.

Task S-6 Existing and Future Capacity Evaluation

Subtask S-6.1 Develop Performance Criteria

Dopudja & Wells will review and refine where necessary the performance criteria to be used in the evaluation for the collection system.

Subtask S-6.2 Perform Existing Capacity Evaluation

Dopudja & Wells will perform the existing system hydraulic evaluation using the updated model and updated flow projections as developed in previous tasks. The capacity evaluation will include gravity mains, lift stations, and force mains.

Subtask S-6.3 Perform Future Capacity Evaluation

Dopudja & Wells will perform the future system hydraulic evaluation using the updated model and updated flow projections as developed in previous tasks. The capacity evaluation will include gravity mains, lift stations, and force mains. There will be a separate evaluation for each timeframe identified in the development timeline.

Subtask S-6.4 Lead Capacity Evaluation Workshop

Subtask S-6.5 Deliver Chapter 6: Existing and Future Capacity Evaluation

Based on the data collected in Task S-6, we will develop and submit Draft Chapter 6 – Existing and Future Capacity Evaluation.

Task S-7 Develop Collection System Rehabilitation and Replacement Plan

Subtask S-7.1 Develop Comprehensive Asset Registry

Using the District's collection system GIS and other supporting documentation, Dopudja & Wells will develop a collection system asset registry. The registry will be Microsoft Excel-based but will maintain linkages to the GIS where possible.

Subtask S-7.2 Perform Desktop Preliminary Prioritization of Assets

Using existing CCTV data and other condition information that the District maintains about the collection system, Dopudja & Wells will perform a preliminary risk assessment and prioritization of the District's collection system assets. This preliminary risk assessment will be used to prioritize further physical inspection of assets as necessary.

Subtask S-7.3 Perform Condition Assessment of Prioritized Assets

The District performs regular CCTV inspection of gravity mains, so it is assumed that further gravity main inspection won't be necessary. This task contains three days of physical inspection for other assets, including the District's collection system pump station.

Subtask S-7.4 Perform Comprehensive Risk Assessment

Using the data gathered as described above, Dopudja & Wells will perform a comprehensive risk assessment based upon likelihood of failure and consequence of failure factors. The factors used will be based upon those developed for the District previously, updated as necessary in collaboration with the District.

Subtask S-7.5 Develop Comprehensive Rehabilitation and Replacement Plan

Dopudja & Wells will develop a rehabilitation and replacement plan for the collection system based upon the risk assessment performed above. The rehabilitation and replacement plan will identify further inspection, repair, rehabilitation, and full replacement priorities in the collection system.

Subtask S-7.6 Lead Rehabilitation and Replacement Workshop

Subtask S-7.7 Deliver Chapter 7: Collection System Rehabilitation and Replacement Plan

Based upon the developed rehabilitation and replacement plan, Dopudja & Wells will develop Draft Chapter 7 – Rehabilitation and Replacement Workshop.

Task S-8 Develop Risk-Prioritized CIP

Subtask S-8.1 Identify Infrastructure Improvements

We will identify and prioritize improvements needed to address the system's current and future capacity deficiencies and rehabilitation/replacement needs to develop a 10-year capital improvement program (CIP) for implementing the identified improvements. We will develop planning-level cost estimates for each project. The CIP will recommend projects for construction in five-year increments and will include improvements to alleviate the existing system deficiencies, to serve future growth, to reduce I/I, better serve the

undeveloped and underserved portions of the District, or other Planning Scenario goals.

Subtask S-8.2 Develop Improvement Costs

Unit costs will be developed based upon historical District costs as well as historical cost records maintained by Dopudja & Wells. Unit costs wil be used to develop project costs.

Subtask S-8.3 Prioritize Improvements Using Risk Classification

We will assign project triggers and the associated timing to each CIP project and summarize each project in a CIP Project Sheet and the CIP tracking spreadsheet. The CIP spreadsheet will include project cost information that can easily be adjusted along with the CIP year for easy budgeting.

Subtask S-8.4 Lead CIP Workshop

Subtask S-8.5 Deliver Chapter 8: Collection System Capital Improvement Program

The prioritized CIP will be summarized in Draft Chapter 8 – Capital Improvement Program and submitted to the District for review.

Task S-9 Produce Master Plan Reports and Supporting Deliverables

Subtask S-9.1 Deliver Draft 2025 Master Plan

We will develop an Executive Summary and compile and submit a Draft Master Plan that incorporates the District's comments on draft chapters submitted to date. We will meet with the District to review District staff comments on the Draft Report.

Subtask S-9.2 Lead Draft Master Plan Review Meeting

Subtask S-9.3 Deliver Final 2025 Master Plan

We will incorporate District comments, develop the Final Master Plan, and submit it to the District. We will attend one District Board Meeting to present the findings of the Master Plan.

Subtask S-9.4 Develop and Deliver Mapping and Modeling Deliverables to Support Sewer Master Plan

Subtask S-9.5 Create and Deliver Committee and Board Presentations to Support Sewer Master Plan

Task S-10 Produce Updated Sewer System Management Plan

Subtask S-10.1 Perform SSMP Audit

We will conduct an audit of the District's Sewer System Management Plan (SSMP) using a gap assessment methodology that evaluates the District's current SSMP documentation against the District's actual practices and the reissuance of the Statewide Sanitary Sewer System General Order. We will conduct two workshops or staff interview sessions to assess existing practices, and identify and prioritize the revisions that are needed to close each gap that is found

Subtask S-10.2 Use Audit Results to Update SSMP

Using the results of the audit conducted as described above, we will update the SSMP document based upon the gaps identified.

Subtask S-10.3 Conduct SSMP Workshop/Training

We will conduct up to eight hours of SSMP explanation and training for targeted staff after completion of the SSMP.

Task S-11 Project Control

Subtask S-11.1 Project Management.

Dopudja & Wells will provide overall project management and coordination of the project team including day-to-day administration, communication with the District, coordination of team members and sub-consultants, and monthly invoicing. Dopudja & Wells will also prepare and maintain a project schedule and attend bi-weekly progress and status calls.

Subtask S-11.2 Quality Control

Dopudja & Wells will review all submittals prior to submitting to the District. Review will include Project Manager, Project Principal, and/or Technical Advisor as appropriate. In addition, all submittals will undergo the independent QA/QC reviews required by Dopudja & Wells.

Subtask S-11.3 Regular Status Meetings

Dopudja & Wells will conduct bi-weekly status meeting throughout the project duration.

Task S-12 **Optional Orange County Sanitation District Direct Customer Connection Evaluation **Optional****

Subtask S-12.1 Historical Review of Direct Connection Issue

There are numerous parcels within the EOCWD sewer service area that are connected directly to Orange County Sanitation District (OC San) collection system infrastructure. Current OC San regulations prohibit such direct connections. Dopudja & Wells will review the history of these direct connections. The outcome of the review will be detailed context of the direct connection issue for EOCWD staff as they evaluate technical solutions to the issue.

Subtask S-12.2 Development of Conceptual-Level Infrastructure to Remove Direct Connections

Dopudja & Wells will layout and quantify new collection system infrastructure that would be required serve the directly connected parcels. The conceptual layouts will establish general horizontal and vertical alignments of the required infrastructure, but will not evaluate sub-surface utility conflicts and similar. Conceptual level costs will be developed for this infrastructure.

Subtask S-12.3 Lead Direct Connection Workshop

Subtask S-12.4 Deliver Chapter 9 - OC San Direct Connection Evaluation

The evaluation will be summarized in Draft Chapter 9 – OC San Direct Connection Evaluation and submitted to the District for review.

Team and Experience

The Dopudja & Wells Firm, Team, and Experience are detailed below.

Firm Overview

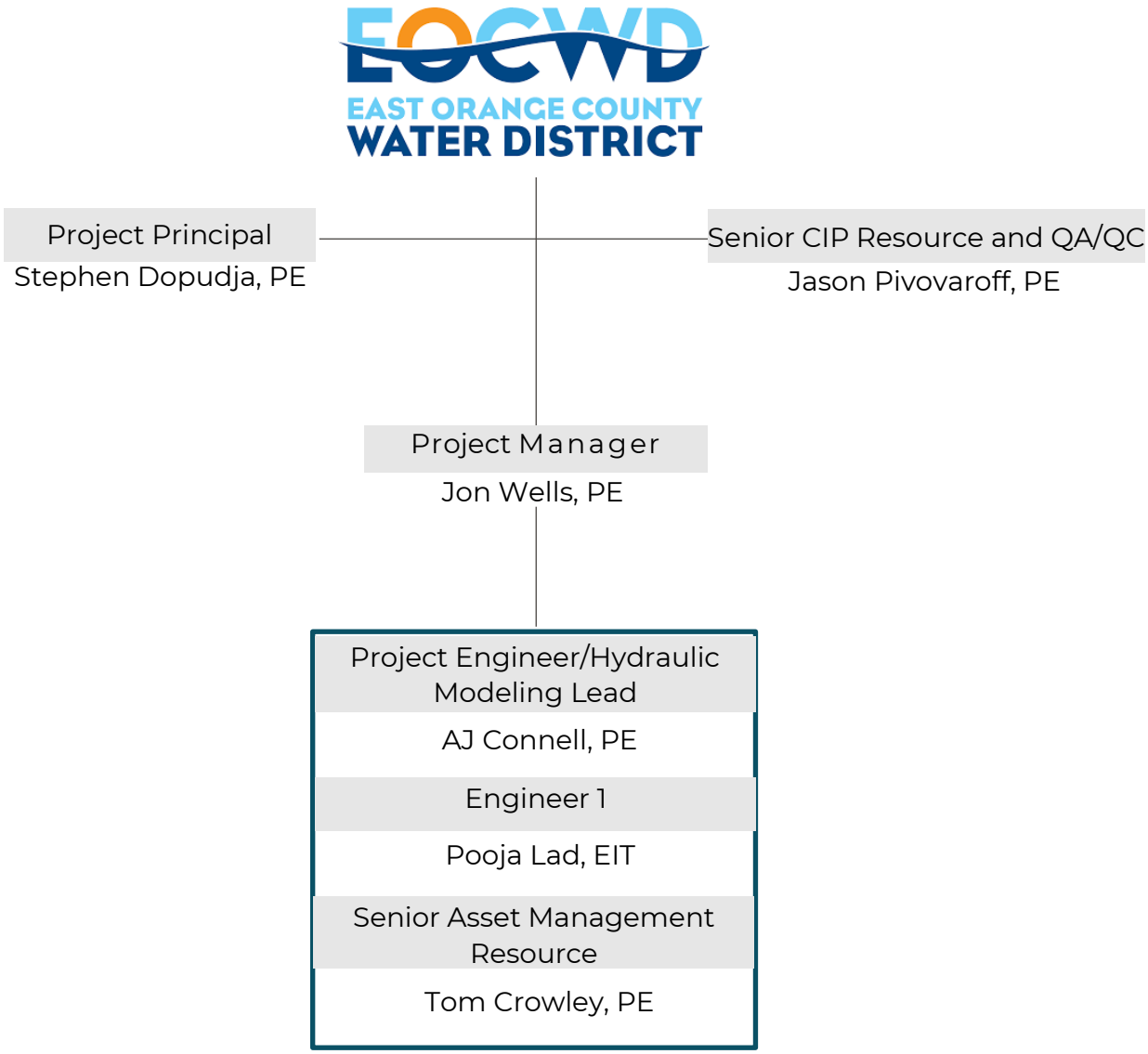
Dopudja & Wells Consulting was founded as a specialty consulting firm that provides our water, wastewater, and recycled water utility clientele with hydraulic modeling, planning, senior-level strategic advisory services, program management, project management, owner's representation, public-private partnerships, and staff augmentation services. Our staff have unparalleled expertise in utility management and in the ability to solve complex technical and political challenges, not found in many traditional consulting firms. We have considerable experience in the public sector and specialty consulting, making use of our staff's experience as elected directors to water/wastewater agencies. Due to our expertise in both the public utility and consulting fields, we have developed a proven approach to work in collaborative partnership with our clients to assist them in solving their complex issues.

Dopudja & Wells Consulting focuses on professionalism, honesty, integrity, and a commitment to always be forthright with our valued clients and their communities. With over 175 years of combined staff experience in utility management, master planning, and hydraulic modeling, we bring a unique water industry expertise to each of our valued clients and their projects.

Dopudja & Wells Consulting is headquartered in Orange County, CA but serves clients throughout California. We have eight employees focusing on strategic advisory, master planning, and hydraulic modeling services. We have partnered with 30 clients across California, completing over 50 projects as a firm. Our Principals have completed hundreds of projects across the state during their careers.

Project Team

The Dopudja & Wells team members who will actively work alongside EOCWD team are presented in the organization chart below. These team members have well over 100 years of experience providing planning services. Detailed resumes are provided in Appendix A. Summaries of experience and value provided to the EOCWD team are provided below the organizational chart.



The Dopudja & Wells Team has the experience to work as an extension of EOCWD Staff. The value of each team member in contributing to successful sewer master plan delivery for EOCWD is summarized below.

Jon Wells, P.E.

Project Manager

Jon's 24-year engineering career has been exclusively focused on comprehensive facility planning based upon hydraulic modeling. He has completed numerous water master plans, facility plans, and hydraulic analyses throughout Orange County and California. Jon builds collaborative planning teams and then executes projects that are technically robust but that also serve the strategic and regional interests of his clients. Jon will function as an extension of EOCWD staff during and beyond this master planning project.

RELEVANT PROJECTS

- City of Rialto Water and Wastewater Master Plans
- SKF CSD Collection System Master Plan
- IRWD LAWRP Bypass Evaluation
- EMWD Collection System Model Calibration Projects

Stephen Dopudja, P.E.

Project Principal

Stephen is a principal consulting civil engineer, with specialized experience in managing water resources projects. His capabilities range from the planning and computer modeling of water, wastewater and recycled water systems, serving as an Owner's Advisor, to the design and construction of water resource. Stephen serves as an elected official to a water, wastewater and recycled water agency and brings a big-picture vision that provides EOCWD with assurance that the WZ and RZ master plans will be strategically as well as technically sound.

RELEVANT PROJECTS

- City of Rialto Water and Wastewater Master Plans
- LAFCO Murrieta MSR
- LAFCO IID Evaluation

Jason Pivovaroff, P.E.

Senior CIP Resource and QA/QC

Jason is a Senior Consultant for Dopudja & Wells, offering a diverse background in planning, design and construction of water and wastewater facilities. Jason previously worked for Western Municipal Water District understands what a utility district requires in master planning documents and Capital Improvement Plans. Jason will oversee the CIP development for these master plans as well serve in the overall quality control position.

RELEVANT PROJECTS

- Confidential Client Alternatives Evaluation
- LAFCO IID Evaluation
- WMWD Murrieta Sewer Treatment Implementation Evaluation
- WMWD High Density Evaluation

AJ Connell, PE

Project Engineer and Hydraulic Modeling Lead

AJ Connell is a registered civil engineer-in-training who specializes in water, sewer, and storm system hydraulic modeling, with an emphasis in potable water modeling using InfoWater Pro, and has additional experience in water and sewer pipeline design, sewer lift station design, and wastewater treatment design. AJ has created, updated, and calibrated hydraulic models in many different modeling software including InfoSWMM, InfoSewer, InfoWater and InfoWater Pro. AJ is also proficient in the following software: ArcGIS, HEC-HMS, EPANET, AutoCAD, Civil 3D, Microsoft Project.

RELEVANT PROJECTS

- EMWD Collection System Model Calibration Projects
- WMWD High Density Evaluation

Pooja Lad, E.I.T.

Engineer 1

Pooja Lad serves as a Project Engineer for Dopudja & Wells Consulting. She has worked on an assortment of different projects ranging from energy infrastructure design, water and wastewater infrastructure design, and hydraulic modeling.She has worked on an assortment of different projects ranging from energy infrastructure design, water and wastewater infrastructure design, and hydraulic modeling. Regarding hydraulic modeling, Pooja has in many different modeling software including InfoSWMM, InfoSewer, InfoWater Pro, and Aquatwin Sewer.

RELEVANT PROJECTS

- EMWD Collection System Model Calibration Projects
- IRWD Collection System Model Conversion
- SKF CSD Collection System Master Plan Update

Tom Crowley, P.E.

Senior Asset Management Resource

Thomas Crowley serves as a Senior Consulting Engineer for Dopudja & Wells Consulting. Tom has served as Utilities Manager, General Manager, and Assistant General Manager for various utility agencies in Southern California. He as an extensive history of developing, executing, and refining utility asset management and capital improvement plans.

RELEVANT PROJECTS

- City of Rialto Water and Wastewater Master Plans
- Utility Asset Management (Various Utilities)

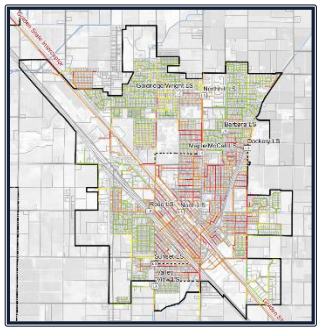
Firm Qualifications

City of West Sacramento – Sewer Master Plan Update

The objective of the project was to update the City's wastewater master plan and develop a new prioritized Capital Improvement Program. Dopudja & Wells was a subconsultant for Black & Veatch for this master plan update project, responsible for hydraulic modeling. The City's hydraulic model was built from scratch by Mr. Wells for the City's 2017 Master Plan.

For the 2023 Master Plan Update, flow monitoring was performed to update both the dry weather and wet weather calibration for the model. The updated model was then used to evaluate existing, near-term, and build-out conditions in the collection system. The updated calibration identified areas of high inflow and infiltration in the collection system. Projects to maintain gravity main and lift station capacity include both capacity enhancements as well as inflow and infiltration reduction projects.

CLIENT REFERENCE
Date Completed: 2024
Client Reference: Amber Wallace, PE
Senior Civil Engineer
amberwa@cityofwestsacramento.org
(916) 617-5327

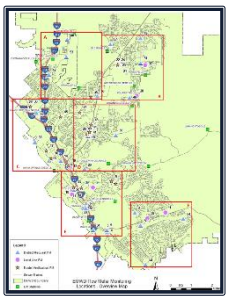


Selma Kingsburg Fowler County Sanitation District – Wastewater Collection System Master Plan Update

Dopudja & Wells is leading a team to perform a comprehensive wastewater collection system master plan for Selma Kingsburg Fowler County San. District. The objective of this project is a fully updated collection system master plan, including both hydraulic-based and condition-based prioritization of improvement projects.

The master plan update includes wet weather flow monitoring, update of the hydraulic model including dry weather and wet weather calibration, sensitivity analysis of wet weather impact reduction, lift station and gravity main condition assessment, and prioritized capital improvement projects for the collection system. Additionally, An SSMP Audit was performed for this project.

CLIENT REFERENCE
Date Completed: To Be Completed 2024
Client Reference: Veronica Cazares, PE
General Manager
vcazares@skfcsd.org
(559) 897-6500

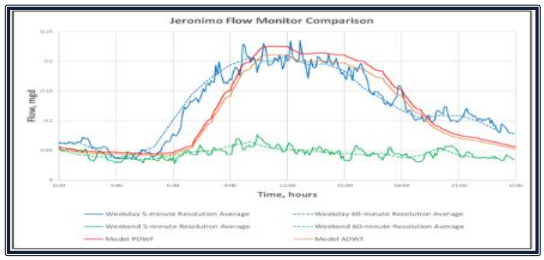


Eastern Municipal Water District - Temecula Valley Flow Monitoring and Model Calibration

The project objective was to create a fully updated and calibrated hydraulic model for the District's Temecula Valley Collection System. As a subconsultant to Black & Veatch, Dopudja & Wells was responsible for hydraulic modeling in a comprehensive flow monitoring study and hydraulic model calibration for one of EMWD's four major collection system basins.

Flow monitoring locations were selected at 55 sites to provide complete coverage of the collection system. Flow monitoring data was decomposed into base flow, groundwater infiltration, and daily peaking factors. Flow was assigned to individual parcels within the collection system to facilitate ADWF and PDWF development. Representative diurnal patterns were developed for all major land use categories. EMWD's hydraulic model was calibrated with the resulting data. The project outcome was a calibrated hydraulic model and detailed calibration report.

PROJECT INFORMATION
Date Completed: 2024
Project Cost: $82,500 (Dopudja & Wells portion)
Client Reference:
Demian Boettcher, PE
Principal Engineer
boettchd@emwd.org
(951) 928-3777



Irvine Ranch Water District – Various Collection System Projects

Dopudja & Wells has performed various collection system planning projects for the IRWD collection system over the past five years.

These projects include:

- LAWRP Bypass Evaluation
- Alton Sewer Capacity Evaluation
- InfoSWMM to AquaTwin Sewer Hydraulic Model Pilot Conversion
- AquaTwin Sewer Full Conversion

Dopudja & Wells has used flow monitoring data, completed local area calibrations, performed capacity evaluations, and evaluated alternatives analyses as part of the various projects.

PROJECT INFORMATION
Date Completed: Various
Project Cost: $95,000 Total
Reference:
Eric Akiyoshi, PE
Engineering Manager-Infrastructure Planning
akiyoshi@irwd.com
(949) 453-5552

Proposed Effort and Fee

Proposed Effort and Fee are provided under separate cover.

Proposed Schedule

A task level schedule is included on the next page of this proposal. The District provided a preferred schedule with the RFP, but Dopudja & Wells projects that that there will be difficulty meeting this schedule due to the need to capture wet weather flow data, which normally does not conclude in similar projects until April or May, accounting for data processing. Further, Dopudja & Wells is concerned about the ability to produce a viable flow monitoring plan prior to the wet weather season commencing, given probably kick-off in late November.

The included schedule represents Dopudja & Wells' best attempt to provide a reasonable schedule accounting for the above challenges. At project kick-off, we will work with the District to develop a schedule that meets the District's needs for budgeting.

East Orange County Water District
Collection System Master Plan Update
Updated 11/07/24

Project Schedule

Task		16-Dec-24	23-Dec-24	30-Dec-24	6-Jan-25	13-Jan-25	20-Jan-25	27-Jan-25	3-Feb-25	10-Feb-25	17-Feb-25	24-Feb-25	3-Mar-25	10-Mar-25	17-Mar-25	24-Mar-25	31-Mar-25	7-Apr-25	14-Apr-25	21-Apr-25	28-Apr-25	5-May-25	12-May-25	19-May-25	26-May-25	2-Jun-25	9-Jun-25	16-Jun-25	23-Jun-25	30-Jun-25	7-Jul-25	14-Jul-25	21-Jul-25	28-Jul-25	4-Aug-25	11-Aug-25	18-Aug-25	25-Aug-25	1-Sep-25	8-Sep-25	15-Sep-25	22-Sep-25	29-Sep-25	6-Oct-25	13-Oct-25	20-Oct-25	27-Oct-25	3-Nov-25	10-Nov-25	17-Nov-25
Task S-1	Request, Catalog, and Review Existing Documents and Data																																															
Task S-2	Create Development Timeline																																															
Task S-3	Develop and Implement Flow Monitoring Plan																																															
Task S-4	Develop Existing and Future Flow Projections																																															
Task S-5	Hydraulic Model Update and Calibration																																															
Task S-6	Existing and Future Capacity Evaluation																																															
Task S-7	Develop Collection System Rehabilitation and Replacement Plan																																															
Task S-8	Develop Risk-Prioritized CIP																																															
Task S-9	Produce Master Plan Reports and Supporting Deliverables																																															
Task S-10	Produce Updated Sewer System Management Plan																																															
Task S-11	Project Control																																															
Task S-12	**Optional** Orange County Sanitation District Direct Customer Connection Evaluation **Optional**																																															

Meeting/Collaboration
Consultant Work
Task Deliverable
Optional Consultant Work

Disclosures and Acknowledgements

Dopudja & Wells acknowledges receipt the RFP and Addendum #1. At the time of this submittal, Dopudja & Wells does not have any personal or organizational conflicts of interest prohibited by law.

Dopudja & Wells Consulting

Stephen Dopudja, P.E. –Project Principal

Jon Wells, P.E. – Project Manager