

CHAPTER 4. IMPLEMENTATION PLAN

VIII.D. INDIVIDUAL, ALTERNATIVE AND COMMUNITY ONSITE WASTEWATER SYSTEMS

~~On-site sewage disposal wastewater systems and other similar methods for liquid waste disposal are sometimes viewed as interim solutions in urbanizing areas, yet may be required to function for many years. On-site systems can be a viable long-term waste disposal method with proper siting, design, construction, and management. In establishing on-site system regulations, agencies must consider such systems as permanent, not interim systems to be replaced by public sewers. The reliability of these systems is highly dependent on land and soil constraints, proper design, proper construction, and proper operation and maintenance.~~

~~If on-site sewage treatment facilities are not carefully managed, problems can occur, including:~~

- ~~• odors or nuisance;~~
- ~~• surfacing effluent;~~
- ~~• disease transmission; and,~~
- ~~• pollution of surface and groundwaters.~~

~~Odors and nuisance can be objectionable and annoying and may obstruct free use of property. Surfacing effluent (effluent which fails to percolate and rises to the ground surface) can be an annoyance, or health hazard to the resident and neighbors. In some cases, nearby surface waters may be polluted.~~

~~On-site sewage disposal systems are a potential mechanism for disease transmission. Sewage is capable of transmitting diseases from organisms which are discharged by an infected individual. These include dysentery, hepatitis, typhoid, cholera, and gastro-intestinal disorders.~~

~~Pollution of surface or groundwaters can result from the discharge of on-site system wastes. Typical problem waste constituents are total dissolved solids, phosphates, nitrates, heavy metals, bacteria, and viruses.~~

~~Subsurface disposal Onsite wastewater systems may be used to treat and dispose of wastewater from: (1) individual residences; (2) multi-unit residences; (3) institutions or places of commerce; (4) industrial sanitary sources; and, (5) small communities. All individual and multi-unit residential, developments are subject to criteria in this section of the Basin Plan. commercial, institutional and industrial developments with a discharge flow rate less than 2,500 gallons per day and community systems not regulated by waste discharge requirements must comply with these criteria. Community systems must also comply with criteria relating to this subject within the Basin Plan. Community systems are defined for the purposes of this Basin Plan as: (1) residential wastewater treatment systems for servicing more than 5 units or more than 5 parcels; or, (2) commercial, institutional or industrial systems to treat treating sanitary wastewater equal to or greater than 2,500 gallons per day (average daily flow). Community systems of this type and size may be subject to waste discharge requirements.~~

~~Conventional onsite wastewater systems consist of septic tanks and leachfield or seepage pits and are typically designed to treat and dispose of domestic wastewater.^{EPA} Alternatives to conventional onsite system designs have been are used when site constraints prevent the use of conventional systems. Examples of alternative systems include (but are not limited to) enhanced treatment systems, mound and or evapotranspiration disposal systems, or at-grade disposal systems. Remote subdivisions, commercial centers, or industries may utilize conventional collection systems with community treatment systems and subsurface disposal fields for sanitary wastes.~~

~~Conventional, alternative and community systems can pose serious water quality problems if improperly designed, installed, and/or managed. Failures have occurred in the past and are usually attributed to the following:~~

- Systems are inadequately or improperly sited, designed, or constructed.
- Long term use is not considered.
- Inadequate operation and maintenance.

The following definitions are used throughout this section of the Water Quality Control Plan.

Alternative onsite system consists of additional (beyond conventional) treatment and/or disposal features engineered to overcome site constraints. A conventional onsite system that requires a pump to reach the leach area is not considered "alternative".^{EPA}

Application area refers to the trench bottom and side walls below the bottom of the leach pipe, minus the first foot on each side (also called sidewall). In seepage pits the application area refers to the total gravel depth in a seepage pit, minus any impervious, bedrock or clay lenses encountered in the sidewalls.^{UPC}

At-grade disposal systems consist of distribution pipe and bed at the native ground surface level and cover provided by filled material. At-grade disposal systems are similar to mound systems without the sand layer.^{UCD}

Conventional onsite system consists of a septic tank and leachfield or seepage pit.^{EPA}

Detrimental Water Quality Impact is any significant increase in pollutant concentrations or impairment of beneficial uses of a water body.

Drainfield is used interchangeably with leachfield, leach area or disposal area.

Effective trench depth means depth below the bottom of the leach trench distribution piping minus the first foot.

Engineered systems are treatment and disposal systems that require special design features to overcome site limitations (topography, soil conditions, shallow groundwater or setback variances).^{EPA}

Existing onsite system is any onsite system approved and/or installed prior to adoption of these criteria on May 9, 2008.

Failed or failing onsite system is any system that displays symptoms of inadequate dispersion, treatment or assimilation of wastewater. These may include, but are not limited to, surfacing effluent, lush growth above the leach area, sluggish house drains, impacts to surface or groundwater from the onsite discharge, odors, frequent pumping, or backflow into tank when pumped.^{EPA}

Fill is material deposited to raise the existing or excavated ground level.

Inflow and infiltration refers to non-wastewater (stormwater, groundwater, streams, seawater) entering the wastewater system through cracks, roof drains or other openings.

Impervious Low permeability material is defined as having a percolation rate slower than 120 minutes per inch or having a clay content (% passing 200 sieve) of 60 percent or greater.

Monitoring shall refer to any sort of quality or performance assessment, including visual inspections.

New onsite system is an onsite wastewater system placed on property that has not previously been developed, and includes expansion of an existing onsite system to accommodate an increase in wastewater generation, after adoption of these criteria (May 9, 2008). Repair or replacement of an existing onsite system does not constitute a new onsite system.

Onsite disposal area shall include the direct application area (trench, pit, bed) and surrounding 100' radius from any point in the application area that may be influenced by discharge from the disposal system.

Reservoir - A pond, lake, tank, basin, or other space either natural or created in whole or in part by the building of engineering structures, which is used for storage, regulation, and control of drinking supply water recreation, power, flood control, or drinking.

Septage is material removed from a septic tank; usually the accumulated scum, sludge and liquid within the tank.

Sidewall is the side portion of the leach area below the bottom of the distribution piping, or total gravel depth beneath the first hole in the central pipe of a seepage pit.

Threatened condition is one that if left uncorrected may cause or contribute to water quality or public health impacts.

Watercourse - A natural or man-made artificial channel for passage of water. A running stream of water. A natural stream fed from permanent or natural sources, including rivers, creeks, runs, and rivulets. There must be a stream, usually flowing in a particular direction (though it need not flow continuously) usually discharging into some stream or body of water.

VIII.D.1. CORRECTIVE ACTIONS FOR EXISTING SYSTEMS

Individual disposal systems can be regulated with relative ease when they are proposed for a particular site. For new systems, regulations generally provide for good design and construction practices. A more troublesome problem is presented by older septic tank systems where design and construction may have been less strictly controlled or where land development has intensified to an extent that percolation systems are too close together and there is no room left for replacement leaching areas. Where this situation develops to an extent that public health hazards and nuisance conditions develop, the most effective remedy is usually a sewer system. Where soil percolation rates are particularly fast, groundwater degradation is possible, particularly increases in nitrate concentrations.

Sewer system planning should be emphasized in urbanizing areas served by septic tanks. A first step would be a monitoring system involving surface and groundwaters to determine whether problems are developing. Where septic tank systems in urbanized areas are not scheduled for replacement by sewers and where public health

hazards are not documented, septic tank maintenance procedures are encouraged to lessen the probability that a few major failures might force sewerage of an area which otherwise could be retained on individual systems without compromising water quality. Often a few systems will fail in an area where more frequent septic tank pumping, corrections to plumbing or leach fields, or in-home water conservation measures could help prevent failure. Improvements of this kind should be enforced by a local septic tank maintenance district or local governing jurisdiction.

A septic tank subjected to greater hydraulic load can fail due to washout of solids into percolation areas and plugging of the infiltrative surface. In some cases, excess wash water could be diverted to separate percolation areas by in-home plumbing changes. Dishwashers, garbage grinders, and washing machines could be eliminated. Water saving toilets, faucets, and shower heads are available to encourage low water use. Water use costs may also be structured to encourage more frugal use of water.

VIII.D.1. LOCAL GOVERNING JURISDICTION ACTIONS

VIII.D.1.a. DISCLOSURE AND COMPLIANCE OF EXISTING ONSITE WASTEWATER SYSTEMS

It is incumbent upon local governing jurisdictions to should provide develop and implement programs to ensure conformance with this Basin Plan and local regulations. Such programs shall include (but are not be limited to) inspection programs procedures to:

- should Ensure site suitability tests are performed as necessary, and that tests are performed in accordance with standard procedures;
- Inspections should also Ensure proper system siting, design, construction and installation; and
- Adequately inform home property owners regarding proper installation, operation and ongoing maintenance of their onsite wastewater

systems.

~~Proper design and construction should be certified by the inspector. Concerned homeowners can be a tremendous asset in assuring proper construction. When a septic system permit is issued by the local agency, a handout specifying proper construction techniques should be made available to the general public. Systems must be inspected by the local agency before covering (backfilling).~~

Local agencies can use staff inspectors or individuals under contract with the local government. ~~Either way~~ A standard detailed checklist shall be completed by the inspector to verify the onsite wastewater system was constructed in substantial conformance with the Basin Plan and local jurisdiction requirements.

~~Site suitability determinations should specify: (1) whether approval is for the entire lot or for specific locations of the lot; (2) if further tests are necessary; and (3) if alternatives are necessary or available.~~

~~Where agency approval is necessary from various departments, final sign-offs should be on the same set of plans.~~

Homeowners should be aware of the nature and requirements of their onsite wastewater disposal system. Plans should be available in city or county offices showing placement of soil absorption systems. ~~Since this is only feasible for new construction,~~ Local agencies should require onsite wastewater system as-built plans as a condition of new construction final inspection. ~~Plans would be kept on file for future use of property owners.~~

Prospective property buyers should be informed of any enforcement action affecting parcels or houses they wish to buy. ~~For example, a parcel in a discharge prohibition area may be unbuildable for an indefinite period, or a developed parcel may be subject to significant user charges from a future sewer system.~~ Local agencies should ensure the terms of the enforcement action prohibition area are entered into the county record for each affected parcel. When a prospective buyer conducts a title search, terms of the prohibition would appear in the preliminary title report.

All onsite wastewater system owners need to be aware of proper operation and maintenance

procedures. Local governing jurisdictions shall mount a continuing public education program to provide homeowners with onsite wastewater system operation and maintenance guidelines. Basin Plan information should be available at local agency health and building departments.

Dual leaching capabilities provide an immediate remedy in the event of system failure. For that reason, dual leachfields are considered appropriate for all systems. Furthermore, should wastewater flows increase, this area can be used until the system is expanded. ~~But system expansion may not be possible if land is not set aside for this purpose.~~ ~~For these reasons,~~ Dedicated system expansion areas are also appropriate. To protect this set-aside area from encroachment, the local agency shall require restrictions on future use of the area as a condition of land division or building permit approval. For new subdivisions, Covenants, Conditions and Restrictions (CC&R's) or additional map sheets recorded with the Parcel or Tract Final Map might provide an appropriate mechanism for protecting a set aside area. Future buyers of affected property would be notified of property use restrictions by reading the CC&R's or Final Map.

~~Local agencies should conduct an on-site system inspection program, particularly in areas where system failures are common or where systems with poor soils are approved. An agency inspector should periodically check each septic tank for pumping need and each system for proper operation. Homeowners should be alerted where evidence of system failure exists. Where nuisance or a potential public health hazard exists, a followup procedure should insure the situation is corrected. On-site systems should be constructed in a location that facilitates system inspection.~~

~~Another approach is periodically to mail homeowners a brochure reminding them how to maintain and inspect their on-site system. Homeowners should be notified that they should periodically check their septic tank for pumping need. Homeowners should also be notified of other problems indicative of system failure. Some examples include wet spots in drainfield area, lush grass growths, slowly draining wastewater, and sewage odors.~~

Many existing systems do not comply with current or proposed standards. Repairs to failing systems should shall be done under permit from the local agency. ~~To the extent practicable~~ The local agency should shall require failing systems to be brought into compliance with Basin Plan recommendations, requirements and prohibitions; or repair criteria consistent with locally implemented onsite management plan (approved by the Central Coast Water Board Executive Officer). ~~This could be a condition of granting a permit for repairs.~~

~~Land use changes on properties with commercial, institutional or industrial uses should not be approved by the local agency until the existing onsite system meets criteria of this Basin Plan and local ordinances. A land use permit or business license could be used to alert the local agency of land use changes.~~

Within the following sections, criteria are specified for RECOMMENDATIONS, REQUIREMENTS and PROHIBITIONS.

RECOMMENDATIONS

1. Inform property buyers of the existence, location, operation, and maintenance of onsite disposal systems. Prospective home or property buyers should also be informed of any enforcement action (e.g., Basin Plan prohibitions) through the County Record.
2. Conduct public education programs to provide property owners with operation and maintenance guidelines.
3. ~~It may be appropriate for~~ Onsite systems to should be maintained by local onsite maintenance districts.
4. Standard soil percolation testing procedures should be adopted. ~~Approve permit applications after checking plans for erosion control measures. Inspect systems prior to covering to assure proper construction.~~

REQUIREMENTS

5. Wastewater Management Plans should shall be prepared and implemented for urbanizing and high density areas served by onsite wastewater systems. ~~Areas that should be addressed immediately include (but are not limited to): portions of San Martin, San Lorenzo Valley,~~

~~Carmel Valley, Carmel Highland, Prunedale, El Toro, Shandon, Templeton, Santa Margarita, Garden Farms, Los Osos/Baywood Park, Arroyo Grande, Nipomo, upper Santa Ynez Valley, and Los Olivos/Ballard.~~

6. Local jurisdictions should shall require replacements or repairs to failing systems to be in substantial conformance (to the greatest extent practicable) with Basin Plan recommendations, requirements and prohibitions or the local onsite wastewater management plan.
7. Local jurisdictions shall ensure that alternative onsite system owners are provided an informational maintenance or replacement document by the system design engineer or representative. This document shall cite homeowner procedures to ensure maintenance, repair, or replacement of critical items within 48 hours following failure.
8. Local ordinances shall be updated to reflect Basin Plan criteria.

PROHIBITIONS

9. Alternative systems are prohibited unless consistent with a locally implemented onsite wastewater management plan approved by the Central Coast Water Board Executive Officer.

VIII.D.2 1.b. ONSITE WASTEWATER MANAGEMENT PLANS

Onsite wastewater management plans should shall be implemented in urbanizing areas to investigate and mitigate long-term cumulative impacts resulting from continued use of individual, alternative, and community onsite wastewater systems.^{EPA} ~~A wastewater disposal study should be conducted to determine the best Wastewater Management Plan that would provide site or basin-specific wastewater re-use. This study should identify basin-specific criteria to prevent water quality degradation and public health hazards and provide an evaluation of the effects of existing and proposed developments and changes in land use.~~ Onsite wastewater management plans should be a comprehensive planning tool to specify on-site disposal system limitations to prevent ground or surface water degradation. Onsite wastewater management plans

~~should shall include (but not be limited to) the following elements:~~

- ~~Survey and evaluation of existing onsite systems.~~
- ~~Contain a Water quality (ground and surface water) monitoring program.~~^{EPA}
- ~~Identify sites suitable for conventional septic systems.~~
- ~~Projections of onsite disposal system demand and determination of sites and methods to best meet demand.~~
- ~~Project maximum population densities for each subdrainage basin to control degradation or contamination of ground or surface water.~~
- ~~Recommend establishment of septic tank maintenance districts, as needed.~~
- ~~Recommendations and requirements for existing onsite wastewater system inspection, monitoring, maintenance and repairs.~~^{EPA}
- ~~Recommendations and requirements for new onsite wastewater systems.~~^{EPA}
- ~~Identify Alternative means of disposing of sewage in the event of disposal system failure and/or irreversible degradation from onsite disposal systems.~~
- ~~Education and outreach program.~~^{EPA}
- ~~Enforcement options.~~^{EPA}
- ~~Septage management.~~^{EPA}
- ~~Program administration, staffing, records keeping, installation and repairs tracking, and financing.~~^{EPA}

~~For areas where watershed-wide plans are not developed, conditions could be placed on new divisions of land or community systems to provide monitoring data or geologic information to contribute to the development of a Wastewater Management Plan.~~

~~Wastewater disposal alternatives should identify costs to each homeowner. A cost-effectiveness analysis, which considers socio-economic impacts of alternative plans, should be used to select the recommended plan.~~

Onsite wastewater disposal zones, as discussed in Section 6950-6981 of the Health and Safety Code, may be an appropriate means of implementing onsite wastewater management plans.

Onsite wastewater management plans shall be approved by the Central Coast Water Board Executive Officer.

VIII.D.2 1.c. SEPTIC TANK ONSITE WASTEWATER SYSTEM MAINTENANCE DISTRICTS

It may be appropriate for community onsite systems to be maintained by local sewage disposal onsite wastewater system maintenance districts. These special districts could be administered through existing local governments such as County Water Districts, Community Services Districts, or County Service Areas

~~Septic tank Onsite wastewater system~~ maintenance districts are responsible for onsite system operation and maintenance in conformance with this Water Quality Control Plan. Administrators should ensure proper construction, installation, operation, and maintenance of onsite wastewater systems. Maintenance districts should establish septic tank onsite system surveillance, maintenance and pumping programs, ~~where appropriate~~; provide repairs to plumbing or leachfields, and encourage water conservation measures.

VIII.D.2. CRITERIA FOR NEW SYSTEMS

Onsite wastewater system problems can be minimized with proper site location, design, installation, operation and maintenance. The following section recommends includes criteria for all new individual subsurface onsite wastewater disposal systems and community sewage disposal systems. Local governing jurisdictions should incorporate these criteria and guidelines into their

local ordinances. These recommendations criteria will be used by the Central Coast Water Board for Water Board regulated systems and exemptions. In the context of these criteria, new systems shall refer to onsite wastewater systems approved after May 9, 2008.

Local agencies may authorize alternative onsite systems consistent with locally implemented onsite wastewater management plans approved by the Central Coast Water Board Executive Officer.^{UPC}

For any onsite system, limited disposal options are available for septage (solids periodically removed from septic tanks). As a component of a wastewater management plan, long-term septage disposal plans shall be considered and developed^{EPA} by local onsite system management districts.

Onsite wastewater system criteria are arranged in sequence under the following categories: site suitability, system design, construction, individual system maintenance, community system design, and local agencies. Mandatory criteria are listed in the "Individual, Alternative, and Community Systems Prohibitions" section. Within each category, criteria are specified for
RECOMMENDATIONS, REQUIREMENTS and PROHIBITIONS.

VIII.D.2.a. SITE SUITABILITY

~~Prior to permit approval, site investigation should determine on-site suitability:~~

RECOMMENDATIONS

1. For new land divisions, onsite disposal systems and expansion areas should be protected from encroachment by provisions in covenants, conditions, and restrictions (CC&Rs), recorded in Final Maps or similar mechanisms.
2. Percolation test holes (at least ~~one~~ three per system) should be drilled with a hand auger. A hole could be hand augered or dug with hand tools at the bottom of a larger excavation made by a backhoe.
3. Natural ground slope of the disposal area should not exceed 20 percent.

REQUIREMENTS

4. At least one soil boring or excavation per onsite system shall be performed to determine soil suitability, depth to groundwater, and depth to bedrock or impervious layer. Soil borings are particularly important for seepage pits. The soil boring or excavation should extend at least 10 feet below the drain field bottom at each proposed location and be performed during or shortly after the wet season to characterize the most limiting conditions.
5. An excavation ~~should~~ shall be made to detect mottling or presence of underground channels, fissures, or cracks. Soils should be excavated to a depth of 4-5 feet below drain field bottom.
6. For leachfields, at least three percolation test locations ~~should~~ shall be used to determine system acceptability.
7. Percolation tests shall be continued until a stabilized rate is obtained.
8. Percolation tests ~~should~~ shall be performed at a ~~proposed subsurface disposal system sites and depth corresponding to the bottom of the subsurface disposal area.~~
9. If no restrictive layers intersect, and geologic conditions permit surfacing, the setback distance from a cut, embankment or steep slope (greater than 30 percent) should be determined by projecting a line 20 percent down gradient from the sidewall at the highest perforation of the discharge pipe. The leachfields ~~should~~ shall be set back far enough to prevent this projected line from intersecting the cut within 100 feet, measured horizontally, from the sidewall. If restrictive layers intersect cuts, embankments or steep slopes, and geologic conditions permit surfacing, the setback shall be at least 100 feet measured from the top of the cut.
10. Prior to permit approval, site investigation shall determine onsite system suitability (consistency with recommendations, requirements and prohibitions specified in this section). Seepage pits should be utilized only after careful consideration of site suitability. Soil borings or excavations should be inspected either by

~~permitting agency or individual under contract to the permitting agency~~

11. Distances between trench bottom and highest seasonal usable groundwater, including perched groundwater, shall not be less than the separation specified by appropriate percolation rate:

Percolation Rate (minutes/inch)	Distance (feet)
<1	50 ¹
1-4	20 ¹
5-29	8
>30	5

¹Unless a set back distance of at least 250 feet to any domestic well or subsurface water is assured.

Onsite disposal in soils with percolation rates faster than one minute per inch are prohibited without additional treatment.

12. ~~Natural ground slope of the disposal area should not exceed 20 percent. Onsite disposal systems on slopes greater than 20% shall be designed by a certified professional.~~

PROHIBITIONS

13. For new land divisions (including lot splits) served by onsite systems, lot sizes less than one acre ~~should not be permitted~~ are prohibited unless authorized under an onsite management plan approved by the Central Coast Water Board Executive Officer. For the purpose of this prohibition, secondary units are considered "defacto" lot splits and shall not be constructed on lots less than two acres in size.^{CO 1994}

14. Onsite wastewater disposal shall not be located in areas subject to inundation from a 40 25-year flood.

15. Onsite disposal systems shall not be installed where natural ground slope of the disposal area exceeds 30 percent.^{EPA}

16. Leachfields are prohibited in soils where percolation rates are slower than 120 min/in unless parcel size is at least two acres. Disposal systems designed to accommodate slow percolation rates (such as evapotranspiration systems) shall be evaluated

as alternative systems.

17. Onsite discharge is prohibited on any site unable to maintain subsurface disposal.

18. Onsite discharge is prohibited where lot sizes, dwelling densities or site conditions cause detrimental impacts to water quality.

19. Onsite discharge is prohibited within a water supply reservoir watershed where parcel size is less than ~~2.5~~ one acre, unless consistent with an onsite wastewater management plan approved by the Central Coast Water Board Executive Officer.

20. Onsite discharge is prohibited in any area where continued use of onsite systems constitutes a public health hazard, an existing or threatened condition of water pollution, or nuisance.

21. Onsite discharge is prohibited where soils or formations with channels, cracks, fractures, or percolation rates allow inadequately treated waste to surface or degrade water quality.

22. Seepage pits are prohibited in soils or formations containing 60 percent or greater clay (a soil particle less than two microns in size) unless parcel size is at least two acres.

23. For seepage pits, distances between pit bottom and usable groundwater, including perched groundwater, shall not be less than separation specified by appropriate soil type:

Soil Type	Distance (feet)
Gravels ²	50 ¹
Gravels with few fines ³	20 ¹
Other	10

¹Unless a setback distance of at least 250 feet to any domestic water supply well or surface water is ensured.

² Gravels - Soils with over 95 percent by weight coarser than a No. 200 sieve and over half of the coarse fraction larger than a No. 4 sieve.

³ Gravels with few fines - Soils with 90 percent to 94 percent coarse fraction larger than a No. 4 sieve.

24. Onsite discharge in soils with percolation rates faster than one minute per inch is prohibited without additional treatment consistent with an onsite management plan implemented by the

local jurisdiction and approved by the Central Coast Water Board Executive Officer.

25. Onsite discharge is prohibited in fill unless specifically engineered as a disposal area.

<u>(minutes/inch)</u>	<u>(gpd/sq.ft.)</u>
1 - 20	0.8
21 - 30	0.6
31 - 60	0.25
61 - 120	0.10

VIII.D.2.b. ONSITE SYSTEM DESIGN

RECOMMENDATIONS

1. Dual disposal fields (200 percent of original calculated disposal area) ~~are recommended~~ should be installed.^{EPA}
2. For commercial and institutional systems, pretreatment may be necessary if wastewater is significantly different from domestic wastewater.
3. Distance between drainfield trenches should be at least two times the effective trench depth. Distance between seepage pits (nearest sidewall to sidewall) should be at least 20 feet.
4. Application area should be calculated using trench bottom and sidewalls minus the first foot below the distribution pipe. In clayey soils, systems should be constructed to place infiltrative surfaces in more permeable horizons.
5. Seepage pit application rate should not exceed 0.3 gpd/sq. ft.

REQUIREMENTS

6. Onsite wastewater treatment tanks shall be water-tight, and designed to remove nearly 100 percent of settleable solids and should provide a high degree of anaerobic decomposition of colloidal and soluble organic solids.^{EPA}
7. The minimum design flow rate ~~should~~ shall be 375 gallons per day for a 3-bedroom house, and 75 gpd should be added for each additional bedroom.
8. Drainfield design ~~should~~ shall be based only upon usable permeable soil layers.
9. Leachfield loading application rate ~~should~~ shall not exceed the following:

Percolation Rate	Loading Rate
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10. If curtain drains divert groundwater to subsurface soils, the upslope separation from a leachfield or pit shall be at least 20 feet and the down slope separation should be at least 50 feet.
11. Onsite system tank design ~~must~~ shall allow access for inspection and cleaning. Septic tanks must be accessible for pumping.
12. For commercial, institutional, industrial and community systems, design ~~should~~ shall be based on daily peak flow.
13. Dual disposal systems shall be installed (200 percent of original calculated disposal area) for community systems.
14. ~~Dual disposal fields (200 percent of original calculated disposal area) are recommended. Commercial systems, institutional systems, or domestic industrial systems should~~ All onsite disposal systems shall reserve an expansion area (additional 100% disposal capacity) to be set aside and protected from all uses except future drainfield repair and replacement.^{UPC} Community systems shall install dual drainfields (200% disposal capacity) and reserve replacement area (3rd 100% disposal capacity).
15. Community systems shall provide duplicate individual equipment components for components subject to failure (such as pumps).
16. Distances between trench/pit bottom and bedrock or other low permeability material impermeable layer shall be at least ten feet.
17. Where site conditions permit water migration of wastewater to water, setback distances from disposal trench/pit shall be at least:

Minimum Setback Distance (feet)

Domestic water supply wells in unconfined aquifer

100

Watercourse (where geologic conditions permit water migration) 100

Drinking water supply reservoir spillway elevation 200

Springs, natural or any part of a man-made spring 100

18. Community systems shall be designed with adequate capacity to accommodate the build-out population.
19. Community wastewater treatment and disposal facilities shall be operated by a public agency. If a demonstration is made to the Central Coast Water Board that an existing public agency is unavailable and formation of a new public agency is unreasonable, a private entity with adequate financial, legal, and institutional resources to assume responsibility for waste discharges may be acceptable.

PROHIBITIONS

20. Onsite discharge to leachfields is prohibited where soil percolation rates are slower than 60 minutes per inch unless the system is designed for an effluent application rate of 0.1 gallon per day per square foot of application area, or less.
21. Discharge ~~should~~ shall not exceed 40 grams per day of total nitrogen, on the average, per acre served by onsite system overlying groundwater recharge areas, except where a local governing jurisdiction has adopted a Wastewater Management Plan subsequently approved by the Central Coast Water Board Executive Officer.
22. Community system seepage pits are prohibited unless additional treatment is provided consistent with an onsite management plan implemented by the local jurisdiction and approved by the Central Coast Water Board Executive Officer. Such seepage pits shall have at least 15 vertical feet between pit bottom and highest usable groundwater, including perched groundwater.
23. Inflow and infiltration shall be precluded from the system unless design specifically accommodates such excess flows.

24. Onsite wastewater systems are prohibited in any subdivision unless the subdivider clearly demonstrates the installation, operation and maintenance of the onsite system will be properly functional and in compliance with all Basin Plan criteria.

25. Curtain drains that discharge to ground surface or surface water are prohibited within 50 feet downgradient of onsite system disposal areas.

VIII.D.2.c. DESIGN FOR ALTERNATIVE AND ENGINEERED SYSTEMS

RECOMMENDATIONS

1. Mound systems, evapotranspiration systems, and other alternative onsite systems should be designed and installed in accordance with guidelines available from the State Water Resources Control Board. ~~For evapotranspiration systems, each month of the highest precipitation year and lowest evaporation year within the previous ten years of record should be used for design.~~

REQUIREMENTS

2. Alternative onsite wastewater systems shall be designed by a registered civil engineer certified professional competent in sanitary engineering alternative onsite wastewater system design.
3. Alternative and engineered onsite wastewater systems shall be located, designed, installed, operated, maintained, and monitored in accordance with a locally implemented onsite management plan approved by the Central Coast Water Board Executive Officer.^{UPC}

PROHIBITIONS

4. Alternative and engineered onsite wastewater systems are prohibited, except where consistent with a locally implemented onsite management plan approved by the Central Coast Water Board Executive Officer.^{UPC}

VIII.D.2.d. CONSTRUCTION

RECOMMENDATIONS

1. Construction activities should follow recommendations and precautions described in

the Environmental Protection Agency's Design Manual: Onsite Wastewater Treatment and Disposal Systems.^{EPA}

2. ~~Subsurface—disposal~~ Onsite wastewater systems should have a slightly sloped finished grade to promote surface runoff.
3. Surface runoff should be diverted around open trenches/pits to limit siltation of trench bottom area.
4. Work should be scheduled only when infiltrative surfaces can be covered in one day to minimize windblown silt or rain clogging the soil.
5. In clayey soils, work should be done only when soil moisture content is low enough to avoid smearing of infiltrative surfaces.
6. Bottom and sidewall areas should be left with a rough surface. Any smeared or compacted surfaces should be removed.
7. Bottom of trench or bed leach distribution piping should be level throughout to prevent localized overloading.
8. ~~Two inches of coarse sand should be placed on the bottom of trenches to prevent compacting soil when leachrock is dumped into drainfields. Fine sand should not be used as it may lead to system failure.~~
9. Properly constructed distribution boxes or junction fittings should be installed to maintain equal flow to each trench. Distribution boxes should be placed with extreme care outside the leaching area to ensure settling does not occur.
10. Risers to the ground surface and manholes should be installed over the septic tank inspection ports, access ports and distribution boxes.
11. Drainfields should include inspection pipes to check water level.
12. Nutrient and heavy metal removal should be facilitated by planting ground cover vegetation over shallow subsurface drainfields. The plants must have the following characteristics: (1) evergreen, (2) shallow root systems, (3)

numerous leaves, (4) salt resistant, (5) ability to grow in soggy soils, and (6) low or no maintenance. Plants downstream of leaching area may also be effective in nutrient removal.

REQUIREMENTS

13. Prior to backfilling, the distribution system ~~should~~ shall be tested to check the hydraulic loading pattern.
14. Disposal systems ~~should~~ shall be inspected by the permitting agency prior to covering to ensure proper construction. Designers and/or installers of engineered onsite wastewater systems shall provide a letter to the permitting authority stating that the onsite system was installed in substantial conformance with the approved plans.

VIII.D.2.e. ONSITE SYSTEM MAINTENANCE

RECOMMENDATIONS

1. Septic tanks should be inspected every two to five years to determine the need for pumping.
2. Drainfields should be alternated when drainfield inspection pipes reveal a high water level or every six months, whichever is sooner.

REQUIREMENTS

3. Onsite wastewater systems shall be maintained in accordance with approved onsite management plans. Where onsite management plans have not been approved by the Central Coast Water Board Executive Officer, onsite systems shall be maintained as described in the following specifications.^{EPA}
4. Septic tanks shall be pumped whenever: (1) the scum layer is within three inches of the outlet device, (2) the sludge level is within eight inches of the bottom of the outlet device, or (3) every 5 years; whichever is sooner.^{EPA}
5. Disposal of septage (solid residue pumped from septic tanks) shall be accomplished in a manner acceptable to the Central Coast Water Board Executive Officer.

6. Records of maintenance, pumping, septage disposal, etc. shall be maintained by the onsite system owner and available upon request.^{EPA}

VIII.D.2.f. USE CONSIDERATIONS

RECOMMENDATIONS

1. Water conservation and solids reduction practices should be implemented by all onsite system users. Garbage grinders should not be used in homes with septic tanks. Where grinders are used, septic tank capacity and inspection/pumping frequency should be increased.
2. Metering and water use costs should be used to encourage water conservation in areas served by onsite systems.
3. Bleach, solvents, fungicides and any other toxic material, grease and oil should not be discharged into onsite wastewater systems.
4. Self-regenerating water softeners should not be used where discharge is to onsite systems. If water softening is necessary, use of canister-type softeners will protect the treatment and disposal systems and underlying groundwater from unnecessary accumulation of salts.

PROHIBITIONS

5. Self-regenerating water softener brine discharge to onsite wastewater systems is prohibited unless consistent with a salts minimization plan approved by the Water Board Executive Officer and implemented by the local jurisdiction.

VIII.D.2.g. ONSITE WASTEWATER SYSTEM PROHIBITION AREAS

In order to achieve water quality objectives, protect present and future beneficial water uses, protect public health, and prevent nuisance, discharges are prohibited in the following areas:

1. Discharges from individual sewage disposal systems are prohibited in portions of the community of Nipomo, San Luis Obispo County, which are particularly described in Appendix A-27.

2. Discharges from individual sewage disposal systems within the San Lorenzo River Watershed shall be managed as follows: Discharges shall be allowed providing the County of Santa Cruz, as lead agency, implements the "Wastewater Management Plan for the San Lorenzo River Watershed, County of Santa Cruz, Health Services Agency, Environmental Health Service, February 1995 and "San Lorenzo Nitrate Management Plan, Phase II Final Report", February 1995, County of Santa Cruz, Health Services Agency, Environmental Health Service (Wastewater Management Plan) and assures the Central Coast Water Board that areas of the San Lorenzo River Watershed are serviced by wastewater disposal systems to protect and enhance water quality, to protect and restore beneficial uses of water, and to abate and prevent nuisance, pollution, and contamination.
3. Discharges from individual and community sewage disposal systems are prohibited, effective November 1, 1988, in the Los Osos/Baywood Park area depicted in the Prohibition Boundary Map included as Attachment A of Resolution No. 83-13, which can be found in Appendix A-30.

VIII.D.2.h. SUBSURFACE DISPOSAL EXEMPTIONS

The Central Coast Water Board or Executive Officer may grant exemption to prohibitions for: (1) engineered new onsite disposal wastewater systems for sites unsuitable for standard systems; and (2) new or existing onsite systems within the specific prohibition areas cited above. Such exemptions may be granted only after presentation by the discharger of sufficient justification, including geologic and hydrologic evidence that the continued operation of such system(s) in a particular area will not individually or collectively, directly or indirectly, result in pollution or nuisance, or affect water quality adversely.

Individual, alternative, and community systems shall not be approved for any area where it appears that the total discharge of leachate to the geological system, under fully developed conditions, will cause: (1) damage to public or private property; (2)

ground or surface water degradation; (3) nuisance condition; or, (4) a public health hazard. Interim use of septic tank systems may be permitted where alternate parcels are held in reserve until sewer systems are available.

Requests for exemptions will not be considered until the local entity has reviewed the system and submitted the proposal for Central Coast Water Board review. Dischargers requesting exemptions must submit a Report of Waste Discharge. Exemptions will be subject to filing fees as established by the State Water Code.

Discharges from onsite wastewater systems regulated by waste discharge requirements or

waiver of such requirements may be exempt from the requirements of this chapter. The waste discharge requirements order or waiver will act in lieu of exemption, and separate exemption is not required.

Further information concerning individual, alternative, or community onsite sewage disposal systems can be found in Chapter 5 in the Management Principals and Control Actions sections. State Water Resources Control Board Plans and Policies, Discharge Prohibitions, and Central Coast Water Board Policies may also apply depending on individual circumstances.