



RANCHO MURIETA COMMUNITY SERVICES DISTRICT

15160 Jackson Road, Rancho Murieta, CA 95683

Office - 916-354-3700 * Fax - 916-354-2082

IMPROVEMENTS COMMITTEE



(Directors Randy Jenco and Martin Pohl)

Regular Meeting

July 6, 2021 at 8:00 a.m.

This meeting will be held via ZOOM video conference only. You can join the conference by (1) logging on to <https://us02web.zoom.us/j/87884461662>, entering Meeting ID no. 878 8446 1662, and using the audio on your computer, or (2) dialing into 1-669-900-9128 and entering the meeting code 878 8446 1662. Those wishing to join with audio only can simply call the telephone number above and enter the code. Participants wishing to join the call anonymously have the option of dialing *67 from their phone. Please refer to your telephone service provider for specific instructions. ***PLEASE NOTE – MOBILE DEVICE USERS MAY NEED TO INSTALL AN APP PRIOR TO USE AND MAC AND PC DESKTOP AND LAPTOP USES WILL REQUIRE YOU TO RUN A ZOOM INSTALLER APPLICATION – PLEASE FOLLOW DIRECTIONS AS PROVIDED BY ZOOM. IT IS RECOMMENDED YOU ATTEMPT TO LOGIN AT LEAST 5 MINUTES BEFORE THE START OF THE MEETING.***

AGENDA

1. **Call to Order**
2. **Comments from the Public**
3. **Improvements Monthly Updates**
 -  District Projects
 -  Development
4. **Discuss Activities Related to East and West Dissolved Air Floatation (DAF) System**
5. **Discuss Boil Water Emergency Incident**
6. **Discuss SB129 - \$1.3 Million State Allocation for CIP Projects**
7. **Discus Recent Notification for Chlorine Shortages**
8. **Update on Director of Operations Vacancy**
9. **Discuss Residences East and West with Developers Bob Keil and John Sullivan**
10. **Director and Staff Comments/Suggestions [no action]**
11. **Adjournment**



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Note: This agenda is posted pursuant to the provisions of the Government Code commencing at Section 54950. The date of this posting is July 2, 2021. Posting locations are: 1) District Office; 2) Post Office; 3) Rancho Murieta Association; 4) Murieta Village Association.

MEMORANDUM

Date: July 1, 2021
To: Improvements Committee
From: Ron Greenfield, Director of Field Operations (A)
Subject: Monthly Development Project & other Updates

General Update

Emergency Fire Hydrant Break and Disruption of Water Delivery from Water Plant

On 6/24/2021 at about 1:00 am, the Operator on Call was called by the water treatment plant Water Supervisory Control and Data Acquisition (SCADA) reporting high chlorine level. When the Operator arrived both plants had shut down due to low chlorine. After arriving it was found there was no processed water running to the chlorine feed system. It was also observed that both tanks were starting to drain. The operator found that no water was running through the process line at the back-flow device. He then called the acting Director of Operations, who is familiar with back-flow devices and one other operator to help with the problem.

The back-flow was found to have water to the first check valve but not going past it. It was determined at that time that the check valve was stuck closed. A new check valve was purchased, the results were the same. With plenty of water running out of the #1 and #2 test cock. A pressure gauge was placed on the #2 test cock and there was only about 10 PSI of water pressure and not enough to open the #1 check valve. At that time, we had decided to start checking the water mains going to Van Vleck tank for a ruptured line.

The following is a timeline of the events that occurred after the check valve had been replaced:

June 24, 2021

- 7:43 Code Red sent to residents that water is off and should return by 11:30 a.m.
- 8:20 a.m. - a resident came by the plant to tell us a fire hydrant by Lake Clementia was broken off and water was running out. After arriving at the fire hydrant, we found it had been broken off below the check valve.
- 8:30 a.m. - the pumps at Rio Oso tank shut of causing the pressure zone to lose water pressure.
- 9:30 a.m. - the valve to the fire hydrant was located and shut off.
- 10:11 a.m. - Code Red Alert sent out to not use water.
- 10:30 a.m. - Plant one up and running to waste until water quality was met.
- 11:15 a.m. - Plant one was put online to send water to Rio Oso tank.
- 11:30 a.m. - Plant two was started up and ran to waste until water quality was met.
- 12:14 p.m. - Code Red Alert sent out for boil water notice.
- 12:30 p.m. - Plant one was put online and ran to Rio Oso tank.
- 1:12 p.m. – Code Red Alert resent for boiling water and added address affected.
- 2:00 p.m. - Rio Oso tank was at 15 Ft and pumps that pressurize the pressure zone were turned on and the pressure zone was starting to be flushed.
- 2:05 p.m. - Water was being sent to Van Vleck tank to start filling.
- 4:00 p.m. - Water distribution water quality samples were starting to be taken.
- 5:30 p.m. - All water distribution samples were completed.

June 25, 2021

- 9:00 a.m. - another set of water quality samples was taken.

June 26, 2021

- All samples were completed by the lab and results sent to Ali R. Rezvani, P.E.
- Sacramento District Engineer Division of Drinking Water State Water Resources Control Board
- Late afternoon the boil water notice was lifted by Ali R. Rezvani, P.E. Sacramento District Engineer Division of Drinking Water State Water Resources Control Board
- Code Red Alert was sent out to cancel the boil water notice

Cost to the District

- Parts for back-flow device \$743.65
- Utilities and Operations man hours 117.7 – total man hours not yet finalized due to ongoing maintenance and operations
- Administration man hours 60 – total man hours not yet finalized as ongoing customers concerns
- 4,814,098 gallons of water lost
- Fire hydrants and parts replacement



Sodium Hypochlorite Conversion Project

Outstanding work to be done includes TESCO wiring all the new control and monitoring telemetry into the Wastewater control PLC #2 and integrating these telemetry items into the existing Rockwell SCADA system.

- Daryl with Domenichelli and Associates (District Engineer) will be here the first full week of July for a site visit to review the Sodium hypochlorite delivery system and give us an outline of findings. This is to determine if the system needs any changes before putting it online.
- 7/19/2021 Olin Corporation (Sodium hypochlorite supplier) will be onsite to inspect and discuss delivery of Sodium hypochlorite.
- 7/21/2021 TESCO will be here to complete their work. It will take two to three days.

East & West Dissolved Air Floatation (DAF) Operations

East DAF has been up and running water to Bass Lake. West DAF has one new pump ready to be installed. This will require new plumbing as the old pumps were out of date and not available, piping and fittings have been ordered and should be in and installed with west DAF planned to be up and running by July 16, 2021

East & West Dissolved Air Flootation (DAF) Painting project

Project completed

Fire Hydrant Replacement Project (CRP 20-06-1)

Project completed

Development Projects

The Retreats East & North

No update from last month status is still the same. The project reports that K-Hovnanian is still in due-diligence period. They have requested that Coastland sign off on plans that had expired and have now been resubmitted. District staff has requested past due and additional deposit funding before being able to continue work.

Rancho Murieta North – Development Project

The project provided deposit funds to allow continued review of the project's water and sewer plans. Drainage plans had already been through a first review with comments and plan mark-ups provided back to the project.

MG - Murieta Marketplace

No update.

MG – Legacy Villas & Suites (lot 7)

On June 16, 2021 there was a preconstruction meeting.

Work started on this project June 21, 2021 with the installation of the waste water collection system. After wastewater collection system is installed they will move on to the storm water collection system. This is scheduled to start on July 1, 2021. With the storm water collection system there have been some elevation conflicts and plans had to go back to engineer for changes these are being worked on at this time.

Finally will be the installing of the potable water system for this project after several conflicts resolved with water line running under storm drain line and sewer line and connecting to the existing water distribution system.



The Murieta Gardens I & II – Infrastructure

No update.

MG - Murieta Marketplace

No update. The drainage basin which is a part of this project remains active as a stormwater best management practice for the development site keeping it active.

MG – Lot 9 (Taco Bell)

No update.

MG -Lot 10 (PDF Office)

No update.

MG – Lot 11 (Circle K Convenience/Carwash/Subway)

No update.

Other Development Projects:

Riverview

Coastland is continuing its review of Riverview’s three phased plan packages, including Water, Sewer and storm Drain studies. Below is the status of all three packages that are being processed. Coastland understands that Phase 2 submittal is being prepared, but it has not been submitted for review.

- Phase 1A: Coastland/CSD returned comment letter and redlines to Developer on February 3.
- Phase 1B: Coastland/CSD returned comment letter and redlines to Developer on December 21, 2020.
- Grading: Coastland/CSD returned additional comments via letter and redlines to Developer on April 14, 2021.

Murieta Business Park

No update.

The Retreats East and North

No update. Continued review is pending the project submitting deposit funding. Last update: The project had submitted improvement plans on February 19, 2021 requesting that they be re-approved and signed off by Coastland Engineering, along with Sac Metro Fire Department and Sacramento County. Coastland responded that the previous review has expired, signature date of June 9, 2017, and needs to be reviewed.

Planned Projects:

The Residences East

Tom Hennig and Joe Dominichelli our District Engineer, met with Bob Keil to discuss this project. Mr. Keil is interested in moving forward with the original plans for this project. Mr. Keil plans to submit a developer application packet and deposit.

Conditions for both East & West projects can be viewed:

<http://www2.agendanet.saccounty.net/BoardOfSupervisors/Meetings/ViewMeeting?id=3572&doctype=1>

MEMORANDUM

Date: June 29, 2021
To: Finance Committee
From: Paula O'Keefe, Director of Administration
Subject: Discussion of SB129 and Funding Opportunity

RECOMMENDED ACTION

Discussion item only.

BACKGROUND

On April 27th, at the request of Assemblymember Kenneth Cooley, former Director of Field Operations submitted a request for funding in the amount of \$1,273,700 to fund three CIPs:

- Water Treatment Plant Chlorine Gas to Bleach Conversion, in the amount of \$352,940
- Granlees Diversion Intake Site Restrictions, in the amount of \$170,760
- Tertiary Reclamation Plan-Permanent Chlorine Contact Chamber, in the amount of \$750,000

On June 30, District staff received a call from Assemblymember Cooley informing us of an award in the amount of \$1.3 million to complete these projects.

Special Districts are typically left out of special state and federal funding opportunities for various reasons and we were very fortunate to have Assemblymember Cooley think of us and our needs when asked to provide projects for this special round of funding. Very few Special Districts were awarded funding for projects in the California FY 2021-22 budget and we are very grateful for the Assemblyman for his efforts in securing the funds for our projects.

SUMMARY

Staff will bring both a recognition to Assemblymember Cooley at the July Board meeting and a report to accept the funds from the State in the amount of \$1,300,000.

**PROJECT TITLE: WATER TREATMENT PLANT CHLORINE GAS TO BLEACH
CONVERSION - IMPROVEMENT FUND**



Ton cylinders of chlorine gas

CAPITAL PLAN	Water Improvement Reserves
CIP #	21-02-1
PROJECT BASIS:	System Conversion to bleach for water disinfection
DESCRIPTION:	Eliminate the use of chlorine gas at the Water Plant for potable water disinfection by converting to using industrial strength sodium hypochlorite (bleach).
REGULATORY ISSUES:	Safer product for staff; Substantially less regulatory oversight and required staff training; Mitigates risk to community from transport, storage and use of chlorine gas. Filing of a Management of Change with Sacramento County Environmental Management Department will be required.
RISK ASSESSMENT:	Provides a safer alternative for the neighboring community vs the potential of a catastrophic chlorine gas leak and chlorine gas deliveries through community and neighboring roadways.
PROJECT BUDGET:	\$352,940 (2017 figure)
BASIS OF COST EST:	Cost estimates are from the 2017 Coastland Capital Improvement fee study, based on removal of gas feed system, procurement and installation of chemical feed skids for bleach injection; engineering for design, plans, bid packet, submittal review and as-builts; contractor procurement and placement of tanks, building tank pads, and installing piping and feed equipment appurtenances. https://www.ranchomurietacsd.com/files/c82d2d87d/agenda+11+c+Ord+2017-02+Fee+Study+Report+%28Final+110817%29.pdf

PROJECT TITLE: GRANLEES DIVERSION INTAKE SITE RESTRICTIONS

CAPITAL PLAN Water – Replacement Reserves
CRP # 21-07-1
PROJECT BASIS: Protect our source water intake and facilities, as well as restrict access for safety concerns.

ENVIRONMENTAL OR REGULATORY ISSUES: None

RISK ASSESSMENT: Medium

PROJECT BUDGET: \$170,760 estimated

BASIS OF COST EST: HDR Study. See tables of project items and costs in following tables.

AREA	ELEMENT	RECOMMENDED PLAN
Fencing and General Access: Dam, Forebay & Fish Ladder	North Shore	Install 6' tall chain link fencing with 3-strand barbed wire topper.
	North Shore	Install double-swing vehicular access gate.
	North Shore	Install "Danger/No Trespassing" Signs
	South Shore	Install 6' tall chain link fencing with 3-strand barbed wire topper.
	South Shore	Install "Danger/No Trespassing" Signs
Fencing and General Access: Canal & Canal Crossings	Signage	Install "Danger/No Trespassing" Signs
	Fencing	Install 6' tall chain link fencing with 3-strand barbed wire topper.
Forebay	Guardrail	Install 42" tall metal pipe guardrail.
	Guardrail Gate	Install 42" tall metal pipe guardrail gate with spring-mounted hinge.
	Grating / Cover	Install new grating over existing steel beams.
	Access Hatch	Install hatch in forebay cover for ladder access to forebay interior.
	Access Ladder	Install one ladder inside forebay and one from forebay wall down to dam crest and north shore fish ladder.
	Safety Rack	Install safety rack upstream of two 3'x3' intake openings.

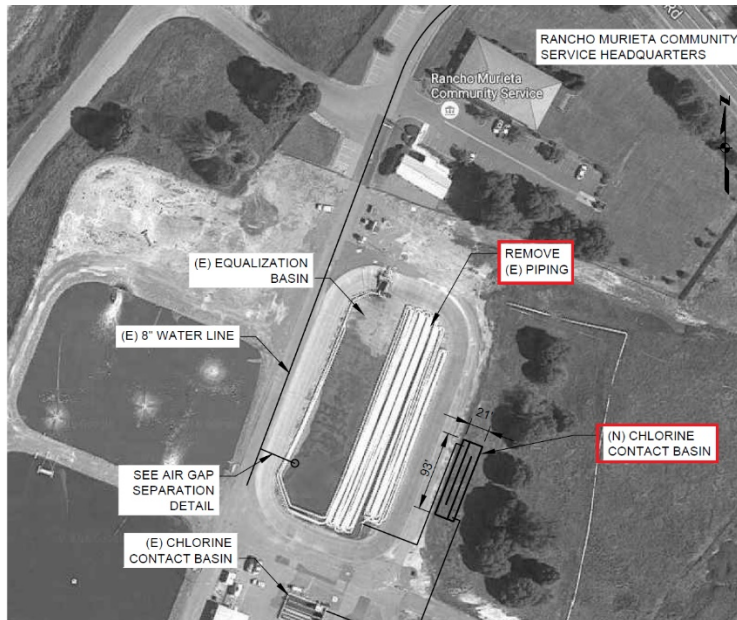
AREA	ELEMENT	RECOMMENDED PLAN
	Sluice Gate	Install two 3'x3' sluice gates to act as bulkhead on forebay intakes for forebay maintenance.
Fish Ladder on South Shore	Guardrail	Install 42" tall metal pipe guardrail.
Upstream Canal Crossing	Replace Crossing	Install new concrete canal crossing.
Downstream Large Canal Crossing	Replace Crossing	Install new timber crossing and underlying FRP aqueduct.
Downstream Small Canal Crossing	Replace Crossing	Install new concrete canal crossing.

Estimated costs based on conceptual level analysis for the recommended alternatives, broken into project element, are presented below:

Table ES-2 - Conceptual Level Cost Estimate

Project Element	Conceptual Level Cost
Mobilization, Demolition & Earthwork	\$32,600
Fencing and General Access: Dam, Forebay & Fish Ladder	\$14,000
Fencing and General Access: Canal & Canal Crossings	\$19,700
Forebay	\$52,800
Fish Ladder on South Shore	\$6,800
Upstream Canal Crossing	\$1,100
Large Downstream Canal Crossing	\$14,800
Small Downstream Canal Crossing	\$500
Contingencies (20%)	\$28,460
Estimated Project Total	\$170,760

PROJECT TITLE: TERTIARY RECLAMATION PLANT-PERMANANET CHLORINE CONTACT CHAMBER



CAPITAL PLAN

SEWER – Replacement Reserves

CRP #

22-04-2

PROJECT BASIS:

Current chlorine contact system utilizes 20 inch schedule 40 PVC pipe which was a interim solution to meet modal chlorine contact requirements for disinfection of tertiary treated water in 2005.

DESCRIPTION:

Tertiary treatment and disinfection consists of two dissolved air floatation units, two rapid sand filters, a chlorine gas feed system, the original chlorine contact basin, and 6,600 linear feet of chlorine contact pipe installed in a concrete lined equalization basin. The design capacity of the tertiary treatment plant is 3.0 MGD, however the disinfection system (i.e., modal contact time) currently has a rated capacity of only 2.3 MGD. After going through tertiary and disinfection facilities, the final effluent is stored in the equalization basin prior to reuse. This project would be to remove the pvc piping system and replace it with a permanent concrete chlorine contact basin, as step towards allowing for maximum production flow.

ENVIRONMENTAL OR REGULATORY ISSUES:

N/A

RISK ASSESSMENT:

N/A

PROJECT BUDGET:

\$750,000 estimated

BASIS OF COST EST:

Engineer’s estimate from Preliminary Design Report developed by Aecom, adjusted annually.

Background information:

A. Disinfection Facilities Upgrade	
Existing Contact Basin Modal Contact Time	27 minutes at 3.0 MGD ¹
Required Modal Contact Time	90 minutes (minimum)
Additional Modal Contact Time Required	63 minute (minimum)
New Contact Basin Efficiency (Assumed Baffling Factor)	90%
Required Contact Basin Volume	145,835 gal, minimum; 146,610 gal actual
Length to Width to Depth Ratios	Target 40:1:1.5; Actual 40:1:1.4
Length (without walls)	280 ft total (3 passes, each at 93.33 ft long)
Width (without walls)	21 ft total (3 passes, each at 7 ft wide)
Depth (without walls)	10 ft

OPINION OF PROBABLE CONSTRUCTION COST

KENNEDY/JENKS CONSULTANTS

Project: Rancho Murneta

Prepared By: JLH

Building Area: Disinfection Facilities Upgrade

Date Prepared: 167001100

Estimate Type: Conceptual
 Preliminary (w/o plans)
 Design Development @ Construction
 Change Order
 % Complete

Current at ENR _____
 Escalated to ENR _____
 Months to Midpoint of Construct _____

Spec. No.	Item No.	Description	Qty	Units	Materials		Installation		Sub-contractor		Total
					\$/Unit	Total	\$/Unit	Total	\$/Unit	Total	
		Demo Existing 20" CCP	6,600	LF			8.00	52,800			52,800
		Demo Concrete Anchors for CCP	207	CY			150.00	30,979			30,979
		New Chlorine Contact Tank									
		Excavation	1,441	CY			10.00	14,406			14,406
		Shoring	2,440	VSF	10.00	24,400	12.00	29,280			53,680
		Base Slab	92	CY	250.00	23,111	200.00	18,489			41,600
		Tank Exterior Walls	136	CY	300.00	40,687	400.00	54,222			94,909
		Tank Center Walls	71	CY	300.00	21,333	400.00	28,444			49,777
		Backfill	516	CY			5.00	2,581			2,581
		Chlorine Injection Systems									
		Misc. Sitework	1				40,000.00	40,000			40,000
		Subtotals				109,511		271,201			380,713
		Division 1 Costs	@	10%		10,951		27,120			38,071
		Subtotals				120,462		298,322			418,784
		Taxes - Materials Costs	@	8.75%		10,540					10,540
		Subtotals				131,003		298,322			429,324
		Taxes - Labor Costs	@	5.00%				14,916			14,916
		Subtotals				131,003		313,238			444,240
		Contractor Markup for Sub	@	12%							
		Subtotals				131,003		313,238			444,240
		Contractor OH&P	@	15%				46,986			66,636
		Subtotals				150,653		360,223			510,876
		Estimate Contingency	@	30%							153,263
		Subtotals									664,139
		Escalate to Midpoint of Construct	@	3%							664,139
		Estimated Bid Cost									665,000
		Total Estimate									665,000

Estimate Accuracy
 +50% -30%

Currently, the disinfection facilities have a rated capacity of 2.3 MGD and consist of an existing chlorine contact basin (CCB) and chlorine contact pipe (CCP). The CCP will be removed and an additional chlorine contact chamber will be added to increase disinfection facilities capacity from 2.3 to 3.0 MGD. The proposed chlorine contact chamber is shown in Figure 13.

As described in *WWRP Modified Chlorine Contact Disinfection System Compliance Report* (HSe, July 2006), the CCB was tested in 2003 for actual modal contact time at a flow of 1 and 3 MGD. The estimated modal contact time through the CCB at 3 MGD is 27 minutes. In accordance with Title 22, *disinfected tertiary recycled water* requires a minimum 90 minute modal contact time, therefore the proposed chlorine contact chamber is to have minimum modal contact time of 63 minutes.

A new concrete chlorine contact chamber is proposed to be installed next to the existing equalization basin at the WWRP to increase disinfection capacity. A 90 percent efficiency (e.g., baffling factor) was assumed for sizing of the new contact chamber. The new chlorine contact chamber will provide approximately 146,610 gallons for additional disinfection contact time and will consist of three passes following a serpentine configuration. The proposed

chamber dimensions are 280 ft long, 7 ft wide and 10 ft deep,¹ which equate to a length to width to depth ratio of 40:1:1.4, which is close to the target length to width to depth ratio of 40:1:1.5.

The water surface elevation of the new chlorine contact chamber will approximately match the elevation of the existing chlorine contact basin. The water surface elevation immediately downstream of the new chlorine contact chamber will approximately match the elevation of the existing equalization basin.

This improvement also includes the removal and disposal of the existing 20-inch CCP located inside the equalization basin.

Replacement of the third Tertiary Pump Station feed pump to the dissolved air flotation (DAF) units (\$100,000 allocation indicated in Table 11) is also required to increase WWRP production capacity from 2.3 to 3.0 MGD.

¹ Dimensions do not include thickness of contact chamber walls.