

Attachment E – Monitoring and Reporting Program – Table of Contents

Attachment E – Monitoring and Reporting Program (MRP)..... 2
I. General Monitoring Provisions..... 2
II. Monitoring Locations..... 2
III. Influent Monitoring Requirements 4
IV. Effluent Monitoring Requirements 5
V. Whole Effluent Toxicity Testing Requirements 6
VI. Land Discharge Monitoring Requirements..... 6
VII. Reclamation Monitoring Requirements..... 6
VIII. Receiving Water Monitoring Requirements – Lower Owens River..... 7
IX. Other Monitoring Requirements 7
X. Reporting Requirements 10
 A. General Monitoring and Reporting Requirements..... 10
 B. Self Monitoring Reports..... 10
 C. Other Reports and Notification Requirements 12

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. This MRP establishes the monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

General Monitoring and Reporting Provisions for the Lahontan Region are included in Attachment N. In the event of a conflict between the General Monitoring and Reporting Provisions for the Lahontan Region and the Federal Standard Provisions (Attachment D), the Federal Standard Provisions shall apply.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the limitations, discharge specifications, and other requirements in this Order:

Monitoring Location	Monitoring Location Description	Approximate Monitoring Location Latitude	Approximate Monitoring Point Longitude
M-001U	Lower Owens River (100 feet upstream of River Intake construction and dewatering activities)	36 °, 58', 33" N	118 °, 12', 33" W
M-002U	Lower Owens River - at Keeler Bridge (100 feet upstream of construction and stream diversion)	36 °, 34', 35" N	118 °, 01', 00" W
M-003U	Lower Owens River at Pump Station (100 feet upstream of construction and dewatering activities)	36 °, 32', 59" N	117 °, 58', 57" W
R-005U	Los Angeles Aqueduct - 100 feet upstream from Pump Station outfall	36°, 32', 32" N	118 °, 03', 01" W
M-001A	Los Angeles Aqueduct (100 feet downstream of dewatering discharge from River Intake construction)	36 °, 58', 33" N	118 °, 12', 33" W
M-001R	Lower Owens River (100 feet downstream of dewatering discharge from River Intake construction)	36 °, 58', 33" N	118 °, 12', 33" W
M-002	Lower Owens River - at Keeler Bridge (100 feet downstream of stream diversion)	36 °, 34', 35" N	118 °, 01', 00" W

Monitoring Locations Continued:

Monitoring Location	Monitoring Location Description	Approximate Monitoring Location Latitude	Approximate Monitoring Point Longitude
M-003	Lower Owens River at Pump Station (100 feet downstream of construction and dewatering activities)	36 °, 32', 59" N	117 °, 58', 57" W
R-004A	Lower Owens River - at Mazourka Canyon Rd	36 °, 48', 10" N	118 °, 07', 49" W
R-004B	Lower Owens River - at Lone Pine Station Rd	36 °, 37', 42" N	118 °, 02', 32" W
R-004C	Lower Owens River - at Keeler Bridge	36 °, 34', 35" N	118 °, 01', 00" W
R-004D	Lower Owens River at Pump Station forebay (representative of effluent discharged to Los Angeles Aqueduct)	36 °, 32', 59" N	117 °, 58', 57" W
R-005	Los Angeles Aqueduct - below Pump Station outfall, 100 feet upstream of the confluence with Cottonwood Creek (flow monitoring at lat/long cited, downstream of confluence with Cottonwood Creek)	36 °, 24', 56" N	118 °, 02', 21" W
L-001	Dredged spoils pile at Intake Structure (spoils come from Intake Structure forebay)	36 °, 58', 33" N	118 °, 12', 33" W
L-002	Dredged spoils pile at Pump Station (spoils come from Pump Station forebay)	36 °, 32', 59" N	117 °, 58', 57" W

For the purposes of this Order: Water quality at monitoring location R-004D shall be considered representative of both the quality of the Lower Owens River at the Pump Station, and the quality of the discharge from the Pump Station (Discharge 005). Water quality at monitoring location R-005 shall be considered representative of the water quality in the Los Angeles Aqueduct below the Pump Station outfall. Flow rates at location R-005, after subtracting any flow contribution from Cottonwood Creek, shall be considered representative of the flow rates in the Los Angeles Aqueduct below the Pump Station outfall. The estimated travel time for Discharge 005 to reach R-005 is generally 15 – 19 hours, depending on the total flow in the Los Angeles Aqueduct.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001U, M-002U, and M-003U

The Discharger shall monitor 100 feet upstream of the River Intake construction site (M-001U) when discharge 001 is occurring, 100 feet upstream of the Keeler Weir stream diversion (M-002U) when discharge 002 is occurring, and 100 feet upstream of the pump construction site (M-003U) when discharge 003 is occurring. Sampling shall be initiated on the same day the discharge commences, and continue thereafter, as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	*weekly* ¹	Field
Temperature	°F or °C	grab	*weekly*	Field
Specific Conductance	µmhos/cm	grab	*weekly*	Field
Dissolved Oxygen	mg/l	grab	*weekly*	Field
Turbidity	NTU	grab	*weekly*	Field
Flow	cfs	NA	*weekly*	Field

1. See description of modified weekly monitoring schedule “*weekly*” in MRP Section X.A.2.

B. Monitoring Locations M-001U and R-005U

The Discharger shall monitor the river water influent, 100 feet upstream of the Intake Structure (M-001U) when discharge 004 is occurring, and the Los Angeles Aqueduct 100 feet upstream of the Pump Station outfall discharge (R-005U) in any month when discharges to the Los Angeles Aqueduct occur from the Pump Station, as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	monthly	Field
Temperature	°F or °C	grab	monthly	Field
Specific Conductance	µmhos/cm	grab	monthly	Field
Dissolved Oxygen	mg/l	grab	monthly	Field
Turbidity	NTU	grab	monthly	Field
Total Dissolved Solids	mg/l	grab	monthly	US EPA 160
Total Suspended Solids	mg/l	grab	monthly	US EPA 160
Nitrate as Nitrogen	mg/l as N	grab	monthly	US EPA 300
TKN	mg/l	grab	monthly	US EPA 415
Ammonia as Nitrogen	mg/l as N	grab	monthly	US EPA 350
Dissolved Orthophosphorus (soluble, reactive)	mg/l	grab	monthly	US EPA 365
Total Phosphorus	mg/l	grab	monthly	US EPA 365
Sulfate	mg/l	grab	monthly	US EPA 300
Hydrogen Sulfide	mg/l	grab	monthly	US EPA 376
Chloride	mg/l	grab	monthly	US EPA 300
Flow	cfs	NA	monthly	Field

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001A, M-001R, M-002, and M-003

The Discharger shall monitor the construction dewatering discharge from the Intake Structure construction area to the Los Angeles Aqueduct (M-001A) and/or the Lower Owens River (M-001R) when discharge 001 is occurring, the stream diversion discharge 100 feet downstream of the Keeler weir construction site (M-002) when discharge 002 is occurring, and the construction dewatering discharge from the Pump Station (M-003) when discharge 003 is occurring. Sampling shall be initiated on the same day the discharge commences, and continue thereafter, as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	*weekly*	Field
Temperature	°F or °C	grab	*weekly*	Field
Specific Conductance	µmhos/cm	grab	*weekly*	Field
Dissolved Oxygen	mg/l	grab	*weekly*	Field
Turbidity	NTU	grab	*weekly*	Field
Flow	cfs	NA	*weekly*	Field

B. Monitoring Location R-005

The Discharger shall monitor the Los Angeles Aqueduct (R-005) downstream of the Pump Station discharge (005) during any month that discharge from the Pump Station to the Los Angeles Aqueduct occurs. Sampling shall be conducted following a sufficient time period for the Pump Station discharge to reach R-005, based on average flow velocity in the Los Angeles Aqueduct. Volumetric flow rates shall be reported for water delivered from the Pump Station to the Los Angeles Aqueduct. Monitoring shall be conducted as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	monthly	Field
Temperature	°F or °C	grab	monthly	Field
Specific Conductance	µmhos/cm	grab	monthly	Field
Dissolved Oxygen	mg/l	grab	monthly	Field
Turbidity	NTU	grab	monthly	Field
Total Dissolved Solids	mg/l	grab	monthly	US EPA 160
Total Suspended Solids	mg/l	grab	monthly	US EPA 160
Nitrate as Nitrogen	mg/l as N	grab	monthly	US EPA 300
TKN	mg/l	grab	monthly	US EPA 415
Ammonia as Nitrogen	mg/l as N	grab	monthly	US EPA 350
Dissolved Orthophosphorus (soluble, reactive)	mg/l	grab	monthly	US EPA 365
Total Phosphorus	mg/l	grab	monthly	US EPA 365
Sulfate	mg/l	grab	monthly	US EPA 300
Hydrogen Sulfide	mg/l	grab	monthly	US EPA 376
Chloride	mg/l	grab	monthly	US EPA 300
Flow	cfs	NA	monthly	Field

V. WHOLE EFFLUENT TESTING REQUIREMENTS

Grab samples of water shall be collected once at Monitoring Location R-004D (representing the Pump Station outfall), **within the first six months of initiating discharge 005**, to coincide with Reasonable Potential Analysis (RPA) testing for California Toxics Rule (CTR) constituents, as specified for R-004D in Section IX.A.1., of this Monitoring and Reporting Program. Whole effluent toxicity (WET) testing shall be performed with the grab samples obtained. All test species, procedures, and quality assurance criteria used shall be in accordance with the methods prescribed for definitive testing in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, USEPA, October 2002. (Reference: EPA-821-R-02-013.) Dilution and control waters should be obtained from an area unaffected by the discharge in the receiving waters (Los Angeles Aqueduct, R-005U). If toxicity is identified in the sample, the WET test shall be repeated within 120 days. **Results of the analyses shall be reported within nine months of initiating discharge 004 flow from the River Intake to the Lower Owens River.**

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Monitoring Locations L-001 and L-002

The Discharger shall monitor dredged spoils discharged at the Intake Structure (L-001) and the Pump Station (L-002), and tabulate information on the wastes disposed for reporting purposes, in accordance with the following table or equivalent record-keeping processes:

Type of Waste	Estimated Quantity (cubic yards)	Date	Estimation Method

The Discharger shall monitor water quality 100 feet upstream of, and 100 feet downstream of isolation/containment areas for dredge and/or fill activities until the activities are complete. Sampling shall be initiated on the same day the discharge commences, and continue thereafter, as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	*weekly* ¹	Field
Temperature	°F or °C	grab	*weekly*	Field
Specific Conductance	µmhos/cm	grab	*weekly*	Field
Dissolved Oxygen	mg/l	grab	*weekly*	Field
Turbidity	NTU	grab	*weekly*	Field

1. See description of modified weekly monitoring schedule “*weekly*” in MRP Section X.A.2.

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – LOWER OWENS RIVER**Monitoring Locations R-004A, R-004B, R-004C, and R-004D**

When discharge 004 is initiated and thereafter, the Discharger shall monitor the Lower Owens River at Mazourka Canyon Road (R-004A), Lone Pine Road (R-004B), Keeler Bridge (R-004C), and the Pump Station forebay (R-004D), as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	monthly	Field
Temperature	°F or °C	grab	monthly	Field
Specific Conductance	µmhos/cm	grab	monthly	Field
Dissolved Oxygen	mg/l	grab	monthly	Field
Turbidity	NTU	grab	monthly	Field
Total Dissolved Solids	mg/l	grab	monthly	US EPA 160
Total Suspended Solids	mg/l	grab	monthly	US EPA 160
Nitrate as Nitrogen	mg/l as N	grab	monthly	US EPA 300
TKN	mg/l	grab	monthly	US EPA 415
Ammonia as Nitrogen	mg/l as N	grab	monthly	US EPA 350
Dissolved Orthophosphorus (soluble, reactive)	mg/l	grab	monthly	US EPA 365
Total Phosphorus	mg/l	grab	monthly	US EPA 365
Sulfate	mg/l	grab	monthly	US EPA 300
Hydrogen Sulfide	mg/l	grab	monthly	US EPA 376
Chloride	mg/l	grab	monthly	US EPA 300
Flow	cfs	NA	monthly	Field

IX. OTHER MONITORING REQUIREMENTS**A. Interim Priority Pollutant Monitoring Requirements**

1. Effluent Monitoring (M-001 and R-004D)

Representative samples of effluent discharged to the Los Angeles Aqueduct (M-001A) from dewatering at the River Intake (Discharge 001), and from the Pump Station to the Los Angeles Aqueduct (R-004D), and shall be collected to evaluate whether additional water quality-based limitations are required. The effluent samples shall be analyzed for the constituents listed below:

Constituents	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Volatile Organics	µg/l	grab	once in first six months of flow	Attachment J
Semi-Volatile Organic	µg/l	grab	once in first six months of flow	Attachment J
Inorganics	µg/l	grab	once in first six months of flow	Attachment J
Pesticides & PCBs	µg/l	grab	once in first six months of flow	Attachment J

Dioxin	µg/l	grab	once in first six months of flow	Attachment J
Discharge flow	cfs	N/A	once in first six months of flow	Field

2. Ambient Surface Water Monitoring (M-001U and R-005U)

Representative samples of the receiving waters, unaffected by the effluent discharge, shall be collected on the same day as the corresponding upstream samples in Section IX.A.1, above, to evaluate whether additional water quality-based effluent limitations are required. The receiving water samples shall be analyzed for the constituents listed below:

Constituents	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Volatile Organics	µg/l	grab	once in first six months of flow	Attachment J
Semi-Volatile Organic	µg/l	grab	once in first six months of flow	Attachment J
Inorganics	µg/l	grab	once in first six months of flow	Attachment J
Pesticides & PCBs	µg/l	grab	once in first six months of flow	Attachment J
Dioxin	µg/l	grab	once in first six months of flow	Attachment J
Discharge flow	cfs	N/A	once in first six months of flow	Field

B. Wetland Functions and Values Monitoring Requirements for “No Net Loss” Determination

- By April 1 of 2014, the Discharger shall provide an updated hydrogeomorphic analysis of wetland functions and values suitable for comparison with the pre-project hydrogeomorphic analysis of the LORP, and a determination on whether “no net loss” requirements of the Section 401 certification have been achieved with regard to wetland functions and values. An updated analysis shall be provided by April 1, 2019, and April 1, 2024, unless the Regional Water Board Executive Officer determines that “no net loss” requirements have been fulfilled based on information provided by the Discharger.
- A jurisdictional wetland delineation of 500-acre portions of the Black Rock Waterfowl Area shall be completed (using the U.S Army Corps of Engineers 1987 wetland delineation manual) two years following action to restrict the water supply to any area currently being artificially supplied with water, until delineations have been completed for the entire Black Rock Waterfowl Area.

C. Monitoring Requirements for First Winter Habitat Flow, Alabama Release, and Initial Two Spring Seasonal Habitat Flows

Monitoring Locations M-001U, R-004A to R-004D

The monitoring locations above shall be sampled in accordance with the following schedule, which shall be denoted in this Order as *daily*: commencing on the day of

initiating the high-flow releases (>40 cfs); five days per calendar week for two weeks thereafter; at least twice during the first week following cessation of high-flow releases, at a minimum of two-day intervals.

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
pH	pH units	grab	*daily*	Field
Temperature	°F or °C	grab	*daily*	Field
Specific Conductance	µmhos/cm	grab	*daily*	Field
Dissolved Oxygen	mg/l	grab	*daily*	Field
Turbidity	NTU	grab	*daily*	Field
Total Dissolved Solids	mg/l	grab	*daily*	US EPA 160
Total Suspended Solids	mg/l	grab	*daily*	US EPA 160
Nitrate as Nitrogen	mg/l as N	grab	*daily*	US EPA 300
TKN	mg/l	grab	*daily*	US EPA 415
Ammonia as Nitrogen	mg/l as N	grab	*daily*	US EPA 350
Dissolved Orthophosphorus (soluble, reactive)	mg/l	grab	*daily*	US EPA 365
Total Phosphorus	mg/l	grab	*daily*	US EPA 365
Sulfate	mg/l	grab	*daily*	US EPA 300
Hydrogen Sulfide	mg/l	grab	*daily*	US EPA 376
Chloride	mg/l	grab	*daily*	US EPA 300
Flow	cfs	NA	*daily*	Field

D. Flow Monitoring

1. The Discharger shall monitor and report daily flow rates and cumulative monthly volumetric flows (in cubic feet or acre feet) released at the River Intake and other spill gates above the Owens Lake Delta; water discharged to the Owens Lake Delta, the Owens Lake Dust Control project, and the Los Angeles Aqueduct; and the flow in the Los Angeles Aqueduct at the River Intake and upstream of the Pump Station outfall.
2. Alabama Release: During the first winter habitat release, the Discharger shall monitor the flow in the Lower Owens River upriver from the Alabama Spillgate (and downriver from the Georges Spillgate), and the release rate from the Alabama Spillgate, to demonstrate that requirements to provide and maintain minimum combined flow rates of 200 cfs for at least 96 hours are achieved in the Lower Owens River immediately below the Alabama Spillgate. The results of the monitoring shall be presented in the first monitoring report due the first day of the second calendar month following the conclusion of the first winter habitat release.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. Samples shall be representative of the conditions in the water body and timed to coincide with discharges such that the effect of the discharge is monitored. In general, this will mean samples are collected on the same day at corresponding upstream and downstream monitoring locations (e.g., M-003U and M003), except sampling at R-005, which shall be timed appropriately to follow related monitoring at R-005U and R-004D, dependent on flow in the Los Angeles Aqueduct.
2. Where sampling frequency is designated in this Order as *weekly*, monitoring shall be conducted not less than once per week following initial first-day monitoring when water is present at the sampling location. Where u = upstream sample value, and d = downstream sample value, and u and d are in consistent units: if the absolute value of one minus the ratio of the upstream parameter to the downstream parameter during such monitoring exceeds the upstream parameter by more than ten percent (%), where

$$\% = \left| 1 - \frac{u}{d} \right| \times 100$$

- that parameter shall continue to be monitored on a daily basis until the upstream and downstream values agree to within 10% or less for three or more consecutive days, or until the discharge ceases. Comparisons of field values by percent shall be reported with the field data obtained.
3. Monitoring reports for R-005 shall include tabulated estimates of travel times for water from Discharge 005 to reach both the water quality sampling location and the flow monitoring location identified as R-005. Reported flow rates for R-005 shall not include any flow contribution from Cottonwood Creek. (See MRP Section II.)
 4. Sampling need not be duplicative. Where any monitoring or sampling requirements overlap at a particular location, a single sample may serve to monitor water quality for reporting purposes, so long as the sample is obtained within the designated monitoring period and includes the same parameters and analytical methods.
 5. If no water is present in a particular monitoring location at the time sampling is required, a result stated as “no water present; no sample required” shall be acceptable when reported with the monitoring results.
 6. If water quality samples are collected and analyzed at a higher frequency than required by this Order, the results shall reported to the Regional Water Board in the next report due following the sampling period.
 7. Water quality samples analyzed for TDS, Cl, SO₄, F, B, NO₃, Total N and PO₄ shall be reported in annual reports as individual values, and as annual arithmetic averages and 90th-percentile values for the calendar year, based on the data obtained in the calendar year.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.
2. The Discharger shall submit annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. **Annual reports shall be due on February 1 following each calendar year.**
3. Monitoring periods and reporting for required monitoring shall be completed according to the following schedule:

Monitoring Type/ Frequency	Monitoring Period Beginning/Ending	Monitoring Period	SMR Due Date
Wetland delineation, function & values hydrogeomorphic assessment / in specified years	First: 2007 / 2013 (required) Second: 2014 / 2018 (if required) Third: 2020 / 2023 (if required)	First: 7 years Second: 5 years Third: 5 years	First: April 1, 2014 Second: April 1, 2019 Third: April 1, 2024
Construction dewatering and stream diversions / *weekly*	The first day of discharge / Last day of discharge for any construction dewatering or stream diversion	First day of calendar week through last day of calendar week	First day of second calendar month following month of sampling
Water Quality for Influent, Effluent, and Receiving Water / monthly	The first day of initiating discharge 004 from the River Intake to the Lower Owens River / when discharges no longer pose a threat to water quality	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Water Quality for Winter and Spring habitat flows and Alabama release / *daily*	The first day of initiating seasonal habitat flow, including Alabama release / One week after seasonal habitat flow or Alabama release is concluded	Variable up to approximately three weeks	First day of second calendar month following month of sampling
Water Quality and dredging / *weekly* during dredging event	The first day of initiating dredging at a particular location / one day after dredging ceases at that location	Variable depending on the duration of dredging events at various locations	First day of second calendar month following month of sampling

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136 (see Attachment J).
5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to describe water quality conditions, and impacts to beneficial uses if observed or identified and to clearly illustrate whether the facility is operating in compliance with water quality objectives.
6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of this Order; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated

and a description of the violation. An example cover letter is provided in Attachment O. The information contained in the example letter must be included in each SMR submitted to the Regional Water Board.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

California Regional Water Quality Control Board – Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

C. Other Reports and Notification Requirements

The Discharger shall notify Regional Water Board staff in writing 15 days prior to initiating base flow and any subsequent habitat flow, including the initial winter habitat flow and Alabama Release.