RESOLUTION NO. 85-9

A RESOLUTION OF THE BOARD OF DIRECTORS OF GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT ADOPTING RULES, REGULATIONS AND STANDARD PRACTICES FOR AUBURN LAKE TRAILS SUBDIVISION, ON-SITE WASTEWATER DISPOSAL ZONE, GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

AUBURN LAKE TRAILS SUBDIVISION
ON SITE WASTEWATER DISPOSAL ZONE
GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

BE IT RESOLVED by the Board of Directors (BOARD) of Georgetown Divide Public Utility District (DISTRICT), El Dorado County, California:

WHEREAS, there has been presented to the BOARD of DISTRICT for its consideration the Auburn Lake Trails On-Site Wastewater Disposal Zone Rules, Regulations and Standard Practices dated March 19, 1985.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors as follows:

1. The BOARD adopts the Auburn Lake Trails On-Site Wastewater Disposal Zone Rules, Regulations and Standard Practices, Auburn Lake Trails Subdivision, On-Site Wastewater Disposal Zone, Georgetown Divide Public Utility Disrtrict, dated March 19, 1985, the original of which is on file with the Clerk of the DISTRICT as a public record, which original is incorporated in this Resolution by reference.

2. The BOARD directs the Clerk of the DISTRICT to insert a certified copy of this Resolution No. 85-9 behind the face sheet of the Auburn Lake Trails On-Site Wastewater Disposal Zone Rules,

JOHN C. WEIDMAN
ATTORNEY AT LAW
325 MAIN STREET
PLACERVILLE, CA 95667
TELEPHONE
622-5260

Regulations and Standard Practices dated March 19, 1985 as evidence of adoption.

PASSED AND ADOPTED by the Board of Directors of Georgetown Divide Public Utility District this 19th day of March, 1985 at an adjourned regular meeting by the following vote:

AYES: Directors Lampson, Smoot, Flynn, and Milner

NOES: None

ABSENT: Director DeBerry

John C. Lampson

JOHN C. LAMPSON, President
Board of Directors
Georgetown Divide Public Utility District

ATTEST:

Charles F. Gierau

CHARLES F. GIERAU, Clerk and
Ex-Officio Secretary of the
Board of Directors

CERTIFICATION

I hereby certify that the foregoing is a full, true, and correct copy of Resolution No. 85-9 duly and regularly adopted by the Board of Directors of the Georgetown Divide Public Utility District, El Dorado County, California, at an adjourned regular meeting held on the 19th day of March, 1985, by the following vote:

AYES, and in favor thereof, Directors Lampson, Smoot, Flynn, and Milner

NOES: None

ABSENT: Director DeBerry

JOHN C. WEIDMAN
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AUBURN LAKE TRAILS
ON-SITE WASTEWATER DISPOSAL ZONE
RULES, REGULATIONS,
AND
STANDARD PRACTICES

AUBURN LAKE TRAILS

ON-SITE WASTEWATER DISPOSAL ZONE,

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

ADOPTED: March 19, 1985

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RULES AND REGULATIONS

85-001. Authority. Pursuant to the authority granted under Sections 6950 et seq. of the Health and Safety Code of the State of California, and Chapters 15.32 and 15.33 of the El Dorado County Ordinance Code, these regulations are hereby established as minimum requirements of the Georgetown Divide Public Utility District, governing on-site sewage disposal systems, and small community disposal systems utilizing on-site wastewater technology for individual homes or community related facilities, all of which are located within the Auburn Lake Trails On-Site Wastewater Disposal Zone.

85-002. Purpose and Objectives. These regulations are designed to provide a uniform framework for on-site investigations and testing (see Appendix F), design, operation, monitoring, inspection, maintenance, and repair, to promote and protect existing and future water uses, safeguard public health, prevent and abate nuisances, promote water quality, and prevent the pollution, waste, and contamination of the waters of the American River watershed.

85-003. Scope. These regulations apply to all structures or buildings, or any portion thereof which is used, intended, or designed for any human living purposes including recreational or commercial activities.

85-004. Administration. The general manager or his authorized representative shall administer these regulations under the authority and requirements of Sections 6950 et seq. of the Health and Safety Code of the State of California. The means of financing the operation of the zone are service charges, design

fees, connection charges, and user charges levied against all benefiting properties within the zone. Said charges shall be reviewed annually and adjusted as required, to maintain said zone on an enterprise basis.

85-005. Definitions. As used in these rules, unless otherwise specified:

1) "Agent" means the General Manager or his authorized representative.

2) "Alteration" means expansion and/or change in location or physical make-up of an existing system, or any part thereof.

3) "Authorized Representative" means the staff of the District On-Site Wastewater Disposal Zone, or duly employed consultants thereof.

4) "Commercial Facility" means any structure or building, or any portion thereof, other than a single-family dwelling.

5) "Community System" means an on-site system which will serve more than one (1) lot or parcel.

6) "Construction" means installation of a new system.

7) "Director" means the Director of Environmental Health for El Dorado County.

8) "Division" means the Division of Environmental Health.

9) "Dwelling" means any structure or building, or

any portion thereof which is used, intended, or designed to be occupied for human habitation, including, but not limited to, houses, mobile homes, travel trailers, apartments, etc.

10) "Existing On-Site Sewage Disposal System" (existing system) means any installed on-site sewage disposal system constructed in conformance with the rules, laws and local ordinances in effect at the time of construction, or which would have conformed substantially with system design provided for in the El Dorado County Ordinance Code in force at the time of construction.

11) "Failing System" means any system which discharges untreated or incompletely treated sewage or septic tank effluent directly or indirectly onto the ground surface or into public waters.

12) "Government Unit" means the state or El Dorado County, or political subdivision, or any agency thereof.

13) "Individual System" means a system that is not a community system.

14) "Large System" means any on-site system serving more than one dwelling unit or with a projected daily sewage flow greater than one thousand three hundred twenty (1,320) gallons.

15) "Occupant" means any person living or sleeping in a dwelling.

16) "On-Site Sewage Disposal System" means any existing or proposed on-site sewage disposal system including, but not limited to a standard subsurface, alternative, or experimental sewage disposal system, installed or proposed to be

installed on land of the owner of the system or on other land as to which the owner of the system has the legal right to install the system.

17) "Owner" means any person who alone, or jointly, or severally with others:

(a) Has legal title to any single lot, dwelling, dwelling unit, or commercial facility; or

(b) Has care, charge, or control of any real property as agent, executor, executrix, administrator, administratrix, trustee, commercial lessee, or guardian of the estate of the holder of legal title; or

(c) Is the contract purchaser of real property.

Note: Each such person as described in subsections (b) and (c), thus representing the legal title holder, is bound to comply with the provisions of these rules as if he were the legal title holder.

18) "Permit" means the written document issued and signed by the Agent which authorizes the permittee to install a system or any part thereof, which may also require operation and maintenance of the system.

19) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.

20) "Public Health Hazard" means a condition whereby there are sufficient types and amounts of biological, chemical or physical, including radiological, agents relating to water

or sewage which are likely to cause human illness, disorders or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.

21) "Public Waters" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of California, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

22) "Repair" means installation of all portions of a system necessary to eliminate a public health hazard or pollution of public waters created by a failing system.

23) "Sewage" means water-carried human wastes, including kitchen, bath, and laundry wastes from residences, buildings, commercial/recreational establishments, or other places, together with such groundwater infiltration, surface waters, or other waste as may be present.

24) "System" - see "On-Site Sewage Disposal System."

85-006. Glossary of Terms: See Appendix A

85-007: Applicability. 1) These regulations shall not apply to new construction for which a permit was issued prior to the effective date of regulations or to existing systems where extensions or alterations are undertaken as a result of failure of the system or portions thereof, or pursuant to an order of the health officer. 2) Lots, or parcels that have received written approval by the health officer prior to the effective date of these regulations shall be subject to only the design section of these regulations and any additional standards prescribed by the health officer. Provisions of this subsection shall also include extensions of existing systems to handle increase in flows from dwelling unit expansion.

85-008. Other Types of Disposal Units. Units other than septic tanks or devices that can function as septic tanks with subsurface disposal sytems, including but not limited to chemical toilets, vault privies, incinerator toilets, mechanical and aerobic treatment devices, evapotranspiration systems, may be used but only with the prior approval of the health officer in accordance with the procedure established in Chapter 15.32 and 15.33 of the El Dorado County Ordinance Code.

85-009. Alternate Devices and Methods. Any alternate device or method shall be submitted to the general manager for technical evaluation and report in accordance with guidelines established by the El Dorado County Ordinance Code. Approval

authority for the application, installation or use of any alternate device or method is vested with the local health officer provided the device or method has first been given a technical evaluation and report by the general manager in accordance with the provisions of this chapter.

85-010. No Discharge to Waters or Ground Surface.

1) Effluent from any on-site sewage disposal system shall not be discharged to surface water, ground water, or the surface of the ground. In the event any sewage disposal system installed pursuant to these rules and regulations requires modification or replacement by virtue of system failure, upon proper notification, the owner of the lot shall make such modification or replacement at his/her expense. In the event of failure of such owner to do so, within thirty (30) days after written notice, mailed to the owners address as shown on the last county equalized assessment roll or as filed with the Clerk of the District, then District shall make such modification or replacement and the lot shall be subject to a service charge therefor, pursuant to Resolutions 84-6, 84-26, and 85-7 of the Georgetown Divide Public Utility District.

2) Subsurface on-site sewage disposal systems shall not be permitted in areas where a minimum separation of five feet between the bottom of the disposal field and the maximum seasonal groundwater elevation or impermeable layer cannot be maintained. The health officer shall require greater vertical separation as needed to protect health when the aquifer is used for potable

water supply. The health officer may reduce the vertical separation as provided in Chapter 15.33 of the El Dorado County Ordinance Code. 3) Subsurface on-site sewage disposal systems shall not be permitted in areas of fractured rock or excessively permeable material where it is likely that action of the soil profile will be ineffective in retaining and removing substances having an adverse effect on groundwaters, except as provided in Chapter 15.33.

85-011. On-Site System Management. All systems within the zone shall be subject to a management program as reviewed and approved by the local health officer and the California Regional Water Quality Control Board, Central Valley Region. The management program shall encompass any and all powers as granted pursuant to Section 6950 et seq. of th Health and Safety Code of the State of California.

85-012. On-Site Systems. Prior to construction, plans and specifications for on-site systems shall be submitted to and approved by the general manager or his authorized representative. Submittals, design and management requirements shall adhere to the following procedures, requirements, and review documents.

1) Preliminary engineering report: Prior to or concurrent with the preparation of detailed plans and specifications for new construction or improvements to an on-site sewage disposal system, the person proposing the on-site system shall submit to the general manager for approval a preliminary report addressing the nature and scope of the

proposed construction, including an analysis of the drainfield area to satisfactorily assimilate and treat the proposed sewage quantities for the anticipated life of the system.

2) The preliminary report shall contain, as a minimum, all reporting requirements as outlined in Appendix F. The District may require supplemental information as it deems necessary, to determine adequacy of site evaluation and/or system design.

3) Submission of plans and specifications:

a) Every person, before installing or entering into a contract for installing an on-site sewage disposal system shall submit to the general manager complete plans and specifications fully describing such on-site sewage disposal system, and upon receipt of written approval by the general manager or his authorized representative, the plans and specifications shall be adhered to unless deviations are first submitted to and receive written approval of the general manager or his authorized representative. Routine field deviations required during construction shall be submitted for approval.

b) Plans submitted for approval shall include the proposed provisions for inspection of the work during construction.

c) A detailed operation and maintenance manual, fully describing the treatment and disposal systems and outlining routine maintenance procedures for proper operation of the system, may be required to be submitted together with the plans and specifications.

4) Approvals--Period of Validity--Renewal:

a) Approvals of plans and specifications by the general manager under this section shall be valid for a period of one year commencing with the date of the letter of approval. Lapsed approvals may be renewed for successive one-year periods thereafter at the discretion of the general manager upon the written request of the applicant.

b) As a condition of renewal, the general manager may require the plans and specifications to be revised to conform with the design standards and the requirements of the rules and regulations of this chapter current at the time of request for renewal.

5) Requirements for designers and certification: All preliminary engineering reports and plans and specifications for new on-site sewage disposal systems, extensions or alterations, shall be prepared by a professional engineer, a registered sanitarian, a registered soil scientist, or a registered geologist (designers), licensed by the state of California, who are experienced and knowledgeable in the design and installation of on-site sewage disposal systems. Following the completion of and prior to the use of any on-site sewage disposal system or portion thereof for which plans and specifications have received the approval of the general manager, a certification shall be made to the District and signed by designer certifying that he/she has inspected the physical facilities of the project, as to layout, size and type of pipe, valves and materials and other designed physical features has

been constructed in accordance with the plans and specifications approved by the general manager.

6) Design: Design of the on-site sewage disposal system shall comply with the Manual of Standard Practices as contained herein.

7) Soil: Soil interpretations shall be based upon the soil and site evaluations guidelines (See Table 3 and 4, Appendix A, and Appendix F).

8) Management: Management of on-site sewage disposal systems shall comply with approved management program for the Auburn Lake Trails On-Site wastewater Disposal Zone as defined in Resolutions 84-6 and 84-26 of the Georgetown Divide Public Utility District.

85-013. Permit. 1) No person shall install a new on-site sewage disposal system, nor perform major alterations, extensions or relocations of an existing system without valid permits issued by the District and the El Dorado Community Development Department, Division of Environmental Health. Permits for alterations or repairs shall be so identified. Application for such permits shall be made in writing in the manner prescribed. 2) The permit application shall also include a notarized grant of easement to the District, signed by the owner(s) of the land, for ingress and egress over lands of the owner(s) for the purposes of maintenance, operation, and repair of said on-site sewage disposal system. 3) When applying for a permit to install an on-site sewage disposal

system, a construction plan of the proposed system is required. The construction plan shall contain information as required in sufficient detail and to a scale which will permit a proper evaluation of the application. Such information shall contain the following as a minimum:

a) Name of owner and legal description of the site.

b) Soils logs describing the nature and depth of the soils (Refer to Appendix F).

c) Percolation test data where required

d) Anticipated depth to the seasonally saturated zone.

e) General topography of the site and site drainage characteristics.

f) Distances of the proposed system to water supplies, surface water, banks or cuts, property boundaries, and structures or other improvements.

g) The location and dimensions of any dwelling, structure, or appurtenant facility of a permanent nature (i.e. garages, driveways, swimming pools, etc.).

85-014. Determination of Soil Characteristics:

1) At least four percolation tests and two soil logs shall be performed at the site of the proposed system. This requirement may be waived by the general manager or his authorized representative if adequate soils information is already available. Additional tests may be required where soil conditions vary or if large or remote disposal areas

are required. 2) All percolation tests and soil logs shall be performed by or under the direct supervision of a professional engineer, a registered sanitarian, a registered soil scientist, or a registered geologist. 3) If a sufficient amount of information is not available on the depth or fluctuations of the saturated zone, the general manager or his authorized representative can require that percolation tests and soils logs be conducted during the months of suspected high water table conditions. 4) All soil tests shall be conducted using a uniform procedure pursuant to Soil Conservation Service Form 123, as modified by the District. 5) The designer/applicant shall provide the District with 48 hours advance notice of the time and location of testing (soil logs and/or percolation tests) so that the District may witness profiles and/or testing procedures.

85-015. Location: 1) The minimum distance for location of the various component parts of the on-site sewage disposal system is measured horizontally and shall comply with Table 1 (Tables-1).

(a) In soil types that are classified as having excess drainage characteristics, the distance from any water supply or surface water may be increased by the general manager or his authorized representative.

(b) Setbacks from surface waters shall be measured from mean high water level.

(c) A reduced separation may be allowed between the disposal field and the well or surface water by

the general manager or his authorized representative, if it can be demonstrated that the reduction will not have an adverse effect. However, in no case shall the separation be less than 75 feet.

(2) The area to be used for sewage disposal shall be selected and maintained so that it is free from the encroachment of buildings and other improvements. The area shall not be subject to vehicular traffic, compacted and/or erosion promoted by livestock or other means, and shall not be covered with an impervious surface.

(3) No part of an on-site sewage disposal system shall be constructed in a flood plain.

(4) The on-site sewage disposal system shall not be located in an area where surface water will flow or accumulate. Provisions shall be made to minimize flow or accumulation of surface water over the area.

(5) No construction, with the exception of brushing of the site, shall take place until the sewage disposal system has been staked and adequately identified. The general manager or his authorized representative shall determine adequacy of site location, and grant or deny authorization to proceed with construction.

85-016. Design: (1) The detailed design and construction of all systems shall conform to the On-Site Wastewater Disposal Zone, Auburn Lake Trails, Manual of Standard Practices as hereto attached.

(2) The system shall be designed to receive all

sanitary sewage and domestic waste from the building served unless otherwise approved by the general manager or his authorized representative. Footing or roof drains shall not enter the sewage disposal system.

(3) The size of the effluent absorption area shall be determined by the results of percolation tests performed in accordance with Chapter 15.32 of the El Dorado County Ordinance Code together with an evaluation of soil data, drainage conditions, and other related data as may be required.

(4) All septic tanks shall be designed in accordance with the provisions of Appendix B.

(a) All tanks shall have a minimum of two compartments.

(b) "Materials": septic tanks, pump tanks, and dosing tanks shall be constructed of corrosion resistant material, and shall be water tight. They may be constructed of poured in-place concrete, precast reinforced concrete, concrete blocks with mortar joints, fiberglass, or other materials approved by the general manager.

(c) Suitable baffles and/or tees shall be provided to prevent floating solids from leaving the tank.

(d) Access and cleanouts shall be provided for easy inspection and maintenance.

(5) Effluent shall be disposed of by means of subsurface disposal fields except when special approval for other disposal systems is granted by the health officer and

the general manager.

(a) The installation and use of cesspools for disposal of sewage is not permitted.

(b) Seepage pits shall not be used for the disposal of septic tank effluent except under special conditions approved by the health officer.

(c) Sewage holding tanks shall not be used as a permanent method of sewage disposal for residential dwelling units. The health officer may allow holding tanks on an interim use basis to handle emergency situations or to correct existing problem systems.

(6) The subsurface disposal system generally shall not be installed in fill. Fill can be used as cover over a subsurface disposal area up to a maximum depth of eighteen (18) inches provided that no portion of the absorption trenches are installed in this material. (Except as provided for in mound system installation.)

The health officer, the general manager, or his authorized representative, may allow installation of a subsurface disposal system in fill that has been in place a period of time and has stabilized to the point where site conditions and soil tests show the site to be satisfactory to allow full compliance with provisions of these regulations.

(7) Construction on slopes not greater than 50% may be allowed: PROVIDED, That subsoil profiles indicate no restrictive layers of soil, soils/slopes are stable, appropriate

engineering design is provided, and appropriate equipment is used to construct system as designed, especially with respect to vertical trenches.

(8) The absorption trench shall be installed no closer than ten (10) feet to an interceptor drain line provided the interceptor drain is on a slope higher than the absorption trench. If the interceptor drain is below the absorption trench, the drain shall be installed no closer than 50 feet.

85-017. Inspection. The general manager or his authorized representative shall make inspections during construction to determine compliance with these regulations. No part of any installation shall be covered until approval has been obtained from the District and/or the health officer. Once an on-site system has been installed and is approved, a complete set of certified "as-built" drawings shall be provided to the District and to the health officer for a permanent record of installation.

85-018. Waiver of Regulations. Whenever a strict interpretation of these regulations would result in extreme hardship, the general manager may, upon concurrence of the health officer waive such regulation or portion thereof: PROVIDED, That the waiver is consistent with the intent of these regulations and that no public health hazard will result.

85-019. Disposal of Septic Tank Waste. (1) The contents of a septic tank or other treatment device shall be

disposed of only in areas and in a manner approved by the health officer.

(2) The local health department shall establish requirements for persons engaged in the removal of septic tank contents, which shall include standards for equipment and operating procedures and may provide for the issuance and revocation of permits.

85-020. Sewage Constractor's License. The local health department may establish requirements for persons, firms, or corporations engaged in the business of installing or repairing on-site sewage disposal systems. The requirements shall include a license or permit issued for a period not to exceed one year, an examination of the competence of the licensee to perform this work which may include a written test, and such other evaluation as the health officer may deem appropriate. The requirements shall include a means of revoking a license for non-compliance of established rules and regulations.

85-021. Evaluation and Revision. These regulations shall be reviewed and evaluated annually. Revisions shall be made as needed to insure proper administration and to allow for newer methods of on-site sewage disposal. The general manager shall receive, in writing, the approval of the local health officer, regarding any revision of these regulations prior to said revisions having the force and effect of law.

AUBURN LAKE TRAILS

ON-SITE WASTEWATER DISPOSAL ZONE

FEE, CHARGE, AND ASSESSMENT SCHEDULE

$11.25/month per homesite except homes on the Community Disposal System (CDS)

$21.55/month per homesite on the CDS

$ 5.75/month per vacant lot, except those lots on the CDS

$ 8.75/month per vacant lot on the CDS

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$415.00 System design and inspection fee

$265.00 Design review, site analysis and testing review, and system inspection fee if designed by a private consultant

$1365.00 Design, inspection, and connection fee, CDS

Standard Subsurface Systems.

1. For the purpose of these rules:

   a. "Standard subsurface system" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed absorption facility three (3) feet wide and three (3) feet deep, using eighteen (18) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.

   b. "Effective Soil Depth" means the depth of soil material above a layer that impedes movement of water, air, or growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depths are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite and clayey soil.

   c. "Large System" means any on-site system serving more than one dwelling unit or with a daily sewage flow greater than one thousand three hundred and twenty (1320) gallons.

   d. "Conditions Associated with Saturation" means:

      A. Reddish brown or brown soil horizons with gray (chromas of two or less) and red or yellowish

red mottles; or

B. Gray soil horizons with red, yellowish red or brown mottles; or

C. Gleying; or

D. Dark colored highly organic soil horizons; or

E. Soil profiles with concentrations of soluble salts at or near the ground surface.

2. Criteria For Standard Subsurface System Approval. In order to be approved for a standard subsurface system, each site must meet all of the following conditions:

a. Effective soil depth shall extend ninety-six (96) inches or more from the ground surface. A minimum five (5) foot separation shall be maintained between the layer that limits effective soil depth and the bottom of the disposal trench.

b. Water table levels shall be predicted using "conditions associated with saturation." If conditions associated with saturation do not occur in soil with rapid or very rapid permeability, predictions of the highest level of the water table shall be based on past recorded observations of the Agent. If such observations have not been made, or are inconclusive, the application shall be denied until observations can be made. Groundwater level determinations shall be made during

the period of the year in which high groundwater normally occurs in that area.

Permanent or seasonal saturation shall be five (5) feet or more from the bottom of the disposal trench.

Curtain Drains. (Diagram 28) A curtain drain may be used to intercept and/or drain water from a disposal area, however, it may be required to demonstrate that the site can be dewatered prior to issuing an installation permit. Curtain drains may be used only on sites with adequate slope and soil conditions to permit proper drainage. Where required, curtain drains are an integral part of the disposal system.

c. Slopes shall not exceed thirty (30) percent.

d. The site has not been filled or the soil has not been modified in a way that would, in the opinion of the Agent, adversely affect functioning of the system.

e. The site shall not be on an unstable land form, where operation of the system may be adversely affected.

f. The site of the initial and replacement drainfield shall not be covered by asphalt or concrete, or

subject to vehicular traffic, livestock, or other activity which adversely affect the soil.

g. The site of the initial and replacement drainfield will not be subjected to excessive saturation due to, but not limited to, artificial drainage of ground surfaces, driveways, roads, and roof drains.

h. Setbacks in Table 1 can be met.

3. Criteria For System Sizing.

a. Disposal Fields. Disposal fields shall be designed and sized based on:

A. Sewage flow.

i. Two hundred and twenty (220) gallons per bedroom per day for a single family residence.

ii. Table 2 values for commercial, recreational, or large community system applications.

B. Percolation test values.

C. Soil profile analysis.

D. Site evaluation.

4. Septic Tanks.

a. For the purpose of these rules, "Septic Tank" means a watertight receptacle which receives sewage from a sanitary drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow

the liquids to discharge to a second treatment unit or to a soil disposal system.

b. Liquid Capacity. The minimum liquid capacity of any septic tank installed shall be one thousand (1,000) gallons.

A. For projected daily sewage flows up to fifteen hundred (1,500) gallons, the septic tank shall have a liquid capacity equal to at least one and one-half (1-1/2) days sewage flow, or one thousand (1000) gallons, whichever is greater, except as hereinafter provided.

B. For projected daily sewage flows greater than fifteen hundred (1,500) gallons, the septic tank shall have a liquid capacity equal to eleven hundred twenty-five (1,125) gallons plus seventy-five (75) percent of the projected daily sewage flow.

C. Additional volume may be required by the Agent for special wastes.

D. The quantity of daily sewage flow shall be estimated from Table 2. For structures not listed in Table 2, the Agent shall determine the projected daily sewage flow.

E. Single Family Dwelling. Septic tanks to serve single family dwellings shall be sized on

the number of bedrooms in the dwelling, as follows:

1 to 2 bedrooms.....1,000 gallons

3 bedrooms.....1,250 gallons

More than 3 bedrooms.....1,500 gallons

c. Installation Requirements.

A. Septic tanks shall be installed on a level, stable base that will not settle.

B. Septic tanks located in high groundwater areas shall be sealed with waterproofing emulsion, and be weighted or provided with an antibuoyancy device to prevent flotation.

C. All septic tanks installed shall be multi-compartment with manhole access and shall be provided with watertight and gas tight risers extending to the ground surface or above. The risers shall have a minimum inside dimension equal to or greater than that of the tank manhole. The cover shall be securely fastened or weighted to prevent easy removal.

D. Septic tanks shall be installed in a location that provides access for servicing and pumping.

E. Where practicable, the sewage flow from any establishment shall be consolidated into one septic tank.

d. Construction. Septic tank construction shall comply with minimum standards set forth in Appendix B.

5. Distribution Techniques. Disposal trenches shall be constructed according to one of the following methods:

a. Gravity Fed Distribution System.

(Diagrams 1 - 7)

All trenches shall be level within a tolerance of plus or minus six (6) inches per one hundred (100) feet. All lateral piping shall be within a tolerance of plus or minus one (1) inch.

b. Serial Distribution System.

(Diagrams 5 - 7)

The serial distribution system is generally used on sloping ground. Each trench shall be level within a tolerance of plus or minus six (6) inches per one hundred (100) feet.

c. Pressurized Distribution Systems. See pressurized distribution requirements.

6. Distribution Boxes and Drop Boxes.

a. Construction. Construction of distribution boxes and drop boxes shall comply with minimum standards in Appendix C.

b. Foundation. All distribution boxes and drop boxes shall be bedded on a stable, level base.

7. Diversion Valves.

a. Construction. Diversion valves shall be of sound

construction and shall be approved for use by Agent.

b. Foundation. All diversion valves shall be bedded on a stable, level base. A concrete collar to properly secure said valve may be required.

8. Dosing tanks.

a. Construction of dosing tanks shall comply with the minimum standards in Appendix B.

b. Each dosing tank shall be installed on a stable level base.

c. Each dosing tank shall be provided with watertight risers extending to the ground surface or above, with a minimum inside horizontal measurement equal to or greater than the tank access manholes. Provision shall be made for securely fastening manhole covers and/or access riser covers.

d. Dosing tanks located in high groundwater areas shall be sealed with waterproofing emulsion, and be weighted or provided with an antibuoyancy device to prevent flotation.

9. Disposal Trenches.

(Diagram 2 - 4)

a. Disposal trenches shall be constructed in accordance with the standards contained in the following table, unless otherwise allowed or required within a specific rule of this division:

Maximum length of trench - - - - - - - -100 feet

Minimum bottom width of trench - - - - - 24 inches

Minimum depth of trench, using:

Serial distribution- - - - - - - - - 24 inches

Pressure Distribution- - - - - - - - 24 inches

Maximum depth of trench- - - - - - - - - variable

Minimum distance of undisturbed

earth between disposal trenches- - - 8 feet

b. The bottom of the disposal trench shall be level within a tolerance of plus or minus six (6) inches per one hundred (100) feet.

c. When the sidewall within the disposal trench has been smeared or compacted, sidewalls shall be raked or scarified to insure permeability.

d. Trenches shall not be constructed in a manner that would allow septic tank effluent to flow backwards from the distribution pipe to undermine the distribution box, the septic tank, or any portion of the distribution unit.

e. Filter material shall extend the full width and length of the disposal trench to a depth of not less than twelve (12) inches. There shall be at least twelve (12) inches of filter material under the distribution pipe and at least two (2) inches over the distribution pipe.

f. Prior to backfilling the trench, the filter material shall be covered with filter fabric, untreated building paper, or other material approved by the Agent.

g. Where trenches are installed in sandy loam or coarser soils, the filter material shall be covered with filter fabric or other non-degradable material approved by the Agent.

h. Each trench shall include a 4" capped observation riser, approximately centered, for maintenance and observation purposes. (Diagrams 1-7, 18, 19, 22, 23, 25, 26)

10. Trench Backfill.

a. The installer shall assume responsibility for backfilling the system. Backfill shall be carefully placed to prevent damage to the system.

b. A minimum of twelve (12) inches of backfill is required.

c. Backfill shall be free of large stones, masonry, stumps, or waste construction materials, or other materials that could damage the system.

d. On completion of backfill, the construction site shall be appropriately redressed and seeded as per an approved erosion control plan.

11. Header Pipe. (Appendix E) Header pipe shall be watertight, have a minimum diameter of four (4) inches,

and be bedded on undisturbed earth. Where distribution boxes or drop boxes are used, header pipe shall be at least four (4) feet in length.

12. Distribution Pipe. (Appendix E)

    a. Distribution pipes shall have a minimum diameter of four (4) inches.

    b. Each disposal trench shall have distribution piping that is centered in the trench and laid level within a tolerance of plus or minus one (1) inch.

    c. Distribution piping, which complies with standards in Appendix , shall consist of perforated plastic or other approved material.

    d. All perforated pipe shall be installed with centerline markings up, unless otherwise specified by Agent.

13. Effluent Sewer. The effluent sewer shall be four (4) inches ABS Schedule 40 or equal and shall extend at least five (5) feet beyond the septic tank before connecting to the distribution unit. See Appendix E.

14. Minimum Separation Distances.

    a. On-site systems or parts thereof shall not be installed closer than the indicated distances from the items in Table 1.

    b. Stream Setbacks. (Table 1) Setback from streams shall be measured from bank drop-off or mean yearly high water mark, whichever provides the

greatest separation distance.

c. Water Lines and Sewer Lines Cross. Where water lines and building or effluent sewer lines cross, separation distances shall be as required in the Uniform Plumbing Code.

d. Septic Tank Setbacks. (Table 1) The Agent shall encourage the placement of septic tanks and other treatment units as close as feasible to the minimum separation from the building foundation in order to minimize clogging of the building sewer.

Alternative Systems, General.

1. For the purpose of these rules "Alternative system" means any District approved on-site sewage disposal system used in lieu of, including modifications of, the standard subsurface system.
2. Unless otherwise noted, all rules pertaining to the siting, construction, and maintenance of standard subsurface systems shall apply to alternative systems.
3. General Requirements.
   a. Periodic Inspection of Installed Systems. Where required by rule of the District, periodic inspections of installed alternative systems shall be performed by the Agent.
   b. A report of each inspection shall be prepared by

the Agent. The report shall list system deficiencies and correction requirements and timetables for correction. A copy of the report shall be provided promptly to the system owner. Necessary follow-up inspections shall be scheduled.

Elevated Fills. (Diagrams 21-23)

1. For the purposes of this rule, "Elevated fill" means a system where the disposal trench effective sidewall is installed a minimum of twenty-four (24) inches into natural soil below a soil cap of specified depth and texture.
2. Criteria for Approval. In order to be approved for an elevated fill system, each site must meet all the following conditons:
   a. Slope does not exceed twenty (20) percent.
   b. Where a water table is present, a minimum four (4) feet separation shall be maintained between the bottom of the disposal trench and the water table.
   c. Where material with rapid or very rapid permeability is present, a minimum five (5) feet separation shall be maintained between the bottom of the disposal trench and soil with rapid or very rapid permeability.

d. Effective soil depth is seventy-two (72) inches or more below the natural soil surface.

e. Soil texture from the ground surface to the layer that limits effective soil depth is no finer than silty clay loam, on well structured kaolinitic clay.

f. A minimum forty-eight (48) inches separation shall be maintained between the bottom of the disposal trench and the layer that limits effective soil depth.

g. The system can be sized according to standard subsurface design criteria.

3. Installation Requirements. The fill shall be constructed pursuant to permit requirements. Unless otherwise required by the Agent, construction sequence shall be as follows:

a. The soil shall be examined and approved by the Agent prior to placement. The texture of the soil used for the fill shall be of the same textural class, or of one textural class finer, as the natural topsoil.

b. Construction of elevated fills shall occur between June 1 and October 1 unless otherwise allowed by the Agent. The upper eighteen (18) inches of natural soil must not be saturated or at a moisture content which causes loss of soil structure and

porosity when worked.

c. The drainfield site and the borrow site shall be scarified to destroy the vegetative mat.

d. Drainfield shall be installed as specified in the construction permit. There shall be a minimum ten (10) feet of separation between the edge of the fill and the nearest trench sidewall.

e. Fill shall be applied to the fill site and worked in so that the two (2) contact layers (native soil and fill) are mixed. Fill material shall be evenly graded to a minimum depth of twelve (12) inches over the gravel.

f. The site shall be landscaped according to permit conditions and be protected from livestock, automotive traffic or other activity that could damage the system.

g. The site shall be protected from surface drainage due to driveways, roads, roof drains, and other, including natural, sources of deleterious downslope movement of water.

4. Required Inspections. The following minimum inspections shall be performed for each elevated fill installed:

a. Both the drainfield site and borrow material must be inspected for scarification, soil texture, and moisture content, prior to construction.

b. Pre-cover inspection of the installed drainfield.

c. After fill is placed, to determine that there is good contact between fill material and native soil (no obvious contact zone visible), adequate depth of material, and uniform distribution of fill material.

d. Final inspection, after landscaping and diversion of surface drainage.

Evapotranspiration (ET) Systems:

1. For the purpose of these rules "Evapotranspiration System" means an alternative system consisting of a septic tank or other treatment facility, effluent sewer and a disposal bed or disposal trenchs, designed to distribute effluent for evaporation, and transpiration by plants.

2. Criteria for Approval. Installation permits may be issued for evapotranspiration (ET) systems on sites that meet all of the following conditions:

   a. Mean annual precipitation does not exceed thirty-five (35) inches.

   b. Slope does not exceed fifteen (15) percent. Exposure may be taken into consideration.

3. Criteria for System Design. ET beds shall be designed under the following criteria:

a. Beds shall be sized using 0.1 gallons/ft^2/day or less.

b. A minimum of one (1) distribution pipe shall be placed in each bed.

c. The surface shall be seeded according to permit conditions.

Pressurized Distribution Systems.

1. Pressurized distribution systems may be permitted on any site meeting requirements for installation of standard subsurface sewage disposal systems, elevated fill systems, or other sites where this method of effluent distribution is desired.

2. Pressurized distribution systems shall be used where depth of soil as defined in Appendix A is less than ninety-six (96) inches.

3. Materials and Construction.

   a. General.

      A. All materials used in pressurized systems shall be structurally sound, durable, and capable of withstanding normal stresses incidental to installation and operation.

      B. Nothing in these rules shall be construed to set aside applicable building, electrical, or

other codes. An electrical permit and inspection from the El Dorado County Building Division may be required for pump wiring installation.

B. Pressurized Drainfield Piping. Piping, valves and fittings for pressurized systems shall meet the following minimum requirements:

A. All pressure transport, manifold, lateral piping, and fittings shall meet or exceed the requirements for Schedule 40 PVC pressure pipe as identified in ASTM Specifications.

B. Pressure transport piping shall be uniformly supported along the trench bottom, and at the discretion of the Agent, it shall be bedded in sand or other material approved by the Agent.

C. Agent shall specify orifice size, spacing and orientation.

D. The ends of lateral piping shall be provided with blow-off assemblies.
(Diagrams 14-16, 18, 19, 22-26)

E. All joints in the manifold, lateral piping, and fittings shall be solvent welded, using the appropriate joint compound for the pipe material. Pressure transport piping may be solvent welded or rubber ring jointed.

F. A gate valve shall be placed on the pressure

transport pipe, in or near the dosing tank, when appropriate.

G. A check valve shall be placed between the pump and the gate valve, when appropriate.

c. Trench Construction.

A. Drainfield trenches shall be constructed using the specifications for the standard drainfield trench or elevated fill drainfield trench, unless otherwise allowed by the Agent on a case-by-case basis.

B. Pressure lateral piping shall have not less than eight (8) eight inches of filter material below, nor less than two (2) inches of filter material above the piping.

C. The top of the filter material shall be lined or covered with filter fabric, or other non-degradeable material permeable to fluids that will not allow passage of soil particles.

4. Hydraulic Design Criteria.

a. Pressurized distribution systems shall be designed for appropriate head and capacity.

A. Head calculations shall include maximum static lift, pipe friction and orifice head requirements.

i. Static lift where pumps are used shall be measured from the minimum dosing tank level

to the level of the perforated distribution piping.

ii. Pipe friction shall be based upon a Hazen-Williams coefficient of smoothness of C 150. All pressure lateral piping and fittings shall have a minimum diameter of two (2) inches unless submitted plans and specifications show a smaller diameter pipe is adequate. The head loss across a lateral with multiple evenly spaced orifices may be considered equal to one-third (1/3) of the head loss that would result if the entrance flow were to pass through the length of the lateral.

iii. There shall be a minimum head of two (2) feet at the remotest orifice and no more than a fifteen (15) percent head variation between nearest and remotest orifice in an individual unit.

B. The capacity of a pressurized distribution sysem refers to the rate of flow given in gallons per minute (gpm).

i. Lateral piping shall have discharge orifices drilled a minimum diameter of one-eighth (1/8) inch, and appropriately spaced; orifice size and

spacing being a function of hydraulic design.

ii. The system shall be dosed at a rate not to exceed twenty (20) percent of the projected daily sewage flow.

iii. The effect of back drainage of the total volume of effluent within the pressure distribution system shall be evaluated for its impact upon the dosing tank and system operation.

Select Fill Systems.

1. For the purpose of these rules:

   a. A "Select Fill System" incorporates a filter with four (4) feet of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty three hundredths (1.23) gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow. (Diagrams 24-26)

   b. "Medium sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent

to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, and 4 percent or less passing the No. 100 sieve.

c. "Select Fill System" means the combination of septic tank or other treatment unit, a dosing system with effluent pump(s) and controls or dosing siphon, piping and fittings, sand filter, absorption facility or effluent reuse method used to treat sewage.

2. Inspection Requirements. Each select fill system installed under this rule, may be inspected annually.

3. Sites Approved for Select Fill Systems. May be permitted on any site meeting requirements for standard subsurface sewage disposal systems, or where the following minimum site conditions can be met:

   a. Soils, fractured bedrock or saprolite diggable with a backhoe occur such that a forty-eight (48) inch deep trench can be installed.

   b. Where slope is forty (40) percent or less.

4. Minimum Length Disposal Trench Required. The recommended and minimum seepage area required for select fill absorption facilities, in saprolite or fractured bedrock, is fifty (50) linear feet of disposal trench per

one hundred fifty (150) gallons projected daily sewage flow.

5. Materials and Construction.

   a. All materials used in select fill system construction shall be structurally sound, durable and capable of withstanding normal installation and operation stresses. Component parts subject to malfunction or excessive wear shall be readily accessible for repair and replacement.

   b. Piping and fittings for the select fill distribution system shall be as required under pressure distribution systems.

6. Inspections. Each permitted installation shall be inspected by the Agent at least every twelve (12) months and checked for necessary corrective maintenance.

Steep Slope Systems.

1. General conditions for approval. On-site system construction permits may be issued by the Agent for steep slope systems on slopes in excess of thirty (30) percent provided all the following requirements can be met:

   a. Slope does not exceed forty-five (45) percent.

   b. The soil is well drained with no evidence of saturation.

c. The soil has a minimum effective soil depth of sixty (60) inches.

2. Construction requirements.

a. Seepage trenches shall be installed at a minimum depth of thirty (30) inches and at a maximum depth of thirty-six (36) inches below the natural soil surface on the downhill side of the trench, and contain a minimum of eighteen (18) inches of filter material and twelve (12) inches of native soil backfill.

b. The system shall be sized according to standard subsurface design criteria.

Tile Dewatering System. (Curtain Drain System)

1. General conditions for approval. On-site system construction permits may be issued by the Agent for tile dewatering systems provided the following requirements can be met:

a. The site has a natural outlet that will allow a field tile [installed on a proper grade around the proposed drainfield area at a depth of not less than seventy two (72) inches] to daylight above annual high water.

b. Soils must be silty clay loam or coarser textured and be drainable, with a minimum effective soil

depth of at least seventy-two (72) inches.

c. Slope does not exceed twenty (20) percent.

d. All other requirements for standard on-site systems, except depth to groundwater, can be met.

2. Construction Requirements.

a. Field collection drainage tile shall be installed a minimum of ninety-six (96) inches deep on a uniform grade of two-tenths to four-tenths (0.2-0.4) feet of fall per one hundred (100) feet.

b. Minimum horizontal separation distance of drainage tile from disposal trenches shall be twenty (20) feet center to center.

c. Field collection drainage tile shall be rigid smooth wall perforated pipe with a minimum diameter of four (4) inches.

d. Field collection drainage tile shall be enveloped in clean filter material to within thirty (30) inches of the soil surface. Filter material shall be covered with filter fabric, or other nondegradeable material approved by the Agent.

e. Outlet tile shall be rigid smooth wall solid PVC pipe with a minimum diameter of four (4) inches. The outlet end shall be protected by a short section of Schedule 80 PVC or ABS or metal pipe, and a flap gate.

f. A silt trap with a thirty (30) inch minimum diameter shall be installed between the field collection drainage tile and the outlet pipe. The bottom of the silt trap shall be a minimum twelve (12) inches below the invert of the drainage line outlet.

g. The discharge pipe and dewatering system is an integral part of the system.

h. The Agent has the discretion of requiring demonstration that a proposed tile dewatering site can be drained prior to issuing a construction installation permit.

Aerobic Systems.

1. For the purpose of these rules:

   a. "Aerobic Sewage Treatment Facility" means a sewage treatment plant which incorporates a means of introducing air (oxygen) into the sewage so as to provide aerobic biochemical stabilization during a detention period.

   b. "Mechanical Oxidation Sewage Treatment Facility" means an aerobic sewage treatment facility.

2. Criteria For Approval. Aerobic sewage treatment facilities may be approved for a construction installation permit provided all the following criteria are met:

   a. The daily sewage flow to be treated is less than

five thousand (5,000 gallons)

b. The aerobic sewage treatment facility (plant) is part of an approved on-site sewage disposal system.

c. The plant conforms to Class I or Class II and other requirements of the current version of Standard No. 40, relating to Individual Aerobic Wastewater Treatment Plants, adopted by the National Sanitation Foundation (NSF). In lieu of NSF Class I or Class II certification, the District may accept testing by another agency which it considers to be equivalent.

d. The property owner records a District approved affidavit which notifies prospective property purchasers of the existence of an aerobic sewage treatment facility.

e. The owner acknowledges that proper operation and maintenance of the plant is essential to prevent failure of the entire sewage disposal system and agrees, in writing, to hold the District, its officers, employees, and agents, harmless of any and all loss and damage caused by defective installation or operation of the system.

3. The plant shall:

a. Have a visual and audible alarm, placed at a location acceptable to the Agent, which is activated

upon an electrical or mechanical malfunction.

b. Have a minimum rated hydraulic capacity equal to the daily sewage flow or five hundred (500) gallons per day, whichever is greater.

c. Have aeration and settling compartments constructed of durable material not subject to excessive corrosion or decay.

d. Have raw sewage screening or its equivalent.

e. Have provisions to prevent surging of flow through the aeration and settling compartments.

f. Have access to each compartment for inspection and maintenance.

g. Have provisions for convenient removal of solids.

h. Be designed to prevent:

   A. Short circuiting of flow.

   B. Deposition of sludge in the aeration compartment.

   C. Excessive accumulation of scum in the settling compartment.

4. Drainfield Sizing. Drainfields serving systems employing aerobic sewage treatment facilities shall be sized according to standard system guidelines. Where a NSF Class I plant is installed, the linear footage of drainfield installed may be reduced by twenty (20) percent, provided a full sized standard system replacement area is available.

5. Operation and Maintenance.

   a. The supply of parts must be locally available for the expected life of the unit.

   b. The supplier of the plant shall be responsible for providing operation training to the owner and Agent.

   c. The supplier of the plant shall provide the owner and Agent with operation and maintenance (O & M) manuals for the specific plant installed.

   d. The owner shall remove excess solids from the plant at least once per year, or more frequently if recommended by the O & M manual.

6. Inspection Requirements. Each aerobic sewage treatment facility installed under this rule shall be inspected by the Agent at least once per year and checked for necessary corrective maintenance.

Mound Systems.

1. For the purpose of these rules:

   a. A "Mound System" is an elevated fill system which incorporates a distribution system upon a filter with two (2) feet or more of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty-three hundredths (1.23)

gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow. (Diagrams 14-17)

b. "Medium sand" means a mixture of sand with 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 percent to 55 percent passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, and 4 percent or less passing the No. 100 sieve.

c. A "Mound System" means the combination of septic tank or other treatment unit, a dosing system with effluent pump(s) and controls or dosing siphon, piping and fittings, and a sand filter-absorption facility used to treat sewage.

2. Inspection Requirements. Each mound system installed under this rule, shall be inspected semi-annually.

3. Sites Approved for Mound Systems. May be permitted on any site meeting requirements for standard subsurface sewage disposal systems or where all the following minimum site conditions can be met:

MOUND DESIGN CRITERIA

CRITERION	AUBURN LAKE TRAILS ON SITE WASTEWATER DISPOSAL ZONE
Maximum Slope	14%
Fill Depth Below Bed/Trench	48" minimum fill and unsaturated soil 60" minimum fill and permeable soil
Unsaturated Depth	18" minimum
Min. Soil Depth	30" minimum
Percolation Rate	$\underline{<}$120 mpi at 20" depth
Design Flow Rates	150 gpd/bedroom
Bed/Trench Geometry	square beds OK if <60 mpi & flat otherwise, rectangular beds, maximizing length along contour
Reserve Area	100% replacement of bed area
Basal Loading Rate	0-30 mpi:1.25 gpd/sf 31-45 mpi:0.70 gpd/sf 46-60 mpi:0.50 gpd/sf 61-120 mpi:0.25gpd/sf

4. Miscellaneous.

a. All materials used in a mound system construction shall be structurally sound, durable and capable of withstanding normal installation and operation stresses. Component parts subject to malfunction or excessive wear shall be readily accessible for repair and replacement.

b. Groundwater monitoring risers shall be installed at selected locations above and below mound system.

c. An appropriate revegetation plan shall be required to be initiated prior to final approval of construction.

d. Surface drainage shall be effectively diverted from mound area.

e. Piping and fittings for the distribution system shall be as required under pressure distribution systems.

f. Supplemental design, materials, and construction detail shall comply with State Water Resources Control Board, GUIDELINES FOR MOUND SYSTEMS, January, 1980.

Formal Variances.

1. Variances from any rule or standard for on-site sewage systems, contained in these rules, may be granted to applicants for permits by the District, after a hearing

before the Director of Environmental Health for El Dorado County. The Director shall make the final determination for or against the variance.

2. No variance may be granted unless the Director finds that:
   a. Strict compliance with the rule or standard is inappropriate for cause; or
   b. Special physical conditions render strict compliance unreasonable, burdensome, or impractical, and yet variance will not result in a health hazard and/or environmental degradation.
   c. The variance shall not result in construction which is contrary to the Covenants and Restrictions of the Auburn Lake Trails Property Owner's Association.
3. Applications.
   a. Applications shall be made to the District or El Dorado County as appropriate. A separate application must be filed for each site considered for a variance.
   b. Each application shall be accompanied by:
      A. A site evaluation denial, if the parcel has been denied, (unless waived by the Director); and
      B. Plans and specifications for the proposed system; and
      C. The appropriate fee; and
      D. Other information necessary for rendering a proper decision; and

E. The application shall be signed by the property owner.

Experimental Systems.

1. Policy. Alternative technologies to standard on-site sewage systems are justified in view of the fact that on-site sewage disposal is the long term solution to waste disposal in Auburn Lake Trails, and long term monitoring and maintenance are provided by the District. It is the policy of the District to pursue a program of experimentation for the purpose of obtaining sufficient data for the development of alternative sewage disposal systems, which may benefit the community.
2. Permit Required. Without first obtaining a permit from the District, no person shall construct an experimental on-site sewage treatment and disposal system. Said permit shall be approved by the Director of Environmental Health for El Dorado County.
3. Application Procedures.
   a. Application for experimental systems shall be made on District forms.
   b. The application shall be complete, signed by the owner and be accompanied by the required fee.
   c. The application shall include detailed system design specifications and plans and any additional information the District considers necessary.

d. The owner shall agree, in writing, to hold the District El Dorado County, their officers, employees, and agents, harmless of any and all loss and damage caused by defective installation or operation of the proposed system.

4. Criteria For Approval. Sites may be considered for experimental system permits where:

a. Soils, climate, groundwater, or topographical conditions are common enough to benefit large numbers of people.

b. Specific acceptable backup alternative is available in the event of system failure.

c. For absorption systems, soils in both original and system replacement areas are similar.

d. Installation of a particular system is necessary to provide a sufficient data sampling base.

e. Zoning, planning, and building requirements allow system installation.

f. A single family dwelling will be served.

g. The system will be used on a continuous basis during the life of the test project.

h. Resources for monitoring, sample collection, and laboratory testing are available.

i. Legal and physical access by easement for construction inspections and monitoring are available.

j. The property owner records a District approved affidavit which notifies prospective property purchasers of the existence of an experimental system.

5. Permit Conditions. The system installation permit shall:
   a. Specify method and manner of system installation, operation, and maintenance.
   b. Specify method, manner, and duration of system testing and monitoring.
   c. Identify when and where system is to be inspected.
   d. Require that permit not be transferable.
   e. Require system construction and use within one (1) year of permit issuance.

6. Denial Appeal. The decision of the District to either issue or deny a permit shall be reviewed by the Director. The Director may affirm or reverse the decision.

7. Inspection of Installed System.
   a. Upon completing construction for each inspection phase required under the permit, the permit holder shall notify the District.
   b. The District shall inspect construction to determine whether it complies with permit conditions and requirements.
   c. After system installation is complete and complies with permit conditions, a Certificate of Satisfactory Completion shall be issued.

8. Repair or Replacement of System. If the District finds the operation of the system is unsatisfactory, the owner, upon written notification, shall promptly repair or modify the system, replace it with another acceptable system, or as a last resort, abandon the system.

9. System Monitoring. The system shall be monitored by the District in accordance with a schedule contained in the permit. The District may assess special fees to cover inspection/monitoring costs.

Table 1

Items Requiring Setback	From Sewage Disposal Area Including Replacement Area	From Septic Tank And Other Treatment Units, Effluent Sewer and Distribution Units
1. Groundwater Supplies	100'	50'
2. Temporarily Abandoned Wells	100'	50'
3. Springs		
--Upslope from Effective Sidewall	50'	50'
--Downslope from Effective Sidewall	100'	50'
*4. Surface Public Waters	100'	50'
5. Intermittent Streams	50'	50'
6. Groundwater Interceptors, Agricultural Draintile, Ditches (Except in the Dewatering Systems)	50'	50'
7. Curtain Drains:		
--Upslope from Effective Sidewall	10'	5'
--Downslope from Effective Sidewall	50'	25'
8. Irrigation Canals:		
--Upslope from Effective Sidewall	25'	25'
--Downslope from Effective Sidewall	100'	50'
**9. Cuts Manmade in Excess of 30 Inches (Top of Downslope Cut):	4 H	25'
10. Escarpments:		
--Which Intersect Layers That Limit Effective Soil Depth	50'	10'
--Which Do Not Intersect Layers That Limit Effective Soil Depth	25'	10'
11. Property Lines	10'	5'
12. Water Lines	10'	10'
13. Foundation Lines of Any Building, Including Garages and Out Buildings	10'	5'

* This does not prevent stream crossings of pressure effluent sewers.

** Four times height of cut.

Table 2

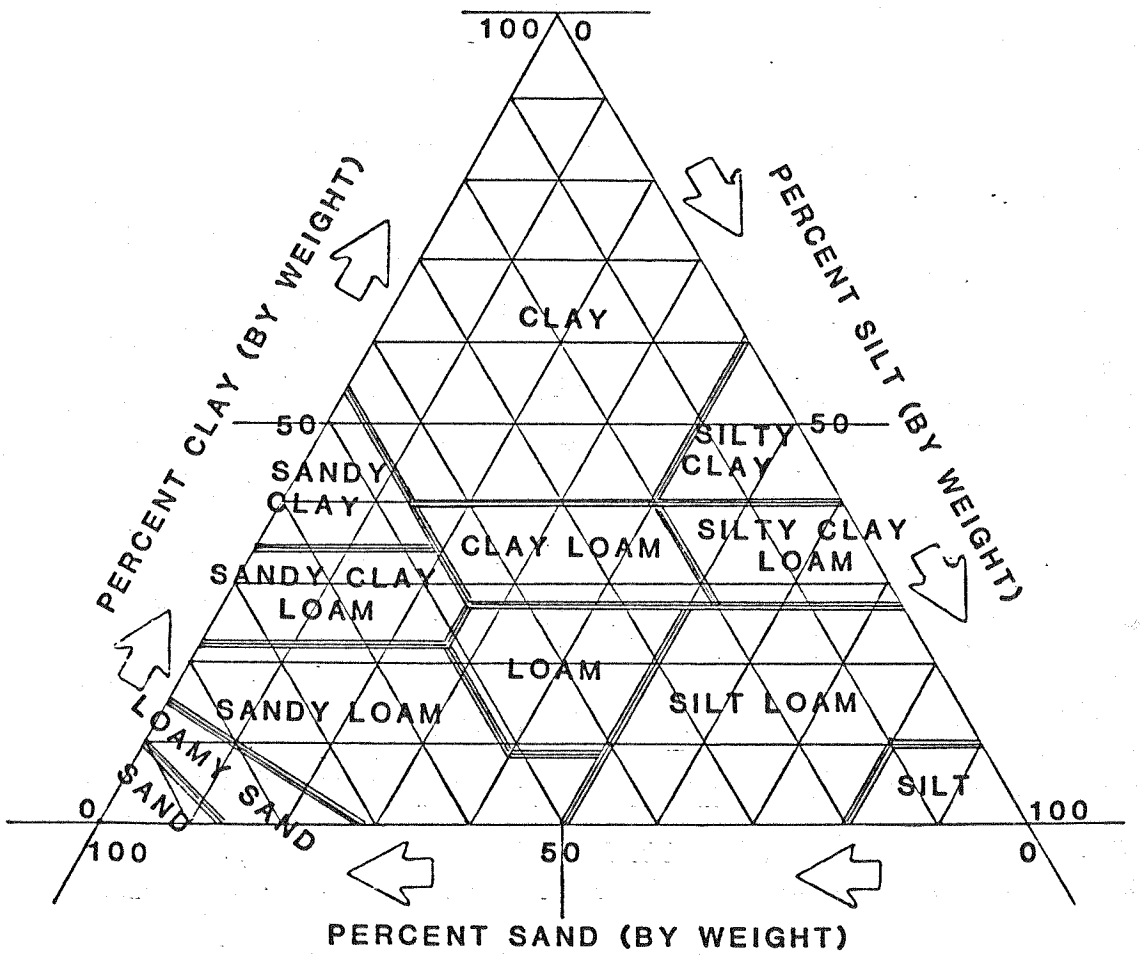
Quantities of Sewage Flows

Type of Establishment	Column 1 Gallons Per Day	Column 2 Minimum Gallons Per Establishment Per Day
Bathhouses and swimming pools	10 (per person)	300
Camps: (4 persons per campsite, where applicable)		
Campground with central comfort stations	35 (per person)	700
With flush toilets, no showers	25 (per person)	500
Construction camps (semi-permanent)	50 (per person)	1000
Day camps (no meals served)	15 (per person)	300
Churches	5 (per seat)	150
Country Clubs	100 (per resident member)	2000
Country Clubs	25 (per non-resident member present)	---
Dwellings:		
Condominiums, Multiple family dwellings(Including apartments)	300 (per unit)	900
Single family dwellings	(not exceeding 2 bedrooms)	440*
With more than 2 bedrooms	(220 each succeeding bedroom)	660*
Laundries, self-service	500 (per machine)	2500
Picnic Parks (toilet wastes only)	5 (per picnicker)	150
Picnic Parks (with bathhouses, showers and flush toilets)	10 (per picnicker)	300
Restaurants	40 (per seat)	800
Restaurants (with bars and/or lounges)	50 (per seat)	1000
Schools:		
Boarding	100 (per person)	3000
Day, without gyms, cafeterias or showers	15 (per person)	450
Day, with gyms, cafeterias and showers	25 (per person)	750
Day, with cafeteria, but without gyms or showers	20 (per person)	600
Service Stations	10 (per vehicle served)	500
Swimming pools and bathhouses	10 (per person)	300
Theaters:		
Movie	5 (per seat)	300
Travel trailer parks (without individual water and sewer hookups)	50 (per space)	300
Travel trailer parks (with individual water and sewer hookups)	100 (per space)	500
Workers:		
Day, at schools and offices	15 (per person)	150

* Except as otherwise provided in these rules.

TABLE 3

USDA TEXTURAL TRIANGLE



TABLES 3

TABLE 4

	Sieve Sizes	Millimeters
Clay		.002
Silt		
Very fine sand	270	.050
	200	.075
Fine sand	140	.1
	60	.25
Medium sand	35	.5
Coarse sand		
Very coarse sand	18 10	1.0 2.0
Fine gravel	4	4.75
	3/8"	9.5
	1/2	12.5
Coarse gravel		
	3"	76.2
Cobbles		

USDA SOIL CLASSIFICATION SIZES OF SOIL SEPARATES

CALCULATIONS

REQUIRED EROSION CONTROL MATERIALS

Adapted from Soil Conservation Service Guidelines

Lot _____

Approximate disturbed area (A):

(area occupied by system + 15%±, which is disturbed during construction)

A = _____ sq. ft.

Seed: "Forest Mix," available at Clifton & Warren or equivalent
(Optional: addition of Poppy and Lupin seed)

Recommended application rate = 42 lbs/acre

$\frac{\text{Disturbed area (A)}}{\text{43,560 sq. ft./acre}}$ = _____ acre

_____ acre x 42 lbs/acre = _____ lbs. seed

Fertilizer: 16-20-0 + Sulfur

Recommended application rate = 500 lbs/acre

$\frac{\text{A sq. ft.}}{\text{43,560 sq. ft/acre}}$ x 500 lbs/acre = _____ lbs. fert.

Straw Mulch:

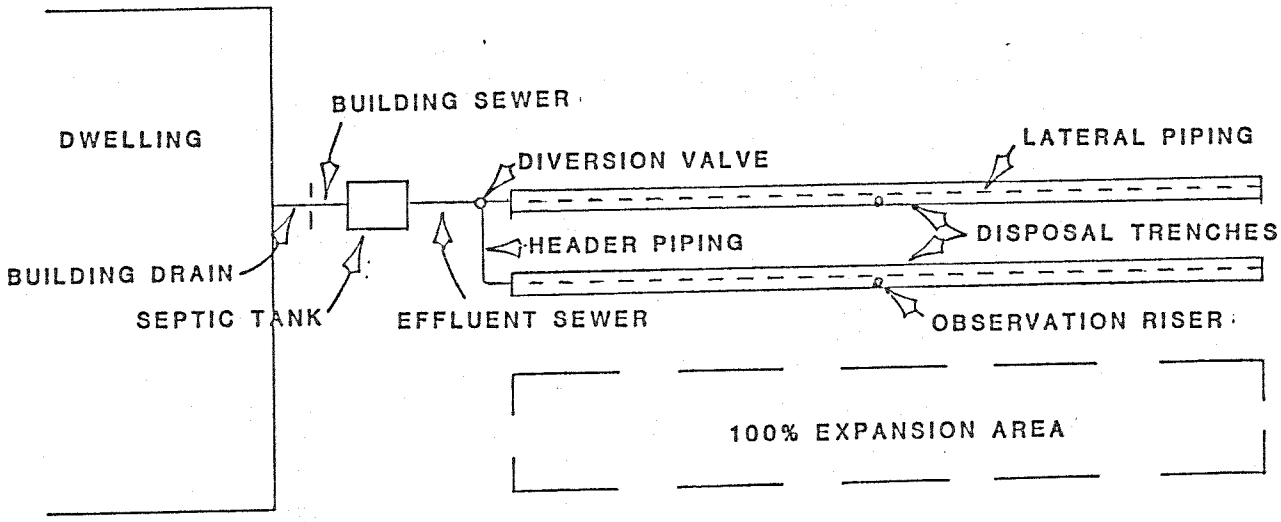
Recommended application rate = 2 tons/acre

$\frac{\text{A sq. ft.}}{\text{43,560 sq. ft/acre}}$ x 4,000 lbs/acre x $\frac{\text{bale}}{\text{65±lbs.}}$ = _____ bales

Netting to secure straw mulch on steep slopes may be obtained at cost from GDPUD.

DISTRICT WILL PROVIDE ADDITIONAL CONSULTATION AS REQUIRED.

ALT OWDZ
TYPICAL CONVENTIONAL SYSTEM



NATURAL GROUND SLOPE

TRENCHES ARE TO BE CONSTRUCTED LEVEL &FOLLOWING SURFACE CONTOURS
SEPTIC TANK REQUIRES ACCESS RISERS BROUGHT TO SURFACE GRADE
CONSTRUCTION SITE TO BE RESEEDED ACCORDING TO AN APPROVED EROSION CONTROL PLAN

NO SCALE

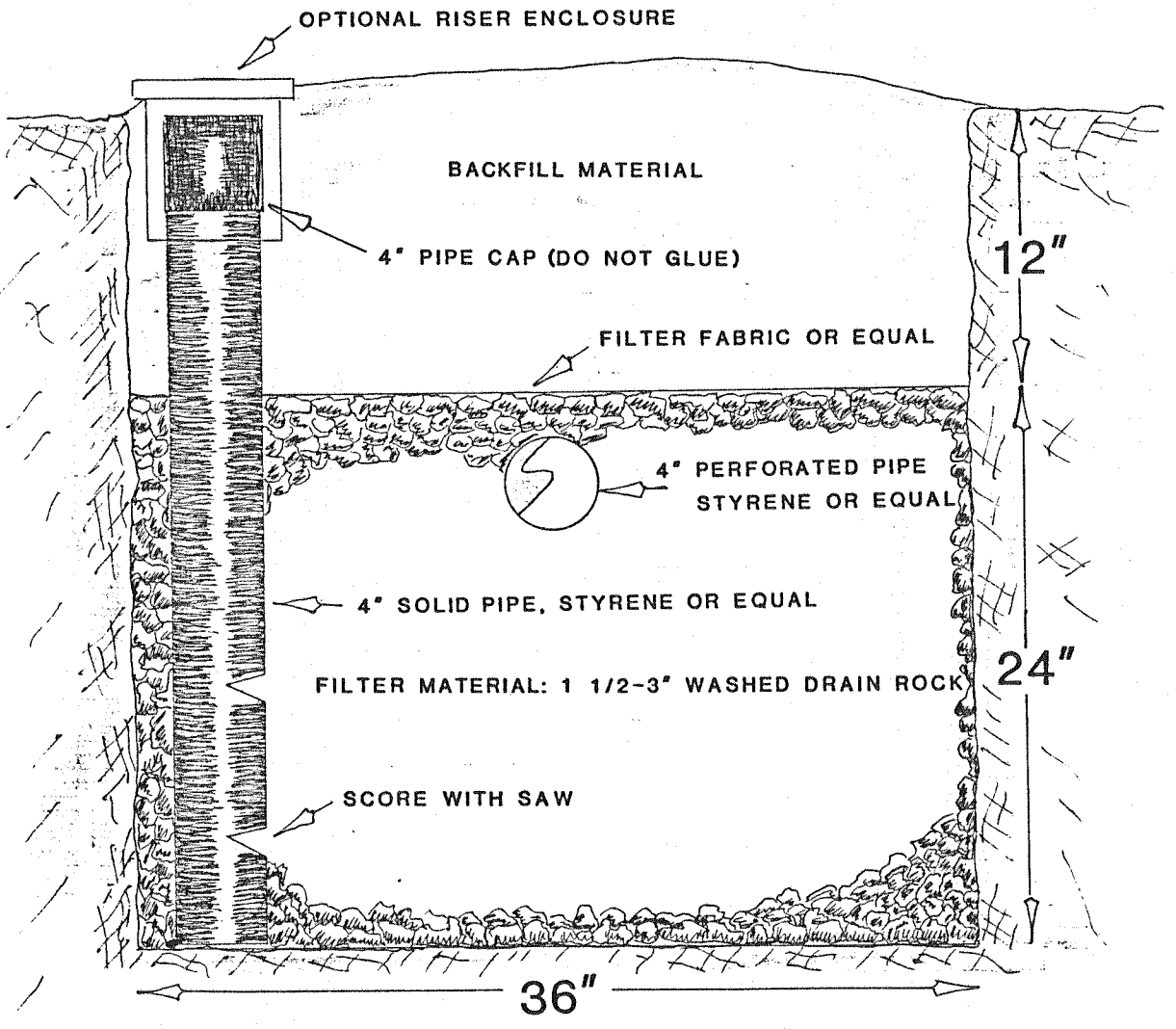
RNP 3/85

DIAGRAMS-1

DIAGRAM 1

DIAGRAM 2

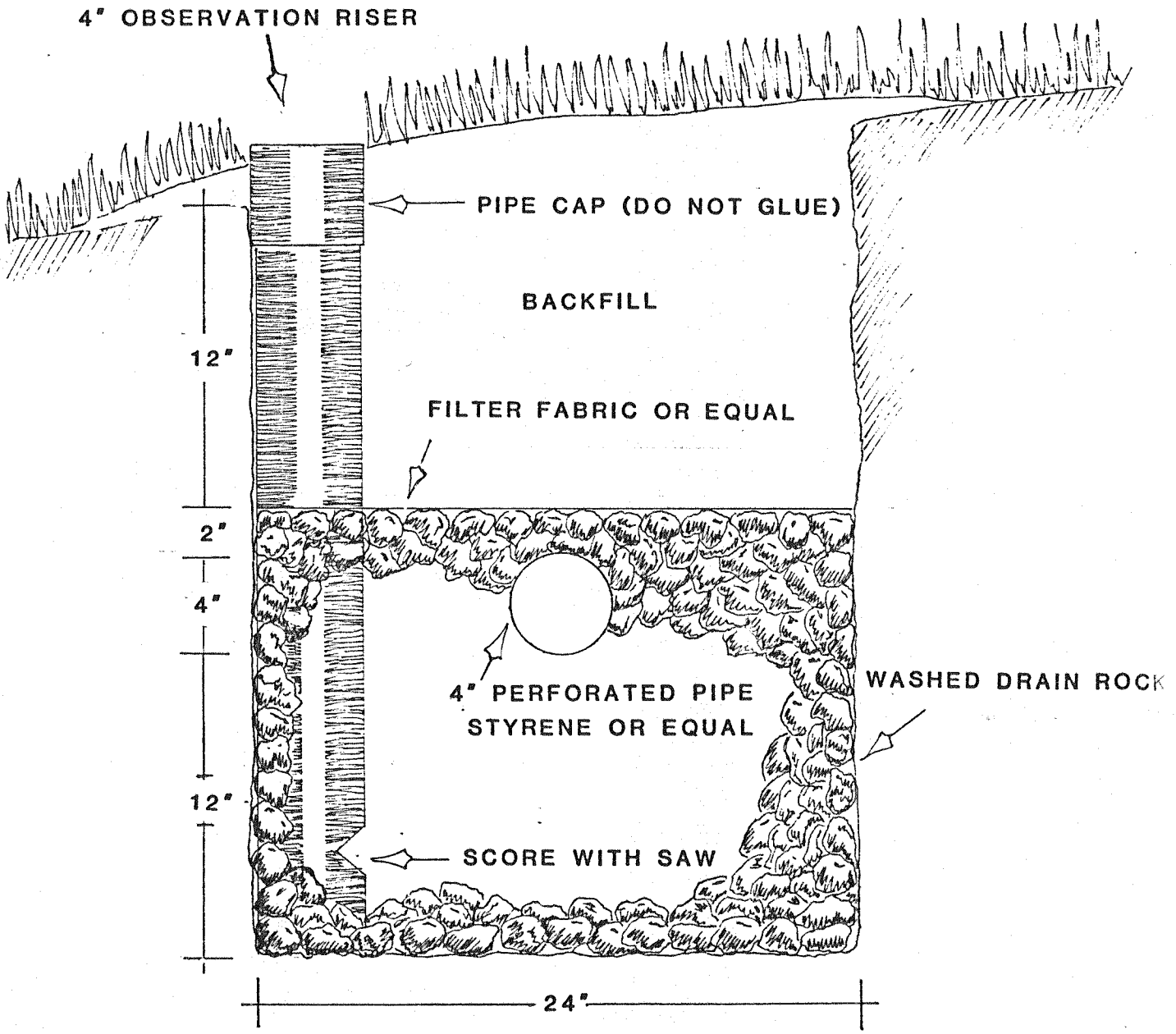
ALT OWDZ
STANDARD TRENCH CROSS-SECTION



SCALE: 1" = 6"

RNP 8/84

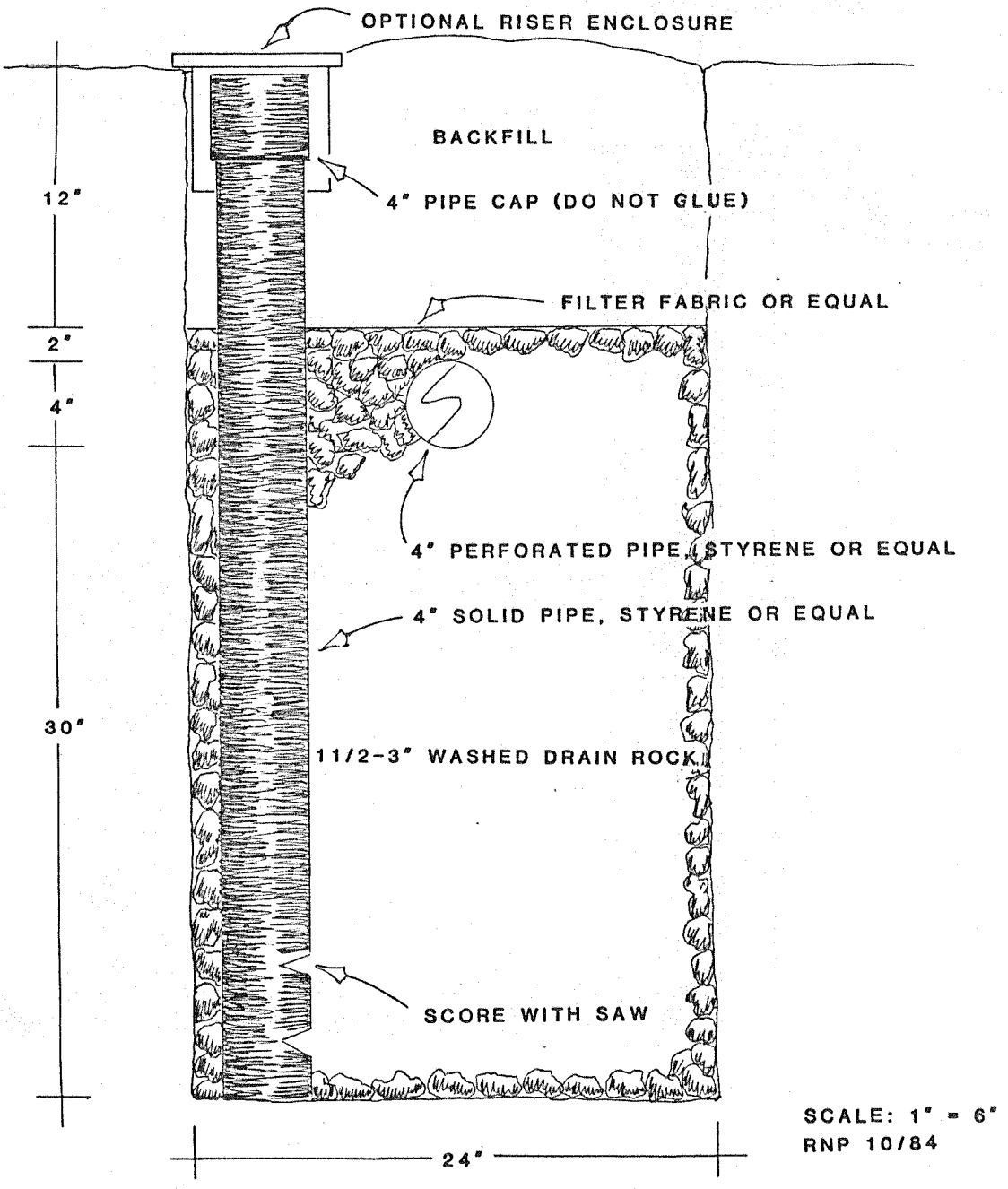
ALT OWDZ
SHALLOW TRENCH CROSS-SECTION



SCALE: 1" = 6"
RNP 1/85

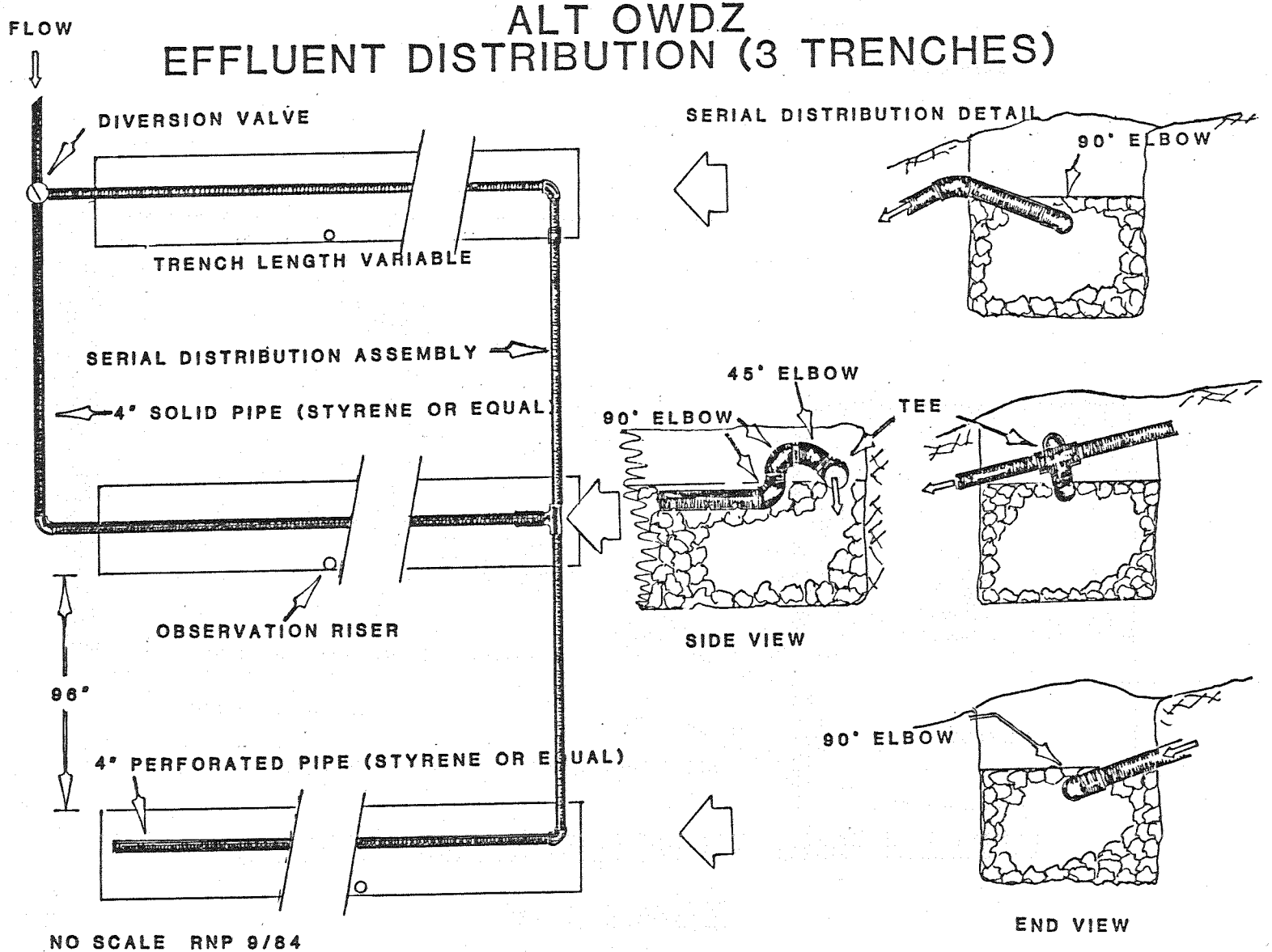
DIAGRAM 4

ALT OWDZ
DEEP TRENCH CROSS-SECTION



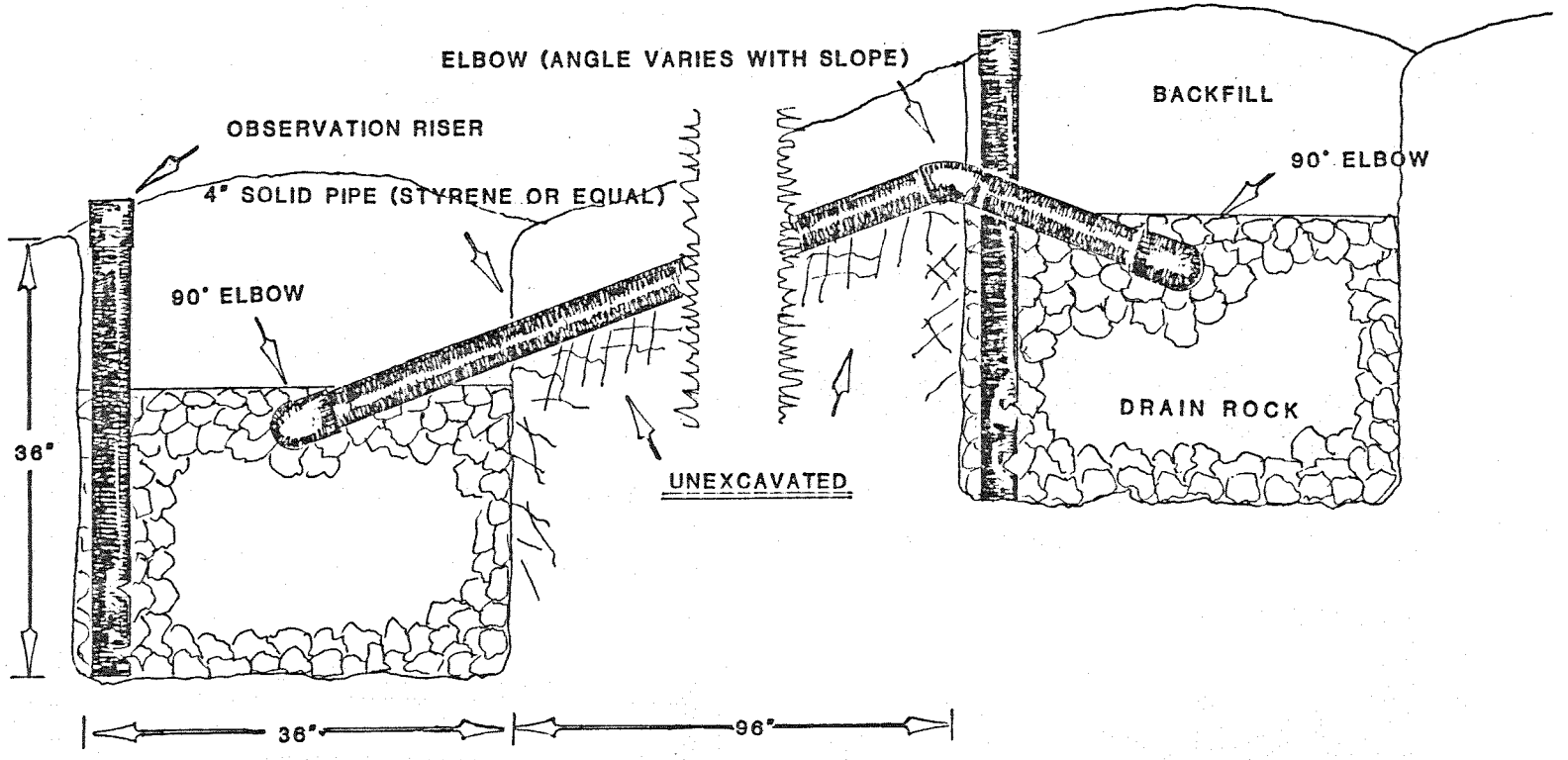
SCALE: 1" = 6"
RNP 10/84

ALT OWDZ
EFFLUENT DISTRIBUTION (3 TRENCHES)



ALT OWDZ

SERIAL DISTRIBUTION BY PIPE FITTING



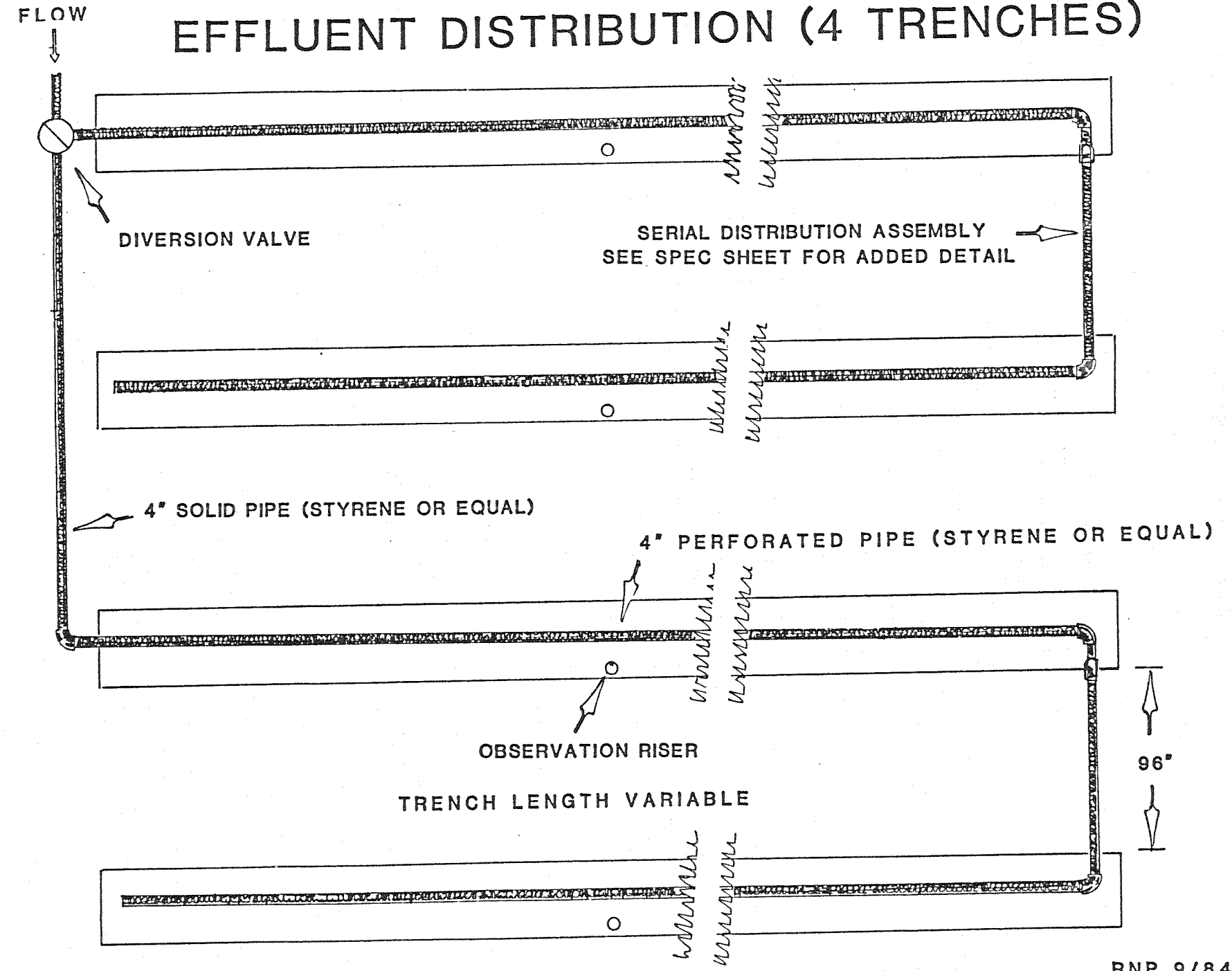
SCALE: 1" = 1'

RNP 9/84

DIAGRAMS-6

DIAGRAM 6

ALT OWDZ
EFFLUENT DISTRIBUTION (4 TRENCHES)



SCALE: 1" = 5"

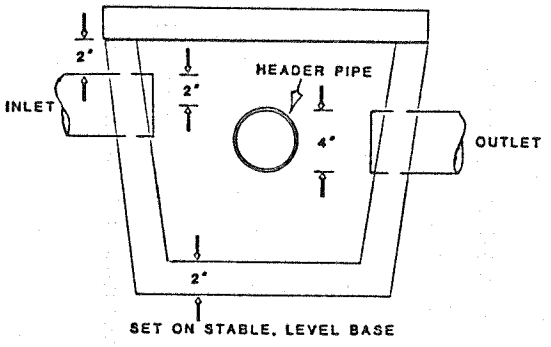
RNP 9/84

DIAGRAMS-7

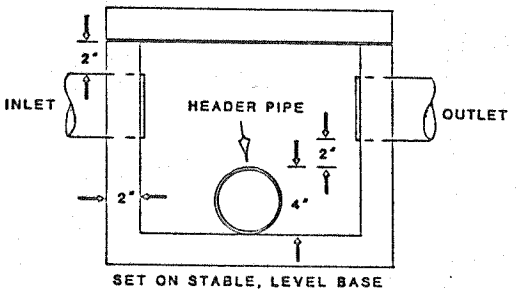
DIAGRAM 7

ALT OWDZ
SYSTEM APPURTENANCES

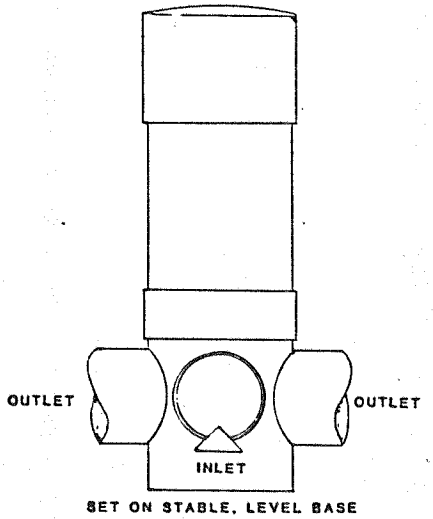
DISTRIBUTION BOX DETAIL



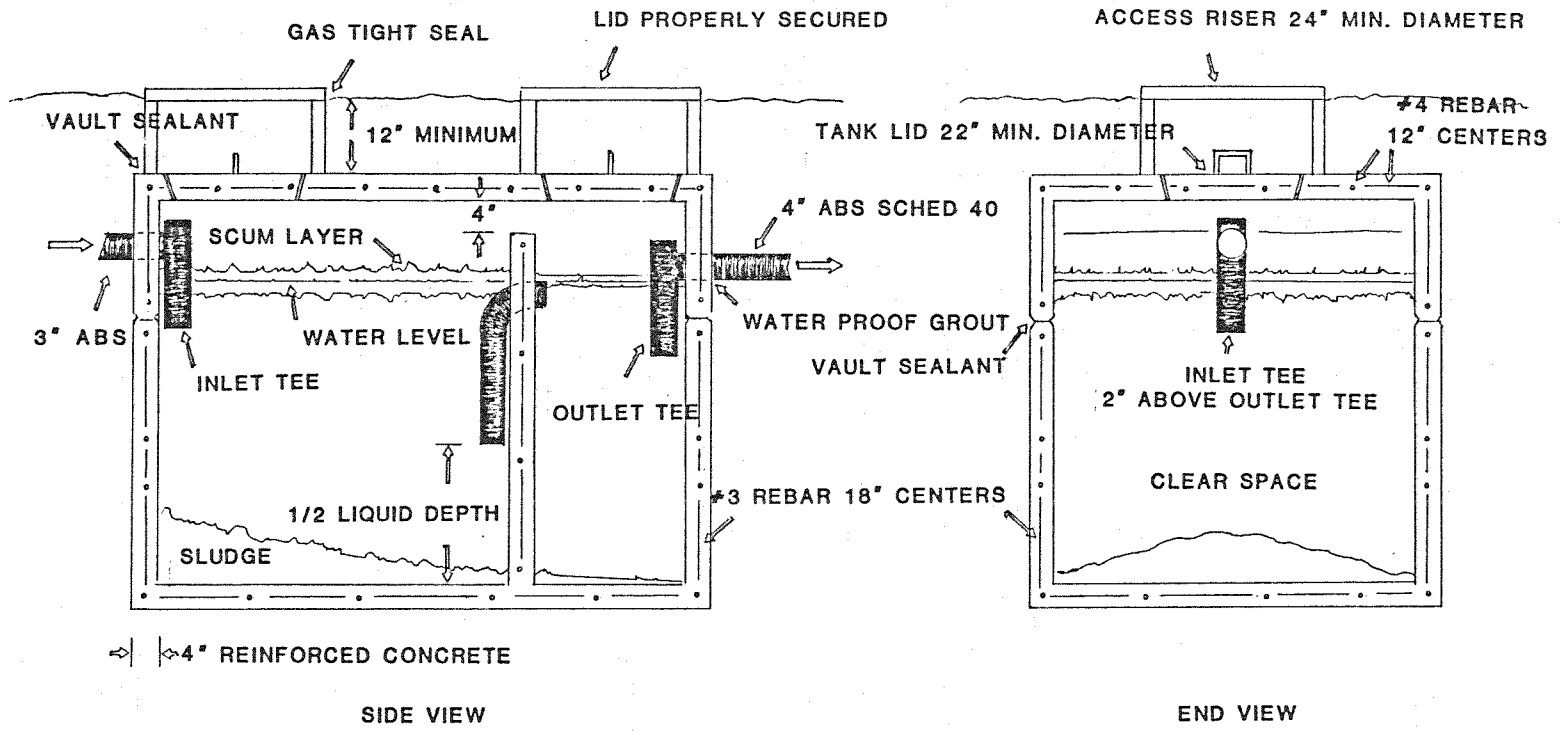
DROP BOX DETAIL



DIVERSION VALVE



ALT OWDZ



TYPICAL SEPTIC TANK

- INFLUENT AND EFFLENT PIPING SHALL BE ABS SCHEDULE 40 OR EQUAL

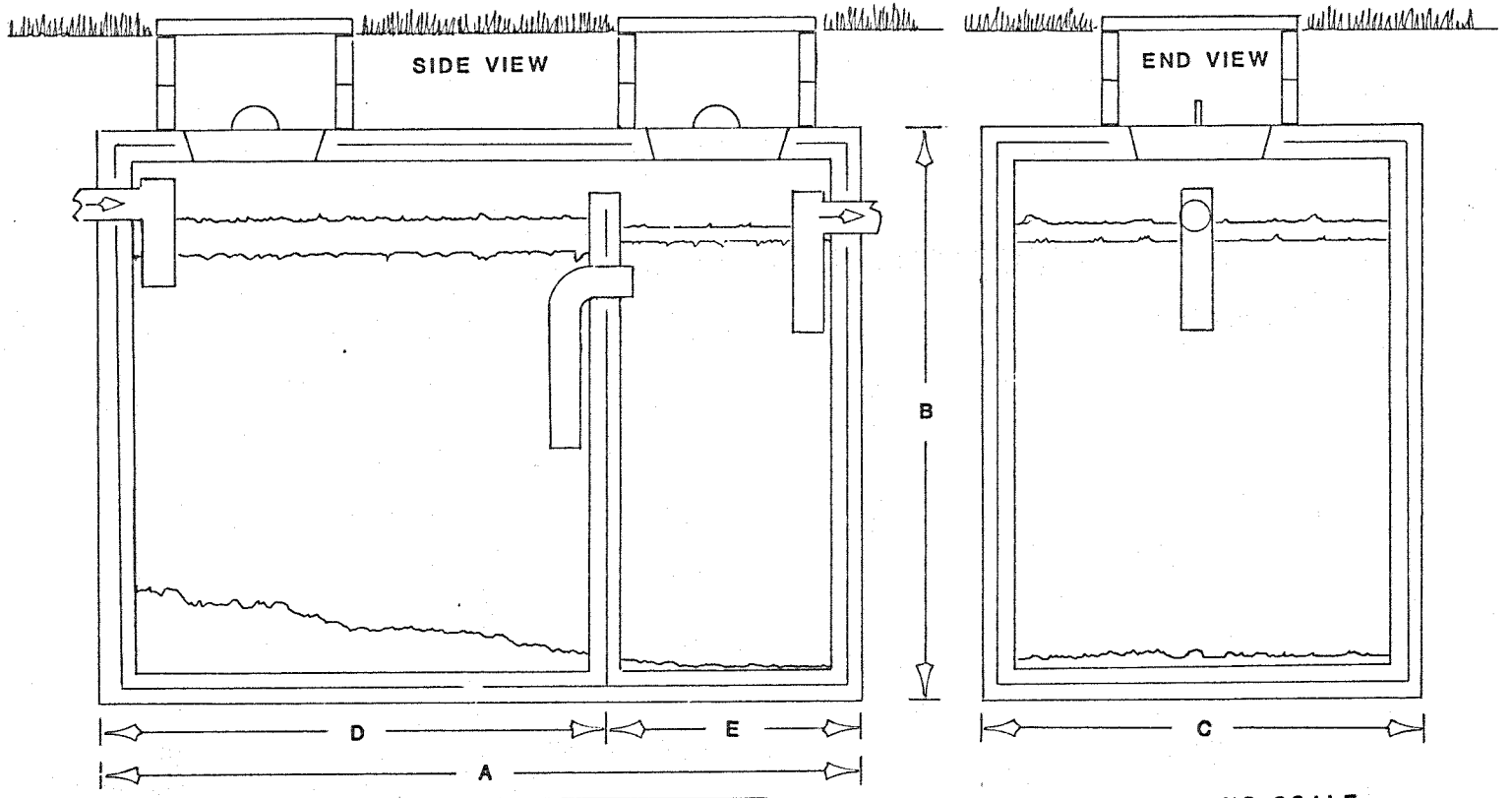
NO SCALE

RNP 8/84

DIAGRAMS-9

DIAGRAM 9

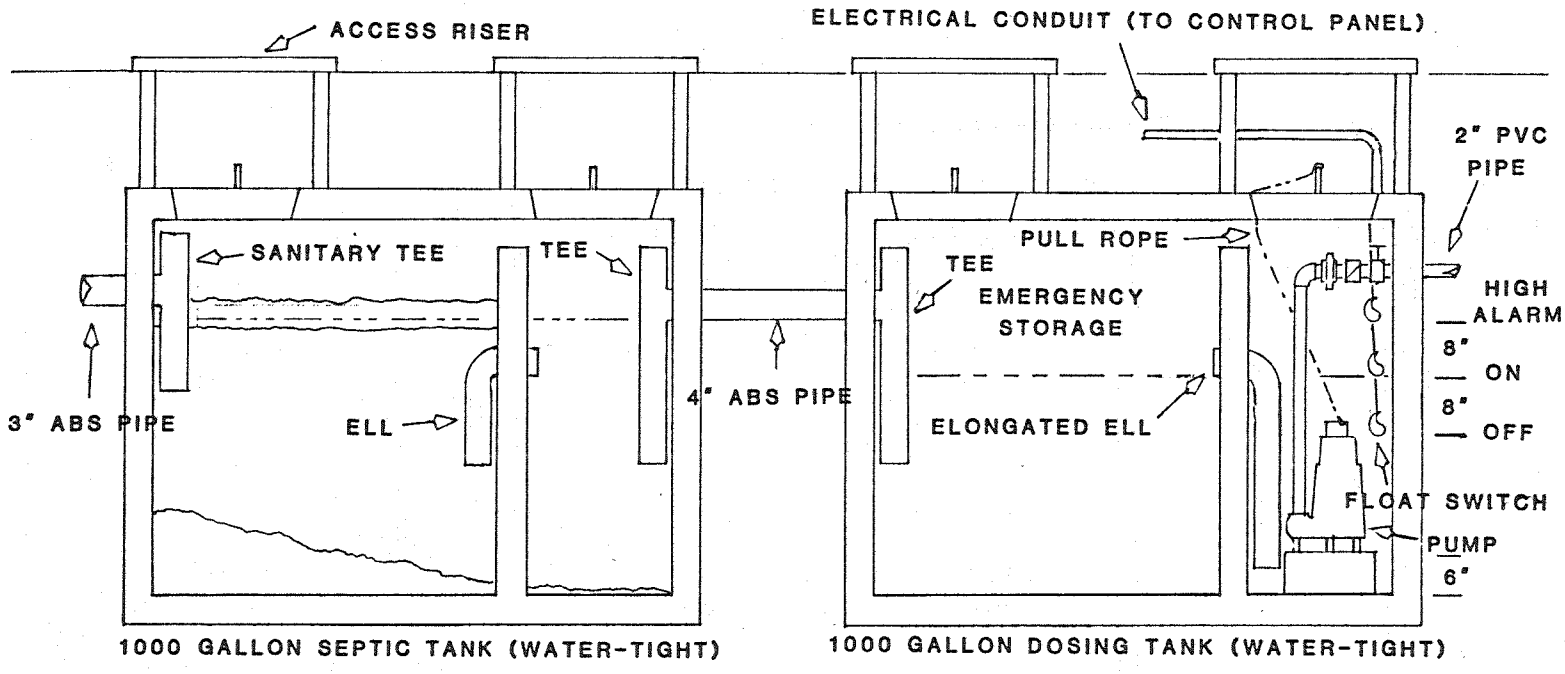
ALT OWDZ SEPTIC TANK DIMENSIONS



NOMINAL CAPACITY	DIMENSION				
	A	B	C	D	E
1000 Gallons	8'	6'	4'8"	5'4"	2'8"
1250 Gallons	8'	6'	5'8"	5'4"	2'8"
1500 Gallons	9'6"	6'	5'8"	6'4"	3'2"

NO SCALE
RNP 2/85

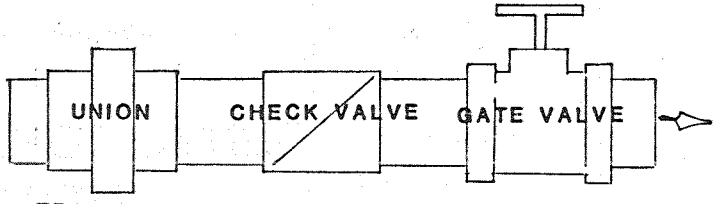
ALT OWDZ
DOSING TANK



AUDIO-VISUAL ALARM SYSTEM REQUIRED
SEPARATE CIRCUITS REQUIRED FOR PUMP & ALARM

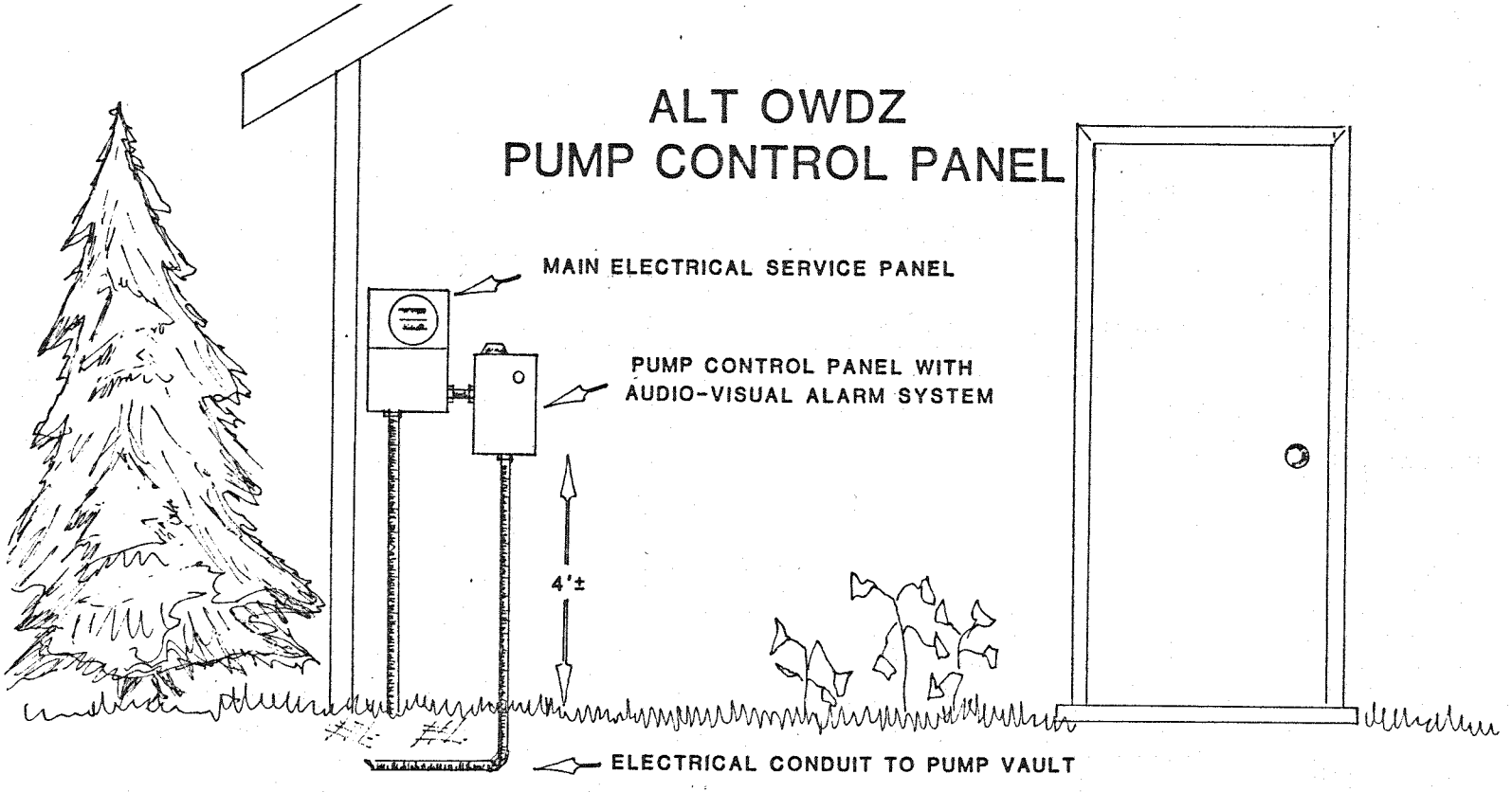
ELECTRICAL HOOK-UP SHALL MEET EL
EL DORADO COUNTY CODES

NO SCALE RNP 2/85



TRANSMISSION LINE, FITTINGS SEQUENCE

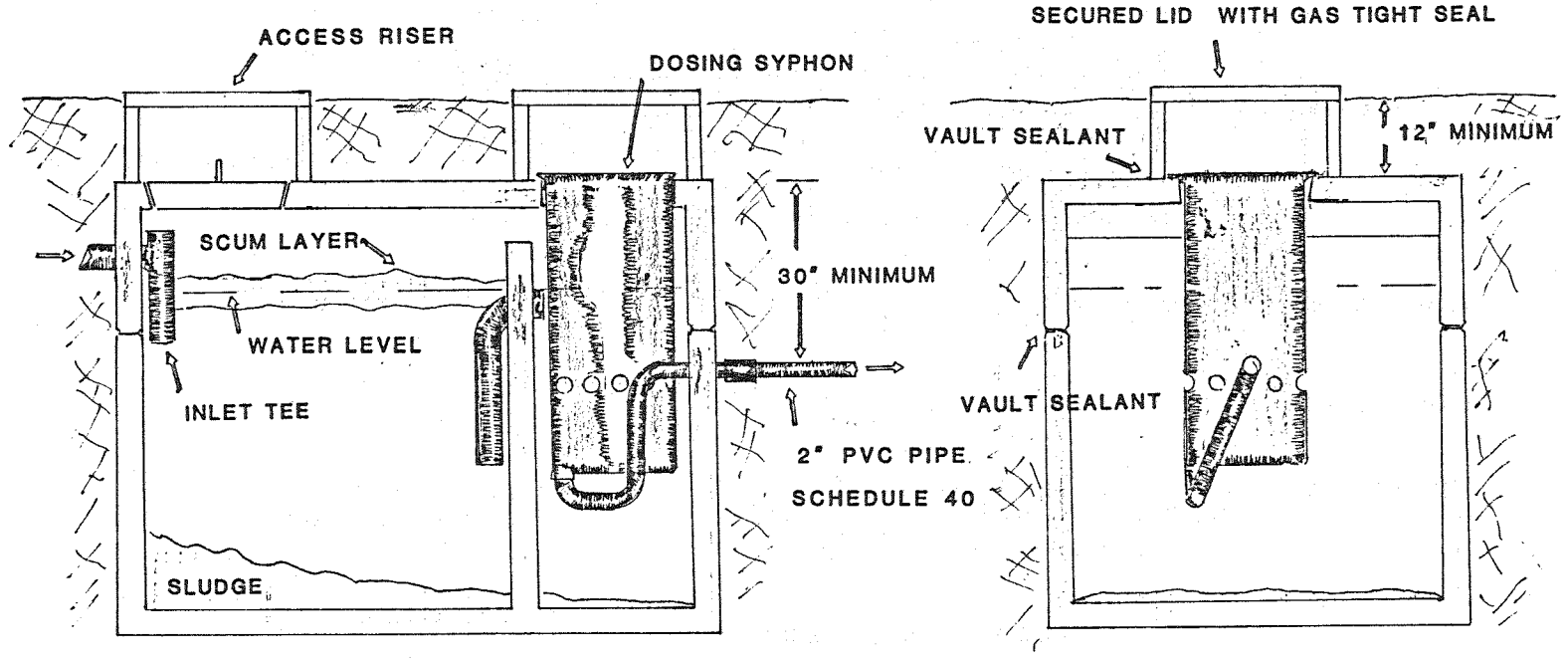
ALT OWDZ
PUMP CONTROL PANEL



TWO 115 VOLT CIRCUITS WITH 15 AMP BREAKERS
1) PUMP CIRCUIT
2) ALARM CIRCUIT

SCALE 1/2" = 1'
RNP 8/84

ALT OWDZ
DOSING SEPTIC TANK

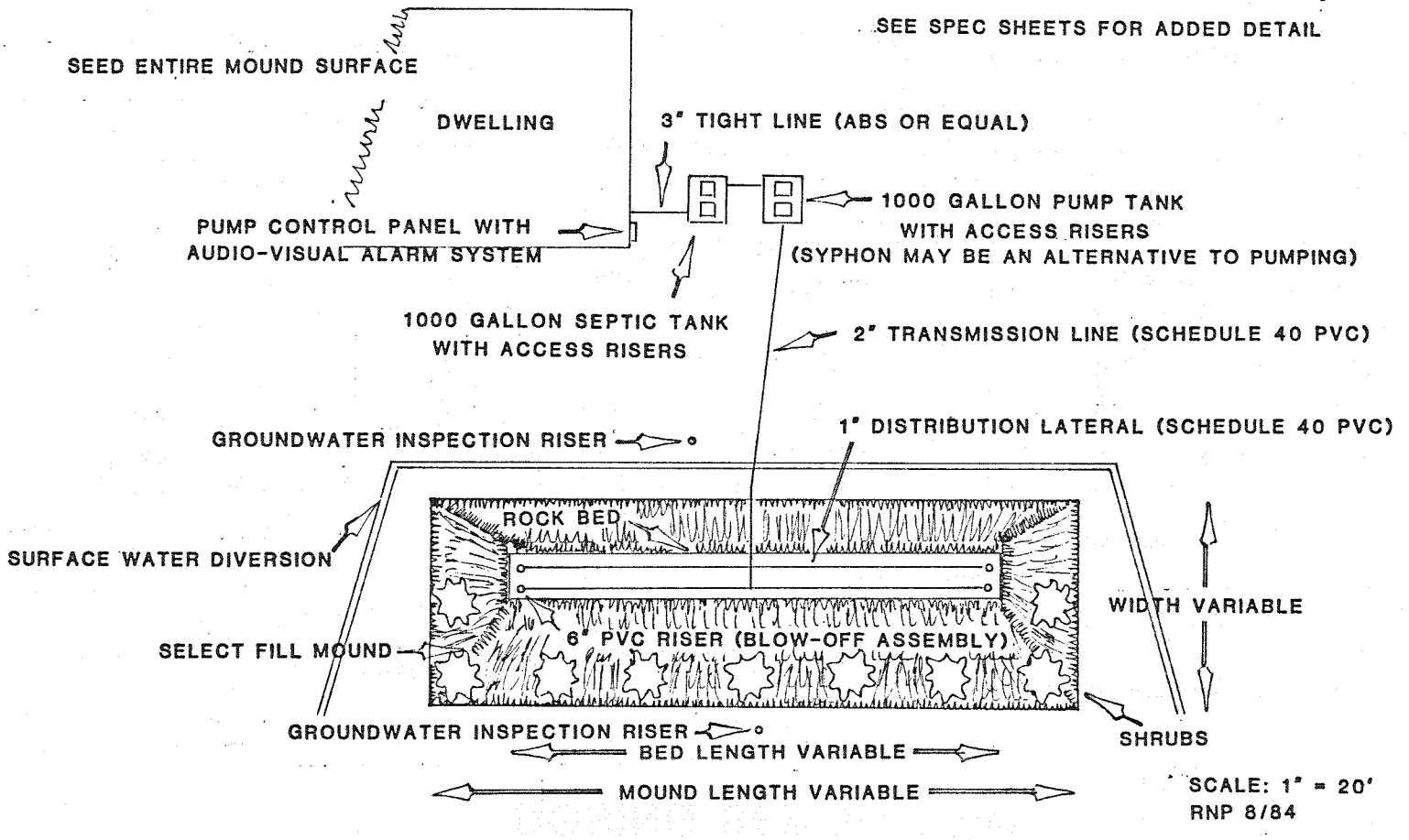


NO SCALE

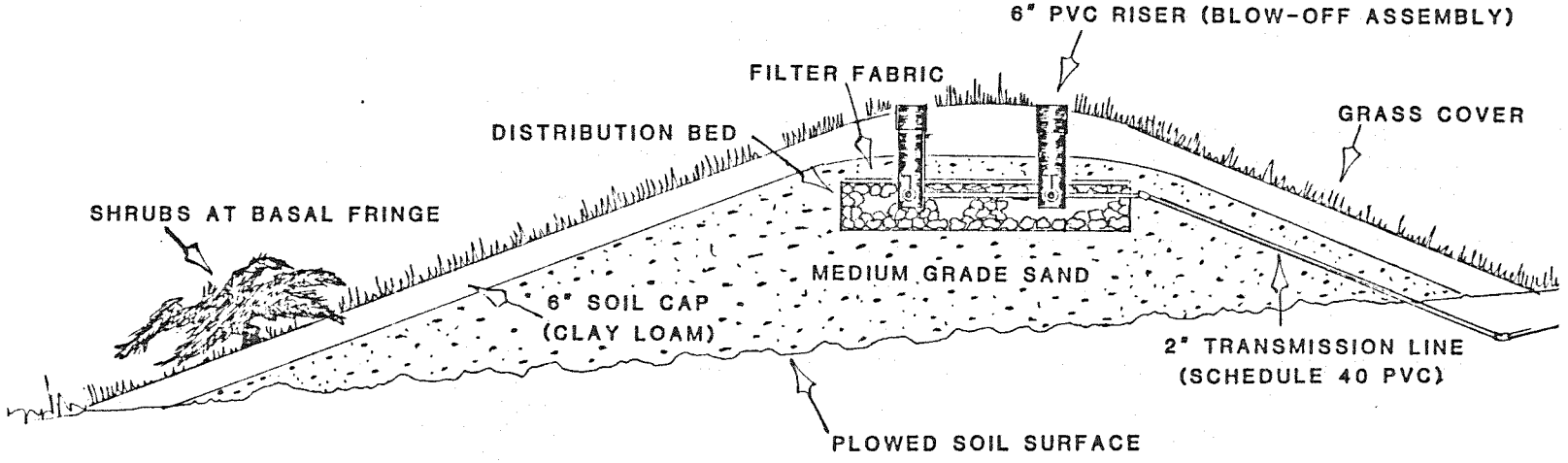
RNP 8/84

ALT OWDZ

TYPICAL MOUND SYSTEM



ALT OWDZ
MOUND CROSS-SECTION

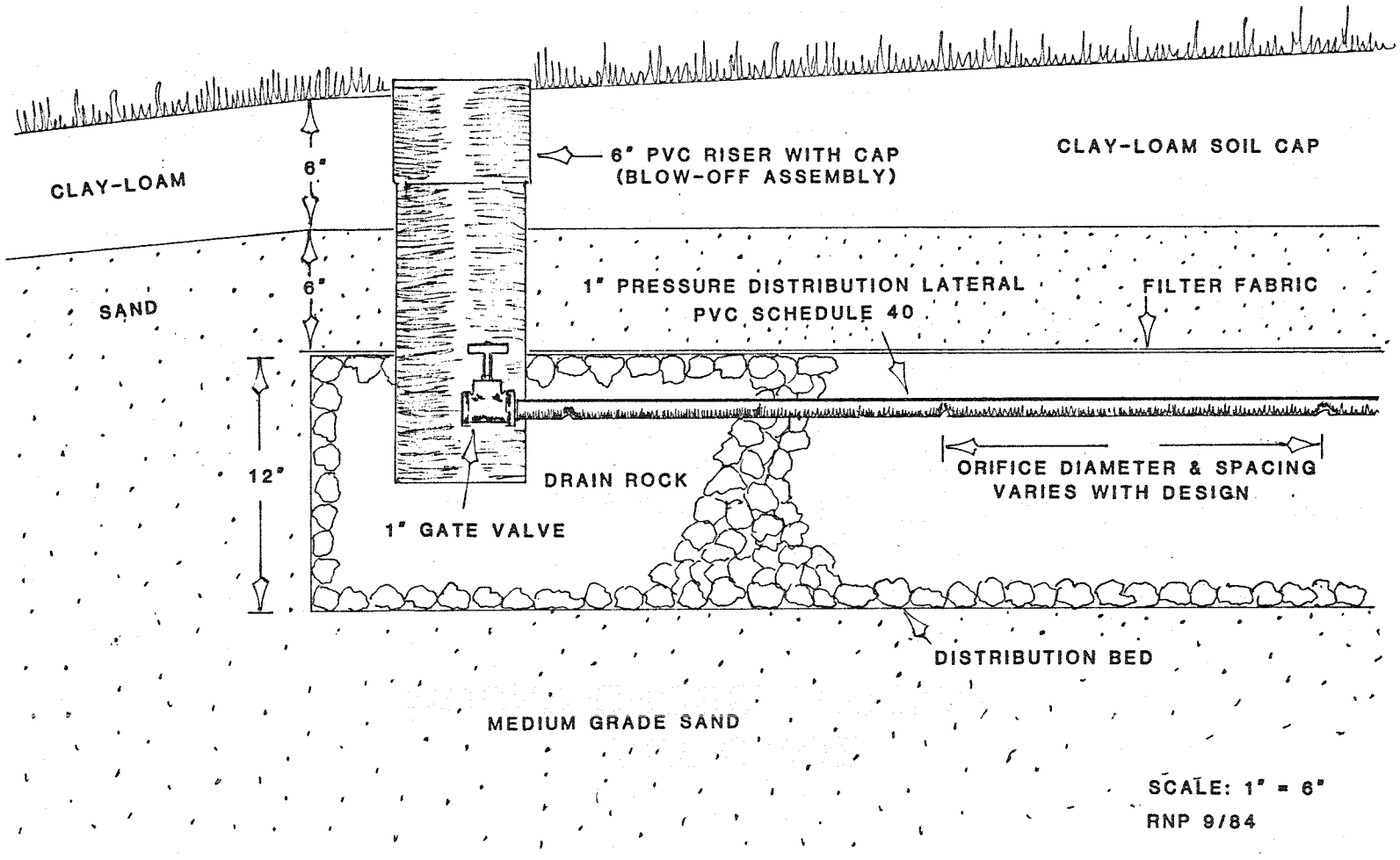


MOUND DIMENSIONS VARY ACCORDING TO SITE CONDITIONS

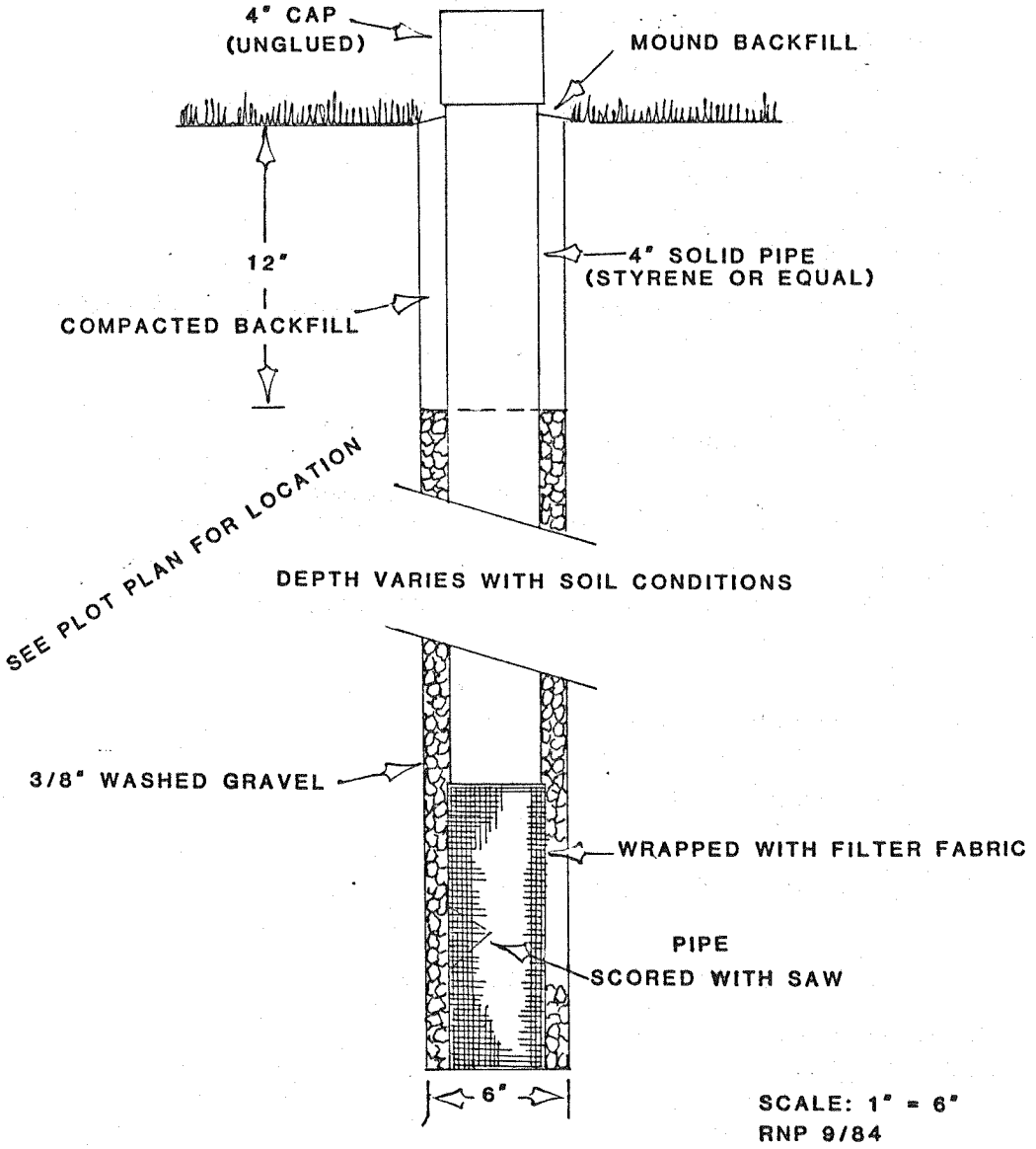
SEE SPEC SHEETS FOR ADDED DETAIL

SCALE: 1" = 3'
RNP 9/84

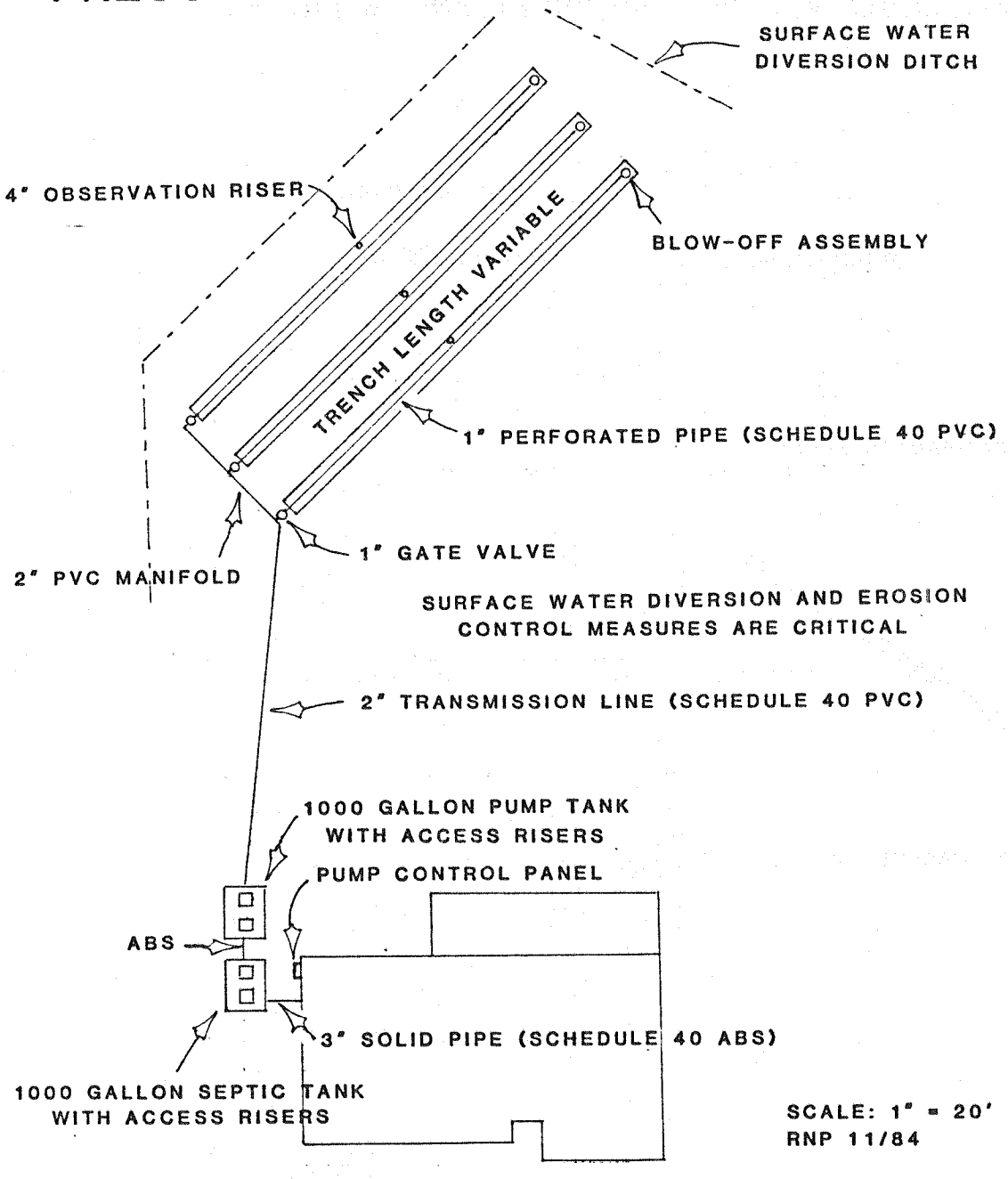
ALT OWDZ
MOUND SYSTEM BLOW-OFF DETAIL



ALT OWDZ
GROUNDWATER MONITORING RISER

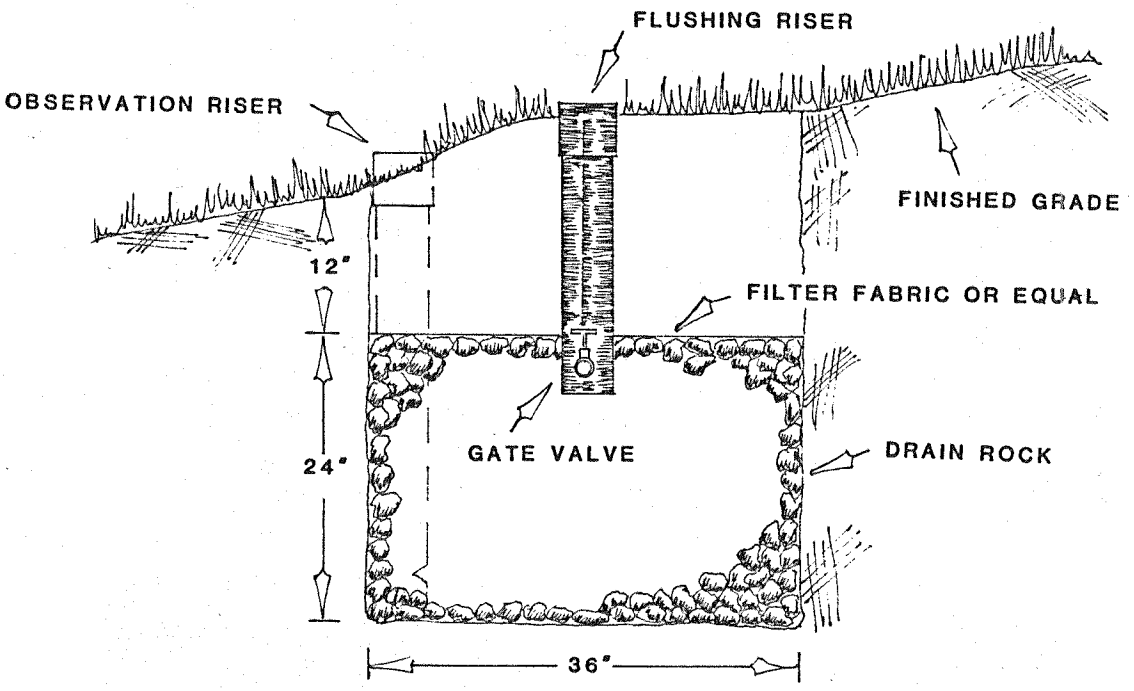


ALT OWDZ
PRESSURE DOSED (PUMPED) SYSTEM

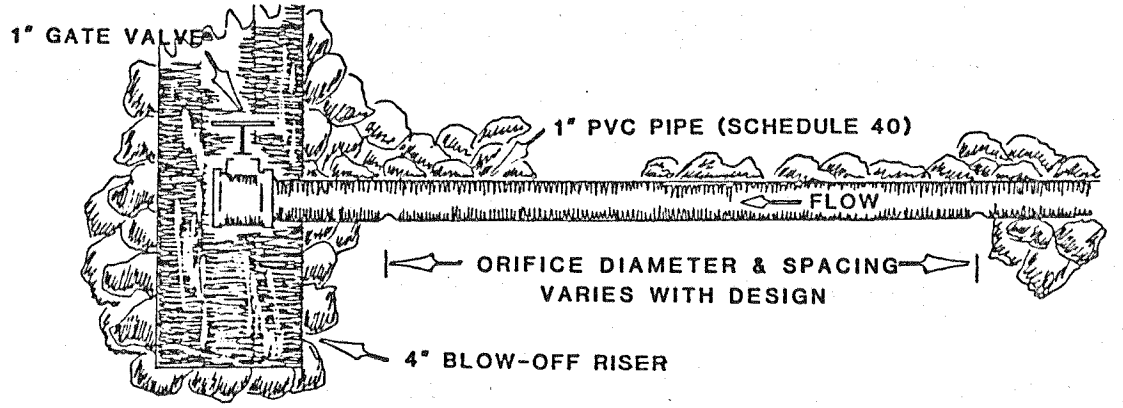


SEE SPEC SHEETS FOR ADDED DETAIL

ALT OWDZ
PRESSURE DOSED SYSTEM DETAIL



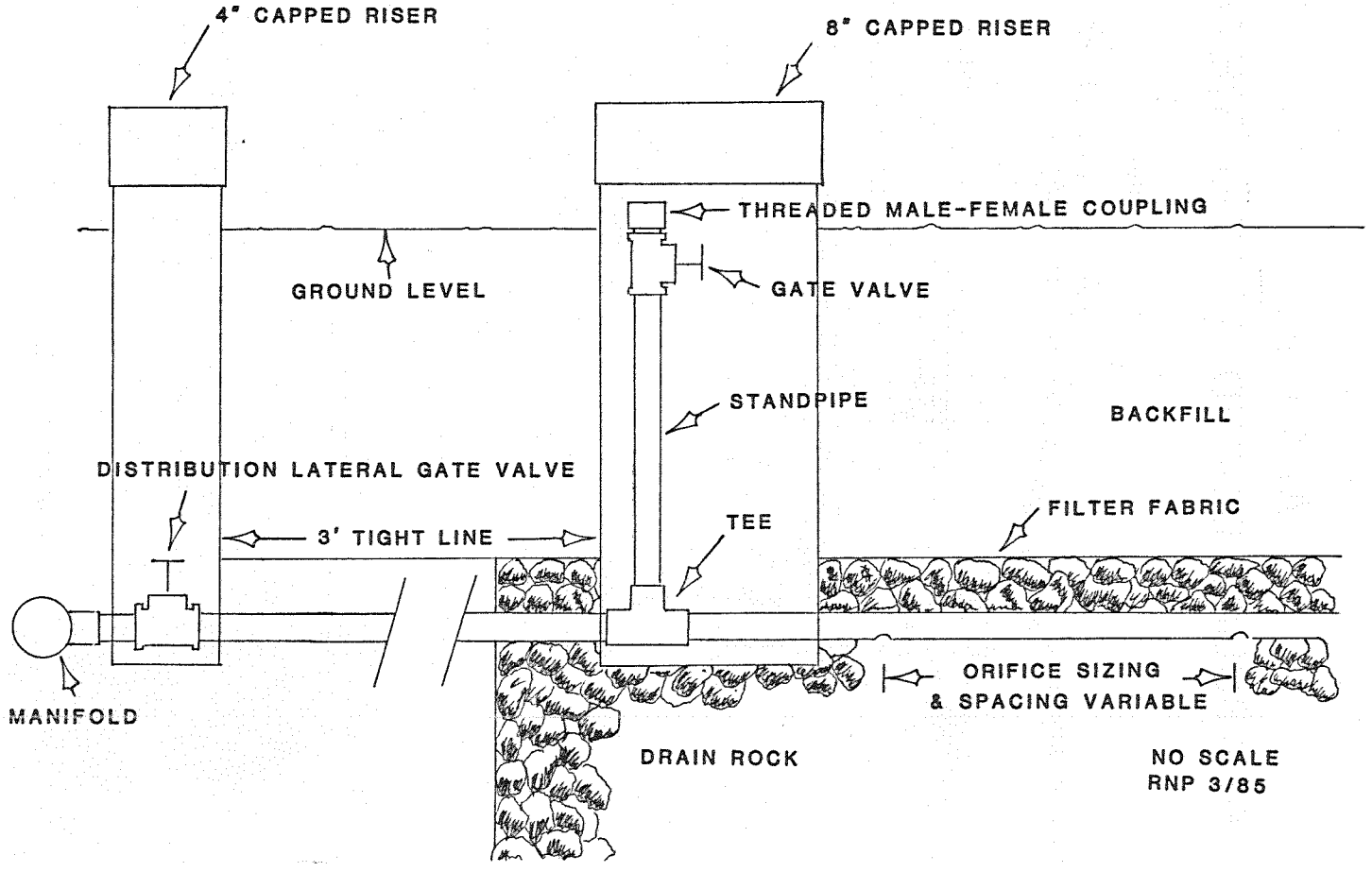
SCALE: 1" = 1'



SCALE: 1" = 4"

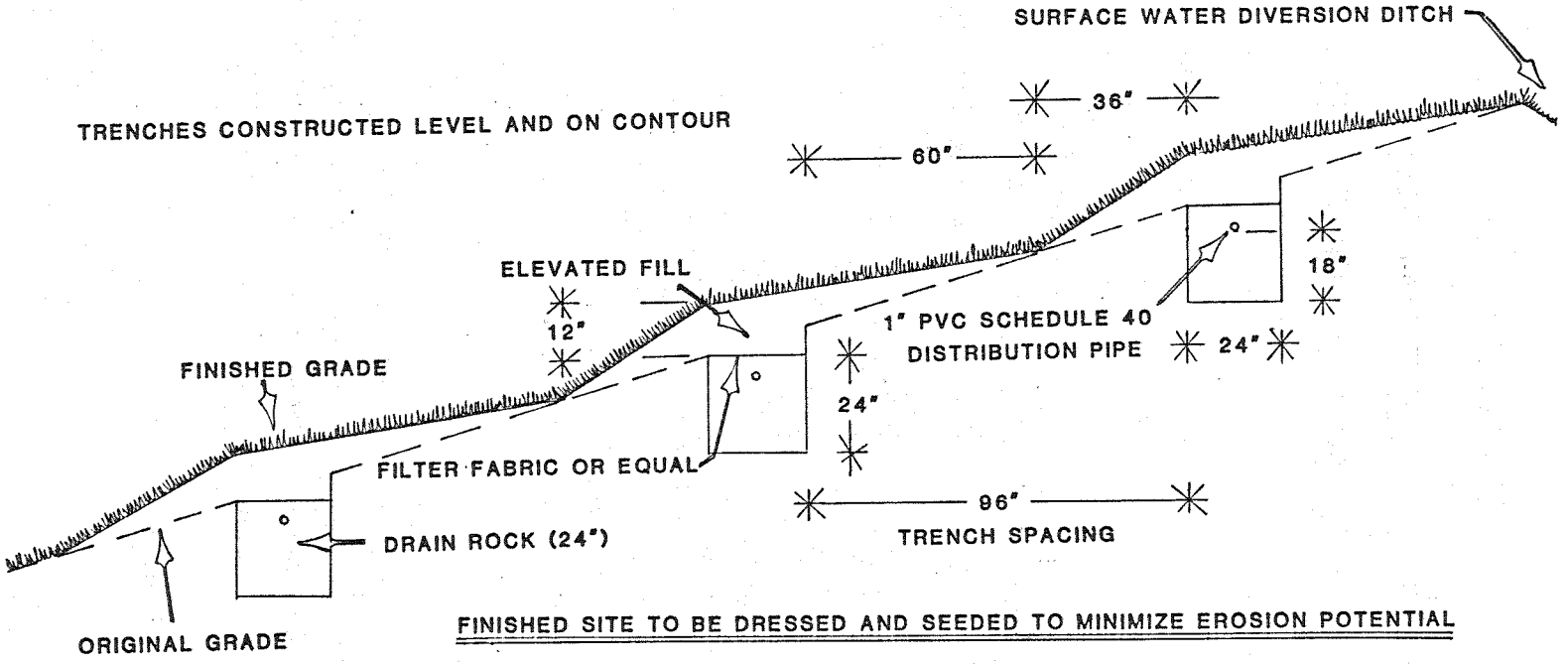
RNP 8/84

ALT OWDZ
FLUSHING MECHANISM FOR A SYPHON DOSED SYSTEM



ALT OWDZ

ELEVATED FILL PRESSURE DOSED TRENCH SYSTEM



CROSS-SECTION

SEE SPEC SHEETS FOR ADDED DETAIL

SCALE: 1" = 30'

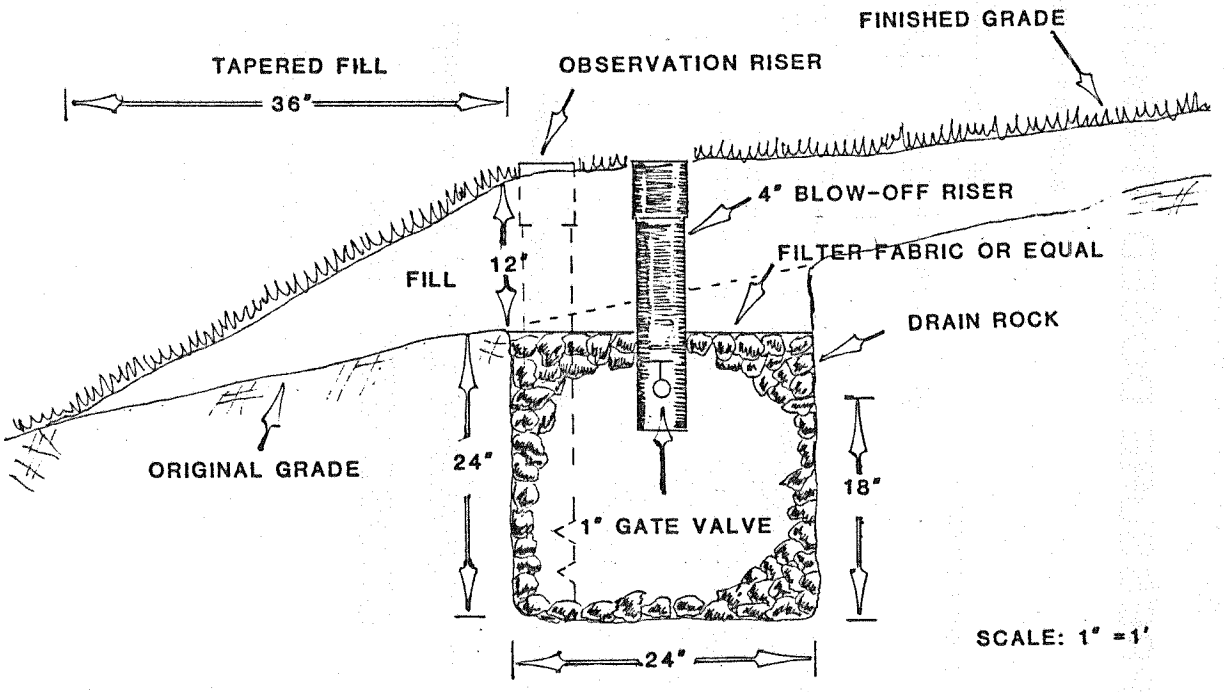
RNP 8/84

DIAGRAMS-21

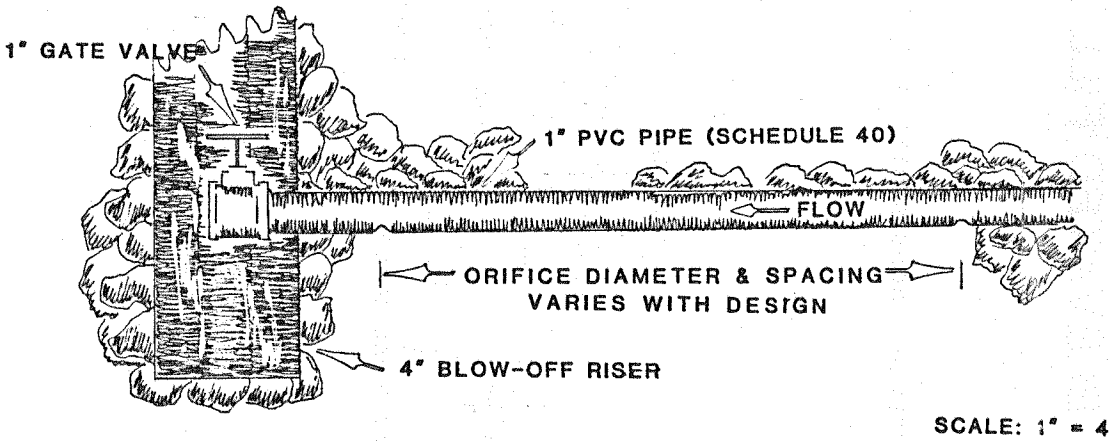
DIAGRAM 21

ALT OWDZ

ELEVATED FILL SYSTEM
DISTRIBUTION & BLOW-OFF DETAIL



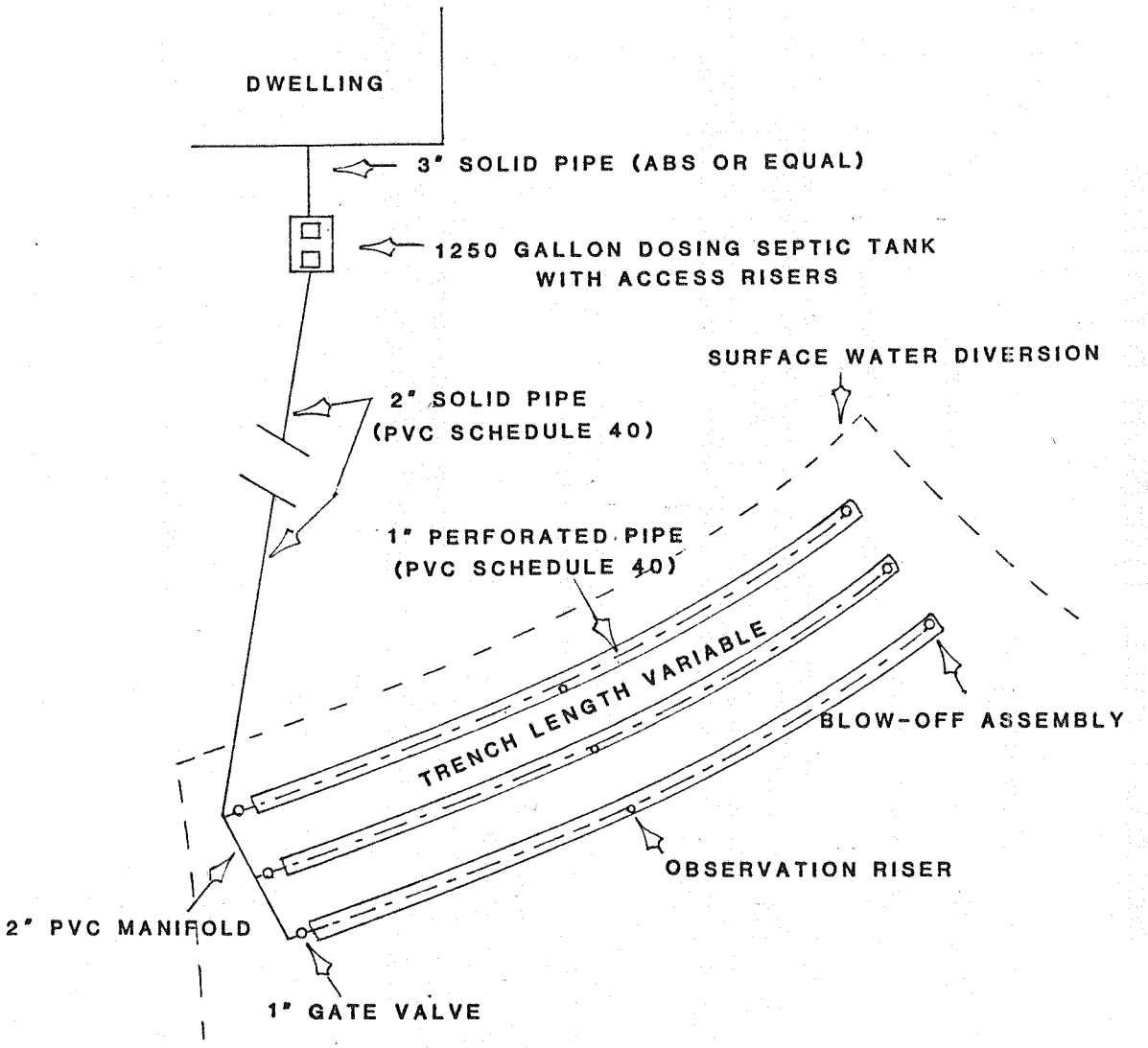
SCALE: 1" =1'



SCALE: 1" = 4"

RNP 8/84

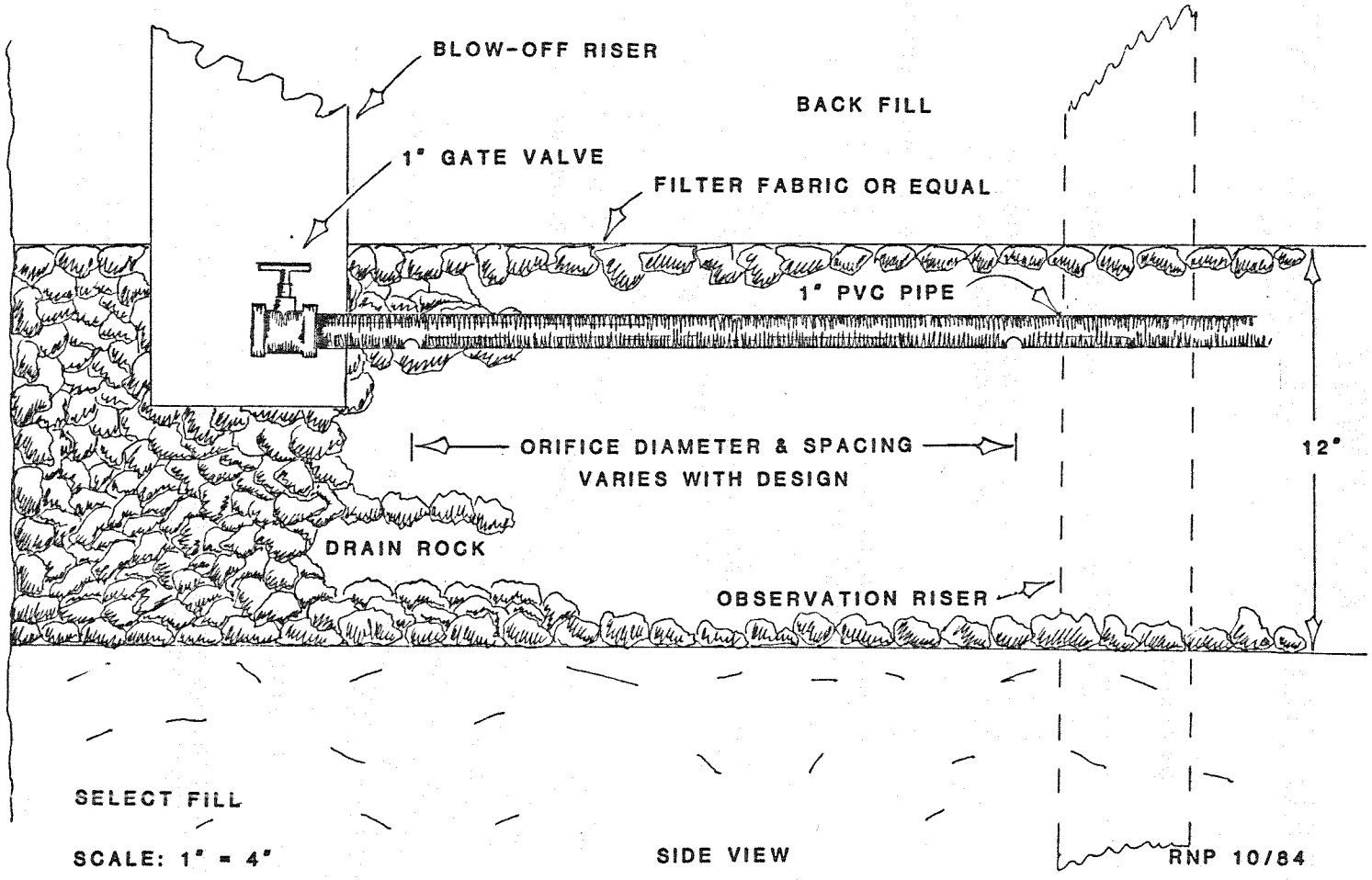
ALT OWDZ
ELEVATED FILL PRESSURE DOSED SYSTEM



SURFACE WATER AND EROSION CONTROL MEASURES ARE CRITICAL
SEE SPEC SHEETS FOR ADDED DETAIL

SCALE: 1" = 20'
RNP 9/84

ALT OWDZ
SELECT FILL TRENCH SYSTEM.



which a single distribution line has been laid, the trench then being backfilled with a minimum of twelve (12) inches of soil. (See Diagrams 2-4,19, 22,26)

28. "Distribution box" means a watertight structure which receives septic tank or other treatment facility effluent and distributes it concurrently into two (2) or more header pipes leading to the disposal area. (See Appendix C)

29. "Distribution pipe or lateral pipe" means the perforated pipe used in the dispersion of septic tank or other treatment facility effluent into disposal trenches, seepage trenches, or seepage beds. (See Diagrams 1-4, 5, 7)

30. "District" means the Georgetown Divide Public Utility District.

31. "Distribution unit" means a distribution box, dosing tank, diversion valve or box, header pipe, or other means of transmitting septic tank or other treatment unit effluent from the effluent sewer to the distribution pipes. (See Diagrams 1,8)

32. "Diversion valve" means a watertight structure which receives septic tank or other treatment facility effluent through one (1) inlet, distributes it to two (2) outlets, only one (1) of which is utilized at a given time . (See Diagram 8 and Appendix C)

33. "Dosing Septic Tank" means a unitized device performing functions of both a septic tank and a dosing tank.

34. "Dosing tank" means a watertight receptacle placed after a septic tank or other treatment facility equippped with an automatic siphon or pump designed to discharge treated effluent at a rate not to exceed twenty (20)

percent of the projected daily sewage flow.

35. "Dwelling" means any structure or building, or any portion thereof which is used, intended, or designed to be occupied for human living purposes..

36. "Effective seepage area" means the sidewall area within a disposal trench or seepage trench from the bottom of the trench to the invert of the distribution piping.

37. "Effective soil depth" means the depth of soil material above a layer that impedes movement of water, air, and growth of plant roots. Layers that differ from overlying soil material enough to limit effective soil depth are hardpans, claypans, fragipans, compacted soil, bedrock, saprolite, and clayey soil.

38. "Effluent lift pump" means a pump used to lift septic tank or other treatment facility effluent to a higher elevation. (See Appendix E)

39. "Effluent sewer" means that part of the system of drainage piping that conveys treated sewage from a septic tank or other treatment facility into a distribution unit or an absorption facility.

40. "Elevated fill" means a system where the disposal trench effective sidewall is installed a minimum of twenty-four (24) inches into natural soil below a soil cap of specified depth and texture.

41. "Emergency repairs" means repair of a failing system where immediate action is necessary to relieve a situation in which sewage is backing up into a dwelling or building, or repair of a broken pressure sewer line.

42. "Escarpment" means any naturally occurring slope greater than fifty (50) percent which extends vertically six (6) feet or more as measured from toe to top, and which is characterized by a long cliff or steep slope which separates two (2) or more comparatively level or gently sloping surfaces, and may intercept one (1) or more layers that limit effective soil depth. (See Diagrams

43. "Evapotranspiration (ET) system" means an alternative system consisting of a septic tank or other treatment facility, effluent sewer and a disposal bed or disposal trenches, designed to distribute effluent for evaporation, and transpiration by plants.

44. "Existing on-site sewage disposal system" (existing system) means any installed on-site sewage disposal systems constructed in conformance with the rules, laws and local ordinances in effect at the time of construction, or which would have conformed substantially with system design provided for in the El Dorado County Ordinance Code in force at the time of construction.

45. "Failing System" means any system which discharges untreated or incompletely treated sewage or septic tank effluent directly or indirectly onto the ground surface or into public waters.

46. "Filter material" means clean, washed gravel ranging from three quarters (3/4) to two and one-half (2 1/2) inches in size, or clean crushed rock ranging in size from one and one-half (1 1/2) to three (3) inches.

47. "Five-day biochemical oxygen demand" (5 day BOD) means the quantity of oxygen used in the biochemical oxidation of organic matter in five days at twenty (20) degrees centigrade under specified conditions and reported as milligrams per liter (mg/l).

48. "Fragipan" means a loamy subsurface horizon with high bulk density relative to the horizon above, seemingly cemented when dry, and weakly to moderately brittle when moist. Fragipans are mottled and low in organic matter. They impede movement of water, air, and growth of plant roots.

49. "Governmental unit" means the state or El Dorado County, or political subdivision, or any agency thereof.

50. "Grade" means the rate of fall or drop in inches per foot or percentage of fall of a pipe.

51. "Gray water" means household sewage other than "black wastes", such as bath water, kitchen waste water and laundry wastes.

52. "Groundwater interceptor" means any natural or artificial groundwater drainage system including agricultural drain tile, cut banks, and ditches.

53. "Hardpan" means a hardened layer in soil caused by cementation of soil particles with either silica, calcium carbonate, magnesium carbonate, or iron and/or organic matter. The hardness does not change appreciably with changes in moisture content. Hardpans impede movement of water and air and growth of plant roots.

54. "Header Pipe" means a tight jointed part of the sewage drainage conduit which receives septic tank effluent from the distribution box, or drop box, or effluent sewer and conveys it to the disposal area. (See Diagram 1)

55. "Headwall" means a steep slope at the head or upper end of a land slump block or unstable landform.

56. "Holding tank" means a watertight receptable designed to receive and store sewage to facilitate disposal at another location.

57. "Individual system" means a system that is not a community system.

58. "Intermittent stream" means any surface public water or groundwater interceptor that continuously flows water for a period greater than two months in any one year, but not continuously for that year.

59. "Invert" is the lowest portion of the internal cross section of a pipe or fitting.

60. "Large system" means any on-site system with a daily sewage flow greater than one thousand three hundred and twenty (1320) gallons.

61. "Mechanical oxidation sewage treatment facility" means an aerobic sewage treatment facility.

62. "Medium sand" means a mixture of sand with 100 percent passing the 3/8 inch sieve, 90 percent to 100 percent passing the No. 4 sieve, 62 percent to 100 percent passing the No. 10 sieve, 45 percent to 82 percent passing the No. 16 sieve, 25 per cent to 55 percent

passing the No. 30 sieve, 5 percent to 20 percent passing the No. 50 sieve, 10 percent or less passing the No. 60 sieve, and 4 percent or less passing the No. 100 sieve.

63. "Mound System" means an elevated fill system which incorporates a distribution system upon a filter with two (2) feet or more of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty-three hundredths (1.23) gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow.

64. "Nonwater-carried waste disposal facility" means any toilet facility which has no direct water connection, including pit privies, vault privies and self-contained construction type chemical toilets.

65. "Occupant" means any person living or sleeping in a dwelling.

66. "On-site sewage disposal system (system)" means any installed or proposed sewage disposal facility including, but not limited to a standard subsurface, alternative, experimental or non-water carried sewage disposal system, installed or proposed to be installed on land of the owner of the system or on other land as to which the owner of the system has the legal right to install the system.

67. "Owner" means any person who alone, or jointly, or severally with others:

a. Has legal title to any lot, dwelling, or dwelling unit; or

b. Has care, charge, or control of any real property as agent, executor, executrix, adminstrator, administratrix, trustee, leasee, or guardian of the estate of the holder of legal title; or

c. Is the contract purchaser of real property.

68. "Permanent ground water table" means the upper surface of a saturated zone that exists year-round. The thickness of the saturated zone, and, as a result, the evaluation of the permanent ground water table may fluctuate as much as twenty (20) feet or more annually; but the saturated zone and associated permanent ground water table will be present at some depth beneath land surface throughout the year.

69. "Permit" means the written permit issued by the Agent bearing the signature of the Agent which by its conditions authorizes the permitee to construct, install, alter, repair, or extend a subsurface or alternative sewage disposal system.

70. "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.

71 "Pollution" or "water pollution" means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature,

taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life of the habitat thereof.

72. "Portable toilet shelter" means any readily relocatable structure built to house a toilet facility.

73. "Pressure distribution lateral" means piping and fittings in pressure distribution systems which distribute septic tank or other treatment unit effluent to filter material through small diameter orifices. (See Diagrams 14, 16, 18)

74. "Pressure distribution manifold" means piping and fittings in a pressure distribution system which supply effluent from pressure transport piping to pressure distribution laterals. (See Diagrams 18, 23, 25)

75. "Pressure distribution system" means any system designed to uniformly distribute septic tank or other treatment unit effluent under pressure in an absorption facility or sand filter. (See Diagrams 14, 18, 23, 25,)

76. "Pressure transport piping" means piping which conveys septic tank or other treatment unit effluent to a pressure distribution manifold by means of a pump. (See Diagrams 14, 18, 23, 25)

77. "Prior approval" means a written approval for on-site sewage disposal, for a specific lot, issued prior to August 8, 1984.

78. "Prior construction permit" means a subsurface sewage disposal system construction permit issued prior to March 19, 1985, by El Dorado County.

79. "Public health hazard" means a condition whereby there are sufficient types and amounts of biological, chemical, or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders, or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.

80. "Public waters" means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of California, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

81. "Repair" means installation of all portions of a system necessary to eliminate a public health hazard or pollution of public waters created by a failing system.

82. "Sand filter system" means the combination of septic tank or other treatment unit, dosing system with effluent pump(s) and controls, or dosing siphons piping and fittings, sand filter, absorption facility or effluent reuse method used to treat sewage.

83. "Sanitary drainage system" means that part of the system of drainage piping that conveys untreated sewage from a building or structure to a septic tank or other treatment facility, service lateral at the curb or in the street or alley, or other disposal terminal holding human or domestic sewage. The sanitary drainage system consists of a building drain or building drain and building sewer. (See Diagram 1)

84. "Saprolite" means weathered material underlying the soil that grades from soft thoroughly decomposed rock to rock that has been weathered sufficiently so that it can be broken in the hands or cut with a knife. It does not include hard bedrock or hard fractured bedrock. It has rock structure instead of soil structure.

85. "Saturated zone" means a three (3) dimensional layer, lens, or other section of the subsurface in which all open spaces, including joints, fractures, interstitial voids, pores, etc. are filled with ground water. The thickness and extent of a saturated zone may vary seasonally or periodically in response to changes in the rate or amount of ground water recharge or discharge.

86. "Scum" means a mass of sewage solids floating at the surface of sewage which is buoyed up by entrained gas,

grease, or other substances.

87. "Seepage area" see effective seepage area.

88. "Seepage trench system" means a system with disposal trenches with more than twelve (12) inches of filter material below the distribution pipe.

89. A "Select Fill System" means a filter with four (4) feet of medium sand designed to filter and biologically treat septic tank or other treatment unit effluent from a pressure distribution system at an application rate not to exceed one and twenty three hundredths (1.23) gallons per square foot sand surface area per day, applied at a dose not to exceed twenty (20) percent of the projected daily sewage flow.

90. "Self-contained nonwater-carried waste disposal facility" includes, but is not limited to, vault privies, chemical toilets, combustion toilets, recirculating toilets, and portable toilets, in which all waste is contained in a watertight receptacle.

91 "Septic tank" means a watertight receptacle which receives sewage from a sanitary drainage system, is designed to separate solids from liquids, digest organic matter during a period of detention, and allow the liquids to discharge to a second treatment unit or to a soil disposal system. (See Appendix B)

92. "Septic tank effluent" means partially treated sewage which is discharged from a septic tank.

93. "Sewage" means water-carried human wastes, including kitchen, bath, and laundry wastes from residences,

buildings, industrial establishments, or other places, together with such groundwater infiltration, surface waters, or industrial waste as may be present.

94. "Sewage disposal service" means:

a. The installation of on-site sewage disposal systems, or any part thereof; or

b. The pumping out or cleaning of on-site sewage disposal systems, or any part thereof; or

c. The disposal of material derived from the pumping out or cleaning of on-site sewage disposal systems; or

d. Grading, excavating, and earth-moving work connected with the operations described in paragraph a. of this subsection.

e. The construction of drain and sewage lines from five (5) feet outside a building or structure to the service lateral at the curb or in the street or alley or other disposal terminal holding human or domestic sewage.

95. "Slope" means the rate of fall or drop in feet per one hundred (100) feet of the ground surface. It is expressed as percent of grade.

96. "Soil permeability rating" refers to that quality of the soil that enables it to transmit water or air, as outlined in the United States Department of Agriculture Handbook, Number 18, entitled Soil Survey Manual.

97. "Soil separate" means the size of soil particles according to Table 4.

98. "Soil texture" means the amount of each soil separate in a soil mixture. Field methods for judging the texture of a soil consist of forming a cast of soil, both dry and moist, in the hand and pressing a ball of moist soil between thumb and finger. The major textural classifications are defined as follows: (See Table

a. Sand: Individual grains can be seen and felt readily. Squeezed in the hand when dry, this soil will fall apart when the pressure is released. Squeezed when moist, it will form a cast that will hold its shape when the pressure is released, but will crumble when touched.

b. Sandy loam: Consists largely of sand, but has enough silt and clay present to give it a small amount of stability. Individual sand grains can be readily seen and felt. Squeezed in the hand when dry, this soil will readily fall apart when the pressure is released. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

c. Loam: Consist of an even mixture of sand and of silt and a small amount of clay. It is easily crumbled when dry and has a slightly gritty yet fairly smooth feel. It is slightly plastic. Squeezed when moist, it forms a cast that will not only hold its shape when the pressure is

released, but will withstand careful handling without breaking. The stability of the moist cast differentiates this soil from sand.

d. Silt loam: Consists of a moderate amount of fine grades of sand, a small amount of clay, and a large quantity of silt particles. Lumps in a dry, undisturbed state appear quite cloddy, but they can be pulverized readily; the soil then feels soft and floury. When wet, silt loam runs together in puddles. Either dry or moist, casts can be handled freely without breaking. When a ball of moist soil is pressed between thumb and finger, it will not press out into a smooth, unbroken ribbon, but will have a broken appearance.

e. Clay loam: Consists of an even mixture of sand, silt, and clay, which breaks into clods or lumps when dry. When a ball of moist soil is pressed between the thumb and finger, it will form a thin ribbon that will readily break, barely sustaining its own weight. The moist soil is plastic and will form a cast that will withstand considerable handling.

f. Silty clay loam: Consists of a moderate amount of clay, a large amount of silt, and a small amount of sand. It breaks into moderately hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch wire can be formed between thumb and finger that will sustain its weight and will withstand gentle movement.

g. Silty clay: Consists of even amounts of silt and clay and very small amounts of sand. It breaks into hard clods or lumps when dry. When moist, a thin ribbon or one-eighth (1/8) inch or less sized wire formed between thumb and finger will withstand considerable movement and deformation.

h. Clay: Consists of large amounts of clay and moderate to small amounts of sand. It breaks into very hard clods or lumps when dry. When moist, a thin, long ribbon or one-sixteenth (1/16) inch wire can be molded with ease. Fingerprints will show on the soil, and a dull to bright polish is made on the soil by a shovel.

These and other soil textural characteristics are also defined as shown in the United States Department of Agriculture Textural Classification Chart which is hereby adopted as part of these rules. This textural classification chart is based on the Standard Pipette Analysis as defined in the United States Department of Agriculture, Soil Conservation Service Soil Investigations Report No. 1. (See Table 3)

99. "Soil with rapid or very rapid permeability" means:

a. Soil which contains thirty-five (35) percent or more of coarse fragments two (2) millimeters in diameter or larger by volume with intersticial soil of sandy loam texture or coarser as defined in Appendix A, (98) (b) and as classified in Soil Textural Classification Chart Table 3 , or

b. Coarse textured soil loamy sand or sand as defined in Appendix A, (98) (a) and (b) and as classified in Soil Textural Classification Chart, Table 3 , or

c. Stones, cobbles, gravel, and rock fragments with too little soil material to fill interstices larger than one (1) millimeter in diameter.

100. "Standard subsurface system" means an on-site sewage disposal system consisting of a septic tank, distribution unit and gravity-fed absorption facility constructed in accordance with these regulations, using eighteen (18) inches of filter material below the distribution pipe, and maintaining not less than eight (8) feet of undisturbed earth between disposal trenches.

101. "Subsurface sewage disposal" means the physical, chemical or bacteriological breakdown and aerobic treatment of sewage in the unsaturated zone of the soil above any temporarily perched groundwater body.

102. "Subsurface disposal system" means the combination of a septic tank or other treatment unit and effluent sewer and absorption facility. (See Diagrams 1, 18, 25)

103. "Suspended solids" means solids in sewage that can be removed readily by standard filtering procedures in a laboratory and reported as milligrams per liter (mg/l).

104. "System" see "On-site Sewage Disposal System"

105. "Temporary ground water table" means the upper surface of a saturated zone that exists only on a seasonal or periodic basis. Like a permanent ground water table, the elevation of a temporary ground water table may

fluctuate. However, a temporary ground water table and associated saturated zone will dissipate (dry up) for a period of at least three (3) months each year.

106. "Test pit" means an open pit dug to sufficient size and depth to permit thorough examination of the soil to evaluate its suitability for subsurface sewage disposal. (See Appendix F, figure 1)

107. "Toilet facility" means a fixture housed within a toilet room or shelter for the purpose of receiving black waste.

108. "Unstable landforms" means areas showing evidence of mass downslope movement such as debris flow, landslides, rockfalls, and hummocky hillslopes with undrained depressions upslope. Unstable landforms may exhibit slip surfaces roughly parallel to the hillside; landslide scars and curving debris ridges; fences, trees, and telephone poles which appear tilted; or treetrunks which bend uniformly as they enter the ground.

109. "Zone of aeration" means the unsaturated zone that occurs below the ground surface and above the point at which the upper limit of the water table exists.

APPENDIX B

STANDARDS FOR SEPTIC TANK, DOSING TANK, AND DOSING SEPTIC TANK CONSTRUCTION

I. The following requirements shall apply to all septic tanks manufactured for use in the Auburn Lake Trails On-Site Wastewater Disposal Zone unless specifically exempted by other portions of these rules:

A. Compartments: Septic tanks shall have multiple compartments; multiple compartment tanks shall comply with the following:

1. The first compartment shall have a minimum liquid capacity of at least two-thirds (2/3) of the total required liquid capacity, as measured from the invert of the outlet fitting.
2. The second compartment shall have a liquid capacity equal to one-half (1/2) of the liquid capacity of the first compartment.
3. No compartment shall have an inside horizontal dimension of less than twenty-four (24) inches.
4. Each compartment shall have access provided by a manhole having not less than eighteen (18) inches across its shortest dimension. The manhole cover shall not weigh more than seventy-five (75) pounds.
5. Each manhole shall be fitted with a watertight, gas tight access riser brought to surface grade. The riser shall have an inside dimension of two (2)

inches greater than the manhole. The riser lid shall be properly secured for safety purposes.

B. Liquid Depth: The liquid depth of any compartment shall be at least thirty (30) inches. Liquid depths greater than seventy-two (72) inches shall not be considered in determining the working liquid capacity.

C. Septic tanks shall be watertight; water testing may be required. If required, each tank shall be water tested by filling to the brim of the manhole for period of one hour. During the test, there shall be no measurable drop in water level, and no visible leakage. Each tank shall be certified watertight.

D. Septic tanks shall be capable of supporting an earth load of at least three hundred (300) pounds per square foot when the maximum coverage does not exceed three (3) feet. Tanks installed with more than three (3) feet of cover shall be reinforced to support the additional load.

E. The inlet and outlet fittings shall be of Schedule 40 P.V.C. plastic, Schedule 40 ABS plastic, or other materials approved by the District, with a minimum diameter of three (3) inches for the inlet, and four (4) inches for the outlet.

1. The distance between the inlet and outlet fittings shall be equal to, or greater than, the liquid depth of the tank.

2. The inlet and outlet fittings shall be located at opposite ends of the tank. They shall be attached

in a watertight manner approved by the District.

3. The inlet fitting shall be a "sanitary tee" extending at least six (6) inches above and twelve (12) inches below the liquid level.
4. The outlet fitting shall be a "tee" extending below liquid level a distance equal to not less than thirty five (35) percent nor greater than fifty (50) percent of the liquid depth, and at least six (6) inches above the liquid depth in order to provide scum storage.
5. Ventilation shall be provided through the fittings by means of a two (2) inch minimum space between the underside of the top of the tank and the top of the "tee" fitting.
6. The invert of the inlet fitting shall be not less than one (1) inch and preferably three (3) inches above the invert of the outlet fitting.
7. The septic tank manufacturer shall provide with each fitting a rubber or neoprene rubber gasket meeting ASTM Specification C-564, or an appropriate coupler which the District determines will provide a watertight connection between the fittings and the building and effluent sewer pipes.

F. At least ten (10) percent of the inside volume of the tank shall be above liquid level to provide scum storage.

G. In multiple compartment tanks, a four (4) inch diameter (minimum) "ell" fitting shall be placed in the common

compartment wall, using the same specifications as required for the outlet fitting. The invert of this "ell" fitting shall be eight (8) inches below the invert of the outlet "tee". The common wall shall be adequately vented to equalize pressure between compartments.

H. Septic tanks shall be constructed of concrete, fiberglass, or other materials approved by the District.

1. Concrete tanks shall be coated inside and out with asphalt or other protective coatings, meeting the most current U. S. Department of Commerce Commercial Standard CS 177, Sections 5.3.1 through 5.3.4.4, or other coatings of equal performance approved by the District.

2. Precast concrete tanks shall have a minimum wall, compartment, top, and bottom thickness of four (4) inches, and shall be adequately reinforced.

3. Where concrete block tanks are permitted by the District, the tanks shall be constructed of heavy-weight concrete block, eight (8) inch minimum thickness laid on a six (6) inch (minimum) poured foundation slab. The mortared joints shall be well filled. All block holes or cells shall be filled with mortar or concrete. "K" webbing shall be installed at every third row of block. Number three (3) rebar shall be installed vertically in every block. Tank interiors shall be surfaced with at least two (2) one-eighth (1/8) inch thick coats of corrosion resistant waterproof sealant. The first row of blocks shall be keyed or doweled to the concrete foundation.

4. Cast-in-place concrete tanks shall be constructed using the minimum sidewall thickness, bottom thickness, top thickness, and reinforcing shown in the following diagram and table. All other requirements contained herein shall also be met.

5. For cast-in-place septic tanks with dimensions different from those shown in the table, or when the septic tank is to be located under a road or driveway, two (2) copies of detailed plans and specifications, prepared by a registered professional engineer licensed to practice in the State of California shall be provided to the District for review and approval.

6. Fiberglass septic tanks shall be assembled by the manufacturer and shall have an average wall thickness of one-quarter (1/4) inch with a minimum of three-sixteenths (3/16) inch. Tank shall be gel coated and show no evidence of delamination. Any metal part shall be 300 series stainless steel. Seam bolts, when required, shall be spaced at no greater than twelve (12) inch intervals. Dual Tite or Ty-Seal Neoprene gaskets, or approved equal, shall be used at the tank inlet and outlet to join the tank wall and the inlet or outlet piping. Schedule 40 ABS or PVC pipe and fittings shall be used at all inlets and outlets.

   Structural design or analysis shall be accomplished by a registered engineer and submitted by the contractor

or supplier to the District for review. Walls shall be designed for an inside hydrostatic pressure to the level of the manhole brim. Walls shall be designed for an outside earth pressure of 45 psf/ft of depth measured from a point three feet above the top of the tank acting simultaneously with an outward loading of 62.4 psf/ft of depth from a liquid depth in the septic tank not exceeding 30 inches. The bottom shall be designed to resist an upward force of 200 psf. The top shall be designed to resist a load of 300 psf. The design or analysis shall be in accordance with the accepted engineering practice and shall be supplied by the manufacturer to the District. Proper amounts of catalyst and fiberglass shall be properly mixed with the joint or seam resin to provide a nonbrittle acceptable seam bond.

Each and every tank shall be water tested after installation and witnessed by the District. Tanks shall be installed by the contractor and water raised to the brim of the manhole. Tanks shall show no leakage from section seams, pinholes or other imperfections. Any leakage is cause for rejection. When leakage occurs, if the tank is not rejected by the District, an additional water test shall be made on the tank after repairs have been completed. The contractor shall be responsible for making all corrective measures necessary to insure a completely watertight tank.

I. All prefabricated septic tanks shall be marked on the uppermost tank surface with the liquid capacity of the tank, the date of manufacture, and the manufacturer's full business name.

J. Each commercial manufacturer of prefabricated septic tanks may be required to provide two (2) complete sets of plans and specifications, prepared by a registered professional engineer licensed to practice in the State of California, to the District, for review and approval.

K. Each commercial manufacturer of prefabricated septic tanks shall provide the District with written certification that septic tanks for use in on-site sewage disposal systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

II. STANDARDS FOR DOSING TANK ASSEMBLIES

A. Introduction:

A dosing tank is placed in series with a septic tank and provides the means to pressure dose and/or elevate septic tank effluent to a wastewater disposal field.

B. Structural:

Dosing tanks shall comply with applicable standards for septic tanks. Each tank shall be water tested by filling to the brim of the manhole for a period of one hour. During the test there shall be no measurable drop in water level, and no visible leakage;

leakage is cause for rejection. Each tank shall be certified watertight.

C. Configuration:

1. Typical design is shown in Figure 3.
2. The minimum total volume of the tank shall be 1,000 gallons.
3. The minimum submerged volume at the lowest operating liquid level shall be 800 gallons.
4. Unless otherwise authorized by the District, liquid levels shall be controlled so that twenty (20) percent of the projected daily sewage flow is discharged each cycle.
5. The invert of the inlet tee shall be not less than eight (8) inches above the high operating liquid level. A convenient means of monitoring sludge and scum accumulation and/or maintenance shall be provided, with access extending to ground level.

D. Features:

1. Design and equipment shall emphasize ease of maintenance and longevity and reliability of components, and shall be proven suitable by operational experience, test, or analysis suitable to the District.
2. An easy means of electrical and plumbing disconnect shall be provided, preventing the need for a repairman to be more than briefly exposed to the sewerage atmosphere.

3. Component materials shall be durable and corrosion resistant such as Type 316 stainless steel, suitable plastics, or 8-5-5-5 bronze.

D. Approvals:

Each commercial manufacturer of prefabricated dosing tanks may be required to provide two (2) complete sets of plans and specifications, prepared by a registered professional engineer licensed to practice in the State of California, to the District, for review and approval. Each manufacturer must also provide written certification to the District that such assemblies distributed for use in on-site sewage disposal systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

III. STANDARDS FOR DOSING SEPTIC TANK ASSEMBLIES

A. Introduction:

A dosing septic tank combines the functions of a septic tank and dosing tank into one unitized assembly by withdrawing septic tank effluent with a pump or dosing siphon from the clear zone at the outlet end of the tank. These may be considered by the District for equipment approval for installations where the design flow does not exceed 450 gallons per day.

B. Structural:

Dosing septic tanks shall comply with applicable standards for septic tanks and for dosing tanks. Each tank shall be water tested by filling to the brim of the manhole for a period of one hour. During the test there shall be no measurable

drop in water level, and no visible leakage. Each tank shall be certified watertight.

C. Configuration:

1. Typical design is shown in Figure 4.
2. The minimum total volume of the tank shall be 1,000 gallons.
3. The minimum submerged volume at the lowest operating liquid level shall be 800 gallons.
4. Unless otherwise authorized by the District, liquid levels shall be controlled so that twenty (20) percent of the projected daily sewage flow is discharged each cycle.
5. The invert of the inlet tee shall be not less than one (1) inch above the high operating liquid level.
6. Ports, or holes, provided in a vault or outlet device shall be located to withdraw effluent horizontally at an elevation measured from the inside bottom of the tank of 65 to 75 percent of the lowest operating liquid depth. The net area of the ports shall be not less than 20 square inches.
7. A convenient means of monitoring sludge and scum accumulation shall be provided, with access extending to ground level.

D. Features:

1. Design and equipment shall emphasize ease of maintenance and longevity and reliability of components, and shall be proven suitable by operational experience, test, or analysis suitable to the District.

2. An easy means of electrical and plumbing disconnect shall be provided, preventing the need for a repairman to be more than briefly exposed to the sewerage atmosphere.

3. Component materials shall be durable and corrosion resistant such as Type 316 stainless steel, suitable plastics, or 85-5-5-5 bronze.

E. Approvals:

Each commercial manufacturer of prefabricated dosing septic tanks may be required to provide two (2) complete sets of plans and specifications, prepared by a registered professional engineer licensed to practice in the State of California, to the District, for review and approval. Each manufacturer must also provide written certification to the District that such assemblies distributed for use in on-site sewage disposal systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

IV. GENERAL INSTALLATION REQUIREMENTS

A. All tanks shall be set level on a stable base.

B. Fiberglass tanks shall be bedded on at least six (6) inches of sand or select fill material free of large or sharp rocks.

C. Fiberglass tanks shall be bedded to the spring line with select fill material, hand tamped, in six (6) inch lifts.

D. Fiberglass tanks shall be backfilled from the spring line up with select fill material that will not puncture

the fiberglass. Care should be taken to minimize potential for damaging the tank during the backfill phase.

E. Inlet and outlet piping to all tanks shall be Schedule 40 ABS or Schedule 40 PVC. All connections shall be watertight.

F. All tanks shall be fitted with watertight, gas tight, access risers, brought to finished grade, over all manholes for easy access for maintenance and inspection purposes. Riser lids shall be secured for safety purposes.

G. All tanks shall have a minimum soil cover of twelve (12) inches.

H. Minimum tank setbacks:

From any building or structure..... 5'

From trees, lot lines, or driveways..... 5'

From cuts or fills.....10'

From wells, springs, or surface water sources.....50'

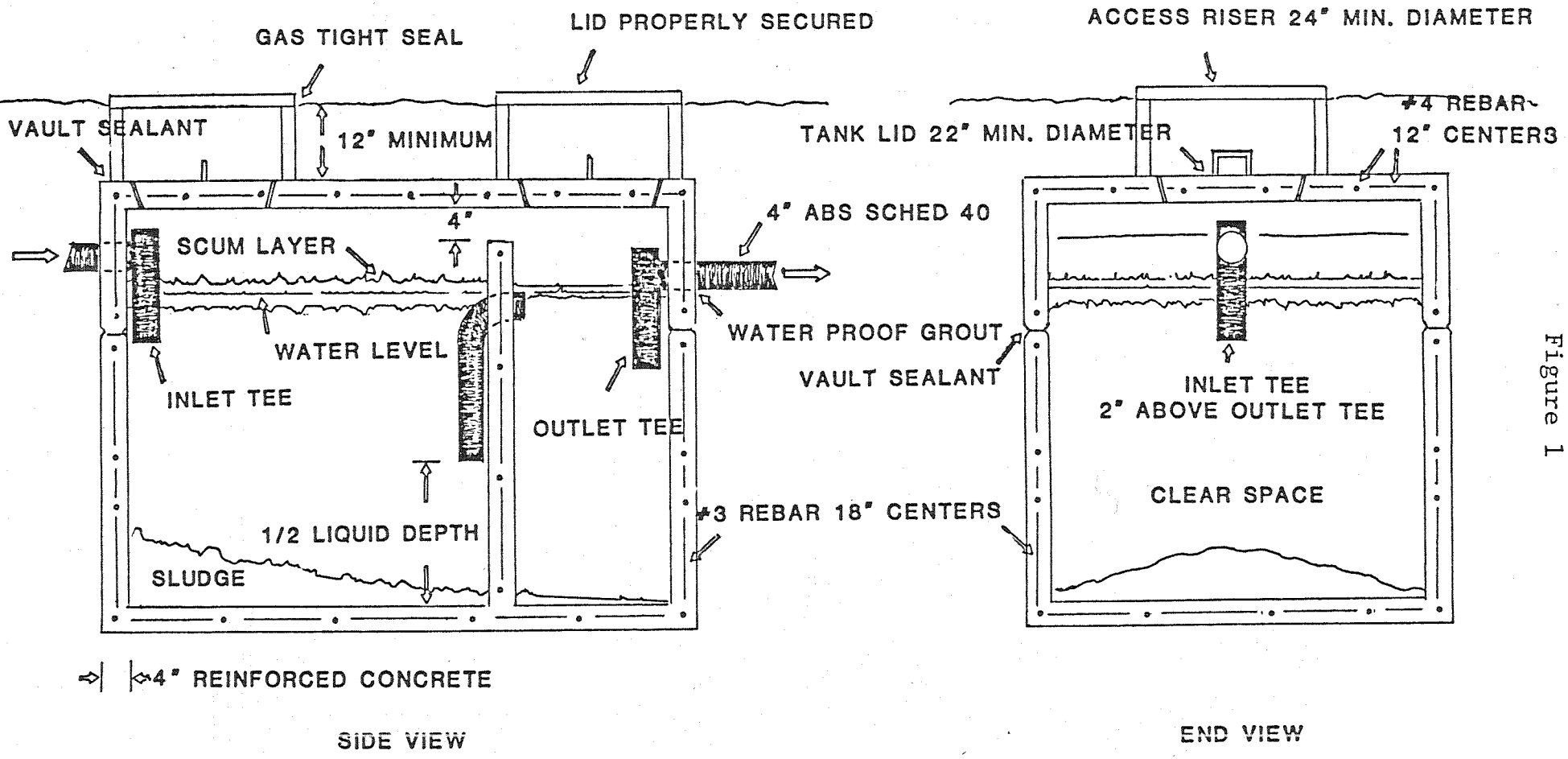
From ephemeral streams or drainage courses.....25'

From disposal fields..... 5'

I. Tanks shall not be located in areas subject to vehicular traffic.

J. Gravity flow influent and effluent lines shall have a minimum fall of one-eighth (1/8) inch per running foot, and shall be laid on a stable base.

ALT OWDZ



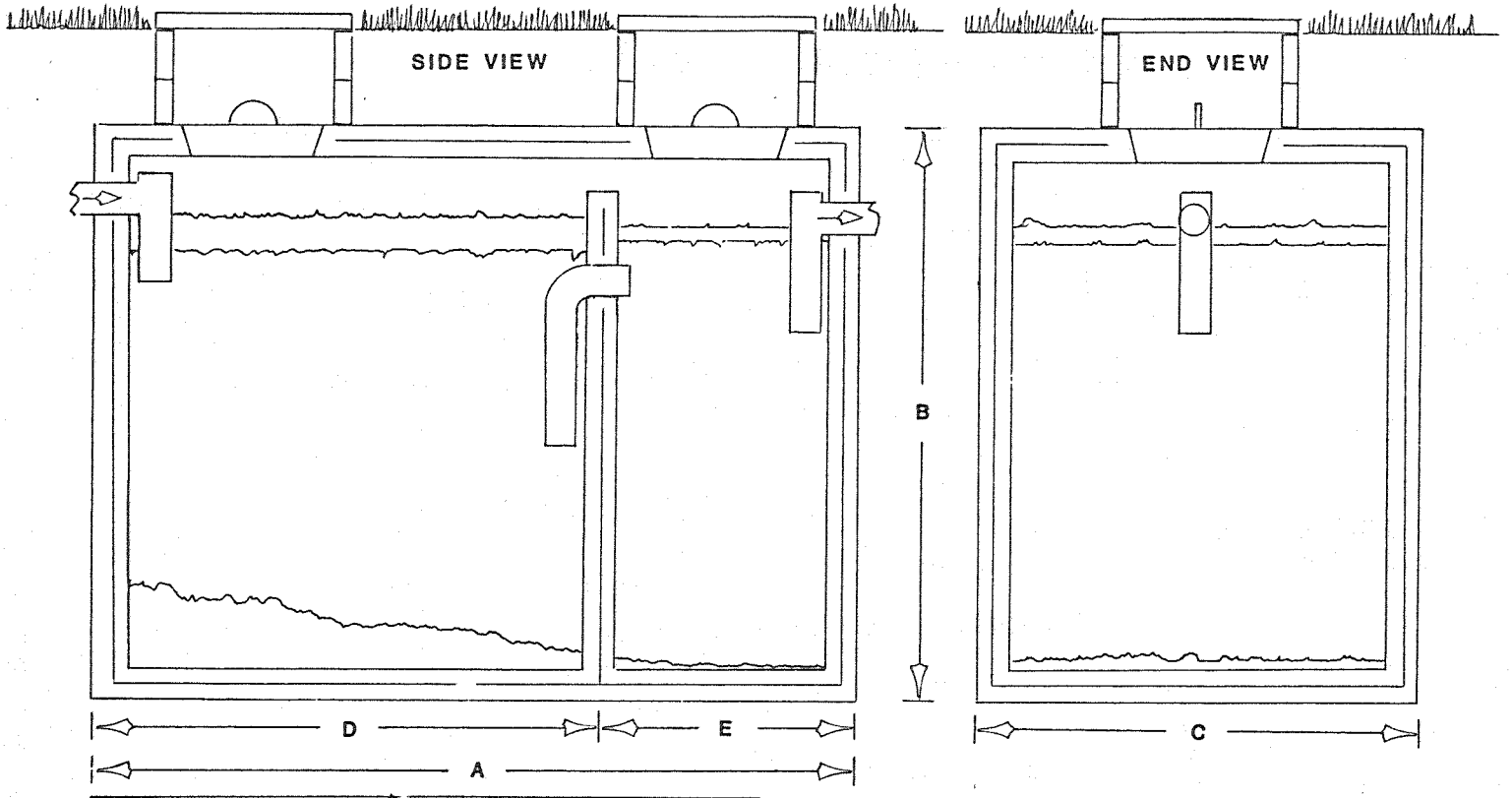
TYPICAL SEPTIC TANK

NO SCALE

RNP 8/84

Figure 1

ALT OWDZ SEPTIC TANK DIMENSIONS

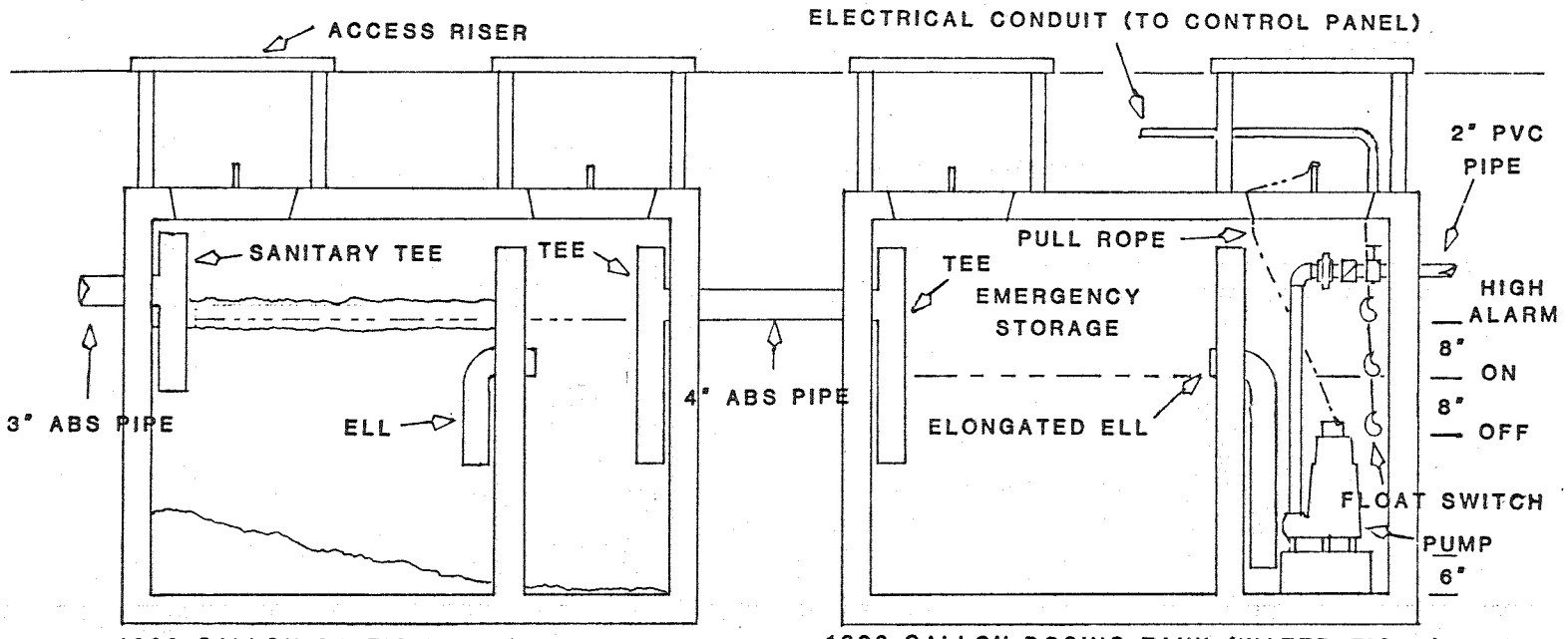


NOMINAL CAPACITY	DIMENSION				
	A	B	C	D	E
1000 Gallons	8'	6'	4'8"	5'4"	2'8"
1250 Gallons	8'	6'	5'8"	5'4"	2'8"
1500 Gallons	9'6"	6'	5'8"	6'4"	3'2"

NO SCALE
RNP 2/85

Figure 2

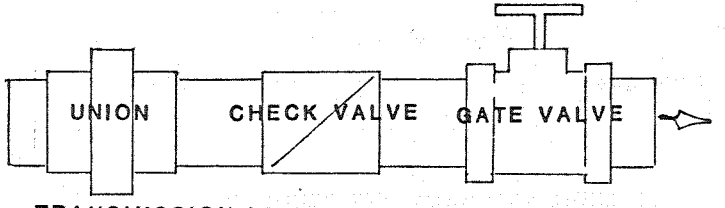
ALT OWDZ
DOSING TANK



AUDIO-VISUAL ALARM SYSTEM REQUIRED
SEPARATE CIRCUITS REQUIRED FOR PUMP & ALARM

ELECTRICAL HOOK-UP SHALL MEET EL
EL DORADO COUNTY CODES

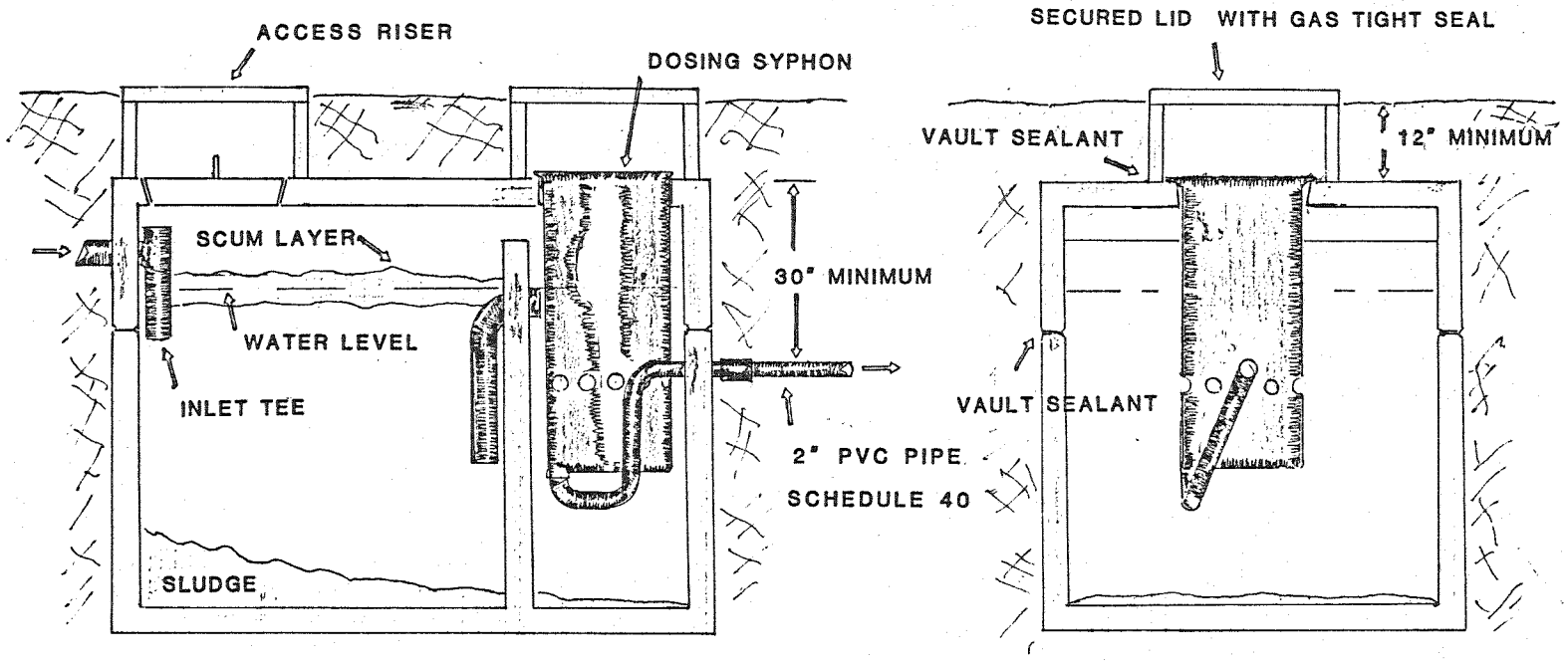
NO SCALE RNP 2/85



TRANSMISSION LINE, FITTINGS SEQUENCE

Figure 3

ALT OWDZ
DOSING SEPTIC TANK



NO SCALE

RNP 8/84

Figure 4

APPENDIX C

STANDARDS FOR DISTRIBUTION BOXES, DROP BOXES, AND DIVERSION VALVES

I. DISTRIBUTION BOXES:

A. Distribution boxes shall be constructed of concrete, fiberglass, or other materials acceptable to the Department.

B. Distribution boxes shall be watertight, and designed to accommodate the necessary distribution laterals. The top, walls, and bottom of concrete distribution boxes, shall be at least two (2) inches thick.

C. The invert elevation of all outlets shall be the same, and shall be at least two (2) inches below the inlet invert.

D. Each distribution box shall be provided with a sump extending six (6) inches below the invert of the outlet.

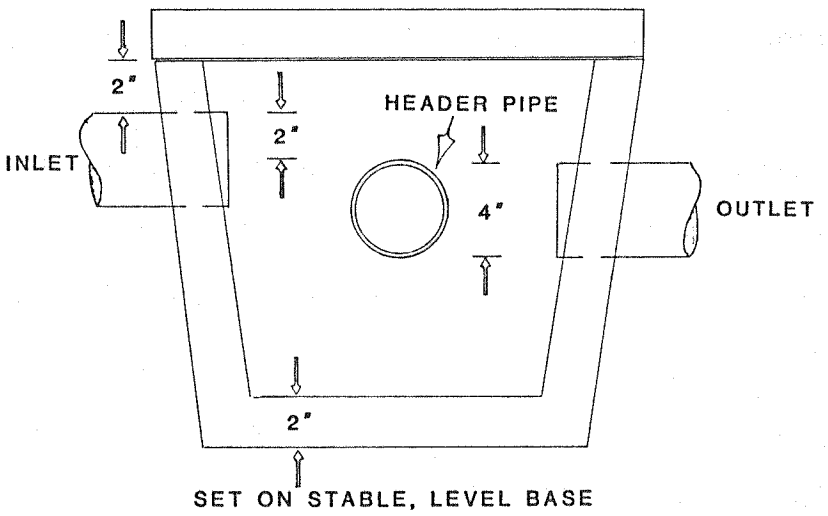
E. The minimum inside horizontal dimension measured at the bottom shall be twelve (12) inches, with a minimum bottom inside surface area of one hundred and forty-four (144) square inches.

F. Distribution box covers shall be marked with the manufacturer's full business name.

G. Each manufacturer may be required to provide the District with complete, detailed plans and specifications of the distribution box, and certify, in writing, that distrib-

ution boxes manufactured for use in on-site sewage systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

PRE-CAST CONCRETE DISTRIBUTION BOX DETAIL



II. DROP BOXES:

A. Drop boxes shall be constructed of concrete, fiberglass, or other materials acceptable to the Department.

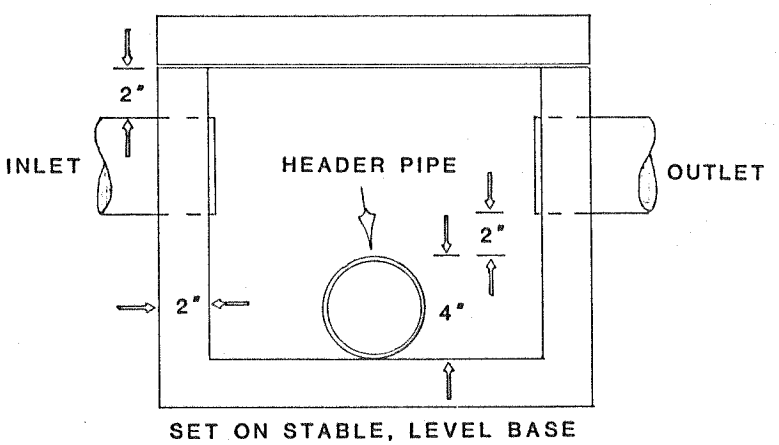
B. Drop boxes shall be watertight, and designed to accommodate the necessary piping. The top, walls, and bottom of concrete drop boxes shall be at least two (2) inches thick.

C. The inverts of the inlet and overflow port shall be at the same elevation. The invert of the header pipe port(s) leading to the disposal trench(es) shall be six (6) inches below the inlet invert.

D. Drop box covers shall be marked with the manufacturer's full business name.

E. Each manufacturer may be required to provide the District with complete, detailed plans and specifications of the drop box, and certify, in writing, that drop boxes manufactured for use in on-site sewage disposal systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

PRE-CAST CONCRETE DROP BOX DETAIL



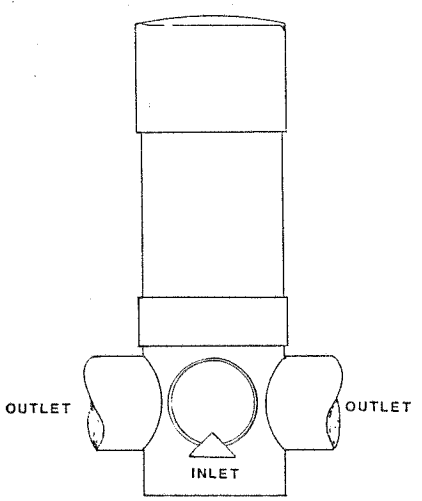
III. DIVERSION VALVES:

A. Diversion valves shall be constructed of durable material and be of a design approved by the District. They shall be corrosion-resistant, watertight, and designed to accommodate the inlet and outlet pipes.

B. The manufacturer's name shall be marked on the cover.

C. Each manufacturer may be required to provide the District with complete, detailed plans and specifications of the diversion valve, and certify, in writing, that diversion valves for use in on-site sewage disposal systems in the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

EXAMPLE, DIVERSION VALVE



APPENDIX D

STANDARDS FOR EFFLUENT PUMPS, CONTROLS & ALARMS, AND DOSING SIPHONS

I. Pumps, Controls, and Alarms: Electrical components used in on-site sewage disposal systems shall comply with applicable El Dorado County Electrical Codes, and the following provisions:

A. Motors shall be continuous-duty, single-phase with built-in automatic reset-overload protection on a separate starting winding.

B. Pumps shall have durable impellers of bronze, cast iron, or other materials approved by the District and shall be rated for sewage service.

C. Submersible pumps shall be provided with an easy, readily accessible means of electrical and plumbing disconnect and a noncorrosive lifting device as a means of removal for servicing.

D. Pumps shall be capable of passing a three-quarter (3/4) inch solid sphere, and have a minimum two (2) inch discharge.

E. Pumps shall be capable of discharging twenty-five (25) gallons per minute at discharge elevation.

F. Pumps shall be placed a minimum of six (6) inches above the dosing tank bottom.

G. Pumps shall be automatically controlled by sealed mercury float switches with a minimum mercury tube rating of

twelve (12) amps at one hundred fifteen (115) volts A.C. The switches shall be installed so that twenty (20) percent of the projected daily sewage flow is discharged each cycle.

H. An audio-visual, high water level alarm with manual silence switch, shall be located in an approved weather proof enclosure at the building served by the pump. Alarm and pump controls shall be on separate circuits, and wired directly.

The mercury float switch controlling the high water level alarm shall be located so that at time of activation the dosing tank has at least one-third (1/3) of its capacity remaining for effluent storage.

I. An electrical permit issued by the County of El Dorado may be required for all electrical connections and components.

J. When the projected sewage flow for the system exceeds twelve hundred (1200) gallons per day, or when the static lift is greater than one hundred (100) feet, the District may exercise reasonable judgment in varying from the minimum pump requirements identified in this section.

II. Dosing Siphons. Dosing siphons used in on-site sewage disposal systems shall comply with all of the following minimum requirements:

A. Shall be constructed of corrosion-resistant materials.

B. Shall be installed in accordance with the manufacturer's recommendations.

APPENDIX E

STANDARDS FOR PIPE MATERIALS AND CONSTRUCTION

I. EFFLUENT SEWER PIPE:

The effluent sewer shall be constructed of sodium alkyl benzene sulfonate (ABS) schedule 40 pipe, and shall meet the most current ASTM (American Society for Testing and Materials) Specifications D-2729, D-2751, D-3033, and D-3034.

The effluent sewer pipe shall have a minimum diameter of four (4) inches and extend not less than five (5) feet beyond the septic tank. It shall be installed with a minimum fall of eight (8) inches per one hundred (100) feet (slope equals 0.01), but in no instance shall there be less than two (2) inches of fall from one end of the pipe to the other.

II. DISTRIBUTION AND HEADER PIPE FITTINGS:

A. Plastic Pipe and Fittings

1. Styrene-rubber plastic distribution and header pipe and fittings shall meet the most current ASTM Specification D 2852 and Sections 5.5 and 7.8 of Commercial Standard 228, published by the U.S. Department of Commerce. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds/foot without cracking

by using the method found in ASTM 2412. In addition to the markings required by ASTM 2852, each manufacturer of styrene-rubber plastic pipe may be required to certify, in writing to the District, that the pipe to be distributed for use in absorption facilities within the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

2. Polyethylene distribution pipe in ten (10) foot lengths and header pipe in lengths of ten (10) feet or greater of which pipe and fitting shall meet the current ASTM Specification F405. Pipe and fittings shall also pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Pipe used in absorption facilities shall be heavy duty. In addition to the markings required by ASTM F405, each manufacturer of polyethylene pipe may be required to certify, in writing to the District, that the pipe to be distributed for use in absorption facilities within the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

3. Polyvinyl chloride (PVC) distribution and header pipe and fittings shall meet the most current

ASTM Specification D-2729, Pipe and fittings shall pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412. Markings shall meet requirements established in ASTM Specification D-2729, subsections 9.1.1., 9.1.2. and 9.1.4. Each manufacturer of polyvinyl chloride pipe may be required to certify, in writing to the District, that pipe and fittings to be distributed for use in absorption facilities within the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

4. High density polyethylene smooth wall distribution and header pipe [ten (10) foot lengths] and fittings shall meet the specifications designated as Appendix E-1. Each manufacturer of high density polyethylene smooth wall pipe may be required to certify, in writing to the District, that the pipe to be distributed for use in absorption facilities within the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of this section.

5. The four types of plastic pipe described above shall have two (2) rows of holes spaced one hundred-twenty (120) degrees apart and sixty (60)

degrees on either side of a center line. For distribution pipe, a line of contrasting color shall be provided on the outside of the pipe along the line furthest away and parallel to the two (2) rows of perforations. Markings, consisting of durable ink, shall cover at least fifty (50) percent of the pipe. Markings may consist of a solid line, letters, or a combination of the two. Intervals between markings shall not exceed twelve (12) inches. The holes of each row shall be not more than five (5) inches on center and shall have a minimum diameter of one-half (1/2) inch.

APPENDIX E-1

SPECIFICATIONS FOR:

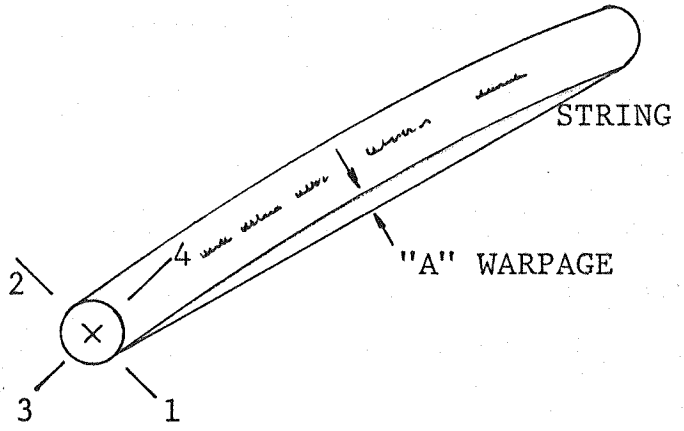
FOUR INCH HIGH DENSITY POLYETHYLENE SMOOTH WALL TUBING

Note: All specifications are assumed to be for tubing cured at $72^{o} \pm 2^{o}F$.

1. Outside diameter 4.215" $\pm$ 0.009".
2. Permissible deviation 0.050" from roundness.
3. Die center, a maximum of no more than 0.007" between readings for all measurable points.
4. Pipe and fittings shall pass a deflection test withstanding three hundred-fifty (350) pounds per foot without cracking or collapsing by using the method found in ASTM 2412.
5. Flattening, no splitting or cracking at 20 percent deflection.
6. Smooth Wall High Density Polyethylene Tubing shall have two rows of holes spaced one hundred-twenty (120) degrees apart and sixty (60) degrees on either side of a center line. For distribution pipe, a line of contrasting color shall be provided on the outside of the pipe along the line farthest away and parallel to the two rows of perforations. Markings, consisting of durable ink, shall cover at least fifty (50) percent of the pipe. Markings may consist of a solid line, letters, or a combination of the two. Intervals between markings shall not exceed twelve (12) inches. The holes of each row shall be not more than five (5) inches on center

and shall have a minimum diameter of one-half (1/2) inch.

7. The pipe shall have a belled end, and have a length of 10 feet 3 inches $\pm$ 1/4 inch.
8. The pipe shall be white in color with a UV stabilizer.
9. The following coding sequence shall be used:
   (Manufacturer's Name) - - - HDPE- - - Leachfield - - -
   4 INCH - - - (proper date and plant coding).
10. Appearance, pipe must have smooth I.D. and O.D. with a minimum amount of streaks, lines and pits on O.D., and must be free of any splits or blow holes. (Any questionable product must be approved through Quality Control)
11. Belling depth (after 30 minute cure) 4.215 plug gauge depth one and three-quarters (1-3/4) inches minimum.
12. The maximum allowable warpage is one-quarter (1/4) inch (Dimension A). To measure warpage, place pipe on a flat floor with markings up (position No. 4, see sketch). Check warpage first at positions 1 and 2 by stretching a string the full length of the pipe and measuring warpage (Dimension A, see sketch), then rotate pipe 90° and repeat procedure for positons 3 and 4.



13. The minimum wall thickness 0.110 inches.

$$\text{SDR Number} = \frac{4.215}{0.110} = 38.3$$

14. The polyethylene plastic pipe compounds shall be found to conform to the following cell classification limits by the appropriate ASTM test method listed:

Property	Test Method	Cell Classification Limits
Density (g/cm^3)	D 1505	greater than 0.941
Melt Index	D 1238	less than 0.4
Flexural Modulus (PSI)	D 790	greater than 160,000
Tensile Strngth at Yield (PSI)	D 638	greater than 4,000
Environmental Stress Crack Resistance	D 1693	no cracking

15. Each manufacturer of high density polyethylene smooth wall tubing shall certify, in writing to the District, that the pipe to be distributed for use in absorption facilities within the Auburn Lake Trails On-Site Wastewater Disposal Zone will comply with all requirements of the District.

APPENDIX F

ON-SITE INVESTIGATION AND TESTING

Each of the 1110± lots comprising the OSWDZ has been evaluated for suitability and approved on the basis of a particular system type in a designated area. Challenge of the system type or location so designated, and submission of a design for a different system type and/or different location must be based on site and design criteria set forth in "Analysis of Onsite Disposal Suitability, Phase I and Community Disposal System," by Larry Walker Associates, August, 1983. Determination of site suitability shall conform with the following procedure:

I. Soils in each proposed disposal site shall be described in two (2) or more backhoe pits located to meaningfully sample conditions in the site.

   A. Backhoe pits shall be five (5) feet deeper than the bottom of the beds or trenches in the proposed design.

   B. Soil description in each excavation shall include:

      1) Accurate location of each pit.

      2) Determination of soil texture, color, structure, and rooting density as functions of depth and soil horizon.

      3) Asterisked items on Form 123 of the USDA Soil Conservation Service (Figure 2).

4) Soil colors shall be determined with and described per the Munsell Soil Color Charts.

5) Depth to highest anticipated level of seasonal saturation shall be determined in one of two ways:

a. Depth of soil mottling and/or gleying, or

b. Excavation during rainy season, after 15" of seasonal precipitation, and not more than two (2) days following significant precipitation; excavation dug 24 hours before determination to be made.

II. Site suitability shall conform to setback and sizing requirements of the OWDZ Rules and Regulations for Auburn Lake Trails.

III. Percolation testing procedures shall conform to those of El Dorado County, with particular attention paid to the following requirements:

A. Four (4) tests per site.

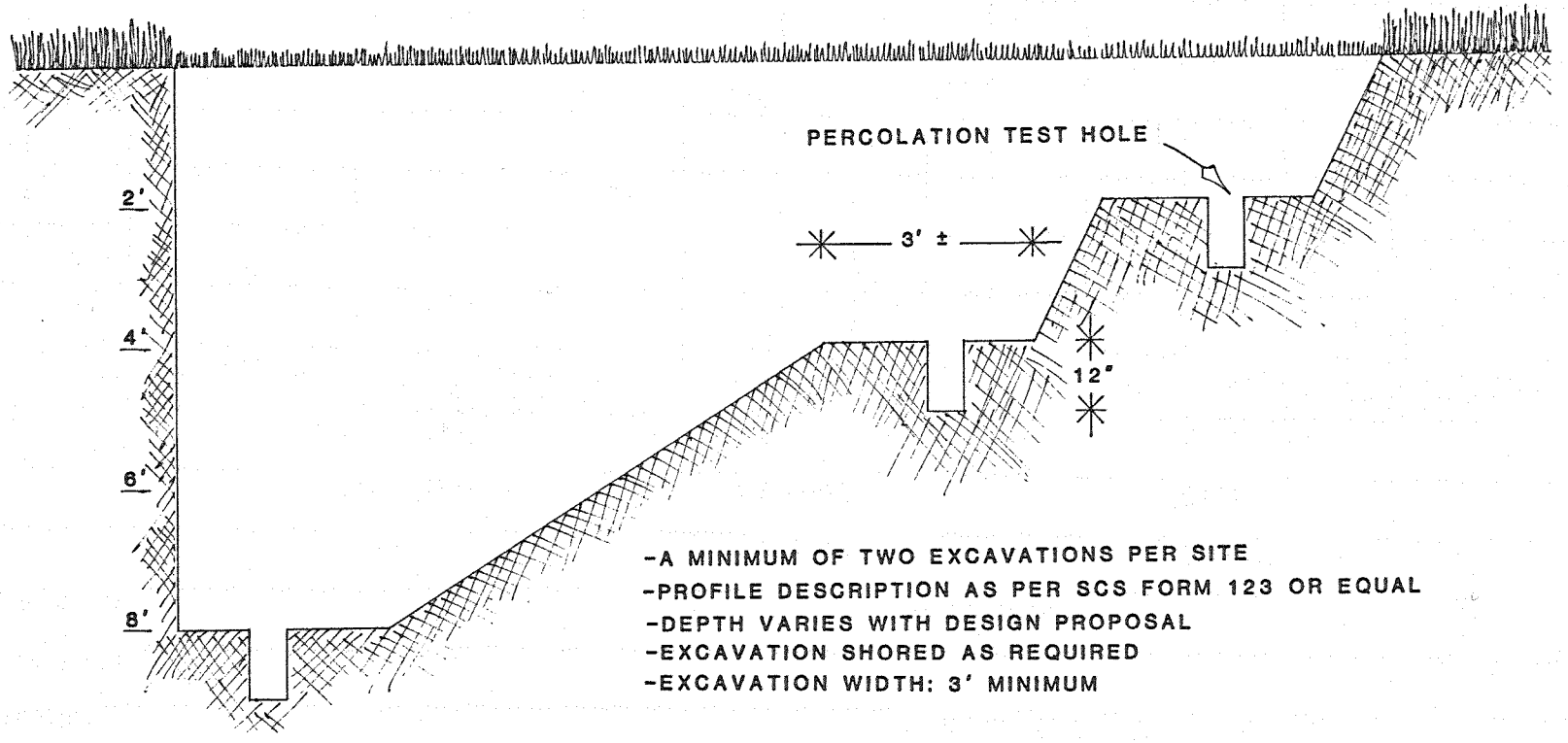
B. Tests at depth of proposed system, preferably within backhoe excavations.

C. Effective 24 hour presoak.

IV. A Site Evaluation Sheet (Figure 3) shall be completed for each site.

V. OWDZ staff shall have the opportunity to observe the soil profile excavations described, and percolation test procedures, 24 HOUR ADVANCE NOTICE OF COMMENCEMENT OF TESTING SHALL BE PROVIDED TO DISTRICT.

ALT OWDZ
TYPICAL TERRACED TEST EXCAVATION



SCALE: 1" = 20'
RNP 11/84

Figure 1

SOIL DESCRIPTION

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
CALIFORNIA

Soil Type_____ Field Symbol_____ Photo No._____ File No.____

Area_____ *Date_____ Slop No.____

*Location_____

Classification_____ Climate P.____ T.____ J.____ J.____

*N. Veg. or Crop_____

*Parent Material_____ Physiography_____

*Relief_____ *Slope_____ *Aspect_____ Elevation_____

*Drainage_____ *Permeability_____ *Runoff_____ *Erosion_____

*Moisture_____ *Gr. Water_____ Salt or Alk._____ *Stoniness_____

*Horizon	*Depth	*Color (including mottles)		*Texture	*Structure	Consistence			*Roots	*Pores	Clay films	pH & CO_3	*Other features	Boundary
		Dry	*Moist			Dry	Moist	Wet						

*by_____

Figure 2

Figure 3

SITE EVALUATION SHEET

LOT NO.:_____ LOT SIZE:_____

STREET LOCATION:_____

DATE OF OBSERVATION:_____ BY:_____

SLOPE/ASPECT:_____

TYPES OF PREDOMINANT VEGETATION:_____

DISTANCE TO: SURFACE WATER_____ SWALES_____

DEPTH OF "TOPSOIL" (A+B HORIZONS):_____

DEPTH OF WEATHERED PARENT MATERIAL (C HORIZON):_____

General Rock Type:

Degree of Fracturing: insig___slt___mod___extn___

Degree of Weathering: insig___slt___mod___extn___

Presence of Fines: insig___slt___mod___extn___

General suitability as a disposal medium:

Good_____Acceptable_____Marginal_____Poor_____

DEPTH TO UNWEATHERED ROCK (R HORIZON):_____

General rock type:

Degree of Fracturing: insig___slt___mod___extn___

Degree of Weathering: insig___slt___mod___extn___

Presence of Fines: insig___slt___mod___extn___

Estimated Permeability: low____mod____excessive____

General suitability as a disposal medium:

Good_____Acceptable_____Marginal_____Poor_____

DEPTH TO MOTTLING: slt_____mod_____extn_____

DEPTH TO GLEYING:_____

HIGHEST ANTICIPATED LEVEL OF SEASONAL GROUNDWATER:_____

OVERALL DRAINAGE CATEGORIZATION (USDA Handbook No. 18)_____

SMEAR POTENTIAL: insig____slt____mod____extn____

EROSION POTENTIAL: insig____slt____mod____extn____

DEPTH OF ROOTING: rare_____mod_____extn_____

SOIL CLASSIFICATION:_____

DO YOU FEEL THE EXCAVATION IS REPRESENTATIVE OF THE AREA PROPOSED FOR DISPOSAL?:

YES:___ NO:___ WHY?:_____

DO YOU FEEL THE PROFILE REPRESENTS A MEDIUM SUITABLE FOR LONG TERM ONSITE WASTEWATER DISPOSAL?:

YES:___ Approximate area suitable:_____

Factors to be considered in design:_____

_____

NO:___ Limiting factors:_____

_____

APPENDIX G

MONITORING PROGRAM

The Monitoring Program of the OWDZ shall be divided into two major phases:

I. Systems Monitoring
II. Monitoring of Natural Waters

I. Systems Monitoring

A. All individual disposal systems shall be observed at a minimum of every nine months.

B. System observation shall include, but not be limited to:
1) Overall apprearance of system
   a) condition of vegetation cover,
      i) too sparse, promoting erosion,
      ii) lushness, indicative of effluent at or near ground surface,
   b) indications of surface soil moistness,
   c) integrity of trench risers, riser covers, valve covers, tank risers, clean outs, and other standard system appurtenances,
   d) indications of effective diversion of surface drainage from the disposal system.
2) Level of liquid in disposal trenches or beds.
3) Switching diversion valve, if appropriate.
4) Integrity and proper functioning of pumps, syphons, alarm switches and panels, timers, aeraters, filters, gate valves controlling distribution manifolds, and other specialized equipment and appurtenances thereof.

C. CDS disposal fields, CDS mounds, CDS pump timers, and appurtenances shall be observed at a minimum of every seven (7) days.

D. Individual CDS hookup clean outs, and CDS collection and transmission lines and appurtenances shall be inspected on an annual basis.

E. Depths to and of scum and sludge layers in septic tanks shall be determined on an annual basis.

F. The frequency and scope of inspections and observations designated in Sections A through E above may be reevaluated for efficacy and appropriately redefined, with concurrence of El Dorado County Division of Environmental Health and California Regional Water Quality Control Board, on an annual basis.

II. Monitoring of Natural Waters

A. Natural Waters are defined as surface waters in natural drainages, and ground water not within three (3) feet, vertically or horizontally, of an on-site disposal system.

B. Natural waters shall be monitored on the basis of drainage basins.

C. Surface waters emanating from the OWDZ via major drainages shall be monitored at a minimum of biannually; once at the beginning and once at the end of each rainy season.

D. Individual mound systems and systems requiring a variance under Chapter 15.33.060 of El Dorado County Ordinance Code shall have upslope and downslope ground water monitoring ports.

1) Depth, number, and location of the sampling ports will be determined by review of geological and topographical information.
2) Of the total systems in use consisting of a) mound systems plus b) systems requiring a variance under Chapter 15.33.060 of El Dorado County Ordinance Code, a minimum of 25% or 50 systems, whichever is greater, shall have ground water upslope and downslope of the system monitored annually to assess potential impact on local ground water.

E. Routine monitoring of natural waters shall include, but not be limited to, tests for the following parameters:

1) Fecal coliform bacteria
2) Nitrate ion
3) Chloride ion
4) Conductivity

F. The frequency and scope of the monitoring program designated in Sections A through E above may be reevaluated for efficacy and appropriately redefined, with concurrence of El Dorado County Division of Environmental Health and California Regional Water Quality Control Board, Central Valley Region, on an annual basis.

APPENDIX H

POLICY STATEMENT

AUBURN LAKE TRAILS ON-SITE WASTEWATER DISPOSAL ZONE

POLICY NO: 85-001

ISSUE DATE: MARCH 19, 1985

EFFECTIVE DATE: MARCH 19, 1985

CANCELLATION DATE:

SUPERSEDES:

SUBJECT: GRANT OF EASEMENT TO MAINTAIN, OPERATE, AND REPAIR ON-SITE WASTEWATER DISPOSAL FACILITIES

The form of application for permit shall include a grant from owner to the District of the right to maintain, operate, and repair the wastewater disposal facility, upon its completion to the District's satisfaction, and an agreement to observe all rules, regulations and ordinances of the Auburn Lake Trails On-Site Wastewater Disposal Zone, and to pay all District fees, assessments, or charges applicable thereto. (See Figure 1)

Figure 1

GRANT AND AGREEMENT

I/We hereby grant to GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT the right to maintain, operate and repair the sewage disposal facility situate upon Lot....., Auburn Lake Trails Subdivision, Unit No. ....., El Dorado County, California as shown on that map recorded in Book..... of Maps, at Page ....., El Dorado County Records, upon its completion to the satisfaction of said District.

I/We agree to observe all of said Districts rules, regulations, and ordinances heretofore and hereinafter enacted, and pay all of said Districts charges including, but not limited to, charges incurred by the District for modifications required by said rules, regulations, and ordinances, which I/We fail to make as so required.

I/We further agree that this grant and agreement shall be binding upon all of my/our successors and assigns of said lot.

I/We further agree that this grant and agreement shall not obligate said District in itself to maintenance, operation or repair of said sewage disposal system.

DATED:..... SIGNED:.....

.....

.....

.....

Signatures of the owners of the lot, trustees or beneficiaries under any deed of trust are required.

STATE OF CALIFORNIA
COUNTY OF ..... } ss.

On....., before me, the undersigned, a notary public in and for said county and state, personally appeared .....

.....

known to me to be the person whose name is/are subscribed to the within instrument and acknowledged that he/they executed the same.

WITNESS my hand and official seal.

.....
NOTARY PUBLIC IN AND FOR THE COUNTY OF

....., STATE OF CALIFORNIA.

POLICY STATEMENT

AUBURN LAKE TRAILS ON-SITE WASTEWATER DISPOSAL ZONE

POLICY NO: 85-002

ISSUE DATE: MARCH 19, 1985

EFFECTIVE DATE: MARCH 19, 1985

CANCELLATION DATE:

SUPERSEDES:

SUBJECT: MODIFICATION OF AN ON-SITE SYSTEM DUE TO THE DISCOVERY OF RESTRICTIVE SOIL CONDITIONS

In the event any sewage disposal system installed pursuant to these rules and regulations requires modification by reason of conditions below ground level which were not apparent on the surface or through the on-site investigation, and which become apparent during construction of said system or as a result of the monitoring program specified in Appendix G of these regulations, the owner of the lot shall make such modification at his expense. In the event of failure of such owner to do so, within thirty (30) days after written notice, mailed to his address as shown on the last county equalized assessment roll or as filed with the Clerk of District, then District shall make such modification and the lot shall be subject to a service charge therefor pursuant to Resolustions 84-6, 84-26, and 85-7 of the Georgetown Divide Public Utility District.

IT IS HEREBY ORDERED that, subject to Finality of Judgment* in Class Action, Case #34594, (1) Board Order 72-2 be rescinded and, (2) Georgetown Public Utility District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted therunder, shall comply with the following:

A. Discharge Prohibitions:

1. The direct discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. The by-pass or overflow of untreated or partially treated waste is prohibited.

B. Discharge Specifications:

1. Neither the treatment nor the discharge shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.

2. The discharge shall not cause degradation of any water supply.

3. The discharge shall be confined underground at all time.

4. The number, type, volume, and location of on-site wastewater disposal systems to be operated within the Auburn Lake Trails On-Site Wastewater Disposal Zone shall not exceed that specified pursuant to Section 6960 and 6960.1 of the Health and Safety Code and set forth in Resolution 84-6.

5. GDPUD shall be the sole party responsible for compliance with provisions of this Order.

C. Provisions:

1. The Discharger may be required to submit technical or monitoring reports as directed by the Executive Officer.

2. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 October 1983, which are a part of this Order.

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*Finality of Judgment will occur on the date any judgment approving the ASSOCIATION AND TADCO Settlement is made by the Superior court or, if an appeal is taken, the date of final judgment on appeal approving the settlement.

3. The Discharger shall report promptly to the Board any material change or proposed change in the character, location, or volume of the discharge.

4. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.

5. The Board will review this Order periodically and may revise requirements when necessary.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

_____
WILLIAM H. CROOKS, Executive Officer

10/10/84:HJL:gs

Attachments

EXHIBIT D

PROPOSED TYPES OF SYSTEMS

A. Conventional subsurface disposal systems utilizing alternating fields.

B. Conventional subsurface disposal systems utilizing pressurized dosing techniques.

C. Select fill subsurface disposal systems utilizing pressure dosing techniques.

D. Elevated fill subsurface disposal systems utilizing alternating fields and/or pressurized dosing.

E. Elevated fill (mound) systems.

F. Individual on-site primary wastewater treatment systems with connection to a common subsurface disposal system.

G. Individual on-site primary wastewater treatment systems with connection to common mound systems.

It is proposed that the foregoing types shall not be considered exclusive in that advances in technology may provide future alternatives which are cost effective and enhance the achievement of water quality and public health objectives.

The following variances (underlined) are required from El Dorado County Ordinance Code, Chapter 15·33·020:

C. Disposal systems shall be designed to utilize the most permeable or absorptive portions of the soil formation as determined by a percolation test and soil profile analyses. There shall be a minimum of five feet of permeable soil below the bottom of the proposed conventional sewage disposal system. There shall be a minimum of four feet of soil below the distribution manifold in a proposed pressure dosed special design system. The five feet of soil below the bottom of a conventional sewage disposal system, and the four feet below the distribution manifold of a pressure dosed special design system shall be free from the effects of groundwater and possess appropriate textural and structural characteristics to promote effective renovation of wastewater.

E. No property shall be improved in excess of its capacity to absorb sewage effluent in the quantities and by the means provided in this code unless appropriate measures (i.e. easements) have been taken to provide sufficient suitable lands for this purpose.