The Amendment language, "Action Plan for Pathogens in the Russian River Watershed" (Action Plan) revises Chapter 6 of the Water Quality Control Plan for the North Coast Region (Basin Plan). The Action Plan is to be inserted into the Basin Plan following the "Action Plan to Address Elevated Water Temperatures in the Navarro River Watershed" and before the "Action Plan for the Scott River Sediment and Temperature Total Maximum Daily Loads".

Headings, tables, and figures numbering for all subsequent sections in Chapter 6 will change to accommodate this amendment language. Specifically, "Action Plan for the Scott River Sediment and Temperature Total Maximum Daily Loads" will change from 6.3.7 to 6.3.8 and "Action Plan for the Shasta River Watershed temperature and Dissolved Oxygen Total Maximum Daily Load" will change from 6.3.8 to 6.3.9. Figures and tables within these sections will retain their sequence, but their numbering will change to reflect the updated section numbering. For example, Figure 6.3.7-1 "Subwatersheds in the Scott River Watershed" will become Figure 6.3.8-1 and Table 6.3.7-1 "Scott River Sediment Source Analysis Results in tons/sq. mi.-yr" will become Table 6.3.8-1.

Once the Action Plan, which includes the Russian River total maximum daily load, becomes effective, Basin Plan section 6.4.4 "Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices Specific to the Russian River Watershed, Including the Laguna De Santa Rosa" shall be removed from the Basin Plan and onsite waste treatment systems within the Russian River watershed must comply with both the Action Plan and requirements specified in the "Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)".

~~The following text is to be inserted into the Water Quality Control Plan for the North Coast Region (Basin Plan) following the Navarro Temperature TMDL Action Plan. The text will retain the cesspool and holding tank prohibitions from the "Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices Specific to the Russian River Watershed, Including the Laguna De Santa Rosa." The remainder of the "Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices Specific to the Russian River Watershed, Including the Laguna De Santa Rosa" shall be deleted upon adoption.~~

6.3.7 ACTION PLAN FOR PATHOGENS IN THE RUSSIAN RIVER WATERSHED ~~AND THE RUSSIAN RIVER PATHOGEN TOTAL MAXIMUM DAILY LOAD (TMDL)~~

The Russian River Watershed encompasses 1,484 square miles in Sonoma and Mendocino counties, California. Major cities within the watershed include Ukiah, Cloverdale, Healdsburg, Windsor, Rohnert Park, Santa Rosa, and Sebastopol. The watershed also includes numerous unincorporated communities such as Calpella, Hopland, Forestville, Guerneville, and Monte Rio. The 110-mile mainstem channel of the Russian River originates in the Redwood Valley of central Mendocino County about 15 miles north of Ukiah and enters the Pacific Ocean in Sonoma County at Jenner. The Russian River serves as the primary water source for more than 500,000 residents in Mendocino, Sonoma and Marin counties and for agricultural production in Mendocino and Sonoma counties. It provides multiple water-based recreational opportunities important to the economies of the watershed and well-being of residents and visitors.

The Action Plan for Pathogens in the Russian River Watershed, which includes ~~and~~ the Russian River Pathogen Total Maximum Daily Load (TMDL), hereinafter known as the Action Plan, is based on the authorities and requirements of both the federal Clean Water Act and ~~the state~~ California Water Code section 13242 and applies to the entire Russian River Watershed. This Action Plan: (1) summarizes the elements of a TMDL; (2) summarizes findings relative to pollution assessment; and (3) describes the Program of Implementation designed to control fecal waste pollution, achieve bacteria water quality objectives (bacteria objectives), and restore and maintain the water contact recreation (REC-1) beneficial use to protect public health.

The overall goal of the Action Plan is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and boating. To accomplish this goal, the Action Plan includes a Fecal Waste Discharge Prohibition that applies to all surface waters of the Russian River Watershed. Compliance with the prohibition will be achieved by either preventing the discharge of fecal waste; complying with a relevant National Pollutant Discharge Elimination ~~Program~~ System (NPDES) permit, Waste Discharge Requirements (WDR), or waiver of WDRs; or through the North Coast Water Board's implementation of Memorandums of Understanding (MOU) and development and implementation of a non-dairy livestock program.

6.3.7-1. Problem Statement

REC-1 is a year-round beneficial use of the Russian River Watershed. Portions of ~~Several surface waters in~~ the Russian River Watershed were first identified on the ~~2012~~ 2002 Clean Water Act Section 303(d) List of Impaired Waters[1], ~~(~~and areas remain on the current 2024 303(d) List~~,)~~ due to fecal indicator bacteria ~~(FIB)~~ concentrations that do

[1] USEPA partially approved the 2024 303(d) List on December 13, 2024. With respect to the Russian River pathogen listings, the 2024 303(d) List is the same as those approved in 2012.

not support the REC-1 beneficial use nor attain the bacteria objectives. TMDL studies were implemented in the period of ~~2009~~2011-2014 to assess the relationship between suspected fecal waste sources and evidence of pollution[2]. Data collection locations are shown on

[2] California Water Code section 13050 subdivision (l) defines “pollution” to mean: an alteration of waters of the state by waste to a degree, which unreasonably affects either of the following: (A) the waters for beneficial uses; or (B) facilities which serve these beneficial uses.

Figure 6.3.7-1. As described in Section 6.3.7-26.3.7-2 (Sources of Fecal Waste) ~~and shown on Figure 1-1~~, fecal waste sources associated with evidence of pollution were identified throughout the watershed. Evidence of pollution included elevated ~~FIB~~ fecal indicator bacteria in water quality samples above REC-1 objectives and criteria; microbial source tracking; microbial source identification; and county posted public health advisories at public beaches ~~closures~~.

~~REC-1 is a year-round beneficial use of the Russian River Watershed.~~ Statewide bacteria objectives for the protection of REC-1 are established using *E. coli* fecal indicator bacteria for freshwater and enterococci fecal indicator bacteria for saline water. The *E. coli* and enterococci bacteria objectives are set at allowable rates of illness deemed acceptable for the protection of public health (~~e.g.~~ i.e., 32 gastrointestinal illness per 1,000 recreators). U.S. EPA has also established national criteria for the protection of REC-1 based on enterococci ~~fecal indicator~~ bacteria in freshwater. Microbial source tracking ~~Human~~ using human and bovine *Bacteroides* bacteria measurements detect the presence of fecal waste and allow an assessment of the human and animal source of the waste detected. Microbial source identification (e.g., PhyloChip™ phylogenetic DNA microarray) also allows an assessment of human and animal source by measuring the percentage of sample DNA that matches known DNA fecal waste profiles. Public health advisories represent direct adverse impact to the REC-1 beneficial use.

The source assessment (see Section 6.3.7-26.3.7-2, Sources of Fecal Waste) identifies all known sources of fecal waste discharge in the Russian River Watershed and describes four ~~special~~ key studies that identify associations between season, land cover category, and Onsite Wastewater Treatment System (OWTS) density with water quality outcomes, extending the areas with evidence of pollution to the whole watershed.

Figure 6.3.7-1: ~~Figure 1-1:~~ Russian River Watershed

6.3.7-2. Sources of Fecal Waste

Water quality monitoring studies in the Russian River Watershed including a Land Cover Study, an Onsite Wastewater Treatment System (OWTS) study, a Recreation study, and a Phylochip™ study (studies) find that fecal indicator bacteria~~FIB~~ concentrations (e.g., *E. coli*, enterococci, and *Bacteroides*) in surface waters are significantly higher during wet weather periods than during dry periods, indicating that storm water runoff has a strong influence on the delivery of fecal waste to the Russian River and its tributaries. Studies also find that regardless of the time of year, *E. coli* and enterococci concentrations in surface waters are significantly higher in human-developed areas (both sewered and non-sewered), than other areas (e.g., shrubland, forestland, and agricultural lands). Human-specific *Bacteroides* bacteria concentrations in the wet period indicate a widespread human fecal waste signature in all land cover types, except forestland. Bovine-specific *Bacteroides* bacteria concentrations in the wet period indicate a widespread bovine fecal waste signature in shrubland, agricultural lands, and developed onsite septic (rural residential) areas. Focused assessments find that: 1) ~~FIB~~fecal indicator bacteria concentrations correlate with parcel density in those areas with ~~onsite waste treatment systems (~~OWTS~~)~~; and 2) higher concentrations of both *Bacteroides* and *E. coli* bacteria are associated with periods of high use at beach recreational areas. PhyloChip™ phylogenetic DNA microarray data did not correlate with *E. coli*, enterococci or *Bacteroides* data, but did identify human waste signals and grazer waste signals. In total, these studies indicate the widespread presence of fecal waste sources throughout the Russian River Watershed and provide the basis for the determination that there is watershed-wide evidence of pollution, which validates the need for a prohibition against the discharge of fecal waste.

The following specific source categories are determined to have potential to discharge fecal waste to surface waters in the Russian River Watershed and require control under this ~~TMDL~~ Action Plan. Section 6.3.7-76.3.7-7, Program of Implementation is applicable to the entire Russian River Watershed and describes the regulatory mechanisms for controlling each potential fecal waste source category.

6.3.7-2.1 Potential Sources of Human Fecal Waste Material

- Treated Municipal Wastewater to Surface Waters, including discharges from holding ponds;
- Untreated Sewage from ~~leaking~~ Sanitary Sewer Systems;
- Wastewater from Percolation Ponds and through Spray Irrigation;
- Runoff from Land Application of Municipal Biosolids and Biosolids Storage Areas;
- Runoff from ~~Water Recycling Projects~~ Irrigation of Recycled Water;
- Runoff from sites that receive discharges of waste to land;
- ~~Leaking or failing~~ Onsite Wastewater Treatment Systems, including individual systems and large or multi-user systems;
- Recreational Water Uses and Users;

- Homeless and Illegal Camping; and
- Stormwater Runoff entering Municipal Separate Storm Sewer Systems (MS4s) and entering water bodies outside of established MS4 boundaries, including CalTrans stormwater runoff.

6.3.7-2.2 Potential Sources of Domestic Animal and Farm Animal Waste

- Pet Waste;
- Manure from Non-Dairy Livestock and Farm Animals; and
- Manure from Dairy Cows.

6.3.7-3. Numeric Targets

Numeric targets are numerical translations of the existing water quality standards ~~developed for metrics~~ that help assess progress towards attainment of the water quality objective. The Russian River Pathogen TMDL is based on the statewide numeric bacteria objectives for REC-1 in the Basin Plan for *E. coli* ~~bacteria objective for the protection of REC-1~~in freshwater and enterococci in saline water, which are given as concentrations. The numeric targets established for this Action Plan are identical to the TMDL and statewide bacteria objectives[3]. As shown in ~~Table 3-1~~Table 6.3.7-1, the numeric targets for *E. coli* for freshwater and enterococci for saline water are expressed as six-week rolling geometric means (GM) calculated weekly and statistical threshold values (STV) not to be exceeded more than 10 percent of the time, calculated monthly. The numeric targets are based on colony forming units (cfu) of bacteria per 100 mL water sample. For the purpose of this Action Plan and consistent with the statewide bacteria objectives for REC-1 protection, saline waters are those waters in which salinity exceeds 1 part per thousand more than 5% of the time during the calendar year.

Table 6.3.7-1: ~~Table 3-1:~~ Numeric Targets for Fecal Indicator Bacteria

Fecal Indicator Bacteria	GM Target	STV Target
E. coli	≤ 100 cfu/100 mL	≤ 320 cfu/100 mL as a STV
Enterococci	≤ 30 cfu/100 mL	≤ 110 cfu/100 mL

6.3.7-4. TMDL and Load Allocations

The TMDL, waste load allocations (WLAs) for point sources, and load allocations (LAs) for nonpoint sources are expressed as receiving water concentrations of *E. coli* in freshwater and enterococci in saline waters identical to the statewide bacteria objective for protection of REC-1 for those sources that are permitted to discharge. WLAs and

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[3] ~~The State Water Resources Control Board established statewide bacteria objectives applicable to both inland surface waters and ocean waters in Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California- Bacteria Provisions and a Water Quality Variance Policy and Amendment to the Water Quality Control plan for Ocean Waters of California-Bacteria Provisions and a Water Quality Standards Variance Policy and are available on the State Water Board's website (https://www.waterboards.ca.gov/bacterialobjectives/).~~

LAs are equal to the numeric targets stated in section 6.3.7-36.3.7-3 and ~~Table 3-1~~Table 6.3.7-1 of this Action Plan. For potential fecal waste sources that are not permitted to discharge to a surface water, WLAs and LAs are identified as zero. ~~Table 4-1~~Table 6.3.7-2 identifies the WLAs and LAs for each source category. WLAs will be translated into appropriate effluent limitations in NPDES permits.

Table 6.3.7-2: ~~Table 4-1:~~ Wasteload and Load Allocations

Source Category	Allocation Type	Allocation[43]
Municipal wastewater discharge to surface water (NPDES)	WLA	GM and STV for *E. coli* or enterococci depending on salinity
Municipal wastewater discharge to land (WDR)	~~WLA~~/LA	0
Sanitary Sewer Systems	LA	0
Land Application of Biosolids	LA	0
Recycled Water Irrigation Runoff	LA	0
Municipal Stormwater (NPDES)	WLA	GM and STV for *E. coli* or enterococci depending on salinity
CalTrans Stormwater (NPDES)	WLA	GM and STV for *E. coli* or enterococci depending on salinity
Large OWTS	LA	0
Individual OWTS	LA	0
Recreational Water Use and Users	LA	0
Homeless Encampments and Illegal Camping	LA	0
Non-dairy Livestock and Farm Animal Waste	LA	GM and STV for *E. coli* or enterococci depending on salinity
Dairies and CAFOs subject to NPDES permit	WLA	GM and STV for *E. coli* or enterococci depending on salinity

[43] Load allocations are based on ~~Table 3-1~~Table 6.3.7-1

Source Category	Allocation Type	Allocation[43]
Dairies and CAFOs not subject to NPDES permit	LA	GM and STV for *E. coli* or enterococci depending on salinity

6.3.7-5. Margin of Safety and Seasonal Variations

Uncertainty regarding the relationship between source loading and ambient water quality outcome is eliminated when the TMDL is based on concentration limits identical to the statewide bacteria objectives for REC-1 protection. The statewide bacteria objectives for REC-1 protection incorporate an implicit margin of safety by establishing limitations based on the lower of two acceptable illness rates (i.e., 32 gastrointestinal illnesses versus 36 per 1,000 recreators).

There is no seasonal variation of the TMDL required because the TMDL is set at the maximum allowable concentrations of *E. coli* and enterococci necessary to protect public health during all times of the year. Sections 6.3.7-6 and 6.3.7-7 of this Action Plan describe actions and requirements to implement and comply with the Russian River Pathogen TMDL.

6.3.7-6. Fecal Waste Discharge Prohibition

In accordance with California Water Code section 13243 and to achieve the water quality objective for bacteria, to protect present and future beneficial uses of water, to protect public health, and prevent nuisance, this Action Plan sets forth the following:

Discharges of waste containing fecal material from humans or domestic animals to waters of the state within the Russian River Watershed are prohibited.

In conformance with the Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program[54], violation of the Fecal Waste Discharge Prohibition is subject to direct enforcement. ~~The next s~~ Section 6.3.7-7 of this Action Plan describes actions and requirements to implement and comply with the Fecal Waste Discharge Prohibition.

6.3.7-7. Program of Implementation

This Action Plan builds upon management measures required by existing regional and statewide regulations and orders designed to reduce or eliminate fecal waste discharges from wastewater treatment facilities, sanitary sewer systems, recycled water, land application of biosolids, municipal stormwater runoff, onsite wastewater treatment systems, and dairies. Where existing state-issued WDRs and actions undertaken by ~~local~~ regulatory agencies have been inadequate to ensure consistent achievement of bacteria objectives, this Action Plan identifies implementing parties and sets forth specific implementation actions that shall be taken to control fecal waste

[54] Nonpoint Source Pollution Control Program Plans and Policy (https://www.waterboards.ca.gov/water_issues/programs/nps/plans_policies.html)

pollution, achieve waste load and load allocations, attain bacteria objectives, and protect public health in the Russian River Watershed. The implementing parties and the specific implementation actions are identified in ~~Table 9-1~~Table 6.3.7-3 and ~~Table 9-2~~Table 6.3.7-4.

The actions described in this section implement the Fecal Waste Discharge Prohibition and comply with the Russian River Pathogen TMDL. These actions are consistent with the California Water Code and the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. ~~In accordance with Water Code section 13243 and to achieve the water quality objective for bacteria, to protect present and future beneficial uses of water, to protect public health, and prevent nuisance, this Action Plan sets forth the following in section 6.3.7-7.1.~~

6.3.7-7.1 Implementation of the Fecal Waste Discharge Prohibition

Compliance with the Fecal Waste Discharge Prohibition can be achieved by (a) implementing adequate treatment and best management practices to prevent the discharge of fecal waste material from humans or domestic animals from entering waters of the state either directly or indirectly as a result of stormwater runoff or groundwater seepage and (b) any of the following means, as applicable:

1. Comply with all fecal waste/pathogen-related provisions of an applicable NPDES permit.
2. Comply with all fecal waste/pathogen-related provisions of an applicable WDR.
3. Comply with all fecal waste/pathogen-related provisions of an applicable general WDR or waiver of WDRs (e.g., the conditional waiver included in the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy[65]).
4. Implement the terms of a Memorandum of Understanding or equivalent agreement between the North Coast ~~Regional Water Quality Control Board (North Coast~~ Water Board~~)~~ and relevant local agencies to address fecal waste discharge from homeless encampments ~~and~~, recreational water users, and any other additional sources identified after discussion between the relevant parties.[76]
5. For non-dairy livestock[8], implement best management practices to achieve the

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[65] OWTS Policy (https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)

[76] e.g., Russian River TMDL Memorandum of Understanding (https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/russian_river/pdf/170420/Russian_River_TMDL_MOU_Redacted.pdf)

[87] Examples of domestic animals include, but are not limited to cows, horses, cattle, goats, swine, fowl, sheep, dogs, cats, or any other animal(s) in the care of any person(s).

assigned load allocation within 2 years of the effective date of this Action Plan[98] and, if required by the Executive Officer, develop and implement an Executive Officer-approved Ranch Management Plan. Once adopted by the North Coast Water Board, non-dairy livestock operations comply with the prohibition if discharges are in compliance with all fecal waste/pathogen-related provisions of an applicable WDR or waiver of WDRs.

6. Existing, new[109], and replacement[1110] OWTS shall comply with sections 6.3.7-7.2 and 6.3.7-7.3 of this Action Plan. New and replacement OWTS near impaired water bodies listed in Attachment 2 of the OWTS Policy shall comply with special provisions contained in an approved Local Agency Management Program (LAMP), or if there are no special provisions, comply with the requirements in Tier 3 of the OWTS Policy and section 6.3.7-6 of this Action Plan.

6.3.7-7.2 Implementation Actions for Onsite Waste Treatment Systems

On June 19, 2012, the State Water Resources Control Board (State Water Board) adopted the OWTS Policy[1211]. The OWTS Policy took effect on May 13, 2013. The North Coast Water Board, in accordance with the statewide OWTS Policy, amended the Basin Plan on June 19, 2014, to incorporate requirements of the OWTS Policy into the Basin Plan for the North Coast Region. The Basin Plan amendment was approved by the Office of Administrative Law on July 14, 2016.

Section 3.2 of the OWTS Policy allows the North Coast Water Board to approve individual Local Agency Management Programs (LAMPs) allowing local agencies to provide alternative minimum standards to those specified in the OWTS Policy. Individual OWTS within the Russian River Watershed are regulated by ~~the Sonoma County Permit and Resource Management Department (~~Permit Sonoma (formerly known as the Sonoma County Permit and Resource Management Department) in Sonoma County and by the County of Mendocino Health & Human Services Agency, Division of Environmental Health (DEH), in Mendocino County. These local agencies review development proposals that rely on individual OWTS for domestic waste treatment and disposal. Local agency staff also review permit applications and project plans for OWTS repairs and upgrades, and issue repair permits as necessary in accordance with local policies.

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[98] This TMDL becomes effective upon approval by the Office of Administrative Law (OAL).

[109] New OWTS means an OWTS permitted or approved after the effective date of the TMDL Action Plan

[1110] OWTS Policy (2013), section 1.0, defines replacement OWTS to mean an OWTS that has its treatment capacity expanded, or its dispersal system replaced or added to.

[1211] OWTS Policy (https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)

To ensure compliance with local regulations and technical standards for OWTS, local agency staff also evaluate OWTS design and site conditions prior to OWTS construction and may perform inspections in response to complaints and reports of OWTS failures.

6.3.7-7.3 Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices Specific to the Russian River Watershed

The likelihood that surface water will be adversely impacted by OWTS is increased substantially in areas with a high density of OWTS, particularly those areas with small parcel sizes and where there is a high percentage of existing OWTS that predate adopted local standards for the design and siting of OWTS. The objective of controlling water quality with respect to OWTS is to ensure that OWTS in the Russian River Watershed are properly sited, designed, operated, and maintained to provide adequate removal of pathogenic organisms, comply with the Fecal Waste Discharge Prohibition, and attain numeric targets~~, waste load allocations,~~ and load allocations. Pursuant to these objectives, owners of OWTS within the Russian River Watershed shall comply with the following minimum requirements as a condition of the OWTS Policy's Conditional Waiver, or, if applicable, any WDRs or waivers of WDRs issued by the North Coast Water Board.

6.3.7-7.3.1 Cesspools

In accordance with the OWTS Policy, cesspools are explicitly excluded from the definition of authorized onsite wastewater treatment systems and are not eligible for coverage under the Policy's Conditional Waiver of Waste Discharge Requirements. Additionally, the Sonoma County OWTS Manual—adopted by the Sonoma County Board of Supervisors on August 13, 2024—does not authorize the use of cesspools and requires their decommissioning when identified. Mendocino County's LAMP has similar provisions, requiring the decommissioning of cesspools when identified.

Because cesspools are not authorized under either state or local regulations, their continued use may constitute unauthorized discharges or threatened discharges of waste that require regulatory oversight under California Water Code section 13260. Therefore, the North Coast Water Board must obtain information from property owners to determine the location and status of these OWTS in order to assess compliance with applicable state and local requirements.

To support this effort, the Action Plan includes an Assessment Program designed to collect relevant information from property owners in areas where the type and condition of OWTS are currently unknown in light of the need to prevent nuisance, protect water quality and public health. To comply with the Fecal Waste Discharge Prohibition cesspool owners must report, in writing, to the North Coast Water Board the existence and use of cesspools.
~~The use of cesspools for on-site waste treatment and disposal are prohibited. Compliance with the cesspool prohibition shall be met in accordance with the actions specified in **Error! Not a valid bookmark self-reference.**.~~

~~7.3.2 Holding Tanks~~

~~The use of holding tanks are prohibited except where the responsible regulatory agency determines that:~~

~~1. It is necessary to abate an existing nuisance or health hazard; or~~

~~2. The proposed use is within a sewer service area, sewers are under construction or contracts have been awarded and completion is expected within two years, there is capacity at the wastewater treatment plant and the sewerage agency will assume responsibility for maintenance of the tanks; or~~

~~3. It is for use at a campground or similar temporary public facility where a permanent sewage disposal system is not necessary or feasible and maintenance is performed by a public agency.~~

6.3.7-7.3.2 ~~7.3.3~~ Seepage Pits

Seepage pits may be authorized by the responsible regulatory agency ~~as replacement OWTS for existing cesspools only~~ when: (1) consistent with an approved LAMP and (2) consistent with the OWTS Policy's Conditional Waiver or ~~(2)~~ WDRs or waivers of WDRs issued by the North Coast Water Board authorize their use. To comply with the Fecal Waste Discharge Prohibition cesspool owners must report, in writing, to the North Coast Water Board the existence and use of cesspools.

6.3.7-7.3.3 ~~7.3.4~~ General Operation and Maintenance Requirements

In accordance with section 2.5 of the OWTS Policy, owners of OWTS shall maintain their OWTS in good working condition, including inspections and pumping of solids, as necessary, or as required by local ordinances and requirements established in an approved LAMP, to maintain proper function and assure adequate treatment and disposal.

6.3.7-7.3.4 ~~7.3.5~~ Inspections

Proper operation and maintenance are essential to the long-term performance of OWTS, and any OWTS may be required to undergo inspection to comply with the requirements in this Action Plan. Routine inspections and service visits can provide early detection of problems that could result in malfunction of OWTS and allow for timely repair before an OWTS becomes a public health hazard. The appropriate frequency of monitoring and maintenance is related to the complexity of the OWTS, its age, location, site constraints, approved variances, repair history, past monitoring and inspection results, peak hydraulic loading, and other factors. At a minimum, periodic inspections must evaluate whether both the treatment and effluent dispersal components are functioning adequately to minimize the threat to water quality and public health.

Periodic inspections may occur in conjunction with pumping of the septic tank, a property transaction, an in-field performance verification performed by a Qualified

Professional[13]12 or Service Provider certified by an OWTS manufacturer, or an inspection required by the responsible local agency or North Coast Water Board.

Results of periodic inspections shall be made available to the North Coast Water Board and/or the local agency upon request by the North Coast Water Board to enable the regulating agency to determine whether the OWTS is compliant with all regulations, requires corrective action overseen by the responsible local agency or North Coast Water Board, or requires issuance of WDRs or a waiver of WDRs by the North Coast Water Board. The North Coast Water Board under the OWTS Policy and this Action Plan maintains the authority to require corrective actions based on information acquired from these inspections and/or if the North Coast Water Board identifies a probable risk of waste discharge.

6.3.7-7.3.4.1 ~~7.3.5.1~~ Basic Operational Inspection

At a minimum, a basic operational inspection shall include the following evaluations for applicable components:

1. Septic Tank and Pump Systems
    a. Observations to detect leaks, cracks, excessive corrosion, root intrusion, odors
    b. Presence and proper operation of liquid high-level alarm
    c. Assessment of liquid levels in relation to tank outlet
    d. Evidence of lack of water tightness
    e. Evidence of problems in downstream OWTS components, where they have been installed (e.g., distribution box, effluent filter, dosing tank)
    f. Proper settings and operation of pumping system(s), where they have been

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[13]12 Qualified Professionals are individuals licensed or certified by a State of California agency to design OWTS and practice as professionals for other associated reports, as allowed under their license or registration. Depending on the work to be performed and various licensing and registration requirements, this may include an individual who possesses a registered environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist. For the purposes of performing site evaluations, Soil Scientists certified by the Soil Science Society of America are considered qualified professionals. A local agency may establish, in an approved LAMP, alternative qualifications and/or certification for individuals conducting routine operational inspections

installed

2. Effluent Dispersal Area(s)
    a. Evidence of odors or surfacing effluent (e.g., excessive vegetation)
    b. Evidence of unequal effluent distribution
    c. Observations of inspection ports

Additional inspection requirements can be specified in waste discharge requirements or waiver of WDRs, or a North Coast Water Board issued Order[~~14~~13].

6.3.7-7.3.5 ~~7.3.6~~ Corrective Action Process and Criteria

In addition to conditions requiring corrective action set forth in section 11.0 of the OWTS Policy, OWTS meeting any of the following criteria are also deemed to be in need of corrective action and must be replaced, repaired, or modified so as to comply with Tier 1 of the OWTS Policy, an approved LAMP, WDRs, or a waiver of WDRs:

~~1. OWTS discharging to the ground surface or surface waters~~

~~2. OWTS that do not include a septic tank and an effluent dispersal system that complies with the OWTS Policy~~

1. ~~3.~~ OWTS with projected wastewater flow exceeding the capacity of one or more components of the treatment and disposal system
2. ~~4.~~ OWTS that ~~V~~ violate~~s~~ the Fecal Waste Discharge~~, Cesspool, or Holding Tank~~ Prohibition~~s~~ in section 6.3.7-6 of the Action Plan

Property owners with OWTS in the watershed that require corrective action or otherwise do not meet minimum requirements established in this Action Plan, may be required to contact the applicable local agency for a permit to repair or replace the OWTS or, where applicable, offered an opportunity to participate in the planning and completion of a community wastewater treatment and disposal system or equivalent alternative. Property owners that are required to upgrade, repair, or replace an existing OWTS or acquire a new OWTS must obtain the appropriate county permit in accordance with county ordinances and policies, and must obtain from the North Coast Water Board WDRs or a waiver of WDRs, if applicable. In accordance with an approved LAMP, the local agency may approve OWTS repairs and replacements in substantial conformance with the OWTS Policy on a case-by-case basis. Factors that the local agency may consider in determining that corrective actions substantially conform to the LAMP and OWTS Policy include but are not limited to circumstances where an OWTS owner has demonstrated a financial hardship and funding assistance is not available, and/or where due to unique site-specific factors, feasible compliance alternatives are unavailable. The local agency will be the lead organization for plan review, local permit issuance,

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[~~14~~13] In addition to the authority to issue waste discharge requirements pursuant to Water Code section 13263, or waivers of Waste Discharge Requirements pursuant to Water Code section 13269, Water code authorities that allow the North Coast Water Board to issue Orders requiring the inspection requirements include Water Code sections 13267, 13300, 13301, 13304, 13383.

construction inspection and monitoring of new OWTS and upgrades, and repairs or replacement of existing OWTS. This corrective action process does not limit the authority of the North Coast Water Board to require corrective action or issue orders to address threats to water quality, in substantial conformance with the OWTS Policy.

6.3.7-7.3.6 ~~7.3.7~~ Advanced Protection Management Program for OWTS

6.3.7-7.3.6.1 ~~7.3.7.1~~ Objectives

The OWTS Policy establishes Advanced Protection Management Program (APMP) requirements for new and replacement OWTS near impaired waterways and provides that certain APMP requirements may be met through special provisions established in an approved LAMP or TMDL. If there are no special provisions in an approved LAMP, or TMDL ~~provisions~~, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 of the OWTS Policy must meet the applicable specific requirements of Tier 3. The APMP requirements apply to an OWTS if any portion of the OWTS is partially or fully contained within the APMP boundary.

The APMP measures will:

1. Ensure that new and replacement OWTS in the Russian River Watershed are properly sited, designed, operated, and maintained to provide adequate removal of pathogenic organisms, comply with the Fecal Waste Discharge Prohibition, and attain numeric targets, ~~waste load allocations,~~ and load allocations.
2. Establish minimum requirements for new and replacement OWTS that are fair, affordable, and implementable, while at the same time meeting the objective for the Action Plan, which is to return and maintain the Russian River Watershed to a condition of consistent compliance with bacterial water quality objectives.

6.3.7-7.3.6.2 7.3.7.2 Basis

In addition to the provisions regarding the APMP in the OWTS Policy and an approved LAMP, the TMDL studies establish that many surface waters within the Russian River Watershed contain concentrations of ~~FIB~~ fecal indicator bacteria that exceed water quality objectives or otherwise indicate fecal waste pollution. Given their proximity to surface waterbodies, OWTS discharging to the subsurface near an impaired waterbody may contribute to the impairment by direct discharge (i.e., surfacing effluent from an improperly designed or located OWTS) or through contamination of groundwater in the vicinity of the OWTS as a result of incomplete soil treatment of the OWTS effluent and the migration of the contaminated groundwater to surface water.

6.3.7-7.3.6.3 ~~7.3.7.3~~ Applicability

In the absence of special provisions in an approved LAMP that would otherwise define the boundary of the APMP, the OWTS Policy applies an APMP for new and replacement OWTS within 600 feet of those impaired waterbodies listed in Attachment 2 of the OWTS Policy. Section 10.6 of the OWTS Policy lists additional requirements for OWTS within the APMP. ~~APMP applies to any OWTS located on a parcel that is partially or fully contained within the APMP boundary described in Attachment 2 of the OWTS Policy~~. Owners of existing, new, and replacement OWTS whose OWTS are

located entirely outside the boundaries of the APMP must still comply with relevant requirements of the OWTS Policy, any approved LAMP, sections 6.3.7-7.1 through 6.3.7-7.3.5 of this Action Plan, and if applicable, individual and/or general WDRs or waiver of WDRs.

All OWTS within the APMP must meet any special provisions in an approved LAMP. Compliance with the APMP minimum requirements and all applicable local requirements is a necessary condition for owners of OWTS to qualify for coverage under the OWTS Policy's Conditional Waiver of Waste Discharge Requirements. Failure to comply with conditions of the Conditional Waiver of Waste Discharge Requirements may result in revocation of waiver coverage or enforcement.

6.3.7-7.3.6.4 ~~7.3.7.4~~ Supplemental Treatment Requirements

All OWTS within the boundary of the APMP must meet all requirements specified in any special provisions of an approved LAMP. If there is no approved LAMP or no special provisions in an approved LAMP, new or replacement OWTS in the APMP must meet the requirements in Tier 3 of the OWTS Policy. For existing systems in the APMP not covered by special provisions in an approved LAMP, Tier 3 or more stringent requirements may be required by an Order of the North Coast Water Board on a case-by-case basis where evidence indicates the discharge threatens or impacts water quality.

6.3.7-7.3.7 ~~7.3.8~~ North Coast Water Board OWTS Assessment Program

The North Coast Water Board will assess OWTS within the Russian River Watershed to determine whether the OWTS complies with the Fecal Waste Discharge Prohibition and the requirements in section 6.3.7-7.36.3.7-7.3 of the Action Plan. The assessment may include a desktop evaluation or local record review, results of a sanitary survey, public survey, questionnaire, a physical site inspection or evaluation[~~15~~14], any combination of these methods, or other assessment methods that may become available. Information that may be used to ascertain the performance of an existing OWTS includes, but is not limited to: the OWTS type, age, approved variances, repair history, monitoring and inspection results, septic tank pumping records, maintenance records, peak hydraulic loading, and record of complaints received.

The North Coast Water Board ~~and/or the local agency~~ will notify property owners of the need to submit assessment information. The notification will describe the required information and the due date to submit the information to the North Coast Water Board ~~and the local agency~~. To effectively manage available staff resources, the North Coast Water Board may implement the Assessment Program in phases by geographic area or other appropriate ~~mechanism~~ method.

If ordered by the North Coast Water Board, owners of OWTS must provide information about the OWTS to the North Coast Water Board ~~or the local agency~~, and if deemed

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[~~15~~14] The physical site inspection may fulfill the basic operational inspection requirement.

necessary, (a) contact the local agency to initiate corrective actions pursuant to section 11 of the OWTS Policy and the local agency's LAMP, or (b) submit a report of waste discharge to the North Coast Water Board for possible establishment of waste discharge requirements or a waiver of waste discharge requirements for the domestic waste discharge.

6.3.7-7.3.8 ~~7.3.9~~ Planning for Community-based Wastewater Treatment Systems

The development of a community-based wastewater treatment system, OWTS management plan, or Onsite Wastewater Management Authority or District, where authorized by a local agency, may be appropriate for some areas. The formation of community advisory groups to provide local stakeholder input to local agencies is essential for the successful development and implementation of community-based solutions. It is the intent of the North Coast Water Board to provide adequate time, through the use of time schedules or equivalent orders, consistent with section 11.6 of the OWTS Policy, for owners of failing and substandard OWTS to comply with this Action Plan and for local agencies to seek and obtain funding assistance for the planning and construction of community-based wastewater treatment and disposal systems or connection to an existing system, as necessary. Additionally, the North Coast Water Board intends to coordinate with local agencies to provide technical assistance in efforts to identify and seek funding for community-based solutions as well as to facilitate community outreach.

6.3.7-8. Monitoring

~~1.~~ Monitoring will be conducted to provide information regarding the effectiveness of the Action Plan, including: (1) compliance with the Fecal Waste Discharge Prohibition; (2) achievement of WLAs and LAs; (3) attainment of the numeric targets; and (4) attainment of bacteria objectives and protection of beneficial uses.

~~2.~~ Monitoring activities include: project monitoring, special studies, receiving water trend monitoring, and ambient monitoring of public recreational beaches during the summer recreation period. Monitoring activities for the OWTS fecal waste source category will focus on areas of high parcel density to assess the success of implementation actions and to identify areas where fecal waste pollution is attributable to OWTS. Monitoring and reporting requirements may also include additional metrics (e.g., human and bovine *Bacteroides* bacteria) and analyses, which support accurate, defensible conclusions and provide a reasonable basis for the adaptive management of fecal waste pollution and public health water quality issues in the Russian River Watershed. Monitoring will also be prioritized in subwatersheds with significant developed lands, agricultural lands, or rangeland.

~~3.~~ Individual monitoring requirements will be specified in the controlling regulatory mechanism developed for each of the potential fecal waste source categories, as described in ~~Table 9-1~~Table 6.3.7-3 and ~~Table 9-2~~Table 6.3.7-4. The North Coast Water Board or Executive Officer may require specific monitoring or special studies under separate Water Code orders, including but not limited to Water Code section 13267 or 13383 orders, or WDRs or waivers of WDRs. All monitoring results will be reviewed and

assessed periodically to inform potential revisions of individual permits, orders, or other regulatory mechanisms or revisions to the Action Plan.

~~4.~~ The North Coast Water Board is participating with the Russian River Watershed Association and other partners in the development of a regional monitoring program for the Russian River Watershed called the Russian River Regional Monitoring Program (R3MP). As appropriate, implementing parties under this Action Plan may participate in the R3MP once it is developed. The goal of the R3MP is to ensure that all publicly and privately funded environmental monitoring conducted in the watershed and related to the implementation of public policy and regulatory requirements is adequately standardized, coordinated, accessible, and designed to cost-effectively answer watershed management questions. The monitoring requirements in individual NPDES and WDR permits may be revised to reflect participation in R3MP, as appropriate.

6.3.7-9. Schedule

~~1.~~ To implement requirements set forth in this Action Plan, the North Coast Water Board will also rely on existing regulatory tools including but not limited to individual and general NPDES permits, individual and general WDRs, individual and general Waivers of WDRs, direct enforcement of the Fecal Waste Discharge Prohibition~~, cesspool prohibition, holding tank requirements,~~ and implementation of MOUs or equivalent agreement with local agencies.

~~2. Table 9-1~~Table 6.3.7-3 and ~~Table 9-2~~Table 6.3.7-4 specify the implementation actions to be undertaken by implementing parties and the compliance dates by which the implementation actions must be completed. Implementation actions include compliance with existing WDRs or ~~W~~waivers, the issuance of new WDRs or ~~W~~waivers for previously unregulated or under-regulated sources of fecal waste material, and the development and implementation of new management plans and practices to control the discharge of fecal waste to surface waters.

~~3.~~ For OWTS within the Russian River Watershed, the Action Plan establishes and implements the TMDL and Fecal Waste Discharge Prohibition by: ~~(1) retaining cesspool and holding tank prohibitions from Chapter 4 of the Basin Plan;~~ (1~~2~~) deferring to the statewide OWTS Policy or approved LAMPs for OWTS requirements, including the definition of any APMP and any special provisions in the LAMP that pertain to APMPs; (2~~3~~) providing guidance on periodic OWTS inspections; and (3~~4~~) assessing the adequacy of existing OWTS.

~~4.~~ The North Coast Water Board will periodically review and assess the effectiveness of the Action Plan. The assessment will consider permit compliance, effectiveness of best management practices, and trends in water quality improvement as demonstrated by ~~the R3MP or other~~ monitoring efforts. North Coast Water Board staff will coordinate with local agencies to enter into and implement MOUs and equivalent agreements and revise the agreements as necessary. The North Coast Water Board anticipates full attainment of the bacteria water quality objective within 20 years from the effective date of this Action Plan.

Table 6.3.7-3: ~~Table 9-1:~~ Implementation Actions for Source Categories - Load/Wasteload Allocation = Statewide Objective

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
Municipal Wastewater Discharges	City of Ukiah, City of Healdsburg, City of Santa Rosa, Russian River CSD~~,~~ ~~Occidental CSD~~, City of Cloverdale	Compliance with the applicable NPDES permits - **Immediate**
Wastewater Holding Pond Discharges to Surface Water	Town of Windsor, City of Santa Rosa, Graton CSD, Forestville WD, Russian River CSD, other entities with storage pond discharges to surface water~~.~~ North Coast Water Board~~.~~	**Within seven years after the effective date of this Action Plan**, the North Coast Water Board will begin to conduct reasonable potential analyses (RPAs) based on information submitted by the implementing party for entities that discharge wastewater from wastewater holding ponds to surface water. For discharges with reasonable potential to cause or contribute to an exceedance of the WLAs, water quality-based effluent limitations will be established in the applicable WDRs that will ensure compliance with WLAs for bacteria.
Municipal Storm Water Runoff	Sonoma County, Sonoma County Water Agency, City of Cloverdale, City of Cotati, City of Healdsburg, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, City of Ukiah, Town of Windsor, County of Mendocino, Sonoma State University, and other entities enrolled under the Phase I and Phase II MS4 permits~~,~~ North Coast Water Board	1. Compliance with the applicable NPDES permits, including implementation of approved Pathogen Reduction Plans – **Immediate** 2. <u>For Phase I MS4 Permittees that are currently not required to develop and implement pathogen reduction plans, the North Coast Water Board will require development, submittal, and implementation of Pathogen Reduction Plans in the next iteration of the Phase I MS4 permit (scheduled for adoption in 2027).</u> 3. <u>Phase II MS4 permit enrollees shall develop, submit, and implement pathogen reduction plans consistent with Phase II MS4 permit requirements (currently undergoing the process of renewal).</u>

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		~~3. For Phase I and II MS4 Permittees without approved Pathogen Reduction Plans on the effective date of the Action Plan, the North Coast Water Board will require submission of the Pathogen Reduction Plans under authority of section 13383/ 13267 subdivision (b) of the Water Code **within two years of the effective date of this Action Plan**.~~ ~~4. **Within two years after the effective date of this Action Plan**, existing Phase I and II MS4 enrollees without an approved Pathogen Reduction Plan shall implement a Pathogen Reduction Plan approved by the North Coast Water Board Executive Officer.~~ New Phase I and II MS4 enrollees shall implement a Pathogen Reduction Plan approved by the North Coast Water Board Executive Officer **within two years of enrollment.**
California Department of Transportation (Caltrans) Storm Water	Caltrans	Compliance with the applicable NPDES permits – **Immediate**
Non-dairy Livestock and Farm Animal Waste	Owners and operators of animal facilities, inclusive of animal husbandry, livestock production, other similar agriculture operations, and commercial animal boarding facilities North Coast Water Board	1. **Within two years after the effective date of this Action Plan**, owners and operators of non-dairy livestock and farm animal facilities shall implement BMPs to achieve the assigned load allocation and, if required by the Executive Officer, develop and implement a Ranch Management Plan. Comply with all provisions of a WDR or waiver of WDRs upon adoption by the North Coast Water Board to control discharges of waste from non-dairy livestock and farm animal operations. 2. The North Coast Water Board will develop and adopt WDRs or waivers of WDRs for non-dairy livestock and farm animal waste

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		to control the discharges of waste from these and other similar operations. Until WDRs or waivers of WDRs are adopted, owners and operators of non-dairy livestock and farm animal facilities shall continue to implement BMPs that are feasible and appropriate for compliance with the fecal waste discharge prohibition.
Dairies and CAFOs	Owners and Operators of Cow Dairies and CAFOs not subject to NPDES permits	Compliance with the applicable WDRs or ~~W~~waivers – **Immediate**
Dairies and CAFOs	Owners and Operators of Cow Dairies and CAFOs subject to NPDES permits	1. Compliance with the applicable NPDES permits - **Immediate** 2. **Within two years after the effective date of this Action Plan**, enrollees under NPDES permits shall update their permit-required management plans to address sources of bacteria.

Table 6.3.7-4: ~~Table 9-1:~~ Implementation Actions for Source Categories - Load/Wasteload Allocation = Zero

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
Percolation Pond and Irrigation Discharges	Calpella CWD, Hopland PUD, City of Cloverdale, City of Ukiah, Geyserville SZ, Airport-Larkfield-Wikiup SZ, Russian River CSD, other publicly and privately-owned wastewater treatment facilities in the Russian River Watershed that collect, treat, and dispose of or recycle treated effluent to land via percolation ponds or by irrigation	Compliance with the applicable WDRs - **Immediate**
Sanitary Sewer Systems	City of Ukiah, Ukiah SD, Calpella CWD, Hopland PUD, City of Cloverdale, Geyserville SZ, City of Healdsburg, Town of Windsor, Airport-Larkfield-Wikiup SZ, City of Santa Rosa, South Park CSD, City of Cotati, City of Rohnert Park, City of Sebastopol, Sonoma State University, Graton CSD, Forestville WD, Russian River CSD, Occidental CSD, and other public entities that own or operate sanitary sewer systems	Compliance with the applicable WDRs - **Immediate**

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
Land Application of Treated Municipal Sewage Sludge (Biosolids)	City of Santa Rosa, other public and private entities applying biosolids as a soil amendment	Compliance with the applicable WDRs - **Immediate**
Recycled Water Irrigation Runoff	Entities permitted to beneficially reuse treated wastewater through irrigation to land~~,~~ North Coast Water Board	1. Compliance with the applicable WDRs, Master Reclamation Permit, Water Recycling Requirements - **Immediate** 2. **Within three months after the effective date of this Action Plan**, each entity that is permitted to beneficially reuse treated wastewater and is implementing a Recycled Water BMP Plan or equivalent BMP Plan shall submit to the Executive Officer written certification that its existing BMP Plan adequately prevents and/or minimizes overspray, spills, and incidental runoff. Permittees enrolled under Statewide General Permits or equivalent may include this certification in their annual reports. 3. **Within ~~two years~~ three months after the effective date of this Action Plan**~~, each entity that currently recycles water without a Recycled Water BMP Plan or equivalent BMP plan shall develop and implement a Recycled Water BMP Plan. Where the entity is the producer and user of recycled water, the entity shall also submit to the North Coast Water Board Executive Officer a Title 22 Engineering Report approved by the State Water Board Division of Drinking Water.~~ staff will begin reviewing existing permits and updating those that lack appropriate recycled water BMP plan requirements (either by updating individual permits or enrolling permittees in Statewide General permits, as appropriate) to ensure dischargers are employing appropriate BMPs.

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		4. The North Coast Water Board will require submission of the certification statement and, where necessary, notices to update existing Recycled Water BMP Plans under authority of Water code section 13267 subdivision (b) of the Water Code. New Recycled Water BMP Plans, or equivalent BMP Plans, shall be submitted as part of a Notice of Intent for coverage under general WDRs or in conjunction with a report of waste discharge.
Recreational Water Uses and Users	North Coast Water Board, Sonoma County, Mendocino County	1. In accordance with a Memorandum of Understanding, Sonoma County and the North Coast Water Board will work with local entities and private parties along the Russian River to address water quality impacts relative to recreational water uses, and to promote the installation and location of sanitary facilities along the Russian River for use by recreational water users – **Immediate** 2. Mendocino County and the North Coast Water Board will develop a Memorandum of Understanding or equivalent agreement to address water quality impacts relative to recreational water uses - **Ongoing**
Homeless Encampments; Illegal Camping	North Coast Water Board, Sonoma County, Mendocino County	1. Mendocino County and the North Coast Water Board will develop a Memorandum of Understanding or equivalent agreement to address water quality impacts relative to homeless encampments and illegal camping – **Ongoing** 2. Sonoma County and the North Coast Water Board will update their Memorandum of Understanding to address water quality impacts relative to homeless encampments and illegal camping - **Ongoing**

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		3. The North Coast Water Board will prioritize permitting for homeless-dedicated and affordable housing projects in the Russian River area for which North Coast Water Board permits are required - **Immediate**
Large Onsite Wastewater Treatment Systems	Owners and operators of all OWTS with individual or combined projected flows greater than 10,000 gpd or owners of OWTS with individual or combined projected flows greater than set forth in an approved LAMP North Coast Water Board	1. **Within three months after the effective date of this Action Plan**, owners and operators of new or unpermitted OWTS with projected flow of over 10,000 gpd shall submit a Report of Waste Discharge (ROWD) to the North Coast Water Board. 2. **On an ongoing basis,** the North Coast Water Board staff shall review WDRs or ~~W~~waivers of WDRs for Large OWTS located in the Russian River Watershed.
Existing, New and Replacement Onsite Wastewater Treatment Systems	North Coast Water Board Owners and Operators of Existing, New, and Replacement Onsite Wastewater Treatment Systems with individual or combined flows less than or equal to 10,000 gpd	The North Coast Water Board shall: 1. **Immediately upon the effective date of the Action Plan**, begin conducting periodic OWTS assessments as described in section ~~7.3.8~~6.3.7-7 of this Action Plan. 2. **Within ten years after the effective date of this Action Plan**, complete the first periodic watershed-wide OWTS assessment. Owners and operators of Existing, New, and Replacement OWTS with individual or combined flows of less than or equal to 10,000 gpd within the Russian River Watershed shall: 1. **Immediately upon the effective date of the Action Plan**, comply with the Fecal Waste Discharge Prohibition. Maintain OWTS in good working condition, including inspections and pumping of solids, as necessary, or as required by local ordinances and requirements established in an approved

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		LAMP, to maintain proper function and assure adequate treatment and disposal. 2. **Immediately upon the effective date of the Action Plan**, ~~comply with the Cesspool and Holding Tank Prohibitions, and Seepage Pit requirements.~~ i. ~~The initial step towards compliance shall be to r~~ Report, in writing, to the North Coast Water Board the existence and use of ~~of~~ cesspools~~, holding tanks,~~ and seepage pits. The information provided shall include the property APN, system type, system age, the number of bedrooms served by the ~~OWTS~~ system, and last inspection date, if any. ii. If notified by the North Coast Water Board or local agency, conduct a basic operational inspection as described in section ~~7.3.5.1~~6.3.7-7.3.4.1 and/or obtain an OWTS inspection conducted by a Qualified Professional as defined in the OWTS Policy. The resulting inspection report shall be submitted to the North Coast Water Board ~~and the local agency~~ according to the date specified in the inspection request. If the inspection report indicates a need for corrective action, the inspection report shall be submitted the North Coast Water Board ~~and the local agency~~ **within 90 days**. ~~iii. Compliance with Cesspool and Holding Tank Prohibitions, and Seepage Pit requirements shall be determined by the North Coast Water Board or the local agency on a case-by-case basis based upon evaluation of site-specific information.~~

Fecal Waste Source Category	Implementing Parties (Source)	Implementation Actions and Compliance Date(s)
		3. If notified by the North Coast Water Board or local agency that corrective actions are required, complete all corrective actions **within the time schedule**[15]~~16~~ **established by the North Coast Water Board or local agency**. ~~In the absence of a notification from the North Coast Water Board or local agency, complete all corrective actions **no later than fifteen years from the effective date of the Action Plan.**~~

~~16~~15 The time schedule may be required under an order issued pursuant to Water Code sections 13267, 13300, 13301, 13304, or 13308, 13383, or within waste discharge requirements or waivers of waste discharge requirements.

6.4.4 Policy On The Control Of Water Quality With Respect To On-Site Waste Treatment And Disposal Practices Specific To The Russian River Watershed, Including The Laguna De Santa Rosa

In accordance with Section 4.2.1 of the OWTS Policy, OWTS systems within the Russian River Watershed shall continue to follow the existing Basin Plan requirements as detailed below, until the Regional Water Board adopts the Russian River pathogen indicator bacteria TMDL.

I. Objective

The North Coast Region is one of the fastest growing areas of California, with widespread and increasing dependence on on-site systems for sewage treatment and disposal. Due to ever-increasing costs, the ultimate construction of sewerage systems in developing areas can no longer be relied upon as a future solution to sewage disposal needs. More and more, on site systems must be viewed as permanent means for waste treatment and disposal, capable of functioning properly for the life of the structure(s) served. The preponderance of adverse physical conditions throughout the North Coast Region necessitates careful evaluation of site suitability and design parameters for every on-site wastewater disposal system. This policy sets forth criteria and guidelines to protect water quality and to preclude health hazards and nuisance conditions arising from the subsurface discharge of waste from on-site waste treatment and disposal systems.

II. Findings

1. On site waste treatment and disposal can be acceptable and successful. The success of the on site system is dependent on suitable site location, adequate design, proper construction, and regular maintenance. Failure of the on site system can result in water pollution and the creation of health hazards and nuisance conditions.

2. Waste from on-site systems must be disposed and disbursed below ground surface and away from high groundwater. There are existing parcels of land which, due to limitations in size, unsuitable soils, and/or high groundwater, cannot accommodate on-site waste disposal.

3. Division 7 of the California Water Code grants to the Regional Water Board jurisdiction over all discharges of waste, including those from individual waste treatment and disposal systems or from community collection and disposal systems which utilize subsurface disposal. Local regulatory agencies, however, can most effectively control individual waste treatment and disposal systems, provided they strictly enforce ordinances and regulations designed to provide protection of water quality and the public health. Regulation of on site systems on federal lands is beyond the jurisdiction of local agencies and must remain with the Regional Water Board.

4. The many variations in physical conditions, population densities, and parcel sizes throughout the Russian River Watershed, including the Laguna de Santa Rosa (watershed) may affect the propriety of use of on site water treatment and disposal systems. Adherence to the guidelines, criteria, and water conservation practices contained herein ordinarily will protect public health and water quality. Local regulatory agencies and the Regional Water Board are encouraged to adopt more

stringent regulations when warranted by local conditions.

5. Factors may arise which will justify less stringent requirements than set forth in the guidelines and siting and design criteria contained herein. Provision for waiver is included in this policy to address such situations.

6. On site waste treatment and disposal systems can be an excellent sanitation device in rural and rural urban areas. However, in areas where population densities are generally high and the availability of land is limited, on site systems are not desirable. On-site waste treatment and disposal systems should not be permitted if adequate community sewerage systems are available or feasible.

7. Water conservation practices may protect present and future beneficial uses and public health, and may prevent nuisance and prolong the effective life of on site wastewater treatment and disposal systems. However, water conservation practices do not reduce the need to size on-site systems as set forth in this policy.

8. The life of on site wastewater treatment and disposal systems may be severely limited if improperly maintained. A means must be available to assure adequate maintenance of individual waste treatment and disposal systems. Management by public entities is encouraged wherever practicable.

9. Soil characteristics play a dominant role in the suitability of a site for subsurface sewage disposal. Increased emphasis on determining and utilizing soils information will improve site suitability evaluations.

10. The installation of many on site disposal systems within a given area may result in hydraulic interference between systems and adverse cumulative impacts on the quality of ground and surface waters. Physical solutions or limitations on waste load densities for land developments and other facilities may be necessary to avert such eventualities.

11. New technologies for on-site waste treatment and disposal continue to evolve. Means should be promoted to allow for timely and orderly consideration of promising alternative methods of waste treatment and disposal. Where alternative methods demonstrate enhanced performance, consideration may be given for utilization of different site criteria.

12. All aspects of on site waste treatment and disposal would benefit from improved professional training and public education programs. Such training and education programs should be promoted by the Regional Water Board in cooperation with local regulatory agencies and public and private sector professional association

III. Site Evaluation Criteria and Methods

A. Criteria

The following site criteria are considered necessary for the protection of water quality and the prevention of health hazards and nuisance conditions arising from the on site discharge of wastes from residential and small commercial establishments. They shall be treated as standards for assessing site suitability for such systems. Waiver of individual criterion may be made in accordance with the "Provision for Waiver" contained in this policy. Systems resulting in large wastewater loads may require additional criteria which are not covered in this policy, and which will require review by the Regional Water Board on a case by case basis.

1. Subsurface Disposal

On site waste treatment and disposal systems shall be located, designed, constructed, and operated in a manner to ensure that effluent does not surface at any time, and that percolation of effluent will not adversely affect beneficial uses of waters of the State.

2. Ground Slope and Stability

Natural ground slope in all areas to be used for effluent disposal shall not be greater than 30 percent.

All soils to be utilized for effluent disposal shall be stable.

3. Soil Depth

Soil depth is measured vertically to the point where bedrock, hardpan, impermeable soils or saturated soils are encountered.

The minimum soil depth immediately below the leaching trench shall be three feet.

Lesser soil depths may be granted only as a waiver or for alternative systems.

4. Depth to Groundwater

Minimum depth to the anticipated highest level of groundwater below the bottom of the leaching trench shall be determined from Figure 4-1.

5. Percolation Rates

Percolation test results in the effluent disposal area shall not be less than one inch per 60 minutes (60 MPI) for conventional leaching trenches. Percolation rates of less than one inch per 60 minutes (60 MPI) may be granted as a waiver or for alternative systems.

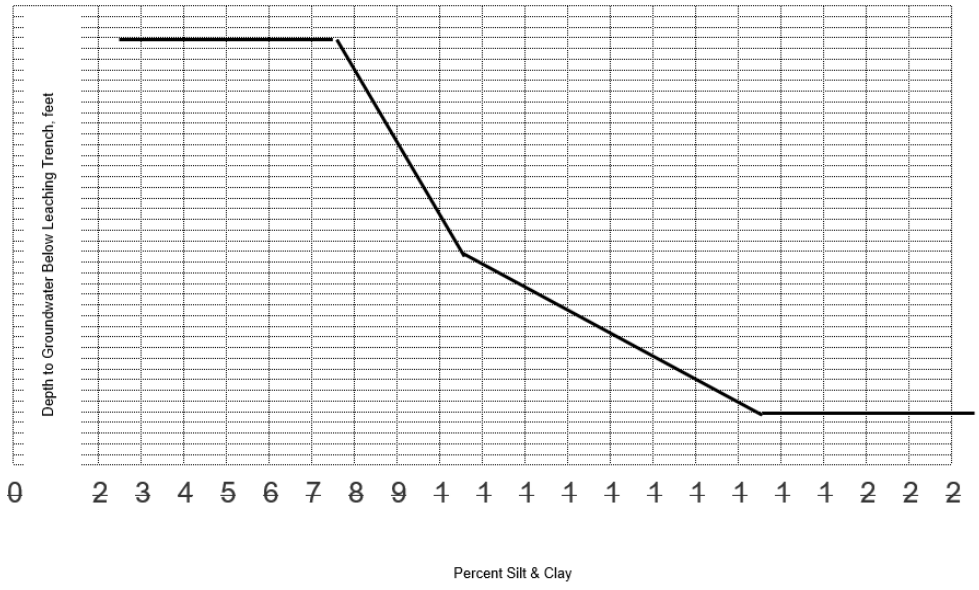
6. Setback Distances

Minimum setback distances for various features of individual waste treatment and disposal systems shall be as shown below in Table 4-1.

7. Replacement Area

An adequate replacement area equivalent to and separate from the initial effluent disposal area shall be reserved at the time of site approval. The replacement system area shall not be disturbed to the extent that it is no longer suitable for wastewater disposal. The replacement system area shall not be used for the following: construction of buildings, parking lots or parking areas, driveways, swimming pools, or any other use that may adversely affect the replacement area.

FIGURE 4-1 MINIMUM DEPTH TO GROUNDWATER BELOW LEACHING TRENCH



Notes:

1. The Silt & Clay content shall be determined after adjustment for coarse fragments as indicated in the method set forth in Figure 4-2, and must exist for a minimum of three feet between the bottom of the leaching trench and groundwater.

2. For percolation rates slower than 5 mpi, a minimum depth to groundwater below the leaching trench shall be five feet.

3. For soils having greater than 15% Silt & Clay, lesser depths to groundwater, to a minimum depth of two feet below the leaching trench, may be granted only as a waiver or for alternative systems.

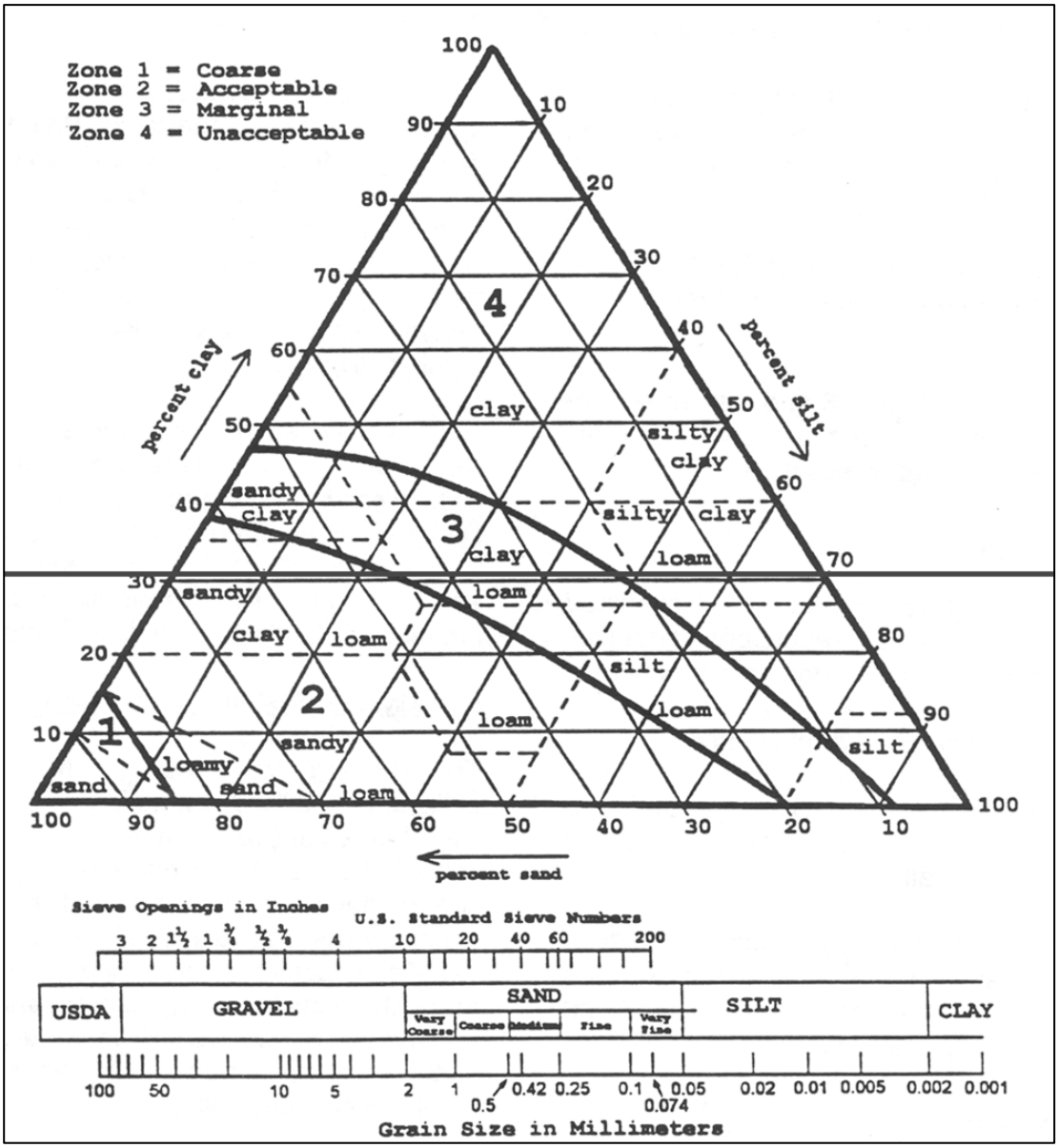
Table 4-1
Minimum Setback Distances (Feet)

Facility	Well	Perennially Flowing Stream [1]	Ephemeral Stream [2]	Ocean, Lake, or Reservoir [3]	Cut Banks, Natural Bluffs, and Sharp Changes in Slope	Unstable Land Forms
Septic Tank/Sump	100	50	25	50	25	50
Leaching Field	100	100	50	100	25	50

1. As measured from the line which defines the limit of 10 year frequency flood.
2. As measured from the edge of the water course.
3. As measured from the high-water line.
4. Where soil depth or depth to groundwater below the leaching trench are less than five feet, a minimum set back distance of 50 feet shall be required.

~~FIGURE 4-2~~

~~SOIL PERCOLATION SUITABILITY CHART FOR ON-SITE WASTE TREATMENT SYSTEMS~~



~~Instructions:~~

1. ~~Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.~~
2. ~~Adjust for coarse fragments by moving the plotted point in the 100 percent sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.~~
3. ~~Adjust for compactness of soil by moving the plotted point in the 100 percent clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.~~

~~Note: For soils falling in sand, loamy sand, or sandy loam classification bulk density analysis will generally not affect suitability, and analysis is not necessary.~~

B. Methods of Site Evaluation

Site evaluations are required in all instances to allow proper system design and to determine compliance with the proceeding site suitability criteria prior to approving the use of on-site waste treatment and disposal systems. The responsible regulatory agency or Regional Water Board should be notified prior to the conduct of site evaluations since verification by agency personnel maybe required. Site evaluation shall be conducted by individuals qualified as described in Section X.6 of this policy, and evaluation methods shall be in accordance with the following guidelines.

1. General Site Features

Site features to be determined by inspection shall include:

a. Land area available for primary disposal system and replacement area.

b. Ground slope in the effluent disposal and replacement area.

c. Location of cut banks, fills, or evidence of past grading activities, natural bluffs, sharp changes in slope, soil landscape formations, and unstable land forms within 50 feet of the disposal and replacement area.

d. Location of wells, intercept drains, streams, and other bodies of water on the property in question and within 100 feet on adjacent properties.

2. Soil Profiles

Soil characteristics shall be evaluated by soil profile observations. One backhoe excavation in the primary disposal field and one in the replacement area shall be required for this purpose. A third profile shall be required if the initial two profiles show conditions which are dissimilar enough so as to alter the ultimate design or location of the leachfield area.

Soil characteristics shall be evaluated by soil profile observations. One backhoe excavation in the primary disposal field and one in the replacement area shall be required for this purpose. A third profile shall be required if the initial two profiles show conditions which are dissimilar enough so as to alter the ultimate design or location of the leachfield area.

Augered test holes shall be an acceptable alternative, upon determination of the responsible regulatory agency: (a) where use of a backhoe is impractical because of access or because of the fragile nature of the soils, (b) when necessary only to very conditions expected on the basis of prior soils investigations, or (c) when done in connection with geologic investigations. Where this method is employed, three test holes in the primary disposal field and three in the replacement area shall be required.

In the evaluation of new subdivisions, enough soil profile excavations shall be made to identify a suitable disposal and replacement area on each proposed parcel.

The following factors shall be observed and reported from ground surface to a limiting condition or five feet below the proposed leachfield system:

a. Thickness and coloring including Munsell Color Identification of soil layers, soil structure, and texture according to United States Department of Agriculture (USDA) classification.

b. Depth to a limiting condition such as hardpan, rock strata, a large volume of rock fragments, or impermeable soil layer.

c. Depth to observed groundwater.

d. Depth to and description of soil mottling and gleying.

e. Other prominent soil features which may affect site suitability, such as structure, stoniness, consistence, root zones and pores, dampness, massive and/or weak structured soils, etc.

3. Depth to Groundwater Determinations

The anticipated highest level of groundwater shall be estimated:

a. As the highest extent of soil mottling observed in the examination of soil profiles; or

b. By direct observation of groundwater levels during wet weather conditions. Methods for groundwater determinations and monitoring well construction shall be set forth by the local regulatory agency.

Where a conflict in the above methods of examination exists, the direct observation shall govern.

In those areas which, because of parent materials, soils lack the necessary iron compounds to exhibit mottling, direct observation during wet weather conditions shall be required. Guidance in defining such areas shall be provided by the Regional Water Board for each county within the watershed.

4. Soil Percolation Suitability

Determination of a site's suitability for percolation of effluent shall be either of the following methods:

a. Percolation Testing

Stabilized percolation rates shall be established utilizing methods specified by the local regulatory agency.

Percolation testing of soils falling within Zone 1 and Zone 2 may be conducted in non-wet weather conditions provided presoaking of the test hole is accomplished with (a) a continuous 12 hour presoaking, or (b) a minimum of four complete refillings beginning during the day prior to that of the conduct of the test.

Percolation testing of soils within Zone 3 and Zone 4 shall be conducted during wet weather conditions. However, percolation testing of soils within Zones 3 and 4 may be conducted in non-wet weather conditions provided the soils demonstrate a low shrink swell potential (Plasticity Index of less than 20, ASTM D 4318-84).

b. Soil Analysis

Soil samples representing the significant horizons within the excavated soil profile shall be obtained and analyzed for texture and bulk density according to methods prescribed by the Regional Water Board. The results shall be plotted on the soil textural triangle of Figure 4-2 as per indicated instructions.

(1) Soils within Zone 1 shall be considered to have minimal filtration capabilities, requiring increased depths to groundwater as per Figure 4-1.

(2) Soils within Zone 2 shall be considered suitable for effluent disposal without further testing.

(3) Soils within Zone 3 and 4 shall require percolation testing as per (a) above to verify suitability for effluent disposal.

5. Wet Weather Criteria

Wet weather testing periods shall be determined geographically by local regulatory agencies incorporating the following criteria as a minimum:

a. Between January 1 and April 30; and

b. Following 10 inches of rain in a 30 day period or after one half of the seasonal normal precipitation has fallen.

Modification of wet weather testing beyond the limits of the above criteria may be made in accordance with a program of groundwater level monitoring instituted and conducted by the local regulatory agency.

C. Provision for Waiver

Waiver of site suitability criteria and evaluation methods specified herein may be granted by the Regional Water Board or county Health Officer when it can be satisfactorily demonstrated that water quality will not be impaired and public health will not be threatened as a result of such waivers.

Waivers may be granted for:

(1) Individual cases, or

(2) Defined geographical areas.

The local regulatory agency shall notify the Regional Water Board of the basis for each waiver. Prior to granting geographical area waivers, the local regulatory agency shall submit technical justification to the Regional Water Board for review and concurrence.

D. Waiver Prohibitions

Where surveys conducted by the local regulatory agencies and/or Regional Water Board staff indicate that discharges from on site waste treatment and disposal systems in specific geographical areas are resulting in or threatening to result in health hazards or water quality impairment, the Regional Water Board may prohibit the issuance of waivers in said areas.

Exemptions to such prohibitions shall be granted by the Regional Water Board only where an authorized public agency can provide satisfactory assurance that individual systems will be appropriately designed, located, sized, shaped, constructed, and maintained to provide adequate protection of beneficial uses of water and prevention of nuisance, pollution, and contamination.

E. Individual Systems Prohibitions

The discharge from existing or new individual systems utilizing subsurface disposal shall be prohibited by the Regional Water Board in accordance with Section 13280 of the California Water Code where substantial evidence shows that such discharges will result in violation of water quality objectives, will impair present or future beneficial uses of water, will cause pollution, nuisance, or contamination, or will unreasonably degrade the quality of any waters of the State. Identification of "individual systems prohibition

areas" is incorporated into Section VIII of this policy.

IV. Design Criteria and Technical Guidelines

A. Estimates of Wastewater Flows for Design Purposes

Although actual wastewater flows may in fact be less, estimates of wastewater flows for the design of conventional on-site systems shall be based on 150 gallons per day per bedroom. Local regulatory agencies may incorporate reduced flows into the design of the on-site system upon approval by the Regional Water Board or for alternative systems. Estimated flow rates for on-site systems receiving wastewater flows of greater than 1,500 gallons per day or from commercial establishments shall take into account peak loading rates and the chemical characteristics of the wastewater.

B. Septic Tank Capacity, Construction, Inspection, and Testing

At a minimum, septic tank capacity, construction, inspection, and testing requirements shall be based upon the current edition of the International Association of Plumbing and Mechanical Officials Uniform Plumbing Code (1988 Edition), or other local agency regulations approved by the Regional Water Board.

Individual treatment units other than septic tanks shall require certification by the National Sanitation Foundation (NSF) or the International Association of Plumbing and Mechanical Officials (IAPMO) prior to approval for use.

C. Leachfield System Design

The design of the leachfield shall be based on both the estimated flows set forth in Section IV.A. of this policy, and the organic loading of the on-site system. Table 4-2, or other local regulatory agency regulations approved by the Regional Water Board shall be acceptable for conventional on-site systems.

Utilization of the upper horizons for wastewater disposal shall be encouraged. Sidewall depth below the bottom of the leaching pipe shall be a minimum of 12 inches and shall not exceed 36 inches. The use of trenches deeper than 36 inches below the bottom of the leaching pipe shall be acceptable only where site investigations and plans by a qualified individual (per Section X.6. of this policy) demonstrate the suitability of the system to accept wastewater and protect quality.

Trench width shall not exceed 36 inches. Plastic leaching chambers are acceptable, provided the size is based on Table 4-2 of this policy.

D. Cesspools

The use of cesspools for on site waste treatment and disposal shall be prohibited.

E. Holding Tanks

The use of holding tanks shall be prohibited except where the responsible regulatory agency determines that:

1. It is necessary to abate an existing nuisance or health hazard; or
2. The proposed use is within a sewer service area, sewers are under construction or contracts have been awarded and completion is expected within two years, there is capacity at the wastewater treatment plant and the sewering agency will assume responsibility for maintenance of the tanks; or
3. It is for use at a campground or similar temporary public facility where a permanent

sewage disposal system is not necessary or feasible and maintenance is performed by a public agency.

F. Intercept Drains

The use of intercept drains to lower the level of perched groundwater in the immediate leachfield area shall be acceptable under the following conditions:

1. Natural ground slope is greater than 5 percent;
2. Site investigations show groundwater to be perched on bedrock, hardpan, or an impermeable soil layer;
3. The intercept drain extends from ground surface into bedrock, hardpan, or the impermeable soil layer.

In no case shall the pervious section of an intercept drain be located less than 15 feet upgradient or 50 feet laterally from any leachfield.

Where all of the above conditions cannot be met, actual performance of the intercept drain shall be demonstrated prior to approval.

Table 4-2 Rates of Wastewater Application for Absorption Areas

Soil Texture	Percolation Rate Minutes per Inch	Application Rate Gallons per Day per Square Foot
Gravel, coarse sand	<1	Not Suitable
Coarse to medium sand	1 – 5	1.2
Fine sand, loamy sand	6 – 15	1.1 – 0.8
Sandy loam, loam	16 – 30	0.7 – 0.6
Loam, porous silt loam	31 – 60	0.5 – 0.4
Silty clay loam, clay loam – a,b	61 – 120	0.4 – 0.2

Note: Application rates may be interpolated based on percolation rates, within the ranges listed above.

a. Soils without expandable clays.

b. These soils may be easily damaged during construction.

G. Fills

The use of fills to create a leachfield cover shall be acceptable under the following conditions:

1. Where the natural soils and the fill material meet the evaluation criteria as described in Section III of this policy;
2. Where the quantity and method of fill application is described;
3. Where the natural slope does not exceed 20 percent;
4. Where placement of fill will not aggravate slope stability or significantly alter drainage patterns or natural water courses.

~~Leachlines for wastewater disposal shall be placed entirely within natural soils. Fill material shall not be used to create a basal area for alternative systems or mounds.~~

~~Local agencies shall provide specific criteria for the use of fill material which are compatible with the provisions of this policy.~~

~~H. Water Saving Devices~~

~~The use of water saving devices may be incorporated into the on site system design where maintenance of such devices is provided by a responsible entity.~~

~~Regional Water Board waste discharge regulation of on site disposal systems may specify the use of water conservation.~~

~~I. Alternative Systems~~

~~An alternative system may be appropriate where physical site constraints preclude the installation of a standard septic tank leachfield on-site wastewater disposal system. Alternative systems shall be subject to a program of monitoring provided by a legally responsible entity.~~

~~1. Mound Systems~~

~~Mound systems utilize reduced criteria for soil permeability and depth to groundwater on slopes up to 12%. Percolation rates of up to 120 minutes per inch are allowed. A minimum of 24 inches of separation between groundwater and native ground surface is required. The mound design shall be based on the Design and Construction Manual for Wisconsin Mounds, Small Scale Wastewater Management Project, University of Wisconsin (January 1990).~~

~~2. Pressure Distribution Systems~~

~~Pressure distribution systems enable wastewater disposal in conditions of shallow topsoil over slowly permeable or fractured subsoils on slopes up to 30%. Percolation rates of 1 to 120 minutes per inch are required. The system shall have a minimum depth to groundwater, fractured or consolidated rock, or impermeable soils of 24 inches beneath trench bottom. The design shall comply with criteria set forth by the local regulatory agency.~~

~~3. At-Grade Systems~~

~~At-Grade Systems enable wastewater disposal in conditions of shallow topsoils on slopes up to 25%. Percolation rates of up to 120 minutes per inch are allowed. A minimum of 36 inches of separation between groundwater and native ground surface is required. The design shall be based on the Wisconsin At-Grade Soil Absorption System Siting, Design and Construction Manual, Small Scale Wastewater Management Project, University of Wisconsin (January 1990).~~

~~4. Sand Filters~~

~~Sand filters may be used to pretreat the effluent from a septic tank by application to a bed of specified media. Maintenance is required to assure the long-term effectiveness of sand filters.~~

~~Proposals for alternative systems other than those listed above shall be evaluated jointly by the local regulatory agency and the Regional Water Board staff on a case by case basis.~~

J. Cumulative Effects

The potential cumulative effects on ground and surface waters include, but are not limited to, groundwater mounding and nitrate loading. The local regulatory agency and the Regional Water Board shall determine the need for cumulative impact assessment for on-site systems, and will consider in particular, subdivision developments, commercial establishments, and on-site systems receiving greater than 1,500 gallons per day. For most on-site systems, the assessment of cumulative effects is not necessary.

Analysis of cumulative impact effects shall be conducted using accepted principles of groundwater hydraulics, shall describe the specific methodology, and shall include literature references as appropriate. The wastewater flow used for cumulative impact analysis shall normally be as follows: 100 gallons per day per bedroom for individual residential system; design sewage flow for multi-family and other non-residential systems.

a. Groundwater Mounding Analysis

Groundwater mounding analysis shall be used to predict the highest rise of the water table and shall account for background groundwater conditions during the wet weather season. The maximum acceptable rise of the water table for short periods of time during the wet weather season, as estimated from groundwater mounding analysis, shall be as follows:

For systems with design flows of less than 1,500 gallons per day, groundwater mounding beneath the disposal field shall not result in more than a 50 percent reduction in the minimum depth to seasonally high groundwater as specified in this policy.

For systems with design flows of 1,500 gallons per day or more, a minimum groundwater clearance of 24 inches shall be maintained beneath the system.

b. Nitrate Loading

Analysis of nitrate loading effects shall be based, at a minimum, on an estimate of an annual chemical-water mass balance.

Minimum values used for the total nitrogen concentration of septic tank effluent shall be: 40 mg/l as N (for average flow conditions) for residential wastewater, or as determined from sampling of comparable system(s) or from literature values.

On-site systems shall not cause the groundwater nitrate concentration to exceed 10.0 mg/l as N at any source of drinking water on the property nor on any off-site potential drinking water source.

K. Septage Disposal

Septage disposal shall comply, as a minimum, with the California Code of Regulations, Title 23, Division 3, Chapter 15 and with federal regulations as described in 40 CFR Part 503.

V. Maintenance Responsibilities

Maintenance, monitoring, and repair of individual waste treatment and disposal systems

shall be the responsibility of:

1. The individual property owner; or

2. A legally responsible entity of dischargers empowered to carry out such functions. That legally responsible entity shall be a public agency, unless demonstration is made to the Regional Water Board that an existing public agency is unavailable and formation of a new public agency is unreasonable. If such a demonstration is made, a private entity must be established with adequate financial, legal, and institutional resources to assume responsibility for waste discharge.

For subdivision developments where waste discharge requirements are prescribed by the Regional Water Board, the existence or formation of a legally responsible entity of dischargers shall be required.

VI. Abatement

Abatement of failing individual waste treatment and disposal systems shall be obtained in accordance with local agency codes and procedures. When such remedies are ineffective and for systems subject to waste discharge requirements, abatement shall be obtained through Regional Water Board enforcement action.

Abatement of failing systems shall include short term mitigation and permanent corrective measures. At a minimum, short term mitigation shall include reduction of effluent flows and the posting of areas subject to the surfacing of inadequately treated sewage effluent.

VII. Waiver Prohibition Areas

There are no waiver prohibition areas identified in the Russian River Watershed, including the Laguna de Santa Rosa.

VIII. Individual System Prohibitions

In order to achieve water quality objectives, protect present and future beneficial water uses, protect public health and prevent nuisance, discharge of waste from new individual disposal systems may be prohibited forthwith and discharge of waste from existing individual disposal systems may be prohibited in defined areas.

The Regional Water Board may grant an exemption to the prohibition for:

1. New individual disposal systems after presentation of geologic and hydrologic evidence by the proposed discharger that such systems will not individually or collectively result in a pollution or a nuisance; and

2. Existing individual disposal systems if it finds that the continued operation of such systems in a particular area will not individually or collectively directly or indirectly affect water quality adversely.

IX. Education and Training

Informational bulletins concerning construction, use, maintenance, and repair of individual waste treatment and disposal system shall be made available for public education by local regulatory agencies.

Professional training concerning site evaluations and new alternative systems design concepts for subsurface effluent disposal shall be promoted periodically by Regional Water Board staff in cooperation with local regulatory agencies and public and private

sector professional associations.

X. Individual System Prohibitions

1. Local agencies, shall, as necessary, revise existing sewage disposal ordinances to be compatible with the provisions of this policy. The Regional Water Board shall be notified by local agencies of the revisions.
2. Local agencies shall submit for Regional Water Board approval a report describing:
   a. The current program and methods for disposing of septic tank pumpage; and
   b. Plans for meeting future septage disposal needs.
3. Proposals for on site waste treatment and disposal systems shall be processed as follows:
   a. Processed entirely by the local regulatory agency:
      i. Systems to serve a single dwelling unit within a recorded land development;
      ii. Systems for less than 1,500 gpd domestic waste flows from commercial/industrial establishments;
      iii. Land developments consisting of four or fewer parcels;
      iv. Dwellings involving four or fewer family units.

      The Regional Water Board shall be notified of waivers granted for any of the above.
   b. Reviewed by the Regional Water Board for possible establishment of waste discharge requirements:
      i. Land developments consisting of five or more parcels;
      ii. Dwellings involving five or more family units;
      iii. Systems for commercial/industrial establishments with domestic waste flows equal to or greater than 1,500 gpd.
      iv. All systems proposed for new construction or repairs on federal lands.
   c. The Regional Water Board shall retain jurisdiction over any individual waste treatment and disposal systems which may in its judgment result in water pollution, nuisance and/or health hazards.
4. The Regional Water Board and local regulatory agency shall develop and maintain working agreements concerning procedures and guidelines to be followed in the issuance of waivers as provided by this policy.
5. The Regional Water Board shall, as necessary, request of each local regulatory agency in the watershed, an identification of geographical areas that may qualify for establishment of:
   a. On site wastewater management district,
   b. Waiver prohibition areas, or
   c. Individual system prohibitions.

   Designation of such areas by the Regional Water Board shall be made formal by incorporation into this policy.

6. Site evaluations in accordance with this policy shall be performed by individuals who by virtue of their education, training, and experience, are qualified to examine and assess soil, geologic, and hydrologic properties as related to subsurface effluent disposal. Credentials required of such individuals shall be specified by local regulatory agencies and shall include, as a minimum, education, training, and experience as geologist, soil scientist, registered civil engineer, or registered environmental health specialist.

7. Laboratory analysis of soils shall be conducted at commercial soils testing laboratories, or at other firms or establishments which can demonstrate to the satisfaction of the Regional Water Board the necessary equipment and personnel capabilities for performing the required tests. Procedures for laboratory analysis shall be provided by the Regional Water Board. Examination of soil testing capabilities shall be conducted by the Regional Water Board according to the demand.

8. Alternative systems shall be evaluated as follows:

   a. The Regional Water Board shall, as necessary, prepare a written report which summarizes the progress and findings of the alternative systems within the watershed.

   b. The local regulatory agency shall prepare a written report following the construction season which describes the number of alternative systems permitted and the operational status of the alternative systems within its jurisdiction.

   c. The Regional Water Board shall prepare annually a report which summarizes the status of mound systems within the watershed.

   d. The Regional Water Board shall maintain a literature and information file which pertains to alternative systems.

9. The Regional Water Board shall maintain a literature and information file which pertains to water conservation.

10. The local regulatory agencies shall establish, as necessary, a time schedule for compliance of septage disposal sites to be compatible with the provisions of this policy.

XI. Definitions

The following definitions apply to this policy.

Alternative System. Any individual system that does not include a standard septic tank or an NSF or IAPMO certified device for treatment, or does not include standard leaching trenches for effluent disposal, which has been demonstrated to function in such a manner as to protect water quality and preclude health hazards and nuisance conditions.

Bedrock. Solid rock, which may have fractures, that lies beneath soils and other unconsolidated material. Bedrock may be exposed at the surface or have an overburden several hundred feet thick.

Bulk Density. The mass of dry soil per unit bulk volume. The bulk volume is determined before drying to a constant weight of 105 .

Coarse Fragments. Rock or mineral particles greater than 2.0 mm in diameter.

Conventional On-Site Waste Treatment and Disposal System. Any system using a standard septic tank for treatment and standard leaching trenches or seepage pit for effluent disposal.

Cumulative Effects. The persistent and/or increasing effect of individual waste treatment and disposal systems resulting from the density of such discharges in relation to the assimilative capacity of the ground environment. Examples include salt or nitrate additions to groundwater, nutrient enrichment of surface water, and hydraulic interference with groundwater and between adjacent systems.

Cut Bank. A man made excavation of the natural terrain in excess of three feet.

Dual Leachfield System. An effluent disposal system consisting of two complete standard leachfields connected by an accessible diversion valve and intended for alternating use on an annual or semiannual basis.

Entity of Dischargers. A public agency, or a party which can demonstrate to the Regional Water Board comparable, legal and financial authority and responsibility, for the purpose of monitoring, inspecting, and maintaining individual waste treatment and disposal systems.

Ephemeral Stream. Any observable water course that flows only in direct response to precipitation. It receives no water from springs and no long continued supply from melting snow or other surface source. Its stream channel is at all times above the local water table. Any water course that does not meet this definition is to be considered a perennial stream for the purposes of this policy.

Failure. The ineffective treatment and disposal of waste resulting in the surfacing of sewage effluent and/or the degradation of ground and surface water quality.

Greywater. Untreated household wastewater which has not come into contact with toilet waste. Greywater includes used water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines, and laundry tubs. It does not include wastewater from kitchen sinks, dishwaters or laundry water from soiled diapers.

Groundwater. Any subsurface body of water which is beneficially used or is usable. It includes perched water if such water is used or usable, or is hydraulically continuous with used or usable water.

Hardpan. An irreversibly hardened soil layer caused by the cementation of soil particles. The cementing agent may be silica, calcium carbonate, iron, or organic matter.

Impermeable Soil Layer. Any layer of soil having a percolation rate slower than 120 MPI or a Zone 4 Soil Texture according to Figure 4-2 of this policy which has a high shrink swell potential (Plasticity Index of greater than 20, ASTM D 4318-84).

Incompatible Use. Any activity or land uses that would preclude or damage an area for future use as an effluent disposal site. Includes the construction of buildings, roads or other permanent structures and activities that may result in the permanent compaction or removal of existing soil.

Intercept Drain: A drain, installed to intercept the lateral movement of groundwater and discharge it to a suitable area. Often referred to as a certain drain.

Limiting Soil Layer. The portion of the soil profile that because of percolation characteristics, most restricts the successful operation of a leachfield.

Local Regulatory Agency. Any agency having authority as provided by county or city ordinances to control approval, installation, and use of individual waste treatment and disposal systems. May include county/city health department, building departments, or department of public works.

Mottles. Irregular spots of different colors that vary in number and size. The redoximorphic features of soils (mottling and gleying) are used to indicate poor aeration and lack of drainage.

On Site Wastewater Disposal Zone. An area designated for operation and maintenance of individual waste treatment and disposal systems by a public agency entrusted with powers in accordance with the provisions of Chapter 3, Part 2, Division 6, of the State Health and Safety Code.

Perched Water. A subsurface body of water separated from the main groundwater body of a relatively impermeable stratum above the main groundwater body.

Perennial Stream. Any stretch of a stream that can be expected to flow continuously or seasonally. They are generally fed in part by springs.

Saturated Soil. The condition of soil when all available pore space is occupied by water and the soil is unable to accept additional moisture. In fine textured soils a free water surface may not be apparent. The extent of saturated soil conditions and anticipated level of high groundwater can be estimated by the extent of soil mottling.

Soil. The unconsolidated material on the surface of the earth that exhibits properties and characteristics that are a product of the combined factors of parent material, climate, living organisms, topography, and time.

Soil Depth. The combined thickness of adjacent soil layers that are suitable for effluent filtration. Soil depth is measured vertically to bedrock, hardpan, impermeable soil layer, or saturated soil.

Soil Horizon or Layer. A layer of soil approximately parallel to the land surface and differing from adjacent (underlying or overlying) layers in some property or characteristic. Differences include, but are not limited to, color, texture, pH, structure, and porosity.

Soil Texture (United States Department of Agriculture (USDA)). The relative amounts of sand, silt, and clay as defined by the classes of the soil textural triangle. Textural classes may be modified when coarse fragments are present in sufficient number, i.e., gravelly sandy loam, cobbled clay, etc.

Standard Leaching Trenches. Leaching trenches designed in accordance standard practice in local agency regulations.

Unstable Landform. An area which shows evidence of mass downslope movement such as debris flow, landslides, rockfills, and hummocky hillslopes with undrained depressions upslope. Unstable landforms may exhibit slip surfaces roughly parallel to the hillside; landslide scars and curving debris ridges; fences, trees, and telephone poles which appear tilted; or tree trunks which bend uniformly as they enter the ground. Active sand dunes are unstable land forms.