Lincoln County Planning and Building Department
181 Main Street PO Box 329
Pioche, Nevada 89043

Phone 775 962 8071 Fax 775 962 5877

Residential Septic Systems for Lincoln County

This Residential Septic System Application and Information packet will assist in design and installation of private residential septic systems.

PAGE #:

Applicants will be required to fill out BOTH:

-Residential Septic Applications and any required information
-General Building Permit Application

Please contact the Planning and Building Department with any questions.

STATE OF NEVADA HEALTH DIVISION
PUBLIC HEALTH AND CLINICAL SERVICES EHS
RESIDENTIAL SEPTIC SYSTEM APPLICATION

FOR OFFICE USE ONLY

PERMIT NO._____

DATE ISSUED_____

EXPIRATION DATE_____

GENERAL INSTRUCTIONS: Please fill out the application in full. Do not leave spaces blank or we will assume you have omitted information and your application may be delayed. Two (2) percolation tests are required for each system. The permit cannot be issued without good, sound, complete percolation data. Fees are due when the permit application is submitted and before the issuance of the construction permit. Each system is $498.00. Please make your check payable to NEVADA STATE HEALTH DIVISION.

GENERAL INFORMATION:

APPLICANT NAME_____TELEPHONE _____

MAILING ADDRESS_____ CITY_____

CONSTRUCTION LOCATION_____ASSESSOR PARCEL NO._____

GROSS ACREAGE OF LOT SYSTEM TO BE LOCATED ON_____

NUMBER OF BEDROOMS _____ NUMBER OF PEOPLE IN RESIDENCE_____

WATER SOURCE: (CHECK ONE) PRIVATE WELL___SHARED WELL____PUBLIC WATER SYSTEM____

WELL DIAMETER:_____ WELL DEPTH_____ CASING DEPTH_____

NAME OF WELL DRILLER _____

NAME OF WATER SYSTEM IF PUBLIC_____

NOTE: YOUR WELL MUST BE DRILLED PRIOR TO YOUR FINAL INSPECTION TO VERIFY DISTANCES.

SEPTIC TANK: SIZE_____ PURCHASED WHERE? _____ MANUFACTURER_____

DISTANCE FROM WELL TO TANK_____DISTANCE TO NEIGHBORING WELLS_____

DISTANCE FROM FOUNDATION OF DWELLING TO TANK_____

NOTE: IT IS RECOMMENDED THAT YOU FILL THE TANK WITH WATER TO VERIFY THAT THE CONNECTIONS ARE WATERTIGHT AND TO INCREASE THE TANK'S STRENGTH DURING BACKFILLING

LEACH FIELD: DISTANCE FROM YOUR WELL TO LEACH FIELD_____

DISTANCE FROM NEIGHBORING WELLS TO YOUR LEACH FIELD_____

NUMBER OF LINES_____LENGTH OF EACH LINE_____NUMBER OF CHAMBERS_____MANUFACTURER IF CHAMBERS ARE BEING USED AND MODEL NUMBER OF CHOSEN CHAMBER SYSTEM_____

DISTANCE BETWEEN LINES (IF APPLICABLE)_____TRENCH WIDTH_____

LEACH FIELD CONTINUED: DEPTH OF TRENCH BEFORE ROCK IS PLACED_____ LEACH ROCK SOURCE_____

AMOUNT OF ROCK UNDER LEACH PIPE_____ OVER LEACH PIPE_____ CAP ON END OF PIPE? _____

COVER MATERIAL: UNTREATED BUILDING PAPER_____STRAW _____ GEOTEXTILE_____

NO TAR PAPER PLEASE!

INSTALLER INFORMATION:

INSTALLER NAME_____TELEPHONE _____

MAILING ADDRESS_____ CITY_____

COMMENTS OR OTHER PERTINENT INFORMATION:

APPLICANT'S SIGNATURE: _____ **DATE:** _____

PLOT PLAN INFORMATION:

THE FOLLOWING INFORMATION SHALL BE SHOWN ON THE PLOT PLAN (NAC 444.784.3)

(a) The title and date of the plan and the signature of the owner or his representative.
(b) A map of the area in which the individual sewage disposal system will be located that shows the location of the roads and streets.
(c) The location and distance to well and sewage systems on surrounding lots. If the lots are vacant, the plot plan must so indicate.
(d) The direction of north clearly indicated.
(e) The distance within 500 feet to any watercourse indicated, including, without limitation, any pond, lagoon or stream. If there are no watercourses, the plot plan must so indicate.
(f) The location of each percolation test hole and boring test hole.
(g) The location and depth of each proposed and/or actual well located within 200' of the proposed individual sewage disposal system. A well log must be included for any well located less than 150' from the absorption field.
(h) Each component of the individual sewage disposal system, which must be properly marked and located at specified distances.
(i) The distance to city sewers. If there are none, the plot plan must so indicate.
(j) The distance of each well and soil absorption system to the property line.
(k) The scale to which the plan is drawn, such as 1 inch = 30 feet, 40 feet, 50 feet, 60 feet, etc.
(l) The number of bedrooms in the single-family dwelling.
(m) The capacity of the septic tank.
(n) The maximum slope across the absorption system area.
(o) The dimensions of the lot.
(p) The depth, length, width and spacing of any absorption trenches.
(q) The location of the water supply lines, building sewer lines and other underground utilities.
(r) The location of the structures, paved areas, driveways, trees and patios.
(s) The location of the source of water to be used by the individual sewage disposal system, including, without limitation, a well or other source approved by the administrative authority.
(t) The location of the reserve absorption area, which must be of a size not less than the size of the primary absorption area.

STATE OF NEVADA HEALTH DIVISION
PUBLIC HEALTH AND CLINICAL SERVICES EHS
RESIDENTIAL SEPTIC SYSTEM APPLICATION
PLOT PLAN SHOWING ALL ITEMS INCLUDED IN NAC 444.784.3 - SEE PAGE 2 - INDICATE SCALE IF DRAWN TO SCALE **SCALE =** 1/4" = 5'

NAME: _____ APN: _____ LOCATION: _____

RESIDENTIAL SEPTIC SYSTEM APPLICATION PERCOLATION TEST DATA

Hole #__1___	**Percolation Rate: _____ Minutes/Inch**
Depth From Native Ground Surface That Percolation Test Was Conducted:	
Presoak Start Time:	Presoak End Time:
Number of Hours That Soil Was Presoaked:	

TIME	DEPTH TO WATER	INTERVAL	DROP OF WATER IN INCHES	MIN/INCH

Hole #__2___	**Percolation Rate: _____ Minutes/Inch**
Depth From Native Ground Surface That Percolation Test Was Conducted:	
Presoak Start Time:	Presoak End Time:
Number of Hours That Soil Was Presoaked:	

TIME	DEPTH TO WATER	INTERVAL	DROP OF WATER IN INCHES	MIN/INCH

STATE OF NEVADA HEALTH DIVISION
PUBLIC HEALTH AND CLINICAL SERVICES EHS
RESIDENTIAL SEPTIC SYSTEM APPLICATION SOIL DATA SHEET

PROJECT	
TEST SPECIFICATIONS	
TECHNICIAN	DATE

DEPTH IN FEET	DESCRIPTION OF SOIL

TEST PIT INFORMATION REQUIRED:

DEPTH TO WATER	
SEASONAL HIGH GROUNDWATER	
WAS BEDROCK ENCOUNTERED?	
IF SO, DEPTH TO BEDROCK	
TOTAL DEPTH OF TEST PIT	

NOTE: EXCEPT AS OTHERWISE PROVIDED BY A SPECIFIC STATUTE OR REGULATION, A MINIMUM OF TWO TEST PITS MUST BE EXCAVATED AND THE DATE OF THOSE TESTS MUST BE LOGGED. THE SOIL PROFILE FROM THE TEST PITS AND THE PERCOLATION RESULTS MUST BE INCLUDED AS PART OF THE PLANS SUBMITTED FOR REVIEW. A SOIL PROFILE TO A DEPTH THAT IS AT LEAST 5 FEET BELOW THE BOTTOM OF THE ABSORPTION TRENCH MUST BE PROVIDED IN THE APPROPRIATE SPACE IN THE LOG FOR THE PROFILE OF THE SOIL.

STATE OF NEVADA HEALTH DIVISION
PUBLIC HEALTH AND CLINICAL SERVICES EHS
RESIDENTIAL SEPTIC SYSTEM APPLICATION SET BACK DISTANCES

Minimum horizontal distance, in clear, required from:	Building sewer drain	Septic tank	Disposal field (shallow)
Building or structure	—	8'	8'
Property lines	10'	10'	10'
Water supply wells (sealed to 50 feet)	50'	100'	100'
Water supply wells (not sealed to 50 feet)	50'	100'	150' *
Public water supply wells	50'	150'	150' *
Streams or watercourses	50'	100'	100'
Drainage channels	25'	25'	25'
Large trees or shrubs	—	10'	10'
Disposal fields	—	5'	—
Community water main line	10'	10'	25'
Individual water service line	10'	10'	25'
Dry wells	—	6'	20'

* The required distance between a well and the components of an individual sewage disposal system may be increased by the administrative authority depending on the depth to the water table, soil profile and site characteristics.

NAC 444.8306 Capacity of septic tank serving single-family dwelling. (NRS 439.200, 444.650)

1. The minimum capacity for a septic tank that serves a single-family dwelling is based on the number of bedrooms in the dwelling, and is determined as follows:

Number of Bedrooms	Minimum Liquid Capacity of Tank (in Gallons)
3 or less	1,000
4	1,200
5 or 6	1,500

NAC 444.796 Performance of percolation test by property owner; verification of certain date by engineer. (NRS 439.200, 444.650)

1. Data from percolation tests from a minimum of two test holes in the area of the proposed soil absorption system is required. The property owner shall perform a percolation test in accordance with this section and NAC 444.7962 to 444.7968, inclusive.

2. The hole must be dug or bored to the proposed depth of the absorption trench. The hole must have vertical sides and have a horizontal dimension of 4 to 12 inches. The bottom and sides of the hole must be carefully scratched with a sharp-pointed instrument to expose the natural soil interface. All loose material must be removed from the bottom of the hole which must then be covered with 2 inches of coarse sand or gravel when necessary to prevent scouring. Any soil which has sloughed into the hole before or during the percolation test must be removed.

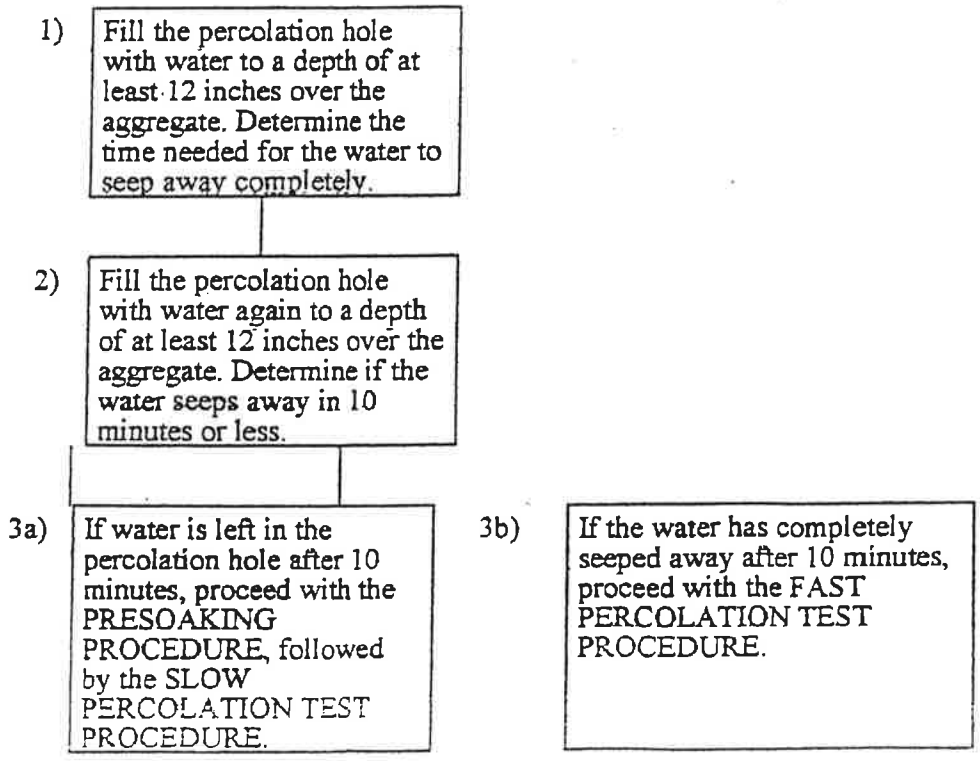
3. The health authority may require an engineer to verify data relating to the depth of the high ground water and bedrock, or areas subject or susceptible to flooding, the ground slope, and the results of percolation tests. Verification of maximum high ground water includes, without limitation, a morphological study of soil conditions with particular reference to soil color and sequence of horizons.

4. If the natural soil condition has been altered by filling or other attempts to improve wet areas, the health authority may require the verification by the engineer to include observation of high ground water levels under saturated soil conditions.

5. If the natural soil condition has been altered by filling or other attempts to improve the percolation rate of the soil, the health authority may require the verification by the engineer to include a determination of whether the fill material is suitable for an individual sewage disposal system.

[Bd. of Health, Indiv. Sewage Disposal Systems Reg. §§ 1-4, eff. 1962; A and renumbered as §§ 10.1-10.2.2, 11-23-72]—(NAC A by R129-98, 3-25-99)

NAC 444.7962 Determination of appropriate percolation test procedure. (NRS 439.200, 444.650) In conducting a percolation test, the following flow chart must be used to determine which test procedure to follow:



(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)

NAC 444.7968 Slow percolation test procedure. (NRS 439.200, 444.650) The following flow chart illustrates the slow percolation test procedure:

1) Fill the percolation hole with water to a maximum depth of 6 inches over the aggregate.

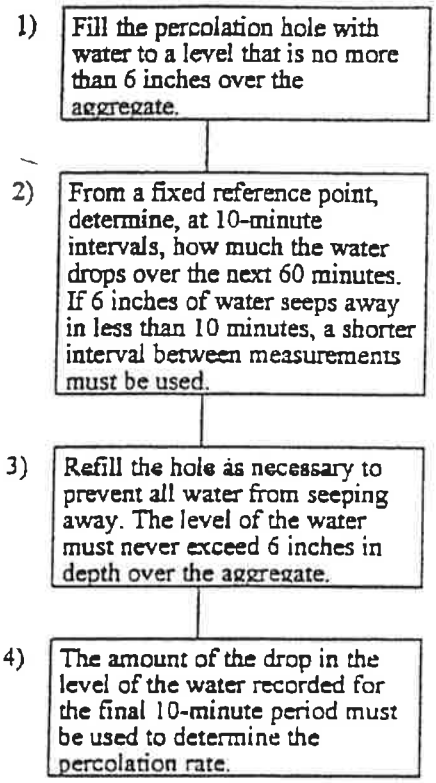
2) From a fixed reference point, measure the drop in the level of the water at 30-minute intervals, for a total of 4 hours. If the first 6 inches of water seeps away in less than 30 minutes, the interval between measurements must be reduced to 10 minutes and the length of the test must be reduced to 1 hour.

3) Fill the hole to a maximum depth of 6 inches over the aggregate as often as necessary to prevent the hole from becoming empty.

4) The amount of the drop in the level of the water during the last interval must be used to determine the percolation rate, except that if two successive measurements do not vary more than 1/16 inch, the test may be stopped and the percolation rate may be determined.

(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)

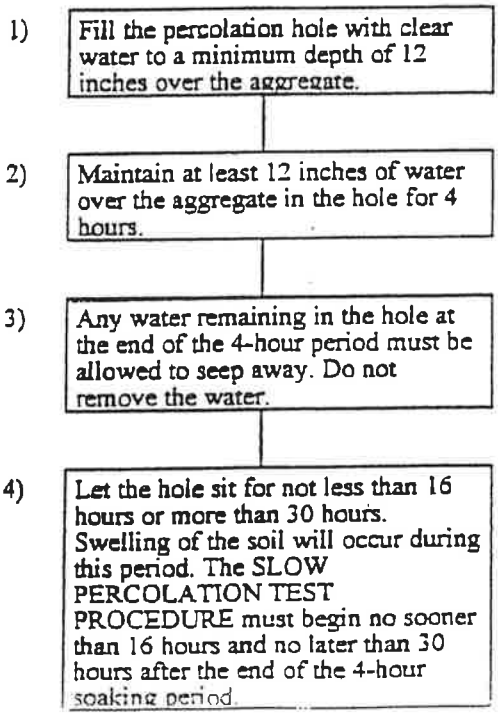
NAC 444.7964 Fast percolation test procedure. (NRS 439.200, 444.650) The following flow chart illustrates the fast percolation test procedure:



NOTE: The minimum time in which a fast percolation test may be completed is 1 hour. The level of the water must never exceed 6 inches over the aggregate during a fast percolation test.

(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)

NAC 444.7966 Presoaking procedure for slow percolation test. (NRS 439.200, 444.650)The following flow chart illustrates the presoaking procedure for a slow percolation test:



Chamber Disposal (Infiltrator, Biodiffuser)
Currently Nevada only approves the ~~30"~~ 22" wide chambers

NAC 444.8364 Chamber system: General requirements. (NRS 439.200, 444.650)

1. A chamber system may be used in lieu of a standard absorption trench if the installation of an absorption trench is not practical. The bottom area of the chamber system, rather than the area of the sidewall, serves as the primary absorption medium.

2. The manufacturer of a chamber system must apply to the health authority for approval of the chamber system. A chamber system must not be used as a component of an individual sewage disposal system unless the health authority has reviewed and approved the use of the chamber system.

3. A homeowner may design a residential system for use at his residence that includes a chamber system.

(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)

NAC 444.8366 Chamber system: Design criteria. (NRS 439.200, 444.650)

1. The health authority shall provide a sizing chart for each chamber system which it approves. The sizing chart must list the number of chamber units required for a specific size of septic tank and percolation rate.

2. The percolation rate of the soil on which a chamber system is placed must not be slower than 60 minutes per inch.

3. The invert of the drain piping entering the first chamber of the system must be not less than 12 inches or more than 48 inches below the finished grade. The top of the chamber system must be at least 6 inches below the natural soil surface, and a capping fill must be placed over the top of the chamber system to allow for settling.

4. The absorption trenches for a chamber system must not be longer than 110 feet.

5. Excavations for absorption trenches for a chamber system must be spaced so that there is at least 6 feet between the trenches, as measured from the centerline of the trenches.

6. The bottom of the excavation for an absorption trench to be used in a chamber system must be level. The owner must take such precautions as are necessary to avoid compacting the bottom of the trench. Loose or smeared soil must be raked and removed. No vehicles may travel on the area of an absorption trench after the excavation of the trench.

7. Dosing is required if more than 500 linear feet of absorption trench are required.

8. If a chamber system is used in conjunction with an absorption bed rather than an absorption trench, the chamber system and the absorption bed must comply with the requirements relating to the sizing for absorption beds set forth in NAC 444.8358 and 444.8361. The sizing chart provided by the health authority pursuant to this section must not be used to size an absorption bed in which a chamber system will be placed.

(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)

NAC 444.8368 Chamber system: Inspections. (NRS 439.200, 444.650)

1. The construction of an individual sewage disposal system that uses a chamber system must be inspected and verified by an engineer or, if the unit is designed by a homeowner as part of a residential system for his home, the homeowner. The inspections must be conducted as follows:

(a) Following excavation, the bottom of each absorption trench or the bottom of the absorption bed, as appropriate, must be inspected to ensure that there is no loose soil and that no smearing conditions exist; and

(b) Upon completion of the installation of the chambers in the absorption trenches or absorption bed, the individual sewage disposal system must be inspected to ensure that the chamber system and the trenches or bed, as appropriate, have been constructed and installed in accordance with the design plans.

2. If a residential system that includes a chamber system is designed by a homeowner:

(a) The homeowner shall contact the administrative authority for an inspection; and

(b) The administrative authority shall inspect the construction of the residential system,

before the covering is placed on the system, to ensure that the system complies with the approved plans.

INFILTRATOR® SYSTEMS INC

Environmental Onsite Wastewater Solutions

Nevada Sizing Chart for Disposal Field Systems

Percolation Rate (min/in)	Septic Tank Size											
	1000 Gallon Tank 3 Bedrooms or Less				1250 Gallon Tank 4 Bedrooms				1500 Gallon Tank 5 or 6 Bedrooms			
	Quick4 Equalizer 24 1.5' Wide Trench	Quick 4 Equalizer 36 2' Wide Trench	Quick 4 Standard 3' Wide Trench	Quick4 High Capacity 3' Wide Trench	Quick4 Equalizer 24 1.5' Wide Trench	Quick4 Equalizer 36 2' Wide Trench	Quick 4 Standard 3' Wide Trench	Quick4 High Capacity 3' Wide Trench	Quick4 Equalizer 24 1.5' Wide Trench	Quick4 Equalizer 36 2' Wide Trench	Quick 4 Standard 3' Wide Trench	Quick4 High Capacity 3' Wide Trench
	3.43	5.29	6.19	7.14	3.43	5.29	6.19	7.14	3.43	5.29	6.19	7.14
	16" W 4.0' L	22" W 4.0' L	34" W 4.0' L	34" W 4.0' L	16" W 4.0' L	22" W 4.0' L	34" W 4.0' L	34" W 4.0' L	16" W 4.0' L	22" W 4.0' L	34" W 4.0' L	34" W 4.0' L
10 or less	46	30	26	22	57	37	32	28	69	45	38	33
11-15	57	37	32	27	71	46	39	34	85	55	47	41
16-20	67	43	37	32	83	54	46	40	100	65	56	48
21-25	73	48	41	36	92	60	51	44	110	71	61	53
26-30	82	53	45	39	102	66	57	49	122	79	68	59
31-40	92	60	51	44	114	74	64	55	137	89	76	66
41-50	105	68	58	51	131	85	73	63	157	102	87	76
51-60	122	79	68	59	152	99	85	73	183	119	101	88

Minimum number of chambers required per dwelling is 22 chambers. Please refer to sizing chart.

PO Box 768, Old Saybrook, CT 06475
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APPROVED JUN 2 8 2006

6/21/2006

NAC 444.833 Distribution box: General requirement; design criteria. (NRS 439.200, 444.650)

1. Except where a pressure distribution system is used, a distribution box must be used in an absorption system if more than one distribution line is used.

2. A distribution box must be watertight and constructed of a durable material that is resistant to corrosion, including, without limitation, concrete, polyethylene, fiberglass or any other material approved by the health authority. The distribution box must have a cover that is made of the same material as the distribution box.

3. Each distribution line must be separately connected to the distribution box. The inverts of the outlet lines must be set at the same level above the bottom of the box. The inverts of the inlet must be at least 1 inch higher than the inverts of the outlet. A distribution box must be designed to ensure equal flow and must be installed on:

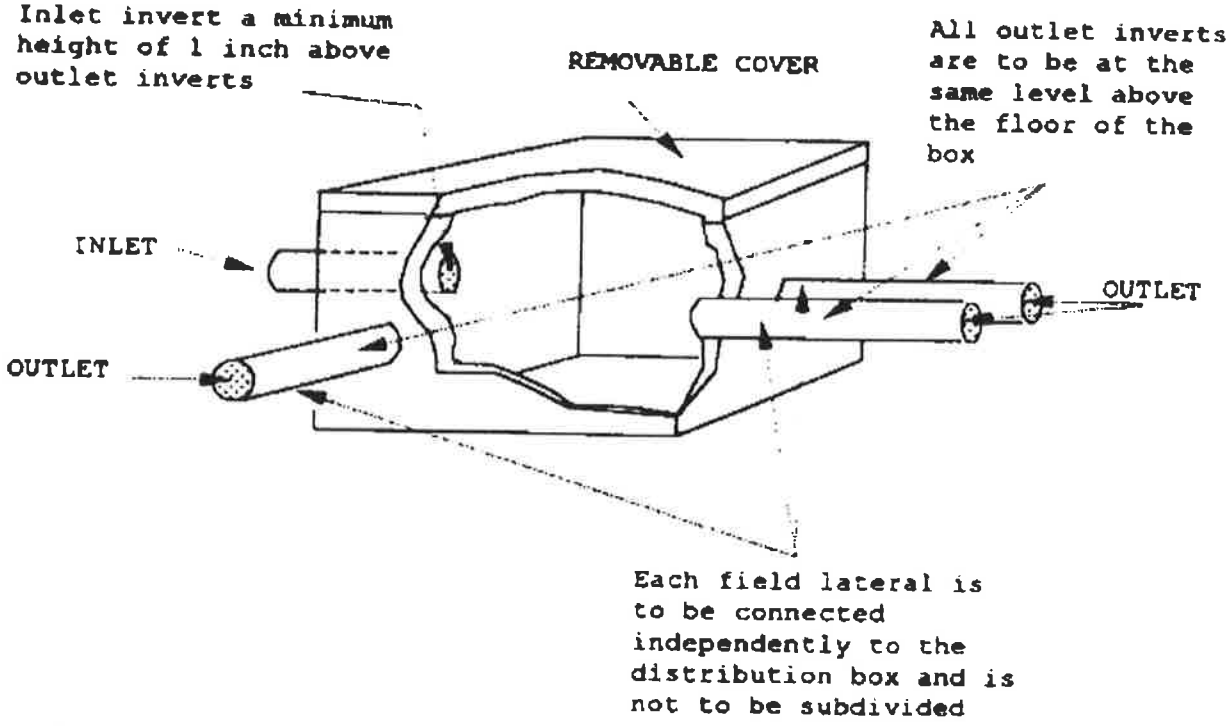
(a) Aggregate;

(b) A level concrete slab which is at least 6 inches in depth and which extends 6 inches or more beyond the perimeter of the distribution box; or

(c) Undisturbed soil.

4. The number of outlets of a distribution box must be equal to or greater than the number of distribution lines to be used.

5. The following is a diagram of a distribution box:



(Added to NAC by Bd. of Health by R129-98, eff. 3-25-99)