CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

ORDER NO. R1-2022-0013
GENERAL NPDES NO. CAG911001

WASTE DISCHARGE REQUIREMENTS

FOR

DISCHARGES OF HIGHLY TREATED GROUNDWATER TO SURFACE WATERS FOLLOWING EXTRACTION AND TREATMENT OF GROUNDWATER POLLUTED WITH PETROLEUM HYDROCARBONS AND VOLATILE ORGANIC COMPOUNDS

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this General Order:

Dischargers: This General Order applies to discharges from individuals, public agencies, private businesses, and other legal entities (hereafter Discharger) of treated groundwater that pose little or no threat to the quality of waters of the United States.

Table 1. Discharge Location

Discharge Location	Receiving Water
Discharge locations will be authorized when each Discharger enrolls under this General Order. Eligible discharges are identified in section 1.2 of this General Order.	Surface Waters within the North Coast Region, including inland waters and enclosed bays and estuaries

This General Order was adopted on: **June 9, 2022**
This General Order shall become effective on: **August 1, 2022**
This General Order shall expire on: July 31, 2027

The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region (Regional Water Board) have classified this discharge as follows: Minor discharge

IT IS HEREBY ORDERED, that Order R1-2016-0034 is rescinded upon the effective date of this General Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements of this General Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous permit.

I, Matthias St. John, Executive Officer, do hereby certify that this General Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region, on the date indicated above.

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Matthias St. John, Executive Officer

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1. PURPOSE OF ORDER AND ELIGIBILITY INFORMATION

1.1. Purpose of Order

The purpose of this General Order is to regulate discharges of highly treated groundwater from a discrete point source to surface waters of the North Coast Region. Extraction and treatment of groundwater impacted by chemical pollutants as a result of an unauthorized release is a remedial option used to reduce or eliminate petroleum hydrocarbons and/or volatile organic compounds (VOCs), including halogenated VOCs, from groundwater. This technology is also implemented for plume control by creating hydraulic control and reducing unwanted migration of pollution in groundwater. This General Order is intended to authorize similar discharges from groundwater treatment facilities at sites that have been impacted by petroleum related compounds and other VOCs associated with an unauthorized release of pollutants to groundwater.

Highly treated groundwater discharges may be permitted to surface waters and may be exempted from the Basin Plan seasonal and year-round point source discharge prohibitions and the discharge flow limitation, provided that the following conditions are met:

1.1.1. The discharge shall not adversely affect the beneficial uses of the receiving water or cause a condition of nuisance.

This condition requires that the discharge shall not cause or substantially contribute to adverse impacts on the receiving water, including, but not limited to, erosion, adverse impacts on aquatic life, or creation of undesirable conditions (e.g., algae, vectors, localized flooding, etc.).

1.1.2. The discharge shall comply with all applicable water quality objectives.

This condition requires that the discharge will not contain pollutants at levels that will cause, have the reasonable potential to cause, or contribute to an exceedance above any applicable regional, state or federal water quality objective or criterion, such as those established by the U.S. EPA pursuant to Clean Water Act (CWA) section 303 or the state pursuant to title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15 or the Water Quality Control Plan for the North Coast Region (Basin Plan).

This condition also requires that the discharge not have acute or chronic toxicity.

1.1.3. The discharge is necessary because no feasible alternative to the discharge (e.g., reuse, infiltration, discharge to sanitary sewer, etc.) is available.

This condition requires that the Discharger evaluate if there are alternatives to a discharge to surface waters, and document that evaluation.

1.1.4. The discharge is limited to the rate, volume and duration that remain after implementation of all reasonable alternatives for reuse, soil infiltration and discharge to sanitary sewer.

This condition provides for the use of multiple alternatives to minimize the discharge due to the Discharger's activity and promotes putting the discharge to a beneficial use, whenever possible.

1.1.5. The discharge is regulated by NPDES Permit/Waste Discharge Requirements.

This General Order provides a mechanism to provide NPDES coverage for highly treated groundwater discharges to surface waters.

This General Order does not apply if there is no discharge to surface waters. If any alternative to discharge to surface water is feasible, contact the Regional Water Board to determine if any other regulatory requirements apply for selected alternative.

1.2. **Authorized Discharges**

1.2.1. **Eligible Discharges**. The following discharges shall be eligible for coverage under this General Order.

1.2.1.1. This General Order shall apply to new or existing discharges of treated groundwater to surface waters resulting from cleanup activities at locations where groundwater has been impacted by petroleum products and/or VOCs, including halogenated VOCs.

1.2.1.2. Coverage under this General Order will be authorized only for minor discharges (as classified by the U.S. EPA and the Regional Water Board), which otherwise meet the criteria for authorization established herein.

1.2.1.3. Discharges of waste from treatment facilities designed to remove pollutants from groundwater polluted with petroleum products and/or VOCs, including halogenated VOCs, shall be permitted to surface water year-round with no discharge flow limitations based on the flow of the receiving water provided that the following conditions are met[1]:

1.2.1.3.1. The discharge from the treatment facility must be pollutant free[2].

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[1] Water Quality Control Plan, North Coast Region, Implementation Plans, 4.1.7.

[2] As per Implementation Plan 4.1.7., pollutants are defined as those constituents and their breakdown products that were discharged to soils and/or groundwaters that

1.2.1.3.2. The discharge shall not adversely affect the beneficial uses of the receiving water.

1.2.1.3.3. The discharge is necessary because a polluted groundwater cleanup operation is required.

1.2.1.3.4. The discharge is necessary because no feasible alternative to the discharge (reinjection, reclamation, evaporation, discharge to a community wastewater treatment and disposal system, etc.) is available.

1.2.1.3.5. The discharge is regulated by NPDES Permit/Waste Discharge Requirements.

1.2.1.3.6. The discharger has demonstrated consistent compliance with Provision 1.2.1.3.1 above.

1.2.1.3.7. The discharge is in the public interest.

1.2.2. **Authorized discharges** are subject to all the requirements and provisions set forth in this General Order.

1.2.3. **Ineligible Discharges**. The following discharges shall not be eligible for coverage under this General Order:

1.2.3.1. Discharges that do not consist solely of highly treated groundwater resulting from cleanup activities for petroleum products or VOCs, including halogenated VOCs.

1.2.3.2. Discharges from treatment systems where groundwater contains inorganic constituents that are present as a result of a chemical release to groundwater.

1.2.3.3. Discharges that are insufficiently characterized and thereby preclude a determination as to suitability for coverage.

1.2.3.4. Discharges that cause acute or chronic toxicity to aquatic life in the receiving waters.

1.2.3.5. Discharges that would cause further degradation to a 303 (d) listed water body or would be inconsistent with a total maximum daily load (TMDL).

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necessitated a groundwater cleanup. Pollutant-free is defined as discharges that contain no detectable levels of pollutants as analyzed in currently approved EPA or State of California methodology.

1.2.3.6. Discharges that can reasonably be expected to contribute to a violation of an applicable water quality standard.

1.2.3.7. Discharges that will adversely affect a listed endangered or threatened species or their critical habitat.

1.2.3.8. Discharges to interstate waters including rivers, lakes, artificial impoundments, and all other waters that flow across or from a part of the boundary with other states.

1.2.3.9. Discharges to the Pacific Ocean.

1.2.4. Owners and operators of facilities that are deemed ineligible for coverage under this General Order may seek authorization from the Regional Water Board to discharge under an individual NPDES/waste discharge requirement permit.

1.2.5. This General Order does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharge of pollutants, that are not part of the normal operations of the facility as described in the Notice of Intent (NOI), or any pollutants that are not ordinarily present in such waste streams. In instances where discharges include pollutants other than those authorized by this General Order, or where dischargers encounter particularly difficult pollutant control situations, the dischargers may be required to submit an application for an individual NPDES permit.

2. NOTIFICATION REQUIREMENTS

2.1. General Order Application

2.1.1. It is the responsibility of the Discharger to obtain coverage under this General Order prior to commencement of any discharge to surface waters. To apply for coverage under this General Order, which also serves as a National Pollutant Discharge Elimination System (NPDES) Permit, the discharger must submit the following:

2.1.1.1. A complete NOI, including all of the information required by the NOI, as detailed in Attachment B, to the Executive Officer.

2.1.1.2. The appropriate first annual fee as required by Title 23 of the CCR, Division 3, Chapter 9, Article 1. The current fee schedule is available at the State Water Resources Control Board's fees website: http://www.waterboards.ca.gov/resources/fees. However the permit oversight fee for sites in the State Water Resources Control Board's Site Cleanup Program Cost Recovery Program can be administratively waived at the discretion of the Executive Officer and the permit oversight staff costs can be recovered through the Cost Recovery Program.

2.1.2. NOI Submittal Deadlines

2.1.2.1. **Existing Discharger**. As of the effective date of this General Order, Dischargers covered under Order No. R1-2016-0034 are automatically enrolled under this General Order, provided that existing monitoring shows that the NOI submitted under Order No. R1-2016-0034 is compliant with all terms of this General Order. If the existing NOI submitted under Order No. R1-2016-0034 is not compliant with the terms of this General Order, the discharge must be terminated and a revised NOI must be submitted no later than September 6, 2022.

2.1.2.2. **New Dischargers**. Dischargers who are seeking authorization to discharge under this General Order for the first time shall submit an NOI at least 90 days in advance of the proposed discharge start date to provide time for review of the NOI and submittal of additional information that may be necessary to complete the NOI. This time period may be waived by the Executive Officer.

2.2. **General Order Coverage**

2.2.1. **Existing Dischargers**. For those dischargers who are required to submit a revised NOI, Regional Water Board staff will determine if the discharge is eligible for coverage under this General Order and the Executive Officer will provide a Notice of Applicability (NOA) authorizing the discharges identified in the NOI and identifying the effective date of permit coverage.

2.2.2. **New Dischargers**

2.2.2.1. Following Regional Water Board staff review of a submitted NOI, the Discharger will receive one of the following from the Executive Officer:

2.2.2.1.1. A request for additional information.

2.2.2.1.2. An NOA letter authorizing the discharges identified in the NOI and identifying the effective date of permit coverage.

2.2.2.1.3. Written notice that the proposed discharge is ineligible for coverage under this General Order and whether or not the discharge is eligible for coverage under another general or individual order.

2.2.2.2. If Regional Water Board staff determines that the proposed discharge is eligible for coverage, the Executive Officer will place a notice on the Regional Water Board's website providing a 30-day public notice of the Regional Water Board's intent to extend coverage under the General Order. Public noticing requirements must be completed prior to the Discharger receiving coverage under this General Order.

2.2.2.3. In no case may the discharge occur until the applicant receives an NOA letter confirming coverage under this General Order or under another permit issued or adopted by the State or Regional Water Board.

2.2.3. **All Dischargers**

2.2.3.1. Pursuant to NPDES regulations at Title 40 Code of Federal Regulations (40 C.F.R.) section 122.28 (b) (2), the Executive Officer has the authority to require a Discharger to comply with the conditions of this General Order. Such a Discharger shall be obligated to meet all discharge prohibitions, effluent limitations, receiving water limitations, provisions, and monitoring and reporting requirements of this General Order.

2.2.3.2. Dischargers who fail to submit an NOI and/or filing fee identified in section 2.1 of this General Order prior to initiating a discharge will be deemed out of compliance with this General Order and subject to all penalties allowable pursuant to applicable provisions of the CWA and the California Water Code (Water Code), including section 13385 thereof.

2.2.3.3. Coverage under this General Order may be denied or revoked if it is determined that:

2.2.3.3.1. There are alternative means to the discharge;

2.2.3.3.2. A discharge contains pollutants that may adversely affect the beneficial uses of the receiving water and/or exceed applicable water quality objectives or criteria;

2.2.3.3.3. The Discharger violates provisions of this General Order or the discharge is not consistent with information provided in the NOI.

2.2.3.4. The Regional Water Board may require any applicant requesting coverage under this General Order to apply for and obtain an individual NPDES permit in accordance with 40 C.F.R. section 122.28(b)(3)(i). Circumstances where an individual NPDES permit may be required include, but are not limited to, where the applicant is not in compliance or is not expected to be in compliance with the terms and conditions of this General Order, or where a TMDL has been completed for a water body approved after the effective date of this General Order. Applicants proposing to discharge to a water body with an approved TMDL, or to a water body listed on the State's CWA section 303(d) list, will be evaluated on a case-by-case basis for coverage under this General Order or coverage under an individual permit.

2.2.3.5. In accordance with 40 C.F.R. section 122.28(b)(3)(iii), any Discharger may request to be excluded from coverage under a general NPDES permit by applying for an individual NPDES permit. This request must provide justification supporting the request for an individual NPDES permit and reasons why coverage under this General Order is not appropriate. Upon receipt of the request and application, the Executive Officer shall determine if an individual NPDES permit should be issued.

2.3. Termination of Coverage

2.3.1. Within 30 days following permanent termination of a discharge or discharges authorized under this General Order, the Discharger shall submit the Notice of Termination (NOT) of coverage under the General Order provided as Attachment G. Upon submission of the NOT, the Discharger shall no longer be authorized to discharge under this General Order. The Discharger is subject to the terms and conditions of this General Order and is responsible for submitting the annual fee associated with this General Order until the Discharger submits the NOT and receives notification of termination from Regional Water Board staff.

2.3.2. When the Regional Water Board issues an individual NPDES permit or WDRs with more specific requirements to a Discharger for a discharge that is otherwise covered by this General Order, the applicability of this General Order to that Discharger is automatically terminated on the effective date of the individual permit or WDRs.

2.4. Permit Expiration

This General Order will expire 5 years after the effective date, as specified on the cover page of this General Order. In accordance with 40 C.F.R. section 122.6, if the permit is not reissued by the expiration date, the conditions of this General Order will continue in force and effect until a new General Order is issued.

3. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board), finds:

3.1. Background

On October 26, 1995, the Regional Water Board adopted Order No. 95-88 (General NPDES Permit No. CAG911001) “Waste Discharge Requirements for Discharges of Extracted and Highly Treated Groundwater Resulting from Cleanup of Groundwater Polluted with Petroleum Hydrocarbons and Volatile Organic Compounds”. On January 26, 2001, the General Order was reissued as Order No. R1-2001-9. On June 29, 2006, the General Order was reissued as Order No. R1-2006-0048. This General Order now replaces Order No. R1-2016-0034 which was issued on October 20, 2016.

On September 22, 1989, a Memorandum of Agreement executed by the U.S. EPA and the State Water Resources Control Board (State Water Board) authorized and established procedures for the State Water Board to issue general NPDES permits pursuant to NPDES regulations at 40 C.F.R. sections 122.28, 122.44 and 123.25.

3.2. Legal Authorities

This General Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260). This General Order is also issued pursuant to section 402 of the federal CWA and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for highly treated groundwater discharges to surface waters resulting from extraction and treatment of groundwater polluted with petroleum hydrocarbons and/or VOCs, including halogenated VOCs.

3.3. Background and Rationale for Requirements

The Regional Water Board developed the requirements in this General Order based on information required by monitoring and reporting programs and experience gained through administration of Order No. 95-88, Order No. R1-2001-9, Order No. R1-2006-0048, Order R1-2011-0028, and Order R1-2016-0034. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements of the General Order, is hereby incorporated into this General Order and constitutes part of the Findings for this General Order. Attachments A through E are also incorporated into this General Order.

3.4. Industry/Facility Description

The extraction of contaminated groundwater from the subsurface with above ground treatment is described as “pump-and-treat” operations. Treatment employed by such systems commonly includes air stripping and/or granular activated carbon (GAC). Within the North Coast Region, three pump-and-treat operations are currently authorized to discharge treated groundwater under Order No. R1-2016-0034. These facilities treat on a continuous or batch basis and typically discharge between 1,000 to 300,000 gallons per day (gpd).

3.5. Notification of Interested Parties

The Regional Water Board has notified interested agencies and persons, including Dischargers, enrolled under Order No. R1-2016-0034 of its intent to prescribe WDRs for the discharges and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet (Attachment F).

3.6. Consideration of Public Comment

The Regional Water Board, in a public meeting, heard and considered all comments pertaining to adoption of this General Order. Details of the Public Hearing are provided in the Fact Sheet (Attachment F).

4. DISCHARGE PROHIBITIONS

4.1. The creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code, is prohibited.

4.2. The discharge of any waste, other than highly treated groundwater extracted from the site and treated, as represented by the Discharger in the NOI or as contemplated by the Executive Officer in authorization to discharge under this General Order is prohibited, unless the discharge is regulated by another NPDES permit or is discharged to a permitted facility.

4.3. The discharge of groundwater containing constituents listed in Table C-1 of the General Order in excess of the background level in the receiving water is prohibited.

4.4 The discharge of extracted and treated groundwater in excess of the flow rates described by the Discharger in the NOI or as authorized by the Executive Officer is prohibited.

4.5 Bypass or overflow of untreated or partially treated groundwater to waters of the State from the treatment system or from the collection and transport systems or from pump stations tributary to the treatment system is prohibited.

5. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

During the effective period of this General Order, the Discharger is authorized to discharge from the discharge point specified in the NOI within the limits and subject to the conditions set forth in this General Order. This General Order authorizes the discharge resulting from project site treatment systems that have been clearly identified in the NOI.

5.1. Effluent Limitations

The discharge of pollutants shall be controlled by onsite treatment of highly impacted groundwater as identified in the NOI and shall not exceed the numeric effluent limitations for acute toxicity and the group of pollutants listed below and the narrative effluent limitations.

New Dischargers are required to demonstrate compliance with effluent limitations prior to the start of the discharge, as per Monitoring and Reporting Program requirement 4.1. During this time, the discharger must store treated water on-site until authorized by the Regional Water Board's Executive Officer to discharge to surface water.

5.1.1. **Inorganic pollutants** established in CTR and Title 22 shall not be discharged in concentrations that exceed applicable water quality objectives established by CTR, Maximum Contaminant Levels (MCLs) established by Title 22, or the Basin Plan, whichever is most stringent. The applicable effluent limitations for

inorganic pollutants are established in Table C-1 of Attachment C: “Numeric Effluent Limitations for Inorganic Pollutants” and Tables C--2 through C--10, which are referenced by Table C--1.

5.1.2. **Organic pollutants**, including CTR pollutants, Title 22 pollutants, and petroleum hydrocarbons and associated parameters shall not be discharged at detectable concentrations. The applicable effluent limitations for organic pollutants are established in Table C--11 of Attachment C: “Numeric Effluent Limitations for Organic Pollutants.”

5.1.3. **pH**. For waters listed in Table 3-1 of the Basin Plan, the pH water quality objectives in Table 3-1 of the Basin Plan shall apply as effluent limitations. For waters not listed in Table 3-1 of the Basin Plan and where pH objectives are not prescribed, the pH of the discharge shall be not less than 6.5 nor greater than 8.5.

5.1.4. **Total Dissolved Solids**. For waters listed in Table 3-1 of the Basin Plan, the total dissolved solids water quality objectives in Table 3-1 of the Basin Plan shall apply as daily maximum effluent limitations.

5.1.5. **Acute Toxicity**. There shall be no acute toxicity in treated effluent.

The Discharger will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:

5.1.5.1. Minimum for any one bioassay: 70 percent survival; and

5.1.5.2. Median for any three or more consecutive bioassays: at least 90 percent survival.

Compliance with these effluent limitations shall be determined in accordance with section 8.4 of this General Order and section 5.1 of the Monitoring and Reporting Program (MRP) (Attachment E).

5.1.6. **Narrative Effluent Limitations**. Effluent shall not contain substances that:

5.1.6.1. Float or become floatable upon discharge;

5.1.6.2. Form sediments that degrade aquatic life;

5.1.6.3. Accumulate to toxic levels in surface waters, sediments, or biota; or

5.1.6.4. Significantly decrease the natural light to aquatic life.

5.2. **Other Discharge Specifications**

5.2.1. Oil or oily materials, chemicals, refuse, or other materials that may cause pollution shall not be stored or deposited in areas where they may be picked up by the treated groundwater and discharged to surface waters. Any spill of such materials shall be contained, removed, and cleaned up immediately.

5.2.2. Discharges shall not cause the velocity and/or volume of discharge to modify the existing physical characteristics of a water body (hydromodification). Discharges shall be controlled at the lowest possible flow rate to minimize potential impacts on aquatic life and habitat and to reduce erosion and sedimentation. Discharge locations must be selected to avoid sensitive habitats. Best Management Practices (BMPs) shall include adequate velocity dissipation devices, when necessary to prevent and minimize erosion, stream scouring, increases in turbidity, sedimentation and any other potentially adverse impacts to water quality and beneficial uses of the receiving waters.

5.2.3. Only that volume, rate and duration of the discharge that remains after utilization of other reasonable alternatives shall be allowed to discharge to the receiving water.

6. **RECEIVING WATER LIMITATIONS**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are required to be addressed as part of this General Order. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this General Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP and NOA. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

6.1. **Surface Water Limitations – Inland Waters, Enclosed Bays, and Estuaries**

Receiving water limitations for discharges to inland waters, enclosed bays, and estuaries are based on water quality objectives contained in the Basin Plan and are a required part of this General Order. Compliance with receiving water limitations shall be measured at the monitoring locations described in the MRP. Authorized discharges shall not cause violations of the following receiving water limitations established for inland waters, enclosed bays, and estuaries of the North Coast Region.

6.1.1. The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L.

In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions, site-specific background DO requirements can be applied as water quality objectives by calculating the daily minimum DO necessary to maintain 85 percent DO saturation during the dry

season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities. Site specific DO requirements can be applied upon approval from the Regional Water Board Executive Officer. The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models.

6.1.2. Authorized discharges shall not cause or contribute to exceedances of water quality objectives for specific waters of the North Coast Region that are established in Table 3-1 of the Basin Plan for specific conductance, total dissolved solids, hardness, and boron. In the event that receiving waters have background conditions for these parameters at levels that already exceed water quality objectives, dischargers shall not cause or contribute to further exceedance of existing conditions.

6.1.3. Unless more stringent water quality objectives for pH are established for a specific receiving water by Table 3-1 of the Basin Plan, authorized discharges shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, a discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

6.1.4. Authorized discharges shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

6.1.5. Authorized discharges shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

6.1.6. Authorized discharges shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

6.1.7. Authorized discharges shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

6.1.8. Authorized discharges shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.

6.1.9. Authorized discharges shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

6.1.10. Authorized discharges shall not cause receiving waters to contain concentrations of biostimulatory substances that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

6.1.11. Authorized discharges shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life.

6.1.12. Authorized discharges shall not cause alteration of natural temperature of receiving waters unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall discharges cause an increase of the receiving water by more than 5° F above natural receiving water temperature.[3] Authorized discharges to enclosed bays and estuaries must comply with receiving water objectives identified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).

6.1.13. Authorized discharges shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. Authorized discharges shall not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels that are harmful to human health.

6.1.14. Authorized discharges shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

6.1.15. Authorized discharges shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.

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[3] For the Trinity River, the following temperature objectives shall apply in the receiving water:

Daily Average Not to Exceed	Period	River Reach
60ºF	July 1 – Sept. 14	Lewiston Dam to Douglas City Bridge
56ºF	Sept 15 – Oct. 1	Lewiston Dam to Douglas City Bridge
56ºF	Oct. 1 – Dec. 31	Lewiston Dam to confluence of North Fork Trinity River

6.1.16. Authorized discharges shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise and modify this General Order in accordance with such more stringent standards.

6.1.17. Authorized discharges shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent MCLs established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

6.1.18. Authorized discharges shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or indigenous aquatic life.

Waters designated for use as domestic or municipal (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in title 22, division 4, chapter 15, article 5, section 64443 (Table 64442) of the CCR.

6.1.19. The discharge shall not cause bacteriological water quality to be degraded beyond natural background levels, and the following water quality objectives: The bacteria water quality objective for all waters where the salinity is equal to or less than 1 part per thousand (ppth) 95 percent or more of the time during the calendar year is: a six week rolling geometric mean of *Escherichia coli* (E. coli) not to exceed 100 colony forming units (CFU) per 100 milliliter (mL), calculated weekly, and a statistical threshold value (STV) of 320 CFU/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

7. PROVISIONS

7.1. Standard Provisions

7.1.1. Federal Standard Provisions

All Dischargers shall comply with all Standard Provisions included in Attachment D.

7.1.2. Regional Water Board Standard Provisions

All Dischargers shall comply with the following provisions.

7.1.2.1. Failure to comply with provisions or requirements of this General Order, or violation of other applicable laws or regulations governing discharges from the

Discharger's Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to assure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

7.1.2.2. In the event that a Discharger does not comply or will be unable to comply for any reason, with any prohibition, final effluent limitation, discharge specification, receiving water limitation, or other provision of this General Order that may result in a significant threat to human health or the environment or that results in an unauthorized discharge to a drainage channel or a surface water, or if there is evidence that the discharge has adversely impacted any beneficial use of the receiving water, that Discharger shall notify Regional Water Board staff within 24 hours of having knowledge of such noncompliance. Spill notification and reporting shall be conducted in accordance with section 5.4 of Attachment D and 9.1.3 of the Monitoring and Reporting Program.

7.2. Monitoring and Reporting Program (MRP) Requirements

All Dischargers shall comply with the MRP, and future revisions thereto, in Attachment E.

7.3. Special Provisions

7.3.1. Reopener Provisions

7.3.1.1. Standard Revisions

If applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this General Order and make modifications in accordance with such revised standards.

7.3.1.2. 303(d)-Listed Pollutants

If a TMDL is adopted and is applicable to a discharge(s) authorized by this General Order, this General Order may be reopened to incorporate the requirements of the TMDL. TMDLs for bacteria, nitrogen, phosphorus, dissolved oxygen, sediment, and temperature are currently applicable and/or under development for various watersheds within the North Coast Region. The Discharger shall refer to Chapter 4 of the Basin Plan to determine whether there are any applicable TMDLs for the receiving water. In addition, the Regional Water Board may include additional provisions necessary for Discharger to comply with applicable TMDLs and/or consider revising this General Order to make it consistent with any Regional Water Board decisions arising from various petitions for re-hearing and litigation concerning the SIP, 303(d) list, and TMDL program.

7.3.1.3. **Whole Effluent Toxicity**

If a numeric chronic toxicity water quality objective is adopted by the State Water Board, this General Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

7.3.2. **Special Studies, Technical Reports and Additional Monitoring Requirements**

7.3.2.1. **Toxicity Reduction Requirements**

For compliance with the Basin Plan's narrative toxicity objective and the SIP, this General Order requires the Discharger to conduct acute and chronic whole effluent toxicity (WET) testing, as specified in MRP section 5 of Attachment E. Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exceeds the numeric toxicity monitoring trigger during accelerated monitoring established in this Provision, the Discharger is required to cease the discharge and initiate a Toxicity Reduction Evaluation (TRE) and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity prior to resuming the discharge to surface waters. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. Provision 5 of the MRP Attachment E includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated acute and chronic toxicity monitoring and TRE initiation.

7.3.3. **Construction, Operation and Maintenance Specifications**

7.3.3.1. **Operations and Maintenance Manual**

7.3.3.1.1. All owners or operators authorized to discharge under this General Order shall maintain and update, as necessary, a Groundwater Treatment System Operation and Maintenance (O&M) Manual to assure efficient and effective treatment of contaminated groundwater. The Dischargers shall operate and maintain the treatment facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M shall address, but not limit attention to, the following.

7.3.3.1.2. The O&M manual shall specify both normal operating and critical maximum or minimum values for treatment process variables including influent concentrations, flow rates, water levels, temperatures, time intervals, and chemical feed rates.

7.3.3.1.3. The O&M manual shall specify an inspection and maintenance schedule for active and reserve systems and shall provide a log sheet format to document inspection observations and record completion of maintenance tasks.

7.3.3.1.4. Description of laboratory and quality assurance procedures.

7.3.3.1.5. The O&M manual shall specify safeguards to prevent noncompliance with limitations and requirements of the General Order resulting from equipment failure, power loss, vandalism, or ten-year return frequency rainfall.

7.3.3.1.6. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as power outage and process equipment failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

7.3.3.2. **Engineering Design Report**

For all new dischargers and existing dischargers with significant changes made since prior submittals to the Regional Water Board, the NOI shall be accompanied by an Engineering Design Report that certifies the adequacy of each major component of the proposed treatment facility. The certification shall include an analysis, based on accepted engineering practice, which demonstrates that the treatment process and the physical design of the treatment components will ensure compliance with the prohibitions, effluent limitations, and other conditions of the General Order. The report shall also certify that:

7.3.3.2.1. Adequate maintenance and testing schedules are included in the Groundwater Treatment System O&M Manual.

7.3.3.2.2. Sampling points are located where representative monitoring samples of process and discharge streams can be obtained. The design engineer shall affix their signature and engineering license number to this Engineering Design Report.

7.3.3.3. **Granular Activated Carbon Quality Assurance / Quality Control**

The discharger shall implement a Quality Assurance / Quality Control (QA/QC) Program to assure that newly replenished granular activated carbon (GAC) in the treatment system is providing high quality effluent with respect to pH, ammonia, and inorganic constituents. Activities conducted as part of the GAC QA/QC program shall be documented in routine monitoring reports submitted for the facility.

7.3.4. **Other Special Provisions**

7.3.4.1. **Storm Water**

7.3.4.1.1. Industrial Storm Water. If applicable, authorized Discharger shall seek coverage under and comply with the requirements of State Water Board Order No. 2014-0057-DWQ. If the Industrial General Storm Water Permit is reissued, authorized Discharger shall seek coverage under and comply with the requirements of the most recent version of the permit.

7.3.4.1.2. Construction Storm Water. If applicable, authorized Discharger shall seek coverage under and comply with the requirements of State Water Board Order No. 2009-0009-DWQ, NPDES General Order No. CAS000002 – Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (2009). If the Construction General Storm Water Permit is reissued, authorized Discharger shall seek coverage under and comply with the requirements of the most recent version of the permit.

8. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section 5 of this General Order will be determined as specified below.

8.1. General

Compliance with effluent limitations in section 5.1 and Attachment C of this General Order and water quality objectives/criteria in Attachment C shall be determined using sample reporting protocols defined in the MRP and Attachment B of this General Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

8.2. Multiple Sample Data

When determining compliance with an effluent limitation in section 5 of this General Order or water quality objectives/criteria in Attachment C, and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure.

The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

8.3. Final Effluent Limitation

If the analytical result of a single grab sample is lower than the minimum final effluent limitation or exceeds the maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the minimum effluent limitation or exceed the maximum effluent limitation would result in two instances of non-compliance with the final effluent limitation).

If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Discharger shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

8.4. Acute Toxicity Limitations

Compliance with the three-sample median acute toxicity effluent limitation shall be determined when there is a discharge, by calculating the median percent survival of the three most recent consecutive samples meeting all test acceptability criteria.

Compliance with the accelerated monitoring and TRE provisions shall constitute compliance with the acute toxicity requirements, all specified in the MRP (Attachment E, sections 5.1 and 5.3).

8.5. Chronic Toxicity

Compliance with the routine monitoring and TRE provisions shall constitute compliance with the chronic toxicity requirements, all specified in the MRP (Attachment E, sections 5.2 and 5.3).

ATTACHMENT A - DEFINITIONS

Acute Toxicity
A measurement of the toxic effect of a short-term exposure to an effluent as measured directly by an acute toxicity test. In aquatic toxicity tests, an effect observed in 96-hours or less is typically considered acute.

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean } (\mu) = \frac{\Sigma x}{n}$$

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Authorized Discharge
Any discharge that is authorized pursuant to this National Pollutant Discharge Elimination System (NPDES) permit and meets the conditions set forth in this General Order.

Best Management Practices (BMPs)
Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, and solids or waste disposal.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Chronic Toxicity
A measurement of the toxic effect of a long-term exposure to an effluent as measured directly by a chronic toxicity test. The measurement of a chronic effect can be reduced growth, reduced reproduction, or lethality.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Degrade
Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plan and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected or are not the only ones affected. Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Elevated Temperature Waste
For purposes of the Thermal Plan, elevated temperature waste is liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of the receiving water. Irrigation return water is not considered elevated temperature waste.

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Geometric Mean
The geometric mean is a type of mean or average that indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean which uses their sum). The geometric mean is defined as the nth root of the product of n numbers. The formula is expressed as:

$$\text{Geometric Mean} = \sqrt[n]{(x_1)(x_2)(x_3)\dots(x_n)}$$

Where:

x is the sample value and n is the number of samples taken.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Median
The middle measurement in a set of data. After the measurements are ranked in order, the median is the middle measurement if the number of measurements is odd. If the number of measurements is even, then the median is the arithmetic mean of the middle pair of ranked measurements.

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Attachment B.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is

equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Notice of Applicability (NOA)
A written notification issued by the NPDES permitting authority authorizing discharge under the terms and conditions of a general order.

Notice of Intent (NOI)
A written application submitted to the NPDES permitting authority seeking authorization to discharge under a general order.

Reporting Level (RL)
The RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this General Order, including an additional factor if applicable as discussed herein. The MLs included in this General Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\text{Standard Deviation } (\sigma) = \frac{\Sigma(X-\mu)^2}{(n-1)^{0.5}}$$

where: x is the observed value; μ is the arithmetic mean of the observed values; and n is the number of samples.

Statistical Threshold Value (STV)
The STV for the bacteria water quality objectives is a set value that approximates the 90th percentile of the water distribution of a bacterial population. For the bacteria Water Quality Objectives, the STV for enterococci is 110 CFU/100 mL.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT C - EFFLUENT LIMITATIONS AND WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION

1. PROPOSED DISCHARGES TO INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES

Dischargers seeking authorization to discharge to inland surface waters, enclosed bays, and estuaries under this General Order shall sample and analyze the effluent for the constituents contained in Tables C-1 through C-11. The results of the analyses shall be compared to the most stringent objective/criterion and shall be submitted as part of the Notice of Intent (NOI).

Table C-1. Numeric Effluent Limitations for Inorganic Pollutants

Pollutant	CAS No.	Units	Minimum Detection Requirements	Basis for Detection Requirement	Final Effluent Limitation
Aluminum	7429905	mg/L	0.050	Title 22	Tables C-4 to C-10 [1]
Antimony	7440360	µg/L	5.0	CTR	6.0
Arsenic	7440382	µg/L	10	CTR	10
Asbestos	1332214	MFL	0.2	Title 22	7
Barium	7440393	µg/L	100	Title 22	1000
Beryllium	7440417	µg/L	2.0	CTR	4.0
Cadmium	7440439	µg/L	0.25	CTR	Table 3
Chromium (total)		µg/L	10	CTR	50
Chromium +3	7440473	µg/L	50	CTR	Table 3
Chromium +6	18540299	µg/L	10	CTR	10
Copper	7440508	µg/L	0.5	CTR	Table 3
Cyanide (as CN)	57125	µg/L	5.0	CTR	5.2
Fluoride	7782414	mg/L	0.100	Title 22	2.0

Pollutant	CAS No.	Units	Minimum Detection Requirements	Basis for Detection Requirement	Final Effluent Limitation
Lead	7439921	µg/L	0.5	CTR	Table 3
Mercury	7439976	µg/L	0.0005 [2]	CTR	0.05 [3]
Nickel	7440020	µg/L	1.0	CTR	Table 3
Nitrate (as N)		mg/L	2.0	Title 22	10
Nitrate + Nitrite (sum as N)		mg/L		Title 22	10
Nitrite (as N)		mg/L	0.400	Title 22	1.0
Perchlorate		µg/L	4.0	Title 22	6.0
Selenium	7782492	µg/L	5.0	CTR	5.0
Silver	7440224	µg/L	0.25	CTR	Table 3
Thallium	7440280	µg/L	1.0	CTR	1.7
Zinc	7440666	µg/L	1.0	CTR	Table 3

Table Notes

1. Based on the 2018 “Final Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater,” the criteria for aluminum varies as a function of a site’s pH, hardness, and dissolved organic carbon (DOC). The tables for the chronic criteria are presented as they are more stringent than the acute criteria.
2. The analysis of total mercury shall be by U.S. EPA method 1631 (Revision E) with a reporting limit of 0.5 ng/L (0.0005 µg/L).
3. Table C-3 includes water quality objectives (denoted as water column concentrations) from Part 2 of the Water quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Objectives) for the reasonable protection of people and wildlife that consume fish and apply to all inland surface waters, enclosed bays, and estuaries of the State that have the applicable beneficial uses. Mercury objectives/criterion in Table C-1 only apply to waterbodies without applicable beneficial use designations listed in Table C-3.

Table C-2. Water Quality Criteria and Screening Levels for Hardness-Dependent Metals for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries

Receiving Water Hardness (mg/L $CaCO_3$)	Final Effluent Limitation (µg/L)[0]						
	Cadmium	Chromium^{+3}	Copper	Lead	Nickel	Silver	Zinc
1 - 10	0.07	4.8	0.18	0.01	1.1	0.01	2.4
11 – 20	0.44	34	1.4	0.19	8.1	0.09	18
21 – 30	0.72	58	2.5	0.44	14	0.28	32
31 – 40	0.98	79	3.4	0.72	19	0.54	44
41 – 50	1.2	100	4.4	1.0	25	0.88	56
51 – 60	1.5	120	5.2	1.4	30	1.3	68
61 – 70	1.7	140	6.1	1.7	34	1.7	79
71 – 80	1.9	160	7.0	2.1	39	2.3	90
81 – 90	2.1	170	7.8	2.4	44	2.8	100
91 – 100	2.3	190	8.6	2.8	48	3.5	110
101 – 110	2.5	210	9.4	3.2	53	4.1	120
111 – 120	2.7	230	10	3.6	57	4.9	130
121 – 130	2.9	240	11	4.1	61	5.6	140
131 – 140	3.0	260	12	4.5	66	6.5	150
141 – 150	3.2	270	13	4.9	70	7.3	160
151 – 160	3.4	290	13	5.4	74	8.2	170
161 – 170	3.6	310	14	5.8	78	9.2	180
171 – 180	3.8	320	15	6.3	82	10	190

Receiving Water Hardness (mg/L $CaCO_3$)	Final Effluent Limitation (µg/L)[0]						
	Cadmium	Chromium^{+3}	Copper	Lead	Nickel	Silver	Zinc
181 – 190	3.9	340	15	6.8	86	11	200
191 – 200	4.1	350	16	7.3	90	12	210
201 - 210	4.3	370	17	7.7	94	13	220
211 – 220	4.4	380	18	8.2	98	15	230
221 – 230	4.6	400	18	8.7	100	16	230
231 – 240	4.8	410	19	9.2	110	17	240
241 – 250	4.9	430	20	9.7	110	18	250
251 – 260	5.1	440	20	10	110	20	260
261 – 270	5.2	450	21	11	120	21	270
271 – 280	5.4	470	22	11	120	23	280
281 – 290	5.5	480	23	12	130	24	290
291 – 300	5.7	500	23	12	130	25	300
301 – 310	5.8	510	24	13	130	27	300
311 – 320	6.0	520	25	13	140	29	310
321 – 330	6.2	540	25	14	140	30	320
331 – 340	6.3	550	26	15	140	32	330
341 – 350	6.5	570	27	15	150	33	340
351 – 360	6.6	580	27	16	150	35	350
361 – 370	6.7	590	28	16	150	37	360
371 – 380	6.9	610	29	17	160	39	360

Receiving Water Hardness (mg/L $CaCO_3$)	Final Effluent Limitation (µg/L)[0]						
	Cadmium	**Chromium^{+3}**	**Copper**	**Lead**	**Nickel**	**Silver**	**Zinc**
381 – 390	7.0	620	29	17	160	41	370
391 – 400	7.2	630	30	18	170	42	380
> 400	7.3	650	31	19	170	44	390

Table Notes

1. Final Effluent Limitation is most stringent objective or criterion.
2. Water quality criteria are expressed as total recoverable metal and are rounded to two significant figures.

Table C-3. Mercury Water Quality Objectives for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries

Beneficial Use of the Receiving Water[1]	Water Body Type	Total Mercury Water Column Concentration "C" (µg/L)
COMM, CUL, WILD, MAR, RARE	Flowing water bodies (generally, rivers, creeks, streams, and waters with tidal mixing)	0.012
COMM, CUL, WILD, MAR, RARE	Slow moving water bodies[2] (generally, lagoons, closed estuaries, and marshes)	0.004
COMM, CUL,T-SUB, WILD, MAR, RARE	Lakes and reservoirs	Case-by-case[3]
T-SUB	Flowing water bodies (generally, rivers, creeks, streams, and waters with tidal mixing)	0.004
T-SUB	Slow moving water bodies[2] (generally, lagoons, closed estuaries, and marshes)	0.001 µg/L
SUB[4]	Any	Case-by-case[3]

Table Notes:

1. Beneficial used designations are as follows: Commercial and Sport Fishing (COMM); Native American Culture (CUL); Wildlife Habitat (WILD); Marine Habitat (MAR); Rare, Threatened, or Endangered Species (RARE) Tribal Subsistence Fishing (T-SUB); and Subsistence Fishing (SUB).
2. Slow moving water bodies are stationary or relatively still water bodies that are expected to have higher potential to methylate mercury than flowing water bodies.
3. The permitting authority shall calculate C from the water quality objective, and may use available data, including U.S. EPA's recommended national bioaccumulation factors and chemical translators.
4. The water quality objective applicable to the SUB beneficial use also applies to the Subsistence Fishing (FISH) beneficial use contained in the Basin Plan.

Table C-4. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 0.1 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=0.1 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	0.63	3.1	12	33	77	130	180	200	200	170	110	59	24
25	1.5	6.7	19	48	120	180	230	240	230	170	100	49	18
50	2.9	11	26	63	140	240	270	270	250	180	97	42	14
75	4.3	14	31	71	160	290	300	290	260	180	94	39	13
100	5.8	17	35	77	180	320	330	310	270	180	91	36	11
150	8.6	21	42	87	190	370	360	340	290	180	88	33	10
200	11	25	47	94	200	400	390	360	300	180	85	31	9.1
250	13	28	51	100	210	420	410	380	310	180	83	30	8.5
300	16	31	55	100	220	430	430	390	320	180	82	29	8.0
350	17	33	58	110	220	440	440	400	320	180	81	28	7.6
400	19	36	61	110	230	450	460	410	330	180	80	27	7.3
430	20	37	63	120	230	450	470	420	330	180	79	27	7.1

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-5. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 0.5 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=0.5 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	1.7	7.9	31	78	180	370	480	510	520	440	300	150	63
25	3.9	17	52	110	230	470	600	620	590	450	270	130	47
50	7.5	31	74	140	270	520	740	710	650	460	250	110	37
75	11	44	89	160	290	560	840	770	680	460	240	100	33
100	14	54	100	170	300	580	910	820	710	460	240	95	30
150	21	70	120	190	320	600	970	910	750	470	230	87	26
200	28	84	130	200	340	610	990	990	780	470	220	82	24
250	34	96	150	220	350	610	1,000	1,000	800	470	220	78	22
300	40	110	160	230	360	620	1,000	1,100	820	470	210	75	21
350	47	120	170	240	370	620	1,000	1,100	840	480	210	73	20
400	53	130	180	250	370	630	1,000	1,100	860	480	210	71	19
430	57	140	180	250	380	630	1,000	1,100	860	480	210	70	19

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-6. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 1.0 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=1.0 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	2.5	12	47	110	240	500	730	770	790	670	450	230	95
25	5.9	25	81	160	300	580	970	930	890	680	410	190	71
50	11	46	110	200	340	620	1,100	1,100	980	690	380	170	56
75	17	66	140	220	360	640	1,100	1,200	1,000	700	370	150	49
100	22	85	160	240	380	650	1,100	1,300	1,100	700	360	140	45
150	32	120	190	260	400	660	1,100	1,300	1,100	710	350	130	39
200	42	140	210	290	420	670	1,100	1,300	1,200	710	340	120	36
250	51	160	230	300	430	670	1,100	1,300	1,300	720	330	120	33
300	61	180	250	320	440	680	1,100	1,300	1,300	720	320	110	31
350	71	200	260	330	450	680	1,100	1,300	1,400	720	320	110	30
400	80	220	280	340	470	680	1,100	1,300	1,400	720	310	110	29
430	86	230	290	350	470	680	1,100	1,300	1,400	720	310	110	28

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-7. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 2.5 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=2.5 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	4.3	21	81	180	340	650	1,200	1,400	1,400	1,200	780	400	160
25	10	44	140	250	400	690	1,200	1,500	1,600	1,200	710	330	120
50	20	77	200	310	450	710	1,200	1,500	1,800	1,200	660	290	98
75	29	110	250	340	480	720	1,200	1,500	1,800	1,200	640	260	86
100	38	140	290	370	500	730	1,200	1,400	1,700	1,200	620	250	78
150	55	200	340	410	530	740	1,100	1,400	1,700	1,200	600	230	68
200	72	260	390	440	560	750	1,100	1,300	1,700	1,200	580	210	62
250	89	310	420	470	580	760	1,100	1,300	1,600	1,200	570	210	58
300	110	350	460	490	600	770	1,100	1,300	1,600	1,200	560	200	54
350	120	390	480	520	610	780	1,100	1,200	1,600	1,200	550	190	52
400	140	430	510	540	630	780	1,000	1,200	1,500	1,300	540	190	50
430	150	450	520	550	640	790	1,000	1,200	1,500	1,300	540	180	48

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-8. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 5.0 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=5.0 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	6.5	31	120	260	430	740	1,300	1,700	2,200	1,800	1200	610	250
25	15	66	220	350	500	760	1,300	1,600	2,000	1,800	1,100	500	190
50	30	120	320	430	550	780	1,200	1,500	1,900	1,800	1,000	440	150
75	43	160	390	480	590	790	1,200	1,400	1,800	1,900	970	400	130
100	57	210	450	520	620	810	1,100	1,300	1,700	2,000	940	380	120
150	83	290	540	570	660	830	1,100	1,300	1,600	2,000	900	350	100
200	110	380	610	620	700	840	1,100	1,200	1,500	1,900	880	330	94
250	130	470	670	660	720	850	1,100	1,200	1,500	1,800	860	310	87
300	160	550	720	690	750	860	1,100	1,200	1,400	1,800	850	300	82
350	180	620	760	730	770	860	1,000	1,100	1,400	1,700	830	290	78
400	210	690	800	760	780	870	1,000	1,100	1,300	1,700	820	280	75
430	220	730	830	770	790	870	1,000	1,100	1,300	1,700	820	280	73

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-9. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 10.0 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=10.0 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	9.9	47	180	370	540	810	1,300	1,700	2,300	2,800	1,800	930	380
25	23	100	340	490	610	830	1,200	1,500	2,000	2,800	1,600	760	280
50	45	180	490	600	690	870	1,200	1,300	1,700	2,400	1,500	660	220
75	66	250	610	670	740	890	1,100	1,300	1,600	2,300	1,500	600	200
100	86	310	700	720	780	900	1,100	1,200	1,500	2,100	1,400	570	180
150	130	440	850	800	830	910	1,100	1,200	1,400	1,900	1,400	520	160
200	160	560	960	860	870	920	1,100	1,200	1,300	1,800	1,300	490	140
250	200	670	1,100	930	900	930	1,100	1,100	1,300	1,700	1,300	470	130
300	240	800	1,100	980	920	930	1,000	1,100	1,200	1,600	1,300	450	120
350	280	920	1,200	1,000	950	950	1,000	1,100	1,200	1,500	1,300	440	120
400	320	1,000	1,300	1,100	960	970	1,000	1,100	1,200	1,500	1,300	420	110
430	340	1,100	1,300	1,100	970	970	1,000	1,100	1,200	1,400	1,300	420	110

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-10. Chronic Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwater at DOC of 12.0 mg/L and Various Water Hardness Levels and pHs

Total Hardness	Chronic Criterion (µg/L total aluminum) (DOC=12.0 mg/L)												
	pH 5.0	pH 5.5	pH 6.0	pH 6.5	pH 7.0	pH 7.5	pH 8.0	pH 8.2	pH 8.5	pH 9.0	pH 9.5	pH 10.0	pH 10.5
10	11	52	200	410	570	820	1,300	1,600	2,200	3,200	2,000	1,000	420
25	26	110	390	540	650	860	1,200	1,400	1,900	2,800	1,800	850	310
50	50	200	560	650	730	890	1,200	1,300	1,700	2,400	1,700	730	250
75	73	280	680	730	780	910	1,100	1,300	1,500	2,200	1,600	670	220
100	96	350	790	780	820	920	1,100	1,200	1,400	2,100	1,600	630	200
150	140	490	950	870	880	940	1,100	1,200	1,300	1,800	1,600	580	170
200	180	620	1,100	950	920	940	1,100	1,100	1,300	1,700	1,600	550	160
250	230	740	1,200	1,000	950	950	1,000	1,100	1,200	1,600	1,500	520	150
300	270	880	1,300	1,100	980	980	1,000	1,100	1,200	1,500	1,500	500	140
350	310	1,000	1,400	1,100	1,000	990	1,000	1,100	1,200	1,400	1,500	490	130
400	350	1,100	1,400	1,200	1,000	1,000	1,000	1,000	1,100	1,400	1,400	470	130
430	380	1,200	1,500	1,200	1,000	1,000	1,000	1,000	1,100	1,300	1,400	470	120

Table Note:

1. pH < 6.0 and pH > 8.2 are outside the pH limits of the empirical data used to generate the Multiple Linear Regression models and the associated criteria should be used with caution.

Table C-11. Numeric Effluent Limitations for Organic Pollutants

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
2,3,7,8-TCDD (Dioxin)	1746016	µg/L	Title 22	5 x 10^-9
Volatile Organic Compounds				
Acrolein	107028	µg/L	CTR	2.0
Acylonitrile	107131	µg/L	CTR	2.0
Benzene	71432	µg/L	CTR	0.5
Bromoform	75252	µg/L	CTR	0.5
Carbon Tetrachloride	56235	µg/L	CTR	0.5
Chlorobenzene	108907	µg/L	CTR	0.5
Chlorodibromomethane	124481	µg/L	CTR	0.5
Chloroethane	75003	µg/L	CTR	0.5
2-Chloroethylvinyl Ether	110758	µg/L	CTR	1
Chloroform	67663	µg/L	CTR	0.5
Cis-1,2-Dichlorobenzene	156592	µg/L	Title 22	0.5
Dichlorobromomethane	75274	µg/L	CTR	0.5
1,1-Dichloroethane	75343	µg/L	CTR	0.5
1,2-Dichloroethane	107062	µg/L	CTR	0.5
1,1-Dichloroethene	75354	µg/L	CTR	0.5
1,2-Dichloropropane	78875	µg/L	CTR	0.5
1,3-Dichloropropene	542756	µg/L	CTR	0.5
Ethylbenzene	100414	µg/L	CTR	0.5
Methyl Bromide	74839	µg/L	CTR	1
Methyl Chloride	74873	µg/L	CTR	0.5
Methylene Chloride	75092	µg/L	CTR	0.5
Methyl Tertiary Butyl Ether	1634044	µg/L	Title 22	0.5
Styrene	100425	µg/L	Title 22	0.5
1,1,2,2-Tetrachloroethane	79345	µg/L	CTR	0.5
Tetrachloroethene	127184	µg/L	CTR	0.5
Toluene	108883	µg/L	CTR	0.5

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
1,2-Trans-Dichloroethene	156605	µg/L	CTR	0.5
1,2,4-Trichlorobenzene	120821	µg/L	Title 22	0.5
1,1,1-Trichloroethane	71556	µg/L	CTR	0.5
1,1,2-Trichloroethane	79005	µg/L	CTR	0.5
Trichloroethene	79016	µg/L	CTR	0.5
Trichlorofluoromethane	75694	µg/L	Title 22	5
1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	µg/L	Title 22	10
Vinyl Chloride	75014	µg/L	CTR	0.5
Xylenes		µg/L	Title 22	0.5
Semi-Volatile Organic Compounds				
Acenaphthene	83329	µg/L	CTR	0.5
Acenaphthylene	208968	µg/L	CTR	0.2
Anthracene	120127	µg/L	CTR	2
Benzidine	92875	µg/L	CTR	5
Benzo(a)Anthracene	56553	µg/L	CTR	5
Benzo(a)pyrene	50328	µg/L	Title 22	0.1
Benzo(b)Fluoranthene	205992	µg/L	CTR	10
Benzo(ghi)Perylene	191242	µg/L	CTR	0.1
Benzo(k)Fluoranthene	207089	µg/L	CTR	2
Bis(2-Chloroethoxy)Methane	111911	µg/L	CTR	5
Bis(2-Chloroethyl)Ether	111444	µg/L	CTR	1
Bis(2-Chlorosisopropyl)Ether	3963829	µg/L	CTR	2
Bis(2-Ethylhexyl)Phthalate	117817	µg/L	Title 22	3
4-Bromophenyl Phenyl Ether	101553	µg/L	CTR	5
Butylbenzyl Phthalate	85687	µg/L	CTR	10
2-Chloronaphthalene	91587	µg/L	CTR	10
2-Chlorophenol	95578	µg/L	CTR	2
4-Chlorophenyl Phenyl Ether	7005723	µg/L	CTR	5
Chrysene	218019	µg/L	CTR	5

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
Dibenzo(a,h)Anthracene	53703	µg/L	CTR	0.1
1,2-Dichlorobenzene	95501	µg/L	CTR	0.5
1,3-Dichlorobenzene	541731	µg/L	CTR	0.5
1,4-Dichlorobenzene	106467	µg/L	CTR	0.5
3,3-Dichlorobenzidine	91941	µg/L	CTR	5
2,4-Dichlorophenol	120832	µg/L	CTR	1
2,4-Dimethylphenol	105679	µg/L	CTR	1
Di(2-ethylhexyl)adipate	103231	µg/L	CTR	5
Diethyl Phthalate	84662	µg/L	CTR	2
Dimethyl Phthalate	131113	µg/L	CTR	2
Di-n-Butyl Phthalate	84742	µg/L	CTR	10
2,4-Dinitrophenol	51285	µg/L	CTR	5.0
2,4-Dinitrotoluene	121142	µg/L	CTR	5
2,6-Dinitrotoluene	606202	µg/L	CTR	5
Di-n-Octyl Phthalate	117840	µg/L	CTR	10
1,2-Diphenylhydrzine	122667	µg/L	CTR	1
Di-Isopropyl Ether	10823	µg/L	Detection Limit	0.5
Ethanol	64175	µg/L	Detection Limit	5
Ethyl Tertiary Butyl Ether	637923	µg/L	Detection Limit	0.5
Ethylene Dibromide	8003074	µg/L	CTR	0.02
Fluoranthene	206440	µg/L	CTR	0.05
Fluorene	86737	µg/L	CTR	0.1
Hexachlorobenzene	118741	µg/L	Title 22	0.5
Hexachlorobutadiene	87683	µg/L	CTR	1
Hexachlorocyclopentadiene	77474	µg/L	Title 22	1
Hexachloroethane	67721	µg/L	CTR	1
Indeo(1,2,3-cd)Pyrene	193395	µg/L	CTR	0.05
Isophorone	78591	µg/L	CTR	1
Methanol	67561	mg/L	Detection Limit	1

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
3-Methyl-4-Chlorophenol	59507	µg/L	CTR	1
2-Methyl-4,6-Dinitophenol	53421	µg/L	CTR	5.0
Naphthalene	91203	µg/L	CTR	0.2
Nitrobenzene	98953	µg/L	CTR	1
2-Nitriphenol	88755	µg/L	CTR	10
4-Nitriphenol	100027	µg/L	CTR	5.0
N-Nitrosodimethylamine	62759	µg/L	CTR	5
N-Nitrosodi-n-Propylamine	621647	µg/L	CTR	5
N-Nitrosodiphenylamine	86306	µg/L	CTR	1
Pentachlorophenol	87865	µg/L	Title 22	0.2
Phenanthrene	85018	µg/L	CTR	0.05
Phenol	108952	µg/L	CTR	1
Pyrene	129000	µg/L	CTR	0.05
Tertiary Amyl Methyl Ether	994058	µg/L	Detection Limit	0.5
Tertiary Butyl Alcohol	75650	µg/L	Detection Limit	5.0
2,4,6-Trichlorophenol	88062	µg/L	CTR	10.0
Pesticides				
Alachlor	15972608	µg/L	Title 22	1
Aldrin	309002	µg/L	CTR	0.005
Atrazine	1912249	µg/L	Title 22	0.5
Bentazon	25057890	µg/L	Title 22	2
alpha-Benzene Hexachloride	319846	µg/L	CTR	0.01
beta-Benzene Hexachloride	319857	µg/L	CTR	0.005
gamma-Benzene Hexachloride	58899	µg/L	CTR	0.02
delta-Benzene Hexachloride	319868	µg/L	CTR	0.005
Carbofuran	1563662	µg/L	Title 22	5
Chlorodane	57749	µg/L	CTR	0.1
Dalapon	75990	µg/L	Title 22	10
Dibromochloropropane	96128	µg/L	Title 22	0.01

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
4,4-DDT	50293	µg/L	CTR	0.01
4,4-DDE	72559	µg/L	CTR	0.05
4,4-DDD	72548	µg/L	CTR	0.05
2,4 D	94757	µg/L	Title 22	10
Dieldrin	60571	µg/L	CTR	0.01
Dinoseb	88857	µg/L	Title 22	2
Diquat	85007	µg/L	Title 22	4
Alpha-Endosulfan	959988	µg/L	CTR	0.02
Beta-Endosulfan	33213659	µg/L	CTR	0.01
Endosulfan Sulfate	1031078	µg/L	CTR	0.05
Endothall	145733	µg/L	Title 22	45
Endrin	72208	µg/L	CTR	0.01
Endrin Aldehyde	7421934	µg/L	CTR	0.01
Glyphosate	1071836	µg/L	Title 22	25
Heptachlor	76448	µg/L	CTR	0.01
Heptachlor Epoxide	1024573	µg/L	CTR	0.01
Methoxychlor	72435	µg/L	Title 22	10
Molinate	2212671	µg/L	Title 22	2
Oxamyl	23135220	µg/L	Title 22	20
Picloram	1918021	µg/L	Title 22	1
Simazine	122349	µg/L	Title 22	1
Thiobencarb	28249776	µg/L	Title 22	1
2,4,5-TP (Silvex)	93721	µg/L	Title 22	1
Toxaphene	8001352	µg/L	CTR	0.5
Polychlorinated Biphenyls				
Aroclor 1016	12674112	µg/L	CTR	0.5
Aroclor 1221	11104282	µg/L	CTR	0.5
Aroclor 1232	11141165	µg/L	CTR	0.5
Aroclor 1242	53469219	µg/L	CTR	0.5

Pollutant	CAS No.	Units	Basis for Detection Requirement	Final Effluent Limitation
Aroclor 1248	12672296	µg/L	CTR	0.5
Aroclor 1254	11097691	µg/L	CTR	0.5
Aroclor 1260	11096825	µg/L	CTR	0.5
Petroleum Hydrocarbons				
Total Petroleum Hydrocarbons as Gasoline		µg/L	Detection Limit	50
Total Petroleum Hydrocarbons as Diesel		µg/L	Detection Limit	50
Total Petroleum Hydrocarbons as Motor Oil		µg/L	Detection Limit	170

Table Notes

1. Dischargers shall comply with the most stringent minimum detection requirement for each pollutant. The applicable minimum detection requirement will be either (1) the Minimum Level (ML) of detection as established by the State Water Board in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California 2005 (SIP) or (2) the Detection Limits for Purposes of Reporting (DLRs) as established by the State Department of Health Services at Title 22 of the California Code of Regulations, Section 64445.1.

ATTACHMENT D - STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

1.1.1. The Discharger must comply with all of the terms, requirements, and conditions of this General Order. Any noncompliance constitutes a violation of the CWA and the Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

1.1.2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

1.2. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Order. (40 C.F.R. § 122.41(c).)

1.3. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this General Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

1.4. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this General Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this General Order. (40 C.F.R. § 122.41(e).)

1.5. Property Rights

1.5.1. This General Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

1.5.2. The issuance of this General Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

1.6. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1.6.1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this General Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

1.6.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this General Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

1.6.3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this General Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

1.6.4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

2. STANDARD PROVISIONS – PERMIT ACTION

2.1. General

This General Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

2.2. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this General Order after the expiration date of this General Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

2.3. **Transfers**

This General Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

3. STANDARD PROVISIONS – MONITORING

3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

3.2. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

3.2.2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this General Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3),122.41(j)(4), 122.44(i)(1)(iv).)

4. STANDARD PROVISIONS – RECORDS

4.1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this General Order, and records of all data used to complete the application for this General Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of

the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

4.2. Records of monitoring information shall include:

4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

4.3. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

4.3.1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

4.3.2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

5. STANDARD PROVISIONS – REPORTING

5.1. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this General Order or to determine compliance with this General Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this General Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

5.2. Signatory and Certification Requirements

5.2.1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting 5.2.2 through 5.2.8 below. (40 C.F.R. § 122.41(k).)

5.2.2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

5.2.3. For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)

5.2.4. For a municipality, state, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

5.2.5. All reports required by this General Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting 5.2.2, 5.2.3, or 5.2.4 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

5.2.5.1. The authorization is made in writing by a person described in Standard Provisions – Reporting 5.2.2, 5.2.3, or 5.2.4 above (40 C.F.R. § 122.22(b)(1));

5.2.5.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

5.2.5.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

5.2.6. If an authorization under Standard Provisions – Reporting 5.2.5 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting 5.2.5 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5.2.7. Any person signing a document under Standard Provisions – Reporting 5.2.2, 5.2.3, or 5.2.4 or 5.2.5 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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 fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

5.2.8. Any person providing the electronic signature for documents described in Standard Provisions – 5.2.1, 5.2.2, 5.2.3, 5.2.4, or 5.2.5 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting 5.2, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

5.3. **Monitoring Reports**

5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this General Order. (40 C.F.R. § 122.41(l)(4).)

5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

5.3.3. If the Discharger monitors any pollutant more frequently than required by this General Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form

specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

5.3.4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this General Order. (40 C.F.R. § 122.41(l)(4)(iii).)

5.4. **Twenty Four Hour Reporting**

5.4.1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

5.4.2. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

5.5. **Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this General Order's requirements. (40 C.F.R. § 122.41(l)(2).)

5.6. **Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5.5 above. (40 C.F.R. § 122.41(l)(7).)

5.7. **Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

6. STANDARD PROVISIONS – ENFORCEMENT

6.1. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

ATTACHMENT E - MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

Dischargers regulated under General NPDES Permit No. CAG91101 shall be subject to the following monitoring and reporting requirements unless such requirements are modified or waived by the Regional Water Board Executive Officer. The Executive Officer may modify the monitoring and reporting program for a specific Discharger to reduce monitoring frequency and/or eliminate a monitoring parameter if it can be demonstrated that any reduction in monitoring requirements will not compromise water quality. In addition, the Executive Officer may stipulate conditions and requirements in addition to those established by the MRP for all authorized discharges, including monitoring and reporting requirements, for each specific discharge to assess compliance with requirements of the General Order and/or characterize the discharge and/or receiving water quality. Any deviations from this standard MRP that are proposed by the Executive Officer will be identified in the Notice of Authorization (NOA) letter from the Executive Officer to the Discharger.

The objective of monitoring conducted under this monitoring program is to provide the Discharger and the Regional Water Board with information concerning operation and performance of the treatment system, and to demonstrate compliance with the provisions of this General Order. The burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

1. GENERAL MONITORING PROVISIONS

1.1. Representative Monitoring Provision

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified in Table E-1, below, and further described in the Discharger's Notice of Intent (NOI) and Executive Officer's NOA, and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Regional Water Board.

1.2. Supplemental Monitoring Provision

If the Discharger monitors any pollutant more frequently than required by this General Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this General Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.

1.3. Data Quality Assurance Provision

Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW; formerly the Department of Public Health), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control (QA/QC) data with their reports.

1.4. Instrumentation and Calibration Provision

All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly installed, calibrated, operated, and maintained to assure that the accuracy of the measurements is consistent with the accepted capability of that type of device. This General Order allows the Discharger to utilize field equipment for monitoring dissolved oxygen, pH, temperature, turbidity, and specific conductance, provided that standard operating procedures (SOPs) identifying proper installation, calibration, operation and maintenance of equipment, including QA/QC procedures are developed and maintained at the project site. The QA/QC procedures must conform to U.S. EPA guidelines and/or to procedures approved by the Regional Water Board.

1.5. Minimum Levels (ML) and Reporting Levels (RL) Provision

Reasonable potential priority pollutant monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable water quality criteria. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed Standard Methods and corresponding MLs. If no ML value is below these levels, the lowest ML shall be selected as the RL. Required MLs for priority pollutants in accordance with this General Order are included in Attachment C. Applicable MLs for all priority pollutants can be referenced in Appendix 4 of the “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California” (State Implementation Policy or SIP)

1.6. Discharge Monitoring Report Quality Assurance (DMR-QA) Study

The Permittee shall participate in the DMR-QA program and ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study from each laboratory providing testing services for the permit are submitted **annually** to the State Water Board at qualityassurance@waterboards.ca.gov.

For more information on the DMR-QA Program, contact the State DMR-QA Coordinator at the aforementioned email address.

2. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Treatment System influent	M-INF	Untreated groundwater at a point in the groundwater collection system immediately prior to treatment.
Discharger Point 001	M-001[1]	Wastewater to be discharged, following treatment and before contact with receiving water and before dilution by any other water or waste.
Discharge Point 002	M-002	If more than one discharge point is authorized under the General Order, compliance monitoring locations shall be named M-002, M-003, etc., and shall be located to allow collection of wastewater to be discharged, following treatment and before contact with receiving water and before dilution by any other water or waste.
Receiving Water	R-001	Receiving water immediately upstream of the point of discharge at a location unaffected by the discharge to allow collection of water samples or observation of conditions that are representative of upstream, background conditions within the receiving water. Applicable to inland surface waters, enclosed bays, and estuaries.
Receiving Water	R-002	Receiving water at an appropriate monitoring location approved by the Executive Officer, downstream of the point of discharge, that represents downstream water quality after mixing of the discharge and receiving water. This monitoring location must be located within 25 feet of the discharge outfall unless otherwise approved by the Regional Water Board. Applicable to inland surface waters, enclosed bays, and estuaries.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description

Table Notes

1. Discharger enrolled under this General Order for more than one discharge point must comply with effluent limitations and monitoring requirements at each discharge point. If the Discharger is seeking enrollment of discharges from multiple discharge points, the Discharge may request monitoring of representative discharge points in lieu of monitoring all discharge points, provided that the Discharger provides sufficient information to demonstrate that the quality of wastewater discharged at the discharge points is the same and that the selected discharge point appropriately represents the other discharge points in terms of the pollutant characterization of the discharge, the flow rate range, and receiving water characteristics.

3. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor untreated groundwater/influent to the treatment facility at monitoring location M-INF in accordance with the following schedule.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	Gallons per day	Continuous	Daily

4. EFFLUENT MONITORING REQUIREMENTS

4.1. New Dischargers are required to demonstrate compliance with effluent monitoring requirements in Table E-3 prior to the start of the discharge. At the time the system is turned on, the treated effluent must be characterized for all required pollutants to demonstrate compliance with effluent limitations. During this time, the discharger must store treated water on-site until authorized by the Regional Water Board's Executive Officer to discharge to surface water.

4.2. After the initial step in section 4.1, new Dischargers shall monitor the effluent at Monitoring Location M-001 (M-002, etc. if there is more than one discharge point) as follows in Table E-3. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed Standard Methods and corresponding Minimum Level.

Table E-3. Effluent Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Flow[2]	GPD or MGD[3]	Continuous Meter	Daily[4]	---
Temperature	°C or °F	Field monitor[5]	Monthly	Standard Methods[6]
pH	pH units	Field monitor[5]	Monthly	Standard Methods[6]
Inorganic Pollutants	µg/L	Grab	Monthly	Standard Methods[6]
Volatile Organic Compounds	µg/L	Grab	Monthly	Standard Methods[6]
Semi-Volatile Organic Compounds	µg/L	Grab	Monthly	Standard Methods[6]
Pesticides	µg/L	Grab	Monthly	Standard Methods[6]
Polychlorinated Biphenyls	µg/L	Grab	Monthly	Standard Methods[6]
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	Quarterly	Standard Methods[6]
Acute Toxicity	% Survival, Pass or Fail, and % Effect	Grab or 24-Hour Composite[7]	Yearly	See Section 5
Chronic Toxicity	Pass or Fail, and % Effect	Grab or 24-Hour Composite[7]	Yearly	See Section 5

Table Notes

1. For discharges shorter than the minimum sampling frequency of a parameter, the discharge shall be monitored for that parameter at least once during the discharge.
2. The Discharger shall monitor the flow rate and calculate the average daily flow rate of the discharge during the entire period for the discharge. The flow rate, duration and total volume of the discharge shall be monitored and reported. Flow estimates are acceptable provided that the basis for the estimates is clearly indicated with the monitoring report(s).
3. GPD – gallons per day; MGD – million gallons per day.

Parameter	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
4. This flow sampling frequency assumes steady state flow. Flow rate shall be monitored more frequently if flow rate changes. Continuous flow monitoring is desirable if flow rates change frequently. 5. All field equipment shall be properly calibrated. Calibration records shall be retained for a period of three years. If the discharge has the potential for causing temperature or dissolved oxygen impacts in the stream, the Executive Officer may require continuous monitoring. 6. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136. 7. A grab sample is used unless the method specifies a 24-hour composite.				

4.3. After at least one year of monitoring as specified under section 4.2, a Discharger may submit a technical report to Regional Water Board staff proposing changes to the monitoring program, including reductions in monitoring frequency and parameters. The technical report shall include at least the following material: tables of all the monitoring data, tables of the groundwater data for the site, inventory of activities on the site, inventory of hazardous materials on the site, reasoning for reduction for monitoring frequencies, reasoning for why any pollutants proposed to be eliminated from monitoring do not have the potential to be discharged. Specific monitoring requirements for individual Dischargers will be determined on a case-by-case basis, at the discretion of the Executive Officer, who will issue a revised Monitoring and Reporting Program as needed.

5. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

5.1. Acute Toxicity Testing

The Discharger shall conduct acute whole effluent toxicity testing (WET) in accordance with the following acute toxicity testing requirements.

5.1.1. Test Frequency

The Discharger shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-4, above.

5.1.2. Discharge In-stream Waste Concentration (IWC) for Acute Toxicity

The IWC for this discharge is 100 percent effluent.

5.1.3. **Sample Volume and Holding Time**

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

5.1.4. **Freshwater Test Species and Test Methods**

The Discharger shall conduct the following acute toxicity tests in accordance with species and test methods in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

5.1.4.1. A 96-hour static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival Test Method 2002.0).

5.1.4.2. A 96-hour static renewal toxicity test with a vertebrate, the rainbow trout, *Oncorhynchus mykiss* (Survival Test Method 2019.0).

5.1.5. **Species Sensitivity Screening**

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Discharger shall collect a single effluent sample and concurrently conduct two acute toxicity tests using the invertebrate and fish species identified in section 5.1.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine acute toxicity monitoring during the permit term.

5.1.6. **Quality Assurance and Additional Requirements**

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual referenced in section 5.1.4, above. Additional requirements are specified below.

5.1.6.1. The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" from acute toxicity tests using the Test of Significant Toxicity (TST) approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_o) for the TST approach is: Mean discharge IWC response ≤ 0.80 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: ((Mean

control response - Mean discharge IWC response) ÷ Mean control response)) × 100.

5.1.6.2. If the effluent toxicity test does not meet the minimum effluent test acceptability criteria (TAC) specified in the referenced test method, then the Discharger shall re-sample and re-test within 7 days.

5.1.6.3. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

5.1.6.4. Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the U.S. EPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5.1.6.5. **Ammonia Toxicity**

The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

5.1.7. **Notification**

The Discharger shall notify the Regional Water Board verbally within 72 hours and in writing 14 days after receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification shall describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

5.1.8. **Accelerated Monitoring Requirements**

If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all TAC, the Discharger shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three-sample median minimum limitation (90 percent survival), the Discharger shall cease the discharge and initiate a Toxicity Reduction Evaluation (TRE) in accordance with section 5.3 of the MRP. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all TAC, then a TRE will not be required. If the discharge stops

before additional samples can be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

5.1.9. **Reporting**

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test (WET report). The WET report shall be prepared using the format and content of section 12 (Report Preparation) of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), including:

5.1.9.1. The toxicity test results in percent (%) survival for the 100 percent effluent sample.

5.1.9.2. The toxicity test results for the TST approach, reported as “Pass” or “Fail” and “Percent (%) Effect” at the acute toxicity IWC for the discharge.

5.1.9.3. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

5.1.9.4. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

5.1.9.5. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

5.2. **Chronic Toxicity Testing**

The Discharger shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

5.2.1. **Test Frequency**

The Discharger shall conduct chronic toxicity testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-3, above.

5.2.2. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity**

The chronic toxicity IWC for this discharge is 100 percent effluent.[4]

5.2.3. **Sample Volume and Holding Time**

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. For toxicity tests requiring renewals, a minimum of three 24-hour composite samples shall be collected. The lapsed time (holding time) from sample collection to first use of each sample must not exceed 36 hours.

5.2.4. **Freshwater Test Species and Test Methods**

The Discharger shall conduct the following chronic toxicity tests in accordance with species and test methods in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms" (U.S. EPA Report No. EPA-821-R-02-013, or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

5.2.4.1. A 7-day static renewal toxicity test with a vertebrate, the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).

5.2.4.2. A static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).

5.2.4.3. A 96-hour static non-renewal toxicity test with a plant, the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

5.2.5. **Species Sensitivity Screening**

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Discharger shall collect a single effluent sample and concurrently conduct three chronic toxicity tests using the fish, the invertebrate, and the algae species identified in section 5.2.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC

[4] The chronic toxicity test shall be conducted using a series of five dilutions and a control. The series shall consist of the following dilutions: 12.5, 25, 50, 75, and 100 percent. Compliance determination will be based on the IWC (100 percent effluent) and a control.

during species sensitivity screening shall be used for routine monitoring during the permit term.

5.2.6. **Quality Assurance and Additional Requirements**

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

5.2.6.1. The discharge is subject to determination of “Pass” or “Fail” and “Percent (%) Effect” for chronic toxicity tests using the TST approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_o) for the TST approach is: Mean discharge IWC response ≤ 0.75 × Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent (%) Effect” at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100.

5.2.6.2. If the effluent toxicity test does not meet the minimum effluent or reference toxicant TAC specified in the referenced test method, then the Discharger shall re-sample and re-test within 14 days.

5.2.6.3. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

5.2.6.4. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.

5.2.6.5. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the MRP and the rationale is explained in the Fact Sheet (Attachment F).

5.2.6.6. **Ammonia Removal**

Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

5.2.6.6.1. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.

5.2.6.6.2. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.

5.2.6.6.3. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

5.2.6.6.4. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent.

5.2.7. **Notification**

The Discharger shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of a result of “Fail” during routine monitoring.

5.2.8. **Reporting**

5.2.8.1. **Routine Reporting**

Chronic toxicity monitoring results shall be submitted with the annual self-monitoring report (SMR) for the year in which chronic toxicity was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:

5.2.8.1.1. WET reports shall include the contracting laboratory’s complete report provided to the Discharger and shall be consistent with the appropriate “Report Preparation and Test Review” sections of the methods manual and this MRP. The WET test reports shall contain a narrative report that includes details about WET test procedures and results, including the following:

5.2.8.1.1.1. Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia);

5.2.8.1.1.2. The source and make-up of the lab control/diluent water used for the test;

5.2.8.1.1.3. Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

5.2.8.1.1.4. Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUc, and IC25;

5.2.8.1.1.5. Identification of any anomalies or nuances in the test procedures or results;

5.2.8.1.1.6. WET test results shall include, at a minimum, for each test:

5.2.8.1.1.6.1. Sample date(s);

5.2.8.1.1.6.2. Test initiation date;

5.2.8.1.1.6.3. Test species;

5.2.8.1.1.6.4. Determination of “Pass” or “Fail” and “Percent (%) Effect” following the TST hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010). The “Percent (%) Effect” shall be calculated as follows:

“Percent Effect” (or Effect, in %) = ((Control mean response – IWC mean response) ÷ Control mean response)) x 100

5.2.8.1.1.6.5. Endpoint values for each dilution (e.g., number of young, growth rate, percent survival);

5.2.8.1.1.6.6. NOEC value(s) in percent effluent;

5.2.8.1.1.6.7. IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent;

5.2.8.1.1.6.8. TUc values (100/NOEC);

5.2.8.1.1.6.9. Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable);

5.2.8.1.1.6.10. NOEC and LOEC values for reference toxicant test(s);

5.2.8.1.1.6.11. IC50 or EC50 value(s) for reference toxicant test(s);

5.2.8.1.1.6.12. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia);

5.2.8.1.1.6.13. Statistical methods used to calculate endpoints;

5.2.8.1.1.6.14. The statistical program (e.g., TST calculator, CETIS, etc.) output results, which includes the calculation of percent minimum significant difference (PMSD); and

5.2.8.1.1.6.15. Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

5.2.8.1.2. **Compliance Summary**

In addition to the WET report, the Discharger shall submit a compliance summary that includes an updated chronology of chronic toxicity test results expressed in “Pass”/“Fail”, NOEC and TUc for tests conducted for the previous five years, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). Each compliance summary report shall clearly identify whether or not the effluent discharge is in compliance with the Basin Plan’s chronic aquatic life toxicity objective , and the status of any efforts (e.g., accelerated monitoring, TRE, TIE, etc.) to identify the source of chronic toxicity as required by this MRP.

5.2.8.2. **TRE/TIE results**

The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

5.3. **Toxicity Reduction Evaluation (TRE) Process**

5.3.1. **Preparation and Implementation of a Detailed TRE Work Plan**

If one of the accelerated toxicity tests described in section 5.1.8, above, does not comply with the three sample median minimum limitation (90 percent survival) or if a chronic toxicity test results in “Fail”, the Discharger shall cease the discharge and immediately initiate a TRE using, according to the type of treatment facility, EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989). The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:

5.3.1.1. Further actions by the Discharger to investigate, identify, and correct causes of toxicity prior to resuming the discharge.

5.3.1.2. Actions the Discharger will take to mitigate effects of the discharge and prevent the recurrence of toxicity.

5.3.1.3. A schedule for these actions, progress reports, and the final report.

5.3.2. **TIE Implementation**

The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test methods and, as guidance, EPA manuals: Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003, 1991); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96- 054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

5.3.3. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

5.3.4. The Regional Water Board recognizes that toxicity may be episodic and identification of the causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

6. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges to land.

7. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges of recycled water.

8. RECEIVING WATER MONITORING REQUIREMENTS

8.1. Monitoring Location R-001 and R-002 for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries

8.1.1. For discharges to inland surface waters, enclosed bays, and estuaries, the Discharger shall monitor the upstream and downstream receiving water at

Monitoring Locations R-001 and R-002, respectively, during discharge periods as follows:

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature[1]	ºC	Field Monitor	Monthly	Standard Methods[2]
pH[1]	pH units	Field Monitor	Monthly	Standard Methods[2]
Dissolved Oxygen[1]	mg/L	Field Monitor	Monthly	Standard Methods[2]
Turbidity[1]	NTU	Grab	Monthly	Standard Methods[2]
Hardness[3, 4]	mg/L	Grab	Monthly	Standard Methods[2]
Total Dissolved Solids[3]	mg/L	Grab or Composite	Monthly	Standard Methods[2]
Specific Conductance[3]	µmhos/cm	Field Monitor	Monthly	Standard Methods[2]
Boron[3]	mg/L	Grab or Composite	Monthly	Standard Methods[2]

Table Notes

1. Monitoring of temperature, pH, dissolved oxygen, and turbidity in upstream and downstream receiving water is required for all Dischargers at a monthly frequency.
2. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
3. Monitoring of hardness, total dissolved solids, specific conductance, and boron is required for Dischargers in which the receiving water body is specifically identified in Table 3-1 of the Basin Plan.
4. If hardness dependent inorganics pollutants are being monitored under Section 4 Effluent Monitoring Requirements, then receiving water monitoring for hardness will be required at a monthly frequency.

8.1.2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations R-001 and R-002. Attention shall be given to the presence or absence of:

8.1.2.1. Erosion or scouring caused or exacerbated by the discharge;

8.1.2.2. Nuisance conditions such as algae, fungi, slimes, or objectionable growths, mosquitoes, flooding, etc., caused or exacerbated by the discharge;

8.1.2.3. Floating or suspended matter;

8.1.2.4. Discoloration;

8.1.2.5. Bottom deposits;

8.1.2.6. Impact on aquatic life; and

8.1.2.7. Visible films, sheens, or coatings.

Documented observations and photographs of the receiving water conditions shall be summarized in the monitoring report(s) submitted to the Regional Water Board.

9. REPORTING REQUIREMENTS

9.1. General Monitoring and Reporting Requirements

9.1.1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

9.1.2. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 or the "Emergency Planning and Community Right to Know Act" of 1986.

9.1.3. **Noncompliance Reporting**

The Discharger shall report by telephone any noncompliance with Order No. R1-2022-0013, including any violation of a discharge prohibition final effluent limitation, discharge specification, receiving water limitation, or other provision of this General Order that may result in a significant threat to human health or the environment or that results in an unauthorized discharge to a drainage channel or a surface water, or evidence that the discharge has adversely impacted any beneficial use of the receiving water. The telephone report must be made by calling the Regional Water Board staff person assigned to the enrolled project or an available Regional Water Board staff person (707-576-2220), as soon as possible, but no later than 24 hours from the time the Discharger becomes aware of the noncompliance.

9.1.4. Discharger shall report catastrophic discharges to the California Governor's Office of Emergency Services (CalOES) within 24 hours of the discovery of the discharge or as soon as feasible after measures to protect public health and

safety have been implemented. For the purposes of this reporting, catastrophic discharges include, but are not limited to, release of super-chlorinated water that is not properly dechlorinated, high volume discharges that cause erosion to discharge sediment, salts and minerals to receiving waters, discharges that threaten public safety (e.g., washout of a hillside or flooding of downstream properties), and other discharges potentially harmful to aquatic life.

9.2. Self-Monitoring Reports (SMRs)

9.2.1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

9.2.2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 8. The Discharger shall submit SMRs according to the schedule in Table E-5 below including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this General Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this General Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

9.2.3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Monthly	First day of calendar month following start up (new Dischargers) or following the permit effective date (existing Dischargers).	1st day of calendar month through last day of calendar month	Quarterly Reports shall be submitted by May 1, August 1, November 1, and February 1 following each calendar quarter.
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date.	January 1 through March 31, April 1 through June 30, July 1 through September 30, October 1 through December 31	

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30, July 1 through December 31	
Annually	January 1 following (or on) permit effective date.	January 1 through December 31	

9.2.4. **Reporting Protocols**

The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

9.2.4.1. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

9.2.4.2. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

9.2.4.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

9.2.4.4. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

9.2.5. The Discharger shall submit SMRs in accordance with the following requirements:

9.2.5.1. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

9.2.5.2. The SMR shall contain documentation to demonstrate that field sampling staff have been properly trained and that all field equipment used for water quality monitoring was properly calibrated.

9.2.5.3. The Discharger shall include a cover letter with the SMR. The information contained in the cover letter shall clearly identify:

9.2.5.3.1. Facility name;

9.2.5.3.2. WDID number;

9.2.5.3.3. Applicable period of monitoring and reporting;

9.2.5.3.4. Any variations from the Notice of Intent (NOI);

9.2.5.3.5. A brief evaluation of the effectiveness of all treatment methods and/or management measures implemented;

9.2.5.3.6. If the discharge resulted in observable changes or impacts in the receiving water, including, but not limited to, discoloration or turbidity and an explanation of upstream and downstream conditions identified in the receiving water monitoring required by section 8.1 of this Monitoring and Reporting Program;

9.2.5.3.7. Identification and explanation of any violations of the General Order (include a description of the requirement that was violated and a description of the violation);

9.2.5.3.8. Explanation of corrective actions taken or planned to comply with the General Order;

9.2.5.3.9. The proposed time schedule for any corrective actions planned;

9.2.5.3.10. Identification and explanation of any complaints caused by the discharge;

9.2.5.3.11. Authorized signature; and

9.2.5.3.12. Certification Statement: “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my

inquiry of the person or persons who manage the system, 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 fine and imprisonment for knowing violations."

9.2.5.4. Monitoring data and reports shall also be submitted electronically to the State Water Resources Control Board's Geographical Environmental Information Management System database (Geotracker) as required by Title 23, Division 3, Chapter 30, Article 2, Sections 3890-3895 of the California Code of Regulation).

9.3. Discharge Monitoring Reports (DMRs)

9.3.1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website: (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring).

9.4. Other Reports

9.4.1. Notice of Start Up

The Discharger shall notify the appropriate Regional Water Board staff person by telephone or email at least three (3) days before initiating an authorized discharge, unless a shorter notification period is authorized by the Executive Officer.

9.4.2. Notice of Termination

Using the Notice of Termination (NOT) form provided as Attachment G to this General Order, within 30 days following permanent termination of an authorized discharge, Discharger shall provide notice that the authorized discharge has been completed.

ATTACHMENT F - FACT SHEET

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ATTACHMENT F - FACT SHEET

As described in section 3.3 of this General Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this General Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this General Order.

This General Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California.

1. PERMIT INFORMATION

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act or CWA) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. Section 4.1 of this Fact Sheet includes specific information regarding legal authorities.

The purpose of this General Order is to regulate discharges of highly treated groundwater from a discrete point source to surface waters of the North Coast Region. Extraction and treatment of groundwater impacted by chemical pollutants as a result of an unauthorized release is a remedial option used to reduce or eliminate petroleum hydrocarbons or volatile organic compounds (VOCs) from groundwater. This technology is also implemented for plume control by creating hydraulic control and reducing unwanted migration of pollution in groundwater. This General Order is intended to authorize similar discharges from groundwater treatment facilities at sites that have been impacted by petroleum related compounds and other volatile organic compounds associated with an unauthorized release of pollutants to groundwater.

Dischargers who may obtain coverage under this General Order by submitting a complete Notice of Intent (NOI) as described in section 2 of this General Order and further described in section 2 of this Fact Sheet. Dischargers who submit a complete NOI under this General Order are not required to submit an individual permit application. The Regional Water Board may request additional information and determine that a Discharger is not eligible for coverage under this General Order and would be better regulated under an individual or other general NPDES permit, or, for discharge to land under Waste Discharge Requirements (WDRs). If the Regional Water Board issues an NPDES permit or WDRs for a discharge that is otherwise covered by this General Order, the applicability of this General Order to the specified discharge is immediately terminated on the effective date of the NPDES permit or WDRs.

On October 26, 1995, the Regional Water Board adopted Order No. 95-88 (General NPDES Permit No. CAG911001) “Waste Discharge Requirements for Discharges of Extracted and Highly Treated Groundwater Resulting from Cleanup of Groundwater Polluted with Petroleum Hydrocarbons and Volatile Organic Compounds”. On

January 26, 2001 the General Order was reissued as Order No. R1-2001-9. On June 29, 2006 the General Order was reissued as Order No. R1-2006-0048. On May 5, 2011 the General Order was reissued as Order No. R1-2011-0028. On October 20, 2016 the General Order was reissued as Order No. R1-2016-0034. This General Order now replaces Order No. R1-2016-0034.

Dischargers that are already covered under General Order No. R1-2016-0034, are automatically covered under this General Order, provided that the discharge is in compliance with all permit requirements and that the NOI submitted under General Order No. R1-2016-0034 adequately characterizes the discharge. The Executive Officer will provide a Notice of Applicability (NOA) letter to existing Dischargers (those covered under Order No. R1-2016-0034) that coverage under the General Order will continue.

2. NOTIFICATION REQUIREMENTS

2.1. General Order Application

The NOI, as shown in Attachment B, is intended to provide the Regional Water Board with information necessary for a determination of suitability for coverage under this General Order. The information required to be completed in the NOI in Attachment B meets the requirements for NOIs established at 40 C.F.R. section 122.28(b)(2) and satisfies the requirements for a report of waste discharge (ROWD) established by Water Code section 13260. Water Code section 13260 requires a ROWD to start the application process for all WDRs and NPDES permits, except for general WDRs or general NPDES permits that use the NOI to comply or specify the use of an alternative application form designed for the permit. Submittal of the NOI is intended to replace the requirement of discharges to provide State of California Form 200 and U.S. EPA Application Forms 1 and 2B. The requirement to provide a single application form represents a less burdensome procedure for applicants and the Regional Water Board, while requiring submittal of all necessary information pursuant to NPDES regulations at 40 C.F.R. section 122.28(b)(2) and Water Code section 13260.

Applicants enrolling for coverage under this General Order must submit a complete NOI at least 90 days in advance of the proposed project start date. The 90 days may be decreased at the discretion of the Executive Officer. New discharges will not be authorized until a complete NOI has been submitted to the Regional Water Board and the Executive Officer has issued a Notice of Applicability (NOA) for coverage under this General Order. Dischargers covered under Order No. R1-2016-0034 are automatically covered under this General Order, provided that the NOI submitted under Order No. R1-2016-0034 adequately characterizes the discharge and the discharge is compliant with all terms of this General Order.

The NOI, as detailed in Attachment B, requires submittal of the following information and data:

2.1.1. General Information

General information about the applicant and the applicant's representatives (e.g., contractors, professional engineer).

2.1.2. Discharge Information

Information about the existing or proposed discharge, including, but not limited to, a narrative project description describing the project generating the treated groundwater discharge; the source of the discharge; description of vessels, pipelines, structures, and processes with which the water has contact prior to discharge; description of the points of discharge and upstream and downstream receiving water locations; field parameter testing for temperature, dissolved oxygen, specific conductance, and pH; discharge rate and volume; whether the discharge will exceed one percent of the receiving water flow; and whether the discharges are continuous, intermittent, and/or seasonal.

2.1.3. Pollutants of Concern/Discharge Sampling

Applicants with discharges to inland surface waters, enclosed bays or estuaries applying for coverage under this General Order are required to analyze the proposed discharge for constituents regulated under the California Toxics Rule (CTR) (listed in Attachment C, Tables C-1 and C-11 and 5-day biochemical oxygen demand (BOD5), total suspended solids (TSS), settleable solids, total coliform, grease and oil, total residual chlorine, pH, temperature, dissolved oxygen, specific conductance, hardness, turbidity, nitrate, and total dissolved solids, and submit the results with the NOI.

The effluent limits for the constituents in Attachment C, Tables C-1 through C-10, are based on the most restrictive water quality objectives/criteria from the CTR, primary maximum contaminant levels (MCLs) from Title 22 of the California Code of Regulations (CCR), and the Basin Plan. The effluent limitations for organic pollutants (Attachment C, Table C-11) are set to the most stringent minimum detection requirement for each pollutant. The applicable minimum detection requirement will be either (1) the Minimum Level (ML) of detection as established by the State Water Board in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California 2005 (SIP) or (2) the Detection Limits for Purposes of Reporting (DLRs) as established by the State Department of Health Services at Title 22 of the California Code of Regulations, Section 64445.1. The most restrictive criteria are necessary because this General Order is intended as a general order and covers treated water discharges to all surface waters in the North Coast Region of California. If the analytical test results of the discharge show that any constituent concentrations exceed the effluent limits or most stringent water quality screening levels listed in Attachment C, then the discharge will not be allowed under this General Order. If the analytical test results of the discharge show that all constituent concentrations are below the

effluent limits and most stringent screening levels in Attachment C, then the discharge may be enrolled under this General Order.

Section 1.3, Step 8 of the "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (State Implementation Policy or SIP) reads, in part, "The RWQCB shall require periodic monitoring (at least once prior to the issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established; however, the RWQCB may choose to exempt low volume discharges, determined to have no significant adverse impact on water quality, from this monitoring requirement." Certain types of low volume discharges may qualify for an exception to the requirement to conduct periodic monitoring for priority pollutants. For the purpose of implementing this General Order, the Regional Water Board has determined that discharges less than 0.5 million gallons per day are considered "small-volume" discharges and as small-volume discharges are not required to be re-screened for priority pollutant prior to the reissuance of this General Order, unless directed to by the Regional Water Board Executive Officer.

If an applicant discharges or proposes to discharge into a water quality limited segment (WQLS), the applicant must sample the discharge for the constituents causing the impairment in the receiving water under the current 303(d) list and submit the result with the NOI. The list of WQLSs can be found under the CWA section 303(d) List on the Regional Water Board Integrated Report website (http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d). If the analytical data demonstrate that constituent concentrations in the discharge will cause or substantially contribute to the impairment of the receiving water, the discharge will not be authorized under this General Order.

2.1.4. Evaluation of Disposal/Reuse Options

Pursuant to section 2, Article X, California Constitution, and Water Code section 275, on preventing waste and unreasonable use of waters of the state, the Regional Water Board encourages, wherever practicable, water conservation and/or reuse of wastewater. Therefore, to obtain coverage under this General Order, applicants are required to evaluate reuse and/or alternative disposal options that could be used for all or part of the treated water discharge. These options include, but are not limited to:

2.1.4.1. Sanitary Sewage System

If all the discharge is accepted by the local municipal wastewater treatment plant (WWTP), then authorization to discharge under an NPDES permit is not needed for the proposed project. Applicants may submit any denial or restrictive flow letter from the WWTP as proof that this option is not viable for all or part of the proposed discharge or explain why it is infeasible to discharge to the WWTP.

2.1.4.2. **Land Reuse/Disposal**

Each applicant must evaluate all reasonable reuse and disposal options, including, but not limited to irrigation of nearby urban or agricultural land or use for dust control. Reuse generally refers to application of the water to land at agronomic rates of existing vegetation, while land disposal involves application of water at greater than agronomic rates of existing vegetation or discharge to infiltration basins in a manner that may allow the discharge to reach groundwater. The land reuse/disposal option is usually restricted to the dry season (May through October) unless the applicant can demonstrate that the discharge can be retained on land during the wet season (November through April).

If a land reuse/disposal is not proposed, the applicant must fully explain why land reuse/disposal is not a viable option.

2.1.4.3. **Water Conservation**

The applicant must evaluate whether there are any viable options to reduce the discharge volume through water conservation measures.

2.1.5. **Discharge Location and Discharge Point Description**

The applicant must include information on the discharge location and attach a map showing the discharge site. The map should show the treatment system, flow path, discharge point, and surface waters. Wells and residences within 1,500 feet shall also be identified on the map.

2.1.6. **Receiving Water Information**

The applicant shall provide information on the receiving water, including, but not limited to, name of receiving water, receiving water flow, bank and instream conditions, and basic receiving water quality data.

The applicant shall have a representative receiving water sample analyzed for the constituents listed in Attachment C, Tables C--1, C--2, C--3, and C--4 and will compare the results to the respective screening levels in the Attachment C tables.

The receiving water characterization is an important element of the evaluation. Even if the proposed discharge contains no pollutants of concern, the discharge must be conducted in a manner that protects beneficial uses. For example, if a stream will be dry at the time of a proposed discharge, the applicant must be able to demonstrate that the discharge will not cause erosion or disrupt the life cycle of amphibians or other aquatic life that depend on the non-flowing conditions for part of their life cycle. If a low flow stream has pools that are populated with salmonids or other aquatic life, the applicant would need to

demonstrate that a short-term, high flow rate discharge will not disrupt or harm the aquatic life.

2.1.7. Project map(s), site drawing, and photographs

The project map(s) must include the location of the project, discharge point(s), and receiving water sampling points. The map shall also identify drinking water supply wells and residences within 1,500 feet and groundwater contamination sites within ½ mile of the proposed project site. The site drawing must conveyance systems, such as storm drains and drainage ditches through which the proposed discharge would travel. Photographs should be included to supplement site and receiving water characterization.

2.1.8. Fee Requirements

Information concerning the applicable fees can be found on the State Water Resources Control Board's Fees website (http://www.waterboards.ca.gov/resources/fees). Applicants enrolling for coverage under this General Order are required to submit the appropriate filing fee as required by Title 23 of the CCR, Division 3, Chapter 9, Article 1. When mitigated through implementation of appropriate management practices, treatment and/or controls, treated groundwater discharges, as defined under this General Order, pose no adverse effects to beneficial uses of the receiving waters. In accordance with State Water Board Annual Fee Schedules per the CCR, the discharges covered under this General Order are of treated groundwater and low complexity and are within category 3 of the de minimis discharges that are regulated under a general NPDES Permit that require minimal or no additional treatment systems to meet limits and pose no significant threat to water quality. If the proposed discharge has a duration of one year or more, an annual filing fee will be required each year.

2.1.9. Ability to Comply

Applicants must indicate whether the discharge is believed to have acute or chronic toxicity, chemical or organic constituents, sediment, total suspended solids, BOD5, bacteria, pesticides, oil and grease, radioactivity, salinity or temperature that may violate receiving water objectives of this permit or adversely impact beneficial uses of the receiving water. If the discharge is expected to comply, the applicant shall provide an explanation of ability to comply considering the receiving water quality, discharge water quality, and the pollutant loading to the receiving water. Discharges that contain pollutants in concentrations that exceed applicable water quality objectives and criteria will not be covered by this General Order.

2.2. General Order Coverage

After reviewing the NOI, the Executive Officer will notify each General Order applicant in writing whether or not the proposed discharge is eligible for coverage

under the General Order and the Executive Officer's intent with regard to granting authorization to discharge. The Executive Officer will also place a notice of enrollment on the Regional Water Board website for discharges authorized for enrollment under this General Order.

In no case may a discharge occur until the applicant receives written notification of coverage under the General Order of another permit issued or adopted by the State or Regional Water Board.

The determination of eligibility for coverage under the General Order will be made solely by the Executive Officer and will be based on information provided by an applicant in its NOI, the Regional Water Board's understanding of beneficial uses and water quality objectives, and all other site-specific information that is available for such a determination. Discharge flow characteristics, and anticipated flow rates and volumes, must be specified in the NOI. Discharge and receiving water flow rates will be considered but are not the sole or definitive factors in assessing the eligibility of a specific discharge for coverage under the General Order.

The Executive Officer may also elect to schedule a Regional Water Board hearing if a proposed treated groundwater discharge meets the eligibility criteria but is controversial and/or if any significant issues are raised by other agencies or the public. The Executive Officer may also require any facility requesting coverage under this General Order to apply for and obtain an individual NPDES permit in accordance with 40 C.F.R. section 122.28(b)(3)(i). Discharges to a WQLS or a waterbody subject to one or more applicable TMDLs will be evaluated on a case-by-case basis for coverage under this General Order or coverage under an individual permit.

In accordance with 40 C.F.R. section 122.28(b)(3)(iii), any facility may request to be excluded from coverage under a general NPDES permit by applying for an individual NPDES permit. The facility must provide justification supporting the request for an individual NPDES permit and reasons why coverage under this General Order is not appropriate. Upon receipt of the request, the Executive Officer will determine if an individual NPDES permit should be issued.

Dischargers issued an NOA letter are subject to the terms and conditions of this General Order and are responsible for submitting the annual fee associated with this General Order until a written Notice of Termination (NOT) of coverage has been submitted to the Regional Water Board. If the Regional Water Board issues an individual NPDES permit or WDRs with more specific requirements, the applicability of this General Order is automatically terminated on the effective date of the individual permit.

2.3. **Eligibility Criteria**

All Dischargers must demonstrate that the proposed discharge meets the definition of treated groundwater in section 1.1 of the General Order.

3. PURPOSE OF ORDER AND ELIGIBILITY REQUIREMENTS

3.1. Description of Treated Groundwater Discharges and Existing Discharge Requirements

3.1.1. General Description

Extraction and treatment of groundwater impacted by chemical pollutants as a result of an unauthorized release is a remedial option used to reduce or eliminate petroleum hydrocarbons or volatile organic compounds (VOCs), including halogenated VOCs, from groundwater. This technology is also implemented for plume control by creating a hydraulic control and reducing unwanted migration of pollution in groundwater. This General Order is intended to authorize similar discharges from groundwater treatment facilities at sites that have been impacted by petroleum related compounds and other VOCs, including halogenated VOCs, associated with an unauthorized release of pollutants to groundwater.

The General Order is a permitting tool used by the Regional Water Board to efficiently authorize and regulate a large number of similar dischargers. Eligibly and ineligibly requirements are described in section 1.2. of the General Order, which includes criteria that would make a discharge ineligible. Dischargers must demonstrate eligibility by submitting all information required in a NOI.

All eligibility and ineligibility conditions are retained from the previous permit, with one exception. This General Order does not cover discharges to the Pacific Ocean. Dischargers proposing to discharge to the Pacific Ocean must apply for an individual permit to ensure compliance with the California Ocean Plan.

3.1.2. Eligible Discharges

This General Order shall apply to new or existing discharges of treated groundwater, resulting from cleanup activities for petroleum products and VOCs, including halogenated VOCs, to surface waters.

3.1.2.1. Coverage under this General Order will be authorized only for minor discharges (as classified by the U.S. EPA and the Regional Water Board), which otherwise meet the criteria for authorization established herein.

3.1.2.2. Discharges of waste from treatment facilities designed to remove pollutants from groundwater polluted with petroleum products and/or VOCs, including halogenated VOCs, shall be permitted to surface water year-round with no discharge flow limitations based on the flow of the receiving water provided that the following conditions are met :

3.1.2.2.1. The discharge from the treatment facility must be pollutant free.[5]

3.1.2.2.2. The discharge shall not adversely affect the beneficial uses of the receiving water.

3.1.2.2.3. The discharge is necessary because a polluted groundwater cleanup operation is required.

3.1.2.2.4. The discharge is necessary because no feasible alternative to the discharge (reinjection, reclamation, evaporation, discharge to a community wastewater treatment and disposal system, etc.) is available.

3.1.2.2.5. The discharge is regulated by NPDES Permit/Waste Discharge Requirements.

3.1.2.2.6. The discharger has demonstrated consistent compliance with Provision 3.1.2.2.1 above.

3.1.2.2.7. The discharge is in the public interest.

3.1.3. **Ineligible Discharges**

A comprehensive list of ineligible discharges is included in section 1.2.3 of the Order. Discharges that do not consist solely of highly treated groundwater resulting from cleanup activities for petroleum products and/or VOCs, including halogenated VOCs, are ineligible for coverage under the General Order.

3.2. **Discharge Points and Receiving Waters**

The discharge point(s) and receiving water will be described in the NOI submitted by each Discharger.

The Basin Plan designates beneficial uses, establish water quality objectives and criteria, and contain implementation plans and policies to achieve those objectives and criteria for all waters of the North Coast Region. These plans identify specific

[5] As set forth in the Basin Plan's Interim Action Plan for Cleanup of Groundwaters Polluted with Petroleum Products and Halogenated Volatile Hydrocarbons, "pollutants are defined as those constituents and their breakdown products that were discharged to soils and/or groundwaters that necessitated a groundwater cleanup. Pollutant-free is defined as discharges that contain no detectable levels of pollutants as analyzed in currently approved EPA or State of California methodology." The Interim Action Plan also states that the Regional Water Board will define numerical limitations in terms of detectable levels when establishing numerical limitations in individual NPDES permits or waste discharge requirements for groundwater cleanup discharges.

beneficial uses for ground waters and surface waters, including ocean, coastal, and inland waters. Beneficial uses of inland waters specifically identified by the Basin Plan generally apply to its tributary streams. The beneficial uses of all receiving waters within the North Coast Region are described in section 4.3 of this Fact Sheet.

3.3. Summary of Existing Requirements

The previous General Order (Order No. R1-2016-0034) authorized discharges of treated groundwater associated with removal of contaminated groundwater to surface waters of the North Coast Region. Like this new General Order, Order No. 2016-0034 contained discharge prohibitions, effluent limitations, and receiving water limitations. This General Order contains the following new requirements:

3.3.1. Discharge Monitoring Reports must now be submitted electronically rather than in paper (Standard Provision 5.3.2).

3.3.2. The Permittee shall participate in the DMR--QA program (Monitoring and Reporting Program section 1.6).

3.3.3. The initial monitoring and reporting requirements for new Dischargers have been made more explicit.

4. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this General Order are based on the requirements and authorities described in this section.

4.1. Legal Authorities

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act or CWA) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. On 22 September 1989, the United States Environmental Protection Agency (U.S. EPA) granted the State of California, through the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Boards), the authority to issue general NPDES permits pursuant to 40 Code of Federal Regulations (C.F.R.) parts 122 and 123.

This General Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This General Order is also issued pursuant to section 402 of the federal CWA and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for treated groundwater point source discharges to surface waters of the North Coast Region.

40 C.F.R. section 122.28 authorizes the U.S. EPA and approved states to issue General Orders to regulate a point source category, if the sources:

4.1.1. Involve the same or substantially similar types of operations;

4.1.2. Discharge the same type of waste;

4.1.3. Require the same type of effluent limitations or operating conditions;

4.1.4. Require similar monitoring; and

4.1.5. Are more appropriately regulated under a General Order rather than individual permits.

On September 22, 1989, U.S. EPA granted the State of California, through the State Water Board and Regional Water Boards, the authority to issue general NPDES permits pursuant to 40 C.F.R. parts 122 and 123.

Water Code section 13263(i) authorizes the Regional Water Board to prescribe general WDRs for a category of discharges, which:

4.1.6. Are produced by the same or similar operations;

4.1.7. Involve the same or similar types of waste;

4.1.8. Require the same or similar treatment standards; and,

4.1.9. Are more appropriately regulated under general discharge requirements.

This General Order meets these requirements because the discharges that could potentially enroll under this General Order are all de minimis discharges that are high quality, relatively pollutant-free wastewaters that pose a treated groundwater to water quality. These discharges are most typically produced by water suppliers and construction-related operations. Many activities that result in Treated groundwater discharges are vital to community development activities, such as construction and provision of reliable water supply. Often there is no practical alternative to surface water discharge for these types of projects. The wastes are similar in that they are relatively pollutant-free and the pollutants that are typically present are generally naturally occurring parameters such as naturally occurring metals and salts, sediment, temperature, and pH. Some of the discharges could also contain chlorine and chlorine by-products that originate from disinfection. The discharges all require similar treatment ranging from no treatment to simple, low technology treatment. Regulating such discharges under a General Order rather than issuing individual permits allows the Regional Water Board to more efficiently permit these similar types of discharges.

4.2. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

Pursuant to Water Code section 13389, the action by the Regional Water Board to adopt a NPDES permit does not trigger the requirements of CEQA, except for "new sources" as defined by the CWA. Because this General Order precludes from coverage any discharge that is subject to Effluent Limitations Guidelines promulgated pursuant to CWA section 306, "new sources," as contemplated by the CWA, will not be eligible for coverage. The action by the Regional Water Board to adopt this General Order does not trigger the requirements of CEQA.

4.3. Regional, State and Federal Laws, Regulations, Policies, and Plans

4.3.1. Water Quality Control Plans

The Regional Water Board adopted a Water Quality Control Plan for the North Coast Region (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The requirements of this General Order implement the Basin Plan.

4.3.1.1. Beneficial Uses

The Basin Plan at section 2, Beneficial Uses, states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to inland surface waters and coastal waters of the North Coast Region are as follows:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PRO)
- Groundwater Recharge (GWR)
- Freshwater Replenishment (FRSH)
- Navigation (NAV)
- Hydropower Generation (POW)
- Water Contact Recreation (REC-1)
- Non-Contact Water Recreation (REC-2)
- Commercial and Sport Fishing (COMM)

- Aquaculture (AQUA)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Inland Saline Water Habitat (SAL)
- Estuarine Habitat (EST)
- Marine Habitat (MAR)
- Wildlife Habitat (WILD)
- Preservation of Areas of Special Biological Significance (ASBS)
- Rare, Threatened, or Endangered Species (RARE)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Shellfish Harvesting (SHELL)
- Water Quality Enhancement (WQE)
- Flood Peak Attenuation/Flood Water Storage (FLD)
- Wetland Habitat (WET)
- Native American Culture (CUL)
- Subsistence Fishing (FISH)

Requirements of this General Order protect beneficial uses by implementing water quality objectives, which are designed to protect such uses.

4.3.1.2. **Implementation Plan**

Section 4.1.7 of the Basin Plan, “Interim Action Plan For Cleanup Of Groundwaters Polluted With Petroleum Products And Halogenated Volatile Hydrocarbons” reads as follows:

> “Discharges of waste from treatment facilities designed to remove pollutants from groundwaters polluted with petroleum products and halogenated volatile hydrocarbons shall be permitted to surface waters of the North Coast Region year-round with no discharge flow limitations based on the flow of the receiving water provided that the following conditions are met:
>
> 1. The discharge from the treatment facility shall be pollutant-free. [footnote]
>
> 2. The discharge shall not adversely affect the beneficial uses of the receiving water.

3. The discharge is necessary because a polluted groundwater cleanup operation is required by an action of the Regional Water Board.

4. The discharge is necessary because no feasible alternative to the discharge (reinjection, reclamation, evaporation, discharge to a community wastewater treatment and disposal system, etc.) is available.

5. The discharge is regulated by NPDES Permit/Waste Discharge Requirements.

6. The discharger has demonstrated consistent compliance with Provision 1, above.

7. The discharge is in the public interest.

[footnote] For the purposes of this Interim Action Plan, pollutants are defined as those constituents and their breakdown products that were discharged to soils and/or groundwaters that necessitated a groundwater cleanup. Pollutant-free is defined as discharges that contain no detectable levels of pollutants as analyzed in currently approved EPA or State of California methodology. The Regional Water Board will define detectable levels in terms of numerical limits and shall specify such limits in individual NPDES permits or waste discharge requirements."

This General Order directly implements Section 4.1.7 of the Basin Plan.

4.3.2. Thermal Plan

The State Water Board adopted a "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan prohibits elevated temperature waste discharges into cold interstate waters.

4.3.3. National Toxics Rule (NTR) and California Toxics Rule (CTR)

U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

4.3.4. State Implementation Policy

On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this General Order implement the SIP.

4.3.5. Antidegradation Policy

Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68 16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. If the Regional Water Board, subsequent to review of any NOI, finds that the impact of a discharge will not be consistent, then authorization for coverage under this General Order will be denied and coverage under an individual permit will be required (including preparation of an antidegradation analysis).

While meeting water quality objectives and criteria treated groundwater discharges must also not cause a violation of the State's antidegradation policy, which is established by State Water Board Resolution No. 68-16 and through the Regional Water Board's implementation of U.S. EPA rules regarding antidegradation expressed at 40 C.F.R. section 131.12.

The Regional Water Board has determined that discharges authorized under this General Order will be consistent with applicable antidegradation policies expressed by NPDES regulations at 40 C.F.R. section 131.12 and by State Water Board Resolution No. 68-16. These provisions require that, at a minimum, existing instream water uses and the level of water quality necessary to protect those existing uses must be maintained. Where the existing water quality is better than the water quality objectives set to protect existing and potential beneficial uses, that quality must be maintained, unless specific findings are

made. The federal antidegradation policy also requires that high quality waters that constitute an outstanding national resource must be maintained and protected.

This General Order retains requirements that were included in General Order No. R1-2016-0034 to assure that water quality objectives are met and that existing water quality is protected to the greatest extent possible. For example, General Order No. R1-2016-0034 and this General Order require characterization of the discharge and the receiving water, a certification that no pollutants will be discharged at levels that exceed water quality objectives, an evaluation of feasible alternatives to the discharge, and a description of treatment measures and BMPs that will be implemented to remove pollutants and minimize the rate, volume, and duration of the discharge. These requirements will help assure that treated groundwater discharges will protect the existing quality of water where that quality exceeds the objectives set forth in the Basin Plan and State Water Board plans and policies adopted for the protection of water quality, and will at a minimum, maintain water quality to protect existing beneficial uses, and will not impede recovery of those waterways that are not meeting all water quality objectives. These requirements constitute the best practical treatment and control of discharges covered under this Order. Nonetheless, because of the potential for increased numbers of discharges to North Coast streams under this General Order, the Regional Water Board has considered the requirements of the federal and state antidegradation policies.

Under the federal antidegradation policy, existing instream water uses and the level of water quality necessary to protect existing uses must be maintained and protected. Where, however, the quality of the water exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and out of the water, that quality must be maintained and protected unless the State finds, after ensuring public participation, that:

4.3.5.1. Such activity is necessary to accommodate important economic or social development in the area in which the waters are located,

4.3.5.2. Water quality is adequate to protect existing beneficial uses fully, and

4.3.5.3. The highest statutory and regulatory requirement for all new and existing point source discharges and all cost-effective and reasonable best management practices for non-point source control are achieved (40 C.F.R. § 131.12).

The federal policy also requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16 (Resolution) prior to the adoption of the federal policy. The Resolution incorporates the federal antidegradation policy and requires that existing quality of waters be maintained unless degradation is justified based on specific

findings. California's antidegradation policy is also included in the North Coast Basin Plan as a General Objective (Basin Plan pages 3-2.00 to 3-3.00).

California's antidegradation Policy applies to both groundwater and surface waters whose quality meets or exceeds (are better than) water quality objectives. The State policy establishes several conditions that must be met before the quality of high-quality waters may be lowered by waste discharges.

The State must determine that lowering the quality of high-quality waters:

4.3.5.4. Will be consistent with the maximum benefit to the people of the state;

4.3.5.5. Will not unreasonably affect present and anticipated beneficial uses of such water; and

4.3.5.6. Will not result water quality less than that prescribed in state policies (e.g., water quality objectives).

4.3.5.7. In addition, before any degradation of water quality is permitted, it must be shown that the discharge will be required to meet waste discharge requirements that result in best practicable treatment or control of the discharge necessary to assure that:

4.3.5.7.1. Pollution or nuisance will not occur; and

4.3.5.7.2. The highest water quality consistent with maximum benefit to the people of the State is maintained.

Only those discharges that do not exceed Basin Plan water quality objectives or criteria, the CTR objectives, or any other applicable Regional Water Board, State Water Board, or federal objective or criteria promulgated to protect water quality and beneficial uses are eligible to enroll under the this General Order. Where a treated groundwater discharge meets water quality objectives, it would not be expected to adversely affect the present or future beneficial use of surface waters, nor would it be expected to result in water quality less than that prescribed in the Basin Plan.

There may, however, be the potential for a small reduction in water quality from treated groundwater discharges, either individually or cumulatively, where a discharge would be allowed that meets water quality objectives but exceeds background levels of high-quality receiving waters. The minor impact on water quality is, however, outweighed by the benefit of these treated groundwater discharges, which are necessary to accommodate important economic or social development in the North Coast Region. Any such potential change in water quality is, therefore, consistent with the maximum benefit to the people of California. All of the potentially treated groundwater discharges identified in section 1.2.1 of this General Order are associated with activities to cleanup groundwater contamination.

4.3.6. **Anti-Backsliding Requirements**

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in this General Order are at least as stringent as the effluent limitations in General Order No. R1-2016-0034.

4.3.7. **Human Right to Water**

It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (Water Code §106.3, subd. (a)). The Safe Drinking Water Act provides that all Californians have a right to pure and safe drinking water (Health & Safety Code § 116270, subd. (a)). This Order promotes that policy by requiring the Discharger to handle and dispose of waste in a manner that will protect water quality objectives, including those that protect drinking water supplies.

4.3.8. **Endangered Species Act Requirements**

This General Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 et seq.) or the Federal Endangered Species Act (16 U.S.C. §§ 1531 et seq.). This General Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. Each Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

4.4. **Impaired Water Bodies on CWA 303(d) List**

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies, to U.S. EPA by April of each even numbered year. California divides the state into thirds with each of the nine regional water boards submitting an updated list once every six years. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. For each 303(d) listed pollutant and water body contaminant, U.S. EPA requires the Regional Water Board to develop TMDLs, implement existing programs, or implement additional water quality programs that will result in the attainment of water quality standards. TMDLs establish the maximum quantity of a

given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant. TMDLs also determine waste load allocations (the portion of a TMDL allocated to existing and future point sources) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

On April 6, 2018, the U.S. EPA provided final approval of the 2014-2016 303(d) list of impaired water bodies prepared by the state. Certain water bodies in the North Coast Region are listed as impaired for parameters including, but not limited to, nutrients, sediment, temperature, dissolved oxygen, pathogens, aluminum, and pH. The discharges covered by this General Order are treated groundwater discharges and the requirements of this General Order are expected to assure that the discharges covered by this General Order will not cause or contribute to the impairments. If a Discharger is proposing to discharge into a WQLS, the Discharger must provide a wastewater analysis of the 303(d) listed constituents as part of the NOI. In determining suitability for coverage under the General Order, the 303(d) status of the receiving water for a proposed discharge, as well as any TMDLs established in response to 303(d) listing, will be considered by Regional Water Board staff. This General Order does not authorize the discharge of pollutants into a WQLS that is impaired for a constituent that exists in the treated groundwater discharge at a concentration greater than the criteria used to establish the impairment of the water body.

5. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

5.1. Discharge Prohibitions.

Discharge prohibitions are necessary to assure that the authorized discharge meets all state and federal regulations. All of the discharge prohibitions described below are retained from General Order No. R1-2016-0034.

5.1.1. Prohibition 4.1.

The creation of pollution, contamination or nuisance, as defined by section 13050 of the California Water Code, is prohibited.

5.1.2. **Prohibition 4.2.**

The discharge of any waste, other than highly treated groundwater extracted from the site and treated, as representative by the Discharger in the NOI or as contemplated by the Executive Officer in authorization to discharge under this General Order is prohibited, unless the discharge is regulated by another NPDES permit or is discharged to a permitted facility.

NPDES regulations 40 CFR 122.28 and CWC section 13263 subdivision (i) authorize the issuance of general NPDES permits and general waste discharge requirements to regulate a category of point sources, which involve the same of substantially similar types of operation; discharge the same type of wastes; require the same type of effluent limitations or operation conditions; require similar monitoring; and are more appropriately regulated under a general order rather than an individual permit.

The advantage to the Regional Water Board in issuing a general order is that a group of similar discharges can be regulated by one permit, instead of by individual permits, thereby reducing some administrative burden. Before authorization to discharge under this General Order is granted, however, the Regional Water Board must be assured that all authorized discharges have similarities required by NPDES regulations and the CWC. The Regional Water Board therefore prohibits discharges which are not treated groundwater as reported by the Discharger in the NOI or as contemplated by the Regional Water Board.

5.1.3. **Prohibition 4.3.**

The discharge of groundwater containing constituents listed in Table C-1. Water Quality Criteria and Screening Levels for Priority Pollutants for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries of the General Order in excess of the background level in the receiving water is prohibited.

Table C1 contains inorganic pollutants contained in CTR. Inorganics are classified as a series of pollutants which can be naturally occurring in the environment. In most cases, inorganics will generally be found in groundwater at naturally occurring levels. In some cases, groundwater may have concentrations of inorganics at higher levels than what is naturally occurring in receiving waters.

The discharge of groundwater in which concentrations of inorganics are higher than concentrations found in receiving water may contribute to the overall increase of the pollutants in receiving water. Under this prohibition, the discharge of inorganics at concentrations higher that what exist naturally in receiving water is prohibited. This prohibition is intended to protect the beneficial uses of receiving waters by limiting the discharge of inorganics to receiving waters to maintain existing receiving water quality and as to not contribute to the potential degradation of receiving water quality.

If inorganics pollutants are present in untreated groundwater at levels higher than what occur naturally in groundwater, those discharges will be precluded from coverage under the General Order and will need to be covered under an individual permit.

5.1.4. **Prohibition 4.4.**

The discharge of extracted and treated groundwater in excess of the flow rates described by the Discharger in the NOI or as authorized by the Executive Officer is prohibited.

Discharge rates or volumes greater than what are described in the NOI or approved by the Executive Officer may have significant adverse impacts to receiving waters, and therefore, such discharges will be deemed as unauthorized discharges and may subject the Discharger to all available and appropriate penalties pursuant to the CWC and CWA.

5.1.5. **Prohibition 4.5.**

Bypass or overflow of untreated or partially treated groundwater to waters of the State from the treatment system or from the collection and transport systems or from pump stations tributary to the treatment system is prohibited. All water discharged under this permit must be fully treated, as described in the NOI.

5.2. **Technology-Based Effluent Limitations**

5.2.1. **Scope and Authority**

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

5.2.1.1. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

5.2.1.2. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

5.2.1.3. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including

BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

5.2.1.4. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorizes the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

5.2.2. **Applicable Technology-Based Effluent Limitations**

Contaminated groundwater is being treated to remove organic pollutants, including petroleum hydrocarbons and volatile organic compounds, including halogenated VOCs. Available treatment technologies are capable of removing organic pollutants to non-detectable concentrations. The Regional Water Board has therefore established an effluent limitation for all organic pollutants to non-detectable concentrations, based on BPJ, as defined below and are retained from Order No. R1-2016-0034:

5.2.2.1. Detectable concentrations of organic CTR pollutants are concentrations equal to or exceeding their respective Minimum Levels (MLs) of detection as established by the State Water Board in the Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (2005).

5.2.2.2. Detectable concentrations of organic Title 22 pollutants are concentrations equal to or exceeding the respective Detection Limit for Purposes of Reporting (DLRs) as established by the State Department of Health Services at Title 22 of the California Code of Regulations, section 64445.1.

5.2.2.3. Detectable concentrations of petroleum hydrocarbons and associated petroleum parameters are concentrations equal to or exceeding the MLs established for these pollutants and retained from the previous General Order.

5.3. Water Quality-Based Effluent Limitations (WQBELs)

5.3.1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: 1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; 2) an indicator parameter for the pollutant of concern; or 3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

5.3.2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

5.3.2.1. Beneficial Uses

Highly treated groundwater discharges may potentially be authorized to discharge to all surface waters of the North Coast Region. Beneficial use designations for receiving waters are presented in section 4.3 of this Fact Sheet.

5.3.2.2. Basin Plan Water Quality Objectives

Chapter 3 of the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the MCLs established by DDW for the protection of public water supplies at title 22 of the CCR section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals). This General Order requires the Discharger to analyze the

proposed discharge for the pollutants identified in Section 7 of the NOI and in Tables C-1 and C-11 of Attachment C and submit the analytical results with the NOI. Discharges that will cause, have reasonable potential to cause, or contribute to an exceedance of Basin Plan water quality objectives are ineligible for coverage under this General Order.

At title 22, division 4, chapter 15 of the CCR, DDW has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply. For purposes of this General Order, these water quality criteria are assumed to be applicable to all inland waters, enclosed bays, and estuaries of the North Coast Region.

5.3.2.3. **SIP, CTR and NTR**

Water quality criteria and objectives applicable to the receiving waters are established by the California Toxics Rule (CTR), established by the U.S. EPA at 40 C.F.R. section 131.38; and the National Toxics Rule (NTR), established by the U.S. EPA at 40 C.F.R. section 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

The SIP, which is described in section 4.3.4 of this Fact Sheet, includes procedures for determining the need for, and the calculation of, WQBELs and requires dischargers to submit data sufficient to do these calculations.

This General Order requires the Discharger to analyze the proposed effluent for priority pollutants and hardness and analyze the upstream receiving water for hardness and submit the analytical results with the NOI. Due to the uncertainty of the various types of discharge conditions that could be covered under this General Order, and in order to assure the protection of water quality for all discharge conditions, the reasonable potential analysis (RPA) must be conducted using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. Depending on receiving water conditions, use of either the lowest observed effluent hardness or the lowest observed receiving water hardness may be more protective of aquatic life beneficial uses. For example, under effluent dominated discharge conditions, use of the lowest observed effluent hardness is the most protective.

In this General Order, Table C-2 of Attachment C includes screening levels for cadmium, chromium (III), copper, lead, nickel, silver, and zinc which are dependent on water hardness. The CTR expresses the objective for these metals through equations where the hardness of the receiving water is a variable. To simplify the permitting process, it was necessary that fixed hardness values be used in these equations. Thus, criteria were calculated for hardness values in increments of 10 mg/L. For instance, for waterbodies with

hardness ranging from 11 mg/L to 20 mg/L, criteria were calculated using a hardness of 11 mg/L.

5.3.2.4. **Thermal Plan**

The Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan), which establishes water quality objectives for temperature in the coastal and interstate waters and enclosed bays and estuaries of the Region, as well as ocean waters.

The General Order does not authorize discharges that have the reasonable potential to exceed water quality objectives from the Basin Plan, CTR, or NTR.

5.3.3. **Determining the Need for WQBELs**

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

This General Order requires dischargers seeking authorization to discharge under this General Order to provide analysis of the proposed effluent and receiving water and demonstrate that the discharge does not pose reasonable potential to exceed any water quality objective. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction “The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.” Therefore, in this General Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

Prior to enrolling Dischargers under this General Order, Regional Water Board staff shall conduct an RPA in accordance with section 1.3, Step 7 of the SIP by comparing the results to the screening criteria contained in Attachment C to determine reasonable potential. If reasonable potential is found for a proposed discharge to exceed or cause an exceedance of any water quality objective in Attachment C, the discharge will not be authorized under this General Order. Accordingly, this General Order does not contain water quality-based effluent limitations for any of the pollutants identified in Attachment C.

5.3.3.1. **Inland Surface Waters, Enclosed Bays, and Estuaries**

5.3.3.1.1. **pH**

The effluent limitations for pH are specific to the receiving water and are based on the water quality objectives for pH established in Chapter 3 and

identified in Table 3-1 of the Basin Plan.

For waters not listed in Table 3-1 of the Basin Plan and where pH objectives are not otherwise prescribed, this General Order requires that the pH of the discharge be not less than 6.5 nor greater than 8.5, based on the general pH water quality objective specified in Chapter 3 of the Basin Plan.

5.3.3.1.2. **Total Dissolved Solids**

For waters listed in Table 3-1 of the Basin Plan, the total dissolved solids water quality objectives in Table 3-1 of the Basin Plan shall apply as effluent limitations.

This effluent limitation is based on water quality objectives for specific water bodies identified in Table 3-1 of the Basin Plan.

5.3.3.1.3. **Priority Pollutants**

This General Order is not intended to regulate discharges that have the reasonable potential to exceed water quality objectives; such discharges would be more appropriately regulated by an individual order that contains discharge-specific WQBELs. Since this is a general order for all highly treated groundwater discharges to surface waters in the North Coast Region of California, this General Order establishes effluent limitations in Attachment C, Tables C-1 through C-11 that are protective of beneficial uses under all discharge conditions and are based on the most protective water quality criteria for priority pollutants from the CTR and MCLs. To screen for discharges that may cause or contribute to and exceedance of a water quality objective, Dischargers seeking to enroll under this General Order are required to analyze the proposed discharge and receiving water for constituents regulated in Attachment C and receiving water hardness and submit the results as part of the NOI. If the analytical data demonstrate that any constituent concentrations in the discharge exceed the water quality screening levels listed in Attachment C, the discharge will not be allowed under this General Order. If all constituent concentrations are below the effluent limits and screening levels listed in Attachment C, the discharge may be authorized for coverage under this General Order, provided all other eligibility criteria and enrollment requirements are met.

5.3.3.2. **Whole Effluent Toxicity (WET)**

Effluent limitations for acute WET protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in the effluent. There are two types of WET tests-acute and chronic. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. The Basin Plan establishes a narrative water quality objective for toxicity, requiring that all waters be maintained free of

toxic substances in concentrations that are toxic to, or produce other detrimental responses in aquatic organisms.

This General Order includes an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires an absence of toxicity in the treated effluent. Discharges shall be in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with a 90 percent survival. This effluent limitation is retained from Order No. R1-2016-0034.

In addition to the Basin Plan requirements, section 4 of the SIP states that chronic toxicity limitations are required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. This General Order does not establish an effluent limitation for chronic toxicity; however, routine chronic Whole Effluent Toxicity (WET) monitoring to determine whether the discharge has the reasonable potential to cause receiving water toxicity.

5.3.3.3. Narrative Effluent Limitations

This General Order includes narrative effluent limitations for substances in the effluent that result in floating material, settleable material that degrades aquatic life, toxicity to surface waters, sediments, or biota, significant decrease in natural light to aquatic life. These narrative effluent limitations implement Basin Plan water quality objectives for inland surface waters, enclosed bays, and estuaries and are retained from Order No. R1-2016-0034.

5.3.3.4. Other Discharge Specifications

This General Order includes best management practices that remove pollutants and minimize the volume, rate, and duration of discharge. These specifications implement the Basin Plan's *Action Plan for Low Threat Discharges*.

5.4. Best Professional Judgment Effluent Limitations

Technology-based effluent limitations derived from the performance of treatment systems for discharges of highly treated groundwater following extraction and treatment of groundwater containing petroleum hydrocarbons and VOCs have not been promulgated by the U.S EPA. In this General Order, effluent limitations are developed for these discharges using Best Professional Judgement (BPJ). The Regional Water Board has determined that effluent limitations for all pollutants for which effluent limitations are prescribed in the General Order should be based on Best Available Technology (BAT) for the protection of water quality in the receiving water. The NPDES regulations at 40 C.F.R. section 125.3 define the following factors that must be considered when establishing BPJ-based conditions in a permit for BAT requirements:

- The age of equipment and facilities involved;
- The process employed;
- The engineering aspects of the application of various types of control techniques;
- Process changes;
- The cost of achieving such effluent reduction; and
- Non-water quality environmental impact (including energy requirements)

This General NPDES permit is intended to authorize similar discharges from groundwater treatment facilities at sites that have been impacted by petroleum related compounds and other volatile organic compounds associated with an unauthorized release of pollutants to groundwater. Treatment systems should represent state-of-the-art treatment technology to remove constituents of concern. The General Order also prohibits discharges that have the reasonable potential to cause, or contribute, to an excursion above a water quality objective in the receiving water. Treatment technologies are available to remove, to non-detectable concentrations, organic pollutants, including petroleum hydrocarbons and volatile organic compounds, including halogenated VOCs, prior to discharge to receiving water. Treatment systems unable to remove organic pollutants to non-detectable concentrations or that are otherwise unable to comply with other requirements of the General Order are ineligible for coverage under this General Order. Discharges determined to be ineligible may evaluate other options for disposal or reuse of wastewater, including discharge to a municipal wastewater treatment plant.

Effluent limitations in this General Order are consistent with the previous General Order, Order No. R1-2016-0034.

5.5. Final Effluent Limitation Considerations

5.5.1. Stringency of Requirements for Individual Pollutants

This General Order contains both technology-based requirements and WQBELs for individual pollutants. The technology-based requirements consist of a requirement to develop and implement an approved BMP/PP Plan to regulate and control the treated groundwater discharge to minimize the volume, discharge rate and duration of the discharge and to assure that the discharge does not cause erosion, scouring, adverse impacts to aquatic life, or any other adverse impacts. These requirements are discussed in section 5 of this Fact Sheet. This General Order's technology-based requirements implement the minimum, applicable federal technology-based requirements. In addition, this General Order contains effluent limitations for, pH, and total dissolved solids for discharges to inland surface waters, enclosed bays, and estuaries. These requirements are discussed in section 5 of this Fact Sheet.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by U.S. EPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this General Order (specifically the addition of the beneficial use of Native American Culture (CUL) and the General Objective regarding antidegradation) were approved by U.S. EPA on March 4, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this General Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

5.6. Land Discharge Specifications

This General Order is not applicable to discharges that are solely to land. Discharges that are solely to land may separately require WDRs or a waiver of WDRs.

Land discharge is a means by which a Discharger enrolled under this General Order may reduce the volume and duration of discharge to surface waters. Such a discharge shall not cause the creation of pollution or nuisance conditions.

5.7. Recycling Specifications

The General Order is not applicable to discharges that are solely recycling uses of wastewater. Discharges that are solely recycling uses may separately require WDRs or a waiver of WDRs.

6. RATIONALE FOR RECEIVING WATER LIMITATIONS

6.1. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and

water bodies. This General Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, tastes and odors, temperature, toxicity, and turbidity.

Receiving water quality is a result of many factors, some unrelated to the discharges which will be authorized by the General Order. This General Order considers these factors and is designed to minimize the influence of treated groundwater discharges on the receiving waters of the North Coast Region.

6.2. Groundwater

Groundwater limitations are not applicable to this General Order.

7. RATIONALE FOR PROVISIONS

7.1. Standard Provisions

7.1.1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this General Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this General Order incorporates by reference Water Code section 13387(e).

7.1.2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Discharger shall comply with the Regional Water Board Standard Provisions provided in section 7.1 of the General Order.

7.1.2.1. General Order Provision 7.1 identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority

specified in the federal regulations (e.g., 40 C.F.R. § 122.41(j)(5) and 40 C.F.R. § (k)(2)).

7.1.2.2. General Order Provision 7.1 requires the Discharger to notify Regional Water Board staff, orally and in writing, in the event that the Discharger does not comply or will be unable to comply with any Order requirement. This provision requires the Discharger to make direct contact with a Regional Water Board staff person. This Provision implements federal requirements at 40 C.F.R. section 122.41(I)(6) and (7) for notification of noncompliance and spill reporting.

7.2. Special Provisions

7.2.1. Reopener Provisions

7.2.1.1. Standard Revisions (Special Provision Section 7.3.1.1)

Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:

7.2.1.1.1. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this General Order in accordance with such revised standards.

7.2.1.1.2. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

7.2.1.2. 303(d)-Listed Pollutants (Special Provision Section 7.3.1.2)

This provision allows the Regional Water Board to reopen this General Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.

7.2.1.3. Whole Effluent Toxicity (Special Provision Section 7.3.1.3)

This provision allows the Regional Water Board to reopen this General Order to add effluent limitations or modify existing requirements for acute and chronic toxicity.

7.2.2. Special Studies and Additional Monitoring Requirements

7.2.2.1. Toxicity Reduction Requirements

Dischargers are required to prepare, maintain, and update, as necessary, a Toxicity Reduction Evaluation (TRE) Workplan, which must be implemented

when acute or chronic toxicity is persistent in effluent as determined by accelerated monitoring. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating, effluent toxicity. The TRE Workplan must be developed in accordance with guidance from the U.S. EPA's Office of Research and Development. Resources can be found in a U.S. EPA "Toxicity Reduction Evaluation Guidance" document at the following link: https://www3.epa.gov/npdes/pubs/tre.pdf

Following initiation of a TRE, if the cause of toxicity cannot be identified and eliminated within a reasonable period of time, as determined by the Executive Officer, the Discharger shall discontinue the discharge to receiving water and submit an evaluation to the Regional Water Board regarding alternate disposal methods or treatment system modifications that are proposed to correct the toxicity in the effluent. The Discharger shall correct the toxicity to the satisfaction of the Executive Officer prior to resuming a surface water discharge.

7.2.3. **Best Management Practices and Pollution Prevention – Not applicable**

7.2.4. **Construction, Operation, and Maintenance Specifications**

7.2.4.1. **Proper Operation and Maintenance (Special Provision 7.3.3)**

7.2.4.1.1. Operation and Maintenance Manual - The requirements for a Dischargers to prepare, maintain, and update, as necessary an O&M Manual is retained from Order No. R1-2016-0034.

7.2.4.1.2. Engineering Design Report - The requirements for all Dischargers to submit an Engineering Design Report is retained from Order No. R1-2016-0034.

7.2.4.1.3. Granular Activated Carbon Quality Control/Quality Assurance - Where applicable, Dischargers must implement a Quality Control/Quality Assurance (QA/QC) Program to ensure that newly replenished granular activated carbon in the treatment system is providing high quality effluent with respect to pH, ammonia, and inorganic constituents. Activities conducted as part of the GAC/QC program shall be documented in routine Discharge Monitoring Reports submitted for the facility.

7.2.4.2. This General Order (Attachment D, Standard Provision Section 1.4) requires that the Discharger at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with this General Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

8. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this General Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for applicable facilities.

These requirements are all retained from R1-2016-0034 except for the electronic SMR and DMR reporting requirements, which implement new federal requirements for minor NPDES permittees since the issuance of R1-2016-0034.

The objective of monitoring conducted under this monitoring program is to provide the Discharger and the Regional Water Board with information concerning operation and performance of the treatment system, and to demonstrate compliance with the provisions of this General Order. The burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

8.1. Influent Monitoring

Flow. Daily flow monitoring is required for influent flow into the treatment system. Flow data is necessary in order to document the volume of water being treated compared to the volume of water being discharged.

8.2. Effluent Monitoring

The Monitoring and Reporting Program established the following effluent monitoring requirements for discharges authorized under this General Order.

8.2.1. Flow

Daily flow monitoring is required to allow for comparison of actual discharge rate/volume with the rate/volume described in the NOI.

8.2.2. Temperature

Monthly monitoring of temperature is required to ensure compliance with receiving water limitations established in this General Order.

8.2.3. pH

Monthly monitoring of pH is required to ensure compliance with both effluent and receiving water limitations established in this General Order.

8.2.4. Inorganic Pollutants

Monthly monitoring is required for inorganic pollutants to determine compliance with effluent limitations. Due to the variability between Dischargers, monitoring requirements for inorganic pollutants may vary for each individual Discharger.

8.2.5. Organic Pollutants

Monthly monitoring is required for organic pollutants to determine compliance with effluent limitations. Due to the variability between Dischargers, monitoring requirements for inorganic pollutants may vary for each individual Discharger.

8.2.6. Initial Monitoring by New Dischargers

Per MRP Section 4.1, new Dischargers must first demonstrate compliance with effluent limits by discharging to on-site storage and monitoring for all constituents in Table E-3. This is the ensure proper functioning of the treatment system without risk to the receiving water.

Once authorization to discharge is given by the Regional Water Board's Executive Officer, at least one year of monitoring is performed using the full constituent list of Table E-3 (Sections 4.2 and 4.3 of the MRP). This allows for one full hydrologic year of the extracted groundwater to be observed through the treatment system, during which seasonally variable characteristics of the groundwater can be observed. This variability can affect the groundwater quality, including the background concentration of inorganic constituents.

After one full year of monitoring the effluent for the full suite of constituents, new Dischargers may request reductions in monitoring by submitting a technical report evaluating the monitoring data and the site, as specified in Section 4.3 of the Monitoring Report.

8.3. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) monitoring requirements are included in this Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. This Order retains the annual monitoring requirements for chronic and acute toxicity.

In addition to routine toxicity monitoring, this Order requires the Discharger to cease the discharge and initiate a TRE if there is evidence of a pattern of toxicity of the effluent.

8.4. Receiving Water Monitoring

8.4.1. Surface Water

Surface water monitoring is required to assess potential impacts to receiving water and to determine compliance with receiving water limitations established by the General Order.

8.4.1.1. Temperature, pH, dissolved oxygen, and turbidity

Monthly monitoring of receiving waters is required for these parameters to ensure compliance with receiving water limitations. This requirement is retained from Order No. R1-2016-0034.

8.4.1.2. Hardness, total dissolved solids, specific conductance, and boron

Monthly sampling of these parameters is required for compliance with applicable receiving water limitations and effluent limitations. Additionally, hardness is required for any discharge subject to hardness dependent effluent limitations for select inorganics.

8.5. Other Monitoring Requirements

As discussed previously, when authorization to discharge under the General Order is granted, the Regional Water Board may establish monitoring requirements for a specific Discharger, in addition to those established by the General Order for all authorized discharges. It is not the intent of Regional Water Board staff to design a monitoring plan for each Discharger. In fact, such “individualization” of monitoring requirements defeats, to some extent, the purpose of a General Order, which is to ease the administrative burden of regulating a large number of similar Discharger. The Regional Water Board does want to retain, however, the discretion to require supplemental monitoring for a specific Discharger, if site or discharge-specific conditions merit attention in addition to that provided by the General Order.

8.5.1. Discharge Monitoring Report Quality Assurance (DMR-QA) Study Program (MRP section 1.6)

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires all permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory’s ability to

analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

8.6. Reporting Requirements

The MRP establishes reporting requirements to enable Regional Water Board staff to assess compliance with the terms and conditions of the General Order and to maintain effective oversight of treated groundwater discharges and their potential impacts to receiving waters of the North Coast Region. Reporting requirements for most Dischargers include a requirement to submit monthly Self-Monitoring Reports (SMRs).

9. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a General Order for treated groundwater Discharges in the North Coast Region. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

9.1. Notification of Interested Parties

The Regional Water Board notified the potential Discharger and other interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's public notices website at http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml. The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website.

9.2. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Regional Water Board at the Regional Water Board at 5550 Skylane Boulevard, Suite A, Santa Rosa, California, 95403.

To be fully responded to by staff and considered by the Regional Water Board, written comments were due to the Regional Water Board offices by 5:00 p.m. on March 22, 2022.

9.3. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **June 9/10, 2022**
Time: 8:30 a.m. or as announced in the Regional Water Board's agenda
Location: Regional Water Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

9.4. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Resources Control Board (State Water Board) to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 days of the Regional Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see the State Water Resources Control Board's Water Quality Petitions website at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

9.5. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

9.6. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this Facility, and provide a name, address, and phone number.

9.7. Additional Information

Requests for additional information or questions regarding this General Order should be directed to Craig Hunt at Craig.Hunt@waterboards.ca.gov or (707) 576-2469.