

ON-SITE WASTEWATER SYSTEM REGULATIONS
SAN JUAN BASIN HEALTH DEPARTMENT

SECTION 1

TITLE AND POLICY:

1.1 Title:

These regulations previously known as the On-Site Wastewater System Regulations (O.S.W.S.) 2003 shall be known as the On-Site Wastewater System Regulations (O.S.W.S.) 2006.

1.2 Policy:

The San Juan Basin Health Department Board of Health declares the purpose of these regulations is to protect the physical and mental health of the people, to control communicable diseases and to regulate wastes from dwellings, businesses, industrial sites, and public buildings. These regulations shall be applicable throughout Archuleta, La Plata and San Juan Counties and shall be enforced by S.J.B.H.D. and the Board of Health. These regulations are designed to control the construction, location, and operation of on-site wastewater systems, the transportation, treatment and final disposal of sewage materials, and work performed by installers of such systems.

The Board of Health declares its general policy is to require the use of public sewer systems where and whenever feasible, and to limit the installation of on-site wastewater systems to areas where public sewers are not feasible.

The local Board of Health has variance authority, in accordance with procedures established by the Colorado State Board Of Health and authorized under Title 25, Article 10 C.R.S. 1973.

SECTION 2:

DEFINITIONS:

Absorption Lagoon: A reservoir which receives treated effluent for storage, evaporation and disposal. As of January 27, 2003, no on-site wastewater system permits will be issued for the installation of absorption lagoons.

Absorption System: A wastewater disposal or leaching field and adjacent soils or other systems for the treatment of sewage in an on-site wastewater system by absorption into the ground, this may include evapotranspiration.

Absorption Trenches: One or more trenches, not over three feet in width, in which sewage effluent is percolated into the soil.

Acceptable Design: A design of a tank, treatment plant, or system that meets the review criteria of San Juan Basin Health Department.

Adequate On-site wastewater System: A system that is functioning in compliance with these regulations and does not create a threat to the public health, a public nuisance or unnecessary pollution to the environment.

Aerobic Sewage Treatment System: An on-site wastewater system employing biological action which is maintained by the addition of air or oxygen.

Applicant: A person who submits an application to install, construct, alter or repair an on-site wastewater system.

Approved: Official consent, given in writing, to accept plans, to install an O.S.W.S., and/or a signature accepting completion by the San Juan Basin Health Department.

Bedrock: A consolidated rock formation of impervious material, which may exhibit a jointed, fractured, or cohesive structure.

Board of Health: The officially appointed governing body of the San Juan Basin Health Department.

Building Sewer: Part of the piping of a drainage system which extends from the end of the building drain and which receives the discharge of the building drain and conveys it to a public sewer, private sewer, on-site wastewater system or other point of disposal.

CDPHE - Colorado Department of Public Health and Environment. Hereafter called "CDPHE". The state-level health department located at 4300 Cherry Creek Drive South, Denver, Colorado 80220-1530

Cesspool: An underground receptacle, which receives untreated sewage from a building and permits the untreated sewage to seep into surrounding soils. Cesspools are prohibited in the state of Colorado.

Cluster Developments: A concept whereby residences, or building envelopes, are grouped together and areas of common ground satisfy the acreage requirements for the subdivision.

Community Water System: A water system serving more than 15 taps or 25 people and being managed by a "Certified Operator" and approved under the permitting process of CDPHE.

Competent Technician: A person designated by the San Juan Basin Health Department who is qualified to conduct and interpret the results of a site evaluation and/or percolation test.

Composting Toilet: An approved unit which consists of a toilet seat and cover over a riser which connects to a compartment or a vault that contains or will receive composting materials sufficient to reduce waste by aerobic decomposition.

Constructed wetlands: A system, which utilizes various wetland plants to provide secondary treatment of wastewater through biological, physical and chemical processes.

Continuous Supply of Water: Wells, municipal water systems, or any other water supply that provides an adequate quantity without hauling.

Department: The San Juan Basin Health Department.

Design Flow: The design flow is 150% of average daily flow as calculated by methods presented in these regulations.

Dispersal System: A system for the disposal of effluent after final treatment in an on-site wastewater system by a method which does not depend upon or utilize the treatment capability of the soil.

Distributor: The seller and/or installer of aerobic sewage treatment systems, or septic systems or components for those systems.

Distribution Box: A watertight chamber, which receives wastewater from a septic tank or other primary treatment unit and from which effluent is distributed evenly throughout the absorption system.

Division: The environmental health section of San Juan Basin Health Department.

Dosing Tank: A separate tank, which stores wastewater from a septic tank, intended to be discharged to a disposal area at a high periodic rate.

Effective Size: A granular media that is sized such that not more than 10% of the media, by weight, is finer than the size specified.

Effluent: The liquid waste discharge from an on-site wastewater system or treatment tank.

Environmental Health Specialist: A person who is trained in physical, biological, and /or sanitary science to carry out duties in the field of environmental health.

Evapotranspiration System: A type of dispersal system that wholly or partially utilizes liquid evaporation and transpiration by vegetation as a means of effluent disposal.

Experimental System: Any new device or design on which further testing is required in order to provide sufficient information to determine the acceptability of the system.

100 Year Floodplain: An area adjacent to a natural water course that is subject to flooding as the result of the occurrence of a one hundred (100) year storm, and is so adverse to past, current or foreseeable construction or land use as to constitute a significant hazard to public or environmental health and safety, or to property, or is designated by the Federal Emergency Management Agency (FEMA), or National Flood Insurance Program (NFIP). In the absence of FEMA/NFIP maps, a Professional Engineer shall certify the floodplain elevation and/or location.

Floodway: That area of the floodplain in which the channel of the watercourse and those portions of the adjoining floodplain must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot at any point or as designated by the Federal Emergency Management Agency or National Flood Insurance Program. In the absence of FEMA/NFIP maps, a Professional Engineer shall certify the floodway elevation and/or location.

Grey Water System: A system designed to collect, treat and dispose of liquid wastes from sinks, lavatories, tubs, showers and laundry or other approved plumbing fixtures excluding toilet fixtures.

Groundwater Table: The upper surface of groundwater in the zone of saturation of geologic formation.

Health Officer: The chief administrator and executive officer of the Department or his/her authorized representative.

Holding Tank: A watertight receptacle for the retention of sewage either before, during or after treatment.

Individual Sewage Disposal System: ("System" or "ISDS") means a system for collecting, storing, treating, neutralizing, stabilizing, or disposing of sewage which is not a part of or connected to a sewage treatment works. Presently defined as an on-site wastewater system (O.S.W.S.).

Lateral irrigation ditch: an irrigation ditch serving only the property being developed and does not flow through to any other property. The ditch is used only during times of active irrigation.

Liner: A watertight membrane of at least 0.01-inch (10 mil) thickness used to prevent effluent from entering the soil or groundwater table. Material shall be polyvinyl chloride or a material of equal or greater integrity.

Lot: A designated parcel, tract or area of land established by subdivision or as otherwise permitted by law, to be used, developed or built upon.

Malfunction or Malfunctioning System: An on-site wastewater system which is not operating properly or is not in compliance with the On-site wastewater systems Act (Article 10 of Title 25 of C.R.S. 1973). MALFUNCTIONING SYSTEMS ARE LISTED IN SECTION 3.17.1

Manufacturer: The person or firm that constructs or assembles on-site sewage treatment system components.

On-Site Wastewater System: A system for collecting, storing, treating, neutralizing, stabilizing or disposing of sewage which is not a part of or connected to a sewage treatment works.

Owner: The person who is owner of record of the land on which an on-site wastewater system is to be designed, constructed, installed, altered, or used.

Percolation Test: A soil test at the depth of a proposed absorption system, or other similar component, of an on-site wastewater system to determine the water absorption capability of the soil, the results of which are normally expressed as the rate at which one inch of water is absorbed.

Permeability: The property of a material which permits movement of water through the material.

Permit: A document issued by San Juan Basin Health Department authorizing the construction, alteration, installation, repair, and/or use of an on-site wastewater system.

Person: An individual, partnership, firm, corporation, association or other legal entity and also the state, any political subdivision thereof or other government entity.

Plat: An accurate drawing or map indicating the dimensions, acreage and location of property lines, buildings, wells, on-site wastewater systems, water courses, geographical features and other pertinent information as required.

Privy: A structure, allowing for the disposal of human excreta into a pit in the soil which provides privacy and shelter, and prevents access to the excreta by flies, rodents, or other vectors. These O.S.W.S. Regulations prohibit pit privy installation.

Professional Engineer: (P.E.) An engineer licensed in the state of Colorado in accordance with Section 12-15-111, C.R.S. 1973.

Sand Filter: A subsurface system, which utilizes wastewater filtration or absorption or both, which contains an intermediate layer of sand as filter material.

Sanitarian: (Environmental Health Specialist) A person who is trained in physical, biological and/or sanitary science to carry out duties in the field of environmental health.

Sandy Soil: A soil having a high sand content, high infiltration rate, and a high rate of water transmission.

Seepage Bed or Absorption Bed: A subsurface soil absorption area which is wider than three (3) feet, together with a system of approved distribution piping or gravelless chambers through which effluent may seep, leach or infiltrate into the surrounding soil.

Seepage Pit: A type of soil absorption system dependent upon suitable soil, containing a structural, internal void, and designed on the basis of sidewall area.

Septic Tank: A watertight, accessible, covered receptacle designed and constructed to receive sewage from a building sewer, to settle solids from the liquid, to digest organic matter and store digested solids through a period of retention and allow the clarified liquids to discharge to other treatment units for final disposal.

Serial Distribution: An arrangement of absorption trenches, seepage pits or seepage beds designed so that effluent is retained in each successive component designed to utilize the total effective absorption capacity of that component before flowing into the succeeding component.

Septage: A liquid or semisolid which includes normal household wastes, human excreta, animal or vegetable matter in suspension or solution generated from a residential septic tank system or from a commercial establishment that can demonstrate to the Department its septage meets the definition. Septage does not include chemical toilet residuals.

Sewage: A combination of liquid wastes which may include chemicals, house wastes, human excreta, animal or vegetable matter in suspension or solution, or other solids in suspension or solution which is discharged from a dwelling, building, or other structure.

Sewer Line: A pipe or piping system capable of conveying sewage.

Sewage Treatment Works: A system or facility for treating, neutralizing, stabilizing, or disposing of sewage, which system or facility has a designed capacity to receive more than two thousand gallons of sewage per day, unless designed as an absorption system. The term "sewage treatment works" includes appurtenances such as interceptors, collection lines, outfall and outlet sewers, pumping stations, and related equipment.

State Waters: Any and all surface and subsurface waters which are contained in or flow in or through this state, except waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all waters withdrawn for use, until all uses and treatment have been completed.

Soil: Earth as defined in suitable soil except for 4.4C and 4.4D. Soil must be readily diggable with a shovel or other mechanical means.

Steep Slope: A slope greater than 25%.

Suitable Soil: A soil, which will effectively treat and filter effluent by removal of organisms and suspended solids before the effluent reaches any highly permeable earth such as joints in bedrock, gravels, or very coarse soils. Such soil shall also meet the percolation test requirements and has a vertical thickness of at least four feet below the bottom of the absorption area.

Systems Cleaner: A person who is engaged in the cleaning and pumping of on-site wastewater systems and removal of the residues deposited in the operation thereof; who is licensed by the Department.

Systems Contractor: A person engaged in the installation, renovation, and repair of on-site wastewater systems; who is licensed by the Department.

Uniformity Coefficient: The value which is the ratio of D60 to D10 where D60 is the soil diameter of which 60% of the soil weight is finer and D10 is the corresponding value at 10% finer. (A soil having a uniformity coefficient smaller than 4 would be considered "uniform" for purposes of this regulation.

Vault: A watertight, covered receptacle, which is designed to receive and store excreta or wastes either from a sewer or from a privy and is accessible for the periodic removal of its contents.

WQSA Policy #6. A CDPHE policy regulating densities of Onsite wastewater systems in larger business or residential clustered applications, where sewage flows are combined, the combined flows exceed 2,000 gallons per day, and the systems are separated to avoid a "Site Application" requirement from CDPHE.

SECTION 3

ADMINISTRATION AND ENFORCEMENT

3.1 General Sanitation Requirements: The owner of any structure where people live, work, or congregate shall insure that the structure contains adequate convenient, sanitary toilet and on-site wastewater systems in good working order. Under no condition shall sewage or effluent be permitted to be discharged upon the surface of the ground, or into Waters of the State, unless the sewage or effluent meets the minimum requirements of this Regulation or the Water Quality standards of the Colorado Water Quality Control Commission, whichever is applicable.

3.2 Inspections and Right of Entry: For the purpose of inspection and enforcing applicable rules and regulations and the terms and conditions of any permit issued, the Health Officer or his designee is authorized to enter upon private property at reasonable times and upon reasonable notice for the purpose of determining whether or not operating on-site wastewater facilities and systems are functioning in compliance with Article 10 of Title 25, C.R.S. 1973 and applicable rules and regulations adopted pursuant thereto and the terms and conditions of any permit issued and to inspect and conduct tests in evaluating any permit application. The owner or occupant of every property having an on-site wastewater system shall permit the Health Officer or his designated agent access to the property to conduct required tests, take samples, monitor compliance, and make inspections.

3.3 Permit Application Requirements:

A. Any person who wishes to install, alter, or repair an on-site wastewater system in Archuleta County, La Plata County, San Juan County, Colorado, or any other areas of authority, shall obtain a permit from the Health Officer and shall furnish the following information to the Health Officer prior to commencing any work on the system.

1. Legal description of the property.
2. Owner of the property.
3. Owner's mailing address and phone number.
4. County Parcel Number.
5. Systems Contractor name, address, and phone number.
6. Building permit application, when required.
7. Plot plan.
8. Proposed use of building and property.
9. Type of water supply.
10. Applicant's signature.

- B. Prior to issuing the permit, the following information may be required:
1. Type of soil or soil classification.
 2. Soil percolation or hydraulic conductivity tests when necessary to the design of the disposal system.
 3. Proximal location of bedrock.
 4. Proximal location of the ground water table and seasonal high water level.
 5. Type of the on-site wastewater system.
 6. Defined area of the floodplain.
 7. Design of the on-site wastewater system.
 8. Such additional information as may be required by the Health Officer.
 9. All existing O.S.W.S. on the lot must be in compliance before the requested permits are issued for the additional system.

C. An on-site wastewater system permit shall be required for expanded use of an existing system. The system shall meet all current requirements.

D. A permit fee shall be required of applicants for installation, alteration or repair of all on-site wastewater systems, payable at the time the application is submitted. Any change in the ownership of a property, lot size, or in the intended use of a proposed sewer system may invalidate any permit issued for systems not yet installed.

E. Such permit fees are deemed necessary to properly process the request and therefore are not refundable except when the processing cost is less than the permit fee. Fees shall equal cost.

F. A repair permit shall be required and a fee shall be charged for alteration or repair of an existing on-site wastewater system. If soil testing is performed by the Department, an additional fee shall be charged.

G. If conditions allow for the connection of a second structure, a permit fee shall be charged for the addition to an existing on-site wastewater system.

H. The Department shall determine after review of the application, site inspection, test results, and other required information, whether the proposed system is in compliance with the requirements of applicable law and these regulations. If determined to be in compliance, a permit to construct, alter or repair an on-site wastewater system will be issued.

3.4 Acreage Requirements:

A. Regardless of the acreage, no permit will be issued for an on-site wastewater system if there is not sufficient space on the lot for replacement of the system

when it fails. The replacement site must be suitable and conform with minimum setback and acreage requirements.

B. No permit shall be granted for a lot that is less than one (1.0) acre. Lots less than one (1.0) acre must be legally joined together to provide the necessary one (1.0) acre area.

C. The on-site wastewater system must be on the same lot as the origin of the sewage unless excepted as specified under 3.14.D.

D. Consolidated or combined lot size must total a minimum of one acre and meet the requirements of 3.14 of these regulations. Lots must be consolidated through the county planning process prior to the issuance of an on-site wastewater system permit.

E. Any land use change must meet county Planning and Building requirements prior to O.S.W.S. permit application submittal.

F. Lots with existing habitable structures that are less than one acre are entitled to a permit to bring failing or malfunctioning onsite wastewater systems into compliance with these regulations. The permit shall allow for a residence with an equal number of bedrooms as the existing residence.

Lots less than one acre that have become vacant or have an uninhabitable residential structure no longer qualify for a permit for an onsite wastewater system.

G. Dwellings must have an absorption bed designed for a minimum of two (2) bedrooms.

3.5 Preliminary Investigation: After receiving an application for an on-site wastewater system permit, the sanitarian shall review any information provided by a P.E., and/or visit the applicant's property to make a preliminary investigation on behalf of the Department consisting of:

A. Inspection of the premises.

B. Verification of soil percolation or hydraulic conductivity tests.

C. General geological conditions.

D. The determination of the suitability of the site and of the proposed design based upon the land use in the area, the use to which the property is to be put; the size of the lot; verification of the ground water table, suitable soil, and depth to bedrock; the location of water supply systems; and the location of the disposal system with reference to wells, streams, lakes, ditches, structures, and other geographical features.

E. When specific evidence indicates that subsurface conditions exist that may endanger the state waters, additional hydrological, geological, or engineering information provided by a Professional Engineer or Geologist, may be required.

F. When the Department has sufficient information to make one or more provisions of this section unnecessary, it may waive any or all of the above.

3.6 Types of On-site wastewater systems: The Department shall determine the type or types of on-site wastewater systems, which are suitable for the property. The Department may give a conditional approval for a permit for the proposed on-site wastewater system, or may deny issuance of a permit if the proposed system does not comply with these regulations. Conditional approval shall set forth conditions for the issuance of a permit including effluent testing, cleaning or maintenance schedules, or other special conditions. No permit shall be issued to the applicant or to a subsequent owner until the conditions have been met. No permits shall be issued for the following systems unless they are designed by a Professional Engineer and have been reviewed and approved by the Department:

A. Systems which service commercial, business, institutions, industry, or multifamily dwellings unless disposal is through an absorption system and the wastes are exclusively domestic type wastes. This exception can be reviewed by the Department.

B. Absorption fields for which the location does not meet suitable soil requirements.

C. Experimental systems.

3.7 Systems Designed For Over 2000 Gallons Per Day, Systems disposing of effluent upon the ground, Systems Designed to Discharge to State Waters: In the case of any system with a design capacity over 2,000 gallons of sewage per day, or which discharges effluent into state waters, or disposes of effluent upon the ground, or are designed to serve 25 or more persons per day, the Department may give its conditional approval or may disapprove the application. Thereafter the application, together with the Department's recommendation, shall be forwarded to the Colorado Department of Public Health and Environment for its review. If either the Department or the Colorado Department of Public Health and Environment disapproves the application, no permit shall be issued. (See Section 10, Effluent Discharged to State Waters)

3.8 Permit Expiration: If both a building permit and an on-site wastewater permit are issued for the same property, and construction is not commenced prior to the expiration date of the building permit, the on-site wastewater permit shall expire at the same time as the building permit. If an on-site wastewater

permit is issued for property on which no building permit has been issued, the on-site wastewater permit shall expire one year after the date of issuance if construction has not commenced. Any change in plans or specifications after the permit has been issued invalidates the permit, unless approval is secured from the Health Officer for such changes and noted on the permit. An expired permit may be extended or renewed under the following conditions:

A. There has been no change in the plans and specifications of the proposed system as set out in the original application; and

B. The use and applicable land use regulations of the lot and surrounding land, have not changed so as to cause the original application not to be acceptable under these regulations; and

C. Additional fees may be charged for changes in design or location requiring additional site inspections and data evaluation.

3.9 Owner Responsibility: The property owner shall be responsible for proper installation and maintenance of the system and for abatement of any nuisance arising from its failure. The issuance of a permit and specifications of terms and conditions therein shall not constitute assumption or create a presumption that the Department or its employees may be liable for the failure of any system nor act as a certification that the equipment used in the system or any component thereof used in its operation or that the system for which the permit was issued insures continuous compliance with the provision of Article 10 of Title 25, C.R.S. 1973, the rules and regulations adopted thereunder, or any terms and conditions of a permit.

3.10 Sewer Certification: When requested by an individual or lending agency the Department will make an inspection of the existing on-site wastewater system to determine if the system is functioning properly.

A. Systems older than 4 years of age in continual usage shall have the septic tank pumped, and the lid or covers replaced, but left exposed for inspection prior to approval. If the tank has been pumped within the last two years and verified by a pumping receipt, the pumping requirement may be waived.

B. A letter describing the observable condition and operation of the system will be issued. This letter does not imply any warranty on the part of San Juan Basin Health Department as to the overall condition or adequacy of the on-site wastewater system.

3.11 Inspections:

A. Preliminary Inspections: The systems contractor or owner shall request the initial site evaluations and percolation tests. The site evaluations/percolation tests

will be scheduled by mutual agreement with Department personnel.

B. Final Inspection:

1. The System Contractor or owner shall notify the Department when construction of an on-site wastewater system has been completed but not yet backfilled, and a representative of the Department may make a final inspection within two working days or at a later time by mutual agreement. The Department may make an inspection at any time during the construction process. If the final inspection is not made within the two working days following receipt of notice or as otherwise arranged, the System Contractor may proceed to cover or complete the installation.

2. If upon final inspection of the system the sanitarian finds it installed in accordance with these regulations and the permit, the sanitarian shall issue final approval for the complete system. If the system has been designed by or constructed under the supervision of a Professional Engineer, he shall at this time certify to the Department that construction, installation, and backfill of the system has been completed in accordance with the terms of the permit and this regulation. If the inspection discloses any significant departure from information submitted on the application, or if any aspect of the system fails to comply with permit specifications or these regulations, approval shall be withheld. Written or verbal notice of deficiencies causing the disapproval shall be given to the systems contractor. Another inspection shall be made upon notification that the deficiencies have been corrected and the system brought into compliance with this regulation. A re-inspection fee may be charged to the contractor if the system was not ready to be inspected, or fails to pass inspection at the time of the scheduled final inspection.

3.12 Right to Appeal:

A. Notice of denial: Notice of the denial of a permit or disapproval of plans shall be given to the applicant if requested.

B. Appeal to the Board of Health: Any person who is denied a permit or whose plans for an on-site wastewater system are disapproved may appeal to the Board of Health for review as provided herein:

1. A written statement explaining the request for review. This statement shall include the following:

- a. Property owner's name and address of the site.
- b. The proposed use of the property.
- c. The reason the review is requested, specifying hardships imposed by strict interpretation of these regulations.
- d. Proof that existing systems are functioning properly and in compliance with applicable local regulations.

Note: Hardships must be an attribute of the property, not to a person or owner.

2. A site map(s), including the following:
 - a. General location of the property.
 - b. An ACCURATE drawing of the lot, adjoining lots and any property within a 100 feet radius of the proposed sewer site. This drawing must include the names of the property owners and the location of all wells, springs, waterways, surface waters, water lines, buildings, and roads.
 - c. Designation of all slopes greater than 25% on the lot.
3. Proof of neighboring property owner notification:
 - a. All owners of adjoining property and of any property within 100 feet of the proposed sewer site must be notified that a review is being requested.
 - b. This notification can be by registered mail or by having the owners of the neighboring property sign a copy of the written statement explaining the request.
 - c. The neighboring property owners will be given 10 days to respond.
4. Special circumstances may require additional information (example: geologic, access, photographs, etc.).
5. Appeal application and fee must be submitted at least two weeks prior to the Board of Health meeting date. Appeals will be scheduled as the Board of Health agenda allows.

C. Burden of Proof: The Burden of Proof is upon the applicant to show that granting the appeal would not injure adjacent properties, will not conflict with the purposes of these regulations, and will not adversely effect the health of any person, based on current and potential allowable use.

D. Following review by the Board of Health, the applicant shall receive written notification (within 30 days), to include the following:

1. Findings of the Board of Health.
2. Facts upon which findings were based.
3. Reference to laws or regulations upon which Board of Health decision was based.
4. Conditions, which must be met as a condition of approval granted. Landowner may be required to file legal record of approval conditions, which must be drafted by an attorney and recorded with the County Clerk and Recorder.

E. Such review shall be conducted pursuant to the requirements of 24-4-105 C.R.S., 1973.

F. Finality of Denial: Denial shall become final upon determination by the Board of Health.

3.13 Community Sewers: Permits to construct, extend, or replace an on-site wastewater system shall be ordinarily denied if municipal or sanitation district sewers exist within 400 feet of the applicant's lot line, there is reasonable access, and if the municipality or district agrees to provide sewer service as provided for in Chapter 89, Article 5 C.R.S. 1973.

3.14 Submission of Plans for Proposed Subdivisions or Lot Consolidation:

A. Plans for proposed subdivisions and lot consolidation shall be submitted to this Department for the review of proposed on-site wastewater systems in accordance with requirements of this regulation and the requirements of subdivision regulations of Archuleta, La Plata and San Juan Counties. The Health Officer may require the subdivider to prove each lot has a suitable location for an on-site wastewater system prior to making recommendations. No plan shall receive the approval of the Board of County Commissioners unless the Department has made a favorable recommendation regarding the proposed method of sewage treatment.

B. The subdivision or consolidation of lots shall meet the following criteria for approval for O.S.W.S.:

1. Each lot must have an approved on-site wastewater system site which meets the following criteria:
 - a. Has at least 4000 square feet of usable space per dwelling.
 - b. Meets all minimum setback distances.
 - c. Has no bedrock within 5 feet of the surface.
 - d. Has no groundwater at any time of the year within 5 feet of the surface of the ground.
 - e. Is out of floodways.
 - f. Has slopes less than 25%.
 - g. Is set back 25 feet from the top of steep slopes more than 25%.
 - h. Is outside of any other planned improvement area (building site, roadways, utility lines, etc.).
2. No tank inlets, tank outlets, manholes or piping shall be under high seasonal water table.
3. All existing O.S.W.S. must be functioning as originally permitted. All non-functioning systems may be required to be brought into compliance before approval will be granted.

C. Required Submissions for approval:

1. An accurate plat of the subdivision showing:
 - a. Subdivision location.
 - b. Lot sizes and dimensions.
 - c. All existing buildings, wells, springs, surface water, waterways, water lines, on-site wastewater systems, slopes greater than 25%, and roads.

- d. Proposed locations of water supplies, roads, road easements and other easements.
- e. All platted subdivisions containing land located in the floodway or floodplain shall have:
 - 1. Floodway and floodplain boundaries identified.
 - 2. A proven, suitable location on each lot which is identified on the plat.
- 2. A statement regarding the proposed use of the property.
- 3. The distance to the nearest sewer main of a municipal or community system if within 1/4 mile.
- 4. Verification that the proposed subdivision plans have been submitted to the Planning Department for the Sketch Plan review.
- 5. Additional hydrological, geological or engineering information as required when evidence indicates that an on-site wastewater system may endanger groundwater or surface water quality.

D. Cluster Developments:

- 1. Each building envelope shall have a designated on-site wastewater site located on the platted envelope or on adjacent common ground. (Request a copy of the Cluster Guidelines).
- 2. On-site wastewater systems for clustered residences must be sub-surface.
- 3. The designated site must have sufficient area that meets the siting criteria as identified in 3.14B and be recorded on the plat.
- 4. Flows from separate building envelopes cannot be combined unless:
 - a. sewage flows are less than 2000 gpd
 - b. a quasi-legal agency is responsible for system monitoring and repair
 - c. systems are engineer designed and approved by S.J.B.H.D.
- 5. Spacing of onsite wastewater system must comply with CDPHE requirements for spacing as stated in WQSA policy #6 when flows for the entire cluster development project are greater than 2,000 gallons per day.
- 6. The separation between wastewater areas and down-gradient wells must be a minimum of two hundred (200) feet, plus an additional eight (8) feet added for each one hundred (100) gallons per day of design flow over two thousand (2,000) gallons per day.
- 7. Any other condition that would constitute a public health concern must be resolved.

3.15 Regulation of System Contractors:

- A. No person except the property owner shall excavate, install, renovate, or repair an on-site wastewater system unless he holds a valid Systems Contractor License issued by the Department. Licenses shall expire on December 31st of each year, and an annual renewal fee shall be charged. Any contractor who is put on probation or has a license, which lapses because of failure to renew or is

revoked, shall be subject to the fee established for new licenses upon reapplication.

Contractors seeking licenses for the first time shall be required to complete the prescribed training courses before licenses are issued. Contractors who have had their licenses revoked or put on suspension shall be required to repeat the prescribed training courses before their licenses will be reinstated.

B. Standard of performance required of holders of Systems Contractor Licenses:

1. Applications for Systems Contractors Licenses or renewals shall be made upon forms supplied by the Department.
2. Prior to the issuance or renewal of a license the Health Officer may require the applicant to demonstrate adequate knowledge of these regulations.
3. Installation, renovation or repair of any on-site wastewater system shall be in compliance with these regulations and with the conditions set out in the installation permit issued by this Department.
4. The installer shall complete and deliver the permit to the owner within 7 days after the completion of an approved installation.
5. The installer or property owner shall have the permit in his possession at the time construction begins, and shall insure the permit is available at the time of final inspection so that final approval may be endorsed upon it.
6. Possession of a permit by a contractor does not constitute sole right to install that system. The property owner may secure the services of any licensed contractor of his choosing.

C. Revocation of a Systems Contractor License:

1. A Systems Contractor's license may be revoked for failure to comply with these regulations. Revocation may take place after a hearing before the Board of Health. The license holder shall be given not less than 10 days notice of the hearing and may be represented at the hearing by counsel.
2. Should a revocation hearing result in a decision to suspend or revoke a Systems Contractor's license, such decision, including a listing of violations and any conditions set forth by the Board of Health shall be forwarded in writing by registered or certified mail, return receipt requested, and deliverable only to the Systems Contractor.
3. The Board of Health shall from time to time set qualification standards for licensed System Contractors.

3.16 Regulation of Systems Cleaners:

A. No person shall engage in the cleaning of on-site wastewater systems or the transportation of septage to a disposal site unless he holds a valid Systems Cleaner License. Employees of a valid licensed Systems Cleaner shall not be required to be licensed. Licenses shall expire on December 31st of each year,

and an annual renewal fee shall be charged. A license, which lapses because of failure to renew or is revoked shall be subject to the fee established for new licenses upon reapplication. Application for a new license by a Systems Cleaner whose license has been revoked shall not be considered for at least one year after revocation.

B. Standard of Performance for Systems Cleaners:

1. A license holder, when cleaning a septic tank or aeration plant, shall remove the liquid, sludge and scum, leaving no more than three inches depth of sewage in a non-backflowing septic tank or aeration plant. In backflowing types of systems cleaning shall be effective in reducing solids and scum to the point of a near-new system.
2. A license holder shall maintain his equipment to insure that no spillage of septage will occur during transportation, and that his employees are not subjected to undue health hazards.
3. A license holder shall dispose of the collected septage only at a site designated by the Board of County Commissioners or by the Board of Health.
4. All license holders must mark the vehicles which transport septage with their business name in 6 inch letters or larger.
5. The Health Officer may require the applicant to demonstrate adequate knowledge of paragraph 3.16 prior to the issuance of or renewal of a license.
6. When in the normal course of his work he observes sewage being discharged onto the ground or beyond the normal area of confinement, thereby creating a public health hazard, all licensed cleaners shall notify the homeowner and the Department of any such hazard in writing.

C. Revocation of a Systems Cleaner License: The procedures as described in paragraph 3.15C shall be followed for revocation of a license.

3.17 Repair and Emergency Use Permits:

The Health Officer may issue a repair permit and an emergency use permit to the owner or occupant of property on which a system is not functioning properly. When the Department has notified the owner or occupant of a non compliant system or public health nuisance or hazard, said owner or occupant must make application for a repair permit within two business days. The permit shall provide for a specified period of time within which repairs will be made, at the end of which period the system shall be inspected by the Health Officer or designee to insure that it is functioning properly. Concurrently with the issuance of a repair permit, the Health Officer may issue an emergency use permit authorizing continued use of a malfunctioning system on an emergency basis for a period not to exceed the period stated in the repair permit. Such an emergency use permit may be extended, for good cause shown in the event repairs may not be

completed in the period stated in the repair permit through no fault of the owner or occupant.

3.17.1 Malfunctioning Systems:

A. An on-site wastewater system which is not operating properly or is not in compliance with the Individual Sewage Disposal Systems Act (Article 10 of Title 25 C.R.S. 1973). Malfunctioning systems include, but are not limited to, the following:

1. Absorption systems and dispersal systems which seep or flow to the surface of the ground or into waters of the state.
2. Systems which have overflowed from any of its components.
3. Systems which fail to operate in accordance with their designated operation.
4. On-site wastewater systems discharging effluent which does not comply with the applicable effluent discharge standards established by the San Juan Basin Health Department, Colorado State Board of Health and Colorado Water Quality Control Commission.
5. Cesspools and unpermitted pit privies.
6. Treatment tanks which are in unsound condition.
7. Systems which do not comply with the provision of this Regulation regarding minimum separation between the maximum seasonal level of groundwater table and the bottom of an absorption system.
8. Systems causing a public health hazard or nuisance.

3.18 Notice of Violations:

Whenever the Health Officer determines that there has been a violation of any provision of this regulation, he shall give notice of such violation to the responsible person, or persons. Such notice shall be in writing, shall list the violations, shall provide a specific time for correction, and be addressed to the owner and occupant of the property concerned. Service of such notice shall be as provided by the Colorado Rules of Civil Procedure, or by registered or certified mail, return receipt requested, deliverable to addressee only. If one or more persons cannot be found or served after a diligent effort to do so, or attempts by registered or certified mail have failed, service may be made by posting a notice in a conspicuous place on the property affected by the notice. In that case, the Health Officer shall include in the record a statement as to why the posting was necessary.

3.19 Cease and Desist Orders:

The Health Officer may issue an order to cease and desist from the use of any system which is found by the Health Officer to be out of compliance with this regulation or which otherwise constitutes a nuisance or hazard to public health and which has not received the timely repairs in accordance with the provisions

of paragraph 3.17. Such an order may be issued only after a hearing which shall be conducted by the Health Officer not less than 48 hours after written notice thereof is given to the owner or occupant of the property on which the system is located. The owner or a representative may be present at the hearing. The order shall require that the owner or occupant bring the system into compliance or eliminate the nuisance or hazard within a reasonable period of time, not to exceed thirty days, or thereafter cease and desist from the use of the system. A cease and desist order issued by the Health Officer shall be reviewable in the district court for the county wherein the system is located and upon a petition filed by the owner not later than ten days after the order is issued.

3.20 Maintenance and Cleaning:

When directed by the Department, for the purpose of obtaining compliance with rules and regulations, the owner or user of a system shall provide for maintenance and cleaning of an on-site wastewater system and shall notify the Department upon completion of any maintenance work and report to said Department and submit such evidence of compliance with any maintenance and cleaning schedule as the Department requires. In order to insure working order, the minimum recommended pumping schedule for all tanks (septic, aeration, or vault) is every four (4) years.

3.21 Prohibition of On-site wastewater systems in Unsuitable Areas:

The Board of Health may conduct a public hearing, after written notice to all affected property owners as shown in the records of the county assessor and publication of notice in a newspaper of general circulation, at least ten days prior to the hearing, to consider the prohibition of permits for on-site wastewater systems in defined areas which contain or are subdivided for a density of more than one dwelling unit per acre. The Board of Health may order such prohibition upon a finding that the construction and use of additional on-site wastewater systems in the defined area will constitute a hazard to the public health. In such a hearing, the Board of Health may request affected property owners to submit engineering and geological reports concerning the defined area and to provide a study of the economic feasibility of constructing a sewage treatment works.

3.22 General Prohibitions:

For purpose of administration and enforcement of the "Individual Sewage Disposal System Act" (Article 10 of Title 25, C.R.S. 1973), the following provisions of said Act specifying general prohibitions and penalties are set forth for ease of reference but not as guidelines herein:

- A. No city or county shall issue to any person a permit to construct or remodel a building or structure which is not serviced by a sewage treatment works, until an application for a permit has been received and approved by the Department.
- B. No city or county occupancy permit shall be issued to any person for the use of a building which is not serviced by a sewage treatment works until a final inspection of the on-site wastewater system has been made by the sanitarian, as provided in paragraph 3.11 and the installation has received the final approval of the sanitarian.
- C. No on-site wastewater system presently in use which does not comply with the provisions of this Regulation regarding minimum separation between the maximum seasonal level of the groundwater table and the bottom of an absorption system, shall be permitted to remain in use without compliance with this Regulation later than October 1, 1975.
- D. Construction and/or use of cesspools and pit privies are prohibited.
- E. Not more than one dwelling, commercial, business, institutional, or industrial unit shall be connected to the same on-site wastewater system unless such multiple connection was specified in the application submitted and in the permit issued for the system.
- F. No person shall occupy any dwelling or any other structure which is not equipped with adequate allowable facilities for the sanitary disposal of sewage.
- G. Unless permitted, RV units must be self-contained, mobile and to be set up only on a temporary basis.

3.23 Experimental Systems:

Except for designs or types of systems which have been approved by the Department pursuant to C.R.S. 1973, 25-10-107 (1), the Board of Health may approve an application for a type system not otherwise provided for in paragraphs (e) to (j) of subsection (1) of C.R.S. 1973, 25-10-105 only if the system has been designed by a professional engineer, and only if the application

provided for the timely installation of a backup system of a type described in said paragraphs in the event of a failure of the experimental system. The Department shall not arbitrarily deny any person the right to consideration of an application for such a system and shall apply reasonable performance standards in determining whether to approve such an application. (25-10-107 [2]) C.R.S. 1973.

3.24 Penalties:

Any person who commits any of the following acts or violates any of the provisions of this article commits a class I petty offense, as defined in section 18-1-107, C.R.S., 1973.

A. Constructs, alters, installs, or allows the use of any on-site wastewater system without first having applied for and received a permit as outlined in paragraph 3.3 or as provided for in 25-10-105, C.R.S. 1973, or 25-10-106, C.R.S., 1973.

B. Constructs, alters, or installs an on-site wastewater system in a manner which involves a knowing and material variation from the terms or specifications contained in the application or permit.

C. Violates the terms of a cease and desist order which has become final under the terms of paragraph 3.19, or the terms of 25-10-106, C.R.S., 1973.

D. Conducts a business as a Systems Contractor without having obtained the license provided for in paragraph 3.15 or provided for in 25-10-106.

E. Conducts a business as a System Cleaner without having obtained the license provided for in paragraph 3.16, or provided for in 25-10-108, C.R.S., 1973.

3.25 Jurisdiction:

These rules and regulations are promulgated by the Board of Health of the San Juan Basin Health Department under the authority of 25-1-107, and 25-10-104, C.R.S., 1973.

3.26 Severability:

If any regulation adopted thereunder or its application to any person or circumstances is held invalid, unconstitutional, void, or inoperative, such holding shall not affect other provisions or applications of the regulations adopted hereunder. The Board of Health hereby declares that in these regards the

regulation adopted hereunder are severable, and that the Board of Health would have adopted the remaining regulations hereof notwithstanding such holding.

3.27 Saving Clause:

The repeal of any regulation adopted hereunder shall not deny any right, action, or cause of action, which arose under existing regulations.

3.28 Effective Date:

Adopted by the Board of Health July 24, 2006.

SECTION 4

GENERAL TECHNICAL REQUIREMENTS

4.1 Calculation of Sewage Flow and Characteristics:

A. Where gallons per day and pounds of biochemical oxygen demand (BOD) per day can be obtained by measurement of existing conditions, such data may be used.

B. For new facilities the "Table of Quantities and BOD Strength of Sewage" may be used as a guide to represent average conditions. (Appendix B)

C. Maximum flow shall be calculated at 150 percent of average daily flow and shall be the basis for design purposes unless otherwise established by evidence satisfactory to the health officer.

D. For residential structures, sewage flows are calculated at 2 people per bedroom with at least two bedrooms per dwelling for design purposes.

E. The Health Officer may, at his discretion, allow reduction in design flow for proven, permanently installed water conservation devices. Reduction rates will be based on flow information supplied to the Department for comparison with standard accepted rates for each fixture utilizing water conservation devices.

F. The reduction in sizing of an on-site wastewater system from all combined alternatives shall not exceed 50 per cent of design flow.

G. The health officer may, at his discretion, require an increase of average daily flow of up to 100 gallons per person per day for high water use dwellings.

4.2 Soil Test:

A. Location: Soil percolation tests shall be performed in at least (4) four test holes in the area in which the absorption system is to be located, spaced uniformly over the proposed site, except there shall be no less than one (1) test hole in any twelve hundred (1200) square foot area of the absorption system.

B. Dimensions:

1. The percolation test holes should be six (6) inches in diameter, and thirty (30) inches deep, but may vary from four (4) to twelve (12) inches in diameter. Where prohibitive soil or geological conditions exist, the percolation tests shall be conducted within those soils comprising the four feet of acceptable soils beneath the bottom of the absorption field. The holes shall be terminated at the proposed depth of the absorption system.
2. One soil profile hole shall be drilled or dug to provide visual observation of the soil profile of the area of the soil absorption system. The hole shall be prepared at least eight (8) feet deep. The hole may be terminated when groundwater or bedrock is encountered. The hole shall be prepared in such a way as to provide identification of the soil profile four (4) feet below the bottom of the proposed soil absorption system.

C. Procedure: Percolation test holes shall be completely filled with water at least 8 hours, but not more than 24 hours, prior to making the water percolation test, and shall be refilled with water, if necessary, to a depth of at least 14 inches prior to final measurement. The time is measured for the water to drop one inch within the lower twenty-five (25) percent depth of the percolation test hole. The percolation rate shall be reported in minutes of time per inch drop.

D. Calculation: The field percolation rate shall be the average rate of the percolation tests after rate has stabilized in all the test holes observed in the proposed absorption area. A percolation rate between five (5) and sixty (60) minutes per inch is required except as provided for in these regulations.

E. Performance of Percolation Tests:

1. The percolation test shall be performed by the Department, under the supervision of a Professional Engineer, or by a competent technician. These tests may have been previously performed and submitted with the application for the permit.
2. If the applicant demonstrates to the satisfaction of the Sanitarian that the system is not dependent upon soil absorption, the requirement for percolation tests may be waived.

F. Alternate Percolation Test: Alternate percolation test procedures may be approved providing the test results of alternate procedures are substantially equivalent to those determined using the test procedure detailed in this section.

4.3 Water Table:

A. The separation between the maximum seasonal level of the groundwater table and the bottom of an absorption system shall be 4 feet or more.

B. If water table depth is suspected to be a problem, the Department may require a test hole evaluation during the months of the highest water table prior to issuing the permit.

4.4 Suitable Soil Shall Meet The Following Criteria:

A. Has at least a four foot depth of permeable stratum below the bottom of the proposed absorption system.

B. Is located 4 ft. above the maximum seasonal ground water table.

C. Has the capacity to adequately disperse the designed effluent loading as determined by a field percolation rate of between 5 minutes per inch and 60 minutes per inch, or by other approved soil tests.

D. Does not exhibit inhibiting swelling characteristics.

E. Does not visibly exhibit a jointed or fractured pattern of an under lying bedrock.

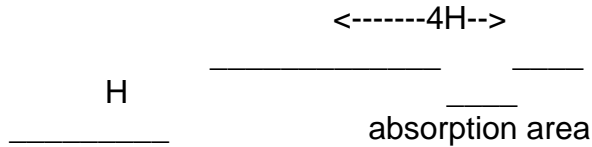
F. Is not consolidated.

G. Acts as an effective filter for the removal of pathogenic organisms.

4.5 Horizontal Setbacks:

Individual components of sewage systems shall have appropriate setbacks from natural and constructed features on the property. See "Table of Minimum Horizontal Distances". (Appendix A)

4.5.1 The minimum horizontal distance required from manmade cut banks and fill areas to on-site wastewater system components discharging effluent into or onto the surrounding soil shall be four (4) times the height of the bank, measured from the bottom of absorption field unless it can be demonstrated by a Professional Engineer or a geologist that a mechanical or natural barrier will prevent lateral effluent surfacing.
(See diagram below)



4.5.2 Minimum horizontal setbacks from natural steep slopes that are >25% shall be 25 feet.

SECTION 5

COMPONENT DESIGN CRITERIA:

5.1 Design Features (General):

A. Reliability: On-site wastewater systems shall be designed and constructed so that each component shall function, when installed and operated, in a manner not adversely affected by normal operating conditions including erosion, vibration, shock, climatic conditions, and usual household chemicals. Each component shall be free of hazards, which could cause injury to persons, animals, or properties. Design shall preclude flies and rodents from accessing the system, shall prevent the creation of nuisances, public health hazards, and shall provide for efficient operation and maintenance.

B. Plumbing Codes: Plumbing fixtures, greasetraps, building sewers, vents, sewer lines and other appurtenances shall be designed, operated and maintained so as to comply with the minimum requirements of the current legally adopted local plumbing code in force on the effective date of these guidelines or those revisions of said Code as are adopted by the State Plumbing Board.

C. Electrical Equipment: All electrical work, equipment, and material shall comply with the requirements of the current National Electrical Code as adopted by the State Electrical Board.

D. Identification and Data Marking: Major components not constructed on the site shall be marked with a permanent plate or other indelible marking to be easily read and visible for the purpose of inspection. Said inscription shall include the following:

1. Name of manufacturer
2. Model or serial number designated
3. Maximum design capacity of the unit and the unit of measurement.

E. Structural Integrity: Tanks shall be constructed and installed to withstand earth and hydrostatic pressures when full and when empty.

F. Watertight Requirement: Watertight tanks, vaults, or other units, shall not allow infiltration of groundwater or surface water and shall not allow the release of wastewater or liquids through other than designed openings.

G. Accessibility for Inspection and Maintenance: Each treatment unit shall be equipped with an access manhole(s) located to permit periodic physical inspection, collection and testing of samples and maintenance of all components and compartments including but not limited to submerged bearings, moving parts, tubes, intakes, slots, filters, inlet and outlet baffles, and other devices. An access riser on the first compartment of the septic tank shall extend to the surface of the ground.

H. Indicators of Failure for Systems Utilizing Mechanical Apparatus: A signal device shall be installed which will provide a recognizable indication or warning to the user that the system or component is not operating or is operating but malfunctioning. This indication or warning shall be in the form of a visual or audible signal, or both.

I. Serviceability: Components shall be so designed and constructed that when installed in accordance with manufacturer's recommendations, they shall be capable of being easily maintained, sampled, drained, pumped, inspected and cleaned.

J. Sampling Access: Where a required final effluent sample cannot be easily obtained, a sampling well shall be constructed. The sampling well shall be accessible and provided with a properly secured cover.

K. Instructions: The manufacturer shall provide clear, concise instructions covering the unit which, when followed, will assure proper installations and safe and satisfactory operation.

L. Surface Activity: Surface activities over the on-site wastewater system or any part thereof, must be restricted to allow the system to function as designed and which will not contribute to compaction of the soil nor to structural loading detrimental to the components.

M. Distribution Box: A distribution box, if used, shall be of sufficient size to equally distribute effluent to the distribution lines and shall be constructed with the inlet invert at least one (1) inch above the level of the outlet invert and installed to be stable under backfilling conditions. The location of the distribution box shall be identified.

N. Sewage Pumping System Where Applicable:

1. Non-clog pump opening shall have at least 2 inch diameter solids handling capacity where raw sewage is pumped or at least 3/4 inch diameter solids handling capacity if previously settled effluent is pumped.
2. Automatic liquid level controls shall be provided to start and shut-off pumps at a frequency required by the design.
3. Pressure pipe shall be of sufficient strength to accommodate pump discharge pressure and the pipe shall be sized to maintain a velocity of 2 or more feet per second.
4. Automatic air release valves shall be installed at high points in the pressure line where necessary to prevent air locking.
5. A storage basin preceding the pump shall be provided to allow pump cycling commensurate with the pump design capacity. The second compartment of the septic tank shall not be used as a pumping chamber unless it can be shown that the minimum 30-hour detention time will not be decreased and the pump is screened or provided with an approved filtering device to insure that only liquid effluent will be discharged.
6. Dosing tanks shall be watertight and shall be sized to dose an absorption system 1-2 times per day.
7. Dosing tanks shall be made of a durable, impermeable material. Steel or coated steel shall not be used.
8. The discharge line from the pumping chamber shall be protected from freezing by burying the pipe below frost level or sloping the pipe to allow it to be self-draining.

O. Pipe Standards and Specifications:

1. All wastewater lines used in on-site wastewater systems shall be constructed of compatible pipe, bonding agent and fittings. Where plastic pipe and fittings are used, the minimum wall thickness of the pipe shall conform to ASTM Standard 3034, SDR35, or equivalent. Perforated distribution pipe surrounded by rock within a soil absorption system shall have a minimum wall thickness conforming to ASTM Standard 2729. Corrugated polyethylene pipe with a smooth interior that meets ASTM F405 and AASHTO M252 specifications or equivalent may

also be used. Tile, open-joint pipe, and cast iron pipe shall not be used in on-site wastewater systems.

2. Pipe carrying combined sewage from the house to the tank shall be not less than four inches in diameter, except for greywater systems. (see section 6.1.A.)

3. The grade of the building sewer line shall be at least 1%. Bends in the building sewer line shall be limited to 45 degree ells, or longsweep quarterbends. Clean-outs between the house and tank shall be provided at intervals of not more than 100 feet. Minimum Schedule 40 or sleeved pipe is required whenever the building sewer line is located under a driveway. The building sewer installation shall meet all of the requirements of the legally adopted local plumbing code currently in effect. The tank inlet and outlet pipes shall be sealed with watertight materials.

4. Pipe meeting schedule 40 PVC shall extend from any concrete treatment tank for a distance of at least five (5) feet from the inlet and outlet ends and must be adequately supported to prevent failures as a result of settling.

P. Floodplains:

No new or expanded system shall be installed in a floodway. When a system is installed in a 100-year floodplain, the new or repaired system shall meet or exceed the requirements of the National Flood Insurance Program. The system as approved by the Health Officer shall be designed to minimize or eliminate infiltration of flood waters into the system, or discharge of the system into flood waters.

5.2 Design Criteria-Septic Tanks and Aeration Tanks:

A. Construction of Septic Tanks:

1. Septic tanks shall be adequately and durably constructed in such a manner as to resist excessive corrosion or decay. Septic tanks must be approved by the Department and Colorado Department of Public Health and Environment. Septic tanks may be individually approved if they have been designed by a Professional Engineer.

2. Metal or coated metal tanks are not approved. Other materials which result in an adequate and durable construction, and which resist excessive corrosion or decay may be approved.

B. Septic Tank Design:

1.A septic tank shall be constructed to detain incoming sewage for a minimum of thirty (30) hours for subsurface disposal and a minimum of eighty (80) hours for absorption lagoon disposal. The capacity may also be based upon the number of bedrooms according to the following table:

Septic Tank Size Based Upon the Number of Bedrooms

Number of Bedrooms	Subsurface Disposal	Absorption Lagoon
2 or less	1000	1000
3	1000	1500
4	1250	2000
Each additional	250	500

2. Except for greywater systems, the effective liquid capacity shall be no less than 1000 gallons.
3. Inlet invert shall be 3 inches higher than the outlet invert.
4. Outlet tee or baffle shall extend above the surface of the liquid to within one inch of the underside of the tank top and shall extend at least 14 inches below the outlet invert.
5. The distance from the outlet invert to the underside of the tank top shall be at least 10 inches.
6. Liquid depth shall be a minimum of 30 inches and the maximum depth shall not exceed the tank length or 60 inches, whichever is less.
7. A septic tank shall have two or more compartments or more than one tank may be used in series to provide the following capacity arrangement. The first compartment shall hold no less than 1/2 of the required effective capacity.
8. The transfer of liquid from the first compartment to the second or successive compartments shall be made at a liquid depth of at least 14 inches below the outlet invert but not in the sludge zone.
9. At least one access no less than 20 inches across shall be provided in each compartment of a tank.
10. The septic tank shall be provided with a riser on the first compartment to the surface of the ground.

C. Aerobic Sewage Treatment Tank:

1. Sewage flow must not exceed the design capacity of the aeration plant.
2. The tank shall be approved by the National Sanitation Foundation (Standard 40), or equivalent, and shall be used according to manufacturer's recommendations.
3. Shall have a flood-proof motor.

5.3 Septic Tank Installation Specifications:

A. Treatment units shall be set on a firm and level base except as otherwise provided in these guidelines and shall be capable of accommodating flow with hydraulic efficiency.

B. Backfilling around a septic tank, aeration plant, lift station, holding tank or treatment unit shall be accomplished in a manner to prevent settlement and avoid undue strain on the tank and the pipes entering and leaving the tank.

C. In locations where groundwater may cause instability to the septic tank, pumping chamber, vault, or other tanks in the on-site wastewater system due to flotation, the tank(s) shall be anchored in a sufficient manner to provide stability when the tank is empty. The method of anchoring must be approved prior to installation. A design of the anchoring system may be required.

D. Pipe meeting Schedule 40, or ABS equivalent shall extend from any concrete treatment tank for a distance of at least five (5) feet from the inlet and outlet ends and must be adequately supported to prevent failures as a result of settling.

E. Abandoned septic tanks and vaults shall be pumped and filled with soil, or they shall be pumped and removed.

5.4 Soil Absorption System (General):

A. For a system treating and disposing of effluent through a soil absorption system, the method for calculating minimum absorption area shall be based upon the amount of suitable soil and the capacity of the soil to absorb liquids as established by the percolation test and upon design criteria and construction standards for each type of soil absorption system set forth in these guidelines.

B. Soil absorption systems are not approved in the following areas unless designed by a Professional Engineer and approved by the Department:

1. Where the soil percolation rate is slower than one inch in sixty minutes or faster than one inch in five minutes except that a percolation rate faster than one inch in five minutes in soils of sandy texture may be permitted, if the percolation rate is slowed by soil replacement.
2. Where the maximum seasonal level of the groundwater table is less than four feet below the bottom of the proposed absorption system.
3. Where bedrock exists less than four feet below the bottom of the proposed absorption system.
4. Where the ground slope exceeds twenty-five percent.

C. Soil building or replacement will be permitted to bring the soil within the requirements of suitable soil. Where absorption systems are to be installed in new, above-ground fill material, the system must be designed by a Professional Engineer.

D. Absorption Area: The minimum absorption area in square feet (A) for an on-site wastewater system shall be determined as a function of the estimated quantity of sewage flow in gallons per day (Q) and the percolation rate in minutes per inch (t), according to the formula: $A = Q/5 \times \sqrt{t}$

Note: Where the percolation rate is found to be faster than five minutes per inch (soils of sandy texture), the minimum value of "t" for use in this formula shall not be less than "5".

E. Additional Area: The absorption area so calculated shall be increased by not less than an additional twenty (20) percent if wastes from a garbage grinder are discharged into the system.

F. The maximum reduction from all water conservation alternatives shall be no greater than 50% of the standard required soil absorption area and shall be subject to the limitations contained in item (E.) above.

G. Sandy backfill material may be required if the percolation rate is slower than 45 minutes per inch.

H. A minimum sewage absorption system may be approved by the Health Officer as prescribed in the following table:

TABLE 5 SUB-SURFACE ABSORPTION AREA FOR DWELLING USE

Percolation Rate: Minutes/Inch	Minimum Absorption Area in square feet		
	# of Bedrooms		
	1-2	3	4
5	250	375	500
6	266	399	532
8	298	447	596
10	330	495	660
12	358	537	716
13	372	558	744
14	386	579	772
15	400	600	800
16	407	611	814
18	420	630	840
19	426	640	854
20	433	649	866
22	447	670	894
27	480	720	960
30	500	750	1000
34	526	790	1053
40	566	850	1132
45	600	900	1200
48	620	930	1240
53	653	980	1306
60	700	1050	1400

Note: Dwellings must have an absorption bed designed for a minimum of 2 bedrooms.

5.5 Absorption Bed, Absorption Trench, and Serial Distribution:

A. An absorption bed or trench shall be of sufficient dimension to provide the required absorption area. The bottom of the trench or bed and distribution lines shall be level. Perforated distribution pipe which shall be required for an absorption trench or seepage bed shall be placed the entire length of the trench or bed and shall be surrounded by clean graded gravel, rock or material of equal efficiency which may range in size from 1/2 inch to 2 1/2 inches. This gravel shall be a minimum of 12" deep throughout the trench or bed and shall be placed from at least 2 inches above the top of the distribution pipe to at least 6 inches below the bottom of the distribution pipe. The separating distance between parallel perforated distribution lines in an absorption bed shall not exceed 6 feet and a perforated distribution line shall be located within 3 feet of each sidewall of the bed. The separation between different soil absorption systems shall be a minimum of six (6) feet from sidewall to sidewall. Perforated pipe for gravity distribution shall be no less than 3 inches in diameter and preferably less than 100 feet in length. Perforated distribution pipes within the bed or trench should be no deeper than three feet of the finish grade. The terminal ends of lines shall be looped and air vented where required. The top of the placed gravel or such material used shall be covered with a layer of geotextile fabric, straw, hay, or other approved material. An impervious covering shall not be used. A final cover of soil suitable for vegetation at least 10 inches deep shall be placed from the top of the geotextile fabric, straw, hay, or similar pervious material to the finished surface grade of an absorption bed or trench. The final cover shall be graded to deflect runoff water away from the disposal area. In the case of an above ground system such as a mounded system, an impervious berm shall be constructed to prevent lateral flow of waste discharge outside of the absorption field. Machine tamping, rolling, or hydraulic compaction of final cover shall not be permitted. However, hand tamping may be allowed where necessary to stabilize the soil to prevent erosion or the intrusion of extraneous water. Where percolation rates are slower than one inch in 45 minutes, a sandy backfill material may be required. If dosing is used in conjunction with an absorption trench or seepage bed system, the dosing chamber shall be sized to dose the field 1-2 times per day. No absorption beds may be deeper than 5 feet, measured from the bottom of the bed, unless designed by a P.E., unless the percolation rate is faster than one inch per thirty minutes and vents are provided.

B. Absorption or Seepage Pits: Absorption or seepage pits having adequate soil absorption may be permitted when absorption fields are impracticable, and where the subsurface conditions are otherwise suitable for pit installations. The capacity of a pit shall be computed on the basis of percolation tests in each vertical stratum penetrated. The weighted average of the results shall be used to obtain a design figure. Soil strata in which the percolation is slower than 30 minutes per inch shall not be used for absorption calculations. The effective area of the pit is the vertical wall area (based on dug perimeter) of the pervious strata

below the inlet. No allowance shall be made for impervious strata or bottom area. Pits shall be separated by a distance equal to 3 times the greatest lateral dimension of the largest pit. For pits over 20 feet in depth, the minimum space between pits shall be 20 feet. Pits shall be filled to within 12 inches of the surface with approved clean rock. Adequate safety protection shall be provided to protect against personal injury during construction or use.

C. Dry Wells: Dry wells may be permitted by the Department. They shall be filled with clean, graded rock which may range in size from 1/2 to 2 1/2 inches in diameter. The rock shall extend from the bottom of the pit to at least two (2) inches above the inlet pipe. At least one four (4) inch perforated vertical stand pipe will be attached to the end of the distribution line with a tee fitting. It shall extend to the bottom of the dry well and up to the finished grade and be fitted with a removable cap to be used as an inspection pipe. The absorption area of the dry well shall be computed on the basis of percolation rates, or the long term acceptance rates of each stratum penetrated. The weighted average of the results shall be used to obtain a design value. The effective area of the pit will be calculated by adding the area of the sidewalls below the horizontal inlet line and the bottom of the pit, excluding any impermeable stratum penetrated. Dry wells so sized may only be permitted in soils with a percolation rate faster than sixty (60) minutes per inch. Dry wells shall be separated by a distance equal to the depth of the excavation or ten (10) feet, whichever is greater.

D. Serial Distribution System: A serial distribution system may be used in all situations where a soil absorption system is permitted and shall be used where the ground slope does not allow for suitable installation of a single-level absorption field, unless a distribution box or dosing chamber is used. The horizontal distance from the side of the absorption system to the surface of the ground shall be adequate to prevent lateral flow and surfacing of effluent above ground. When serial distribution is used, the following design and construction procedures shall be followed.

1. The bottom of each absorption field and its distribution line shall be level.
2. There shall be a minimum of 10 inches of ground cover over the gravel fill.
3. An absorption field shall approximately follow the ground surface contours so that variation in absorption field depth will be minimized.
4. There shall be a minimum of 6 feet (horizontal measurement) of undisturbed earth between adjacent absorption fields and trenches. There shall be a minimum of 10 feet (horizontal measurement) between the septic tank or other treatment unit and the nearest absorption field.
5. Adjacent absorption fields shall be connected with a relief line or a drop box arrangement such that each trench fills with effluent to the top of the gravel before flowing to succeeding trenches.

5.6 Evapotranspiration Disposal of Effluent: An evapotranspiration system may be used exclusively or in combination with a soil absorption system.

A. An evapotranspiration system shall be designed by a Professional Engineer who shall furnish design data for a complete review of the design by the Department.

B. Data to be furnished shall include, but shall not be limited to: liner material and bedding, properties of the soil in the evapotranspiration bed, and provision for vegetation cover.

C. When high groundwater table, bedrock, fractured rock, or highly pervious material (percolation faster than 5 minutes per 1 inch) endanger the underground water, a durable and impermeable liner shall be installed in the bed to prevent the sewage effluent from entering the underlying formation or groundwater table.

D. An evapotranspiration system shall be located in an area where there is exposure to sunshine.

E. The system bed shall be crowned and covered with a minimum of four (4) inches of selected backfill material and with a vegetation cover.

F. Bed area shall be protected to prevent damage from vehicle or pedestrian travel. The ground surface shall be graded to deflect precipitation and other outside water away from the disposal area.

G. The maximum E.T. rate for design calculation shall be 0.2 gallon per square foot per day. Site specific conditions may dictate a lower rate.

H. Sand used in an evapotranspiration system must be clean sand. Concrete sand (ASTM C-50) is acceptable. Other sand may be acceptable provided sieve analysis is done and it is comparable to concrete sand.

5.7 Absorption Lagoons

A. As of January 27, 2003, no O.S.W.S. permits will be issued for the installation of absorption lagoons.

B. Any O.S.W.S. application that has not been previously approved for the installation of a surface lagoon must utilize subsoil technology.

C. O.S.W.S. applications that have been approved for surface lagoons, but that have not yet been installed, will be required to convert to subsoil technology as of

January 27, 2004. The Board of Health has the ability to further restrict lagoon installation when and where a public health threat is determined.

D. Permitted absorption lagoons were designed to be non-surface discharging. Any surface discharging lagoon must obtain a repair permit from SJBHD. A subsurface system may be proposed as an alternative sewage treatment technology at this time.

E. Any non-permitted, unauthorized absorption lagoon is considered illegal – unless predating the I.S.D.S. permitting system of SJBHD. Illegal lagoons will require an O.S.W.S. permit to convert to a subsoil treatment system.

F. Expansion of existing absorption lagoons will require the approval of the Environmental Health Director, and will be limited to one additional bedroom. Second dwelling units will require the installation of a subsoil sewage treatment system.

G. To minimize mosquito larvae and the transmission of mosquito borne disease, homeowners are must:

1. Apply an approved larvicide to their absorption lagoon
2. Demonstrate approved, effective mosquito control techniques in and around the lagoon perimeter.

5.7.1 Lagoons permitted prior to the adoption of these Regulations shall meet the following design criteria.

A. Septic tank(s) or aeration tank(s) shall be used in conjunction with an absorption lagoon. If the lagoon loading exceeds 0.46 lbs. BOD5 per 1000 ft² or causes a nuisance condition, the lagoon will be required to be aerated.

B. Maximum lagoon depth shall not exceed 6 feet. Maximum Water Depth shall not exceed 5 feet with a minimum freeboard of 1 foot. If more than 50 percent of the lagoon is built above the existing ground level, the berm compaction shall be 90% ASTM D-698 or greater and certified by a Professional Engineer. The inside slope of the lagoon, dike or embankment shall not be steeper than 2H:1V. A center inlet shall be provided. The outside slope of the lagoon shall not be steeper than 2H:1V. The ground must be scarified and all vegetation removed below the constructed berm to provide a bond with native material.

C. Any lagoon requiring a membrane liner shall be individually designed by a Professional Engineer.

D. Any lagoon built in new fill material shall have been designed by a Professional Engineer.

E. Lagoons shall be fenced with a durable fence of woven wire or equivalent to a height of 40 inches or greater. Posts must be no greater than 10 feet apart.

F. Surface runoff shall be diverted away from the lagoon except where controlled by design.

G. The absorption lagoon was designed to be non-surface discharging. Any surface discharging lagoon must apply for a repair permit to be non-discharging or must have a permit issued by the Colorado Department of Public Health and Environment.

H. The maximum seasonal groundwater level must be greater than four feet below the bottom of the absorption lagoon.

I. The soil depth below the bottom of the lagoon shall be a minimum of four feet above groundwater.

5.8 Sand Filters:

Use of discharging sand filters is prohibited. Construction of sand filters is not permitted, unless approved by Board of Health and designed by a Professional Engineer.

5.9 Mound Systems:

A mound soil absorption system shall be designed by a Professional Engineer and the design shall be site-specific and include specifications for fill material, basal area size calculations, absorption area calculations, distribution networks, cap, topsoil, final grading, and other information pertinent to the construction of the system as may be requested by the health officer.

A. The distribution system shall be designed for uniform effluent application throughout the mound.

B. The effluent distribution system shall be graded to drain back to the dosing chamber or buried below frost line.

C. The final slope of the mound backfill shall be no greater than 3 to 1 (three [3] feet horizontally to one [1] foot vertically).

D. The mound shall be planted with suitable vegetative cover.

5.10 Gravelless Soil Absorption Systems:

A. All gravelless soil absorption system products and installation procedures shall be approved by the Colorado Department of Public Health and

Environment. The absorption area of a gravelless chamber shall be equivalent to the footprint of the interior of the chamber (Interior base area). The Department may allow absorption area reductions when gravelless technology is used.

B. With gravelless chamber installation, one (1) inspection port shall be provided for each bed or trench.

5.11 Constructed Wetland Treatment:

A constructed wetland treatment system shall be designed by a Professional Engineer, and the design shall be site specific and include specifications for: loading, capacity, liner material, filter media, density and species of aquatic plants, effluent level, final disposal method, and other pertinent information as requested by the Health Officer. The design shall include estimates of effluent quality at the inlet and outlet. Any surface discharge of effluent must remain on the lot in which it was created.

SECTION 6

REQUIREMENTS FOR ALTERNATE DISPOSAL SYSTEMS:

6.1 Grey Water Systems:

A grey water system may be permitted for cabins and other homes in limited use to dispose of waste from sinks, lavatories, laundry, dishwashers, and showers, where other approved means are currently in use to dispose of human excreta. The standard design requirements for conventional on-site wastewater systems prescribed by these Regulations shall apply except that:

A. The building drain and sewer leading to the septic tank shall comply with the minimum requirements of the current legally adopted plumbing code.

B. The effective liquid capacity of the septic tank shall be no less than three hundred (300) gallons. A single compartment tank may be used if an effluent filter is included.

C. Grey water flows shall be calculated at a minimum of twenty-five (25) gallons per person per day for residences using hauled water, and forty (40) gallons per person per day for residences having a continuous supply of water.

D. Grey water system designed by San Juan Basin Health are for residential systems only.

6.2 Vault:

A vault shall have a minimum 1000 gallons effective capacity and may be permitted under limited use occupancy for water carriage sewage systems on property which cannot accommodate an on-site wastewater site and has no continuous supply of water. A signal device shall be installed to indicate when pumping is necessary. Pumping arrangements shall be made prior to installation.

6.3 Vault Privy:

A vault privy shall be built to include: fly-tight construction, a superstructure affording complete privacy, an earth mound around the top of the vault and below floor level, which slopes downward away from the superstructure base, a floor and riser of concrete or other impervious material, and with seats and covers of easily cleanable, impervious material, hinged and self-closing. All venting shall be fly-proofed with No. 16 or tighter mesh screening. Effective capacity of the vault shall be no less than 400 gallons.

6.4 Pit Privy:

Pit privies are prohibited for on-site wastewater. Any proposed privy for remote areas must be vaulted and contained. Any and all methods of sewage treatment and disposal must be permitted through the Environmental Health Division.

6.5 Incineration and Chemical Toilets:

An incineration toilet, which may be used in connection with a grey water system by permit from the Department, shall be designed and installed in accordance with all applicable federal, state, and local air-pollution requirements. A portable chemical toilet, which may be used by permit from the Department, shall have a superstructure which meets the requirements of the paragraph titled Vault Privy. Use of a portable chemical toilet in permanently occupied buildings shall be prohibited except during construction or under emergency circumstances as determined by the Department.

6.6 Slit Trench:

Slit trenches shall be considered a temporary solution for on-site wastewater, to be used no longer than 7 days. Remote group gatherings must apply for the utilization of a slit trench, and must be approved by the Environmental Health Division. Slit trenches may be utilized during emergency situations, if the potential for groundwater contamination does not exist.

Slit trenches shall be excavated approximately one foot wide by two feet deep for the required length.

Excrement must be covered with at least 2 inches of soil at least once a day or more frequently if requested by this Department.

Slit trenches must be backfilled with at least one foot of soil, with the additional allowance for settling when use has been discontinued.

6.7 Business, Commercial, Industrial or Multi-family Dwelling Waste Systems:

A. Performance criteria and construction standards for a system which will service commercial, business, institutional, or industrial property, or multifamily dwellings shall conform to these guidelines.

B. Such systems shall be designed by a Professional Engineer. An application for such a system shall be reviewed by the Board of Health unless disposal is exclusively domestic type wastes, in which case review shall be by the Department.

C. Systems shall receive only biodegradable wastes that are compatible with biological processes that occur in the septic tank and soil matrix.

SECTION 7

SYSTEMS FOR WHICH DATA ON DESIGN, OPERATION AND MAINTENANCE BASED UPON USE IN COLORADO, ARE LIMITED OR UNDETERMINED:

7.1 Composting Toilets:

A. Deposits of feces, urine, and readily decomposable household garbage that are not diluted with water or other fluids may be retained in a compartment, in which aerobic composting will occur. The compartment may be located, subject to the Department or other applicable regulations or codes, within a dwelling or building provided the unit complies with the applicable requirements of these guidelines, and provided the installation will not result in conditions considered to be a health hazard as determined by the Department. The effective volume of the receptacle must be sufficient to accommodate the number of persons served.

B. Adequate additional volume shall be provided for the use of composting materials which shall not be toxic to the process or hazardous to persons and which shall be used in sufficient quantity to assure proper decomposition.

C. Compartment and appurtenances related to the unit shall include fly-tight construction and exterior ventilation as required by the plumbing code.

D. When the available effective volume is filled to seventy-five percent (75%) of capacity, residue from the unit shall be properly disposed of by acceptable solid waste practices.

E. If a system will be installed where low temperature may be a factor, design shall compensate for the effects of the low temperature.

F. All composting toilets shall bear the seal of approval of the National Sanitation Foundation, or an equivalent testing program. Composting toilets shall be operated according to manufacturer's specifications.

7.2 Systems which recycle treated wastewater for non-potable purposes such as flushing water closets or urinals:

A. That portion of the wastewater recycled for non-potable purposes such as flushing water closets or urinals must be approved by the Department.

B. No cross-connection to a pipe, fixture, or supply containing potable water shall be permitted.

7.3 Systems which recycle treated wastewater for potable purposes:

No system shall be permitted which will recycle wastewater for potable purposes except a system which shall consistently meet all of the sanitation and maximum contaminant level requirements of rules, regulations and standards of the Colorado Department of Public Health and Environment and the Colorado State Board of Health.

SECTION 8

TREATMENT SYSTEMS OTHER THAN THOSE DISCHARGING THROUGH A SOIL ABSORPTION AND NON-DISCHARGING SYSTEMS:

8.1 General:

Those systems which will discharge effluent directly to the atmosphere, the ground surface or below ground, or which employ aerobic principles of sewage treatment or a dispersal system, may be permitted only if designed by a Professional Engineer. This section shall not apply to systems discharging below the ground through a soil absorption system or to a non-discharging system.

8.2 Review of Application:

The Board of Health shall review all applications for such systems which may result in discharge or drainage of effluent from the property of origin. No permit shall be issued for such a system if the Board of Health determines that a potential health hazard or private or public nuisance or undue risk of contamination. For systems discharging to State waters, see Section 10.

8.3 Performance Criteria:

The following minimum performance criteria shall be required for all systems pursuant to this Section. All systems falling into this section will adhere to specifications spelled out in the Colorado Department Of Health "Guidelines on Individual Sewage Disposal Systems" for sampling frequency and compliance standards.

A. If effluent discharge is made into the atmosphere or upon ground surface in areas in which the possibility exists for occasional direct human contact with the effluent discharge, the effluent at the point of sampling shall consistently meet each of the following standards:

1. The fecal coliform density shall not exceed twenty five (25) per one hundred (100) milliliters.
2. The standard 5 day biochemical oxygen demand (BOD5) shall not exceed twenty (20) milligrams per liter.
3. The total suspended matter shall not exceed forty (40) milligrams per liter.

B. If effluent discharge is made into the atmosphere or upon the ground surface in an area so restricted as to protect against the likelihood of direct human contact with the discharged effluent, the effluent at the point of sampling shall consistently meet each of the following standards:

1. The fecal coliform density shall not exceed five hundred (500) per one hundred (100) milliliters.
2. The standard 5 day biochemical oxygen demand (BOD5) shall not exceed twenty (20) milligrams per liter.
3. The total suspended matter shall not exceed forty (40) milligrams per liter.

C. If effluent discharge is made beneath the surface of the ground and discharge will not be made through suitable soil, either existing or constructed, or through a sand filter, the following standard shall be met:

1. There shall be at least four (4) feet of soil between the maximum seasonal high water table and the level of effluent discharge.
2. The standard 5-day biochemical oxygen demand (BOD5) shall not exceed sixty (60) milligrams per liter.

3. The total suspended matter shall not exceed one hundred (100) milligrams per liter.

8.4 Methods of Analysis - Sampling Points:

All effluent samples shall be analyzed according to methods prescribed in the latest edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). The point of sampling shall be a location that is representative of final discharge from the system.

SECTION 9

MANUFACTURED UNITS UTILIZING MECHANICAL APPARATUS FOR TREATMENT OF SEWAGE:

9.1 On-site wastewater systems utilizing mechanical apparatus and furnished for installation in Colorado shall comply with the minimum requirements and construction standards set forth in these regulations.

9.2 No such unit utilizing mechanical apparatus and which is designed for discharge either upon the ground or beneath the ground surface or which may adversely affect state waters shall be permitted unless (1) the system is installed within a geographic area wherein a public, quasipublic, or private entity, or political subdivision is continually responsible for the efficient operation and maintenance of said unit, or (2) the operator of the system shall insure an efficient operation of all mechanical and electrical components.

No manufactured units, utilizing mechanical apparatus shall be permitted unless the Colorado Department of Public Health and Environment has certified the treatment system based upon its approval of independently certified laboratory results furnished by the manufacturer. The Colorado Department of Public Health and Environment shall certify any unit for subsurface discharge which bears the National Sanitation Foundation Standard 40 Certification or equivalent testing program, and is otherwise approved by the Department. The issuance of any such certificate shall not relieve the holder thereof or the user of the unit from the responsibility of complying with these guidelines and the applicable rules and regulations adopted pursuant to law.

A copy of the NSF Standard No. 40 is available at local libraries or can be inspected at the offices of the Colorado Water Quality Control Division, Colorado Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, Colorado 80220-1530, or San Juan Basin Health Dept., 281 Sawyer Drive, Durango, Colorado during working hours.

SECTION 10

EFFLUENT DISCHARGED TO STATE WATERS:

Any system which will dispose of effluent by discharging into State waters shall be designed by a Professional Engineer and the application shall be submitted for preliminary approval to the Department. Once approved, the application shall be forwarded to the Division of Water Quality Control for issuance of a permit in compliance with all applicable regulations of the Water Quality Control Commission. Compliance with such a permit shall be deemed full compliance with all on-site wastewater system regulations.

SECTION 11

MECHANICAL COMPONENTS:

11.1 Ventilation and Air System: Mechanical components shall be installed in a properly vented location and all vents, air intakes, and air hoses shall be protected from snow, ice, or water vapor accumulations.

11.2 Component Installation: Mechanical components installed in or at the unit must be protected against damage or impairment of their efficiency by flooding, foaming, or surcharging.

11.3 Covers, Barriers, or Other Protection: All systems must be installed to include protection of openings against entrance of insects and rodents. Barriers shall be provided to prevent entrance by unauthorized persons.

11.4 Service Label: For treatment plants utilizing mechanical apparatus or under a service policy, a clearly visible, permanently attached label or plate giving instructions for obtaining service shall be placed at a conspicuous location.

11.5 Installations must meet or exceed manufacturers guidelines.