

PURE WATER MONTEREY GROUNDWATER REPLENISHMENT PROJECT

JOINT PUBLIC HEARING HOSTED BY:



IN ASSOCIATION WITH:



**AUGUST 22, 2016 2:00 – 3:30 PM
MRWPCA ADMINISTRATIVE OFFICE
5 HARRIS COURT, BLDG. D, MONTEREY, CA 93940**



PRESENTATION OVERVIEW

- Purpose/Focus of Hearing and Ground Rules
- Regulations and permitting, by California Division of Drinking Water
- Pure Water Monterey Project Overview
- Summary
- How to submit comments on Engineering Report
- Questions/Comments



HEARING GROUND RULES

- Silence phones
- Hold comments /questions until after presentation
- During public comment, please:
 - State your name for the record
 - Limit oral comments to 3 minutes per speaker
 - Comment only on Engineering Report for Title 22
- All written comments due by Sept. 1, 2016



TITLE 22 ENGINEERING REPORT



Revised Draft Engineering Report

Volume I: Engineering Report

Pure Water Monterey Groundwater Replenishment Project

May 25, 2016

- Draft ER approved by DDW
- Final ER approval issued after considering public comments received through September 1st
- Available for public review:
 - www.purewatermonterey.org
 - MRWPCA office
- Demonstrates compliance with:
 - GWR Regulations
 - RWQCB's Basin Plan
 - SWRCB's Recycled Water Policy



PURPOSE FOR PUBLIC HEARING

- Requirement of Title 22 (CA Drinking Water Act)
- Provide information to the public on the Engineering Report
- Provide opportunity for public comment to DDW prior to their decision on adequacy of Engineering Report for project permit
- Provides additional public outreach



PUBLIC OUTREACH

- Project Outreach
 - Demonstration Plant Tours (ongoing)
 - Professional Conference and Community Group Presentations (ongoing)
 - CEQA Process including numerous publicly noticed commenting opportunities
- Hearing Outreach
 - Earned Media, Direct Mailings, Email to 2900 persons
 - Pure Water Monterey Website, Social Media, Print Ads
 - Direct mailing to all well owners and agents



GRRP REGULATIONS & PERMITTING

- GRRP = Groundwater Replenishment Reuse Project
- California Code of Regulations Title 22, Div. 4, Ch. 3 Water Recycling Criteria
 - Article 5.1 (§§ 60320.100 – 60320.130) Surface Application
 - Article 5.2 (§§ 60320.200 – 60320.230) Subsurface Application
- Permitted through Regional Water Quality Control Board (RWQCB) order after consulting with and receiving recommendations from DDW for protection of public health
- GRRP criteria in place since June 2014, but projects have been approved on a case-by-case basis for over 40 yrs



GOAL OF GRRP REGULATIONS

Source of water supply that is “pure, wholesome, potable, and does not endanger health of consumers” (H&SC 116540)

- As safe as the high quality conventional drinking water sources
- Unregulated chemicals of concerns kept below levels found in the high quality conventional sources
- Low tolerable risk (Surface Water Treatment Rule)
 - 1/10,000 annual risk from pathogenic microorganisms
 - Appropriate monitoring
 - Multiple barriers for contaminants



COMPONENTS OF GRRP REGULATIONS

- Pathogenic Microorganism Control
- Advance Treatment Criteria
- Unregulated Chemicals Control
- Nitrogen Control
- Regulated Compounds
- Monitoring Program
- Response Retention Time
- Monitoring Wells
- Zone of Controlled Drinking Water Well Construction



TITLE 22 GRRP PERMITTING PROCESS

- Project sponsor (MRWPCA) submits proposal to SWRCB DDW
 - Concept Approval Letter (2014)
 - Draft Title 22 Engineering Report (2016)
- MRWPCA conduct public hearing
- MRWPCA will provide summary of public comments, may update and finalize draft Report for DDW consideration



TITLE 22 GRRP PERMITTING PROCESS (CONT'D)

- DDW accepts Report and provide recommendations to RWQCB
- RWQCB prepares draft order and adopts order at board hearing
- Prior to operation, MRWPCA submits an Operations & Optimization Plan to DDW for review and approval
- MRWPCA may operate the GRRP



OVERVIEW OF PURE WATER MONTEREY PROJECT



WATER TO USERS

- SUPPLY PIPELINE
- PROPOSED NEW TREATMENT AND INJECTION FACILITIES
- MUNICIPAL USERS
- AGRICULTURAL USERS

Monterey Bay

MOSS LANDING



CASTROVILLE

Agricultural

Irrigation

Existing

RTP

Advanced
Water
Purification
Facility

New

Groundwater
Recharge
Area

PACIFIC GROVE

SAND CITY

MONTEREY

SEASIDE

DEL REY OAKS

Domestic
Drinking
Water

CARMEL

CARMEL VALLEY

Salinas River



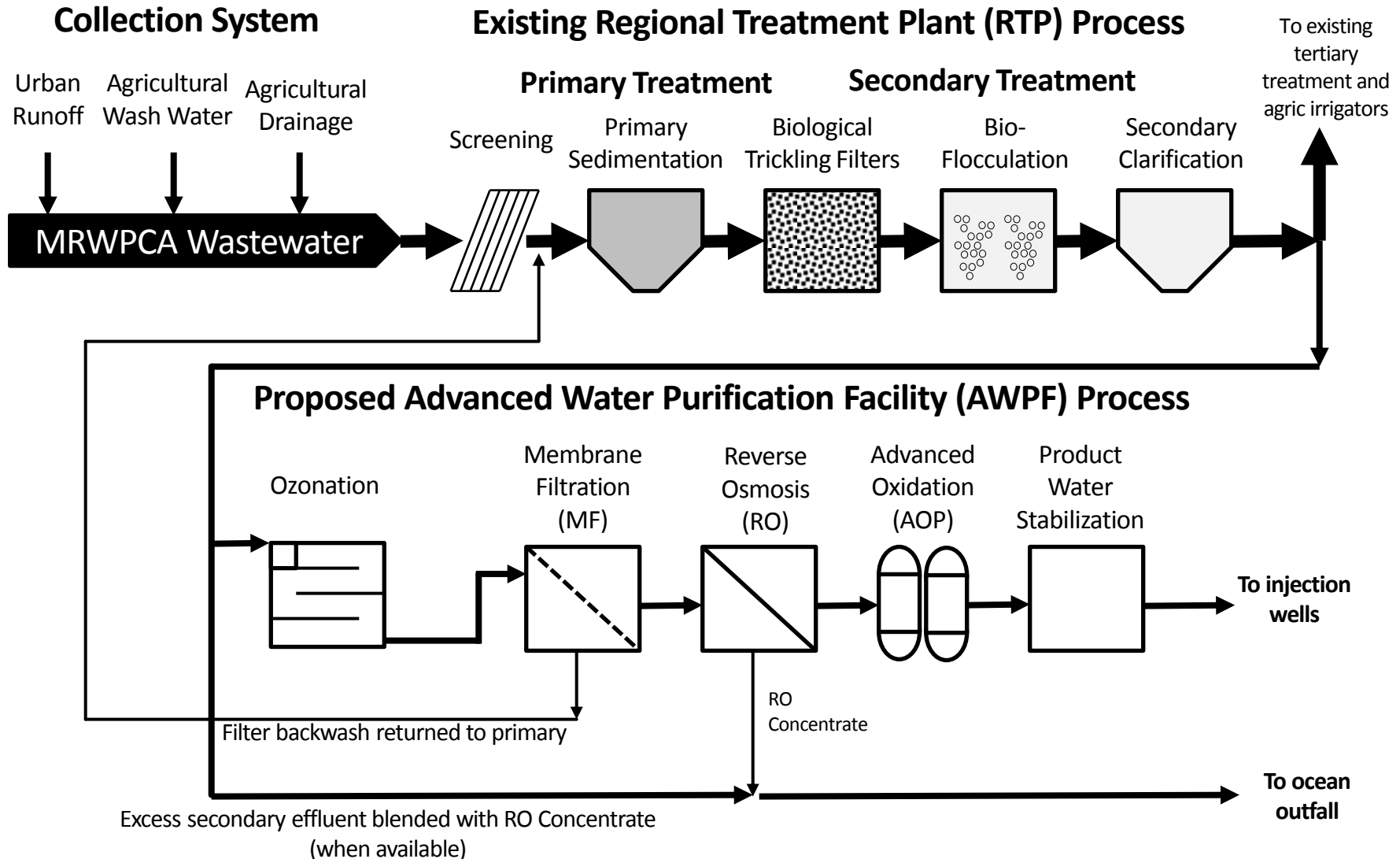
Pure Water Monterey
A Groundwater Replenishment Program

PURE WATER MONTEREY

- **Source Water** – municipal wastewater plus new water sources conveyed to MRWPCA RTP for treatment
- **“Full Advanced” Treatment** – to produce 3,500 acre-feet per year of purified recycled water in accordance with California Water Recycling Criteria regulations
- **Storage of Purified Recycled Water in Seaside Basin** – by subsurface application for subsequent extraction and delivery through the California American system; offsets existing use of Carmel River water on a 1:1 basis



PURE WATER MONTEREY PROCESS FLOW



PURPOSE OF ADVANCED WATER PURIFICATION PROCESSES

Process	Pathogen removal	Organics removal	Salt removal	Additional purpose
Ozone	✓	✓		Membrane filtration pretreatment
Membrane filtration	✓			Reverse osmosis pretreatment
Reverse Osmosis	✓	✓	✓	California Division of Drinking Water requirement
Advanced oxidation with UV light	✓	✓		California Division of Drinking Water requirement
Product water stabilization				Stability/corrosivity



EXTENSIVE SOURCE WATER QUALITY SAMPLING AND PILOT TESTING



**More than 450 constituents sampled monthly or quarterly
over the course of 12 months**

EXTENSIVE SOURCE WATER QUALITY SAMPLING AND PILOT TESTING

- **Source water quality testing: July 2013 – June 2014**
 - Storm water
 - Agricultural tile drain and wash water
 - Regional Treatment Plant final effluent
- **Pilot testing: Oct. 2013 – July 2014**
 - With treatment by ozonation, membrane filtration and reverse osmosis
- **Aquifer water quality testing**
 - Basin monitored over the past 25 years and is ongoing
 - Over 275 constituents and parameters analyzed through MRWPCA field program

**More than 450 constituents sampled monthly or quarterly
over the course of 12 months**

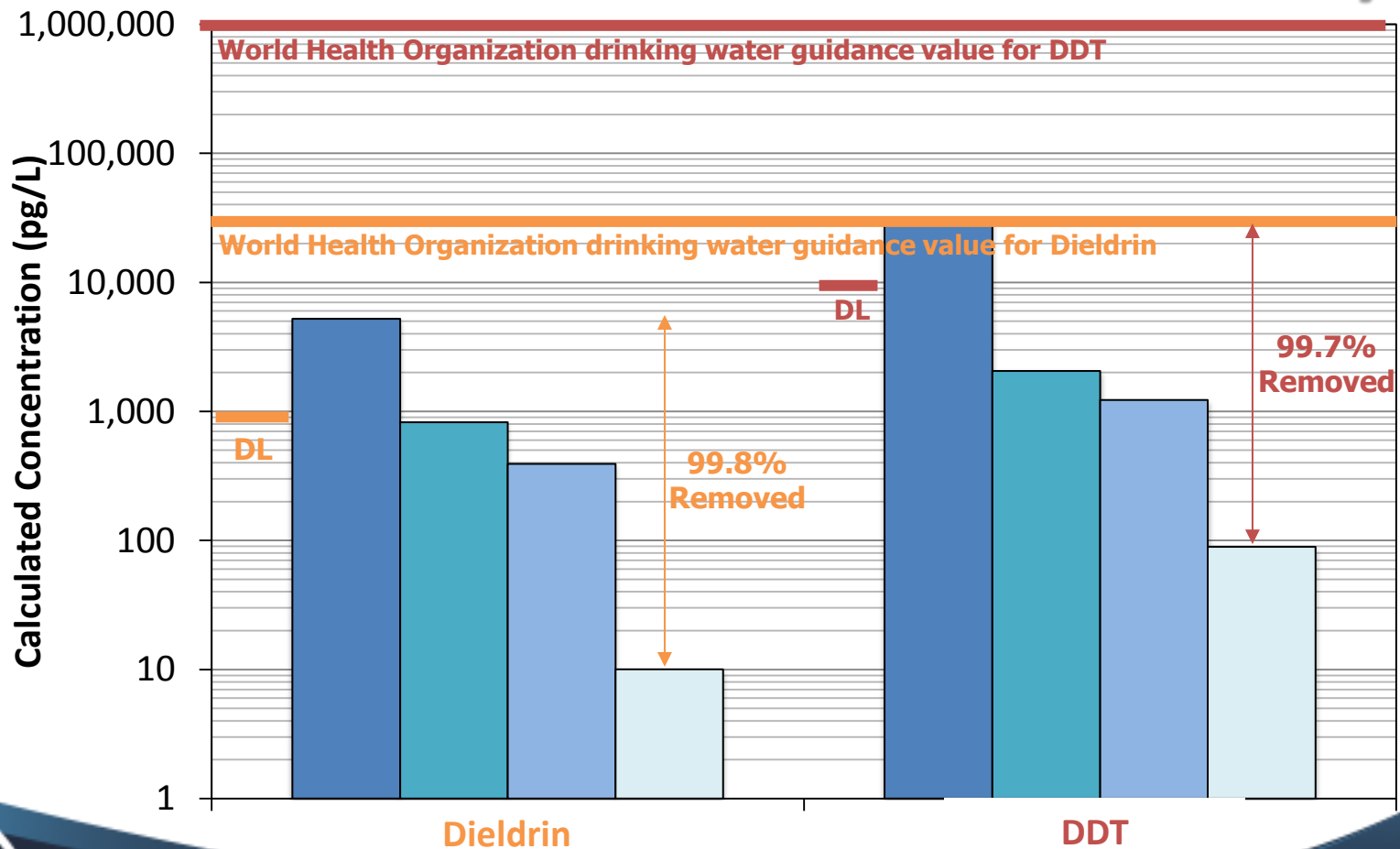
FINISHED WATER QUALITY

Pilot study results show
compliance with all Federal and
State drinking water standards



PESTICIDE REMOVAL

THROUGH TREATMENT *PRIOR* TO RO & UV/AOP



■ Primary influent ■ Secondary effluent ■ Ozone effluent (bench test) ■ MF effluent (bench test)



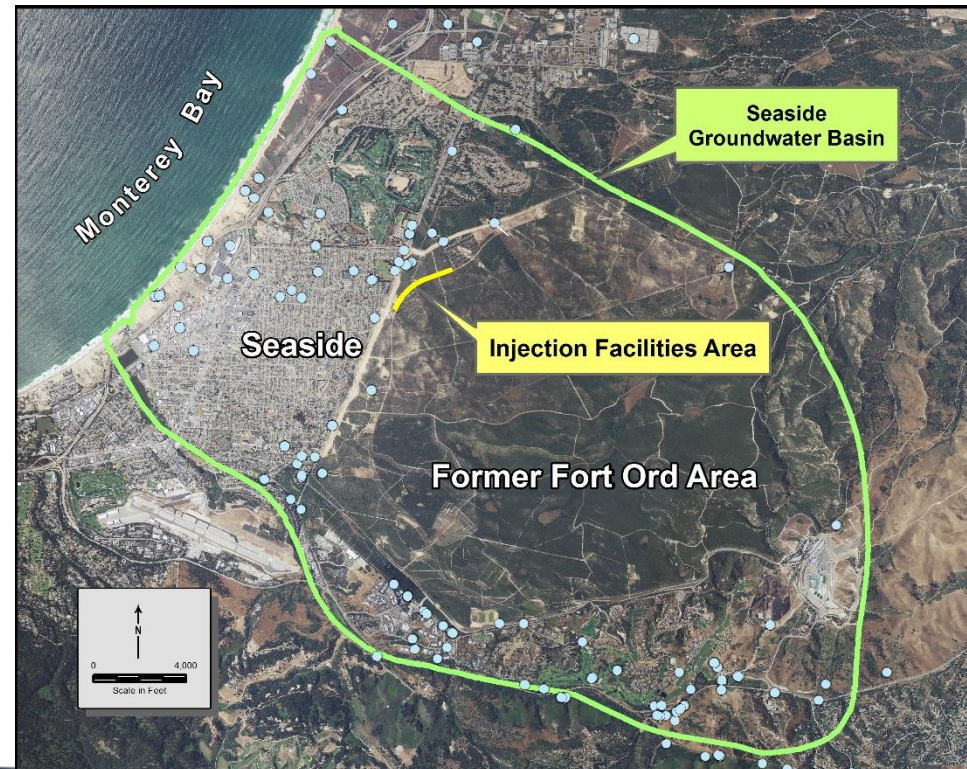
CHEMICALS OF EMERGING CONCERN (CEC) REMOVAL THROUGH TREATMENT

- Ozone and RO removed CECs to levels below their detection limits, or below any limits linked to health concerns.
- Additional removal through the UV/AOP system



INJECTION FACILITIES AREA

- Water levels have declined in the Seaside Groundwater Basin due to over-pumping
- Pure Water Monterey replenishes the aquifers—almost doubling the basin yield



INJECTION FACILITIES AREA

- Up to 4 Deep Injection Wells in the Santa Margarita Aquifer
- Up to 4 Vadoses Zone Wells (shallow) in the Paso Robles Aquifer
- Average injection of 3,500 AFY



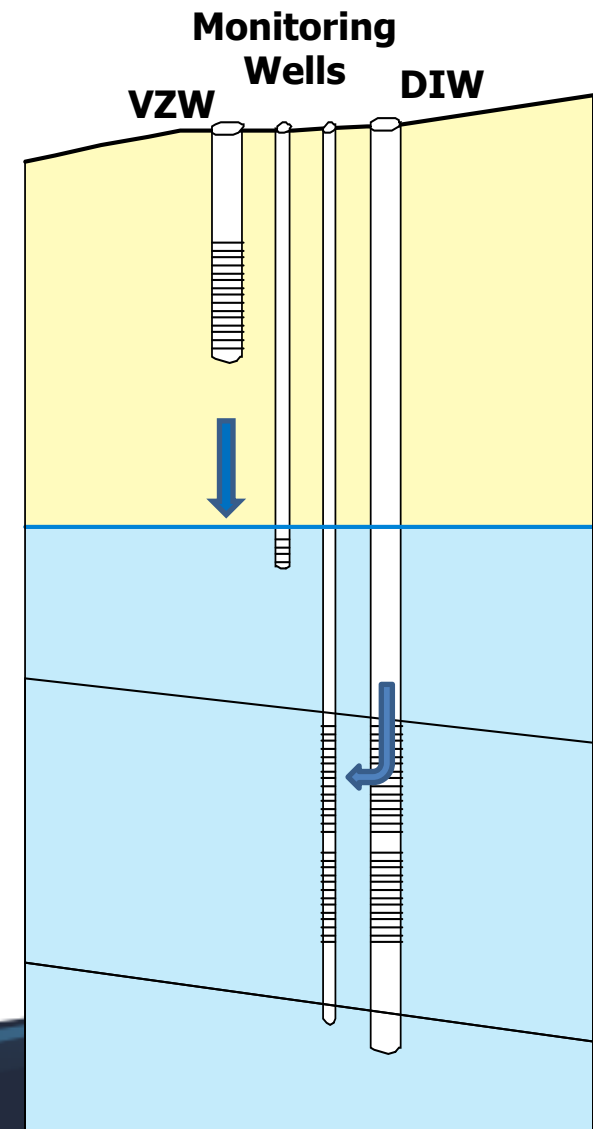
GROUNDWATER QUALITY FIELD PROGRAM

- Drilled 400 feet of whole core for mineralogical, hydraulic, and geochemical testing
- Conducted leaching tests in laboratory with stabilized pilot water and core samples
- Geochemical modeling demonstrated no adverse groundwater quality impacts



GROUNDWATER MONITORING

- Monitoring well clusters confirm water quality at injection well
- Additional monitoring wells track water quality between injection and water supply wells
- Monitoring wells used for baseline data, tracer testing, and routine monitoring










FINDINGS OF ENGINEERING REPORT

- Pure Water Monterey purified water will meet:
 - State Uniform Water Recycling Criteria for Groundwater Recharge
 - Basin Plan groundwater quality standards
 - State/federal drinking water quality standards.
- Treatment methods selected for redundancy – multiple barriers for constituent removal
- Monitoring program to document project performance and safety
- Injection of purified recycled water will not degrade groundwater quality and will improve basin yield
- Regulatory safeguards to public health protection required by regulations, including response time and source control



PROJECT SCHEDULE

	2013	2014	2015	2016	2017	2018
Environmental Impact Report				(completed)		
CEQA Plus				(in progress)		
Source Water Rights Permits				(in progress)		
CPUC Water Purchase Agreement				(in progress)		
Title 22 Report					(in progress)	
Permitting						(in progress)
Design and Construction						



SUMMARY

- Pure Water Monterey (PWM) will supply purified recycled water to new Seaside Groundwater Basin injection wells
 - Offsets use of Carmel River by CalAm
- Utilizes the most advanced technologies in practice in California for producing high quality, purified recycled water; goes beyond the minimum requirements of the State
- Multiple safeguards will ensure safety of water
- Project has support of regulatory agencies
- Operation of PWM will begin only after full approval from Department of Drinking Water (DDW) and Regional Water Quality Control Board



USE AND RESPONSE TO COMMENTS

- All comments from the public must be submitted in writing
- Oral comments are welcome, but must be received via comment card, email, letter or fax to be considered by DDW
- As appropriate, DDW will incorporate comments into permitting recommendations to the Regional Water Board
- Formal response to comments will not be prepared



OPEN PUBLIC COMMENT

- State your name for the record
- Limit oral comments to 3 minutes per speaker
- Comment only on Engineering Report for Title 22
- Follow-up with written comments by 5:00 PM Sept. 1st via mail, fax, or email to:

Yohana Vargas, Contracts Administrator

5 Harris Court, Building D

Monterey, CA 93940

Fax Number: (831) 372-6178

Email: Yohana@mrwpca.com



CLOSE PUBLIC COMMENTS

Submit written comments by 5:00 PM on
September 1, 2016 via mail, fax, or email to:

Yohana Vargas, Contracts Administrator

5 Harris Court, Building D

Monterey, CA 93940

Fax Number: (831) 372-6178

Email: Yohana@mrwpca.com

