



Central Coast Regional Water Quality Control Board

November 15, 2019

Mr. Paul Sciuto
General Manager
Monterey One Water
14811 Del Monte Boulevard
Marina, CA 93033
Email: paul@my1water.org

Sent via Electronic Mail

Dear Mr. Sciuto:

**MONTEREY ONE WATER ADVANCED WATER PURIFICATION FACILITY AND
GROUNDWATER REPLENISHMENT PROJECT, 14811 DEL MONTE BLVD,
MARINA, MONTEREY COUNTY - TRANSMITTAL OF REVISED MONITORING AND
REPORTING PROGRAM NO. R3-2019-0116**

Please find attached the Central Coast Regional Water Quality Control Board (Central Coast Water Board) revised Monitoring and Reporting Program associated with the Waste Discharge Requirements and Water Recycling Requirements for the Pure Water Monterey Advanced Water Purification Facility and Groundwater Replenishment Project, Order No. R3-2017-0003.

Central Coast Water Board staff revised the Monitoring and Reporting Program requirements to reflect changes contained in the revised State Water Resources Control Board (State Water Board) Water Quality Control Policy for Recycled Water adopted in December 2018, and new perfluorooctane sulfonate (PFOS) monitoring requirements. Revisions were also made to reflect changes agreed to by the State Water Board Division of Drinking Water and Monterey One Water regarding the revised Title 22 Engineering Report approved in August 2019.

The enclosed revised Monitoring and Reporting Program is effective immediately, therefore carefully review the revised requirements and implement accordingly.

DR. JEAN-PIERRE WOLFF, CHAIR | JOHN M. ROBERTSON, EXECUTIVE OFFICER

If you have questions regarding this letter, please contact Jon Rokke at (805) 549-3892, jon.rokke@waterboards.ca.gov, or Jennifer Epp at (805) 594-6181 jennifer.epp@waterboards.ca.gov.

Sincerely,

for John M. Robertson
Executive Officer

Enclosure:

1. Monitoring and Reporting Program Order No. R3-2019-0116

cc:

Bob Holden, M1W - bobh@my1water.org

Mike McCullough, M1W – MikeM@my1water.org

Alison Imamura, M1W – Alison@my1water.org

Patrice Parsons, M1W – patrice@my1water.org

Denise Conners, Larry Walker & Associates – denisec@lwa.com

Elaine W. Howe, Trussell Engineering – elaineh@trusselltech.com

Sherly Rosilela, Division of Drinking Water – Sherly.Rosilela@waterboards.ca.gov

Tricia Lee, Division of Water Quality – tricia.lee@waterboards.ca.gov

Matt Keeling, Central Coast Water Board – Matt.Keeling@waterboards.ca.gov

Harvey Packard, Central Coast Water Board – Harvey.packard@waterboards.ca.gov

Thea Tryon, Central Coast Water Board – Thea.Tryon@waterboards.ca.gov

Jennifer Epp, Central Coast Water Board – Jennifer.epp@waterboards.ca.gov

Jon Rokke, Central Coast Water Board – jon.rokke@waterboards.ca.gov

Sheila Soderberg, Central Coast Water Board - Sheila.Soderberg@waterboards.ca.gov

Sharon Denker, Central Coast Water Board – Sharon.Denker@waterboards.ca.gov

WDR Program, Central Coast Water Board - RB3-WDR@Waterboards.ca.gov

WDR Program

JR

ECM# CW-805968

GeoTracker #WDR100039680

Revised Monterey One Water Monitoring and Reporting Program No. R3-2019-0116

\\ca.epa.local\RB\RB3\Shared\WDR\WDR Facilities\Monterey Co\Monterey Regional WPCA Pure Water\MRP Update 2019\For Management Review\M1W MRP Revision Cover Letter_Oct 2019.docx

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

**MONITORING AND REPORTING PROGRAM
ORDER NO. R3-2019-0116**

**FOR THE
MONTEREY ONE WATER
ADVANCED WATER PURIFICATION FACILITY
AND
GROUNDWATER REPLENISHMENT PROJECT**

Table of Contents

| | | |
|-------------|--|-----------|
| I. | SUBMITTAL OF REPORTS | 3 |
| | Table M-1: Quarterly Report Periods and Due Dates | 3 |
| II. | MONITORING REQUIREMENTS..... | 6 |
| III. | REPORTING REQUIREMENTS..... | 8 |
| IV. | MONITORING PROGRAMS..... | 15 |
| | Table M-2: Influent Monitoring | 15 |
| | Table M-3: Recycled Water Discharge Limits Monitoring..... | 17 |
| | Table M-4: Inorganics with Primary MCLs | 18 |
| | Table M-5: Constituents/parameters with Secondary MCLs..... | 18 |
| | Table M-6: Radioactivity..... | 19 |
| | Table M-7: Regulated Organics..... | 19 |
| | Table M-8: Disinfection Byproducts | 20 |
| | Table M-9: General Physical and General Minerals..... | 20 |
| | Table M-10: Constituents with Notification Levels..... | 20 |
| | Table M-11: Remaining Priority Pollutants | 21 |
| | Table M-12: Constituents of Emerging Concern | 23 |
| | Table M-12a: DDW Specified Chemicals | 23 |
| | Table M-13: Surrogates for CECs..... | 24 |
| | Table M-13a: Bioanalytical Screening Tools..... | 25 |

| | |
|--|-----------|
| Table M-13b: MEC/MTL Thresholds and Response Actions for Health-based CECs..... | 26 |
| Table M-13c: BEQ/MTL Thresholds and Response Actions for Bioanalytical Tools..... | 28 |
| Table M-14: Groundwater Monitoring..... | 32 |
| Table M-15: Groundwater Monitoring Frequency..... | 33 |
| Table M-16: General Physical and General Minerals..... | 38 |
| V. CERTIFICATION STATEMENT | 39 |
| VI. OTHER MONITORING REQUIREMENTS..... | 39 |
| VII. MONITORING PARAMETER & FREQUENCY REDUCTIONS..... | 40 |
| VIII. CERTIFICATION..... | 40 |

I. SUBMITTAL OF REPORTS

1. Monterey One Water (hereafter M1W) must submit the required reports outlined in the following paragraphs in the appropriate electronic format to CentralCoast@waterboards.ca.gov and California Integrated Water Quality System (CIWQS¹) program. Groundwater monitoring data must also be submitted to the State Water Resources Control Board (State Water Board)'s GeoTracker database² at <http://geotracker.waterboards.ca.gov> and to the State Water Board Division of Drinking Water (DDW) by the dates indicated in this monitoring and reporting program (MRP). Recycled Water Policy³ constituent of emerging concern (CEC) data must be submitted to the GeoTracker database under a site-specific global identification number. Any data must be made publicly accessible as machine readable datasets.

Advanced Water Purification Facility (AWPF)

a. **Monthly Reports:**

Consistent with section III Reporting Requirements, monthly reports for monitoring and reporting requirements included in the Operation Optimization Plan must be received by the 15th day after the end of the month in which monitoring occurred.

b. **Quarterly Monitoring:**

Quarterly Monitoring Reports must be received by the 15th day of the second month following the end of each quarterly monitoring period according to Table M-1.

| Table M-1: Quarterly Report Periods and Due Dates | |
|---|-------------|
| Reporting Period | Report Due |
| January – March | May 15 |
| April – June | August 15 |
| July – September | November 15 |
| October – December | February 15 |

The contents of the CIWQS and GeoTracker Quarterly Monitoring Reports must include a one-page summary of operational concerns that addresses changes in reporting conditions including influent, recycled water, and groundwater monitoring results since the last report.

c. **Annual Summary Report:**

The Annual Summary Report must be received by April 30th of each year. This Annual Summary Report must contain a discussion of the previous calendar year's analytical results, as well as graphical and tabular summaries of the

¹ For help with CIWQS go to: http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_npdes.shtml

² For help with CIWQS go to: https://www.waterboards.ca.gov/ust/electronic_submittal/index.html

³ State Water Board Water Quality Control Policy for Recycled Water adopted in December 2018

monitoring analytical data.

Public water systems and owners of small water systems and other active production wells having downgradient sources potentially affected by the M1W groundwater injection project or within 10 years groundwater travel time from the M1W groundwater injection project must be notified by direct mail and/or electronic mail of the availability of the Annual Summary Report.

d. **Operation Optimization Plan**

Prior to startup of the AWPf, M1W must submit an Operation Optimization Plan (OOP) to DDW and the Central Coast Regional Water Quality Control Board (Central Coast Water Board) for approval. The OOP must be resubmitted within 90 days after completion of startup operations. Within six months of optimizing treatment processes (conducted during the first year of operation), the OOP must be updated as necessary and submitted to the Central Coast Water Board and DDW for review and approval, no later than 18-months after startup.

- i. The OOP covers critical operational parameters including routine testing procedures for the ozone pre-treatment, membrane filtration (MF), reverse osmosis (RO), and ultraviolet (UV)/advanced oxidation process (AOP) systems, optimization of the UV dose for disinfection and AOP for reduction of light-sensitive contaminants, and all treatment processes, maintenance and calibration schedules for all monitoring equipment, process alarm set points, and response procedures for all alarms in each treatment process of the AWPf, including responses if water quality requirements are not met, start-up, emergency response, and contingency plans. During the first year of operation of the AWPf, all treatment processes must be operated in a manner to provide optimal reduction of microbial, regulated, and nonregulated contaminants. Anytime operational changes are made, the OOP must be updated.
- ii. The OOP includes staffing levels with applicable certification levels for facility operations personnel. Significant changes in the operation of any of the treatment processes must be reported to DDW and Central Coast Water Board. Significant changes in the approved OOP must be approved by DDW and the Central Coast Water Board prior to instituting changes. If M1W is unsure as to what constitutes a significant change, M1W is required to contact Central Coast Water Board staff for clarification. M1W is responsible for ensuring that the OOP is, at all times, representative of the current operations, maintenance, and monitoring of the AWPf.
- iii. The OOP must include RO monitoring program elements, which include at least the following:
 - 1) Determination of baseline integrity test values for intact membranes during commissioning of the AWPf;
 - 2) Determination of lower and upper control limits for each surrogate to be used for integrity testing. Perform surrogate mass balance calculations for the RO treatment system to provide the basis for lower and upper control limit values. Provide a response plan for exceedances of lower and upper control limits; and
 - 3) A description of the vessel electrical conductivity (EC) probing (i.e.

vessel integrity) sampling plan and breach response proposal.

- iv. The existing OOP must be updated to accurately reflect the operations of the AWPf, the date the plan was last reviewed, and whether the plan is current.
2. **Five-Year Title 22 Engineering Report:** M1W must update the 2019 Title 22 Engineering Report and submit the updated report to the State Water Board's CIWQS and GeoTracker databases and to DDW, five years from the date of DDW acceptance of the 2019 Title 22 Engineering Report (in August 2024), and every five years thereafter for DDW acceptance.
3. The Discharger is required to submit all requested information electronically in a searchable portable data format (PDF) format by email to CentralCoast@waterboards.ca.gov using a signed transmittal sheet found at the link below as the cover page:

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/wastewater_permitt ing/docs/transmittal_sheet.pdf
4. Compliance monitoring reports must be submitted separately from other technical reports.
5. All reports must be submitted as a PDF file and uploaded electronically to GeoTracker and via email to DDW (if the file exceeds 10 MB, either a CD containing the file must be mailed to DDW, or a link for downloading an electronic copy of the file must be provided). Upon request the data must be provided in excel format.
6. By the reporting due dates specified in Table M-1, groundwater data must be uploaded electronically to the State Water Board's GeoTracker in an electronic deliverable format specified by the State Water Board. All data must be uploaded electronically in PDF format to the CIWQS database. Upon request the data must be provided in excel format.
7. All reports submitted to GeoTracker must reference Order No. R3-2017-0003 (using the transmittal sheet as the cover page) and must be submitted to the GeoTracker database for the M1W site, GeoTracker Identification No. WDR100039680, over the internet at:

http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml
8. M1W must use DDW-provided Primary Station Codes (PS Codes) to electronically submit monitoring results from the AWPf recycled water and groundwater monitoring wells. Data produced and reports submitted for analysis required by title 22, division 4, article 5.2, must be generated by a laboratory accredited by the State Water Board's Environmental Laboratory Accreditation Program (ELAP). The laboratory must hold a valid certificate of accreditation for the analytical test methods validated for intended use and approved by DDW. The laboratories performing the analyses must submit the results electronically to DDW's database by the tenth day of the following month in which analysis was completed.
9. Bacteriological data cannot at this time be transmitted electronically to DDW. A summary of bacteriological results must be e-mailed to dwpdist05@waterboards.ca.gov once a month, by the 10th of each month.

II. MONITORING REQUIREMENTS

1. M1W must monitor the flow and quality of the water according to the manner, locations, and frequency specified in this Monitoring and Reporting Program:
 - a. Influent to the AWPf - At a location before clarified secondary effluent enters the ozone pre-treatment system of the AWPf;
 - b. Prior to RO - At a location where all membrane filtration effluent streams are combined prior to RO treatment;
 - c. After RO – At a location after RO treatment where all RO effluent streams are combined prior to AOP treatment;
 - d. AWPf Recycled Water – At a location downstream of the last chemical injection point and prior to well injection;
 - e. Upon approval by the Central Coast Water Board and DDW, if potable water is used as a diluent, blend of recycled water and diluent water; and
 - f. Groundwater Monitoring Wells (ID#'s) – MW-2D, MW-2AD, MW-2AS, MW-1D, MW-1S, MW-1AD, MW-1AS. (7 total).
2. Monitoring reports must include, but not limited to, the following:
 - a. Analytical results;
 - b. Location of each sampling station where representative samples are obtained, including a map at a scale of 1-inch equals 1,200 feet or less, that clearly identifies the locations of all injection wells, project monitoring wells, and production wells;
 - c. Analytical test methods used and the corresponding minimum reporting levels;
 - d. Name(s) of the laboratory, which conducted the analyses;
 - e. Copy of laboratory certifications by ELAP;
 - f. Quality assurance and control information, including documentation of chain of custody; and,
 - g. Maximum contaminant level (MCL), notification level, response level, DDW Condition, or Recycled Water Discharge Limit.
3. Though not required to be submitted in the monitoring reports unless specifically requested by the Central Coast Water Board Executive Officer or DDW, M1W must have in place written sampling protocols. For groundwater monitoring, the sampling protocols must outline the methods and procedures used for measuring water levels; purging wells; collecting samples; decontaminating equipment; containing, preserving, and shipping samples, and maintaining appropriate documentation. Also, the sampling protocols must include the procedures for handling, storing, testing, and disposing of purge and decontamination waters generated from the sampling events.
4. Where multiple EPA-approved methods are available, drinking water (500 series) or wastewater (600 series) may be used as appropriate.
5. The samples must be analyzed using analytical methods described in title 40 of the

Code of Federal Regulations (CFR) part 141 (40 CFR 141), or where no methods are specified for a given pollutant, by methods approved by DDW, Central Coast Water Board, and/or State Water Board. M1W must select the analytical methods that provide Minimum Reporting Levels lower than the limits prescribed in Order No. R3-2017-0003, or as low as possible that will provide reliable data.

6. M1W must instruct its laboratories to establish calibration standards so that the Minimum Reporting Levels (or its equivalent if there is a different treatment of samples relative to calibration standards) are the lowest calibration standard. At no time must analytical data derived from extrapolation beyond the lowest point of the calibration curve be used.
7. Upon request by M1W, the Central Coast Water Board, in consultation with DDW and the State Water Board Quality Assurance Program, may establish Minimum Reporting Levels, in any of the following situations:
 - a. When the pollutant has no established method under 40 CFR 141;
 - b. When the method under 40 CFR 141 for the pollutant has a Minimum Reporting Level higher than the limit specified in Order No. R3-2017-0003; or,
 - c. When M1W agrees to use a test method that is more sensitive than those specified in 40 CFR 141.
8. For regulated constituents, the laboratory conducting the analyses must be certified by ELAP or approved by DDW, the Central Coast Water Board, or State Water Board, for each pollutant or parameter.
9. Samples must be analyzed within allowable holding time limits as specified in 40 CFR part 141. All Quality Assurance/Quality Control (QA/QC) analyses must be run on the same dates that samples are analyzed. M1W must retain the QA/QC documentation in its files for three years and make available for inspection and/or submit them when requested by the Central Coast Water Board or DDW. Proper chain of custody procedures must be followed, and a copy of this documentation must be submitted with the quarterly report.
10. For all bacterial analyses, sample dilutions must be performed so the range of values extends from 1 to 800. The detection methods used for each analysis must be reported with the results of the analyses.
11. Quarterly monitoring for recycled water and groundwater must be performed during the months of February, May, August, and November. If the recycled water monitoring frequency is reduced to semiannual, monitoring for recycled water must be performed during the months of February and August. If the recycled water monitoring frequency is reduced to annual, monitoring must be performed in August. Semiannual monitoring for groundwater must be performed during the months of May and November. Should there be instances when monitoring cannot be done during these specified months, M1W must conduct the monitoring as soon as it can and state in the monitoring report the reason monitoring could not be conducted during the specified month. Results of quarterly analyses must be reported in the quarterly monitoring report following the analysis.
12. For unregulated chemical analyses, M1W must select methods according to the following approach:

- a. Use the drinking water methods or wastewater method sufficient to evaluate all water quality objectives and protect all beneficial uses;
- b. Use DDW-recommended methods for unregulated chemicals, if available;
- c. If there is no DDW-recommended drinking water method for a chemical, and more than a single USEPA- approved method is available, use the most sensitive of the USEPA-approved methods;
- d. If there is no USEPA-approved method for a chemical, and more than one method is available from the scientific literature and commercial laboratory, after consultation with DDW, use the most sensitive method;
- e. If no approved method is available for a specific chemical, M1W's laboratory may develop or use its own methods and must provide the analytical methods to DDW for review and approval. Those methods may be used until DDW-recommended or USEPA-approved methods are available.
- f. For CECs subject to the Recycled Water Policy as amended December 11, 2018, analytical methods for laboratory analysis of CECs must be selected to achieve the reporting limits presented in Table M-12. The analytical methods must be based on methods published by the USEPA, methods certified by DDW, or peer reviewed and published methods that have been reviewed by DDW, including those published by voluntary consensus standards bodies such as the Standards Methods Committee and the American Society for Testing and Materials International. Any modifications to the published or certified methods must be reviewed by DDW and subsequently submitted to the Central Coast Water Board Executive Officer in an updated quality assurance project plan. A laboratory providing analyses of CECs and bioanalytical screening must hold a valid certificate of accreditation from ELAP for the analytical test methods or analytes selected, if such methods or analytes are accredited by ELAP at the time that monitoring is required to begin. If ELAP accreditation for analytical test methods or an analyte becomes available after monitoring is initiated, then the laboratory providing analysis of CECs must be accredited by ELAP for those methods or analytes within one year of such accreditation becoming available. If ELAP accreditation is unavailable for a method or an analyte, the recycled water producer must use a laboratory that has been accredited for a similar analytical method, instrumentation, or analyte until ELAP accreditation becomes available, unless otherwise approved by the Central Coast Water Board or State Water Board for bioanalytical screening tools.

III. REPORTING REQUIREMENTS

1. M1W must submit a comprehensive cross-connection control program for the AWPf to DDW and the Central Coast Water Board by the end of the second week of operations. The cross-connection control program must be submitted as a standalone document, separate from and prior to the submittal of the OOP.
2. **Monthly Reports:** The following monitoring and reporting requirements must be included in the OOP and reported to DDW and the Central Coast Water Board monthly.
 - a. Membrane filtration effluent monitoring - M1W will monitor the membrane filtration effluent for turbidity continuously. The turbidity must not exceed 0.2 nephelometric

turbidity units (NTU) more than five percent of the time within a 24-hour period and 0.5 NTU at any time. Turbidity measurements must be recorded every 15 minutes. The daily average, and daily maximum, and whether the 0.2 NTU was exceeded more than five percent of the time in any 24-hour period must be reported monthly.

- b. The membrane filtration (MF) integrity - Daily pressure decay tests must be performed on each MF membrane unit a minimum of once every 24 hours of operation based on the criteria described in Order No. R3-2017-0003. Submit the results of the daily membrane integrity testing conducted during the month in the monthly reports.
 - i. The pressure decay test will be conducted to confirm no broken fibers or other breach of membrane integrity, based on product-specific minimum test pressure and maximum allowable pressure decay.
- c. The RO system will be credited for virus, Giardia cysts, and Cryptosporidium oocysts based upon reduction demonstrated via approved surrogates, such as conductivity, total organic carbon (TOC), or strontium. The percent of time that the reduction of surrogate is less than 1.0 log removal must be reported in the monthly reports. The report must include calculation of minimum removal achieved at the AWPf as described in section V.5 (Reverse Osmosis System Pathogen Log Reduction Reporting). An alternative surrogate may be utilized (e.g., dissolved organic carbon, DOC) if approved by DDW and the Central Coast Water Board. The proposal to change surrogates may also include different monitoring locations (e.g., combined RO permeate instead of train RO permeate), if approved by DDW and the Central Coast Water Board.
- d. On-line continuous monitoring of UV dose, UV intensity, flow, UV transmittance (UVT), and power must be provided at all times. Flow meters UV intensity sensors, and UVT monitors must be properly calibrated to ensure proper disinfection. At least monthly, all duty UV intensity sensors must be checked for calibration against a reference UV intensity sensor. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
 - i. For AOP (UV and hydrogen peroxide at the AWPf), M1W must report the calculated daily hydrogen peroxide dose (based on the pump speed and bulk feed concentration).
 - ii. For UV, M1W must report the UVT (daily minimum, maximum, and average), UV dose for each reactor (daily minimum, maximum, and average), and the total flow (daily minimum, maximum, and average).
- e. Based on the calculation of log reduction achieved daily by the entire treatment facility, from the AWPf to the public water supply wells, M1W will report a "Yes" or "No" for each day as to whether the necessary log reductions (12-logs virus, 10-logs for Giardia and Cryptosporidium) have been achieved. An overall log reduction calculation will be provided only for those days when a portion of the treatment facility does not achieve the credits listed in Table 5-4 of the 2019 title 22 Engineering Report.
- f. M1W must sample the monitoring wells for general mineral, physical parameters, and inorganics with primary MCLs. M1W must take these samples monthly for the first year of operation. M1W may request, from

- the Central Coast Water Board and DDW, a reduction in this monitoring after the first year.
- g. M1W must monitor the RO effluent for TOC via Grab sample weekly and report in the monthly report. M1W must also monitor RO influent and effluent for TOC online and report monthly. The monitoring must be conducted during the first 20 weeks of full-scale operation and the daily average and maximum TOC reading and the percent of time that the TOC is greater than 0.25 milligrams per liter (mg/L) must be reported.
 - h. M1W must monitor AWPf recycled water daily (7 days per week) for total coliform concentrations. The AWPf recycled water 7-day median of the analyses for total coliform must be reported monthly.
3. **Quarterly Reports:** These reports must include, at a minimum, data not already submitted in Monthly Reports and the following information:
- a. The volume of:
 - i. AWPf influent – secondary effluent from the Regional Treatment Plant.
 - ii. Waste equalization effluent discharged into the Regional Treatment Plant.
 - iii. AWPf recycled water injected into the Seaside Basin.
 - iv. RO concentrate sent to the ocean outfall.
 - v. If no AWPf water was pumped, the report must so state.
 - b. The date and time of sampling and analyses.
 - c. All analytical results of samples collected during the monitoring period of the:
 - i. AWPf influent,
 - ii. RO feed water (prior to RO),
 - iii. AWPf recycled water, and
 - iv. Groundwater.
 - d. Records of any operational problems, plant upset and equipment breakdowns or malfunctions, and any diversion(s) of off-specification recycled water and the location(s) of final disposal.
 - e. Discussion of compliance, noncompliance, or violation of requirements.
 - f. All corrective or preventive action(s) taken or planned with schedule of implementation, if any.
 - g. Certification by M1W that no groundwater for drinking purposes has been pumped from wells within the boundary representing the greatest of the horizontal and vertical distances reflecting two months.
 - h. A summary of operational concerns describing changes in reporting conditions, including influent, MF filtrate, RO permeate, AWPf recycled water, and groundwater monitoring results, since the last report.
 - i. Monitoring results associated with the evaluation of pathogenic microorganism removal as described in Order No. R3-2017-0003.

- j. For reporting compliance with numerical limitations, analytical data must be reported using the following reporting protocols:
 - i. Sample results greater than or equal to the Minimum Reporting Level must be reported “as measured” by the laboratory (i.e., the measured chemical concentration in the sample); or
 - ii. Sample results less than the Minimum Reporting Level, but greater than or equal to the laboratory’s Minimum Detection Limit (MDL), must be reported as “Detected, but Not Quantified”, “DNQ”. The laboratory must write the estimated chemical concentration of the sample next to “DNQ”; or
 - iii. Sample results less than the laboratory’s MDL must be reported as “Not-Detected”, or ND and provide the relevant MDL.
 - k. If M1W samples and performs analysis on any sample more frequently than required in this Monitoring and Reporting Program using approved analytical methods, the results of those analyses must be included in the report. These results must be reflected in the calculation of the average used in demonstrating compliance with average recycled water, receiving water, etc., limitations.
 - l. M1W must provide supporting documentation, such as daily logs of operations upon request to the Central Coast Water Board or DDW.
4. **Annual Summary Reports:** M1W must submit an annual report to the State Water Board by April 30 of each calendar year. For calendar year 2019, data must be reported for the months January through December. The Discharger must submit the annual report containing monthly data in electronic format via the State Water Board’s Internet GeoTracker system at <http://geotracker.waterboards.ca.gov/> as required by this MRP. Required data must be submitted to the GeoTracker database under the site-specific global identification number WDR100039680. Any data will be made publicly accessible as machine readable datasets. Annual Summary Reports must include, at a minimum, the following information:
- a. M1W must provide a summary on the makeup of source waters (municipal wastewater, agricultural wash water, Blanco Drain, and Reclamation Ditch) entering the Regional Treatment Plant in the Annual Summary Report to DDW and Central Coast Water Board required per title 22 section 60320.228(a). At a minimum, the summary must include discussion on the following items:
 - i. The priority of source water usage for the period reported and the basis for the priority;
 - ii. A summary of monthly volume for each source water type; and
 - iii. An evaluation of which demand scenario best fit the volumes observed during reporting period (Drought, Normal/Wet Full Reserve, Normal/Wet Building Reserve).
 - b. Tabular and graphical summaries of the monitoring data obtained during the previous calendar year;
 - c. A summary of compliance status with all monitoring requirements during the previous calendar year;
 - d. For any non-compliance during the previous calendar year, a description of:

- i. The date, duration, and nature of the violation;
 - ii. A summary of any corrective actions and/or suspensions of subsurface application of recycled water resulting from a violation; and
 - iii. If uncorrected, a schedule for and summary of all pending and completed remedial actions.
- e. Any detections of monitored chemicals or contaminants, and any observed trends in the monitoring wells;
- f. Information pertaining to the vertical and horizontal migration of the recharge water plume;
- g. Title 22 drinking water quality data for the nearest drinking water supply well;
- h. A description of any changes in the operation of any unit processes or facilities;
- i. The estimated quantity and quality of the recycled water to be utilized for the next calendar year;
- j. A list of the analytical methods used for each test and associated laboratory quality assurance/quality control procedures. Identification of the laboratories used by M1W to monitor compliance with Order No. R3-2017-0003, their status of certification, and a summary of proficiency test;
- k. A list of current operating personnel, their responsibilities, and their corresponding grade of certification.
- l. The Annual Report must be prepared by a properly qualified engineer registered and licensed in California and experienced in the field of wastewater or water treatment; and
- m. A summary of monitoring reports, reporting, and trend analysis, to describe the changes in water quality and contrast them to background measurements for all constituents exceeding MCLs or where concentration trends increase after the addition of recycled water. Specifically describe studies or investigations made to identify the source, fate and transport path of constituents which exceed the MCL at the monitoring wells.
- n. M1W must submit to DDW and the Central Coast Water Board a summary of coordination activities with Marina Coast Water District on the operation and maintenance of the Product Water Pipeline and the Purified Water Reservoir necessary for protection of the product water for injection. At a minimum, M1W must be kept informed of the status of testing and maintenance of backflow preventers on the Product Water Pipeline, occurrence of backflow incidents (if any), and maintenance activities of the Purified Water Reservoir
- o. Volumetric Monitoring: M1W must report in accordance with each of the items in section 3 of the Recycled Water Policy as described below.
 - i. Influent.
Monthly volume of wastewater collected and treated by the wastewater treatment plant.
 - ii. Production.
Monthly volume of wastewater treated, specifying level of treatment.
 - iii. Discharge.

Monthly volume of treated wastewater discharged to each of the following, specifying level of treatment:

- 1) Inland surface waters, specifying volume required to maintain minimum instream flow.
 - 2) Enclosed bays, estuaries and coastal lagoons, and ocean waters.
 - 3) Natural systems, such as wetlands, wildlife habitats, and duck clubs, where augmentation or restoration has occurred, and that are not part of a wastewater treatment plant or water recycling treatment plant.
 - 4) Underground injection wells, such as those classified by U.S. EPA's Underground Injection Control Program, excluding groundwater recharge via subsurface application intended to reduce seawater intrusion into a coastal aquifer with a seawater interface.
 - 5) Land, where beneficial use is not taking place, including evaporation or percolation ponds, overland flow, or spray irrigation disposal, excluding pasture or fields with harvested crops.
- iv. Reuse.
Monthly volume of recycled water distributed.
- v. Reuse Categories.
Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below:
- 1) Agricultural irrigation: pasture or crop irrigation.
 - 2) Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping.
 - 3) Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.
 - 4) Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.
 - 5) Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.
 - 6) Geothermal energy production: augmentation of geothermal fields.
 - 7) Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.
 - 8) Groundwater recharge: the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system.

Includes surface or subsurface application, except for seawater intrusion barrier use.

- 9) Seawater intrusion barrier: groundwater recharge via subsurface application intended to reduce seawater intrusion into a coastal aquifer with a seawater interface.
 - 10) Reservoir water augmentation: the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system, as defined in section 116275 of the Health and Safety Code, or into a constructed system conveying water to such a reservoir (Water Code § 13561).
 - 11) Raw water augmentation: the planned placement of recycled water into a system of pipelines or aqueducts that deliver raw water to a drinking water treatment plant that provides water to a public water system as defined in section 116275 of the Health and Safety Code (Water Code § 13561).
 - 12) Other potable uses: both indirect and direct potable reuse other than for groundwater recharge, seawater intrusion barrier, reservoir water augmentation, or raw water augmentation.
5. **Five-Year Title 22 Engineering Report:** Five years from the date of approval of the 2019 Title 22 Engineering Report and every five years thereafter, M1W must update the engineering report to address any project changes and submit the report to the Central Coast Water Board and DDW. The five-year engineering report update must include, but not be limited to:
- a. A description of any inconsistencies between previous groundwater model predictions and the observed and/or measured values. For this requirement, M1W must summarize the groundwater flow and transport including the injection and extraction operations for the M1W groundwater injection project during the previous five calendar years. This summary must also use the most current data for the evaluation of the transport of recycled water; such evaluations must include, at a minimum, the following information:
 - i. Total quantity of advanced treated recycled water injected into the Seaside Basin, and quantities of water injected into each individual injection well;
 - ii. Estimates of the rate and path of flow of the injected water within the aquifer;
 - iii. Projections of the arrival time of the recycled water at all monitoring and extraction wells and the percent of recycled water at each location.
 - iv. Clear presentation on any assumptions and/or calculations used for determining the rates of flow and for projecting arrival times and dilution levels;
 - v. A discussion of the underground retention time of recycled water, a numerical model, or other methods used to determine the recycled water contribution to each aquifer;

- vi. A revised flow and transport model to match actual flow patterns observed within the aquifer if the flow paths have significantly changed; and,
 - vii. Revised estimates, if applicable, on hydrogeologic conditions including the retention time and the amount of the recycled water in the aquifers and at the production well field at the end of that calendar year. The revised estimates must be based upon actual data collected during that year on recharge rates (including recycled water and native water), hydrostatic head values, groundwater production rates, basin storage changes, and any other data needed to revise the estimates of the retention time and the amount of the recycled water in the aquifers and at the production well field. Significant differences, and the reasons for such differences, between the estimates presented in the 2019 Title 22 Engineering Report and subsequently revised estimates, must be clearly presented. Additionally, M1W must use the most recently available data to predict the retention time of recycled water in the subsurface.
- b. Evaluation of the ability of M1W to comply with all regulations and provisions over the following five years.
 - c. The five-year engineering report must be prepared by a properly qualified engineer registered and licensed in California and experienced in the field of wastewater or water treatment.
6. M1W must submit reports to DDW for components described in title 22 section 60320.201(f) and (g) within 60 days of completing the first 12-months full-scale operation and operational monitoring of the advanced treatment process.

IV. MONITORING PROGRAMS

1. AWPf Influent Monitoring

- a. Monitoring is required to determine compliance with water quality conditions and standards and to assess AWPf performance.
- b. The influent sampling station is located before clarified secondary effluent from the Regional Treatment Plant enters the ozone pre-treatment system of the AWPf. Influent samples must be obtained on the same day that stabilized advanced treated recycled water samples are obtained. The date and time of sampling must be reported with the analytical values determined. Table M-2 constitutes the influent monitoring program.

| Table M-2: Influent Monitoring | | | |
|---|-------|-------------------|-------------------------------|
| Constituents | Units | Type of Sample | Minimum Frequency of Analysis |
| Ammonia-N | mg/L | Grab | Weekly |
| Carbonaceous Biochemical Oxygen Demand (CBOD ₅) | mg/L | 24-hour composite | Weekly |
| Boron | mg/L | Grab | Weekly |
| Chloride | mg/L | 24-hour composite | Weekly |

| Table M-2: Influent Monitoring | | | |
|--------------------------------|----------|--------------------------------|-------------------------|
| Nitrate-N | mg/L | 24-hour composite | Weekly |
| Nitrite-N | mg/L | 24-hour composite | Weekly |
| pH | pH units | Metered | Continuous |
| Sodium | mg/L | 24-hour composite | Weekly |
| Sulfate | mg/L | Grab | Weekly |
| Total Suspended Solids | mg/L | 24-hour composite | Weekly |
| Total coliform | MPN/100 | Grab | Weekly |
| Total Dissolved Solids | mg/L | 24-hour composite | Weekly |
| Total flow | mgd | Metered | Continuous ¹ |
| Total Kjeldahl Nitrogen-N | mg/L | Grab | Weekly |
| Total Nitrogen ² | mg/L | Grab | Weekly |
| Total Organic Carbon (TOC) | mg/L | 24-hour composite ⁵ | Weekly |
| Turbidity | NTU | Metered | Continuous ³ |
| UV transmittance | % | Grab | Weekly |

¹For those pollutants that are continuously monitored, M1W must report the monthly minimum and maximum, and daily average values.

²Total Nitrogen includes nitrate-N, nitrite-N, ammonia-N, and organic-N.

³ May change to Grab after M1W demonstrates that Grab sampling is adequate.

mg/L = milligrams per liter

MPN/100 = most probable number per 100 milliliters

mgd = million gallons per day

2. Recycled Water (AWPF Product Water) Discharge Limit Monitoring.

a. AWPF recycled water monitoring is required to:

- i. Determine compliance with the conditions of Order No. R3-2017-0003;
- ii. Identify operational problems and aid in improving facility performance; and,
- iii. Provide information on recycled water characteristics and flows for use in interpreting water quality and biological data.

Samples must be collected downstream of the last chemical injection point, except for constituents specified in Tables M-12, M-12a, M-13, and M-13a. Should the need for a change in the sampling station(s) arise in the future, M1W must seek approval of the proposed station by the Central Coast Water Board Executive Officer prior to use.

Table M-3 must constitute the recycled water monitoring program. After the first full year of monitoring, M1W must compile results and may submit a proposed reduced monitoring program to DDW and the Central Coast Water Board for review and approval.

| Table M-3: Recycled Water Discharge Limits Monitoring | | | | |
|---|---------------------|--------------------------------|---|------------------------|
| Constituent/Parameters | Units | Type of Sample | Minimum Frequency of Analysis | Reference Table Number |
| Conductivity | umhos/cm mmho/cm | Metered | Continuous ¹ | M-3 |
| Total chlorine residual | mg/L | Metered | Continuous | M-3 |
| Total recycled water flow | mgd | Metered | Continuous | M-3 |
| UV dose for each reactor | mJ/cm ² | Metered | Continuous | NA |
| UV Transmittance ⁶ | % | Metered | Continuous | NA |
| pH | pH units | Metered | Continuous | M-3 |
| Arsenic | µg/L | Grab | Monthly | M-3 |
| Boron | µg/L | Grab | Monthly | M-3 |
| Chloride | mg/L | Grab | Monthly | M-3 |
| Chromium - Total | µg/L | Grab | Monthly | M-3 |
| Total nitrogen ² | mg/L | Grab | At least two samples per week at least 3 days apart | M-3 |
| Nitrate-N | mg/L | Grab | Weekly | M-3 |
| Total Kjeldahl Nitrogen-N | mg/L | Grab | Weekly | M-3 |
| Sodium | mg/L | Grab | Monthly | M-3 |
| Sulfate | mg/L | Grab | Monthly | M-3 |
| Total Dissolved Solids - TDS | mg/L | Grab | Monthly | M-3 |
| Total coliform | MPN/100 mL | Grab | Daily | M-3 |
| Total Organic Carbon | mg/L | 24-hour composite ³ | Weekly | M-3 |
| Turbidity | NTU | Metered | Continuous | M-3 |
| Inorganics with Primary MCLs | µg/L | Grab | Monthly | M-4 |
| Constituent/Parameters with Secondary MCLs | Various | Grab | Monthly | M-5 |
| Radioactivity | pCi/L | Grab | Monthly | M-6 |
| Regulated organic chemicals | µg/L | Grab | Monthly | M-7 |
| Disinfection byproducts | µg/L | Grab | Monthly | M-8 |
| General physical | various | Grab | Quarterly | M-9 |
| General minerals | µg/L | Grab | Quarterly | M-9 |
| Constituents with Notification Levels | µg/L | Grab | Monthly | M-10 |

| Table M-3: Recycled Water Discharge Limits Monitoring | | | | |
|---|---------|--------|-----------|------|
| Remaining Priority Pollutants | µg/L | Grab | Quarterly | M-11 |
| Constituents of Emerging Concern (CECs) | ng/L | Grab | Varies | M-12 |
| Surrogates | various | Varies | Varies | M-13 |
| Lead and Copper | mg/L | Grab | Quarterly | M-3 |

For those constituents that are continuously monitored, M1W must report the daily minimum, maximum, and average values.

¹ Samples must be collected at the influent point to the UV system.

² If no problem is detected, analysis of nitrogen can be reduced to weekly after 12 months of data collection.

³ May change to Grab after M1W demonstrates that Grab sampling is adequate.

NA = not applicable

umhos/cm = micro mhos per centimeter

mhos = mhos per centimeter

mJ/cm² = milli joule per centimeter squared

µg/L – micrograms per liter

NTU – nephelometric turbidity unit

pCi/L = picoCuries per liter

ng/L = nanograms per liter

| Table M-4: Inorganics with Primary MCLs | | |
|---|------------------|-----------------------|
| Constituents | | |
| Aluminum | Cadmium | Nitrate (as nitrogen) |
| Antimony | Chromium (Total) | Nitrite (as nitrogen) |
| Arsenic | Cyanide | Nitrate + Nitrite |
| Asbestos | Fluoride | Perchlorate |
| Barium | Mercury | Selenium |
| Beryllium | Nickel | Thallium |

| Table M-5: Constituents/parameters with Secondary MCLs | |
|--|------------------------|
| Constituents | |
| Aluminum | Odor – Threshold |
| Chloride | Silver |
| Color | Specific Conductance |
| Copper | Sulfate |
| Foam Agents (MBAS) | Thiobencarb |
| Iron | Total Dissolved Solids |
| Manganese | Turbidity |
| Methyl-tert-butyl-ether (MTBE) | Zinc |

| Table M-6: Radioactivity | | |
|--|------------------------------------|---------|
| Constituents | | |
| Gross Alpha Particle Activity (Including Radium-226 but Excluding Radon and Uranium) | Combined Radium-226 and Radium-228 | Tritium |
| Gross Beta Particle Activity | Strontium-90 | Uranium |

| Table M-7: Regulated Organics | | |
|--------------------------------|--|---------------------------|
| Constituents | | |
| Volatile Organic Chemicals | 1,1,1-Trichloroethane | Diquat |
| Benzene | 1,1,2-Trichloroethane | Endothal |
| Carbon Tetrachloride (CTC) | Trichloroethylene (TCE) | Endrin |
| 1,2-Dichlorobenzene | Trichlorofluoromethane | Ethylene Dibromide (EDB) |
| 1,4-Dichlorobenzene | 1,1,2-Trichloro-1,2,2-Trifluoroethane | Glyphosate |
| 1,1-Dichloroethane | Vinyl Chloride | Heptachlor |
| 1,2-Dichloroethane (1,2-DCA) | Xylenes (o,m,p) | Heptachlor Epoxide |
| 1,1-Dichloroethene (1,1-DCE) | Synthetic Organic Chemicals | Hexachlorobenzene |
| cis-1,2-Dichloroethylene | 1,2,3 Trichloropropane | Hexachlorocyclopentadiene |
| trans-1,2-Dichloroethylene | Alachlor | Lindane |
| Dichloromethane | Atrazine | Methoxychlor |
| 1,2-Dichloropropane | Bentazon | Molinate |
| 1,3-Dichloropropane | Benzo(a)pyrene | Oxamyl |
| Ethylbenzene | Carbofuran | Pentachlorophenol |
| Methyl-tert-butyl-ether (MTBE) | Chlordane | Picloram |
| Monochlorobenzene | Dalapon | Polychlorinated Biphenyls |
| Styrene | 1,2-Dibromo-3-chloropropane (DBCP) | Simazine |
| 1,1,2,2-Tetrachloroethane | 2,4-Dichlorophenoxyacetic acid (2,4-D) | Thiobencarb |
| Tetrachloroethylene (PCE) | Di(2-ethylhexyl)adipate | Toxaphene |
| Toluene | Di(2-ethylhexyl)phthalate | 2,3,7,8-TCDD (Dioxin) |
| 1,2,4-Trichlorobenzene | Dinoseb | 2,4,5-TP (Silvex) |

| Table M-8: Disinfection Byproducts | | |
|---|-------------------------------|-----------------------|
| Constituents | | |
| Total Trihalomethanes ¹ (TTHM) | Chloroform | Monobromoacetic acid |
| Bromate | Dibromoacetic acid | Monochloroacetic acid |
| Bromodichloromethane | Dibromochloromethane | Trichloroacetic acid |
| Bromoform | Dichloroacetic acid | |
| Chlorite | Haloacetic Acid (five) (HAA5) | |

¹ Laboratory must report bromoform, chloroform, dichlorobromomethane, and chlorodibromomethane individually to make up the total trihalomethanes for MCL compliance determination.

| Table M-9: General Physical and General Minerals | | |
|--|-------------|------------------------|
| Constituents | | |
| Asbestos | Potassium | Foaming Agents |
| Calcium | Sodium | Odor |
| Chloride | Sulfate | Specific Conductance |
| Copper | Zinc | Total Dissolved Solids |
| Iron | Color | Total Hardness |
| Manganese | Corrosivity | |

| Table M-10: Constituents with Notification Levels | | | |
|---|-------|----------------|-------------------------------|
| Constituents | Units | Type of Sample | Minimum Frequency of Analysis |
| Boron | µg/L | Grab | Monthly |
| n-Butylbenzene | µg/L | Grab | Monthly |
| sec-Butylbenzene | µg/L | Grab | Monthly |
| tert-Butylbenzene | µg/L | Grab | Monthly |
| Carbon disulfide | µg/L | Grab | Monthly |
| Chlorate | µg/L | Grab | Monthly |
| 2-Chlorotoluene | µg/L | Grab | Monthly |
| 4-Chlorotoluene | µg/L | Grab | Monthly |
| Diazinon | µg/L | Grab | Monthly |
| Dichlorodifluoromethane (Freon 12) | µg/L | Grab | Monthly |
| 1,4-Dioxane | µg/L | Grab | Monthly |
| Ethylene glycol | µg/L | Grab | Monthly |
| Formaldehyde | µg/L | Grab | Monthly |
| HMX | µg/L | Grab | Monthly |
| Isopropylbenzene | µg/L | Grab | Monthly |
| Manganese | µg/L | Grab | Monthly |
| Methyl isobutyl ketone (MIBK) | µg/L | Grab | Monthly |
| Naphthalene | µg/L | Grab | Monthly |

| Table M-10: Constituents with Notification Levels | | | |
|---|------|------|---------|
| n-Nitrosodiethylamine (NDEA) | µg/L | Grab | Monthly |
| n-Nitrosodimethylamine (NDMA) | µg/L | Grab | Monthly |
| n-Nitrosodi-n-propylamine (NDPA) | µg/L | Grab | Monthly |
| Perfluorooctane sulfonate (PFOS) | µg/L | Grab | Monthly |
| Perfluorooctanoic acid (PFOA) | µg/L | Grab | Monthly |
| Propachlor | µg/L | Grab | Monthly |
| n-Propylbenzene | µg/L | Grab | Monthly |
| RDX | µg/L | Grab | Monthly |
| Tertiary butyl alcohol (TBA) | µg/L | Grab | Monthly |
| 1,2,4-Trimethylbenzene | µg/L | Grab | Monthly |
| 1,3,5-Trimethylbenzene | µg/L | Grab | Monthly |
| 2,4,6-Trinitrotoluene (TNT) | µg/L | Grab | Monthly |
| Vanadium | µg/L | Grab | Monthly |

| Table M-11: Remaining Priority Pollutants | | |
|---|-----------------------------------|--------------------------|
| Constituents | | |
| <i>Pesticides</i> | <i>Metals</i> | Di-n-butyl phthalate |
| Aldrin | Chromium III | Di-n-octyl phthalate |
| Dieldrin | <i>Base/Neutral, Extractables</i> | Diethyl phthalate |
| 4,4'-DDT | Acenaphthene | Dimethyl phthalate |
| 4,4'-DDE | Benzidine | Benzo(a)anthracene |
| 4,4'-DDD | Hexachloroethane | Benzo(a)fluoranthene |
| Alpha-endosulfan | Bis(2-chloroethyl)ether | Benzo(k)fluoranthene |
| Beta-endosulfan | 2-chloronaphthalene | Chrysene |
| Endosulfan sulfate | 1,3-dichlorobenzene | Acenaphthylene |
| Endrin aldehyde | 3,3'-dichlorobenzidine | Anthracene |
| Alpha-BHC | 2,4-dinitrotoluene | 1,12-benzoperylene |
| Beta-BHC | 2,6-dinitrotoluene | Fluorene |
| Delta-BHC | 1,2-diphenylhydrazine | Phenanthrene |
| <i>Acid Extractables</i> | Fluoranthene | 1,2,5,6-dibenzanthracene |
| 2,4,6-trichlorophenol | 4-chlorophenyl phenyl ether | Indeno(1,2,3-cd)pyrene |
| P-chloro-m-cresol | 4-bromophenyl phenyl ether | Pyrene |
| 2-chlorophenol | Bis(2-chloroisopropyl) ether | Volatile Organics |
| 2,4-dichlorophenol | Bis(2-chloroethoxy)methane | Acrolein |
| 2,4-dimethylphenol | Hexachlorobutadiene | Acrylonitrile |
| 2-nitrophenol | Isophorone | Chlorobenzene |
| 4-nitrophenol | Nitrobenzene | Chloroethane |
| 2,4-dinitrophenol | N-nitrosodiphenylamine | 1,1-dichloroethylene |
| 4,6-dinitro-o-cresol | Bis(2-ethylhexyl)phthalate | Methyl chloride |
| Phenol | Butyl benzyl phthalate | Methyl bromide |

| Table M-11: Remaining Priority Pollutants | | |
|---|--|--|
| 2-chloroethyl vinyl ether | | |

Priority pollutants to be sampled and analyzed quarterly in recycled water per title 22 section 60320.220(a)

3. CEC MONITORING REQUIREMENTS

M1W must sample for CECs at the frequency and locations according to Tables M-12, M-12a, M-13, and M-13a below.

- a. Should the need for a change in the sampling station arise in the future, M1W must seek approval of the proposed station by the Executive Officer of the Central Coast Water Board prior to use;
- b. Central Coast Water Board staff will, in consultation with the State Water Board, review monitoring data uploaded to GeoTracker to allow M1W to proceed to the next phase;
- c. M1W must follow a three-phased monitoring approach for the health-based and performance CECs, as detailed as follows:
 - i. M1W must conduct an initial assessment monitoring phase for one year with quarterly sampling;
 - ii. M1W must conduct a baseline monitoring phase consistent with table M-12 for three years, with semiannual sampling, except where more frequent monitoring is necessary to respond to a concern;
 - iii. M1W must conduct a standard operation monitoring phase, with semiannual or annual sampling, except where more frequent monitoring is necessary to respond to a concern.
 - iv. After each sampling event for health-based CECs, M1W must conduct the evaluation in section 4(b) and implement appropriate response actions.
 - v. If a health-based CEC also has a notification level or maximum contaminant level pursuant to sections 60320.212, 60320.220, and 60320.201 of the California Code of Regulations, title 22, the more frequent monitoring requirements specified in title 22 must govern the sampling, regardless of the phase.

| Table M-12: Constituents of Emerging Concern | | | | | | | |
|--|---------------------------------|---------------------|----------------------|--|------------------------------|-------------------------|---------------------------|
| Constituent | Relevance/ Indicator Type | Type of Sampl | Minimum Frequency | Monitoring Trigger Level (µg/L) | Reporting Limit (µg/L) | Monitoring Locations | |
| | | | | | | Prior to RO | AWPF Recycled Water |
| 1,4-Dioxane | Health | Grab | Quarterly | 1 | 0.1 | NA | X |
| n-Nitrosodimethylamine (NDMA) | Health & Performance | Grab | Quarterly | 0.010 | 0.002 | X | X |
| Perfluorooctane sulfonate (PFOS) | Health | Grab | Quarterly | 0.013 | 0.0065 | NA ¹ | X ² |
| Perfluorooctanoic acid (PFOA) | Health | Grab | Quarterly | 0.014 | 0.007 | NA | X |
| n-Nitrosomorpholine (NMOR) | Health | Grab | Quarterly | 0.012 | 0.002 | NA | X |
| Sucralose | Performance | Grab | Quarterly | NA | 0.1 | X | X |
| Sulfamethoxazole | Performance | Grab | Quarterly | NA | 0.01 | X | X |

¹NA = Not applicable

²X = required

| Table M-12a: DDW Specified Chemicals | | | | | | |
|--|-------------------|----------------------|-----------------------------------|--------------------|---------------------------|--|
| Constituent | Type of Sample | Minimum Frequency | Monitoring Locations ¹ | | | |
| | | | Prior to RO | Prior to AOP | AWPF Recycled Water | |
| 2,3,5,6- tetrachloroterephthalate (DCPA) | Grab | Quarterly | X | X | X | |
| Albuterol | Grab | Quarterly | NA | NA | X | |
| Caffeine | Grab | Quarterly | NA | NA | X | |
| Carbadox | Grab | Quarterly | NA | NA | X | |
| Chloropicrin | Grab | Quarterly | X | X | X | |
| Chloropyrifos | Grab | Quarterly | NA | NA | X | |
| Chlorothalonil | Grab | Quarterly | NA | NA | X | |
| Erythromycin | Grab | Quarterly | NA | NA | X | |
| Fluoxetine | Grab | Quarterly | NA | NA | X | |

| Table M-12a: DDW Specified Chemicals | | | | | |
|--------------------------------------|------|-----------|----|----|---|
| Iohexol | Grab | Quarterly | NA | NA | X |
| Quinoline | Grab | Quarterly | X | X | X |
| Triclosan | Grab | Quarterly | NA | NA | X |

¹M1W may apply for reduced monitoring of these constituents after one year of data is collected

- d. M1W must follow a three-phased monitoring approach for CEC surrogates, as follows:
 - i. M1W must conduct an initial assessment monitoring phase in two parts: more frequent monitoring must be conducted in months 1 – 3 and then will decrease for months 4 – 12.
 - ii. M1W must evaluate data from the initial assessment phase and those that exhibited reduction by unit processes and/or provided an indication of operational performance must be selected for monitoring in the baseline monitoring phase at a frequency determined by the Central Coast Water Board.
 - iii. M1W must evaluate data from the initial assessment phase and those that exhibited reduction by unit processes and/or provided an indication of operational performance must be selected for monitoring in the standard operation monitoring phase at a frequency determined by the Central Coast Water Board.

| Table M-13: Surrogates for CECs | | | | |
|---------------------------------|----------------|-------------------|----------------------|---------------------|
| Constituent | Type of Sample | Minimum Frequency | Monitoring Locations | |
| | | | Prior to RO | AWPF Recycled Water |
| Electrical Conductivity | Online | Continuous | X | X |
| UV Absorbance | Grab | Quarterly | X | X |
| Total Organic Carbon (TOC) | Grab | Quarterly | X | X |

- e. M1W must follow a three-phased monitoring approach for CEC monitoring by bioanalytical screening tools, as follows:
 - i. M1W must initiate an initial assessment phase by April 8, 2020 and sample quarterly for three years to gather data for Estrogen receptor- α (ER- α) and Aryl hydrocarbon receptor (AhR) bioanalytical screening tools and determine the range of responses for the bioassays.
 - ii. M1W must conduct a baseline monitoring phase for one year and sample quarterly. After each sampling event, M1W must evaluate monitoring results

for bioanalytical screening tools using the direction in section 4(c) and implement the appropriate response actions from table M-13c.

- iii. M1W must conduct a standard operation monitoring phase sampling semiannually or annually, except where more frequent monitoring is necessary to respond to a concern as stated in the Recycled Water Policy Attachment A section 4.2. After each sampling event, M1W must conduct the evaluation in section 4(c) and implement appropriate response actions from table M-13c.

f. Quality Assurance Project Plan

M1W must develop a quality assurance project plan (QAPP) and submit it to the Central Coast Water Board no later than 60 days after startup of injection operations. The QAPP must be developed in accordance with the requirements of section 1 of Attachment A of the Recycled Water Policy to ensure that data collected pursuant to this Monitoring and Reporting Program are of known, consistent, and documented quality. The QAPP will be used for all data collection for the purposes of CEC monitoring

| Table M-13a : Bioanalytical Screening Tools | | | | |
|---|-------------------|------------------------|---------------------------------|----------------------|
| Constituent | Minimum Frequency | Reporting Limit (ng/L) | Monitoring Trigger Level (ng/L) | Monitoring Locations |
| Estrogen receptor- α (ER- α) | Quarterly | 0.5 | 3.5 | AWPF Recycled Water |
| Aryl hydrocarbon receptor (AhR) | Quarterly | 0.5 | 0.5 | AWPF Recycled Water |

4. DATA ANALYSIS

a. Removal Percentage

During the initial assessment phase, M1W must monitor performance to determine removal percentages for performance indicator CECs and surrogates. The removal percentages must be confirmed during the baseline monitoring phase. The removal percentage is the difference in the concentration of a compound in recycled water prior to and after a treatment process (e.g., Prior to RO vs. AWPF recycled water), divided by the concentration prior to the treatment process and multiplied by 100.

$$\text{Removal Percentage} = ([X_{in} - X_{out}]/X_{in}) (100)$$

X_{in} - Concentration in recycled water prior to a treatment process

X_{out} - Concentration in recycled water after a treatment process

The established removal percentages must be used to evaluate treatment effectiveness and operational performance and will be submitted to the Central

Coast Water Board and DDW with the initial assessment monitoring data in the annual summary report.

b. Measured Environmental Concentrations

M1W must evaluate health-based CEC monitoring results. To determine the appropriate response actions, M1W must compare measured environmental concentrations (MECs) to their respective monitoring trigger levels (MTLs), in table M-12 to determine MEC/MTL ratios. M1W must compare the calculated MEC/MTL ratio to the thresholds in Table M-13c and implement the response actions corresponding to the threshold.

| Table M-13b : MEC/MTL Thresholds and Response Actions for Health-based CECs | |
|---|---|
| MEC/MTL Threshold | Response Action ¹ |
| If greater than 75 percent of the MEC/MTL ratio results for a CEC are less than or equal to 0.1 during the baseline monitoring phase and/or subsequent monitoring | A) After completion of the baseline monitoring phase, consider requesting removal of the CEC from the monitoring program. |
| If MEC/MTL ratio is greater than 0.1 and less than or equal to 1 | B) Continue to monitor. |
| If MEC/MTL ratio is greater than 1 and less than or equal to 10 | C) Check the data. Continue to monitor |
| If MEC/MTL ratio is greater than 10 and less than or equal to 100 | D) Check the data, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor |
| If MEC/MTL ratio is greater than 100 | E) Check the data, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor. Contact the Central Coast Water Board and the State Water Board to discuss additional actions. (Additional actions may include, but are not limited to, additional monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.) |

¹If a CEC also has a notification level, additional follow-up monitoring may be required by the State Water Board or Central Coast Water Board per requirements in California Code of Regulations, title 22.

c. Bioanalytical Equivalent Concentrations

M1W must evaluate bioanalytical assay monitoring results. During the baseline and standard operation monitoring phases M1W must determine the appropriate response actions. M1W must compare bioanalytical equivalent concentrations (BEQs) to their respective MTLs, found in table M-13c, to determine BEQ/MTL ratios. M1W must compare the calculated BEQ/MTL ratio to the thresholds in Table M-13c and implement the response actions corresponding to the threshold. The evaluation of BEQ/MTL ratios in the initial assessment phase is not required.

| Table M-13c : BEQ/MTL Thresholds and Response Actions for Bioanalytical Screening Tools | |
|--|--|
| BEQ/MTL Threshold | Response Action |
| If BEQ/MTL ratio is consistently less than or equal to 0.15 for ER- α or 1.0 for AhR | A) After completion of the baseline monitoring phase, consider decreasing monitoring frequency or requesting removal of the endpoint from the monitoring program. |
| If BEQ/MTL ratio is greater than 0.15 and less than or equal to 10 for ER- α or greater than 1.0 and less than or equal to 10 for AhR | B) Continue to monitor. |
| If BEQ/MTL ratio is greater than 10 and less than or equal to 1000 | <p>C) Check the data, resample within 72 hours of notification of the result and analyze to confirm bioassay result.</p> <p>Continue to monitor.</p> <p>Contact the Central Coast Water Board and State Water Board to discuss additional actions, which may include, but are not limited to, targeted analytical chemistry monitoring, increased frequency of bioassay monitoring, and implementation of a source identification program.</p> |
| If BEQ/MTL ratio is greater than 1000 | <p>D) Check the data, resample within 72 hours of notification of the result and analyze to confirm bioassay result.</p> <p>Continue to monitor.</p> <p>Contact the Central Coast Water Board and the State Water Board to discuss additional actions, which may include, but are not limited to, targeted and/or non-targeted analytical chemistry monitoring, increased frequency of bioassay monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.</p> |

1. Treatment Conditions

- a. If a result of the monitoring performed pursuant to title 22 section 60320.201 (i) or section 60320.212 exceeds a contaminant's primary MCL or action level (for lead and copper), M1W must collect another sample within 72 hours of notification of the result and then have it analyzed for the contaminant as confirmation of the exceedance. If the average of the initial and confirmation sample exceeds the MCL or action level, or the confirmation sample is not collected and analyzed pursuant to section 60320.212, M1W must notify DDW and the Central Coast Water Board and perform subsequent monitoring in accordance with section 60320.212(d).
- b. If the annual average of the results of the monitoring performed pursuant to title 22 section 6030.201(i) or section 60320.212 exceeds a contaminant's secondary MCL, M1W must initiate quarterly monitoring of the advanced treated recycled water for the contaminant and perform subsequent actions in accordance with section 60320.212(e).
- c. If a result of the monitoring performed pursuant to title 22 section 60320.201 (i) or section 60320.220(b) exceeds a contaminant's notification level (NLs), M1W must collect another sample within 72 hours of notification of the result and then have it analyzed for the contaminant as confirmation of exceedance. If the average of the initial and confirmation sample exceeds the NLs, or the confirmation sample is not collected and analyzed pursuant to section 60320.220(b), M1W must notify DDW and the Central Coast Water Board and perform subsequent monitoring in accordance with section 60320.220(b).

2. Reverse Osmosis System Pathogen Log Reduction Reporting

M1W will follow a tiered monitoring approach for the RO system, as defined below. M1W must report calculated surrogate reduction values from all tiers and indicate which tier is used for reporting pathogen log reduction, and include an example form and sample calculation for the surrogate reduction in the OOP for DDW acceptance.

All three tiers do not need to be reported each day. Reporting will be done on a form approved by DDW and submitted as a .pdf attachment. If monitoring is not performed for a particular tier (e.g. strontium), M1W may indicate "Not Applicable" on the reporting form.

Tier 1: Daily samples of the combined RO feed stream and effluent stream of each RO train must be analyzed at least every 24 hours for strontium. The RO log reduction value (LRV) credit will be calculated daily by the reduction in strontium concentration demonstrated by the lowest LRV from the RO trains (i.e. using the highest RO effluent strontium concentration). ELAP has updated FOT 103 Toxic Chemical Elements in Drinking Water to include Elemental Strontium. Strontium analysis must be performed by laboratories with current ELAP accreditation. The results of strontium analysis must be available within 24 hours. If strontium data are unavailable, the RO LRV credit must be determined by the second tier (TOC) or third tier (EC).

Tier 2: Continuous TOC monitoring (at least once every 15-minutes) of the combined RO feed stream and the combined RO effluent stream. The RO LRV credit will be calculated based on the average daily reduction in

TOC. If first tier (strontium) and second tier (TOC) data are unavailable, the RO LRV credit must be determined by the third tier.

Tier 3: Continuous EC monitoring (at least once every 15-minutes) of the combined RO feed stream and effluent stream of each RO train. The RO LRV credit must be calculated based on the minimum daily EC reduction, if first tier (strontium) and second tier (TOC) data are unavailable.

3. Evaluation of Pathogenic Microorganism Removal

For the purposes of evaluating the performance of the following treatment facilities/units with regards to pathogenic microorganism removal, M1W must include the results of the monitoring specified below in its monthly compliance monitoring reports:

- a. For the purpose of demonstrating that the necessary log reductions are achieved at the AWPf, M1W must report the daily average and maximum turbidity, percent of time more than 5 NTUs, and daily coliform results measured in the recycled water (as specified in Table M-3);
- b. Advanced Oxidation Process (AOP) - (UV and hydrogen peroxide at the AWPf): For each day of operation, M1W must report the calculated daily peroxide dose (based on the peroxide pump speed and bulk feed concentration). For UV, M1W must report the UV system dose (expressed as greater than a certain threshold such as 300 milli-joules/cm²), UV transmittance (daily minimum, maximum, and average), UV intensity for each reactor (daily minimum, maximum, and average), and the total UV power applied; and
- c. Based on the calculation of log reduction achieved each day by the entire treatment system, M1W must report the value and "Yes" or "No" for each day as to whether the necessary log reductions (i.e. 10-logs for Giardia, 10-logs for Cryptosporidium, and 12-logs for virus) have been attained. An overall log reduction calculation must be provided only for those days when a portion of the treatment system does not achieve the credits proposed in Table 5-4 of the 2019 Title 22 Engineering Report.

5. Groundwater Monitoring

- a. As required by title 22, section 60320.226, prior to operating any injection well, M1W must site and construct at least two monitoring wells downgradient of the injection well, such that:
 - i. At least one monitoring well is located;
 - a. No less than two weeks but no more than six months of travel time from the injection wells, and
 - b. at least 30 days travel time downgradient of the injection well but upgradient of the nearest drinking water well in the same water bearing unit as the injection well;
 - ii. In addition, the well(s) in paragraph (i) and after consultation with DDW, at least two additional monitoring wells will be located between the injection wells and the nearest downgradient drinking water well; and
 - iii. samples from the monitoring wells in paragraphs (i) and (ii) must be;

- a. obtained independently from each aquifer receiving the recharge water, and
 - b. validated as receiving recharge water from the injection well.
- b. In addition to the monitoring required pursuant to section 60320.220, from each monitoring well in subsection (a)(i), and each monitoring well in subsection (a)(ii) that has recharge water located within one-year travel time of the well(s), M1W must collect two samples prior to injection well operation and at least one sample each quarter after operations begins. Each sample must be analyzed for nitrogen, nitrate, nitrite, and constituents with secondary MCL's.

Monitoring wells have been installed to ensure ongoing project performance and to comply with title 22. The objectives of the groundwater monitoring well program are to demonstrate compliance with the title 22 and Basin Plan groundwater criteria and applicable state policies regarding protection of groundwater by:

- i. Siting one downgradient well with groundwater travel times (underground retention time) no less than two weeks and no more than six months from the injection wells (well also has to be greater than 30 days travel time from the nearest drinking water source).
- ii. Siting an additional downgradient well between the Injection Facilities and the nearest downgradient potable water supply (in addition to the downgradient monitoring well used to demonstrate retention time as described in the bullet point above).
- iii. Monitoring groundwater levels and water quality; the well design will allow for sample collection from each aquifer receiving recycled water.
- iv. Collecting baseline water quality samples prior to startup of the Project operation.

For the injection well cluster at the DIW-2 site, no adjacent shallow monitoring well is proposed. Travel times from this well are very long and one monitoring well is presumed sufficient to document performance of this eastern-most injection well cluster. A tracer test will confirm whether or not one monitoring well is sufficient to monitor the performance of the DIW-2 injection well cluster.

Representative samples of groundwater must be collected from all monitoring wells installed for this project. Table M-14 sets forth the minimum constituents and parameters for monitoring groundwater quality in M1W monitoring wells.

M1W must implement the following groundwater monitoring program as described in Tables M-14, M-15, and M-16. Some constituents may be eligible for reduced monitoring due to the consistent historic lack of detection, upon approval by the Executive Officer.

If any of the monitoring results indicate that an MCL has been exceeded or coliforms are present in the monitoring wells at the M1W groundwater injection project as a result of the use of the recycled water, M1W must notify DDW and Central Coast Water Board within 72 hours of receiving the results and make note of any positive finding in the next monitoring report submitted to the Central Coast Water Board.

Upon an exceedance of 10 ng/L for NDMA in monitoring samples in groundwater wells and within 30 days, M1W must notify DDW and the Central Coast Water

Board and begin monthly sampling of groundwater for NDMA from the well with the exceedance. Groundwater sampling may return to the frequency stated in this Monitoring and Reporting Program if the average of three consecutive monthly samples is 10 ng/L or below.

| Table M-14: Groundwater Monitoring | | | | |
|------------------------------------|------------|----------------|-------------------------------|------------------------|
| Constituents/Parameters | Units | Type of Sample | Minimum Frequency of Analysis | Reference Table Number |
| Water level elevation ¹ | Feet | NA | Quarterly | M-14 |
| Chlorine residual | mg/L | Grab | Quarterly | M-14 |
| Chloride | mg/L | Grab | Quarterly | M-14 |
| Nitrate-N | mg/L | Grab | Quarterly | M-14 |
| Nitrite-N | mg/L | Grab | Quarterly | M-14 |
| Nitrate plus Nitrite | mg/L | Grab | Quarterly | M-14 |
| pH | pH units | Grab | Quarterly | M-14 |
| Sodium | mg/L | Grab | Quarterly | M-14 |
| Sulfate | mg/L | Grab | Quarterly | M-14 |
| TOC | mg/L | Grab | Quarterly | M-14 |
| Total coliform | MPN/100 mL | Grab | Quarterly | M-14 |
| BOD ₅ 20°C | mg/L | Grab | Semiannually | M-14 |
| Oil and grease | mg/L | Grab | Quarterly | M-14 |
| Total nitrogen | mg/L | Grab | Quarterly | M-14 |
| Total Suspended Solids | mg/L | Grab | Semiannually | M-14 |
| Turbidity | NTU | Grab | Quarterly | M-14 |
| Inorganics with primary MCLs | µg/L | Grab | Monthly | M-4 |

¹Water level elevations must be measured to the nearest 0.01 feet and referenced to mean sea level.

| Table M-14: Groundwater Monitoring | | | | |
|---|-------|------|-----------|------|
| Constituents/parameters with secondary MCLs | | | | |
| Radioactivity | pci/L | Grab | Quarterly | M-15 |
| Regulated organics | µg/L | Grab | Quarterly | M-15 |
| Disinfection byproducts (DBPs) | µg/L | Grab | Quarterly | M-15 |
| General physical | - | Grab | Monthly | M-16 |
| General minerals | µg/L | Grab | Monthly | M-16 |
| Chemicals with NLs | µg/L | Grab | Quarterly | M-15 |
| N-Nitrosopyrrolidine | µg/L | Grab | Annually | M-14 |
| Remaining priority pollutants | µg/L | Grab | Quarterly | M-15 |
| Silver | mg/L | Grab | Quarterly | M-14 |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Constituent | Frequency |
| Radioactivity | |
| Gross Alpha Particle Activity (including Radium-226 but excluding radon and uranium) | Quarterly |
| Gross Beta Particle Activity | Quarterly |
| Radium-226 | Quarterly |
| Radium-226 & Radium-228 (Combined) | Quarterly |
| Radium-228 | Quarterly |
| Strontium-90 | Quarterly |
| Tritium | Quarterly |
| Uranium | Quarterly |
| Organic Chemicals | |
| (a) Volatile Organic Chemicals | |
| 1,1,1-Trichloroethane | Quarterly |
| 1,1,2,2-Tetrachloroethane | Quarterly |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | Quarterly |
| 1,1,2-Trichloroethane | Quarterly |
| 1,1-Dichloroethane | Quarterly |
| 1,1-Dichloroethene (1,1 DCE) | Quarterly |
| 1,2,4-Trichlorobenzene | Quarterly |
| 1,2-Dichlorobenzene | Quarterly |
| 1,2-Dichloroethane (1,2 DCA) | Quarterly |
| 1,2-Dichloropropane | Quarterly |
| 1,3-Dichloropropene | Quarterly |
| 1,4-Dichlorobenzene | Quarterly |
| Benzene | Quarterly |
| Carbon Tetrachloride (CTC) | Quarterly |
| cis-1,2-Dichloroethylene | Quarterly |
| Dichloromethane | Quarterly |
| Ethylbenzene | Quarterly |
| Methyl-tert-butyl-ether (MTBE) | Quarterly |
| Monochlorobenzene | Quarterly |
| Styrene | Quarterly |
| Tetrachloroethylene (PCE) | Quarterly |
| Toluene | Quarterly |
| trans-1,2-Dichloroethylene | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Trichloroethylene (TCE) | Quarterly |
| Trichlorofluoro-methane | Quarterly |
| Vinyl Chloride | Quarterly |
| Xylenes (m, p) | Quarterly |
| (b) Synthetic organic chemical | |
| 1,2-Dibromo-3-Chloropropane (DBCP) | Quarterly |
| 1,2,3-Trichloropropane | Quarterly |
| 2,3,7,8-TCDD (Dioxin) | Quarterly |
| 2,4,5-TP (Silvex) | Quarterly |
| 2,4-Dichlorophenoxyacetic acid (2,4-D) | Quarterly |
| 2,3,5,6-tetrachloroterephthalate (DCPA) | Quarterly |
| Alachlor | Quarterly |
| Albuterol | Quarterly |
| Atrazine | Quarterly |
| Bentazon | Quarterly |
| Benzo (a) pyrene | Quarterly |
| Caffeine | Quarterly |
| Carbadox | Quarterly |
| Carbofuran | Quarterly |
| Chlordane | Quarterly |
| Chloropicrin | Quarterly |
| Dalapon | Quarterly |
| Di (2-ethylhexyl) adipate | Quarterly |
| Di (2-ethylhexyl) phthalate | Quarterly |
| Dinoseb | Quarterly |
| Diquat | Quarterly |
| Endothal | Quarterly |
| Endrin | Quarterly |
| Erythromycin | Quarterly |
| Ethylene Dibromide (EDB) | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Fluoxetine | Quarterly |
| Glyphosate | Quarterly |
| Heptachlor | Quarterly |
| Heptachlor Epoxide | Quarterly |
| Hexachlorobenzene | Quarterly |
| Hexachlorocyclo-pentadiene | Quarterly |
| Iohexol | Quarterly |
| Lindane (Gamma BHC) | Quarterly |
| Methoxychlor | Quarterly |
| Molinate | Quarterly |
| Oxamyl | Quarterly |
| PCB 1016 | Quarterly |
| PCB 1221 | Quarterly |
| PCB 1232 | Quarterly |
| PCB 1242 | Quarterly |
| PCB 1248 | Quarterly |
| PCB 1254 | Quarterly |
| PCB 1260 | Quarterly |
| Pentachlorophenol | Quarterly |
| Picloram | Quarterly |
| Quinoline | Quarterly |
| Simazine | Quarterly |
| Thiobencarb | Quarterly |
| Toxaphene | Quarterly |
| Triclosan | Quarterly |
| Disinfection Byproducts | |
| Bromate | Quarterly |
| Bromodichloro-methane | Quarterly |
| Bromoform | Quarterly |
| Chlorite | Quarterly |
| Chloroform | Quarterly |
| Dibromoacetic Acid | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Dibromochloro-methane | Quarterly |
| Dichloroacetic Acid | Quarterly |
| Haloacetic Acid (Five) (HAA5) | Quarterly |
| Monobromoacetic Acid | Quarterly |
| Monochloroacetic Acid | Quarterly |
| Total Trihalomethanes | Quarterly |
| Trichloroacetic Acid | Quarterly |
| Chemicals with Notification Levels | |
| 1,2,4-Trimethylbenzene | Quarterly |
| 1,3,5-Trimethylbenzene | Quarterly |
| 1,4-Dioxane | Quarterly |
| 2-Chlorotoluene | Quarterly |
| 2,4,6-Trinitrotoluene (TNT) | Quarterly |
| 4-Chlorotoluene | Quarterly |
| Boron | Quarterly |
| Carbon Disulfide | Quarterly |
| Chlorate | Quarterly |
| Diazinon | Quarterly |
| Dichlorodifluoro-methane (Freon 12) | Quarterly |
| Ethylene Glycol | Quarterly |
| Formaldehyde | Quarterly |
| HMX | Quarterly |
| Isopropylbenzene | Quarterly |
| Manganese | Quarterly |
| Methyl-isobutyl-keytone (MIBK) | Quarterly |
| Naphthalene | Quarterly |
| n-Butylbenzene | Quarterly |
| n-Nitrosodiethyl-amine (NDEA) | Quarterly |
| n-Nitrosodimethylamine (NDMA) | Quarterly |
| n-Nitrosodi-n-propylamine (NDPA) | Quarterly |
| Perfluorooctanoic acid | Quarterly |
| Perfluorooctane sulfonate (PFOS) | Quarterly |
| n-Propylbenzene | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Propachlor | Quarterly |
| RDX | Quarterly |
| sec-Butlybenzene | Quarterly |
| tert-Butylbenzene | Quarterly |
| Tertiary-butyl-alcohol (TBA) | Quarterly |
| Vanadium | Quarterly |
| Remaining Priority Pollutants | |
| <i>Pesticides</i> | |
| 4,4,4'-DDD | Quarterly |
| 4,4,4'-DDE | Quarterly |
| 4,4,4'-DDT | Quarterly |
| Aldrin | Quarterly |
| Alpha BHC | Quarterly |
| Alpha Endosulfan | Quarterly |
| Beta BHC | Quarterly |
| Beta Endosulfan | Quarterly |
| Chloropyrifos | Quarterly |
| Chlorothalonil | Quarterly |
| Chromium III | Quarterly |
| Chromium VI | Quarterly |
| Delta BHC | Quarterly |
| Dieldrin | Quarterly |
| Endosulfan Sulfate | Quarterly |
| Endrin Aldehyde | Quarterly |
| <i>Acid Extractables</i> | |
| 2,4,6-Trichlorophenol | Quarterly |
| 2,4-Dichlorophenol | Quarterly |
| 2,4-Dimethylphenol | Quarterly |
| 2,4-Dinitrophenol | Quarterly |
| 2-Chlorophenol | Quarterly |
| 2-Nitrophenol | Quarterly |
| 4,6-Dinitro-o-Cresol (2-Methyl-4,6-Dinitrophenol) | Quarterly |
| 4-Nitrophenol | Quarterly |
| p-Chloro-m-Cresol (3-Methyl-4-Chlorophenol) | Quarterly |
| Phenol | Quarterly |
| <i>Base/Neutral Extractables</i> | |
| 1,12-Benzoperylene (Benzo(g,h,i)-perylene)) | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| 1,2,5,6-Dibenzanthracene (Dibenzo(a,h) anthracene) | Quarterly |
| 1,2-Diphenylhydrazine | Quarterly |
| 1,3-Dichlorobenzene | Quarterly |
| 2,4-Dinitrotoluene | Quarterly |
| 2,6-Dinitrotoluene | Quarterly |
| 2-Chloronaphthalene | Quarterly |
| 3,3'-Dichlorobenzidine | Quarterly |
| 4-Bromophenyl phenyl ether | Quarterly |
| 4-Chlorophenyl phenyl ether | Quarterly |
| Acenaphthene | Quarterly |
| Acenaphthylene | Quarterly |
| Anthracene | Quarterly |
| Benzidine | Quarterly |
| Benzo(a)anthracene | Quarterly |
| Benzo(b)fluoranthene | Quarterly |
| Benzo(k)fluoranthene | Quarterly |
| Bis(2-chloroethoxy)-methane | Quarterly |
| Bis(2-chloroethyl) ether | Quarterly |
| Bis(2-chloroisopropyl) ether | Quarterly |
| Butyl benzyl phthalate | Quarterly |
| Chrysene | Quarterly |
| Di(2-ethylhexyl) phthalate | Quarterly |
| Dimethyl phthalate | Quarterly |
| Di-n-butyl phthalate | Quarterly |
| Di-n-octyl phthalate | Quarterly |
| Fluoranthene | Quarterly |
| Fluorene | Quarterly |
| Hexachlorobutadiene | Quarterly |
| Hexachloroethane | Quarterly |
| Indeno(1,2,3-cd) pyrene | Quarterly |
| Isophorone | Quarterly |
| Nitrobenzene | Quarterly |
| n-Nitrosodi-n-propylamine | Quarterly |
| n-Nitrosodiphenylamine | Quarterly |
| Phenanthrene | Quarterly |
| Pyrene | Quarterly |
| 1,1-Dichloroethylene | Quarterly |
| 2-Chloroethyl vinyl ether | Quarterly |

| Table M-15: Groundwater Monitoring Frequency | |
|--|-----------|
| Acrolein | Quarterly |
| Acrylonitrile | Quarterly |
| Chlorobenzene | Quarterly |
| Chloroethane | Quarterly |
| Methyl bromide | Quarterly |
| Methyl chloride | Quarterly |

| Table M-16: General Physical and General Minerals | | |
|---|-------------|------------------------|
| Constituent | | |
| Asbestos | Potassium | Foaming Agents |
| Calcium | Sodium | Odor |
| Chloride | Sulfate | Specific Conductance |
| Copper | Zinc | Total Dissolved Solids |
| Iron | Color | Total Hardness |
| Manganese | Corrosivity | |

V. CERTIFICATION STATEMENT

Each report must contain the following declaration:

“I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the _____ day of _____ at _____

_____ (Signature)

_____ (Title)”

VI. OTHER MONITORING REQUIREMENTS

M1W must submit written documentation identifying the responsible party who certifies the perjury document.

VII. MONITORING PARAMETER & FREQUENCY REDUCTIONS

1. The list of parameters and monitoring frequencies may be adjusted by the Executive Officer if M1W makes a request and the Executive Officer approves the modification is adequately supported by statistical trends of monitoring data submitted.
2. Per title 22 section 60320.201(i), after 12 consecutive months with no results exceed an NL or MCL, M1W may apply for a reduced monitoring frequency of recycled water. The reduced monitoring frequency must be no less than quarterly.
3. Per title 22 section 60320.212(f), if four consecutive quarterly results for asbestos are below the detection limits, monitoring in recycled water may be reduced to one sample every three years.
4. Per title 22 section 60320.220 (c) states priority pollutants, NLs, DDW-specified chemicals can be reduced from quarterly to annually in recycled water and groundwater within 1-year travel time after DDW review of most recent two years of results.
5. Per title 22 section 60320.226(e) indicates groundwater monitoring for Priority Pollutants, NLs, DDW-specified chemicals can be “discontinued” following DDW approval of the most recent 2 years of monitoring results.
6. The following chemicals detected in RO Permeate; quinoline, 2,3,5,6-tetrachloroterephthalate (DCPA), chloropicrin, albuterol, erythromycin, carbadox, fluoxetine, caffeine, iohexol, and triclosan, and the pesticides chloropyrifos and chlorothalonil may be reduced or eliminated after four quarters of monitoring, and after DDW review and approval.

VIII. CERTIFICATION

for John M. Robertson
Executive Officer