County of San Diego
Department of Environmental Health and Quality*
Land and Water Quality Division

# LOCAL AGENCY MANAGEMENT PROGRAM

## 5-Year Evaluation Report

January 2022

*Department of Environmental Health was re-titled to Department of Environmental Health and Quality effective January 15, 2021

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### Background

The 2012 State Water Resources Control Board's *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy), required regulation pursuant to California Water Code (CWC) section 13290 et seq., provides statewide minimum standards for small OWTS and includes a conditional waiver from the requirement for Waste Discharge Requirements for OWTS owners when their OWTS meet the requirements of the policy.

The OWTS Policy provides a tiered approach: Tier 0-Existing OWTS. No action needed except for those OWTS requiring Tier 3 or Tier 4 corrective action; Tier 1-Statewide minimum siting, design, and construction standards for new and replacement OWTS; Tier 2-Allows for local agencies to implement alternative minimum standards to Tier 1 for new and replacement OWTS with same level of protection through a Local Agency Management Program (LAMP) approved by the Regional Water Quality Control Boards (Regional Boards); Tier 3-Provisions for OWTS near impaired waterways; and Tier 4-Requirements for OWTS needing corrective action.

The OWTS Policy and any OWTS provisions adopted in the Regional Board's *Water Quality Control Plans* (Basin Plans) provide the State's requirements for small OWTS regulation. State and Regional Boards are responsible for the implementation of OWTS Policy, with local implementation of minimum standards (Tier 1 or Tier 2) and local corrective action requirements allowed. Regional Boards are responsible for all OWTS not covered by the policy or local programs, and for implementation of Tier 3, with some local implementation authorized up to level of local authority, including local agency included special provisions in a LAMP.

Local ordinance (authorized under CWC section 13002) and Tier 1 or Regional Board approved LAMP requirements (Tier 2) may be implemented by the local agency. These requirements must be consistent with any Basin Plan OWTS requirements. The County of San Diego (COSD), Department of Environmental Health and Quality (DEHQ) implements a local OWTS installation permitting program for new and replacement OWTS under local ordinance and a 2015 Regional Board approved Tier 2 LAMP.

### Evaluation Report

OWTS Policy requires a local agency with an approved LAMP to perform an evaluation of the program and submit an evaluation report every five years.

The purpose of the Evaluation Report is to: 1) Evaluate the monitoring program for new and replacement OWTS covered under LAMP, 2) Assess whether water quality is being impacted by new and replacement OWTS, and 3) Identify any changes to LAMP to address impacts from new and replacement OWTS.

The assessments to be considered are: 1) Review of LAMP alternative standards (to Tier 1) to ensure adequate level of protection, 2) Review of areas with characteristics listed in section 9.1 of the OWTS Policy to identify where different or additional requirements are needed in LAMP to protect water quality, 3) Evaluation of water quality data for nitrogen and pathogens, and 4) Review of OWTS related complaints, variances, failures, and any information resulting from inspections.

### Evaluation Report Findings/Recommended Changes to LAMP

The review of LAMP Alternative Standards and OWTS Complaint and Permit Activity found:

- Nine of the 32 Tier 1 standards not clearly addressed in LAMP and recommended adding requirements or clarifying language to address these standards. These changes include:
  - Changing the two-foot setback for drip dispersal to property lines and structures to be consistent with the minimum five-foot setback for other dispersal systems (section 7.5.1).
  - Adding a setback to address OWTS near unstable land mass (section 7.5.3).
  - Changing the setback from OWTS to vernal pools, wetlands, lakes and ponds from 100 feet to 200 feet (section 7.5.5).
  - Adding minimum depth to groundwater requirements based on percolation test results and allowing opportunity for reduced depth to groundwater, from five feet to two feet, for OWTS with supplemental treatment components (section 8.1.5).
  - Amending application rate table and clarify maximum dispersal depth of 10 feet without study/engineered design (section 8.1.7).
  - Adding requirement for rock fragments not to exceed 50% cobbles or larger (section 8.1.10).
  - Adding additional language for septic tank standards consistent with Plumbing Code, Appendix K (section 8.2.1)
  - Adding requirement for installation of effluent filter (section 8.2.4)
- Proposed changes to LAMP would meet 100% of Tier 1 standards, but also provide an opportunity for alternatives to three of the standards with the submittal of a technical report or engineered design showing alternative provides adequate level of protection.
- Complaint, permitting, and inspection processes and actions were reviewed and found adequate.

<u>The Review of Water Quality Data and Section 9.1 Characteristic Areas found:</u>

- Water quality data used to evaluate OWTS impacts to be adequate and recommended continued collaboration with Department of Public Works, Watershed Protection Program on water quality issues related to OWTS within county jurisdiction.
- The existing and proposed siting, design, and construction standards in the LAMP provide adequate protection to address most areas with Section 9.1 characteristics. For OWTS near impaired water bodies, the recommended changes are to add language to the LAMP to 1) clearly define the scope coverage of LAMP is for new and replacement OWTS installation permits only, 2) clearly delineate that the type of OWTS included within and permitted by the LAMP are those that meet the prescribed minimum standards only, with any OWTS not meeting these requirements to be within the Regional Board jurisdiction for regulation and approval, 3) clarify any OWTS where the Regional Board imposes additional requirements outside the scope of the LAMP, including effluent limitations with ongoing monitoring, sampling, and reporting, to be within the Regional Boards jurisdiction for regulation and oversight. Procedurally, DEHQ will refer these OWTS permit applications to the Regional Board for regulation and oversight and will issue OWTS installation permits after the Regional Board has approved the siting and design for those OWTS.

**Next Steps**

The next steps are to prepare a draft update to the COSD LAMP, as well as any related updates to local ordinance, and solicit feedback from the Regional Board and local stakeholders. The updated LAMP and ordinance changes will be brought to Board of Supervisors for final review and approval.

# SECTION 1.0 ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) REGULATORY FRAMEWORK

## 1.1 Federal Laws, Policies, and Plans Related to OWTS

There are a wide range of overlapping laws, regulations, policies, plans, and programs that address discharges from OWTS administered by federal, state, and local agencies. This section provides an overview of the laws, regulations, and policies that have or may have an impact on OWTS discharges.

### 1.1.1 Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for managing water quality. The Federal Water Pollution Control Act of 1972, known as the Clean Water Act (CWA) and its amendments and the Safe Drinking Water Act are the primary federal laws that govern and authorize EPA's actions to control water quality. Elements of the CWA that address water quality and are relevant to the regulation of OWTS are discussed below.

Water Quality Control Plans Standards: Section 303 of the CWA (Title 33, U.S. Code section 1313) requires states to adopt water quality standards for all surface waters of the United States. These water quality standards are contained in the water quality control plans (basin plans) of each of California's Regional Water Boards.

Antidegradation Policy: The federal policy directs states to adopt statewide policies that include the following primary provisions:

- Protect and maintain existing instream uses and water quality necessary to protect those uses.
- Protect and maintain existing water quality that is better than necessary to support fishing and swimming conditions unless the state degradation is necessary for important local economic or social development.
- Maintain and protect high-quality waters that constitute an outstanding national resource.

Section 303(d) Impaired Waters List: Clean Water Act Section 303(d), List of Water Quality Limited Segments, requires each state to identify waters within its boundaries that do not meet water quality standards. Specifically, states must identify those waters for which technology-based effluent limitations are not stringent enough to implement any water quality standard applicable to such waters and establish a priority ranking for such waters. For those waters identified as not meeting water quality standards, each state must establish the Total Maximum Daily Load (TMDL) at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety.

TMDLs are not self-implementing or directly enforceable for sources in the watershed. Instead, TMDLs must be implemented through the programs or authorities of the San Diego Regional Water Quality Control Board (Regional Board) and/or other entities to compel dischargers responsible for controllable sources to achieve the pollutant load reductions identified by a TMDL analysis to restore and protect the designated beneficial uses of a waterbody. Federal regulations require TMDLs to be incorporated into the Basin Plan. Because TMDLs must be incorporated into the Basin Plan and are developed to implement previously established water quality standards (i.e., beneficial uses and water quality objectives), state statute requires the Basin Plan amendment to include a program of implementation (or Implementation Plan) for achieving water quality objectives.

### 1.1.2 Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) regulates contaminants of concern in the domestic water supply. EPA establishes primary and secondary maximum contaminant levels that regulate these types of contaminants. The Underground Injection Control (UIC) program was established under the provisions of the SDWA and classifies large capacity cesspools and septic systems as Class V injection wells subject to the UIC program.

Large Capacity Cesspools: Large capacity cesspools are multiple dwelling, community or regional cesspools, or other devices that receive sanitary wastes, containing human excreta, which have an open bottom and sometimes perforated sides. The UIC requirements do not apply to single family residential cesspools nor to non-residential cesspools which receive solely sanitary waste and have the capacity to serve fewer than 20 persons a day. EPA banned the construction of new large-capacity cesspools on April 5, 2000 and required closure of all existing large-capacity cesspools by April 5, 2005. As with any cesspool, any large capacity cesspool found to exist would be required to be destroyed.

Large Capacity Septic System: A septic system is considered a large capacity septic system if it receives solely sanitary waste either from multiple dwellings or from a non-residential establishment and the system has the capacity to serve 20 or more persons per day. In general, large capacity septic systems may be found serving apartment buildings, trailer parks, schools and religious institutions, office, industrial, and commercial buildings, shopping malls, state parks and campgrounds, recreation or vehicle parks, highway rest areas, train and bus stations, hotels and restaurants, and casinos.

The EPA has established minimum requirements to prevent injection wells from contaminating underground sources of drinking water. In most cases Class V wells are "authorized by rule." "Authorized by rule" means that an injection well may be operated without a permit as long as the owners or operators submit inventory information and verify that they are allowed to inject. The EPA will review the information to be sure that the well will not endanger underground sources of drinking water. After reviewing an owner or operator's inventory information the EPA may determine that an individual permit is necessary to prevent contamination.

## 1.2 State Laws, Policies, and Plans Related to OWTS

### 1.2.1 Water Code

The discharges of wastes that may impact the quality of the waters of the state, including discharges of wastewater from onsite wastewater treatment systems (OWTS), are regulated under California Law. California Water Code (CWC), Division 7 (Water Quality) was enacted in 1969 and provided a statewide program for the control of the quality of all the waters of the state.

The intent statement in Chapter 1, Section 13001 of the CWC, declares that the intent of the Legislature is that the State Water Resources Board (State Water Board), and each of the nine (9) regional boards, shall be the principal state agencies with primary responsibility for the coordination and control of water quality. CWC Section 13002 provides clarification that no provision of Division 7 or any ruling of the state board or Regional Board is a limitation:

- On the power of a county to adopt and enforce additional regulations, not in conflict with Division 7, imposing further conditions, restrictions, or limitation with respect to the disposal of waste or any other activity which might degrade the quality of the waters of the state.
- On the power of any county to declare, prohibit, and abate nuisances.

In Chapter 3, Article 3, State Policy for Water Quality Control (Sections 13140 through 13149), the State Water Board is required to formulate and adopt state policy for water quality control consisting of water quality principles and guidelines for long-range resource planning, including ground water and surface water management programs and control and water quality objectives for water quality control activities.

In Chapter 4, Article 3, Regional Water Quality Control Plans (Sections 13240 through 13249), each regional board is required to formulate and adopt water quality control plans (Basin Plans) conforming to state's water quality policies for all areas within the region and establish water quality objectives to ensure the reasonable protection of beneficial uses and the prevention of nuisance. Section 13241 recognizes that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses.

Chapter 4, Article 4, Waste Discharge Requirements (Sections 13260 through 13276), sets the requirement for persons discharging waste or proposing to discharge waste, including the discharge of wastewater from an OWTS, within any region, other than to a community sewer system, that could affect the quality of the waters of the state. These persons are required to file a Report of Waste Discharge (ROWD) with the appropriate Regional Board to obtain coverage under Waste Discharge Requirements (WDRs) or a waiver of WDRs. In addition, section 13269 of the Water Code provides the State Water Board or a Regional Board the authority to conditionally waive the requirement for filing a ROWD and for the issuance of WDRs for a specific discharge or specific type of discharge. Some WDRs also serve as Clean Water Act NPDES permits.

Chapter 4, Article 5, Individual Disposal Systems (Sections 13280 through 13286.9), Section 13280 provides that substantial evidence shall be in the record to support a determination by the Regional Board that discharges from OWTS from existing or new individual disposal systems which utilize subsurface disposal should not be permitted. In making this determination, the Regional Board shall consider several factors, including those listed in Section 13241: (a) past, present, and probable future beneficial uses of water; (b) environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; (c) water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area; (d) economic considerations; (e) the need for developing housing within the region; and (f) the need to develop and use recycled water. Other consideration includes possible adverse impacts if the discharge is permitted, failure rates of any existing OWTS whether due to inadequate design, construction, maintenance, or unsuitable hydrogeologic conditions, evidence of any existing, prior, or potential contamination, existing and planned land use, dwelling density, historical population growth, and any other criteria as may be established pursuant to guidelines, regulations, or policies adopted by the state board.

Section 13282 provides the basis for local implementation of state OWTS policy in that if adequate protection of water quality, protection of beneficial uses of water, and prevention of nuisance, pollution, and contamination can be attained by appropriate design, location, sizing, spacing, construction, and

maintenance of individual disposal systems in lieu of elimination of discharges from systems, and if an authorized public agency provides satisfactory assurance to the Regional Board that the systems will be appropriately designed, located, sized, spaced, constructed, and maintained, the discharges shall be permitted so long as the systems are adequately designed, located, sized, spaced, constructed, and maintained.

OWTS are again specifically addressed in Chapter 4.5, Onsite Sewage Treatment Systems (Sections 13290 through 13291.7), which required the State Water Board to adopt statewide regulations or standards for the permitting and operation of OWTS in the state by January 1, 2004. The regulations or standards must include minimum operating requirements (including construction, siting and performance requirements), requirements for onsite systems adjacent to impaired waters listed pursuant to 303(d) of the Clean Water Act, and requirements to authorize a qualified local agency to implement the regulations or standards developed by the STATE WATER BOARD. Section 13291(e) requires each Regional Board to incorporate the regulations or standards into the regional Basin Plans.

To satisfy the requirements of Chapter 4.5, the State Water Board adopted the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy) (Resolution No. 2012-0032) in 2013, and the Regional Water Quality Control Board for the San Diego Region (San Diego Regional Board) incorporated the OWTS Policy into the *Water Quality Control Plan for the San Diego Region* (R9-2015-0008) I 2015.

### 1.2.2 Health and Safety Code

Health and Safety Code, Division 5, Chapter 6, (Sections 5400 through 5474.10) prohibits any person from discharging sewage or other waste, or the effluent of treated sewage or other waste, in any manner which will result in contamination, pollution or a nuisance. Persons who discharge sewage or other waste in or on any waters of the state, or discharge waste where it probably will be discharged in or on any waters of the state, must notify the director of environmental health as soon as that person has knowledge of the discharge. If contamination exists, an order can be issued for the contamination to be abated.

Health and Safety Code, Division 104, Part 13, Chapter 4 (Sections 117400 through 117450) provides for the regulation of any persons or businesses engaging in cleaning of septic tanks, chemical toilets, cesspools, sewage seepage pits or sewage works with a local registration and reporting process.

### 1.2.3 State Water Board Water Quality Control Plans and Policies

Several Water Quality Control plans and policies have been adopted by the State Board that may impact discharges from OWTS and include the following presented below.

**California Ocean Plan:** A state plan to control of the discharge of waste to ocean waters and control of intake seawater to prevent degradation to marine species or threats to public health. The plan provides limits or levels of water quality characteristics for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisances, including bacteria water quality objectives adopted by the State Water Board for ocean waters used for water contact recreation. The bacteria water quality objectives are implemented, where applicable, through National Pollutant Discharge Elimination System (NPDES) permits issued pursuant to section 402 of the Clean Water Act, water quality certifications

issued pursuant to section 401 of the Clean Water Act, waste discharge requirements, and waivers of waste discharge requirements.

**Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Part 3, Bacteria Provisions and a Water Quality Standards Variance Policy:** A state plan establishing water quality objectives for reasonable protection of people that recreate within all surface waters, enclosed bays, and estuaries of the state that have the water contact recreation beneficial use (REC-1). Like the California Ocean Plan, the bacteria water quality objectives are implemented, where applicable, through National Pollutant Discharge Elimination System (NPDES) permits issued pursuant to section 402 of the Clean Water Act, water quality certifications issued pursuant to section 401 of the Clean Water Act, WDRs, and waivers of WDRs.

**California 2020 – 2025 Nonpoint Source Program Implementation Plan:** The purpose of the Nonpoint Source Program Plan is to improve the State's ability to effectively manage nonpoint source pollution. This plan was prepared by the State Water Board, the Regional Boards and the California Coastal Commission, collectively the co-lead agencies to present, in one place, the general goals and objectives of the co-lead agencies for addressing nonpoint source pollution over the timeframe of January 2021 to June 2025.

The general goals of the Nonpoint Source program are to (1) implement and enforce waste discharge requirements, waivers of waste discharge requirements, and waste discharge prohibitions to control and reduce nonpoint source pollution to waters of the state; (2) collaborate with state, local, and federal agencies on initiatives to control and reduce nonpoint source pollution to waters of the state; (3) administer a grant program that focuses on controlling and reducing nonpoint source pollution to targeted waterbodies in this plan; (4) research, investigate, and employ traditional and nontraditional mechanisms for reducing, regulating, and/or otherwise decreasing nonpoint source pollution to waters of the state; and (5) evaluate success of the program through tracking program activities, nonpoint source pollutant load reductions, and water quality improvements.

In the plan, the nonpoint source topic areas where the San Diego Regional Board has indicated a priority and established general goals that may impact OWTS discharges include the Bacteria, High Quality, Healthy, and/or Threatened Watersheds, and Transboundary topics. Region 9 did not include any goals for the region for the Onsite Wastewater Treatment Systems nonpoint source topic area.

For the Bacteria Nonpoint Source Topic area, the San Diego Region Board goals include identifying and eliminating human sources and causes of contamination and reducing illness rates from pathogens during REC-1 activities by supporting development of better indicators for human sources of waste in surface water samples, identifying and using better direct indicators of human waste than current fecal coliform indicators, improving the ability to assess actual and potential impacts to REC-1, continuing the implementation and enforcement of existing TMDLs for indicator bacteria in several beaches and creeks, and reviewing data and monitoring results submitted as required by Investigative Order No. R9-2019-0014, An Order [to several municipalities] to Submit Technical and Monitoring Reports to Identify and Quantify the Sources and Transport Pathways of Human Fecal Material to the Lower San Diego River Watershed), which was issued to municipal dischargers in the San Diego River watershed. The intent of the Investigative Order is to identify and quantify the sources and transport pathways of human fecal material to the San Diego River Watershed, its tributaries, and downstream beaches and to identify implementation measures needed to prevent discharges of human fecal material into the San Diego

River, some of which are suspected as originating from homeless encampments. A Final Report is to be submitted in 2024.

The High Quality, Healthy, and/or Threatened Watersheds Nonpoint Source Topic addresses the need to increase protection of the state's healthy functioning watersheds. Although this plan is focused primarily on impaired watersheds, this topic area is included to protect high-quality, healthy, and/or threatened watersheds.

The San Diego Regional Board goals for the High Quality, Healthy, and/or Threatened Watersheds Nonpoint Source Topic includes improving the ability to assess actual and potential impacts to REC-1 from hydromodification and hydrologic alteration by identifying and using better direct indicators of human waste than current fecal coliform indicators, updating sanitary sewer collection WDRs and review OWTS oversight to identify and address nonpoint sources contributions of human waste to surface waters, and reviewing annual and final findings of Investigative Order No. R9-2019-0014 for human sources of bacteria in San Diego River.

For the Transboundary Nonpoint Source Topic, the San Diego Regional Board included a goal of reducing or eliminating transboundary sewage flows from Mexico, and reducing discharges of sewage, industrial waste, and trash discharges to Tijuana River, Estuary and Shoreline.

**Regional Board Water Quality Control Plans:** The preparation and adoption of water quality control plans (Basin Plans) is required by Water Code Section 13240 and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. State law also requires that Basin Plans conform to the policies set forth in the Water Code beginning with Section 13000 and any state policy for water quality control. Since beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control (40 CFR 131.20). One significant difference between the state and federal programs is that California's basin plans establish standards for ground waters in addition to surface waters.

Given the diverse nature of California, the state is divided into nine separate Regional Boards, with San Diego County falling within the regulatory boundaries of two Regional Boards. Most of the western part of San Diego County is within the San Diego Region while the eastern desert areas of the county fall within the Colorado River Basin Region. A more detailed discussion of the Basin Plans covering San Diego County is provided in Section 1.3.

**Antidegradation Policy - Statement of Policy with Respect to Maintaining High Quality of Waters in California:** In 1968, Resolution 68-16, Statement of Policy with Respect to Maintaining Hight Quality of Waters in California was passed by the State Water Board. This policy provides that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not

unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies. Any activity which produces a waste or increased volume or concentration of waste and which discharges to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

**Sources of Drinking Water Policy - The Sources of Drinking Water Policy:** This policy provides that all surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards with some limitations. The beneficial uses provided in Basin Plans provide these designations, as well as the exceptions to these designations where appropriate.

**Enforcement Policy – Water Quality Enforcement Policy:** This Policy provides a framework to address the enforcement of violations by dischargers in a consistent, progressive, fair, and transparent manner. In addition to mandatory enforcement actions, this policy provides a mechanism for ranking violations to address resource limitations for discretionary enforcement actions.

**Impaired Waters Policy - Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options:** This policy addresses the process and authority for impaired waters to be addressed by the state. Where waters are not meeting their beneficial uses from anthropogenic sources of pollutants, the Water Boards will use the TMDL program to craft an implementation plan to ensure that the waters meet all applicable standards as soon as is practicable. The policy outlines the existing regulatory tools and mechanisms used to implement the TMDL program, including individual or general waste discharge requirements (be they under Chapter 4 or under Chapter 5.5 (NPDES permits) of the Porter-Cologne Water Quality Control Act), individual or general waivers of waste discharge requirements, enforcement actions, interagency agreements, regulations, basin plan amendments, and other policies for water quality control. Basin plan amendments can include adopting new or revised implementation measures, adopting prohibitions, or where appropriate, modifying standards.

This policy also establishes a certification process whereby the Regional Boards can formally recognize regulatory or nonregulatory actions of other entities as appropriate implementation programs when the Regional Boards determine another regulatory body is adequately addressing a water quality problem those actions will result in attainment of standards. However, that another regulatory body is addressing a water quality problem is not alone a sufficient basis for a Regional Board to forego remedial action. The Regional Boards may neither delegate nor abdicate their responsibility over the waters of the State. Furthermore, they may not indefinitely defer taking necessary action if another agency is not properly addressing a problem. Only where another agency is constructively involved in efforts to address an impairment should the State Water Board and Regional Board seek to take those efforts into account and, where appropriate, take advantage of these third-party efforts.

Only when the Regional Board independently determines that a program being implemented by another regulatory entity will be adequate to correct the impairment, may the Regional Board rely upon that program. If a Regional Board makes such findings, and the findings are supported by substantial evidence in the administrative record, the Regional Board may certify that such program will implement the assumptions and requirements of the TMDL.

This Policy provides the process for adopting TMDLs, which include a) adopt with a basin plan amendment, or another regulation or policy for water quality control, b) adopt with a permitting action, enforcement action, or another single regulatory action that is designed by itself to correct the impairment, and c) adopt with a resolution or order that certifies either a regulatory program has been adopted and is being implemented by another agency, and the program will correct the impairment, or a non-regulatory program is being implemented by another entity, and the program will correct the impairment. All three options for TMDL adoption require State Water Board review.

The Policy states the approach in c) above shall not be construed as authorizing the Regional Board to delegate its authority over water quality to another regulatory agency. The Regional Board must determine if the alternative program is consistent with the load capacity and must include specific findings, supported by substantial evidence in the record, that demonstrate each of the following: 1) the program is consist with the assumptions and requirements of the TMDL, 2) sufficient mechanisms exist to provide reasonable assurances that the program will address the impairment in a reasonable period of time, 3) sufficient mechanisms to enforce the program exist or the Regional Board otherwise has sufficient confidence that the program will be implemented, such that further regulatory action in the form of a TMDL implementation plan by the Regional Board is unnecessary and would be redundant.

The Policy states the above findings require a fact-specific inquiry, dependent upon the type of impairment at issue, the identity, authority, and interests of those proposing the alternative program, and a variety of other factors. A lower confidence that the program will remain in place and will succeed can be mitigated by findings that sufficient fallback provisions exist to ensure that the impairment will be addressed in a reasonable period of time if the program is unsuccessful. Such fallback provisions could include instructions that staff commence a regulatory program under section a) or b) above at a time-certain if the impairment has not then been addressed.

In addition, implementation activities taken to achieve load allocations must be consistent with the State Water Board Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Implementation Policy).

**Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List:** This policy describes the process by which the State Water Board and Regional Boards will comply with the listing requirements of section 303(d) of the federal CWA. The objective of this Policy is to establish a standardized approach for developing California's section 303(d) list in order to achieve the overall goal of achieving water quality standards and maintaining beneficial uses in all of California's surface waters.

**Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program:** This policy provides the mechanism for how the Nonpoint Source Program Plan will be implemented and enforced using the tools provided through the Water Code to the State and Regional Boards. These tools include planning authority to designate beneficial uses of the waters of the State, establish water quality objectives to protect those uses, and develop implementation programs to meet water quality objectives and maintain and/or restore designated beneficial uses; Administrative permitting authority in the form of WDRs, waivers of WDRs, and basin plan prohibitions; and Enforcement options to ensure that dischargers comply with permitting requirements. The Regional Boards have primary responsibility for ensuring that appropriate nonpoint source control implementation programs are in place throughout the State. All current and proposed nonpoint source discharges must be regulated under WDRs, waivers of WDRs, or a basin plan prohibition, or some combination of these administrative tools.

There are agencies, in addition to the State Water Board and Regional Boards, with the authority to implement programs to meet water quality objectives and protect beneficial uses. Several of these agencies are formally linked to the Regional Boards and through memoranda of understanding (MOUs) or management agency agreements (MAAs). MOUs and MAAs are important for nonpoint source regulation because they delineate the roles and responsibilities of individual agencies in the State's efforts to control nonpoint source pollution sources. In all cases, agencies with regulatory power act in accordance with their own authorities and processes.

Individual dischargers, including both landowners and operators, continue to bear ultimate responsibility for complying with a Regional Board's water quality requirements and orders. Generally, under the Porter-Cologne Act, the Regional Boards cannot take enforcement actions directly against non-discharger third parties.

**Onsite Wastewater Treatment Systems (OWTS) Policy - Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems:** On June 19, 2012, the State Water Board adopted Resolution No. 2012-0032, adopting the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). This Policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. The OWTS Policy contains a conditional waiver of waste discharge requirements for those OWTS in compliance with the provisions of the policy.

In accordance with Water Code section 13290 et seq., the OWTS Policy sets standards for OWTS that are constructed or replaced, that are subject to a major repair, that pool or discharge waste to the surface of the ground, and that have affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking water or other uses or cause a health or other public nuisance condition. The OWTS Policy also includes minimum operating requirements for OWTS that may include siting, construction, and performance requirements; requirements for OWTS near certain waters listed as impaired under Section 303(d) of the Clean Water Act; requirements authorizing local agency implementation of the requirements; corrective action requirements; minimum monitoring requirements; exemption criteria; requirements for determining when an existing OWTS is subject to major repair, and a conditional waiver of waste discharge requirements.

According to the March 2012 OWTS Policy Substitute Environmental Document (OWTS Policy SED), the regional water boards would implement the OWTS Policy by incorporating the requirements established in the proposed OWTS Policy, or standards that are more protective of the environment and public health than the proposed OWTS Policy, into their basin plans. Local agencies may also implement and enforce the OWTS Policy upon authorization by the regional water boards. The OWTS SED states that local agencies typically enforce local ordinances relating to siting requirements and site inspections, setbacks, and construction practices. The OWTS Policy is not expected to significantly affect the way in which local agencies address individual OWTS projects.

The State Water Board has oversight over the implementation of the proposed Policy and is responsible for updating and renewing the proposed Policy over time.

The OWTS Policy SED also provided that the proposed OWTS Policy would be largely self-implementing, requiring actions to be completed by the property owner/operator. The proposed OWTS Policy would be overseen by the State Water Board and the regional water boards. Local agencies would continue to oversee local siting approval and compliance with basin plans and local ordinances, as allowed under existing law.

The OWTS Policy SED states that the statewide conditional waiver would also be self-implementing. As long as a property owner ensures that his or her OWTS complies with the requirements of the proposed OWTS Policy, no additional permit or review would be required by the state. Failure to comply with the minimum statewide requirements for construction, operation, and maintenance of OWTS could result in enforcement pursuant to Chapters 4 or 5 of Division 7 of the California Water Code. As a result, the property owner could be required to cease the discharge, submit monitoring results, or submit a report of waste discharge to the regional water board, along with the applicable fee, and the OWTS could be subject to individual WDRs as determined by the regional water board.

The OWTS Policy is discussed in more detail in Section 1.4.

## 1.3 Water Quality Control Plans (Basin Plans) for San Diego County Area

As previously mentioned, the Water Code requires each Regional Board to formulate and adopt Basin Plans for all areas within the region. The Basin Plan is the primary regulatory tool used by the Regional Boards, providing the basis for most of the Regional Boards actions for water quality management and control. The Basin Plan provides three main elements: 1) the designation of beneficial uses of surface and ground waters to be protected, 2) the designation of water quality objectives necessary to unsure the reasonable protection of the beneficial uses, and 3) the provision of an implementation plan for achieving and maintaining the beneficial uses and water quality objectives.

In addition to the requirement for the OWTS Policy to be incorporated into the regional Basin Plans, adopted TMDLs and their associated Implementation Plans are also incorporated into the appropriate Basin Plans. There are two Regional Boards within the San Diego County boundaries, the San Diego Region covers the western portion of the county, and the Colorado River Basin Region covers the eastern portion of the county.

### 1.3.1 Water Quality Control Plan for the Colorado River Basin Region

Although the San Diego Regional Board is designated in the OWTS Policy to review and approve the COSD LAMP, OWTS located in San Diego County within the Colorado River Basin region are covered by any OWTS related requirements in the Colorado River Basin Region Basin Plan.

**Colorado River Basin Region Basin Plan (including amendments effective on or before January 8, 2019:**
The current version of the Colorado River Basin Region Basin Plan addresses OWTS in several areas as discussed below.

In Chapter 4 – Implementation, Section II – Point Source Controls, Subsection H – Septic Systems, the Basin Plan provides for OWTS to be regulated pursuant to the OWTS Policy and includes OWTS prohibitions and exceptions for three specific areas. None of the prohibition areas are located in San Diego County. The reference in this section to the Colorado River Basin Regional Board's 1979 *Guidelines*

*for Sewage Disposal from Land Developments* was deleted in September of 2013 when the OWTS Policy was incorporated into the Basin Plan (R7-2013-0049).

Chapter 5 – Plans, Policies and Issues, Section II – Regional Water Board Policies, Subsection B – Sewage Disposal from Land Developments still contains a reference to the Colorado River Basin Regional Board's *Guidelines for Sewage Disposal from Land Developments*, which had been deleted from Chapter 4 - Implementation. This section does not include a discussion on how this guidance is implemented within the scope and requirements of the OWTS Policy and its continued reference in this section may have been an oversight.

Chapter 5 – Plans, Policies and Issues, Section III – Regional Water Board Issues, Subsection A – Septic System Impacts to Ground Water Basins, includes a list of seven areas where unsewered communities with high densities of OWTS have been identified that have the potential to negatively impact groundwater. When resources permit, the Regional Water Board plans to conduct investigations in these areas to determine the relative priority for the provision of sewer to these communities. Of the seven communities identified, only the Borrego Springs community lies within San Diego County.

**September 2013 - Resolution No. R7-2013-0049; An Amendment to the Water Quality Control Plan for the Colorado River Basin Regarding Onsite Wastewater System Implementation Program:** On September 19, 2013, the Colorado River Basin Regional Board passed R7-2013-0049 to amend the Water Quality Control Plan for the Colorado River Basin Region to incorporate the State Water Board's OWTS Policy's requirements.

### 1.3.2 Water Quality Control Plan for the San Diego Region

The Basin Plan for the San Diego Region covers most of San Diego County. A review of past San Diego Region Basin Plans shows that OWTS related requirements have been evolving s over time but have been historically regulated by WDRs and Conditional Waivers of WDRs. A discussion of the San Diego Region Basin Plan history and OWTS related amendments is provided below.

**July 1975 - *Comprehensive Water Quality Control Plan for the San Diego Region*:** In the July 1975 Comprehensive Water Quality Control Plan for the San Diego Basin (Resolution 75-21), no specific design criteria were provided for OWTS but a reference was made to the development of a statewide policy for control of septic tank system design and operation with all significant variables affecting successful operation of such systems being included in the policy guidelines. It includes a recommendation that, when available and adopted, these guidelines should be employed throughout the San Diego Region to ensure continued proper design and operation of these systems

**June 1979 - Resolution 79-44 - *Guidelines for New Community and Individual Sewerage Facilities*:** On June 25, 1979, the Regional Board adopted Resolution 79-44 which approved the document *Guidelines for New Community and Individual Sewerage Facilities*. This document codified the Regional Board's established practices for the regulation of community and individual sewage disposal systems.

**September 1994 - *Comprehensive Water Quality Control Plan for the San Diego Basin*:** The 1994 *Comprehensive Water Quality Control Plan for the San Diego Basin*, approved by the Regional Board on September 8, 1994 (Resolution No. 94-10) and the State Water Board on December 13, 1994, incorporated the provisions of the guidelines approved under Resolution 79-44.

The 1994 Basin Plan (with amendments through April 4, 2011) shows that WDRs were required for the regulation of OWTS (page 4-7). However, conditional waivers for certain specific types of discharges were also incorporated into this Basin Plan, including discharges from OWTS (page 4-12, Table 4-4, and Appendix D). These discharges were subject to the specific conditions listed in Appendix D.

**Basin Plan Amendment February 2005 – Resolution R9-2005-0036 – *Total Maximum Daily Load for Total Nitrogen and Total Phosphorus in the Rainbow Creek Watershed, San Diego County*:** On February 9, 2005, the San Diego Regional Board approved R9-2005-0036, a resolution adopting an amendment to the Water Quality Control Plan for the San Diego Region (9) to incorporate TMDLs for Total Nitrogen and Total Phosphorus in the Rainbow Creek Watershed, San Diego County. The TMDL was needed to address excessive algal growth threatening to impair aesthetic and recreation uses (REC1 and REC2), warm water (WARM), cold water (COLD), and wildlife (WILD) beneficial uses. OWTS and agricultural sources were identified as causing or permitting the discharge of Total Nitrogen to Rainbow Creek through the groundwater pathway. The TMDL provides for the total annual loading limit of total nitrogen to Rainbow Creek to be reduced incrementally from the current load of 3,834 kg/yr to 1,658 kg/yr by no later than December 31, 2021. For OWTS through the groundwater pathway, the Total Nitrogen contribution must be reduced from 200 kg/yr to 46 kg/yr (this allocation and reduction did not include other agriculture sources to groundwater). Allowing for a three-year response time for Rainbow Creek to attain compliance with nutrient water quality objectives after reaching the desired nutrient wasteload and load reductions in 2021, the projected date when Rainbow Creek will attain and maintain compliance with nutrient water quality objectives is December 31, 2024.

The TMDL included an Implementation Action Plan to achieve the nutrient wasteload and load reductions with actions by the San Diego Regional Board and by each discharger. This TMDL and its Implementation Action Plan are discussed in more detail in Section 5.0.

**Basin Plan Amendment October 2007 – Resolution No. R9-2007-0104 – Incorporated the Revised Conditional Waivers of Waste Discharge Requirements for Specific Types of Discharge within the San Diego Region:** The San Diego Water Board developed and formally issued conditional waivers for specific types of discharge in the San Diego Region with a resolution adopted in 1983. The conditional waivers were first incorporated into the Basin Plan in 1994, including for discharges from OWTS (page 4-12, Table 4-4, and Appendix D). In 2007, the conditional waiver for OWTS was renewed as Conditional Waiver No. 1 and included graywater systems as well as OWTS. As the OWTS Policy included a conditional waiver for OWTS, the provision for a conditional waiver for OWTS was not included in the subsequent renewal process (R9-2014-0041) in June of 2014. However, Conditional Waiver No. 1 still covered graywater systems.

**Basin Plan Amendment February 2010 - Resolution No. R9-2010-0001 - Incorporated *Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)*:** On February 10, 2010, the San Diego Water Board adopted Resolution No. R9-2010-0001, a Resolution Amending the Water Quality Control Plan for the San Diego Basin to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Bacteria TMDL). This Resolution was subsequently approved by the State Water Board on December 14, 2010.

Bacteria TMDLs were established for 20 water bodes in the San Diego Region, including the following water bodies located in San Diego County: San Luis Rey Hydrologic Unit (HU) (903.00) - Pacific Ocean Shoreline, San Luis Rey HU; San Marcos Hydrologic Area (HA) (904.50) - Pacific Ocean Shoreline, San Marcos HA; San Dieguito HU (905.00) - Pacific Ocean Shoreline, San Dieguito HU; Miramar Reservoir HA (906.10) - Pacific Ocean Shoreline, Miramar Reservoir HA; Scripps HA (906.30) - Pacific Ocean Shoreline, Scripps HA; Tecolote HA (906.50) - Tecolote Creek; Mission San Diego Hydrologic Subarea (HAS) (907.11)/Santee HSA (907.12) - Forester Creek, San Diego River (Lower), Pacific Ocean Shoreline, San Diego HU; and Chollas HSA (908.22) - Chollas Creek.

The adopted TMDL identified responsible point and nonpoint sources, assigned existing bacteria loads, TMDLs, Waste Load Allocations and Load Allocations for the identified water bodies. The persons identified as responsible for controllable (can be regulated) point source discharges causing or contributing to the bacteria impairments at the beaches and creeks include Phase I MS4s, Phase II MS4s, Caltrans, publicly owned treatment works and wastewater collections systems, and concentrated animal feeding operations. These point sources are regulated by WDRs implementing NPDES regulations and the TMDL implementation measures are incorporated into these permits, as appropriate for each discharger. The persons identified as responsible for controllable nonpoint source bacteria discharges causing or contributing to the impairments at the beaches and creeks include the owners and operators of agricultural operations, nurseries, dairy/intensive livestock facilities, horse ranches Collectively agricultural uses), manure composting operations, soil amendment operations, and individual OWTS. The agricultural uses have assigned Load Allocations in the TMDL. Manure composting operations, soil amendment operations, and individual OWTS were not assigned a Load Allocation, which is equivalent to being assigned a Load Allocation of zero. Any controllable nonpoint source that has not been assigned a Load Allocation or has a Load Allocation of zero is not expected or allowed to discharge a pollutant load as part of the TMDL. These nonpoint sources are or can be regulated under WDRs or conditional waivers of WDRs.

Additional discussion of this TMDL is provided in Section 5.0.

**April 2015 – Resolution R9-2015-0008 – Amendment to Incorporate the OWTS Policy:** On April 25, 2015, the San Diego Regional Board adopted Resolution R9-2015-0008 approving an amendment to the Basin Plan to incorporate the OWTS Policy. This action was approved by the State Board through Resolution No. 2015-0066 on November 17, 2016. The conditional waiver contained in the OWTS Policy replaced the previous OWTS conditional waiver in the San Diego Basin Plan, Conditional Waiver No. 1, which had expired on February 3, 2014, which was removed during the conditional waiver renewal process in 2014 (R9-2014-0041).

This Basin Plan amendment also added language in Chapter 4 for the nitrate water quality objective in groundwater to protect surface water quality where groundwater and surface water are interconnected. This section identifies OWTS as one of several potential sources of impacted groundwater discharge to surface waters and states additional evaluation is required in these areas to ensure the protection of water quality and beneficial uses. This section provides that where potential discharges of total nitrogen to surface waters are determined to exist via the ground water pathway, the Regional Board may and most likely will adopt WDRs that require a reduced concentration in the proposed discharge effluents, reduction in total nitrogen loads, and or compliance with more stringent water quality objectives in receiving surface waters for the protection of beneficial uses of water resource.

Although the OWTS Policy provides for Regional Boards to include additional regulatory provisions to address OWTS in the regional basin plans, the San Diego Regional Board did not opt to include any special requirements for OWTS to address identified OWTS problem areas or as a mechanism to address TMDL implementation within the identified OWTS problem areas.

## 1.4 State Water Board Onsite Wastewater Treatment System Policy

Pursuant to Water Code Section 13291, through Resolution No. 2012-0032, the State Water Board adopted the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy) which became effective on May 13, 2013 and was amended April 17, 2018.

The OWTS Policy only authorizes subsurface disposal of domestic strength wastewater for OWTS with a projected flow up to 10,000 gallons per day. OWTS that do not qualify for regulation under the OWTS Policy and its associated conditional waiver of WDRs may be regulated by the Regional Board under individual WDRs or, if receiving 100,000 gallons per day average flow rates or less, under State Water Board Order WQ 2014-0153-DWQ, *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems*, dated September 23, 2014.

### 1.4.1 Purpose

***The purpose of the OWTS Policy, as found in the preamble of the policy, is to allow continued use of OWTS in California while protecting water quality and public health.*** The OWTS Policy recognizes that responsible local agencies can provide the most effective means to manage OWTS on a routine basis with the intent to efficiently utilize and improve upon existing local programs, where necessary, through coordination between the State and local agencies.

### 1.4.2 Tiered Framework

To accomplish this purpose, the OWTS Policy provides the framework for the regulation and management of OWTS installations and replacements through a state-wide, risk-based, four-tiered approach. The four tiers in the OWTS Policy include:

**Tier 0 – Existing OWTS – Section 6.0:** Existing OWTS that are properly functioning, and do not meet the conditions of failing systems or otherwise require corrective action (for example, to prevent groundwater impairment) as specifically described in Tier 4, and are not determined to be contributing to an impairment of surface water as specifically described in Tier 3, are automatically included in Tier 0.

**Tier 1 – Low-Risk New or Replacement OWTS – Sections 7.0 and 8.0:** New or Replacement OWTS that meet low risk siting and design requirements as specified in Tier 1, where there is not an approved Local Agency Management Program (LAMP) per Tier 2.

**Tier 2 – Local Agency Management Program for New or Replacement OWTS – Section 9.0:** LAMPs approved under Tier 2 provide an alternative method from Tier 1 programs to achieve the same policy purpose, with is to protect water quality and public health. LAMPs may include standards that differ from Tier 1 requirements for new and replacement OWTS contained in Sections 7 and 8 of the OWTS

Policy. Once approved, the LAMP shall supersede Tier 1 requirements and all future OWTS decisions will be governed by the Tier 2 LAMP until it is modified, withdrawn, or revoked.

The OWTS Policy SED provided that Tier 2 offers an alternative to compliance with the Tier 1 requirements and is especially useful in areas that are potentially problematic for siting a new or replaced OWTS. This Tier is implemented by local government and supported by enforceable local ordinances and covenants.

The County of San Diego implements a Tier 2 OWTS permitting program through local ordinance and an approved LAMP. The COSD LAMP was approved by the San Diego Regional Water Quality Control Board on April 27, 2015 and by the County Board of Supervisors on July 24, 2015. The Department of Environmental Health and Quality (DEHQ) is the County of San Diego agency responsible for implementation of the LAMP. As required in Section 9.3.3, the findings from this evaluation report will be used as the basis for recommended changes to the current COSD LAMP.

**Tier 3 – Impaired Areas – Section 10.0:** The OWTS Policy SED states that OWTS are included in Tier 3 if located near specifically identified (in Attachment 2 of the Policy) surface water bodies that are impaired by nitrogen compounds or pathogens. It further states that existing OWTS in Tier 3 are not subject to any additional requirements under the Policy, except to the extent that a TMDL or local agency management program imposes additional requirements for that watershed (any such watershed-specific requirements in the local agency management program are referred to in the Policy as "special provisions"). New or replaced OWTS in Tier 3 also must comply with any applicable TMDL or local agency management program's special provisions. If there is no TMDL or special provisions, then new and replaced OWTS that discharge within 600 feet of the water body are required to install supplemental treatment.

The OWTS Policy provides for existing, new, and replacement OWTS that are near impaired water bodies be addressed by a Total Maximum Daily Load (TMDL) and its implementation program, or special provisions contained in the LAMP. If there is no TMDL or special provisions in the LAMP, then the Tier 3 requirements for an Advanced Protection Management Program are applicable to new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 of the OWTS Policy.

Section 10.0 provides that local agencies may implement an Advanced Protection Management Program in conjunction with an approved LAMP or, if no LAMP, Tier 1 and regulate OWTS to the extent that their authority allows for the improvement of the impairment. Section 4.7 of the OWTS Policy relates to the Regional Board responsibilities under the policy and states that the Regional Boards will implement any notifications and enforcement requirements for OWTS determined to be in Tier 3 of the policy.

Section 10.1 provides that the requirements of an Advanced Protection Management Program will be in accordance with an adopted TMDL Implementation Plan and that this TMDL Implementation Plan supersedes all other requirements in Tier 3.

Currently, no Tier 3 provisions are implemented in San Diego County as there are no impaired water bodies listed in Attachment 2 of the OWTS Policy for the San Diego Region and impaired water bodies identified with OWTS contribution have an adopted Total Maximum Daily Load and associated Implementation Plan. Therefore, the adopted TMDL and associated Implementation Plans supersede all Tier 3 requirements.

**Tier 4 – OWTS Requiring Corrective Action – Section 11.0:** OWTS that require corrective action are either presently failing or fail at any time while the Policy is in effect are automatically included in Tier 4 and must follow the requirements as specified. The OWTS Policy defines a failing OWTS as any OWTS that has pooling effluent, discharges wastewater to the surface or back up into plumbing fixtures or is no longer meeting its primary purpose to protect public health. It includes any septic tank or piping component failure, such as a baffle or tank structural integrity failure. In addition, the definition includes any OWTS that has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or to other uses or is causing a human health or other public nuisance condition. Failure to meet the requirements of Tier 4 constitute a failure to meet the conditions of the waiver of waste discharge requirements contained in the OWTS Policy and the OWTS discharger is subject to WDRs.

### 1.4.3 Conditional Waiver of Waste Discharge Requirements

Section 12.0 of the OWTS Policy incorporates a conditional waiver of the requirement for owners of OWTS to submit a report of waste discharge, obtain waste discharge requirements, and pay fees for discharges from OWTS covered by the policy. To be covered under the conditional waiver, owners of OWTS covered by the policy must comply with the following conditions:

- The OWTS shall function as designed with no surfacing effluent.
- The OWTS shall not utilize a dispersal system that is in soil saturated with groundwater.
- The OWTS shall not be operated while inundated by a storm or flood event.
- The OWTS shall not cause or contribute to a condition of nuisance or pollution.
- The OWTS shall comply with all applicable local agency codes, ordinances, and requirements.
- The OWTS shall comply with and meet any applicable TMDL implementation requirements, special provisions for impaired water bodes, or supplemental treatment requirements imposed by Tier 3.
- The OWTS shall comply with any corrective action requirements of Tier 4.

The conditional waiver afforded to OWTS owners in the OWTS Policy may be revoked by the State Board or the applicable Regional Board for a discharge from an OWTS, or from a category of OWTS.

### 1.4.4 Requirements and Responsibilities

According to the OWTS Policy SED, the regional water boards' use of water quality objectives to regulate OWTS contrasts with local agencies' generally prescriptive requirements. The water quality objectives typically translate into performance measures for discharge and receiving water quality with specific monitoring and reporting requirements to ensure that individual OWTS owners adhere to their permits.

The OWTS Policy SED stated local agencies, the state water board and regional water boards are required to perform specific tasks for implementing the OWTS Policy. The State Water Board is the agency that adopts updates to the Policy (including updates to Attachment 2 of the Policy), renews, and oversees implementation of the proposed Policy, approves basin plans incorporating the proposed Policy, and resolves disputes between the Regional Boards, the local agencies, and the public.

The Regional Boards are required by the proposed Policy to incorporate the proposed Policy and any additional, more protective standards, into their basin plans, negotiate an agreement for implementation with the local agencies desiring to implement Tier 2, and oversee implementation of large OWTS, OWTS that are subject to specific requirements in areas with impaired waters, and any other OWTS that are outside of a local agency management program.

Sections 2.0, 3.0, 4.0 and 5.0 of the OWTS Policy provides a discussion on the responsibility of the OWTS owner, the local agencies, the Regional Boards, and the State Water Resources Control Board, respectively, relating to policy implementation. These responsibilities are discussed below in more detail.

**OWTS Owners – Section 2.0:** According to the OWTS Policy, it is the responsibility of the OWTS owner to notify the Regional Board by submitting a Report of Waste Discharge for:

- A new or replacement OWTS that does not meet the conditions and requirements set forth in either a Local Agency Management Program or Tier 1 if no LAMP has been approved.
- For any OWTS not under an individual waste discharge requirement or a waiver of individual waste discharge requirements issued by the Regional Board, with a projected flow of over 10,000 gallons per day.
- For any OWTS that receives high-strength wastewater unless the waste stream is from a commercial food service building.
- Any OWTS that receives high-strength wastewater from a commercial food service building with a Biological Oxygen Demand higher than 900 milligrams per liter, or that does not have a properly sized and functioning oil/grease interceptor.

**Local Agencies – Section 3.0:** Local agencies shall provide local codes and ordinances for OWTS permitting that implement the water quality protection afforded by the statewide minimum standards in Tier 0, Tier 1, Tier2, Tier 3, and Tier 4 or through an approved LAMP as an alternative method to the Tier 1 requirements for new and replacement OWTS, found in Section 7 and 8 of the OWTS Policy.

Local agencies permitting OWTS must report annually to the Regional Board to include the number, location, and status of OWTS complaints; the number, location, description and Tier of permits issued for new and replacement OWTS; and the application and registrations for septic tank cleaners.

A Local Agency may implement the OWTS Policy, or a portion thereof, using its local authority to enforce the policy, as authorized by an approval from the State Water Board or the appropriate Regional Board. This part of the OWTS Policy provides for a process by which a local agency may withdraw its approved LAMP and permit OWTS under Tiers 1, 3, and 4 of the OWTS Policy.

**Regional Boards – Section 4.0:** Consistent with Water Code Section 13001, the OWTS Policy provides that the Regional Boards have the principal responsibility for overseeing the implementation of the policy.

The OWTS Policy sets the process for each the review of a LAMP by the Regional Boards. For counties that are within the boundaries of two different Regional Boards, Table 7 in Attachment 3 of the policy assigns responsibility for LAMP review and approval to one of the Regional Boards. For San Diego County, the San Diego Regional Board is designated for this purpose in Attachment 3.

The Regional Boards are responsible for incorporating the OWTS Policy into the Basin Plans and can also retain or adopt more protective standards than those provided in the OWTS Policy. Should the Regional Board retain or adopt more protective standards in the Basin Plan, it shall reconcile those region-specific standards with the OWTS Policy to the extent feasible and shall provide a detailed basis for its determination that each of the more protective standards is necessary and appropriate.

The Regional Board is responsible for approving the LAMP using the process provided in the OWTS Policy. If the LAMP includes special provisions for impaired water bodies, the Regional Board may approve a LAMP while disapproving the special provisions.

This section provides for a process by which the Regional Board may require modifications or revoke authorization of a local agency to implement a Tier 2 program under an approved LAMP. This process includes timelines for noticing, reconsideration, and appeals provisions for the local agency.

The Regional Board is responsible to implement any notifications and enforcement requirements for OWTS determined to be in Tier 3 of the OWTS Policy.

The Regional Board may adopt waste discharge requirements, or conditional waivers of waste discharge requirements, that exempt individual OWTS from requirements contained in this Policy.

**State Water Resources Control Board – Section 5.0:** The State Board must periodically review the OWTS Policy and can take any action assigned to the Regional Boards in the policy. The State Board shall approve LAMPs and resolve disputes between the Regional Boards and local agencies. The State Board shall update Attachment 2 of the OWTS Policy identifying those water bodies for the purposes of implementing Tier 3 of the policy as amendments to the OWTS Policy. The State Board shall make funds available to local agencies from its Clean Water State Revolving Fund loan program for mini-loan programs to be operated by the local agencies for the making of low interest loans to assist private property owners with complying with the OWTS Policy.

## 1.5 County of San Diego Regulatory Code

CWC Section 13002 provides for the County of San Diego to adopt and enforce additional regulations, not in conflict with the CWC, imposing further conditions, restrictions, or limitations with respect to the disposal of waste or any other activity which might degrade the quality of the waters of the state. This section also provides for the County of San Diego to declare, prohibit, and abate nuisances. The County of San Diego Regulatory Code provides several local ordinances intended to protect water quality and public health. The three main provisions relating to OWTS, and sewage are discussed below.

OWTS Siting, Design, Construction and Permitting Ordinance: The County of San Diego Regulatory Code (COSD Regulatory Code), Title 6: Health and Sanitation, Division 8: Unified Program, Sewage and Solid Waste Disposal, Chapter 3: Onsite Wastewater Treatment Systems and Improper Disposal of Sewage provide the local regulations relating to OWTS siting, design, and construction.

Section 68.301 presents the purpose of the chapter, which is to implement State laws and regulations and implement additional standards for septic systems and graywater systems that are necessary to protect the health and safety of the San Diego County community.

Section 68.340 provides for the standards for OWTS are as set forth in the COSD LAMP. The current OWTS installation permitting program ensures new and replacement OWTS are meeting these protective standards, including minimum depth to groundwater and setback requirements. DEHQ staff investigate complaints of surfacing sewage and wastewater effluent from OWTS and require corrective action to stop these discharges.

Sewage Collection, Transport, and Disposal Ordinance: Title 6, Division 8, Chapter 6 of the COSD Regulatory Code implements Article 1 of Chapter 4 of Part 13 of Division 104 of the California Health and Safety Code (beginning at section 117400) concerning septic tank, chemical toilet, cesspool and sewage seepage pit cleaning, and the transport and disposal of cleanings. This chapter is intended to protect public health and comfort and the environment.

Watershed Protection Ordinance: Title 6, Division 7, Chapter 8 of the COSD Regulatory Code, the Watershed Protection Ordinance provides regulations that protect water resources and improve water quality by reducing the adverse effects of polluted run-off discharges. DEHQ staff work closely with staff from the Department of Public Works to address specific OWTS with surfacing sewage and wastewater effluent when identified through their stormwater monitoring and sampling programs. Although DPW is the primary department responsible for stormwater discharges in the unincorporated area of the county, the ordinance provides additional tools to DEHQ to investigate and enforce surfacing sewage and wastewater effluent from OWTS that enter or have the potential to enter into a stormwater conveyance system.

While the local implementation program has historically been focused on the prevention of surfacing sewage to protect public health and safety, the protection of groundwater and surface water resources in a region from discharges from OWTS has been the responsibility of the Regional Boards, addressed in State laws and guidance, such as the OWTS siting, design, and construction guidance previously provided in many Basin Plans. Local ordinances for OWTS installation permit programs take into consideration the OWTS guidance provided in the Basin Plans, and consequently water quality protections are included in a local program in this way. In addition to a local OWTS installation permit program, the Regional Boards may also regulate OWTS through prohibitions, individual or general WDRs, or WDR waivers.

## 1.6 County of San Diego General Plan

Local jurisdictions receive the authority to exercise their respective land use planning functions through State of California planning laws. State laws that outline the legal framework within which a city or county must exercise its land use functions include the following, which does not represent an exhaustive list of all applicable laws:

- Local planning agencies, commissions, and departments (Government Code Section 65100 et seq.)
- The general plan and specific plan (Government Code Section 65300 et seq.)
- Zoning regulations (Government Code Section 65800 et seq.)
- The Subdivision Map Act (Government Code Section 66410 et seq.)
- The California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (Title 14, California Code of Regulations Sections 15000-15387)

Government Code 65300 requires the preparation of a comprehensive, long-tern general plan for the physical development of the county and its adoption by the Board of Supervisors. The Legislature determined that decisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved statewide goals and policies directed to land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors. Section 65300.9 provides the recognition that the capacity of California cities and counties to respond to state planning laws varies due to differences among them in physical size and characteristics, population size and density, fiscal and administrative capabilities, land use and development issues, and human needs. Based on these local issues, each city and county has the opportunity to coordinate its local budget planning and local planning for federal and state program activities, such as community development, with the local land use planning process, recognizing that each city and county is required to establish its own appropriate balance in the context of the local situation when allocating resources to meet these purposes. It is in this context that the general plan serves as an effective guide for orderly growth and development

The San Diego County General Plan applies to the unincorporated area of the county and is the County's long-term blueprint for the vision of the future. It reflects an environmentally sustainable approach to planning that balances the need for adequate infrastructure, housing, and economic vitality while maintaining and preserving existing communities, agricultural areas, and open spaces.

San Diego County is approximately 2.9 million acres of which 2.2 million acres are unincorporated areas. Within the unincorporated area, the County's land-use jurisdiction is limited by Tribal lands, and State and Federally owned lands, and military installations including Marine Corps Base Camp Pendleton. As a result, the County has land use jurisdiction over 772,239 acres or 35% of the unincorporated area.

The unincorporated portion of San Diego County is located in the southwestern corner of California and encompasses approximately 2.3 million acres, or 3,570 square miles. A majority of the unincorporated County's land, in excess of 90 percent, is either open space or undeveloped. This includes several large federal, state, and regional parklands that encompass much of the eastern portion of the County. Only 35 percent or about 807,000 acres of the unincorporated County is privately owned. In 2007, it was estimated that approximately 5.6 percent of the unincorporated County, or 128,369 acres, was private undeveloped land with potential for future development in Village, Semi-Rural, Commercial, or Industrial areas.

The most developed communities are located along the unincorporated territory's westernmost boundaries and include the community plan areas of Spring Valley, Sweetwater, Valle de Oro, Lakeside, San Dieguito, portions of North County Metro, and Fallbrook. These areas are largely within the County Water Authority service area and have had access to water, sewer, roads, schools, and comparable public facilities, enabling them to grow at a faster rate. As such facilities are more costly and difficult to develop as distances increase further inland, development occurs more sparsely in the backcountry region.

The County's General Plan provides a consistent framework for land use and development decisions consistent with an established community vision. The General Plan's diagrams, goals, and policies form the basis for the County's zoning, subdivision, and infrastructure decisions. As required by State law, the

General Plan addresses the seven required elements: Lands Use, Circulation/Mobility, Housing, Conservation and Open Space, Noise, Safety, and Implementation Plan.

The policies and goals of the General Plan influence and impact a number of local plans and ordinances. Plans impacted by the General Plan include Community Plans and Specific Plans, Subdivisions, Development Permits, Conditional Use Permits, Variances, and Capital Improvements.

Community plans are policy plans specifically created to address the issues, characteristics, and visions of communities within the County. Community and subregional plans provide a framework for addressing the critical issues and concerns that are unique to a community and may not be reflected in the broader policies of the Land Use Element of the General Plan. These goals and policies are designed to provide more precise guidance regarding the character, land uses, and densities within each community planning area.

The Community Plans are prepared for the following communities and subregional planning areas: Alpine, Bonsall, Central Mountain (Cuyamaca, Descanso, Pine Valley), the Crest, Dehesa, Harbison Canyon, Granite Hills areas, Desert (Borrego Springs), Fallbrook, Jamul/Dulzura, Julian, Lakeside, Mountain Empire (Boulevard, Jacumba, Campo/Lake Morena, Potrero, Tecate), North County Metro (Twin Oaks Valley, Hidden Meadows), North Mountain, Otay, Pala-Pauma Valley, Pendleton/ De Luz, Rainbow, Ramona, San Dieguito, Spring Valley, Sweetwater, Valle de Oro, and Valley Center.

Ordinances impacted by the General Plan include the Zoning Ordinance, Subdivision Ordinance, and Specific Plans. The County administers its General Plan primarily through its Zoning Ordinance. While the General Plan identifies general land use designations, zoning identifies specific uses and development standards. State law, through the Subdivision Map Act, governs local approval of land subdivision, which is further directed in the County Subdivision Ordinance. Review of proposed subdivisions and parcel maps includes a determination of consistency with General Plan goals and policies. Specific plans provide an alternative to the Zoning Ordinance in that they are customized plans that delineate land uses, infrastructure, development standards and criteria, and implementation measures.

The core concept for the County's development directs future growth to areas where existing or planned infrastructure and services can support growth and locations within or adjacent to existing communities.

## 1.7 County of San Diego Local Agency Management Program

In recognizing the diverse range of geological and climatic conditions in the region, the County of San Diego developed a LAMP as an alternative method to the Tier 1 requirements for new and replacement OWTS found in Section 7 and 8 of the OWTS Policy. The County of San Diego LAMP was approved by the San Diego Regional Water Quality Control Board on April 27, 2015 and by the County Board of Supervisors on July 24, 2015. The Department of Environmental Health and Quality (DEHQ) is the County of San Diego agency responsible for implementation of the LAMP. ***The purpose of the LAMP is to provide an alternative method from Tier 1 programs to achieve the same policy purpose, to protect water quality and public health, by adopting standards that differ from the Tier 1 requirements for new and replacement OWTS contained in Section 7 and 8 of the OWTS Policy.***

The COSD DEHQ, through the standards contained in the LAMP and local ordinance, implements an OWTS installation permitting program. This program has historically been limited to determining if an

applicant's siting and design proposal meets the prescribed standards. The program has not included ongoing groundwater or effluent monitoring and reporting requirements, which would be similar to a local waste discharge requirements program. An annual operating permit for supplemental treatment systems is required to provide for the submittal of biannual inspection reports of the system's operational status. However, there is no requirement for effluent or groundwater monitoring for supplemental treatment systems.

Section 9.3.3 of the OWTS Policy requires the local agency with an approved LAMP to submit an Evaluation Report every five years to the Regional Water Quality Control Board. This report was prepared to meet this requirement and seeks to evaluate the effectiveness of the Tier 2 alternative standards in the protection of ground and surface waters.

While the Tier 2 LAMP provides for alternative standards from the Tier 1 standards for local agencies to permit the installation of new and replacement OWTS, the OWTS Policy provides other tiers to address OWTS that fall outside of this permitting activity, including existing OWTS (Tier 0), OWTS near impaired water bodies (Tier 3), and failing OWTS (Tier 4) with the Regional Board's primarily responsibility to implement these tiers. Any Tier 0, Tier 3, or Tier 4 provisions not specifically addressed in the COSD LAMP would fall to the jurisdiction of the Regional Board for implementation and enforcement.

Section 6.0 of the OWTS Policy (Tier 0) provides the requirements for existing OWTS. Section 6.2 provides that the local agency or Regional Board may deny coverage under the Policy to any OWTS that is not able to adequately protect the water quality of the waters of the State, as determined by the Regional Board, after considering input from the local agency. The Regional Board may require the submission of a report of waste discharge from the OWTS Owner or discharger to receive Region specific waste discharge requirements or waiver of waste discharge requirements as to be protective.

Section 10.0 of the OWTS Policy (Tier 3) provides the requirements for OWTS near impaired water bodies. OWTS near impaired water bodies with an adopted TMDL shall be regulated through the requirements of the TMDL implementation plan, which utilize regulatory programs implemented by the Regional Board.

Section 11.0 of the OWTS Policy (Tier 4) provides the requirement for OWTS that are failing and require corrective action. Owners of OWTS are required to take the corrective actions listed in Sections 11.1 through 11.4. If an owner is not able to comply, the Regional Board may authorize repairs that are in substantial conformance, to the greatest extent practicable, with Tiers 1 or 3, or may require the owner to submit a report of waste discharge for evaluation on a case-by-case basis. A local agency may also authorize repairs that are in substantial conformance, to the greatest extent practicable, as a Tier 2 variance. Failure of an OWTS owner to meet the requirements of Tier 4 constitute a failure to meet the conditions of the waiver of waste discharge requirements contained in the policy and is subject to further enforcement action by the Regional Board.

Recently, the San Diego Regional Board has made requests for the COSD to implement Chapter 12 of the LAMP for OWTS in the Rainbow Creek watershed. These requests are discussed in detail in Section 5.2.8.

# SECTION 2.0: EVALUATION REPORT PURPOSE AND ORGANIZATION

## 2.1 Five-Year Evaluation Report

The OWTS Policy, Section 9.3.3 requires the local agency with a LAMP to submit an Evaluation Report every five years. ***The purpose of the 5-Year Evaluation Report is to:***

- ***Evaluate the monitoring program***
- ***Assess whether water quality is being impacted by OWTS***
- ***Identify any changes in the LAMP that will be undertaken to address impacts from OWTS***

As a tool to use for the Evaluation Report, Section 9.3.2 of the OWTS Policy requires local agencies with a LAMP to maintain a Water Quality Assessment Program (WQAP). ***The purpose of the WQAP is to:***

- ***Determine the general operation status of OWTS***
- ***Evaluate the impact of OWTS discharges***
- ***Assess the extent to which groundwater and local surface water quality may be adversely impacted***

The WQAP includes the following elements:

- **Focuses on and addresses the areas with characteristics listed in Section 9.1 of the OWTS Policy to identify where different or additional requirements are needed in a LAMP to protect water quality**
- **Monitoring and analysis of water quality data, at a minimum for nitrates and pathogens**
- **Review of complaints, variances, failures, and any information resulting from inspections**

## 2.2 Report Organization

This evaluation report is organized to address the 5-Year Evaluation elements mentioned above within the scope of the LAMP purpose in providing alternative standards to Tier 1 requirements of the OWTS Policy. To this end, this report is organized into the following sections:

Section 1.0 – Onsite Wastewater Treatment Systems Regulatory Framework

Section 2.0 – Evaluation Report Purpose and Organization

Section 3.0 – Overview of San Diego County

Section 4.0 –Evaluation of Monitoring Program: Review of LAMP Tier 2 Program Alternative Methods to OWTS Policy Tier 1 Statewide Minimum Standards (evaluate LAMP alternatives to determine if LAMP standards are achieving same policy purpose as Tier 1)

Section 5.0 – Evaluation of Monitoring Program: Water Quality Assessment Program (as per evaluation report purpose)

- Review of focus area conditions (Section 9.1 elements)
- Evaluation of water quality data

- Review of complaints, variances, failures, and inspection results

Section 6.0 – Assess whether WQ is impacted by OWTs (present findings of section 4 and section 5)

- Present findings from review of COSD LAMP comparisons to Tier 1, Sections 7.0 and 8.0 standards
- Present findings from review of focus area conditions
- Present findings from review of water quality data
- Present finding from review of complaints, variances, failures, and inspection results

Section 7.0 – LAMP Changes: Recommendations and Action Plans

- Summary of recommended LAMP Changes
- Discussion of recommendations
- Discussion of action items/draft time schedule

## SECTION 3.0: OVERVIEW OF SAN DIEGO COUNTY

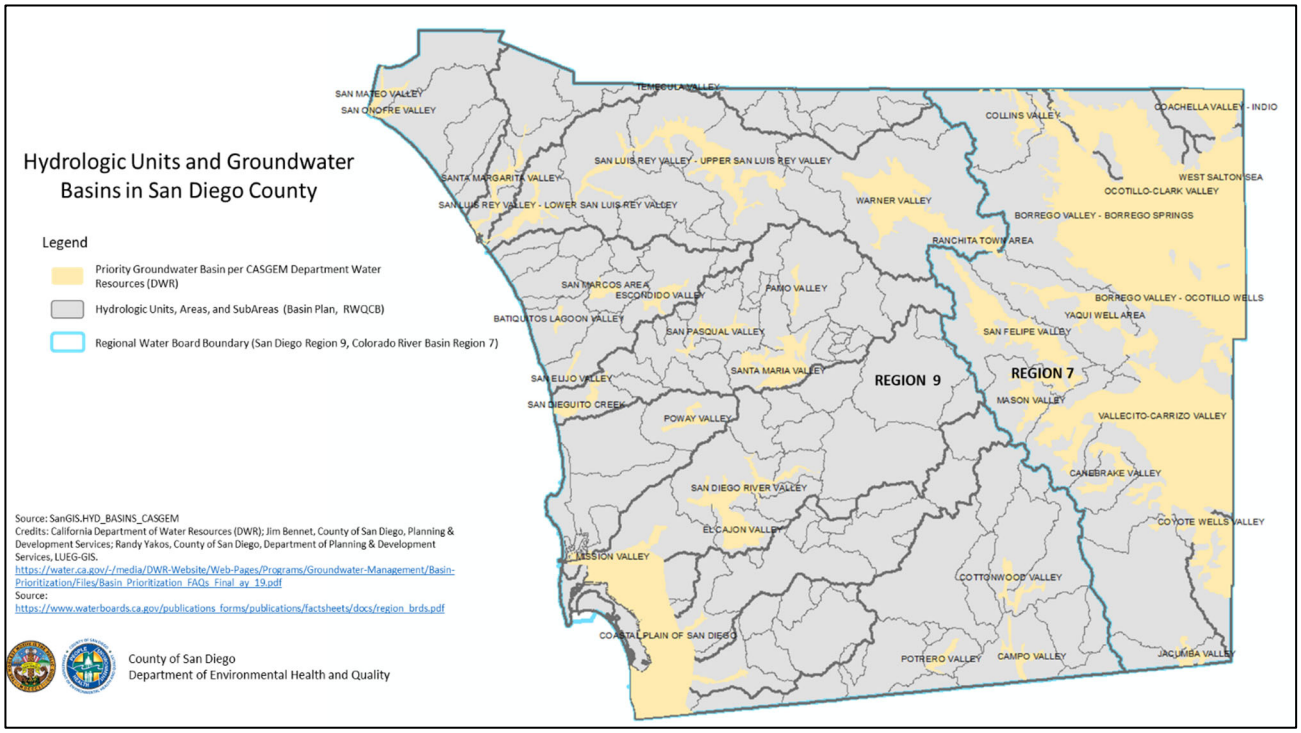
San Diego County lies within Regional Water Quality Control Board, San Diego Region (7) and Colorado River Basin Region (9) and within the South Coast and Colorado River Hydrologic Regions, respectively.

The geographic boundaries of the major hydrologic units (HUs), hydrologic areas (HAs), and hydrologic subareas (HSAs) are shown in Map 3.1-1.

The South Coast hydrologic region is divided into Los Angeles, Santa Ana and San Diego subregions, Regional Boards 4, 8, and 9 respectively. The San Diego subregion includes the Santa Maria River, San Luis Rey River and the San Diego River and other drainage systems. The San Diego subregion overlies 27 groundwater basins, encompasses most of San Diego County, and includes parts of Orange and Riverside counties. Groundwater basins underlie about 277,000 acres (433 square miles) or about 11 percent of the surface of the San Diego subregion.

The Colorado River hydraulic region covers approximately 13 million acres (20,000 square miles) in southeastern California. It is bounded on the east by Nevada and Arizona, the south by the Republic of Mexico, the west by the Laguna, San Jacinto, and San Bernardino mountains, and the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain ranges. An average annual precipitation of 5.5 inches and average annual runoff of only 200,000 acre-feet makes this the most arid hydrologic region of California. Surface runoff drains to many closed basins or to the Colorado River. This hydraulic region includes all of Imperial, most of Riverside, much of San Bernardino, and part of San Diego counties. (California's Groundwater Bulletin 118 (update 2003))

### Map 3.1-1 – San Diego County Hydrogeological Units, Areas, and Subareas



## 3.1 San Diego Region

Overview: The San Diego Region forms the southwest corner of California and occupies approximately 3,900 square miles of surface area. The western boundary of the Region consists of the Pacific Ocean coastline which extends approximately 85 miles north from the United States and Mexico border. The northern boundary of the Region is formed by the hydrologic divide starting near Laguna Beach and extending inland through El Toro and easterly along the ridge of the Elsinore Mountains into the Cleveland National Forest. The eastern boundary of the Region is formed by the Laguna Mountains and other lesser-known mountains located in the Cleveland National Forest. The southern boundary of the Region is formed by the United States and Mexico border.

The San Diego Region occurs within the Peninsula Range Physiographic Province of California. One of the most prominent physical features in the region is the northwest-trending Peninsula Range which includes from north to south, the Santa Ana, Agua Tibia, Palomar, Volcan, Cuyamaca and Laguna mountains. The region exhibits a gently sloping dissected western surface and a steep eastern slope and is separated from the West Colorado River area (Region 7A) by abrupt fault scarps of marked relief. The San Diego Region is divided into a coastal plain area, a central mountain-valley area, and an eastern mountain valley area. The coastal plain area comprises a series of wave cut benches covered by thin terrace deposits. This terraced surface has been deeply dissected by streams draining to the sea, and has been smoothed and rounded by local erosion. The surface of this area ranges from sea level to about 1,200 feet (ft) and extends from the coast inland in a band of about 10 miles in width. The central mountain valley area is characterized by ridges and intermontane basins which extend from the coastal plain, northeastward to the Elsinore fault zone. The basins or valleys range in elevation from 500 to about 5,000 ft and are generally of fault block origin modified by erosion. The floors of the intermontane valleys are generally underlain by moderate thicknesses of alluvium and residuum; notable examples occur near El Cajon, Escondido and Ramona which range in elevation from about 500 to 1,500 ft above sea level. At higher elevations plateau surfaces have been developed in the central mountain-valley area. These surfaces are probably also of erosional origin; they occur at elevations ranging from 2,000 to 6,000 ft near the Laguna mountains, Santa Ysabel and Valley Center.

To the northeast of the Elsinore fault zone, the region has been designated as the eastern mountain-valley area. The area contains broad, relatively flat valleys which are structurally of block fault origin. Locally, the grabens contain thick sections of alluvial deposits. These valleys generally rise to the southeast from about 1,000 ft elevations near Temecula to the rolling plateaus of Glen Oak, Lewis and Reed valleys which range from 3,000 to 3,500 ft in elevation. Surrounding mountains include the Red, Cahuilla, and Bachelor mountains with elevations ranging from 4,000 to 7,500 ft.

Climate: The San Diego Region's coastal climate is generally mild. Temperatures average about 65 degrees Fahrenheit ($^{o}$ F) and precipitation averages 10 to 13 inches. Proceeding inland, as elevations increase, average temperatures decline to 57$^{o}$ F in the Laguna mountain area and precipitation increases to more than 45 inches in the Palomar mountain area. Most of the precipitation falls during November through February. Temperature and rainfall intensity variations are larger in the inland portions. The maximum rainfall intensity was recorded as 11.5 inches in 90 minutes, at Campo on August 12, 1891. Precipitation occurs principally as rain, with snow common only in the high mountains. Runoff in the Region results mainly from rainfall. The melting of snowpack and surfacing ground water springs also contribute small additional amounts of runoff. The flow of surface and ground waters in the Region is in an east to west direction toward the Pacific Ocean.

## 3.2 Colorado River Basin Region

Overview The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California (Figure 1-2, Page 1-18). It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It is bounded for forty miles on the northeast by the State of Nevada, on the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain ranges, on the west by the San Bernardino, San Jacinto, and Laguna Mountain ranges, on the south by the Republic of Mexico, and on the east by the Colorado River and State of Arizona.

The Colorado River is the most important waterway in the Region. The Colorado River supplies water for use within the Region and elsewhere. Regional drainage to the Colorado River is from a strip about 200 miles long, with a watershed which (in California) ranges from 7 to 40 miles in width. This watershed strip is referred to as the East Colorado River Basin. Near Parker Dam, water is diverted by the Metropolitan Water District for export through the Colorado River Aqueduct to coastal counties. The dam forms Lake Havasu, a major recreational development. At Palo Verde Diversion Dam, water is diverted for irrigation in Palo Verde Valley. At Imperial Dam, water is diverted to the All American Canal, which conveys water in California to the Bard Valley, and to the agricultural areas of the Imperial and Coachella Valleys. Regional drainage waters resulting from Colorado River diversions and use, and which do not return to the Colorado River, drain into the Salton Sea. That portion of the Region that does not drain into the Colorado River is referred to as the Colorado River Basin (West) or West Basin. Much of the northern portion of the West Basin drains to several individual internal sinks or playas, while the southern portion generally drains to the Salton Sea. The Imperial and Coachella Valleys contain numerous drains that transport irrigation return flows and stormwater, as well as canals for importation and distribution of Colorado River water. The Salton Sea, which is replenished principally by irrigation drainage and stormwater, is the largest body of water in the West Basin. The Sea serves as a reservoir to receive and store agricultural drainage and seepage waters, but also provides important wildlife habitat and is used for recreational purposes which include boating and fishing. Several smaller constructed recreational lakes are located in the Imperial Valley. In addition, Lake Cahuilla in Coachella Valley is used to store Colorado River water for irrigation and recreational purposes.

The mountains of the Region consist mainly of metamorphic and igneous rocks of pre-Cambrian to Tertiary age, and the sediments in the intervening valleys are generally weakly consolidated to unconsolidated sediments of late Cenozoic age. Northwest-trending faults are extensive and are a major factor in determining the configuration of the land. The well known San Andreas Fault Zone cuts diagonally across the southwesterly portion of the Region and borders the highlands on the northeast side of the Salton Trough. Borrego Valley is a typical valley formed by the San Jacinto Fault. The valleys, mountains, and dry lakes generally trend toward the northwest as oriented by the major fault systems.

The Coachella and Imperial Valleys were created when the Colorado River formed a delta that isolated the Salton Trough from the Gulf of California. Subsequently, under desert conditions, the inland sea dried up. Later, the trough was occupied by lakes for various periods, and deposition into these lakes gives the valleys their characteristic flat lands and fertile soils. The Anza-Borrego planning area is made up of the Old California batholith that has been weathered and eroded. Today only low dissected hills remain.

Climate: The Region has the driest climate in California. The winters are mild and summers are hot. Temperatures range from below freezing to over 120oF. In the Colorado River valleys and the Salton Trough frost is a rare occurrence, and crops are grown all year round. Snow falls in the Region's higher elevations, with mean seasonal precipitation in the upper San Jacinto and San Bernardino Mountains ranging from 30 to 40 inches. The lower elevations receive relatively little rainfall. An average of about four inches of precipitation occurs along the Colorado River, with much of this coming from late summer thunderstorms moving north from Mexico. Typical mean seasonal precipitation in the desert valleys is 3.6 inches at Indio and 3.2 inches at El Centro. Precipitation over the entire area occurs mostly from November through April, and August through September, but its distribution and intensity are often sporadic. Local thunderstorms may contribute all the average seasonal precipitation at one time or only a trace of precipitation may be recorded at any locale for the entire season

# SECTION 4: EVALUATION OF MONITORING PROGRAM: REVIEW OF LAMP TIER 2 PROGRAM ALTERNATIVE METHODS TO OWTS POLICY TIER 1 STATEWIDE MINIMUM STANDARDS

## 4.1 Overview

This section evaluates the monitoring program minimum standards in accordance with the purpose of the evaluation per Section 9.3.3 of the OWTS Policy, which provides for the purpose of the Evaluation Report is to:

- Evaluate the monitoring program
- Assess whether water quality is being impacted by OWTS
- Identify any changes in the LAMP that will be undertaken to address impacts from OWTS

A LAMP approved under Tier 2 of the OWTS Policy provides an alternative method from Tier 1 requirements but achieves the same policy purpose, which is to protect water quality and public health. In order to address local conditions, a LAMP may include standards that differ from the Tier 1 requirements for new and replacement OWTS contained in Sections 7.0 and 8.0 of the OWTS Policy, while at the same time providing for an equivalent level of protection. The equivalency between the Tier 1 Program requirements and the COSD LAMP Tier 2 requirements was considered as part of this evaluation to identify specific requirements where improvement may be needed to meet or exceed the level of protection offered by the Tier 1.

## 4.2 COSD LAMP Comparison to Tier 1: Section 7.0 Minimum Site Evaluation and Siting Standards

This part compares the minimum standards required for a Tier 1 program in OWTS Policy Section 7.0 - Minimum Site Evaluation and Siting Standards – to the COSD LAMP Tier 2 provisions that are intended to achieve the same water quality and public health protections. A summary of this review is provided in the table below and shows if the COSD LAMP Tier 2 provisions meet the corresponding Tier 1 requirements or if an alternative standard is used that provides an equal level protection. Following this table, a detailed discussion and evaluation findings are provided for each Tier 1 requirement where an alternative standard is being used in the LAMP.

**Table 4.2-1: Summary of COSD LAMP Comparison to OWTS Policy Section 7.0: Minimum Site Evaluation and Siting Standards**

| ***OWTS Policy* for Tier 1 Section Number** | **Standard** | **COSD LAMP Meets Tier 1** | **Comments** |
|---|---|---|---|
| 7.1 | Qualified Staff | Met | Soil/Site Evaluation: Licensed or registered EHS, Civil Engineer, or geologist.<br>Advanced Treatment System Design: Civil Engineer or REHS.<br>Installer: Licensed contractor per CLSB requirements or owner/builder. |
| 7.2 | Site Evaluations | Met | A site evaluation is performed at the time the lots are created or prior to discretionary project approvals or building permit issuance. |

<table>
<tr><td>7.3</td><td>High Groundwater Determination</td><td>Met</td><td>Historical data (rainfall maps, site or nearby previous layouts and permits) and direct observation methods (deep borings, observation ports) are primarily used.</td></tr>
<tr><td>7.4</td><td>Percolation Test Results<br>(1 MPI -120 MPI)</td><td>Met</td><td>Rate Range Allowed is 1 MPI -120 MPI</td></tr>
<tr><td>7.5.1</td><td>Setbacks to Property Line and Structures (5 feet)</td><td>Met With Recommended Changes</td><td>Requirement of minimum distance of 5 feet to property line and structures. Current setback for drip dispersal of 2 feet to property line and structures proposed to change to 5 feet minimum.</td></tr>
<tr><td>7.5.2</td><td>Setbacks to Water Wells<br>(100 feet)</td><td>Met</td><td>New and replacement OWTS meet this provision.</td></tr>
<tr><td>7.5.3</td><td>Setback to Unstable Land Mass<br>(100 feet)</td><td>Met with Recommended Changes</td><td>Although there are other setback requirements that would address unstable land masses, there is no unstable land mass standard. The requirement will be met with proposal to add new 100 feet setback category for unstable land mass.</td></tr>
<tr><td>7.5.4</td><td>Setback to Springs and Flowing Surface Water Bodies<br>(100 feet)</td><td>Met</td><td>New and replacement OWTS meet this provision of 100 feet.</td></tr>
<tr><td>7.5.5</td><td>Setback to Vernal Pools, Wetlands, Lakes, Ponds<br>(200 feet)</td><td>Met with Recommended Changes</td><td>This setback will be met with proposed change from current setback of 100 feet to OWTS Policy standard of 200 feet.</td></tr>
<tr><td>7.5.6</td><td>Setback to Public Water Well<br>(150 feet dispersal field depth <10 feet)</td><td>Met</td><td>New and replacement OWTS meet this provision.
<table>
<tr><td>Setback Descriptions</td><td>Septic Tank</td><td>Leach lines and Vertical Pits (depth <10 feet)</td><td>Seepage Pits (depth > 10 feet)</td></tr>
<tr><td>Water Well – Public</td><td>150 feet</td><td>150 feet</td><td>200 feet</td></tr>
</table></td></tr>
<tr><td>7.5.7</td><td>Setback to Reservoir, Lake, Flowing Water Body for OWTS within 1,200 feet of Surface Water Intake (400 feet)</td><td>Met</td><td>New and replacement OWTS meet this provision of 400 feet.</td></tr>
<tr><td>7.5.8</td><td>Setback to Reservoir, Lake, Flowing Water Body for OWTS between 1,200-2,500 feet of Surface Water Intake</td><td>Met</td><td>New and replacement OWTS meet this provision of 200 feet.</td></tr>
<tr><td>7.6</td><td>Notification of OWTS within 1200 feet of Surface Water Intake</td><td>Met</td><td>Notification and permit requirements met for this provision.</td></tr>
</table>

| | | | |
|---|---|---|---|
| 7.7 | Slope for Effluent Disposal < 25% (9.4.4 allows for slopes over 30% with slope stability report by a registered professional) | Met and Provides Opportunity for Alternative | This provision is met with slopes allowed up to 25% and also provides for an alternative slope (up to 50% maximum) based on minimum site conditions, qualified professional engineer design and slope stability report or statement. |
| 7.8 | Allowable Density for Dwelling Units (Table 1) | Met and Provides Opportunity for Alternative | This provision is met for new subdivision of land applications utilizing OWTS with alternatives approved upon sufficient studies of no adverse impact. |

### 4.2.1 Discussion of COSD LAMP Alternatives to Tier 1 Minimum Site Evaluation and Siting Standards

The information below provides a discussion on the evaluation and findings of those sections highlighted above where the COSD LAMP provides an alternative standard to those of the OWTS Policy Tier 1, Section 7.0 requirements. The findings of this evaluation are provided to show the alternative standard is either providing a minimum equivalent protection as the Tier 1, Section 7.0 standard or needs to be updated. Recommendations based on the evaluation findings are provided and may include proposed changes to the COSD LAMP and/or COSD Regulatory Code. Those sections in the table that meet the Tier 1, Section 7.0 requirements are not discussed below, as these standards meet Tier 1, Section 7.0 requirements.

**OWTS Policy Section 7.5.1 - Setbacks to Property Line and Structures (5 feet)- COSD LAMP meets and has alternative requirement**

**Evaluation Findings:** The OWTS Policy, Section 7.5.1 requires a minimum of 5 feet distance from the OWTS treatment unit or septic tank and dispersal systems to a parcel property line and to structures. The COSD LAMP provides a setback distance of 5 feet from septic tank and leach lines to property lines and structures and 10 feet from a seepage pit to property lines and structures. However, the COSD LAMP contains a reduced setback from the septic tank components and drip dispersal system to property lines and structures of 2 feet minimum. In practice, no issues have been identified relating to the 2-foot setback for drip dispersal. Many systems are installed to meet the 5-foot setback standard.

**Evaluation Recommendations:** As most drip dispersal systems can meet the standard 5-foot setback, it is recommended to remove the reduced 2-foot setback for drip dispersal and require a 5-foot setback from property line and structures for all types of dispersal systems. **This recommended change will provide adequate protection to address this site condition.**

**OWTS Policy Section 7.5.3 - Setback to Unstable Land Mass - COSD LAMP has no requirement**

**Evaluation Findings:** The OWTS Policy, Section 7.5.3 requires a minimum of 100 feet distance from the OWTS treatment unit or septic tank and dispersal systems to any unstable land mass or any areas subject to earth slides identified by a registered engineer or registered geologist. This section allows other setback distances recommended by a geotechnical report prepared by a qualified professional.

The COSD LAMP does not currently provide for a specific setback to an unstable land mass, although this issue is typically addressed through steep slope design requirements and cut slope setback requirements.

**Evaluation Recommendation:** It is recommended to amend the COSD LAMP to provide a definition of unstable land mass (potential land slide areas, burn scar areas, liquification areas) and add the Tier 1 standard of 100 feet from any unstable land mass or any areas subject to earth slides identified by a registered engineer or registered geologist; other setback distances are allowed, if recommended by a geotechnical report prepared by a qualified professional. Keep cutback slopes standard as a separate standard. **This recommended change will provide adequate protection to address this site condition.**

**OWTS Policy Section 7.5.5 - Setbacks to Vernal Pools, Wetlands, Lakes, Ponds - COSD LAMP does not meet requirement**

**Evaluation Findings:** Overall, OWTS will meet the horizontal setback requirements specified in Tier 1 with the exception of the minimum horizontal setback of 200 feet from an OWTS treatment component and dispersal field to vernal pools, wetlands, lakes, ponds, or other surface water bodies in the OWTS Policy Section 7.5.5. Currently, the COSD LAMP, Chapter 1 (Page 14-15) provides for a minimum setback requirement of 100 feet for Ponds or Lakes. The edge measure point in the OWTS Policy is the high-water mark for lakes and reservoirs, and the mean high tide line for tidally influenced water bodies, while the edge measure point in the COSD LAMP is identified as the spillway elevation. Because these edge measure points are different, it is difficult to determine the level of equivalency without further evaluation.

**Evaluation Recommendations:** It is recommended to amend the setback table in LAMP to be consistent with the OWTS Policy and adopt the OWTS Policy setback of 200 feet from OWTS to vernal pools, wetlands, lakes, ponds, or other surface water but use language "*from the spillway elevation or* from where the edge of that water body is the high-water mark for lakes and reservoirs, whichever is greater, and the mean high tide line for tidally influenced water bodies. **This recommended change will provide adequate protection to address this site condition.**

**Policy Section 7.7 – Maximum Slope for Effluent Disposal - COSD LAMP meets and provides opportunity for alternative**

**Evaluation Findings:** The COSD LAMP allows for dispersal systems to be installed in slopes up to 25% and also provides for the opportunity to install a dispersal system in slopes above 25% when designed by a qualified professional registered in the State of California to address effluent surfacing and slope stability and include a slope stability report or statement. Leach line dispersal fields and vertical seepage pits are allowed up to 40% maximum slope (Pages 32 and 37, respectively). Seepage pit dispersal systems in areas up to 50% maximum slope in uniform area extending 100 feet from a seepage pit may require a steep slope design (Pages 39). Supplemental treatment systems with a drip dispersal are allowed to be installed in slopes up to a maximum of 40% (Page 42).

**Evaluation Recommendations:** As the installation of dispersal systems on slopes greater than 25% up to a maximum of 50% are allowed upon adequate design with report/statement by a qualified professional registered in the State of California to address effluent surfacing and slope stability, these measures provide an equal level of protection, and **no changes are recommended**.

**Policy Section 7.8 - Allowable Density for a Subdivision - COSD LAMP meets and provides opportunity for alternative**

**Evaluation Findings:** The COSD LAMP (Page 17) provides for new lots created pursuant to the Subdivision Map Act to either meet the allowable average densities per subdivision shown in OWTS Policy Section 7.8, Table 1 (Page 22) or to vary from these densities only when additional studies completed by a qualified professional demonstrate no adverse impacts to groundwater will occur. Where studies indicate a potential to impact to water quality exceeding established water quality objectives in the Water Quality Control Plan for the San Diego Basin, any proposed development must mitigate (typically utilize an OWTS with supplemental treatment pursuant to Chapter 8 of the LAMP) the impacts or lot sizes shall be increased to eliminate any adverse impacts.

**Evaluation Recommendations:** As the alternative method for new subdivision lots sizes provides an equal level of protection, **no changes are recommended at this time**. However, it is recommended to add additional guidance on the elements required for the additional studies for a more consistent and uniform approach.

## 4.3 COSD LAMP Comparison to Tier 1: Section 8.0 Minimum Design and Construction Standards

This section compares the minimum standards required for a Tier 1 program in OWTS Policy Section 8.0 - Minimum Design and Construction Standards – to the COSD LAMP Tier 2 provisions that are intended to achieve the same water quality and public health protections. A summary of this review is provided in the table below and shows if the COSD LAMP Tier 2 provisions meet the corresponding Tier 1 requirements or if an alternative standard is used that provides an equal level protection. Following this table, a detailed discussion and evaluation findings are provided for each Tier 1 requirement where an alternative standard is being used in the LAMP.

**Table 4.3-1: Summary of COSD LAMP Comparison to OWTS Policy Section 8.0: Minimum Design and Construction Standards**

| ***OWTS Policy* for Tier 1 Section Number** | **Standard** | **COSD LAMP Meets Tier 1** | **Comments** |
|---|---|---|---|
| 8.1.1 | Qualified Professional to design OWTS | Met | Soil/Site Evaluation: Registered EHS, Licensed Civil Engineer, or geologist.<br>Advanced Treatment System Design: Civil Engineer or REHS.<br>Installer: Licensed contractor per CLSB requirements or owner/builder. |
| 8.1.2 | No Surfacing Sewage, No Impact to Beneficial Uses of Water | Met | OWTS are sited, designed, and constructed to prevent surfacing sewage or impact to groundwater using the site evaluation, OWTS design, and minimum setbacks standards in Tier 1 or equivalent. |
| 8.1.3 | OWTS Design Criteria | Met | OWTS are designed based on domestic, low strength wastewater with flows not exceeding 10,000 gallons per day (allowable LAMP flow) using the site evaluation OWTS design, and minimum setbacks standards in Tier 1 or equivalent. |

<table>
<tr><td>8.1.4</td><td>Dispersal System Soil Cover (12 inch minimum; 6 inch minimum pressure systems)</td><td>Met</td><td>OWTS have a minimum soil cover of at least 12 inches over dispersal field and at least six inches for pressure distribution systems.</td></tr>
<tr><td>8.1.5</td><td>Minimum Depth to High Groundwater from Bottom of Leach Trench Based on percolation rates Table 2</td><td>Met with Recommended Changes</td><td>The minimum distance from bottom of leach trench to seasonal high groundwater is five feet for conventional OWTS and two feet for Supplemental Treatment Systems. Recommend incorporating minimum depths to groundwater as per Table 2 of OWTS Policy for conventional OWTS.<br><br>Table 2: Tier 1 Minimum Depths to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System<br><table><tr><th>Percolation Rate</th><th>Minimum Depth</th></tr><tr><td>Percolation Rate ≤1 MPI</td><td>Only as authorized in a Tier 2 Local Agency Management Program</td></tr><tr><td>1 MPI< Percolation Rate ≤ 5 MPI</td><td>Twenty (20) feet</td></tr><tr><td>5 MPI< Percolation Rate ≤ 30 MPI</td><td>Eight (8) feet</td></tr><tr><td>30 MPI< Percolation Rate ≤ 120 MPI</td><td>Five (5) feet</td></tr><tr><td>Percolation Rate > 120 MPI</td><td>Only as authorized in a Tier 2 Local Agency Management Program</td></tr><tr><td colspan="2">MPI = minutes per inch</td></tr></table></td></tr>
<tr><td>8.1.6</td><td>Minimum Trench Infiltrative Rate (4ft$^2$/linear feet) and Width (3 feet), Maximum Application Rates Seepage pits and other dispersal systems allowed for repairs where siting limitations; Application rates determined from Table 3 or Table 4)</td><td>Met with Recommended Changes</td><td>Current dispersal systems consist of:<ul><li>Leach lines width from 18 to 36 inches (met)</li><li>Leach lines infiltrative surface = 1.5ft$^2$/linear feet (met and exceeds)</li><li>Horizontal pits allowed (4 feet-6 feet width, 2 - 5 feet soil cap, 6-7 feet rock depth, total depth=9-12 feet) infiltrative surface allowed at 3ft$^2$ per linear feet (meets and exceeds)</li><li>Vertical pits (4 feet diameter) (recommend define depth) Alternative systems allowed: Mound and Supplemental Treatment Systems (met)</li><li>Varied alignment between COSD application rates and OWTS Policy (recommend better alignment of application rates)</li></ul></td></tr>
</table>

| | | | |
|---|---|---|---|
| 8.1.7 | Maximum Depth of Dispersal System = 10 feet | Met with Recommended Changes and Provides Opportunity for Alternative | • Current Depth Requirements: Leach line-no maximum depth indicated<br>• Vertical pits-4 feet diam. Used only in MUN excepted areas. No maximum depth indicated.<br>• Horizontal pits-4-6 feet wide, 8-12 feet total depth,<br>Recommend defining depth to meet OWTS Policy. Allow for greater depth for vertical pits when siting and design study shows adequate protection. |
| 8.1.8 | 100% Replacement Area for New Dispersal Systems | Met | All new OWTS and additions meet this provision (Page 14). |
| 8.1.9 | Dispersal System Not Covered | Met | Leach lines may not be placed under impermeable surfaces (Page 31). |
| 8.1.10 | Rock Fragment Content Not Exceed 50% Cobbles or Larger | Met with Recommended Changes | No corresponding requirement in LAMP currently. Recommend adding language to address. |
| 8.1.11 | No Allowance for IAPMO Certified Dispersal System | Met | Dispersal systems using IAPMO Certified systems receive no allowance or credit for use – feet by feet equivalency is used. (Page 31) |
| 8.2.1 | Tank Standards Appendix K standards | Met with Recommended Changes | Some but not all provisions of the K standards are met. (Pages 28-29) Recommend adding language. |
| 8.2.2.1 | Watertight Risers | Met | Watertight risers required within 6” of finished grade. (Page 28) |
| 8.2.2.2 | Access Lids at Grade Secured | Met | Locked or secured risers required. (Page 28) |
| 8.2.3 | Septic Tank Approval | Met | All septic tanks are either IAPMO approved and installed per manufacturer’s instructions. (Page 28) |
| 8.2.4 | Prevention of Solids into Dispersal System | Met with Recommended Changes | Septic tanks are designed and sized for appropriate retention time. NSF/ANSI certified filters are optional. Recommend requiring effluent filters for new and replacement tanks. |
| 8.2.5 | Installer Requirements | Met | Permit issued to owner/agent or contractor with appropriate license (Page 17).<br>OWTS are installed by licensed CSLB contractors or owner/builders. All systems are inspected when installed. |

### 4.3.1 Discussion of COSD LAMP Alternatives to Tier 1 Minimum Design and Construction Standards

The information below provides a discussion on the evaluation and findings of those sections highlighted above where the COSD LAMP provides an alternative standard to those of the OWTS Policy Tier 1, Section 8.0 requirements. The findings of this evaluation are provided to show the alternative standard is either

providing a minimum equivalent protection as the Tier 1, Section 8.0 standard or needs to be updated. Recommendations based on the evaluation findings are provided and may include proposed changes to the COSD LAMP and/or COSD Regulatory Code. Those sections in the table that meet the Tier 1, Section 8.0 requirements are not discussed below, as these standards meet Tier 1, Section 8.0 requirements.

**Policy Section 8.1.5 – Minimum Depth to High Groundwater – COSD LAMP meets most requirements and has alternative requirement**

**Evaluation Findings:** Chapter 2 of COSD LAMP addresses groundwater separation requirements and provides for a minimum 5-foot separation from a standard dispersal field to highest groundwater and a minimum 2-foot separation from a supplemental treatment dispersal field to highest groundwater. This chapter also provides for the demonstration of groundwater separation using test borings and/or piezometers for monitoring groundwater during normal or above average rainfall year and/or when full groundwater recharge has occurred.

The Current COSD LAMP does not provide for groundwater separation based on observed percolation rates, as provided for in the OWTS Policy Table 2.

In Chapter 6 of the COSD LAMP a minimum 10-foot separation from the bottom of the vertical seepage pit and the anticipated high groundwater is required for the percolation test. However, this requirement is not provided for in the Dimensions and Construction Requirements section.

**Evaluation Recommendation:** Amending the COSD LAMP to include the groundwater separation requirements in the OWTS Policy Table 2 is recommended for conventional OWTS. The 2-foot minimum separation for OWTS with supplemental treatment is proposed to be retained.

Adding clarifying language to Page 36-37 to specify the 10 feet minimum distance from bottom of a seepage pit to highest anticipated groundwater to meet OWTS Policy Section 9.4.8 is also recommended.

In areas of flooding, clarifying language may be added relating to the installation of dispersal systems in areas subject to flooding or in areas where groundwater reaches the surface at certain times of the year are prohibited.

**These recommended changes will provide adequate protection to address this site condition.**

**Policy Section 8.1.6 – Minimum Trench Infiltrative Rate and Width – COSD LAMP meets some requirements and has alternative requirements**

**Evaluation Findings:** This section is comprised of several different requirements and each requirement will be discussed separately.

Dispersal Systems Shall Be Leach fields – COSD LAMP meets requirement and has alternatives. Section 8.1.6 begins with the statement “Dispersal systems shall be a leach field”. While a dispersal system is defined as “a leach field, seepage pit, mound, at-grade, subsurface drip field, evapotranspiration and infiltration bed, or other type of system for final wastewater treatment and subsurface discharge”, the term leach field is not defined. Section 8.1.6 further provides that “seepage pits and other dispersal systems may only be authorized for repairs where siting limitations require a variance”. Because seepage

pits are listed as a different component than leach fields in these statements and for the purposes of this evaluation, a leach field will be considered leach trenches.

In addition to the Tier 1 provision of utilizing leach fields (leach lines or trenches), the COSD LAMP also provides for OWTS dispersal systems to include horizontal seepage pits (Chapter 7), vertical seepage pits (Chapter 6), subsurface drip fields (Chapter 8), as well as other dispersal methods. Vertical seepage pit dispersal fields are addressed in Chapter 6 of the COSD LAMP and are only authorized in areas where the municipal use designation of the beneficial uses of groundwater in the San Diego Basin Plan has been excepted. Horizontal seepage pit dispersal systems are addressed in Chapter 7 of the COSD LAMP.

The COSD LAMP currently does not require equal distribution to each leach trench for uniform application over the dispersal field and does not require shallow leach trenches to maximize treatment before the effluent is discharged to a horizontal or vertical seepage pit.

Leach Trench Width – COSD LAMP meets requirement. Page 31 of the COSD LAMP provides for a leach trench width of between 1.5 feet and 3.0 feet, meeting the requirement for trench width of no wider than 3 feet.

Leach Trench Infiltrative Surface – COSD LAMP meets requirement. Page 31 of the COSD LAMP specifies a maximum of 1.5 $ft^2$ per linear foot of trench as infiltrative surface, less than the maximum 4.0 $ft^2$ per linear feet allowed in the OWTS Policy. This COSD LAMP requirement uses the bottom 1.5 feet trench width as the infiltrative surface only and does not provide for any larger bottom width or sidewall areas to be used as infiltrative surface.

Page 40 of the COSD LAMP provides requirements for determining the length of the horizontal seepage pit and allows a sidewall infiltrative surface of 3 $ft^2$ per linear foot of horizontal seepage pit length.
Maximum Application Rates (Tables 3 and 4) – COSD LAMP exceeds some requirements and does not meet other requirements.

Page 32 of the COSD LAMP provides the requirements for sizing leach trench lengths. A table on Pages 33-34 provides prescribed leach trench lengths for residential single-family dwellings based on percolation rates and number of bedrooms. For non-residential OWTS, the leach trench requirement shall be calculated by a qualified professional using expected peak wastewater flows and a safety/surge factor of 2.

For residential single-family dwellings, when comparing the infiltrative surface areas using the prescribed leach trench lengths in the table on pages 33-34 of the COSD LAMP (using the maximum allowed 1.5$ft^2$ per linear feet of trench and 150 gallons/day per bedroom flow rate) to the infiltrative surface area requirements in Table 3 of the OWTS Policy (based on percolation rate application rates), the majority of the COSD LAMP prescribed leach trench length infiltrative surface areas are less than those required in Table 3 of the OWTS Policy.

However, making the same comparison for residential single-family dwellings using the maximum infiltrative surface allowed in the OWTS Policy of 4.0$ft^2$ per linear feet with the prescribed leach trench lengths in the table on pages 33-34 of the COSD LAMP, all of the COSD LAMP prescribed leach trench infiltrative surface area exceed those required in Table 3 of the OWTS Policy up to a percolation rate of

48 minutes per inch. For percolation rates above 48 minutes per inch, most COSD LAMP prescribed leach trench infiltrative surface areas do not meet the required infiltrative surface area requirements in Table 3 of the OWTS Policy, especially for dwellings of 3-bedrooms or more.

**Evaluation Recommendations:** Dispersal Systems Shall Be Leach fields – It is recommended to add clarifying language to the COSD LAMP to better define the dispersal field components and their associated dimensions. Requiring equal distribution to the leach trenches and use of shallow leach trenches or beds before discharge to a deeper seepage pit to provide more effective wastewater treatment and application should be considered. It is recommended to add clarifying language consistent with the areas excepted for municipal (MUN) beneficial uses in the San Diego Basin Plan for vertical seepage pit usage to better identify the areas and conditions for this dispersal option to ensure recreational (REC1 and REC 2) beneficial uses are considered in addition to MUN.

Leach Trench Width – As the COSD LAMP meets this requirement, no changes are recommended.

Leach Trench Infiltrative Surface – Although the COSD LAMP meets this maximum requirement, there is inconsistency between the maximum infiltrative surface areas, the COSD LAMP residential leach trench length tables, the horizontal seepage pit sizing requirements, and the drip dispersal infiltrative areas. It is recommended that the dimensions and infiltrative surface area for each dispersal component (leach trenches, vertical seepage pits, and horizontal seepage pits) be updated to achieve an infiltrative surface area equivalency between the different dispersal methods.

Maximum Application Rates (Tables 3 and 4) – As the use of appropriate application rates provides for adequate organic and hydraulic wastewater loading and treatment, updating the COSD LAMP residential leach line table to better align with the OWTS Policy Table 3 application rates is recommended for percolation rates over 48 minutes per inch. In addition, it is recommended to add language to the COSD LAMP to provide a method for the consistent design and sizing of commercial OWTS.

**These recommended changes will provide adequate protection to address these site conditions.**

**Policy Section 8.1.7 – Maximum Depth of Dispersal System – COSD LAMP does not meet and has alternative requirement**

**Evaluation Findings:** Section 8.1.7 of the OWTS Policy provides for dispersal systems to have a maximum depth of 10 feet as measured from the ground surface to the bottom of the trench.

For leach lines or trenches, dimensions are specified in Chapter 5 of the COSD LAMP but no maximum depth is specified. Minimum depth of leach lines are 2.7 feet to 5.7 feet depending on soil cover.

For vertical seepage pits, dimensions are specified in Chapter 6 of the COSD LAMP but no maximum depth is specified. A minimum sidewall depth of 10 feet is specified below the 2-5 feet soil cap/cover for a minimum total depth of 12-15 feet below ground surface.

Horizontal seepage pits are specified in Chapter 7 of the COSD LAMP with a maximum sidewall depth of 7 feet beneath the 2-5 feet maximum soil cap/cover for a total maximum depth of 12 feet below ground surface.

**Evaluation Recommendations:** It is recommended to update the COSD LAMP to provide for dispersal systems to meet the 10-foot maximum depth for leach trenches and seepage pits, and to provide for an

alternative maximum depth for vertical seepage pits when demonstrated to protect the beneficial uses in the San Diego Region Basin Plan through the submittal of a study and/or engineered design by a qualified professional. As shallow leach trenches provide the opportunity for additional treatment, it is also recommended to evaluate the implementation of standard shallow leach trenches (up to 3.5 feet maximum depth), and a requirement for dispersal systems to discharge to shallow leach trenches before discharging to deeper trenches or pits. **This recommended change will provide adequate protection to address this site condition.**

**Policy Section 8.1.10 – Rock Fragments not Exceed 50% by volume Cobbles or Larger – COSD LAMP does not meet requirement**

**Evaluation Findings:** The standard that "rock fragment of native soil surrounding the dispersal system shall not exceed 50 percent by volume for rock fragments sized as cobbles or larger and shall be estimated using either the point-count or line intercept methods" is not specifically addressed in the COSD LAMP.

**Evaluation Recommendation:** It is recommended to adopt the OWTS Policy requirement for rock fragments into the COSD LAMP and incorporate into the site evaluation process. **This recommended change will provide adequate protection to address this site condition.**

**Policy Section 8.2.1 – Plumbing Code, Appendix K, Tank Standards – Some requirements met**

**Evaluation Findings:** COSD LAMP addresses septic tanks in Chapter 4 and provides for all septic tanks to be certified by the IAMPO. The COSD LAMP provides some language related to the Plumbing Code, Appendix K requirements, listed out in Table 8.2.1, but does not address all the requirements.

**Table 4.3.1-2: OWTS Policy, Plumbing Code, Appendix K Septic Tank Requirements**

| |
|---|
| K5(b) Septic Tanks to be designed to produce adequate clarified effluent and space for sludge and scum accumulations. |
| K5(c) Septic tanks constructed of solid durable materials not subject to excessive corrosion or decay and be watertight. |
| K5(d) Septic tanks minimum of 2 compartments, inlet no less than 2/3 total capacity (min 500 gallons) (minimum 3feetWx5feetL 2.5feet-6feetD); second compartment 1/3 total capacity (min 250 gal). Tanks over 1500 gallons, second compartment min 5 feet. |
| K5(e) Access to tank by at least 2 manholes 20" min. dimension or equivalent removable cover. One over inlet and one over outlet. For inlet compartments over 12L, an additional manhole required over baffle wall. |
| K5(k)(1) Tanks designed to withstand all anticipated earth or other loads (min 500 pounds per square feet where max coverage does not exceed 3feet) |
| K5(k)(2) Tanks to be anchored to counter buoyant forces during conditions of the design flood. Vent termination and manhole min 2feet above the design flood elevation or watertight covers to prevent inflow of flood waters or outflow of contents of tank. |
| K(m)(1) Concrete tanks shall be in accordance with applicable standards in Chapter 14, Table 14-1. |
| K(m)(3)(ii) Wooden septic tanks are prohibited. |

**Evaluation Recommendations:** It is recommended to update the COSD LAMP, Chapter 4 to better align with the Plumbing Code, Appendix K standards required by the OWTS Policy. **These recommended changes will provide adequate protection to address septic tanks.**

**Policy Section 8.2.4 – Prevention of Solids into Dispersal System – COSD LAMP does not meet requirement**

**Evaluation Findings:** The OWTS Policy requires all new and replacement OWTS septic tanks be designed to present solids in excess of three-sixteenths (3/16) of an inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system shall be deemed in compliance with this requirement. The COSD LAMP does not address this requirement but does have a provision for an effluent filter, if used, to be IAMPO approved.

**Evaluation Recommendations:** As the prevention of solids passing into the dispersal system can extend the service life of an OWTS, it is recommended to update the COSD LAMP to include the requirement for new and replacement OWTS to install NSF/ANSI Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system. **This recommended change will provide adequate protection to address this condition.**

# SECTION 5.0: EVALUATION OF MONITORING PROGRAM: WATER QUALITY ASSESSMENT PROGRAM

## 5.1 Overview

This section evaluates the monitoring program water quality assessment program in accordance with the purpose of the evaluation per Section 9.3.3 of the OWTS Policy, which provides for the purpose of the Evaluation Report is to:

- Evaluate the monitoring program
- Assess whether water quality is being impacted by OWTS
- Identify any changes in the LAMP that will be undertaken to address impacts from OWTS

Section 9.3.2 of the OWTS Policy provides for a local agency with a Tier 2 LAMP to maintain a water quality assessment program to determine the general operation status of OWTS, to evaluate the impact of OWTS discharges, and to assess the extent to which groundwater and local surface water quality may be adversely impacted. This section provides that the assessment program should include the three specific elements below.

**Focus Areas Review:** The focus of the assessment should be areas with characteristics listed under section 9.1 of the policy.

**Evaluation of Water Quality Data:** The assessment should include monitoring and analysis of water quality data. The water quality assessment may use existing nitrate and pathogens data from other monitoring programs.

**Review of complaints, variances, failures:** The assessment should include a review of complaints, variances, failures, and any information resulting from inspections.

The following subsections provides a discussion for each of the specific assessment elements required in the OWTS Policy. It is important to note that a LAMP is a Tier 2 alternative standards approach from that of the OWTS Policy Tier 1 standards and is intended as a tool for local agencies to manage the installation of new and replacement OWTS. Existing OWTS are managed under Tier 0, or Tier 4 if requiring corrective action, or Tier 3 if found to be contributing to an impairment of surface water. Therefore, the discussion of this section is related to the LAMP permitting program for new and replacement OWTS only.

## 5.2 Focus Areas Review

As required by Section 9.3.2 of the OWTS Policy, each of the focus areas identified in Section 9.1 of the policy are considered and discussed below. However, the minimum standards in the OWTS Policy and in approved LAMPs are designed to address these vulnerabilities with adequate siting, design and construction requirements.

### 5.2.1 Degree of vulnerability to pollution from OWTS due to hydrogeological conditions (Section 9.1.1)

**Evaluation Findings:** Hydrogeological conditions can include any geological condition related to water occurring underground or on the surface of the earth. This Focus Area is very broad and can include many conditions relating to OWTS siting and design, including a shallow water table, the unsaturated soil interval, very rapid or very poor draining soils, soil characteristics, fractured bedrock, and steep slopes. Many of these conditions are directly identified as an area of focus in Section 9.1 of the OWTS Policy and are discussed in the following sections. Shallow water tables and steep slopes conditions are not specifically focused on in Section 9.1 and are discussed here.

Historical data and experience have identified several areas where groundwater is shallow, or becomes shallow during significant rain events, and where OWTS are utilized. These areas include the Rainbow Valley area in Fallbrook, the Citrus Avenue Area in Escondido, Valley Center and Woods Valley Roads area in Valley Center, the Granite Hills area in El Cajon, and in the Ramona Basin.

San Diego County has many areas with steep slopes where OWTS are utilized and the COSD LAMP contains many requirements to address this condition. These requirements include:

- a provision for a 5:1 setback from the top of the cut slope to leach lines and seepage pits (page 15)
- requirement for steep slope systems (> 25% up to 40% maximum slope) to be designed by a qualitied registered professional and include a slope stability report or statement (page 32)
- requirement for steep slope systems (> 25% up to 40% maximum slope) for vertical seepage pits to be designed by a qualitied registered professional address effluent surfacing and slope stability issues (page 37)
- requirement for steep slope systems (> 25% up to 50% maximum slope in uniform area extending 100 feet from seepage pit) to be designed by a qualitied professional registered in the State of California to address effluent surfacing and slope stability issues (page 39)
- requirements for steep slope (max 40%) for drip dispersal systems (page 42)

**Evaluation Recommendations:** The OWTS Policy and the COSD LAMP use minimum siting, design, and construction standards for OWTS to address the diverse hydrological conditions found throughout the San Diego region to ensure the effective treatment of wastewater. The primary mechanism used to determine whether an OWTS meet these minimum requirements is the site-specific evaluation, including the determination of high groundwater depth. Because of the diverse nature of hydrological conditions in the San Diego region, this requirement is fundamental to the DEHQ OWTS permitting program. The site evaluation process currently consists of soils characterization, percolation testing, depth to groundwater monitoring, site topography, proximity to surface waters, and any other testing determined necessary by DEHQ relating to the siting and performance of the OWTS.

The current site evaluation process meets the minimum requirements of the OWTS Policy and is adequate to address the diverse hydrological conditions across San Diego County, including shallow groundwater and steep slope conditions. The process also provides opportunity for additional data collection, if needed. **No changes to the COSD LAMP are recommended.**

### 5.2.2 High Quality waters or other environmental conditions requiring enhanced protection from the effects of OWTS (Section 9.1.2)

**Evaluation Findings:** Due to the region's relatively dry climate, San Diego County imports over 80 percent of its water. More than half the water comes from a series of dams, canals, and pipes carrying water from the distant Colorado River. Another 30 percent of San Diego's imported water comes from rivers fed by snowpack melting off the Sierra Nevada range. This meltwater is diverted through the State Water Project – a vast system of aqueducts, canals, and dams – and pumped up and over the Tehachapi Mountains and distributed to urban areas across Southern California.

About 20 percent of San Diego County's water supply comes from local sources, including water wells, capture of stormwater in and immediately around local reservoirs, small-scale and large-scale wastewater recycling, and ocean water desalination. About 5% of drinking water is supplied by water wells.

Alluvial and sedimentary aquifers account for approximately 13% of the unincorporated area of the County. These aquifers are typically found in river and stream valleys, around lagoons, near the coastline, and in the intermountain valleys. Sediments in these aquifers are composed of mostly consolidated (defined as sedimentary rock) or unconsolidated (defined as alluvium or colluvium) gravel, sand, silt, and clay.

There are seven major stream systems that originate in the mountains of San Diego County and drain into the Pacific Ocean. Runoff from these seven watersheds supplies 24 reservoirs that store local and imported water supplies. These reservoirs are listed in the Table 5.1.2–1.

**Table 5.2.2-1: San Diego County Reservoirs**

| | |
|---|---|
| Barrett - City of San Diego | Cuyamaca - Helix Water District |
| Dixon - City of Escondido | El Capitan - City of San Diego |
| Henshaw - Vista Irrigation District | Hodges - City of San Diego |
| Jennings- Helix Water District | Loveland - Sweetwater Authority |
| Lower Otay - City of San Diego | Maerkle - Carlsbad Municipal Water District |
| Miramar - City of San Diego | Morena - City of San Diego |
| Morro Hill - Rainbow Municipal Water District | Murray - City of San Diego |
| Olivenhain - San Diego County Water Authority | Poway - City of Poway |
| Ramona - Ramona Municipal Water District | Red Mountain- Fallbrook Public Utility District |
| San Vicente - City of San Diego | Sutherland - City of San Diego |
| San Dieguito - Santa Fe Irrigation District | Sweetwater - Sweetwater Authority |
| Turner - Valley Center Municipal Water District | Wohlford - City of Escondido |

**Evaluation Recommendations:**

The COSD LAMP provides protective siting and design standards for areas near streams and reservoirs. The recommendation in Section 4.2.1 of this report to amend the setback table in COSD LAMP to be consistent with the OWTS Policy and adopt the OWTS Policy setback of 200 feet from OWTS to vernal pools, wetlands, lakes, ponds, or other surface water will provide the appropriate level of protection. **This recommended change will provide adequate protection to address this condition.**

### 5.2.3 Shallow soils requiring a dispersal system installation that is closer to ground surface than is standard (Section 9.1.3)

**Evaluation Findings:** Although there may be areas in San Diego County with shallow soils, the minimum standard for soil cover as prescribed in the OWTS Policy are also required in the COSD LAMP for new and replacement OWTS.

The COSD LAMP provides for a minimum of:

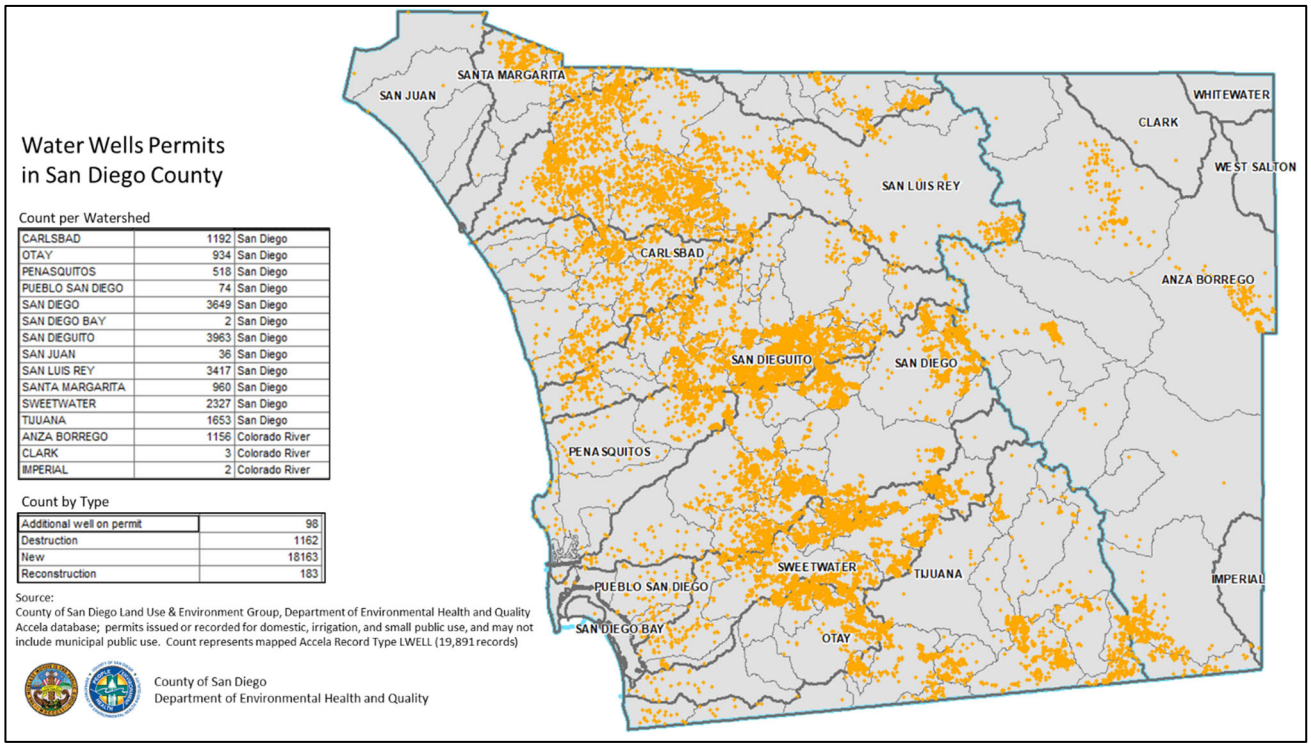
- 12 inches of soil cover for leach line dispersal systems (page 30)
- 24 inches of soil cover for vertical seepage pit dispersal systems (page 37)
- 24 inches of soil cover for horizontal seepage pits (page 39)
- six inches of soil cover for pressurized drip dispersal systems (page 42)

**Evaluation Recommendations:** As the COSD LAMP and OWTS Policy provide for the same protective minimum soil cover requirements and these standards are verified during the DEHQ OWTS permitting process, **no changes to the COSD LAMP are needed or recommended for this condition.**

### 5.2.4 OWTS located in area with high domestic well usage (Section 9.1.4)

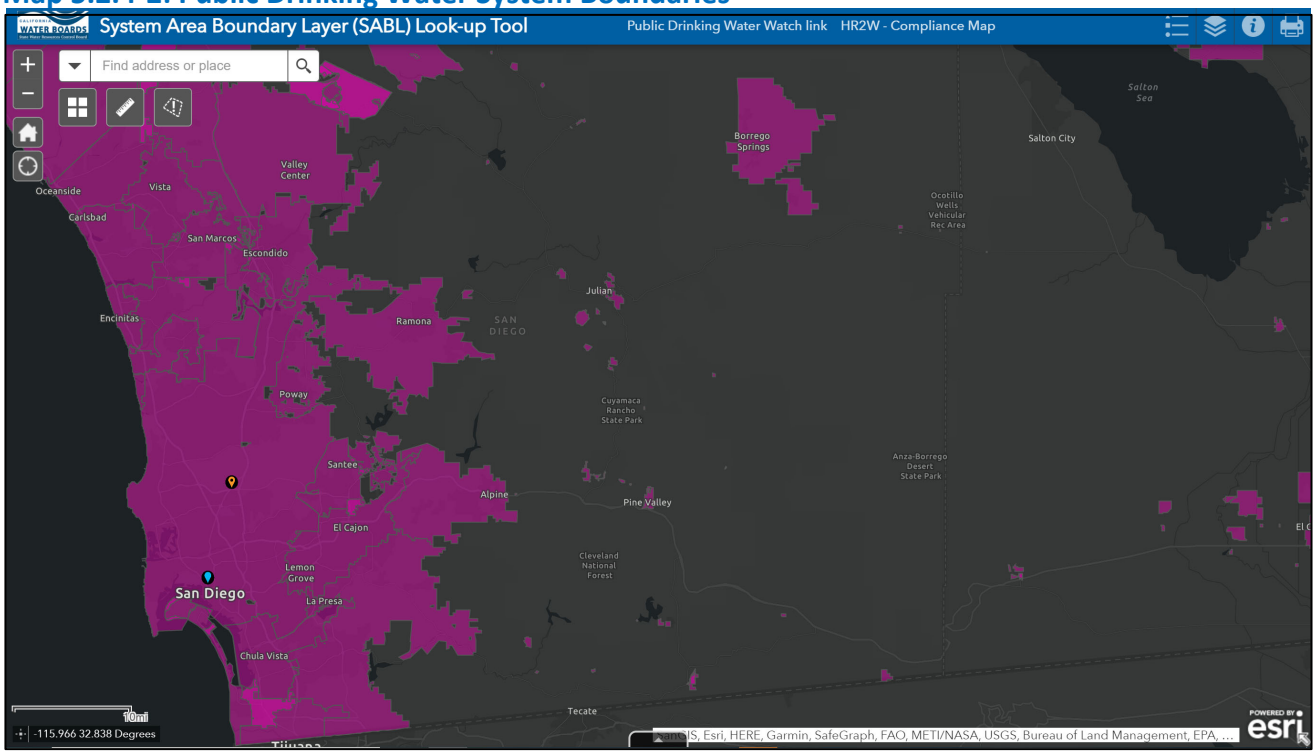
**Evaluation Findings:** The DEHQ database contains approximately 19,886 issued water well permits, shown in Map 5.2.4-1. This count includes all permit types of work including destruction and reconstruction well permits. The intended uses of the water wells shown on this map are not known, but may include irrigation/agriculture, industrial, private domestic drinking water, and small public drinking water uses. Because the intended use is not fully captured in the DEHQ database, the number of wells in each specific use category is not known. .

## Map 5.2.4-1: Locations of DEHQ Database Issued Water Well Permits



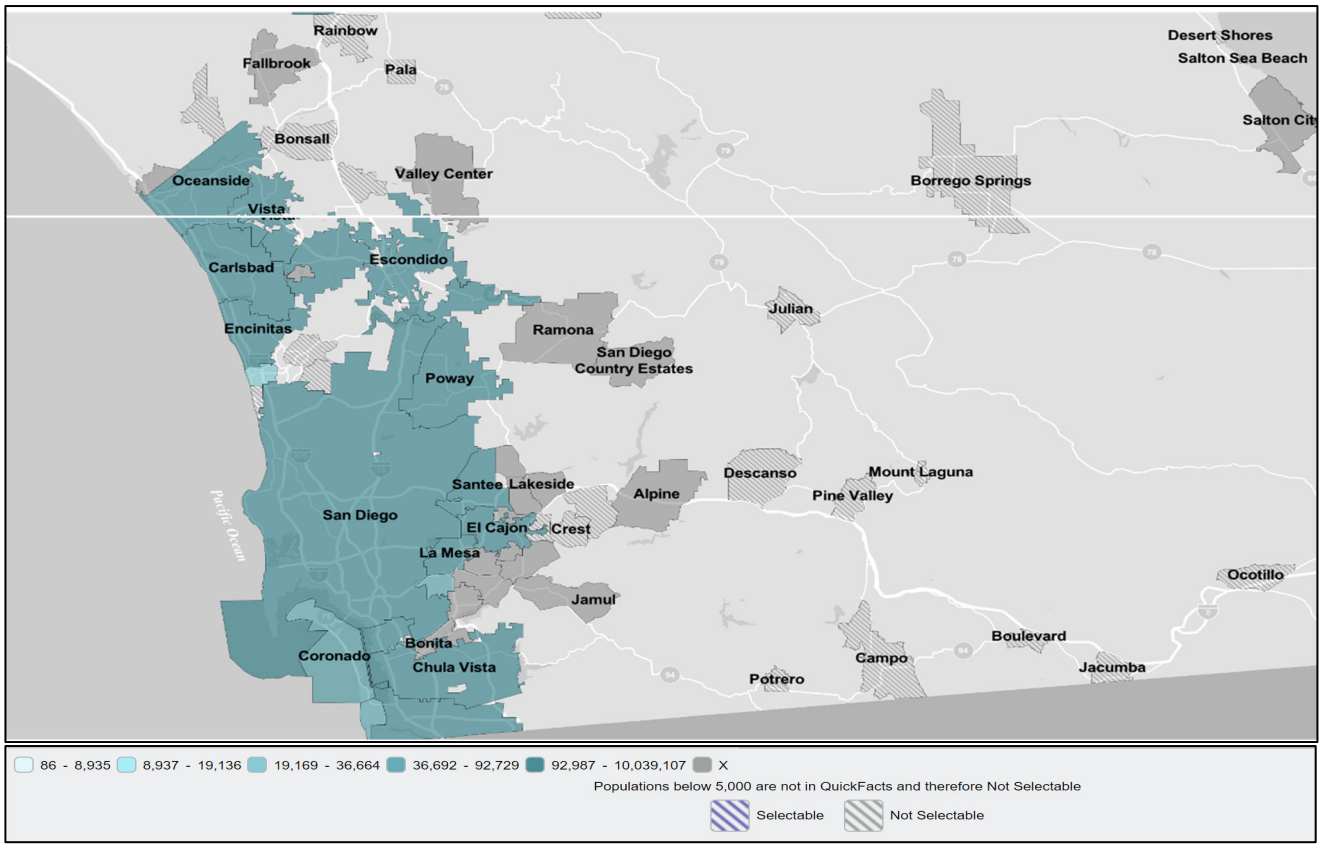

It is important to note that the well locations shown in Map 5.2.4-1 represent all water well permits issued and does not represent drinking water well locations. Many of the areas with water wells showing on this map are within a public water system boundary and may be receiving drinking water from this source. Map 5.2.4-2 shows public drinking water system boundaries. As would be expected, these public water system boundaries align to the areas with the largest populations in San Diego County, as shown in Map 5.2.4-3.

## Map 5.2.4-2: Public Drinking Water System Boundaries




https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=272351aa7db14435989647a86e6d3ad8

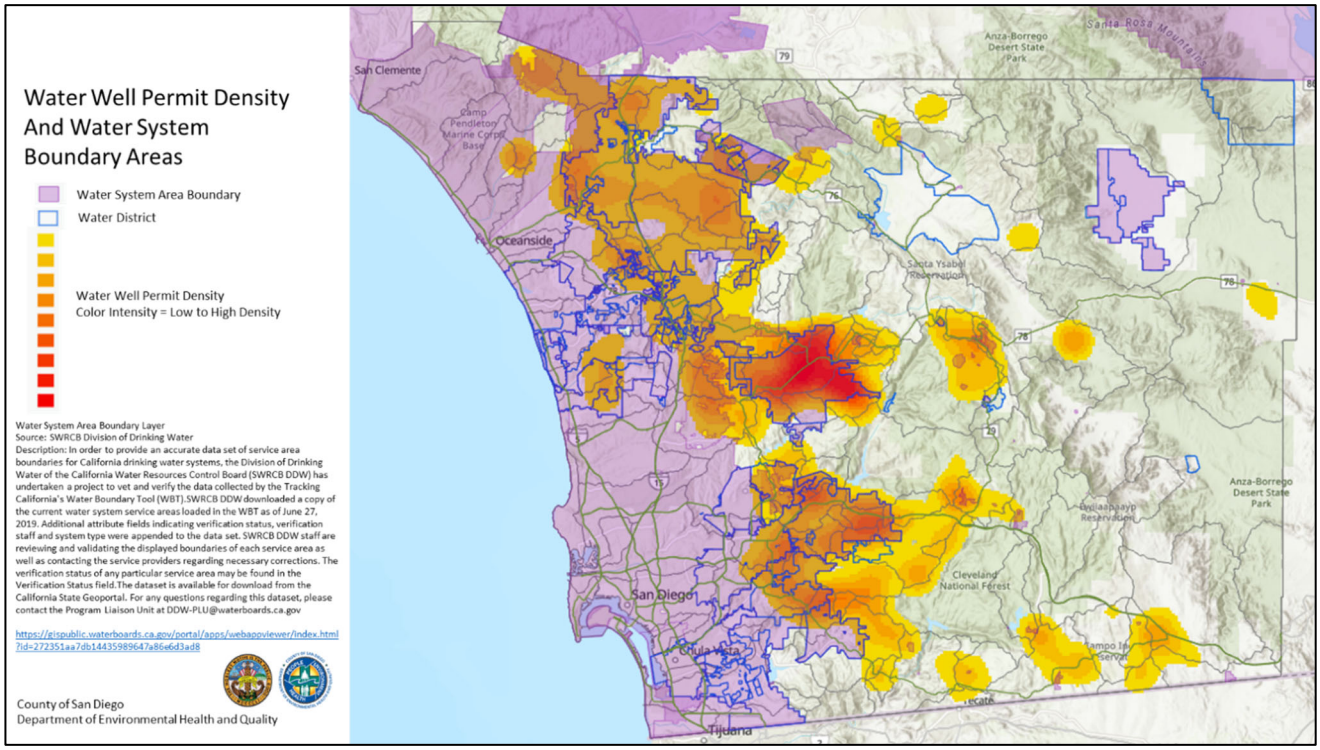
## Map 5.4.2-3: 2019 Census Population in San Diego County




https://www.census.gov/quickfacts/fact/map/sandiegocountycalifornia,CA/PST045219

Map 5.2.4-4 shows the density of water wells and locations of public drinking water system boundaries together. This map illustrates the location of water wells within areas served by public water systems.

### Map 5.2.4-4: Water Well Permit Density and Water System Boundary Areas




As noted in Section 5.2.2, San Diego County imports about 80% of its water. A review of the State Water Board, Division of Drinking Water's database, Drinking Water Watch, shows 98% of the population served by the large community public water systems is provided drinking water from a surface water source.

### Table 5.2.4-1: Water Source for Large Community Water Systems (LCWS)

| LCWS Water Source Type | Number of LCWS by Water Source Type | % Of LCWS by Water Source Type | Population Served by Water Source Type | % Population Served by Water Source Type |
|---|---|---|---|---|
| Groundwater | 9 | 25% | 73,416 | 2% |
| Surface Water | 27 | 75% | 3,340,268 | 98% |
| **Total Water Systems** | **36** | **100%** | **3,413,684** | **100%** |

Although some groundwater wells serving drinking water have been documented to have nitrogen impacts, OWTS has not been identified as a source of these impacts. Common sources of nitrate in groundwater include commercial nurseries, agricultural fields, orchards, parks, residential landscapes, and OWTS discharges.

In addition to adequate setbacks from sources of pollution, nitrate impacts to drinking water systems may also be addressed through enhanced water well and annular seal design, blending, and/or treatment. The well construction standards in the California Water Well Standards, Bulletins 74-81 and

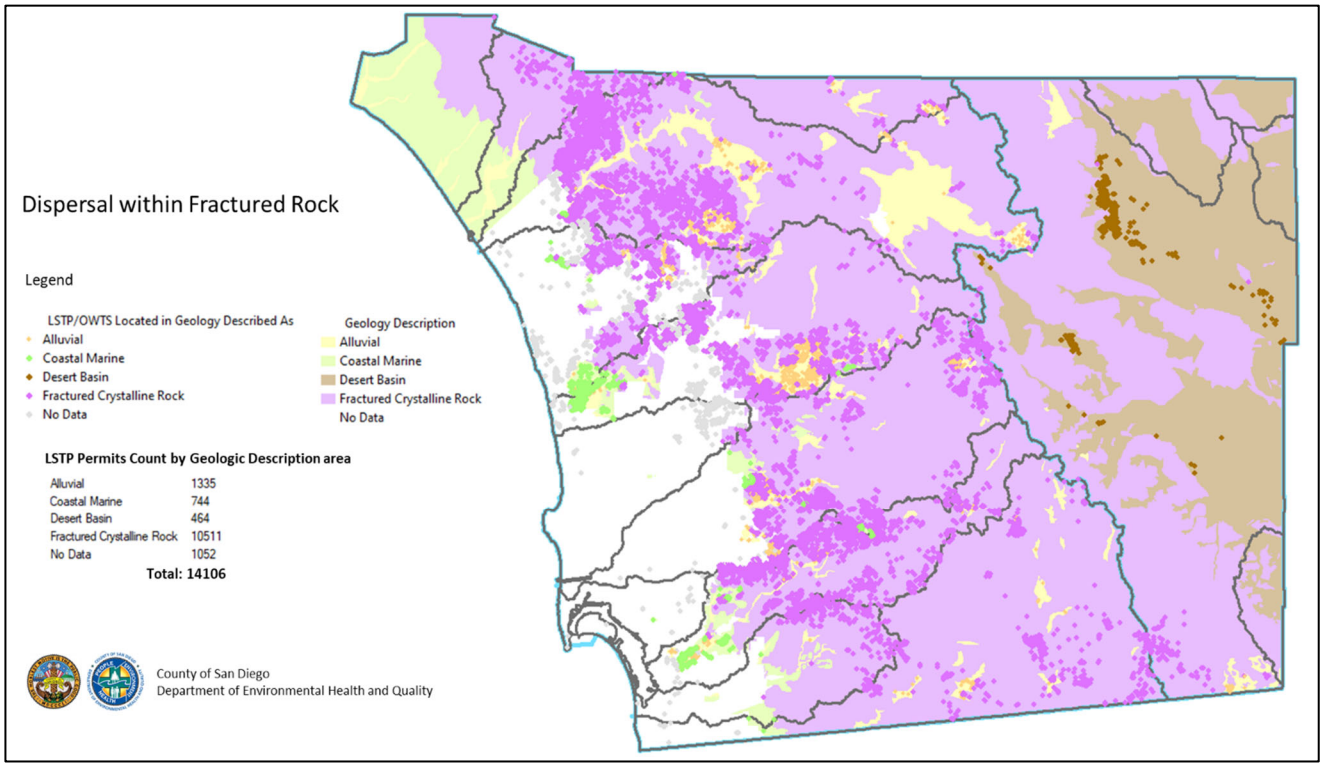
74-90 are outdated, including annular seal depth requirements, and are currently under review to be updated by the California Department of Water Resources and the State Water Board.

**Evaluation Recommendations:** The OWTS Policy and the COSD LAMP current setback requirements to water wells are designed to protect water wells from OWTS discharges and are adequate. **No changes to the COSD LAMP are needed or recommended at this time for this condition.**

### 5.2.5 Dispersal system located in an area with fractured bedrock (Section 9.1.5)

**Evaluation Findings:** This condition looks at dispersal of OWTS wastewater in areas of inadequate soil depth underlain by fractured rock with little alluvium/residuum. Fractured rock comprises about 73% of the unincorporated areas of the county, as shown in Map 5.2.5-1, which shows OWTS locations plotted over a generalized geology map layer. It is important to note that this map does not show the varying characteristics and depths of soil overlying much the fractured rock, which are important considerations in the siting and design of OWTS.

**Map 5.2.5-1: OWTS Dispersal within Fractured Rock Areas**

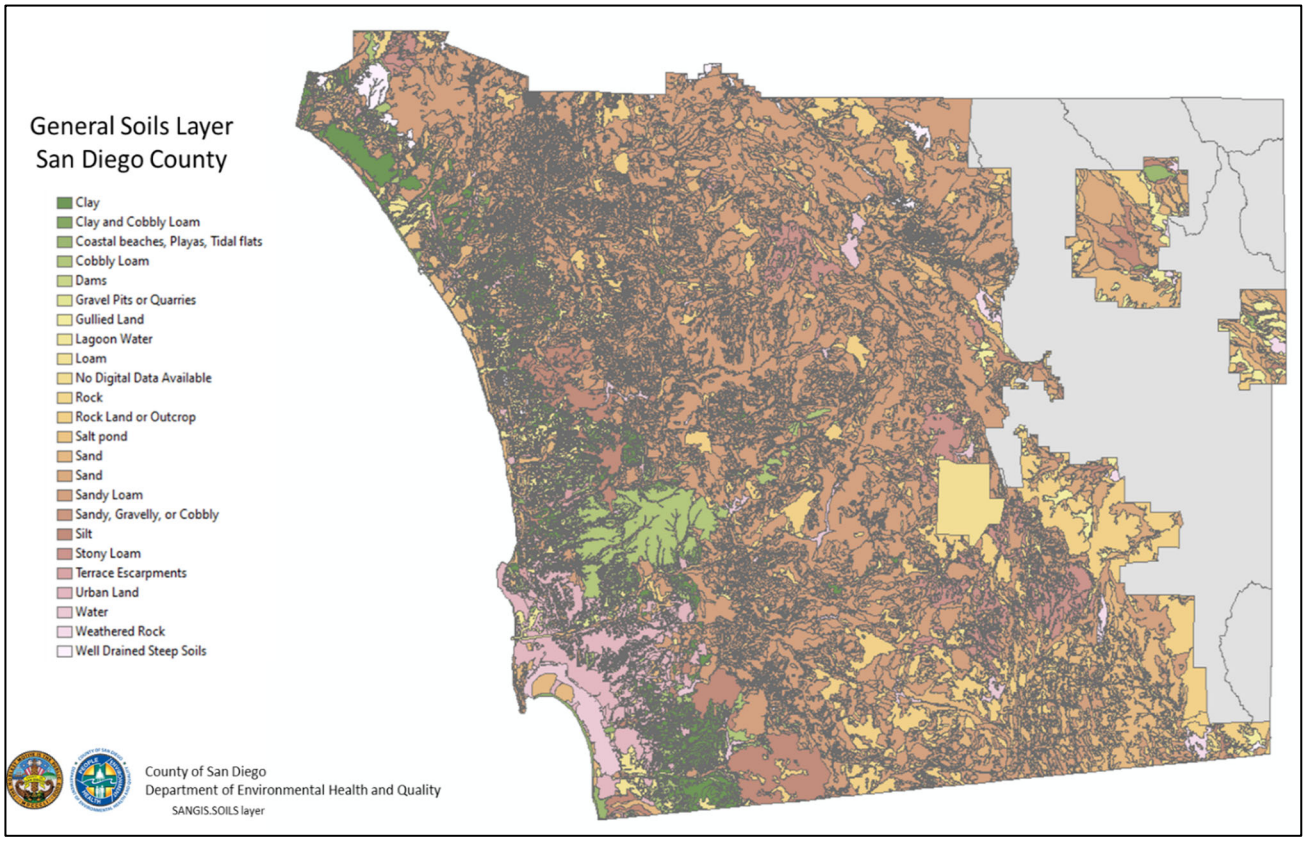



**Evaluation Recommendations:** The site-specific evaluation process and the minimum soil requirements in the OWTS Policy (Table 2 – Page 23) and the same requirements in the COSD LAMP are designed to address this condition. In addition to the minimum soil depth requirements, the requirements relating to steep slopes in the COSD LAMP also address adequate soil interval and linear loading. As these requirements provide adequate protection, **no changes to the COSD LAMP are needed or recommended for this condition.**

### 5.2.6 Dispersal system is located in an area with poorly drained soils (Section 9.1.6)

**Evaluation Findings:** This condition looks at OWTS dispersal in soils where water or wastewater drains slowly or very slowly. Map 5.2.6-1 shows generalized soil categories for San Diego County. As this map illustrates, the soils in San Diego County vary greatly and emphasizes the need for a site-specific evaluation to determine the most appropriate OWTS siting and design. The COSD LAMP provides for a detailed site evaluation including percolation testing and soils evaluation, depth to groundwater investigation, minimum soil interval determination, and lot size, slope and grading information.

**Map 5.2.6-1: General Soils Layer, San Diego County**




**Evaluation Recommendations:** The site evaluation process in the COSD LAMP provides adequate site-specific information on the site conditions, including soils, to ensure the proper siting and design of OWTS.

Poorly drained soils are addressed in the OWTS Policy Table 3: *Application Rates as Determined from Stabilized Percolation Rate*, Table 4: *Design Soil Application Rates* and in the COSD LAMP Table on pages 33-34: *Leach Line Trench Length Based on Percolation Rate*. These tables provide application rates for percolation rates up to 120 minutes per inch. As the percolation rate increases, the area needed for the dispersal system also increases. In addition, the COSD LAMP (page 27) provides for additional testing for soils with percolation rates in excess of 60 MPI. As noted in Section 4.3.1 of this report, it is recommended to update the COSD LAMP to align with the application rates provided in the OWTS Policy to better address this condition. **This recommended change will provide adequate protection to address this condition.**

### 5.2.7 Surface water is vulnerable to pollution from OWTS (Section 9.1.7)

**Evaluation Findings:** This condition looks at surface water that is vulnerable to pollution for OWTS discharges. The COSD has several different programs to address discharges within the county's regulatory jurisdiction to protect surface water.

OWTS Siting, Design, and Construction: Title 6, Division 8, Chapter 3 of the COSD Regulatory Code, the LAMP and the OWTS Policy minimum requirements are designed to prevent and/or minimize, to the maximum extent practical, the impacts to surface water from OWTS discharges to land. DEHQ's OWTS installation permitting program ensures new and replacement OWTS are meeting these protective standards, including minimum depth to groundwater and setback requirements. DEHQ staff investigate complaints of surfacing sewage and wastewater effluent from OWTS and require corrective action to stop these discharges.

Sewage Collection, Transport, and Disposal Ordinance: Title 6, Division 8, Chapter6 of the COSD Regulatory Code implements Article 1 of Chapter 4 of Part 13 of Division 104 of the California Health and Safety Code (beginning at section 117400) concerning septic tank, chemical toilet, cesspool and sewage seepage pit cleaning, and the transport and disposal of cleanings. This chapter is intended to protect public health and comfort and the environment.

Watershed Protection Ordinance: Title 6, Division 7, Chapter 8 of the COSD Regulatory Code, the Watershed Protection Ordinance provides regulations that protect water resources and improve water quality by reducing the adverse effects of polluted run-off discharges. DEHQ staff work closely with staff from the Department of Public Works (DPW) to address specific OWTS with surfacing sewage and wastewater effluent when identified through their stormwater monitoring and sampling programs. Although DPW is the primary department responsible for stormwater discharges in the unincorporated area of the county, the ordinance provides additional tools to DEHQ to investigate and enforce surfacing sewage and wastewater effluent from OWTS that enter or have the potential to enter into a stormwater conveyance system.

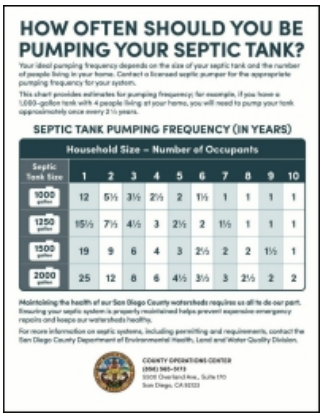
2015 Jurisdictional Runoff Management Program, 2019 Revised Version: In concert with the Watershed Protection Ordinance, the COSD DPW maintains a Jurisdictional Runoff Management Program (JRMP) to present programs and strategies to reduce the discharge of pollutants from the MS4 and receiving waters to the maximum extent practicable. This program addresses OWTS in existing development with the premise that the proper operation and maintenance of septic systems prevents inadequately treated domestic waste from reaching the groundwater and stormwater conveyance system. The use of pollution prevention and BMP implementation, operation and maintenance practices are a primary objective of the County's residential runoff management programs. The County also implements education and outreach, with various types of outreach to enhance knowledge or awareness, in existing developed areas as a central tenant of the residential stormwater program implementation strategy. Examples of consistently utilized outreach activities include material distribution, workshops, trainings, seminars, community and special events, news releases, and material displays (billboards, signs, kiosks, movie theatre slides, etc.). Complaint investigations are used to gather data and information as a response to reports of potential violations, through complaints received from the Stormwater Hotline, online or from staff referrals. Investigations typically consist of observations, record reviews, and sampling as needed. All reported incidents of pollution originating from residential areas will be investigated and resolved. The lead for the investigations of residential stormwater complaints is the

WPP. The WPP collaborates with other departments and agencies as necessary to address stormwater issues. The program utilizes compliance and enforcement when necessary to ensure corrective actions are taken and illicit or prohibited discharges are stopped.

Rebate and Education Programs: DEHQ has collaborated with the DPW, WPP on the roll out and implementation of a highly successful septic tank maintenance rebate program, which is increasing awareness in the community about the importance of proper septic system maintenance. This program is featured on the DPW Watersheds webpage with a link provided at the DEHQ OWTS webpage. To date, County funds have been used to distribute more than 250 rebates for septic tank pumping. To qualify for this rebate, a property owner must demonstrate completion of an OWTS maintenance training module. DEHQ is also actively engaged in the County's microbial source tracking efforts. When water quality monitoring results indicate the presence of human fecal waste in a drainage area where OWTS are a suspected source, DEHQ staff are enlisted to assist with records review, follow up inspections, and coordination with property owners to help track and abate bacterial pollution at its source. Finally, staff from the DEHQ sit as an active stakeholder on the San Diego River Investigative Order Steering Committee, which is helped craft the scope of work associated with quantifying potential contributions from OWTS with respect to human fecal bacteria loads in this watershed.

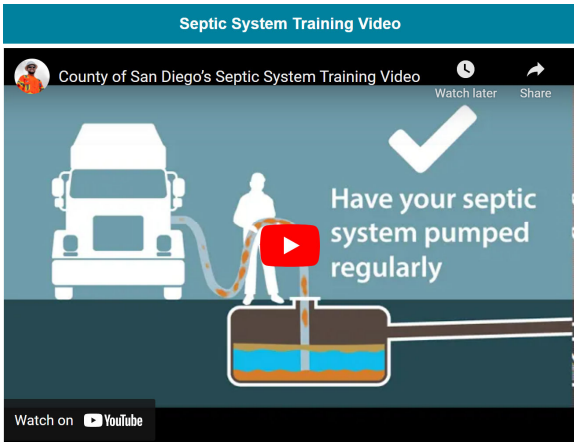
Online Septic System Guides and OWTS Maintenance Training: The DEHQ and Watersheds webpages also provide online information for owners of OWTS. The information includes OWTS operation and maintenance guidance, a training video on OWTS maintenance, and answers to frequently asked questions.

**Online OWTS Guidance and Training Video:**










https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/RebatesIncentives/SRP.html
https://www.sandiegocounty.gov/content/sdc/deh/lwqd/lu_septic_systems.html

**Evaluation Recommendations:** The COSD LAMP minimum standards, including the recommended changes included in this report, together with local ordinance relating to OWTS and to Watershed Protection provide adequate protection of vulnerable surface water bodies.

The collaboration between DEHQ and DPW Watershed Protection staff to identify vulnerable surface water, to promote OWTS operation and maintenance education and outreach, and to provide incentives to maintain OWTS will continue. DEHQ staff also will continue to work with DPW in addressing OWTS found to be discharging into the stormwater conveyance system. DEHQ and DPW Staff attend regular meetings and participate in other meetings relating to vulnerable surface water, such as the lower San Diego River Investigative Order steering committee. DEHQ staff may also meet with public sewer providers as needed to promote the provision of sewer facilities in OWTS problem areas. In addition, DEHQ will be working to translate our most popular documents into San Diego County's threshold languages, to enhance outreach to better serve these populations. **No additional changes to the COSD LAMP from those proposed in Section 4.0 of this report are needed or recommended to address this condition.**

### 5.2.8 Surface water within the watershed is listed as impaired for nitrogen or pathogens (Section 9.1.8)

**Evaluation Findings:** This condition focuses on surface water within a watershed that is listed as impaired for nitrogen or pathogens. Data from the *California 2010 Clean Water Act Section 303(d) AND 305(b) Integrated Report* was reviewed as part of this evaluation. This report provides the 303(d) list of Water Quality Limited Segments approved by the USEPA.

A review of the data associated with this report, including the potential sources, for the San Diego Region and the Colorado River Basin Region show three listed water bodies with OWTS as a potential source to the impairment. These are shown in Table 5.2.7-1. These three water bodies are Rainbow Creek, the San Diego River (Lower), and the Tijuana River. The data also shows the Santa Margarita Lagoon and River as impaired for nitrogen and pathogens, but with unknown sources. This information is shown in Table 5.2.7-2. This listing is relevant to OWTS in that the June 2019 draft Staff Report, *Santa Margarita River Estuary, CA Nutrients Total Maximum Daily Load Project,* OWTS have been identified as one of several nonpoint sources. Rainbow Creek and the San Diego River have adopted TMDLs and implementation plans. The TMDL for the Tijuana River and the alternative TMDL for the Santa Margarita River are currently under development.

It is important to note that the LAMP is a local agency management program for OWTS installation permitting with alternative siting and design standards (a Tier 2 program) than those in the OWTS Policy Tier 1 standards for new and replacement OWTS and is not a Tier 3 program or a substitute for Tier 3 requirements. The OWTS Policy provides for the opportunity for the inclusion of special provisions relating to OWTS near impaired water bodies, but the COSD LAMP does not contain any such special provisions. The COSD LAMP Chapter 12 provides for the implementation of Tier 3, but only for water bodies listed in Attachment 2 of the OWTS Policy. Currently, there are no water bodies listed in Attachment 2 for the San Diego Region. Per OWTS Policy, Section 10.2, the Tier 3 requirements for impaired water bodies will be in accordance with an adopted TMDL implementation plan, which supersedes all other requirements in Tier 3.

A more detailed discussion of the adopted or developing TMDLs and their implementation plans for the water bodies listed in Tables 5.2.7-1 and 5.2.7-2 are provided in this section.

**Table 5.2.7-1: Clean Water Act 303(d) Listed Impaired Water Bodies for Nitrogen and Pathogens with OWTS as Potential Source.**

| RAINBOW CREEK – ADOPTED TMDL (2/9/2005) | | | | | |
|---|---|---|---|---|---|
| **WATER BODY NAME** | **ESTIMATED SIZE AFFECTED** | **POLLUTANT** | **POLLUTANT CATEGORY** | **POTENTIAL SOURCES** | **SOURCE CATEGORY** |
| Rainbow Creek | 5 Miles | Nitrogen | Nutrients | Onsite Wastewater Systems | Waste Storage And Disposal |
| Other Identified Potential Sources: Nurseries, Agricultural Return Flows, Unspecified Point and Nonpoint Sources, and Urban Runoff/Storm Sewers. | | | | | |
| **SAN DIEGO RIVER (LOWER) – ADOPTED TMDL (2/10/2010)** | | | | | |
| **WATER BODY NAME** | **ESTIMATED SIZE AFFECTED** | **POLLUTANT** | **POLLUTANT CATEGORY** | **POTENTIAL SOURCES** | **SOURCE CATEGORY** |
| San Diego River (Lower) | 16 Miles | Fecal Coliform | Pathogens | Point Source | Unspecified Point Source |

| | | | | | |
|---|---|---|---|---|---|
| San Diego River (Lower) | 16 Miles | Fecal Coliform | Pathogens | Nonpoint Source* | Unspecified Nonpoint Source |
| Other Identified Potential Sources: Municipal Wastewater, Urban Runoff/Storm Sewers, and Unspecified/Unknown Point and Nonpoint Sources<br>*OWTS included as a controllable nonpoint source of bacteria discharges | | | | | |
| **TIJUANA RIVER – TMDL UNDER DEVELOPMENT** | | | | | |
| **WATER BODY NAME** | **ESTIMATED SIZE AFFECTED** | **POLLUTANT** | **POLLUTANT CATEGORY** | **POTENTIAL SOURCES** | **SOURCE CATEGORY** |
| Tijuana River | 6 Miles | Eutrophic | Nutrients | Onsite Wastewater Systems | Waste Storage And Disposal |
| Tijuana River | 6 Miles | Indicator Bacteria | Pathogens | Onsite Wastewater Systems | Waste Storage And Disposal |
| Other Identified Potential Sources: Municipal Wastewater, Urban Runoff/Storm Sewers, Agriculture-Animal, Out-of-State Source, Natural Sources, Unspecified/Unknown Point and Nonpoint Sources | | | | | |

**Table 5.2.7-2: Clean Water Act 303(d) Listed Impaired Water Bodies for Nitrogen and Pathogens with OWTS Implications.**

| **SANTA MARGARITA LAGOON AND RIVER – ALTERNATIVE TMDL UNDER DEVELOPMENT** | | | | | |
|---|---|---|---|---|---|
| **WATER BODY NAME** | **ESTIMATED SIZE AFFECTED** | **POLLUTANT** | **POLLUTANT CATEGORY** | **POTENTIAL SOURCES** | **SOURCE CATEGORY** |
| Santa Margarita Lagoon | 28 Acres | Eutrophic | Nutrients | Source Unknown | Source Unknown |
| Santa Margarita River (Lower) | 19 Miles | Enterococcus | Fecal Indicator Bacteria | Source Unknown | Source Unknown |
| Santa Margarita River (Lower) | 19 Miles | Fecal Coliform | Fecal Indicator Bacteria | Source Unknown | Source Unknown |
| Santa Margarita River (Lower) | 19 Miles | Total Nitrogen as N | Nutrients | Source Unknown | Source Unknown |
| Sources Identified in 2018 Nutrients Total Maximum Daily Load Project Draft Staff Report: Point Sources - MS4 Discharges, Wastewater Treatment Plants Discharges, Industrial Sites Discharges, Construction Sites Discharges, Sanitary Sewer Spills, Private Sewer Lateral Spills, Groundwater Dewatering Discharges, Recycled Water Discharges, Comprehensive Water Management Resource Agreement (CWRMA) Releases; Nonpoint Sources - Agricultural Discharges, Surfacing Polluted Groundwater from Former Agricultural Fields on Stuart Mesa, Surfacing Polluted Groundwater from Watershed, Leaking Septic Systems; Background Sources - Open Space, Ocean Water | | | | | |

**Rainbow Creek: Basin Plan Amendment February 2005 – Resolution R9-2005-0036 – *Total Maximum Daily Load for Total Nitrogen and Total Phosphorus in the Rainbow Creek Watershed, San Diego County*:** On February 9, 2005, the San Diego Regional Board approved R9-2005-0036, a resolution adopting an amendment to the Water Quality Control Plan for the San Diego Region to incorporate TMDLs for Total Nitrogen and Total Phosphorus in the Rainbow Creek Watershed, San Diego County.

Need for Total Nitrogen TMDL: The TMDL for the Rainbow Creek watershed was needed to address elevated concentrations of nitrogen contributing to excessive algal growth which can present a nuisance threatening to impair aesthetic and recreation uses (REC1 and REC2) and can create conditions that are harmful to aquatic life and degrade water quality, threatening to impair warm water (WARM), cold water (COLD), and wildlife (WILD) beneficial uses.

Sources of Total Nitrogen: The Rainbow Creek Watershed TMDL identified several controllable sources as causing or permitting the discharge of total nitrogen to Rainbow Creek. These sources and total nitrogen load allocations are: Land Use Runoff at 2,663 kilograms per year (kg/yr) (69%), Background at 779 kg/yr (20%), OWTS (and agricultural sources) via groundwater pathway at 200 kg/yr (5%), Interstate 15 Runoff (Caltrans) at 153 kg/yr (4%), and Direct Atmospheric Deposition at 40 kg/yr (1%).

Total Nitrogen TMDL: The existing cumulative total nitrogen load to Rainbow Creek from the identified sources was calculated to be 3,834 kilograms per year (kg/yr). The TMDL for Total Nitrogen discharges from all sources into Rainbow Creek was calculated to be 1,658 kg/yr. The TMDL provides for total nitrogen contributions from OWTS via the groundwater pathway to be at 46 kg/yr by December 2021.

Total Nitrogen Reduction: The TMDL provides for the annual loading limit of total nitrogen to Rainbow Creek to be reduced incrementally from the current load of 3,834 kg/yr to 1,658 kg/yr by no later than December 31, 2021. For OWTS, the total nitrogen contribution must be reduced from 200 kg/yr to 46 kg/yr. Allowing for a three-year response time for Rainbow Creek to attain compliance with nutrient water quality objectives after reaching the desired nutrient wasteload and load reductions in 2021, the projected date when Rainbow Creek will attain and maintain compliance with nutrient water quality objectives is December 31, 2024.

TMDL Implementation Action Plan: The TMDL Implementation Action Plan provided for OWTS-related actions by the San Diego Regional Board, as listed below.

- Incorporate regulations currently under development by the State Water Resources Control Board pertaining to onsite wastewater treatment systems in development by the State Water Resources Control Board pertaining to onsite wastewater treatment systems into the Basin Plan as soon as practicable upon their adoption by the State Board.
    - The San Diego Regional Board did incorporate the OWTS Policy into the San Diego Region Basin Plan in April of 2015 (R9-2015-0008)
- Issue an order to the County of San Diego under Water Code Section 13225 to investigate excessive levels of nutrients in Rainbow Creek and the feasible management strategies to reduce nutrient loading in Rainbow Creek. Compliance with this order could be through the submittal of a Nutrient Reduction and Management Plan (NRMP).
    - Although an order was not issued, the COSD completed a NRMP for Rainbow Creek. In this plan, the DEHQ OWTS installation permitting program would ensure OWTS would meet current siting and design standards to protect groundwater and surface water.
- Establish a voluntary Management Agency Agreement (MAA) with the County of San Diego to set forth the commitment of both parties to undertake various oversight responsibilities for the nonpoint source nutrient load reduction component of this TMDL, and the County's commitments to implement the NRMP.
    - No MAA was initiated or established.
- Issue Water Code Section 13267 order directing the California Department of Forestry and Fire Protection, Rainbow Conservation Camp (CDFFP) to submit technical information on their discharges including an estimate the actual nutrient load originating from the septic tank and percolation ponds to Rainbow Creek via groundwater flow.
- Adopt individual or general waivers or waste discharge requirements (WDRs) for NPS discharges in the Rainbow Creek watershed. The waivers or WDRs shall require NPS dischargers to either participate in the third party NPS program or, alternatively, submit individual pollution prevention plans that detail how they will comply with the waivers and WDRs. Alternatively, the Regional Board may adopt a discharge prohibition, which includes exceptions for those discharges that are adequately addressed in an acceptable third-party MAA or MOU NPS pollution control implementation program.

- Take enforcement action, as necessary, against any discharger failing to comply with applicable waiver conditions, waste discharge requirements (WDRs), discharge prohibitions, or take enforcement action, as necessary, to control the discharge of nutrients to Rainbow Creek, to attain compliance with the nutrient waste load and load reductions specified in this TMDL, or to attain compliance with the nutrient water quality objectives. The Regional Board may also terminate the applicability of waivers and issue waste discharge requirements or take other appropriate action against any discharger(s) failing to comply with the waiver conditions.
- Review and, if necessary, update existing waste discharge requirements for discharges to land as well as groundwater in the Rainbow Creek watershed to incorporate effluent limitations for nutrients consistent with applicable nutrient groundwater quality objectives and surface water quality objectives.
- Recommend that the State Board assign a high priority to awarding grant funding for projects to implement the Rainbow Creek nutrient TMDLs. Special emphasis will be given to projects that can achieve quantifiable nutrient load reductions consistent with the specific nutrient TMDL load allocations.

Since the San Diego Regional Board approved the COSD LAMP in 2015, DEHQ has been implementing the minimum siting and design standards for new and replacement OWTS contained in the approved LAMP within the Rainbow Creek watershed. Chapter 12 of the LAMP provides for implementing Tier 3 requirements for water bodies listed in Attachment 2 of the OWTS Policy. However, no water bodies are listed in Attachment 2 for the San Diego Region. As the OWTS Policy, Section 10.2, provides for the requirements of a Tier 3 Advanced Protection Management Program to be in accordance with a TMDL implementation plan and that an adopted TMDL implementation plan supersedes all other requirements in Tier 3. Because Rainbow Creek has an adopted TMDL and implementation plan, Tier 3 requirements are not applicable, and the Regional Board should address OWTS through the implementation plan. As noted above, the implementation plan for the Rainbow Creek TMDL did not include special permitting requirements for OWTS.

In a letter dated October 18, 2019, the San Diego Regional Board requested the DEHQ confirm that the rules and regulations presented in Chapter 12 of the LAMP will be applied to OWTS within the Rainbow Creek Watershed or provide an explanation that specifies the reasons Chapter 12 of the LAMP will not be implemented for the Rainbow Creek watershed. DEHQ provided a response to the San Diego Regional Board in a letter dated December 9, 2019, explaining that, consistent with Tier 3 of the OWTS Policy, Chapter 12 of the COSD LAMP provides for the implementation of Tier 3 requirements only when a water body is listed in Attachment 2 of the OWTS Policy and that no impaired water bodies in the San Diego region are listed in Attachment 2 of the OWTS Policy. The letter indicated that OWTS in the Rainbow Creek area would likely be addressed at the time the COSD LAMP is next updated.

In July of 2021, the DEHQ began the process for the 5-year evaluation of the COSD Tier 2 program to determine any changes needed to the LAMP, as required by Section 9.3.3 of the OWTS Policy.

In a letter dated April 30, 2021, the San Diego Regional Board provided comments to the municipal co-permittees of the, the *National Pollutant Discharge Elimination (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region Order R9-2013-0001 (as amended)* relating to the FY 2019-2020 Santa Margarita River Watershed Management Area Water Quality Improvement Plan (WQIP). The San Diego Regional Board included in these comments the October 18, 2019 Regional Board letter request

for the DEHQ to implement Chapter 12 of the LAMP for OWTS within the Rainbow Creek watershed and that the issue is still in the process of being resolved. The April 30, 2021 letter contained a request that the COSD should move forward with modifying the LAMP to specifically address OWTS within the Rainbow Creek watershed. The comment provided a deadline for compliance of January 31, 2022 with a report of the status of the correction in the WQIP Annual Report due January 31, 2022.

On August 11, 2021, DEHQ met with San Diego Regional Board OWTS program staff to discuss the special provisions the Regional Board wanted to see incorporated into the COSD LAMP at the time of revision. The staff indicated they wanted all new and replacement OWTS within 600 feet of Rainbow Creek to utilize supplemental treatment in substantial compliance with the Tier 3 requirements, including the monitoring and reporting requirements, but would be open to a provision to waive this requirement if a site evaluation shows the supplemental treatment to be unnecessary.

At this meeting, DEHQ asked the San Diego Regional Board staff to clarify the relationship between OWTS permitted under the Conditional Waiver of Waste Discharge Requirements contained in the OWTS Policy (subsurface dispersal) and discharges to surface waters from municipal stormwater conveyance systems such that a directive for modifying the LAMP was included in the Regional Board's April 30, 2021 stormwater-related WQIP response letter. The Regional Board's response was that it has interpreted the April 23, 2020 Supreme Court decision from *County of Maui v. Hawaii Wildlife Fund* (*Maui*) to allow for the regulation of discharges into groundwater, that then interfaces with surface water, under an NPDES permit.

Subsequent to this meeting, DEHQ reviewed the *Maui* decision. DEHQ found that the *Maui* decision outlines seven non-exclusive factors to be considered when evaluating whether a discharge of a pollutant from a point source that travels through groundwater to a water of the United States is the "functional equivalent" of a direct discharge from a point source to a water of the United States, triggering an NPDES permit. Based on DEHQ's review, should the Regional Board find that an individual OWTS discharge to a water of the United States via groundwater meets the "functional equivalent" of a direct discharge, then the Regional Board may issue waste discharge requirements and an NPDES permit to regulate this point discharge.

Any OWTS identified as a point source discharge to waters of the United States via groundwater should not be regulated under a WDR/NPDES MS4 permit issued for stormwater discharges into a stormwater conveyance system. Instead, any point source OWTS discharges found to meet the criteria outlined in the *Maui* decision for a "functional equivalent" direct discharge may be removed from regulation under the conditional waiver of WDRs contained in the OWTS Policy and regulated under an individual WDR/NPDES permit issued by the Regional Board.

Additionally, Section 4.4 of the OWTS Policy provides a process for the Regional Boards to request changes to approved LAMPs. This section also provides for timelines and appeals. It is through this process that the Regional Board should request changes to the COSD LAMP.

**San Diego River: Basin Plan Amendment February 2010 - Resolution No. R9-2010-0001 - Incorporated Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)**: On February 10, 2010, the San Diego Water Board adopted Resolution No. R9-2010-0001, a Resolution Amending the Water Quality Control Plan for the San Diego Basin to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I –

Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) (Bacteria TMDL): This Resolution was subsequently approved by the State Water Board on December 14, 2010.

Bacteria TMDL Need: Bacteria TMDLs were established for 20 water bodes in the San Diego Region, including the lower San Diego River where sampling showed bacteria exceeded water quality objectives.

Sources, Allocations, and Implementation: The adopted TMDL identified responsible point and nonpoint sources, assigned existing bacteria loads, TMDLs, Waste Load Allocations and Load Allocations for the identified water bodies.

The persons identified as responsible for controllable (can be regulated) point source discharges causing or contributing to the bacteria impairments at the beaches and creeks include Phase I MS4s, Phase II MS4s, Caltrans, publicly owned treatment works and wastewater collections systems, and concentrated animal feeding operations. These point sources are regulated by WDRs implementing NPDES regulations and the TMDL implementation measures are incorporated into these permits, as appropriate for each discharger.

The persons identified as responsible for controllable nonpoint source bacteria discharges causing or contributing to the impairments at the beaches and creeks include the owners and operators of agricultural operations, nurseries, dairy/intensive livestock facilities, horse ranches (collectively agricultural uses), manure composting operations, soil amendment operations, and individual OWTS. The agricultural uses have assigned Load Allocations in the TMDL. Manure composting operations, soil amendment operations, and individual OWTS were not assigned a Load Allocation, which is equivalent to being assigned a Load Allocation of zero. Any controllable nonpoint source that has not been assigned a Load Allocation or has a Load Allocation of zero is not expected or allowed to discharge a pollutant load as part of the TMDL. These nonpoint sources are or can be regulated under WDRs or conditional waivers of WDRs. The TMDL Implementation Plan provides for the San Diego Regional Board to utilize their regulatory tools, including Basin Plan prohibitions, and to work with the nonpoint source dischargers and /or stakeholders when developing the WDRs.

In 2019, the San Diego Regional Board issued Investigative Order R9-2019-0014 to existing MS4 dischargers, including the County of San Diego, to investigate to identify the sources, pathways and amounts of human fecal material discharges in the Lower San Diego River watershed, including from septic systems. Currently, in addition to ongoing bacteria and storm drain outfall monitoring, several studies are underway to pinpoint which potential sources are contributing to the pollution in the river and to determine the amount of contribution from each identified source type.

**Tijuana River:** The Tijuana River watershed is in the southernmost portion of the San Diego Water Board's jurisdiction. Divided by the U.S.-Mexico international border, approximately one-third of its area is in the U.S. and two-thirds is in Mexico. In the lower watershed, the river and several tributaries cross from Mexico into the U.S.; these transboundary flows act as conduits for pollution generated in Mexico. As such, the pollution is transported through the river valley and estuary, and into the Pacific Ocean. The San Diego Water Board has identified several "water quality limited segments" in and adjacent to the Tijuana River watershed. These are surface waters on the U.S. side of the border that do not support all designated beneficial uses due to pollutants that cause impairments. Although the overall water quality in the upper Tijuana River watershed (U.S. side) is considered good, the lower watershed is severely impaired. The 2014/2016 Clean Water Act (CWA) Section 303(d) List of Water Quality Limited Segments

(303(d) List) includes the Tijuana River as well as the downstream Tijuana River Estuary and Pacific Ocean shoreline.

The San Diego Water Board has identified human health and ecosystem impacts in the Tijuana River Valley as regional priorities for many years. The San Diego Water Board suspended previous TMDL efforts in 2012 to focus on a stakeholder-based Tijuana River Valley Recovery Team Strategy. In 2018, the San Diego Water Board directed staff to restart TMDL development to address solid waste and the impairments of contact recreation (or REC-1) beneficial uses. The Basin Plan uses fecal indicator bacteria as a water quality objective for the contact recreation beneficial use.

The San Diego Water Board held a California Environmental Quality Act scoping meeting on May 15, 2019 to seek input on the scope, content, and potential environmental effects that should be considered in the development of an amendment to the Water Quality Control Plan for the San Diego Basin (Basin Plan) to establish an implementation plan for TMDLs for indicator bacteria and trash in the Tijuana River.

In 2020, the U.S. government, through the U.S. Environmental Protection Agency, committed $300 million in the United States-Mexico-Canada Agreement (USMCA) to identify infrastructure solutions to mitigate these flows contaminated with sewage, trash, and sediment. In Summer 2020, EPA began a technical process and local, state, federal, and bi-national stakeholder engagement to assess potential infrastructure solutions to mitigate polluted transboundary flows. In Fall 2021, EPA completed the evaluation and developed a Comprehensive Infrastructure Solution that combines several individual projects that together will reduce sewage in canyon flows, sewage discharged to the coast at SAB Creek, and wastewater in the Tijuana River. The Comprehensive Infrastructure Solution includes cost estimates, anticipated benefits, and next steps. The Comprehensive Infrastructure Solution may exceed $625 million in costs to the U.S. and Mexico combined. The $300 million in USMCA funding will enable the EPA to move forward on some projects.

The COSD DEHQ will monitor the status of the TMDL development for the Tijuana River and provide input for issues associated with OWTS permitting under DEHQ's jurisdiction.

**Santa Margarita River:** The roughly 750 square mile Santa Margarita River Watershed is located in San Diego and Riverside Counties and drains to the Pacific Ocean just north of the City of Oceanside. It includes parts of the Cleveland National Forest, the Santa Rosa Plateau Ecological Preserve, and Agua Tibia Wilderness. It also includes portions of the Pechanga, and Cahuilla Indian Reservations, the cities of Murrieta, Temecula, the community of Fallbrook, and portions of the Marine Corps Base Camp Pendleton. The principal land uses in the Santa Margarita Watershed are open space, developed land, agricultural land, and military facilities that include open space. Open space in the Santa Margarita Watershed plays a vital role as a wildlife corridor between the Santa Ana Mountains and Inland San Diego and provides habitat to hundreds of native species and critical habitat for threatened and endangered species.

The Santa Margarita River originates at the confluence of Murrieta Creek and Temecula Creek near the City of Temecula at the southern end of the Santa Ana Mountains, with the Lower reach originating at the confluence of De Luz Creek and the Santa Margarita River. The 19 miles of the Lower Santa Margarita River flows through the Marine Corps Base Camp Pendleton and discharges to the Pacific Ocean through the Santa Margarita Estuary.

Nutrient TMDL Need: The San Diego Water Board first identified nutrient impairments in the Santa Margarita Watershed in the 1980's and in 1986 the Santa Margarita Estuary was added to the Clean Water Act (CWA) section 303(d) List of Water Quality Limited Segments (303(d) list) for eutrophic conditions. In 2005 a Total Maximum Daily Load (TMDL) for nitrogen and phosphorus was adopted for Rainbow Creek, a tributary to the Santa Margarita River, and in 2018 an alternative to a TMDL was considered for the Santa Margarita Estuary. Eutrophic conditions cause dissolved oxygen concentrations to fall below 5 mg/l, making it difficult for the Estuary and River to support healthy aquatic life. The eutrophic condition of the Estuary and River is the result of excess nutrient inputs causing overabundant algal growth and the algal life cycle consuming more oxygen than it produces. Nutrients (Total Nitrogen and Total Phosphorus) discharged into the Estuary and River from the surrounding Watershed stimulate excessive algal growth.

In 2012 the Santa Margarita River was added to the 303(d) list for nutrients (nitrogen and phosphorus), and the most recent 2014/2016 303(d) list includes nutrients as pollutants in the lower 19 miles and upper 18 miles of the Santa Margarita River.

Alternative Restoration Approach: As an alternative to the adoption of a TMDL, a restoration approach is proposed for the Santa Margarita River and Estuary. A restoration alternative falls under U.S EPA Category 5-alternative for impaired waters on the CWA 303(d) list. A U.S.EPA Category 5 impaired water body is one for which evidence shows at least one beneficial use is not supported and a TMDL is needed. In accordance with State Water Board Resolution No. 2005-0050 and the associated guidance document, entitled *A Process for Addressing Impaired Waters in California*, the implementation plan developed to address the Santa Margarita River Estuary eutrophication impairment does not require a Basin Plan amendment because implementation of existing permits will correct Estuary impairment.

The alternative to a TMDL for the Santa Margarita Estuary addresses eutrophication through the adoption of load and waste load allocations into municipal separate stormwater (MS4) permits, national pollutant discharge elimination system (NPDES) permits, agricultural waste discharge requirements (WDRs), and working with the primary dischargers to reduce nutrient loads. Two sources of nutrients to the Estuary, treated sewage and groundwater dewatering from a transit project, have been eliminated. Remaining upland nutrient sources are mainly urban and agricultural runoff.

Identified Sources: Sources to the Santa Margarita River and Estuary impairment have been identified in the *California Regional Water Quality Control Board, San Diego Region Santa Margarita River Estuary, California, Nutrients Total Maximum Daily Load Project Draft Staff Report*, dated June 2018.

Point sources identified in the Staff Report include Wastewater Treatment Plants Discharges, Industrial Sites Discharges, Construction Sites Discharges, Sanitary Sewer Spills, Private Sewer Lateral Spills, Groundwater Dewatering Discharges, Recycled Water Discharges, and Comprehensive Water Management Resource Agreement (CWRMA) Releases.

Historical monitoring data collected in the San Diego Region shows that MS4 outfalls are a source of total nitrogen and total phosphorus. Total nitrogen and total phosphorus discharges to receiving waterbodies from the MS4 during the dry-weather season are due in part to landscape irrigation runoff. Groundwater infiltration into the MS4 may be addressed as an illicit discharge if either the Permittees, or the San Diego Water Board, identifies the discharge as a source of pollutants to receiving waters.

Nonpoint sources identified include Agricultural Discharges, Surfacing Polluted Groundwater from Former Agricultural Fields on Stuart Mesa, Surfacing Polluted Groundwater from Watershed, and Leaking Septic Systems.

Existing controllable agricultural discharges represent the largest overall source of nutrients to the Estuary, making up approximately 88 and 77 percent of the total nitrogen and total phosphorus yearly loads from the Watershed, respectively. Current year-round, at-source, nonpoint source nutrient loading from agricultural discharges in the watershed during dry-weather is estimated to be 74,690 pounds of total nitrogen and 3,385 pounds of total phosphorus.

Surfacing nutrient polluted groundwater was also identified as a source contributing to eutrophication in the Estuary. The source of these nutrients was identified as likely discharges over time from upstream agricultural and development activities, with the polluted groundwater eventually released back into surface waters where they can contribute to eutrophication symptoms in both the Santa Margarita River and Estuary.

OWTS was identified as a potential future source of nutrient loading from the watershed. To protect water quality and human health, the implementation plan provides for future OWTS to be installed in compliance with the requirements of the OWTS Policy and are not expected to become a significant source of nutrient loading to the Estuary.

Background Sources identified include Open Space, and Ocean Water.

Implementation Plan: The implementation plan in the Staff Report relies on existing requirements in the Regional MS4 Permit, the Regionwide Agricultural WDRs, and the statewide Phase II Small MS4 Permits to achieve load reductions. These primary permits include *Permit and Waste Discharge Requirements for Discharges from the Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region* (Order No. R9-2013-0001, as amended by R9-2015-0001, R9-2015-0100); *General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Discharges that are Members of a Third Party Group in the San Diego Region* (Order No. R9-2016-0004), *General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Discharges Not Participating in a Third Party Group in the San Diego Region* (Order No. R9-2016-0005); *Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)* (2013-0001-DWQ, as amended by 2015-0133-EXEC, 2016-069-EXEC). The discharge prohibitions and limitations in these permits are expected to result in meeting the necessary total nitrogen and total phosphorus load reductions, estuary numeric targets, and the protection of beneficial uses.

The Regional MS4 Permit also includes requirements for the Permittees to participate in the development and implementation of a plan to improve water quality of MS4 discharges and receiving waters within the Santa Margarita River Watershed Management Area. The mechanism for this action is the preparation of a Water Quality Improvement Plan (WQIP). The WQIP would describe the highest priority pollutants or conditions in the watershed, the goals and strategies to address those pollutants or conditions, and time schedules associated with those goals and strategies. As the WQIP is enforceable under the Regional MS4 Permit, this mechanism would provide reasonable assurance that MS4-related waste load reductions and numeric targets would be achieved.

The implementation plan also relies, to a lesser extent, on the following statewide supporting-role permits: *Caltrans MS4 Permit* (2012-0011-DWQ); *Construction General Permit* (2009-0009-DWQ); *Industrial General Permit* (2014-0057-DWQ); *General Discharge Requirements for Sanitary Sewer Systems Permit* (Order No. 2006-0003-DWQ, as amended by 2008-0002-EXEC, 2013-0058-EXEC); *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region (Order No. R9-2007-0005)*; and *Small Domestic Wastewater Treatment Systems Permit* (Order No. WQ 2014-0153-DWQ).

The implementation plan allows the San Diego Water Board to implement the provisions of Chapter 4 of the Basin Plan relating to the OWTS Policy to address any potential contribution from OWTS (septic tanks and advanced treatment systems). Consistent with the OWTS Policy, the San Diego Water Board may adopt WDRs that require reduced nutrient concentrations in the discharge effluents, reduced nutrient loading, and or compliance with more stringent water quality objectives in receiving surface waters for the protection of beneficial uses of water resources.

The estimated date for the attainment of the numeric targets and beneficial uses for the Santa Margarita River and Estuary is 2038.

The Estuary TMDL project may be revised based on new science, new scientifically defensible data, or other relevant finding of the San Diego Water Board. Revision of the Estuary TMDL project could be made as a triennial review work item.

**Evaluation Recommendations:** The responsibility to correct impairment of water bodies is established in several documents related to the OWTS Policy and impaired waters.

OWTS Policy: The OWTS Policy does not mandate a local agency implement all provisions of the policy. Section 3.6 of the OWTS Policy regarding local agency requirements and responsibilities provides that a local agency may implement the OWTS Policy, or a portion thereof using its local authority to enforce the policy. Consistent with this local discretion of implementation, Section 9.2 of the OWTS Policy provides for a LAMP to detail the scope of its coverage under the LAMP as well as a clear delineation of those types of OWTS included within and to be permitted by the program.

Section 4.1 of the OWTS Policy provides that the Regional Water Boards have the principal responsibility for overseeing the implementation of the policy. Section 4.3 states that a Regional Water Board may approve a LAMP while disapproving any proposed special provisions for impaired water bodies contained in the LAMP. This section shows that the special provisions for impaired water bodies is a separate item that the Tier 2 alternative standards program, and an approved LAMP can exist without special provisions. Section 4.6 provides that the Regional Boards may issue or deny WDRs or waivers of WDRs for any new or replacement OWTS if that OWTS does not meet the minimum standards contained in Tier 1. This would also apply to those OWTS that are not covered under the scope of the LAMP, as allowed under Section 9.2 of the OWTS Policy. Section 4.7 provides further support that Regional Boards are required to implement Tier 3 with the statement that Regional Boards will implement any notification and enforcement requirements for OWTS determined to be in Tier 3 of this Policy.

Tier 3 provisions in the OWTS Policy provide for a prescribed Advanced Protection Management Program (APMP) for those OWTS within 600 feet of an impaired water body listed in Attachment 2 of the policy where no TMDL has been adopted or no special provisions are provided in the LAMP. As no water bodies are listed in Attachment 2 in the San Diego Region, this prescribed Tier 3 APMP does not apply in San

Diego County. Section 10.2 provides for water bodies with an adopted TMDL and states that the requirements of an APMP will be in accordance with a TMDL implementation plan, if one has been adopted to address the impairment. It further specifies that an adopted TMDL implementation plan supersedes all other requirements in Tier 3.

OWTS Policy Substitute Environmental Document (OWTS Policy SED) March 19, 2012: The OWTS Policy SED provides that the regional water boards would implement the OWTS Policy along with those local agencies that would be given authority by the regional water boards through approval of Tier 2 Local Agency Management Programs (LAMPs) to implement and enforce the OWTS Policy.

In Section 1.4 of the OWTS Policy SED relating to implementation, this document states the Regional Board would be required to incorporate the requirements established in the OWTS Policy, or standards that are more protective of the environment and public health, into their basin plans. This section continues that the OWTS Policy would be overseen by the State Water Board and the Regional Boards and that local agencies would continue to oversee local siting approval and compliance with basin plans and local ordinances, as required under existing law. The statewide conditional waiver would be self-implementing as long as property owners ensure their OWTS complies with the requirements of the OWTS Policy. This section provides for enforcement of the OWTS Policy by the Regional Boards by stating that failure of a property owner/operator to comply with the minimum statewide requirements for construction, operation, and maintenance of OWTS could result in enforcement pursuant to Chapters 4 or 5 of Division 7 of the California Water Code. As a result, the property owner could be required to cease the discharge, submit monitoring results, or submit a report of waste discharge to the regional water board, along with the applicable fee, and the OWTS could be subject to individual WDRs as determined by the regional water board, all regulatory tools of the Regional Board.

Section 1.7 of the OWTS Policy SED summarizes the duties to be performed by the State Water Board, Regional Water Boards, and local agencies. The Regional Boards are required to 1) incorporate the OWTS Policy into the basin plan, 2) approve or disapprove LAMPs, and consider requests for modifications, 3) issue or deny WDRs, 4) implement Tier 3, and 5) adopt waste discharge requirements or waivers when needed. This section specifically provides that the Regional Boards are responsible to implement Tier 3. Local agencies are required to 1) determine which tier(s) their local jurisdiction will apply to perform under, 2) submit a LAMP, if desired, and upon approval, administer Tier 2, 3) report annually to the Regional Board, and 4) retain reporting records. This section of the OWTS Policy states that Tier 3 is implemented by the Regional Boards and provides for local agencies to have discretion as to the tiers to be implemented in their jurisdictions.

CWC Section 13002, part of the Porter-Cologne Water Quality Control Act, provides that no provision of Division 7 (Water Quality) or any ruling of the state board or a Regional Board is a limitation on the power of a city or county or city and county to adopt and enforce additional regulations, not in conflict therewith, imposing further conditions, restrictions, or limitations with respect to the disposal of waste or any other activity which might degrade the quality of the waters of the state or on the power of any city or county or city and county to declare, prohibit, and abate nuisances. Section 2.4 is consistent with this and states that the OWTS Policy does not significantly affect the way in which local agencies typically enforce local ordinances related to siting requirements and site inspections, setbacks, and construction practices. These sections confirm the authority and intent for local agencies to continue local installation permit programs.

Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options (Impaired Waters Policy), adopted by Resolution 2005-0050 on June 16, 2005: The Impaired Waters Policy provides the regulatory structure and options to address impaired water bodies. Where waters are not meeting their beneficial uses from anthropogenic sources of pollutants, the Water Boards will use the Total Maximum Daily Load (TMDL) program to craft an implementation plan to ensure that the waters meet all applicable standards as soon as is practicable.

The Impaired Waters Policy provides that the State Water Board and Regional Boards are delegated the responsibility for implementing California's Porter-Cologne Water Quality Control Act and the federal Clean Water Act to address waters that do not meet applicable standards through existing regulatory tools and mechanisms. Existing regulatory tools include individual or general waste discharge requirements (under Chapter 4 or under Chapter 5.5 (NPDES permits) of the Porter-Cologne Water Quality Control Act), individual or general waivers of waste discharge requirements, enforcement actions, interagency agreements, regulations, basin plan amendments, and other policies for water quality control. Basin plan amendments can include adopting new or revised implementation measures, adopting prohibitions, or where appropriate, modifying standards.

The Impaired Waters Policy also establishes a certification process whereby the Regional Boards can formally recognize regulatory actions of other constructively involved entities as appropriate implementation programs when the Regional Boards determine those actions will result in attainment of standards. This option is available when the solution to an impairment will not require multiple actions of the Regional Board that affect multiple persons. In these cases, the solution must be implemented through a basin plan amendment or other regulation to ensure that persons subject to regulations have the opportunity to participate in the process during which the assumptions underlying an implementation plan are derived. The fact that another regulatory body is addressing a water quality problem is not alone a sufficient basis for a Regional Board to forego remedial actions.

Only when the Regional Board independently determines that a program being implemented by another regulatory entity will be adequate to correct the impairment, may the Regional Board rely upon that program. If a Regional Board makes such findings, and the findings are supported by substantial evidence in the administrative record, the Regional Board may certify that such program will implement the assumptions and requirements of the TMDL. A resolution or order that certifies implementation by another regulatory entity must include specific findings, supported by substantial evidence in the record, that demonstrate each of the following about the regulatory or non-regulatory program:

- The program is consistent with the assumptions and requirements of the TMDL
- Sufficient mechanisms exist to provide reasonable assurances that the program will address the impairment in a reasonable period of time
- Sufficient mechanisms to enforce the program exist or the Regional Board otherwise has sufficient confidence that the program will be implemented, such that further regulatory action in the form of a TMDL implementation plan by the Regional Board is unnecessary and would be redundant

The Impaired Waters Policy states the above findings will require a fact-specific inquiry, dependent upon the type of impairment at issue, the identity, authority, and interests of those proposing the alternative program, and a variety of other factors. A lower confidence that the program will remain in place and will succeed can be mitigated by findings that sufficient fallback provisions exist to ensure that the

impairment will be addressed in a reasonable period of time if the program is unsuccessful. Such fallback provisions could include instructions that staff commence a regulatory program under a basin plan amendment, regulation, or policy or through a single regulatory action that by itself will correct the impairment.

The Impaired Waters Policy provides that nothing in the policy should be construed as implying that State may avoid its responsibilities under Water Code sections 13263, 13269, 13377, or any other section of the Porter Cologne Act. In other words, this certification procedure shall not be deemed to allow the Regional Board to rely upon an alternative program where the Regional Board has a legal responsibility to implement its own requirements (such as issuing or waiving WDRs or imposing certain effluent limitations in permits where such effluent limitations are required by law). The Regional Boards must perform their statutorily mandated responsibilities irrespective of whether another body is also regulating an activity.

Finally, the policy provides that if water quality problems persist, the Regional Board may not indefinitely defer enforcement action to other agencies. The Regional Board can ask the agency to enforce its own requirements, and if they fail to do so in a manner consistent with the assumptions and requirements of the TMDL, the Regional Board must exercise its independent authority.

In summary, these documents clearly define the State Water Board's and Regional Board's primary roles and responsibilities in the TMDL process and implementation and the OWTS Policy and implementation, specifically Tier 3, by using the regulatory tools available to them. These regulatory tools include individual or general waste discharge requirements (be they under Chapter 4 or under Chapter 5.5 (NPDES permits) of the Porter-Cologne Water Quality Control Act), individual or general waivers of waste discharge requirements, enforcement actions, interagency agreements, regulations, basin plan amendments, and other policies for water quality control. Basin plan amendments can include adopting new or revised implementation measures, adopting prohibitions, or where appropriate, modifying standards. The OWTS Policy SED clearly provides that the Regional Boards are responsible for implementing Tier 3.

The OWTS Policy and associated environmental documents show that local agencies to have discretion as to the scope and coverage of OWTS of their local permitting programs and does not mandate a local agency to implement any part of the OWTS Policy. A local agency OWTS installation permitting program is not the discharger. However, local ordinance requirements and/or LAMP requirements must be consistent with CWC 13002, the OWTS Policy Tier 1 or Tier 2 requirements, and any related basin plan provisions, including those for TMDLs. The Regional Boards must implement their basin plan and any TMDL provisions utilizing the Regional Board's regulatory tools. Consistent with these policies and associated documents, the Regional Board should only rely on a local OWTS permitting program to assist with attaining water quality objectives and TMDL attainment to the extent the program is authorized to address the impairment under local ordinance and/or approved LAMP. The Regional Board may request the local agency expand the OWTS installation permitting program to include more than the minimum required of a local agency, as described in these policies and documents, but the local agency retains the discretion to determine the final scope of its local program.

**The following recommended changes to the LAMP allow for the DEHQ OWTS installation permit program to continue as a Tier 2 alternative standards program and provide a process to address OWTS near nitrogen and pathogen impaired surface water bodies:**

1) Consistent with OWTS Policy 9.2, the LAMP should be amended to clearly define that the scope of coverage under the LAMP is for the installation permitting of new and replacement OWTS only. The scope of coverage for OWTS requiring corrective action should be defined as limited to repairs to correct existing component failures or surfacing sewage or surfacing effluent at the site of the OWTS only. OWTS considered to be failing such that it has affected, or will affect, groundwater or surface waters to an extent requiring effluent limitations and an upgrade to a supplemental treatment system with ongoing monitoring and reporting would not be included in the scope.

2) Consistent with OWTS Policy 9.2, the LAMP amendment should also clearly delineate that the type of OWTS included within and permitted by the LAMP are those that meet the prescribed minimum standards in the approved LAMP. Any OWTS that does not meet the siting, design, and construction requirements of the OWTS permitting program as provided in local ordinance or the COSD LAMP will then fall within the regulatory jurisdiction of the San Diego Regional Board.

3) The LAMP should be amended to provide a procedure to address OWTS near water bodies listed as impaired for nitrogen and pathogens consistent with the provisions of the OWTS Policy. Per Section 9.2.2, these special provisions may be substantive and/or procedural. As the DEHQ OWTS installation permitting program is limited to a Tier 2 program permitting new and replacement OWTS meeting prescribed protective minimum siting, design and construction standards, the recommended procedure for any OWTS where the Regional Board requires effluent limitations and ongoing sampling, monitoring, and reporting is for a referral of that OWTS to the San Diego Regional Board for regulation and oversight. The COSD DEHQ will continue to issue installation permits once an OWTS siting, design, and construction proposal is approved by the San Diego Regional Board.

**These recommended changes adequately address the COSD LAMP scope of coverage, OWTS types under local regulation, and procedures to refer OWTS near impaired water bodies for nitrogen and pathogens that fall outside of that scope to the appropriate Regional Board for ongoing regulation.**

The following addresses the impaired water bodies for nitrogen and pathogens identified in Tables 5.2.7-1 and 5.2.7-2.

Rainbow Creek: This water body segment is not included in Attachment 2 of the OWTS Policy and is therefore not subject to the Advanced Protection Management Program requirements in Tier 3. Per Section 10.2, the requirements of an Advanced Protection Management Program will be in accordance with a TMDL implementation plan, and an adopted TMDL implementation plan supersedes all other requirements in Tier 3. The recommendations above are consistent with the existing TMDL implementation plan for Rainbow Creek which provides for the Regional Board to adopt individual or general waivers or waste discharge requirements (WDRs) for NPS discharges in the Rainbow Creek watershed, which include OWTS dischargers. DEHQ will continue to issue OWTS installation permits and will work with DPW Watershed Protection to address any OWTS found to be discharging surfacing sewage or wastewater effluent to the stormwater conveyance collection system.

Lower San Diego River: This water body segment is not listed in Attachment 2 of the OWTS Policy and is therefore not subject to the Tier 3 Advanced Protection Management Program requirements. The *TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)* was adopted as a Basin Plan amendment in February of 2010 to address pathogen impairment,

but OWTS were not assigned a load allocation. According to the OWTS Policy Section 10.2, for those impaired water bodies that have an adopted TMDL addressing the impairment, but the TMDL does not assign a load allocation to OWTS, no further action is required unless the TMDL is modified at some point in the future to include actions for OWTS. As the bacteria TMDL for the lower San Diego River does not include a load allocation for OWTS, no action relating to OWTS permitting is required at this time. DEHQ continues to implement the LAMP OWTS installation permit program in this area and OWTS in this watershed must meet the minimum siting and design standards as approved in the LAMP to protect groundwater and surface water. DEHQ will continue to work with DPW Watershed Protection to address any OWTS found to be discharging surfacing sewage or wastewater effluent to the stormwater conveyance collection system and will continue to participate in the San Diego River Investigative Order steering committee meetings to provide input as needed.

Tijuana River: This water body segment is not listed in Attachment 2 of the OWTS Policy and is therefore not subject to the Tier 3 Advanced Protection Management Program requirements. There are no special provisions in the San Diego Basin Plan for OWTS in this geographic area. The TMDL for this water body is currently under development and federal projects are underway to address transboundary pollution. The recommendations above can be applied in this area should the San Diego Regional Board determine additional monitoring and reporting requirements are needed for OWTS. The COSD DEHQ will monitor the status of the TMDL development for the Tijuana River and provide input for issues associated with OWTS permitting under DEHQ's jurisdiction.

Santa Margarita River: This water body segment is not listed in Attachment 2 of the OWTS Policy and is therefore not subject to the Tier 3 Advanced Protection Management Program requirements. Other than the Rainbow Creek TMDL, there are no special provisions in the San Diego Basin Plan for OWTS in this geographical area. According to Regional Board staff, an alternative TMDL is being developed for this geographical area which currently provides for the San Diego Water Board to implement the provisions of Chapter 4 of the San Diego Basin Plan relating to the OWTS Policy to address any potential contribution from OWTS (septic tanks and advanced treatment systems). Consistent with the OWTS Policy, the San Diego Water Board may adopt WDRs that require reduced nutrient concentrations in the discharge effluents, reduced nutrient loading, and or compliance with more stringent water quality objectives in receiving surface waters for the protection of beneficial uses of water resources. As the DEHQ OWTS installation permitting program is limited to Tier 2 program permitting new and replacement OWTS meeting prescribed protective minimum siting, design and construction standards only, the implementation plan should consider that any OWTS where the Regional Board requires upgrading to supplemental treatment with effluent limitations and ongoing sampling, monitoring, and reporting will fall to the San Diego Regional Board's jurisdiction for regulation and oversight. The COSD DEHQ will continue to issue installation permits once an OWTS siting, design, and construction proposal is approved by the San Diego Regional Board with the Regional Board providing any oversight needed for ongoing sampling and reporting.

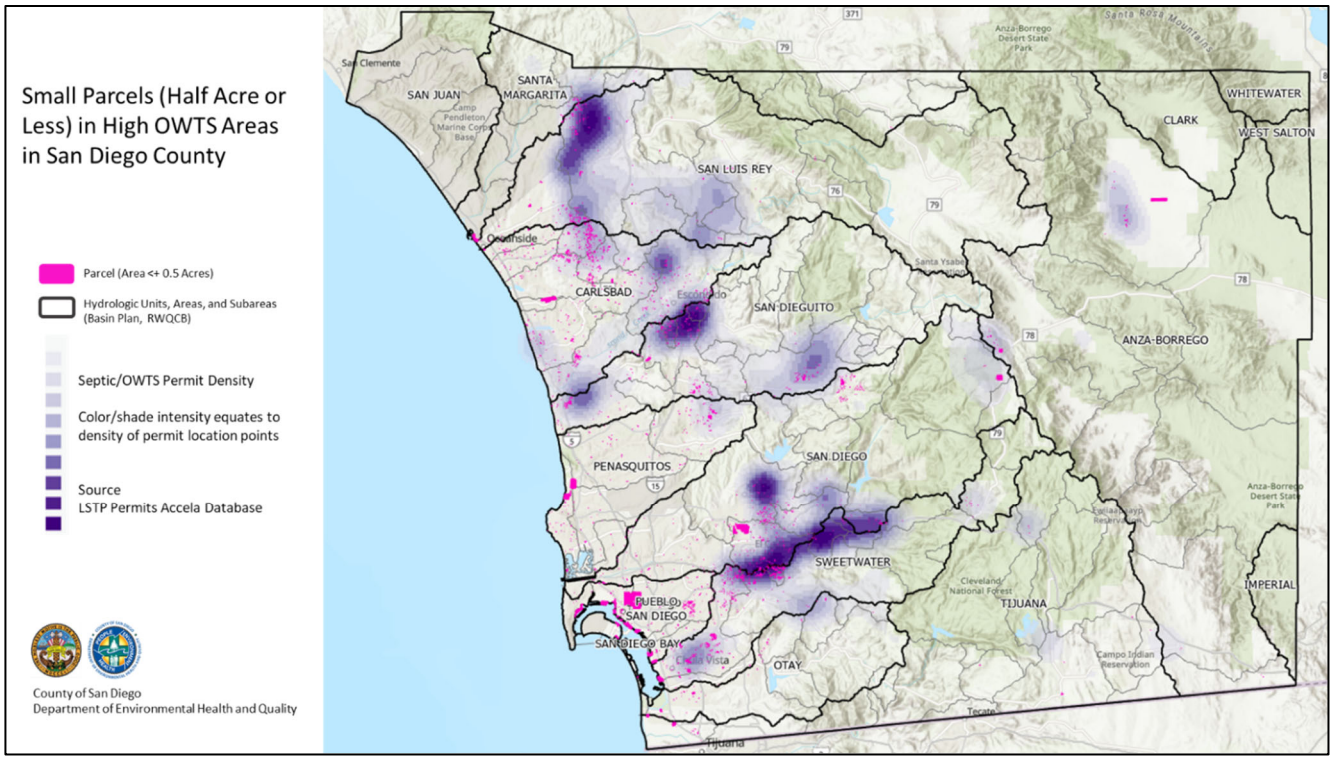
As the OWTS Policy requires OWTS near impaired water bodies be addressed through the TMDL, TMDL and alternative TMDL implementation plans should consider the limitations of the local OWTS permitting program when being developed and implemented.

### 5.2.9 OWTS located within an area of high OWTS density (Section 9.1.9)

**Evaluation Findings:** To look at this condition, the density of existing OWTS were plotted on a map with the locations of parcels with areas equal to or less than 0.5 acres. Many of the small parcels shown on this map fall outside areas utilizing OWTS and are located within public water system boundaries, as discussed in Section 5.2.4. Some small parcels sizes lie within the areas of higher OWTS density. New proposed subdivisions of land in these areas must now meet the density requirements in the COSD LAMP. The new and replacement OWTS in these areas must meet the current siting, design, and construction requirements of the LAMP.

DEHQ collaborate with, and will continue to, COSD DPW and others, such as watershed protection partners and stakeholders, stormwater-related partners, and cities, to address surfacing sewage and effluent related to OWTS failures as well as other sewage related projects and potential projects (stormwater BMPs and regional projects, septic to sewer projects) to address legacy OWTS in these higher density and small parcel areas.

**Map 5.2.9-1: Small Parcels in High OWTS Usage Areas**




**Evaluation Recommendations:** The COSD LAMP installation permitting provisions relating to the density of new subdivisions utilizing OWTS and siting, design, and construction are adequate to address this condition for new and replacement OWTS. No variances are considered for new OWTS on small parcels. Existing OWTS on small parcels must also meet the siting, design, and construction standards. However, consistent with Section 11.5 of the OWTS Policy, DEHQ may consider issuing a variance on a case-by-case basis to authorize repairs that are in substantial conformance, to the greatest extent practicable, with Tier 2. **No changes to the COSD LAMP are needed or recommended at this time for this condition.**

### 5.2.10 A parcel size and its susceptibility to hydraulic mounding, organic or nitrogen loading, and whether there is sufficient area for OWTS expansion in case of failure (Section 9.1.10)

**Evaluation Findings:** As discussed in Section 5.2.9 above, new proposed subdivisions of land in these areas must now meet the density requirements in the COSD LAMP. Additionally, new and replacement OWTS in these areas must meet the current siting, design, and construction requirements of the COSD LAMP. DEHQ continues to work with partners to identify and address surfacing sewage and effluent related to OWTS failures.

**Evaluation Recommendations:** The COSD LAMP installation permitting provisions relating to the density of new subdivisions utilizing OWTS and siting, design, and construction are adequate to address this condition for new and replacement OWTS. No variances are considered for new OWTS on small parcels. Existing OWTS on small parcels must also meet the siting, design, and construction standards. However, consistent with Section 11.5 of the OWTS Policy, DEHQ may consider issuing a variance on a case-by-case basis to authorize repairs that are in substantial conformance, to the greatest extent practicable, with Tier 2. **No changes to the COSD LAMP are needed or recommended at this time for this condition.**

### 5.2.11 Geographic areas that are known to have multiple, existing OWTS predating any adopted standards of design and construction including cesspools (Section 9.1.11)

**Evaluation Findings:** Although there may be some individual OWTS that meet this condition, there are no known geographic areas with parcels having multiple, existing OWTS that predate some form of standards of design and construction, including cesspools. The DEHQ has no information of any existing cesspools at this time. The County of San Diego has had adopted standards in ordinance for the design and construction of OWTS since at least the early 1960s. These standards have been updated at least twice since that time. All new and replacement OWTS must now meet the minimum siting, design, and construction standards in the COSD LAMP.

**Evaluation Recommendations:** The prohibition of the use of cesspools predates the standards approved in the LAMP and have not been permitted for some time. Any existing cesspools found are required to be replaced with an approved OWTS that meets the siting, design, and construction standards in the LAMP. The LAMP provides for alternative siting, design and construction standards for new and replacement OWTS. Existing OWTS installed under past standards that are failing with surfacing sewage or wastewater effluent are required to make corrective actions that meet the current standards in the LAMP. **These minimum standards in the LAMP are adequate to address this condition when identified and no changes to the LAMP are recommended.**

### 5.2.12 Geographic areas that are known to have multiple, existing OWTS located within either the pertinent setbacks listed in Section 7.5 of this Policy, or a setback that the local agencies finds is appropriate for that area (Section 9.1.12)

**Evaluation Findings:** Individual older existing OWTS may but there are no known geographic areas meeting this condition. A review of the variances issued over the last five years shows the majority are issued for OWTS repairs on existing small lots where a reduction in the required dispersal field size is needed.

**Evaluation Recommendations:** As noted in Section 5.2.11, the LAMP provides for alternative siting, design and construction standards for new and replacement OWTS. Existing OWTS installed under past standards that are failing with surfacing sewage or wastewater effluent are required to make corrective actions that meet the current standards in the LAMP. **These minimum standards in the LAMP are adequate to address this condition when identified and no changes to the LAMP are recommended.**

## 5.3 Evaluation of Water Quality Data

**Evaluation Findings:** The COSD LAMP, like the OWTS Policy, Tier 1 statewide minimum standards, which provides the basis of the standard of protection for a Tier 2 program, does not require the collection of water quality data for the permitting of new and replacement OWTS and DEHQ does not collect specific monitoring data as part of the OWTS installation permitting program. However, DEHQ closely collaborates with other County departments, particularly the DPW, and rely on their knowledge and experience regarding the monitoring and sampling results from their programs and projects, such as monitoring required as part of an MS4 permit or investigative order, to inform the OWTS installation permitting program when their sampling shows the potential for OWTS contribution. DEHQ works with DPW Watershed Protection Program to confirm and correct OWTS related issues when data indicates OWTS are discharging to a stormwater conveyance system. This data is entered into the California Environmental Data Exchange Network (CEDEN), a central location to find and share information about California's water bodies, including streams, lakes, rivers, and the coastal ocean. CEDEN aggregates this data from many sources and makes it accessible to environmental managers and the public.

DEHQ also uses information from the State Water Resources Control Board's Division of Drinking Water database, *Drinking Water Watch*, to monitor pollutants in drinking water systems.

Although some small public water systems show nitrate impact, no clear link to OWTS as source has been identified. Efforts are in progress by the State Water Resources Control Board, Division of Drinking Water to consolidate those small public drinking water systems where nitrate and other constituents of concern are an issue with larger public water systems providing better quality drinking water.

**Evaluation Recommendations:** The DEHQ will continue to collaborate with DPW and others to keep informed of the various stormwater, surface water and groundwater monitoring data already being collected. As the COSD LAMP is a local OWTS installation permitting program based on prescribed minimum standards, this level of awareness is appropriate. Water quality data that suggest OWTS impacts to groundwater or surface water over water quality objectives are occurring will be shared with the San Diego Regional Board for their follow up and regulation. **No changes to the COSD LAMP are needed or recommended at this time.**

## 5.4 Review of Complaints, Variances, Failures, and Inspection Results

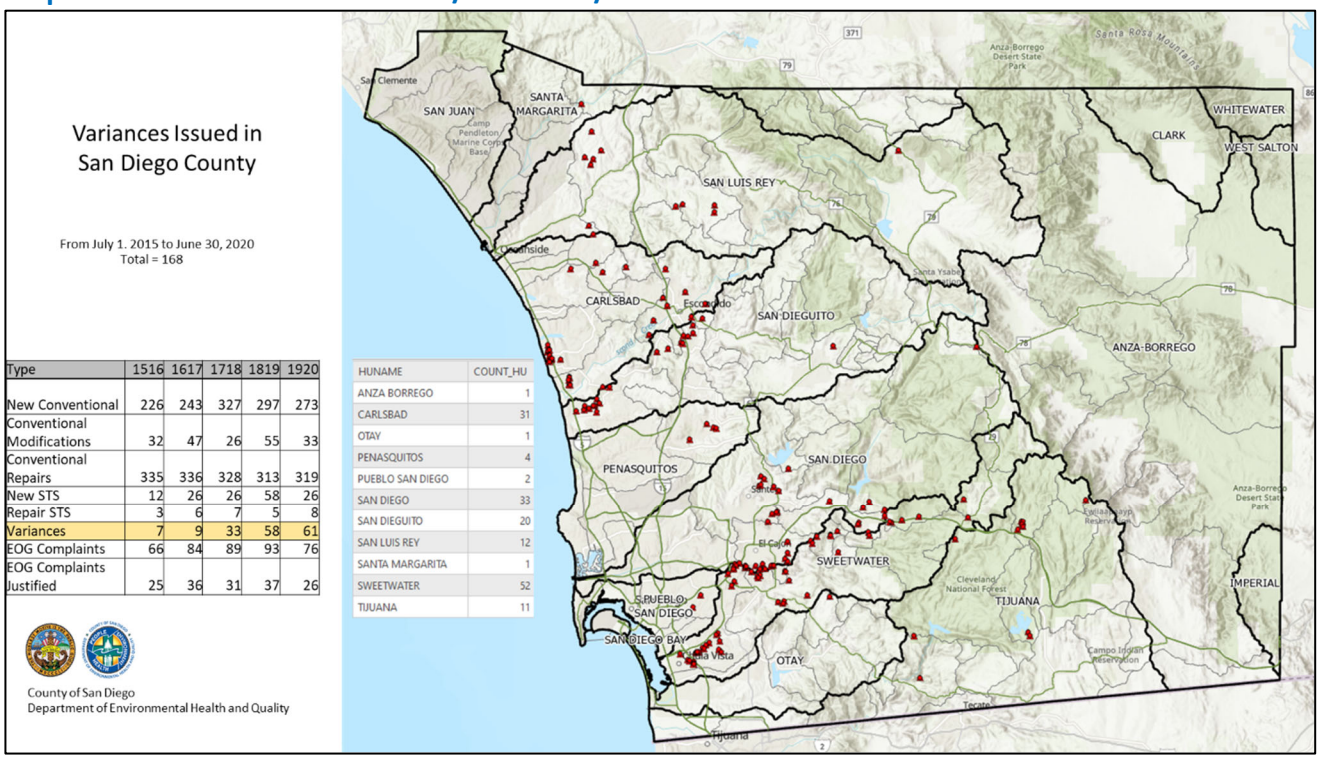
**Evaluation Findings:** The OWTS new and replacement permits issued, the variances issued, and complaints received over the past five fiscal years were reviewed for this section, with the information tabulated in Table 5.4-1.

Complaints: Complaints received at DEHQ are entered into the database and assigned to staff for investigation. Investigations that show violations of the local ordinance or LAMP requirements for OWTS are followed up by staff until the OWTS is returned to compliance. DEHQ receives an average of 82

complaints per year for alleged surfacing sewage/effluent with an average of 31 per year found to be justified, or about 0.2% of all OWTS permitted within the county. These complaints are abated when an approved repair is made to the OWTS under permit from DEHQ resolving the issue.

Variances: Variances are considered for repairs to existing OWTS only when the minimum standards cannot be met. The review of the variances issued over the past 5 years show most were issued for repairs to an existing OWTS for modifications to leach trench dimensions to accommodate existing, legacy OWTS on small lots. The variances issued from fiscal year 2015/2016 through fiscal year 2019/2020 are shown in Map 5.4-1. Table 5.4-1 shows an increase in variances issued over this time period, but this is more reflective of changes to better define a variance for purposes of database tracking.

### Map 5.4-1: Variances Issued FY 15/16 - FY 19/20




| Type | 1516 | 1617 | 1718 | 1819 | 1920 |
|---|---|---|---|---|---|
| New Conventional | 226 | 243 | 327 | 297 | 273 |
| Conventional Modifications | 32 | 47 | 26 | 55 | 33 |
| Conventional Repairs | 335 | 336 | 328 | 313 | 319 |
| New STS | 12 | 26 | 26 | 58 | 26 |
| Repair STS | 3 | 6 | 7 | 5 | 8 |
| Variances | 7 | 9 | 33 | 58 | 61 |
| EOG Complaints | 66 | 84 | 89 | 93 | 76 |
| EOG Complaints Justified | 25 | 36 | 31 | 37 | 26 |

| HUNAME | COUNT_HU |
|---|---|
| ANZA BORREGO | 1 |
| CARLSBAD | 31 |
| OTAY | 1 |
| PENASQUITOS | 4 |
| PUEBLO SAN DIEGO | 2 |
| SAN DIEGO | 33 |
| SAN DIEGUITO | 20 |
| SAN LUIS REY | 12 |
| SANTA MARGARITA | 1 |
| SWEETWATER | 52 |
| TIJUANA | 11 |

Repairs: Many OWTS serve housing stock built decades ago and the dispersal fields will eventually fail to adequately absorb wastewater and will need to be repaired. Repair permits reflect OWTS where the dispersal fields are failing and, to a lesser degree, repair or replacement of OWTS system components, such as septic tanks. During the past 5 fiscal years, the average percentage of repairs per year was 332 permits, or about 1.7% of all OWTS permitted in the county.

**Table 5.4-1: OWTS Permits/Variances Issued and Complaints Received from FY 15/6 - FY 19/20**

| Type | FY 15/16 | FY 16/17 | FY 17/18 | FY 18/19 | FY 19/20 | 5-Yr Total | Average |
|---|---|---|---|---|---|---|---|
| New Conventional | 226 | 243 | 327 | 297 | 273 | 1,366 | 273 |
| Conventional Modifications | 32 | 47 | 26 | 55 | 33 | 193 | 39 |
| Conventional Repairs | 335 | 336 | 328 | 313 | 319 | 1,631 | 326 |
| New STS | 12 | 26 | 26 | 58 | 26 | 148 | 30 |
| Repair to Upgrade to STS | 3 | 6 | 7 | 5 | 8 | 29 | 6 |
| Variances | 7 | 9 | 33 | 58 | 61 | 168 | 34 |
| Surfacing Sewage/Effluent Complaints | 66 | 84 | 89 | 93 | 76 | 408 | 82 |
| Surfacing Sewage/Effluent Complaints Justified | 25 | 36 | 31 | 37 | 26 | 155 | 31 |
| Note: Approximately 19,891 OWTS permits in DEHQ database | | | | | | | |

**Evaluation Recommendations:** The review of the complaints, variances and OWTS repairs show the DEHQ OWTS complaint response, inspection, and permitting processes are adequate to address OWTS permitting, including adequately addressing those OWTS needing repair. **No changes to the COSD LAMP are needed or recommended at this time.**

# SECTION 6: ASSESSMENT OF WATER QUALITY IMPACTS FROM OWTS

## 6.1 Overview

This section provides the results of the evaluation of the monitoring program minimum standards and water quality assessment in accordance with the purpose of the evaluation per Section 9.3.3 of the OWTS Policy, which provides for the purpose of the Evaluation Report is to:

- Evaluate the monitoring program
- Assess whether water quality is being impacted by OWTS
- Identify any changes in the LAMP that will be undertaken to address impacts from OWTS

## 6.2 Findings from COSD LAMP Comparison to Tier 1 (Sections 7.0 and 8.0 of OWTS Policy)

The OWTS Policy, Tier 2, provides a local agency, at its discretion, may include Tier 1 standards within its Tier 2 LAMP for some or all of its jurisdiction. The review of the evaluation conducted in Section 4.0 of this report shows the approved COSD LAMP already incorporates 22 of the 32 (69%) of the OWTS Policy Tier 1 minimum standards. These minimum standards are shown in Table 6.2-1. Together with the Tier 1 standards already incorporated into the COSD LAMP, implementation of the recommended changes in this report will bring the shared standards between the COSD LAMP and the OWTS Policy Tier 1 to 100%, with three standards also providing an opportunity for an alternative based on site specific studies that show no adverse impact to public health and water quality. The standards recommended to be changed to meet the Tier 1 standards are shown in Table 6.2-2.

**Table 6.2-1: OWTS Policy Tier 1 Standards Already Incorporated into Approved COSD LAMP (23 of 32 Tier 1 Standards or 72%)**

| ***OWTS Policy*** **Tier 1 Section** | **Standard** |
|---|---|
| 7.1 | Qualified Staff |
| 7.2 | Site Evaluations |
| 7.3 | High Groundwater Determination |
| 7.4 | Percolation Test Results |
| 7.5.2 | Setbacks to Water Wells |
| 7.5.4 | Setback to Springs and Flowing Surface Water Bodies (100 feet) |
| 7.5.6 | Setback to Public Water Well |
| 7.5.7 | Setback to Reservoir, Lake, Flowing Water Body for OWTS within 1,200 feet of Surface Water Intake |
| 7.5.8 | Setback to Reservoir, Lake, Flowing Water Body for OWTS between 1,200-2,500 feet of Surface Water Intake |
| 7.6 | Notification of OWTS within 1200 feet of Surface Water Intake |
| 7.7 | Slope for Effluent Disposal < 25% (Allows for Alternative with Study/Engineered Design) |
| 7.8 | Allowable Density for Dwelling Units (Table 1) (Allows for Alternative with Study) |
| 8.1.1 | Qualified Professional to design OWTS |
| 8.1.2 | No Surfacing Sewage, No Impact to Beneficial Uses of Water |
| 8.1.3 | OWTS Design Criteria |
| 8.1.4 | Dispersal System Soil Cover |
| 8.1.8 | 100% Replacement Area for New Dispersal Systems |
| 8.1.9 | Dispersal System Not Covered |

| | |
|---|---|
| 8.1.11 | No Allowance for IAPMO Certified Dispersal System |
| 8.2.2.1 | Watertight Risers |
| 8.2.2.2 | Access Lids at Grade Secured |
| 8.2.3 | Septic Tank Approval |
| 8.2.5 | Installer Requirements |

### Table 6.2-2: OWTS Policy Tier 1 Standards Recommended to be Incorporated into COSD LAMP Update (9 of 32 Tier 1 Standards or 28%)

| ***OWTS Policy*** **Tier 1 Section** | **Standard** |
|---|---|
| 7.5.1 | Setbacks to Property Line and Structures |
| 7.5.3 | Setback to Unstable Land Mass |
| 7.5.5 | Setback to Vernal Pools, Wetlands, Lakes, Ponds |
| 8.1.5 | Minimum Depth to High Groundwater from Bottom of Leach Trench (Table 2) |
| 8.1.6 | Minimum Trench Infiltrative Rate ($4ft^2$/linear feet) and Width (3 feet);<br>Seepage pits and other dispersal systems allowed for repairs where siting limitations;<br>Maximum Application Rates determined from Table 3 or Table 4 |
| 8.1.7 | Maximum Depth of Dispersal System (Allows for Alternative with Study) |
| 8.1.10 | Rock Fragment Content Not Exceed 50% Cobbles or Larger |
| 8.2.1 | Tank Standards-Appendix K standards |
| 8.2.4 | Prevention of Solids into Dispersal System |

Table 6.2-1 provides an overall summary of the evaluation comparing the COSD LAMP standards to the statewide minimum standards found in Tier 1 of the OWTS Policy. The evaluation of the COSD LAMP Tier 2 program minimum standards to the OWTS Policy's statewide minimum standards in Tier 1, Sections 7.0 and 8.0, shows that the COSD LAMP has incorporated or is recommending incorporating 32 of the 32 (100%) of the minimum requirements of Tier 1. The COSD LAMP meets the Tier 1 provisions for three of the standards and offers the opportunity for an alternative with the submittal of additional studies showing the alternative is protective of public health and water quality.

### Table 6.2-3: Summary of COSD LAMP Minimum Standards to OWTS Policy Tier 1 Minimum Statewide Standards

| Comparison Category | # Standards | % Standards |
|---|---|---|
| Met Tier 1 (Two Standards Allow Alternative with Study) | 23 | 72% |
| Met Tier 1 with Recommended Changes (One Standard Allows Alternative with Study) | 9 | 28% |
| Total Met Tier 1 Standards | 32 | 100% |

The shared COSD LAMP and OWTS Policy Tier 1 standards are those that the State Water Board has determined to be protective of groundwater and surface water across the state. **This evaluation shows the standards provided in the COSD LAMP Tier 2 program are in substantial compliance with these protective standards and achieves the same policy purpose as the Tier 1 program, which is to protect water quality and public health.**

## 6.3 Findings from Review of Focus Area Conditions

OWTS Policy Section 9.3.2 identifies that the focus of the Water Quality Assessment program should be the twelve focus areas with conditions listed under Section 9.1. The review of these focus area conditions show that the existing siting, design, and construction minimum standards provided in the COSD LAMP provides adequate protection to address nine of the 12 (75%) focus area conditions. These focus area conditions are shown in Table 6.3.1.

The recommended changes to the COSD LAMP discussed in Section 5.2 of this report address the remaining three of the 12 (25%) focus area conditions. These focus area conditions are shown in Table 6.3.2.

**Table 6.3-1: Focus Area Conditions Addressed by Existing COSD LAMP Siting, Design, and Construction Standards**

| OWTS Policy Section | Focus Area Condition |
|---|---|
| 9.1.1 | Degree of vulnerability to pollution from OWTS due to hydrological conditions. |
| 9.1.3 | Shallow soils requiring a dispersal system installation that is closer to ground surface than is standards. |
| 9.1.4 | OWTS located in area with high domestic well usage. |
| 9.1.5 | Dispersal system is located in an area with fractured rock. |
| 9.1.7 | Surface water is vulnerable to pollution from OWTS. |
| 9.1.9 | OWTS is located within an area of high OWTS density. |
| 9.1.10 | A parcel's size and its susceptibility to hydraulic mounding, organic or nitrogen loading, and whether there is sufficient area for OWTS expansion in case of failure. |
| 9.1.11 | Geographic areas that are known to have multiple, existing OWTS predating any adopted standards of design and construction including cesspools. |
| 9.1.12 | Geographic areas that are known to have multiple, existing OWTS located within either the pertinent setbacks listed in Section 7.5 of the Policy, or a setback that the local agencies find appropriate for that area. |

**Table 6.3-2: Focus Area Conditions Addressed by Proposed Recommended Changes to COSD LAMP**

| OWTS Policy Section | Focus Area Condition and Recommendation |
|---|---|
| 9.1.2 | Condition: High quality waters or other environmental conditions requiring enhanced protection from the effects of OWTS.<br><br>Recommendation: The recommendation in Section 4.2.1 of this report to amend the setback table in COSD LAMP to be consistent with the OWTS Policy and adopt the OWTS Policy setback of 200 feet from OWTS to vernal pools, wetlands, lakes, ponds, or other surface water will provide the appropriate level of protection. This change to the COSD LAMP is recommended to address this condition. |
| 9.1.6 | Condition: Dispersal system is located in an area with poorly drained soils. |

| | |
|---|---|
| | Recommendation: As noted in Section 4.3.1 of this report, it is recommended to update the COSD LAMP to align with the application rates provided in the OWTS Policy to better address this condition. |
| 9.1.8 | Condition: Surface water within the watershed is listed as impaired for nitrogen or pathogens.<br><br>Recommendation: The following recommendations are intended to address OWTS near nitrogen and pathogen impaired surface water bodies:<br><br>1) Consistent with OWTS Policy 9.2, the COSD LAMP should be amended to clearly define that the scope of coverage under the COSD LAMP is for the installation permitting of new and replacement OWTS only.<br><br>2) The COSD LAMP should be amended to clearly delineate that the type of OWTS included within and permitted by the COSD LAMP are those that meet the prescribed minimum standards in the approved COSD LAMP. Any OWTS that does not meet the siting, design, and construction requirements of the OWTS permitting program as provided in local ordinance or the COSD LAMP will then fall within the jurisdiction of the San Diego Regional Board for regulation.<br><br>3) The LAMP should be amended to include clarifying procedural language related to OWTS near water bodies listed as impaired for nitrogen and pathogens consistent with the provisions of the OWTS Policy. Per Section 9.2.2, special provisions for OWTS near impaired water bodies may be substantive and/or procedural. As the DEHQ OWTS installation permitting program is limited to new and replacement OWTS meeting prescribed protective minimum siting, design and construction standards only, any OWTS outside the scope of the COSD LAMP and/or where the Regional Board imposes additional requirements, including effluent limitations and ongoing sampling, monitoring, and reporting, would fall within the jurisdiction of the San Diego Regional Board for regulation and ongoing oversight. Procedurally, the DEHQ will refer permit applications for new and replacement OWTS in these areas to the Regional Board and will continue to issue installation permits only after an OWTS siting and design proposal is approved by the San Diego Regional Board. |

## 6.4 Findings from Review of Water Quality Data

The review of water quality data is ongoing in partnership with DPW Watershed Protection Program with DEHQ staff responding when data suggests issues with OWTS surfacing sewage or surfacing effluent. In addition, DEHQ staff are participating in committees and meetings where water quality data is discussed and reviewed in relation to specific studies or projects. These efforts will continue as resources allow. **As the COSD LAMP is a local OWTS installation permitting program based on prescribed minimum standards, this level of awareness is appropriate and adequate to achieve the standards to protect water quality and public health.**

## 6.5 Findings from Review of Complaints, Variances, Failures, and Inspection Results

**The review of the complaints, variances and OWTS repairs (failures) show the DEHQ OWTS complaint response, variance issuance, inspections, and permitting processes are effective and adequate to achieve the standards to protect water quality and public health.**

# SECTION 7: LAMP CHANGES: RECOMMENDATIONS AND ACTION PLANS

## 7.1 Overview

This section presents proposed recommended changes to the approved COSD LAMP Based on the findings in this evaluation report in accordance with the purpose of the evaluation per Section 9.3.3 of the OWTS Policy, which provides for the purpose of the Evaluation Report is to:

- Evaluate the monitoring program
- Assess whether water quality is being impacted by OWTS
- Identify any changes in the LAMP that will be undertaken to address impacts from OWTS

As with any proposed regulatory revisions, the public, including OWTS owners and other stakeholders, must be given the opportunity to participate in the process and some revisions as proposed in this report may change as a result. The anticipated time frame for the LAMP update and public participation process is identified in this section.

## 7.2 Summary of Recommended LAMP Changes

The recommended changes to the COSD LAMP resulting from the evaluation conducted in this report is summarized in Table 7.2-1. These recommended changes will incorporate 100% of the Tier 1 standards into the COSD LAMP, standards recognized by the State Water Board to be protective and groundwater and surface waters. Two standards also provide the flexibility for an alternative when site specific studies show the alternative provides an equal level of protection.

**Table 7.2-1: Summary of Recommended Changes to COSD LAMP**

| ***Evaluation Report Section*** | **Proposed COSD LAMP Changes** |
|---|---|
| 4.2.1 | Amend Chapter 8: *OWTS with Supplemental Treatment*, Construction Requirements for Drip Dispersal Systems Section, Item 6 to remove reduction of setback to 2 feet from drip dispersal system to Structures and Property Lines to meet the minimum of 5 feet as required in Chapter 1: *OWTS Permitting Process and Design Criteria*, Setbacks Section, consistent with OWTS Policy Section 7.5.1. |
| 4.2.1 | Amend Chapter 1: *OWTS Permitting Process and Design Criteria*, Setbacks Section, to add a setback of 100 feet to Unstable Land Mass, consistent with OWTS Policy Section 7.5.3. |
| 4.2.1 and 5.2.2 | Amend Chapter 1: *OWTS Permitting Process and Design Criteria*, Setbacks Section, to include a setback of 200 feet to Vernal Pools, Wetlands, Lakes, Ponds and other surface water bodies, consistent with OWTS Policy Section 7.5.5. This change will also provide improved protection for high quality waters or other environmental conditions requiring enhanced protection from the effects of OWTS, the focus condition in Section 9.2.2 of the OWTS Policy. |
| 4.3.1 | Amend Chapter 2: *Groundwater Separation Requirements for OWTS*, to include the requirements of OWTS Policy 8.1.5 - Minimum Depth to High Groundwater from Bottom of Leach Trench, including Table 2. |
| 4.3.1 and 5.2.6 | Amend the *Leach Line Trench Length Based on Percolation Test Rate* table in Chapter 5: *Leach Line Systems*, Dimensions Section, to better align with *Table 3: Application Rates as Determined from Stabilized Percolation Rate* in the OWTS Policy. Amend references to |

| | |
|---|---|
| | minimum trench infiltrative rates in Chapter 5 to better align with the actual infiltrative rates provided in the *Leach Line Trench Length Based on Percolation Test Rate* table on page 33, consistent with OWTS Policy Section 8.1.6. This change will also provide enhanced protection for the focus condition 9.1.6 relating to dispersal systems located in area with poorly drained soils. |
| 4.3.1 | Amend Chapter 5: *Leach Line Systems* to add a provision relating to rock fragment content to not exceed 50% cobbles or larger, consistent with OWTS Policy Section 8.1.10. |
| 4.3.1 | Amend Chapter 4: *Septic Tanks* to include additional language to better align with the language provided in Tank Standards-Appendix K of Part 5, Title 24 of the 2007 California Code of Regulations, consistent with OWTS Policy Section 8.2.1 |
| 4.3.1 | Amend Chapter 4: *Septic Tanks*, Item 13 to require the installation of National Sanitation Foundation/American National Standard Institute (NSF/ANSI) effluent filters at the final point of effluent discharge from the OWTS, consistent with OWTS Policy Section 8.2.4. |
| 5.2.8 | The following recommended changes are proposed to address the focus condition of surface water within the watershed is listed as impaired for nitrogen or pathogens in OWTS Policy 9.1.8.<br><br>Consistent with OWTS Policy Section 9.2, amend Chapter 1: *OWTS Permitting Process and Design Criteria*, to add a new section with language detailing the scope of coverage under the COSD LAMP is limited to the installation permitting of new and replacement OWTS based on the prescriptive minimum standards for siting, design, and construction in the COSD LAMP and does not include OWTS where the Regional Board has determined effluent limitations and ongoing sampling, monitoring, and reporting is required.<br><br>Consistent with OWTS Policy Section 9.2, amend Chapter 1: *OWTS Permitting Process and Design Criteria* to add a new section with language providing a clear delineation that the type of OWTS included within and permitted by the COSD LAMP are those that meet the prescribed minimum siting, design, and construction standards in the approved COSD LAMP only. Any OWTS that does not meet the siting, design, and construction requirements of the DEHQ OWTS installation permitting program, as provided in local ordinance or the COSD LAMP, fall within the jurisdiction of the San Diego Regional Board for regulation.<br><br>Consistent with OWTS Policy Section 9.2.2 relating to the LAMP describing any special provisions, which may be procedural, applicable to OWTS within specified geographic areas near specific impaired water bodies listed for pathogens or nitrogen, amend Chapter 12: *OWTS Near Impaired Water Bodies* to provide a procedure for new and replacement OWTS within the geographical areas identified near water bodies listed as impaired for nitrogen and pathogens to be referred to the Regional Board for regulation and oversight of their effluent discharge to land. The COSD DEHQ will continue to issue installation permits upon approval by the Regional Board of the specific siting, design, and construction proposal for the OWTS. |

## 7.3 Discussion of Recommendations

The OWTS Policy, Tier 2 section, states that a LAMP provides for an alternative method from Tier 1 programs to achieve the same policy purpose, which is to protect water quality and public health. This section also provides that a local agency, at its discretion, may include Tier 1 standards within its Tier 2 LAMP for some or all of its jurisdiction.

It is the intent of the COSD LAMP, a Tier 2 Program only, to issue installation permits to new and replacement OWTS that meet prescribed siting and design standards that are specifically covered in the scope of the COSD LAMP. OWTS that are outside the scope of DEHQ's local permitting program will then fall within the regulatory jurisdiction of the Regional Board. The local OWTS installation permitting program is not intended to act as a local waste discharge requirements program such as the Advanced Protection Management Program provided in Tier 3 of the OWTS Policy for water bodies listed in Attachment 2.

To address OWTS near impaired water bodies where the Regional Board has more protective requirements beyond that in the local permitting program, including mandated effluent limitations with ongoing monitoring, sampling and reporting requirements, the DEHQ will refer these OWTS to the San Diego Regional Board for this regulation. The COSD DEHQ will continue to issue an installation permit after an OWTS siting and design is approved by the San Diego Regional Board.

This evaluation shows that the recommended changes are consistent with the State laws and water quality policies, and the San Diego Basin Plan and, when considered with the COSD LAMP, provide effective and adequate minimum standards for the siting, design, and construction of OWTS in the COSD local OWTS installation permitting program.

## 7.4 Discussion of Action Items/Draft Time Schedule

### 7.4.1 LAMP and Local Ordinance Update and Draft Time Schedule

The process of updating the COSD LAMP includes drafting revisions to the current LAMP, drafting any related local ordinance changes, and providing public participation to those affected by the proposed changes, including OWTS owners and operators, contractors providing OWTS installation and maintenance services, qualified professionals providing site evaluation, design, and maintenance services, land developers, other county departments such as DPW and PDS, cities where OWTS are utilized, environmental groups and organizations, County Administration, and Board of Supervisors staff. It is important to provide the opportunity for these interested parties to ask questions and understand the impacts of the proposed changes, as well as considering and incorporating their comments into the proposed changes as appropriate.

### 7.4.2 Other Activities

As discussed in this evaluation report, the DEHQ will continue partner with COSD DPW to:

- Provide technical information to support watershed protection activities
- ID problematic OWTS/areas
- Respond to actual or potential illicit discharges to storm conveyance system
- Continue existing OWTS Rebate/Training programs, look for additional incentive programs
- Develop minimum operations and maintenance manual for conventional OWTS (BMP)
- Promote the planning and construction of public sewer in problem areas

DEHQ staff will also continue work to update local database to collect additional information needed to better evaluate OWTS in areas with focus conditions listed in 9.1 of OWTS Policy (water table depth, soil interval depth, percolation test results, degree of slope, etc.)

Additionally, DEHQ will continue to utilize COSD legislative platform to promote legislative changes for:

- Easier access/ ability to connect to sewer districts for problematic OWTS areas
- State loan/grant program (not administered by local agency) for private property owners to upgrade OWTS/connect to sewer
- Local funding for State mandated OWTS-related activities not covered by installation permit fees

## Source List

United States Environmental Protection Agency. Laws & Regulations. 2021 from EPA Website:
https://www.epa.gov/laws-regulations

United States Environmental Protection Agency. Laws & Regulations – Summary of the Clean Water Act, 33 U.S.C. §1251 et seq. (1972). 2021 from EPA Website:
https://www.epa.gov/laws-regulations/summary-clean-water-act

United States Environmental Protection Agency. Laws & Regulations – Summary of the Safe Drinking Water Act, 42 U.S.C. §300f et seq. (1974). 2021 from EPA Website:
https://www.epa.gov/sdwa

United States Environmental Protection Agency. Laws & Regulations – Underground Injection Control Regulations and Safe Drinking Water Act Provisions. 2021 from EPA Website:
https://www.epa.gov/uic

California Legislative Information. California Law. Code Search. Water Code – WAT. 2021 from California Legislation Information Website:
https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=WAT&tocTitle=+Water+Code+-+WAT

California Legislative Information. California Law. Code Search. Health and Safety Code – HSC. 2021 from California Legislation Information Website:
https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=HSC&tocTitle=+Health+and+Safety+Code+-+HSC

California State Water Resources Control Board. Plans and Policies. 2021 from SWRCB Website:
https://www.waterboards.ca.gov/plans_policies/

California State Water Resources Control Board. Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS) Policy Parent Directory Page. 2021 from SWRCB Website:
https://www.waterboards.ca.gov/water_issues/programs/owts/docs/

California State Water Resources Control Board. Water Quality Control Plan, Ocean Waters of California, Established 1979, Revised 2019. 2021 from SWRCB Website:
https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf

California State Water Resources Control Board. Water Quality Control Policy for the Enclosed Bays and Estuaries of California as Adopted by Resolution No. 95-84 on November 16, 1995. 2021 from SWRCB Website:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1995/rs1995_0084.pdf

California State Water Resources Control Board. Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Bacteria Provisions and A Water Quality Standards Variance Policy, February 4, 2019. 2021 from SWRCB Website:

https://www.waterboards.ca.gov/plans_policies/docs/bacteria.pdf

California State Water Resources Control Board. Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options, Adopted by Resolution 2005-0050, June 16, 2005. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/iw_policy.pdf

California State Water Resources Control Board. Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/nps/docs/plans_policies/nps_iepolicy.pdf

California State Water Resources Control Board and California Coastal Commission. California 2020-2025 Nonpoint Source Program Implementation Plan. November 23, 2020. July 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/nps/plans_policies.html#:~:text=2020-2025%20Nonpoint%20Source%20Implementation%20Plan%20-%20this%20document,Program%20activities%20from%20July%202020%20through%20June%202025

California State Water Resources Control Board. Onsite Wastewater Treatment Systems (OWTS) Policy - Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems, Adopted on June 19, 2012 (Resolution No. 2012-0032), effective on May 13, 2013, Amended on April 17, 2018 (Resolution No. 2018-0019), effective on June 11, 2018. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf

California State Water Resources Control Board. Resolutions, Orders & Decisions. Sources of Drinking Water, Resolution No. 88-63 (as revised by Resolution 2006-0008), February 1, 2006. 2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2006/rs2006_0008_rev_rs88_63.pdf

California State Water Resources Control Board. Resolutions, Orders & Decisions. Statement of Policy with Respect to Maintaining High Quality of Waters in California, Resolution No. 68-16. 2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

California State Water Resources Control Board. Resolutions, Orders & Decisions. Water Quality Enforcement Policy, Adopted April 4, 2017, Effective October 5, 2017. 2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/040417_9_final%20adopted%20policy.pdf

State of California, The Resources Agency, Department of Water Resources. California's Groundwater, Bulletin 118 (update October 2003). 2021 from DWR Website: https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118

California Regional Water Quality Control Board, Colorado River Basin Region. Control Plan for the Colorado River Basin Region (Includes amendments effective on or before January 8, 2019). 2021 from CRWQCB, CRB Website: https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/2020/rb7bp_e2019.pdf

California Regional Water Quality Control Board, San Diego Region. Water Quality Control Plan for the San Diego Basin, September 8, 1994 (with amendments effective on or before September 1, 2021). 2021 from CRWQCB, SD Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/

California State Water Resources Control Board. OWTS POLICY, Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems, June 19, 2012. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf

California State Water Resources Control Board. Onsite Wastewater Treatment System Policy Final Substitute Environmental Document, June 19, 2012. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_sed_061912.pdf

State Water Resources Control Board. Conditional Waiver Renewal and TMDL List Amendment, Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems, Staff Report, April 17, 2018. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/041718_3_final_staff_rpt.pdf

County of San Diego. County of San Diego Regulatory Code, Title 6, Division 8, Chapter 3: On-Site Wastewater Treatment Systems and Improper Disposal of Sewage. 2021 from American Legal Publishing Website: https://codelibrary.amlegal.com/codes/san_diego/latest/sandiego_regs/0-0-0-106014

County of San Diego. County of San Diego Regulatory Code, Title 6, Division 8, Chapter 6: Sewage Collection, Transport and Disposal. 2021 from American Legal Publishing Website: https://codelibrary.amlegal.com/codes/san_diego/latest/sandiego_regs/0-0-0-106744

County of San Diego. County of San Diego Regulatory Code, Title 6, Division 7, Chapter 8: Watershed Protection, Stormwater Management and Discharge Control. 2021 from American Legal Publishing Website: https://codelibrary.amlegal.com/codes/san_diego/latest/sandiego_regs/0-0-0-105291

County of San Diego. San Diego County General Plan: A Plan for Growth, Conservation and Sustainability, August 3, 2011. 2021 from County of San Diego Website: https://www.sandiegocounty.gov/pds/generalplan.html

County of San Diego, Department of Environmental Health and Quality, Land and Water Quality Division. Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems, February 24, 2015. 2021 from DEHQ Website: https://www.sandiegocounty.gov/content/dam/sdc/deh/lwqd/RWQCB%20Approved%20LAMP%20Final%202-24-15.pdf

San Diego Geographic Information Source. SANGIS.SOILS Layer. 2021 from SANGIS Website: https://www.sangis.org/download/index.html

California Department of Water Resources. California Statewide Groundwater Elevation Monitoring (CASGEM) Program. 2021 from DWR Website: https://water.ca.gov/Programs/Groundwater-Management/Groundwater-Elevation-Monitoring--CASGEM

California Department of Water Resources. Basin Prioritization. 2021 from DWR Website: https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization

United States Environmental Protection Agency. Design Manual Onsite Wastewater Treatment and Disposal Systems, 1980. 2021 from EPA Website: https://www.epa.gov/sites/default/files/2015-06/documents/septic_1980_osdm_all.pdf

United States Environmental Protection Agency. Onsite Wastewater Treatment Systems Manual, February 2002. 2021 from EPA Website: https://www.epa.gov/sites/default/files/2015-06/documents/2004_07_07_septics_septic_2002_osdm_all.pdf

California Department of Water Resources. California Water Well Standards, Bulletin 74-81, December 1981, and Draft Supplemental Bulletin 74-90, June 1991. 2021 from DWR Website: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards

California Building Standards Commission. 2007 California Plumbing Code, California Code of Regulations, Title 24, Part 5, Appendix K, Private Sewage Disposal Systems, Effective January 1, 2008. 2021 from Internet Archive Website: https://archive.org/details/gov.ca.bsc.title24.part05

Group Delta Consultants. County of San Diego Final Report Hydrological Study of the Valley Center Basin, Contract No. 80062, November 20, 1998.

San Diego Coastkeeper. Where Does our Water Come From? 2021 from San Diego Coastkeeper Website: https://www.sdcoastkeeper.org/where-does-our-water-come-from

San Diego County Water Authority. Reservoir Report. 2021 from SDCWA Website: https://www.sdcwa.org/your-water/reservoirs-rainfall/reservoirs/

County of San Diego Department of Environmental Health and Quality. Accela Database, Record Type LWELL. 2021.

County of San Diego Department of Environmental Health and Quality. Accela Database, Record Type LSTP. 2021

California State Water Resources Control Board. The California Drinking Water System Area Boundaries GIS Layer and Dataset. 2021 from the SWRCB Website: https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=272351aa7db14435989647a86e6d3ad8

United States Census Bureau. QuickFacts, San Diego County, California, Population Estimates. July 1, 2019, (V2019). 2021 from United States Census Bureau Website: https://www.census.gov/quickfacts/fact/map/sandiegocountycalifornia,CA/PST045219

California State Water Resources Control Board, Division of Drinking Water. State Drinking Water Information System, Drinking Water Watch, Version 21.11. 2021 from SWRCB Website: https://sdwis.waterboards.ca.gov/PDWW/index.jsp

County of San Diego. 2015 Jurisdictional Runoff Management Program (Revised Version 2019). 2021 from County of San Diego Website: https://www.sandiegocounty.gov/content/dam/sdc/dpw/WATERSHED_PROTECTION_PROGRAM/watershedpdf/JRMP.pdf

County of San Diego, Department of Public Works, Watershed Protection Program. Waterscape Rebate Program, Septic Rebate Program. 2021 from County of San Diego Website: https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/RebatesIncentives/SRP.html

County of San Diego, Department of Public Works, Watershed Protection Program. Educational Handouts and Videos. 2021 from County of San Diego Website. https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/Resources/

County of San Diego, Department of Public Works, Watershed Protection Program. A guide to your Septic System. 2021 from County of San Diego Website: https://www.sandiegocounty.gov/content/dam/sdc/dpw/WATERSHED_PROTECTION_PROGRAM/watershedpdf/Residential-Outreach/English/Septic_Systems.pdf

County of San Diego, Department of Environmental Health and Quality, Land and Water Quality Division. County of San Diego's Septic System Training Video. 2021 from County of San Diego Website: https://www.sandiegocounty.gov/content/sdc/dpw/watersheds/Resources/

California State Water Resources Control Board. 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report), November 12, 2010. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

California Regional Water Quality Control Board, San Diego Region. Index of San Diego Water Issues. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/docs/tmdlproject/

California Regional Water Quality Control Board, San Diego Region. A Resolution Adopting an Amendment to the Water Quality Control Plan for the San Diego Region (9) to Incorporate Total Maximum Daily Loads for Total Nitrogen and Total Phosphorus in the Rainbow Creek Watershed, San Diego County, Resolution No. R9-2005-0036. February 9, 2005. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/docs/rainbowcreek/R9_2005_0036.pdf

California Regional Water Quality Control Board, San Diego Region. Basin Plan Amendment and Final Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek (Resolution No. R9-2005-0036). March 22, 2006. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/docs/rainbowcreek/final_docs/rctmdlfinaltechrpt032206.pdf

California Regional Water Quality Control Board, San Diego Region. Basin Plan Amendment and Final Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek (Resolution No. R9-2005-0036), Appendix A. March 22, 2006. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/docs/rainbowcreek/final_docs/rctmdlfinalbpa032206.pdf

California Regional Water Quality Control Board, San Diego Region. Letter from Dennis Gibson, Executive Officer, California Regional Water Quality Control Board, San Diego Region to County of San Diego, Department of Environmental Health and Quality Regarding Rainbow Creek Impaired Water Body Classification. October 18, 2019.

County of San Diego, Department of Environmental Health and Quality. Letter from County of San Diego, Department of Environmental Health and Quality to Dennis Gibson, Executive Officer, California Regional Water Quality Control Board, San Diego Region Regarding Rainbow Creek Impaired Water Body Classification. December 9, 2019.

California Regional Water Quality Control Board, San Diego Region. Letter from Dennis Gibson, Executive Officer, California Regional Water Quality Control Board, San Diego Region to the Santa Margarita River Watershed Management Area Water Quality Improvement Plan Copermittees Regarding 2019-2020 Water Quality Improvement Plan (WQIP) Annual Report Review: Santa Margarita River Watershed Management Area (WMA) WQIP. April 30, 2021.

Supreme Court of the United State. County of Maui, Hawaii v. Hawaii Wildlife Fund ET AL. Syllabus. October Term 2019. 2021 from U.S. Supreme Court Website: https://www.supremecourt.gov/opinions/19pdf/18-260_jifl.pdf

California Regional Water Quality Control Board, San Diego Region. A Resolution Amending the Water Quality Control Plan for the San Diego Region (9) to Incorporate Revised Total Maximum Daily Loads for indicator Bacteria, Project 1 – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek), Resolution No. R9-2010-0001. February 10, 2010.

California Regional Water Quality Control Board, San Diego Region. Joint Resolution Between the County of San Diego, City of San Diego, City of Imperial Beach, City of Shula Vista, City of Coronado, City of National City, Port of San Diego, San Diego Regional Water Quality Control Board, California State Lands Commission, and Surfrider Foundation Recommending Project Alternatives and Federal and State Actions to Eliminate Detrimental Transboundary Flows of Wastes in the Tijuana River Valley, Resolution No. 2019-0246, December 11, 2019.

California Regional Water Quality Control Board, San Diego Region. San Diego Region-Tijuana River TMDL for Indicator Bacteria and Trash. July 31, 2020. 2021 from CRWQCB, SDR Website:

https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/tijuanarivervalley.html

California Regional Water Quality Control Board, San Diego Region. Meeting Notice and Agenda. Wednesday June 12, 2019. 2021 from CRWQCB. SDR Website: https://www.waterboards.ca.gov/sandiego/board_info/agendas/2019/jun/

California Water Quality Control Board, San Diego Region. Santa Margarita River and Estuary. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/santa_margarita_river_estuary.html

California Regional Water Quality Control Board, San Diego Region. Santa Margarita River Estuary, California, Nutrients Total Maximum Daily Load Project Draft Staff Report. June 2018. https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/docs/santa_margarita_river/

California Regional Water Quality Control Board, San Diego Region. National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region (Order No. R9-2013-0001, as amended by R9-2015-0001, R9-2015-0100). MY 8, 2013. 2021 from the CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2013/R9-2013-0001.pdf

California Regional Water Quality Control Board, San Diego Region. General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Discharges that are Members of a Third Party Group in the San Diego Region (Order No. R9-2016-0004). November 9, 2016. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2016/R9-2016-0004.pdf

California Regional Water Quality Control Board, San Diego Region. General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Discharges Not Participating in a Third Party Group in the San Diego Region (Order No. R9-2016-0005). November 9, 2016. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2016/R9-2016-0005.pdf

California State Water Resources Control Board. Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (2013-0001-DWQ, as amended by 2015-0133-EXEC, 2016-069-EXEC.2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2013/wqo2013_0001dwq.pdf

California State Water Resources Control Board. National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State of California Department of Transportation (Caltrans MS4 Permit) (2012-0011-DWQ). July 1, 2013. 2021 from SWRCB Website:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf

California State Water Resources Control Board. National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (2009-0009-DWQ). September 2, 2014. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf

California State Water Resources Control Board. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities (2014-0057-DWQ). July 1, 2015. 2021 from SWRCB Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/industrial/2014indgenpermit/order.pdf

California State Water Resources Control Board. Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-0003-DWQ, as amended by 2008-0002-EXEC, 2013-0058-EXEC). May 2, 2006. 2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

California Regional Water Quality Control Board, San Diego Region. Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region (Order No. R9-2007-0005). February 14, 2007. 2021 from CRWQCB, SDR Website: https://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2007/R9-2007-0005_ADA.pdf

California State Water Resources Control Board. General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems (Order No. WQ 2014-0153-DWQ). September 23, 2014. 2021 from SWRCB Website: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf

Project Clean Water. Regional Clearinghouse. Project Clean Water Website: https://projectcleanwater.org

California State Water Resources Control Board. California Environmental Data Exchange Network (CEDEN) Website: http://ceden.org

County of San Diego, Department of Environmental Health and Quality. Beach and Bay Water Quality Program. 2021 from Website: County of San Diego Beach Water Quality (sdbeachinfo.com)

California State Water Resources Control Board. Search Beach Monitoring Data. 2021 from Website: https://www.waterboards.ca.gov/water_issues/programs/beaches/search_beach_mon.html