



INFORMATION BULLETIN / PUBLIC - BUILDING CODE

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ONSITE WASTEWATER TREATMENT SYSTEM (OWTS)

The purpose of this information bulletin is to set forth the minimum criteria for the approval of an Onsite Wastewater Treatment System (OWTS), referred to as Private Sewage Disposal System (PSDS) in the Los Angeles Municipal Code (LAMC), for all single-family, duplex, multi-residential and commercial buildings within the City of Los Angeles. Installation or maintenance of an OWTS system is permitted when a public sewer is not available as determined by the Bureau of Engineering of the Department of Public Works (BOE) and when the proposed system does not create a health hazard or slope stability problem. An OWTS or part thereof shall serve only the property on which it is located and shall not be permitted to serve any offsite building or structure or any portion of such building

Conventional OWTS with seepage pits shall be located a minimum of 150 feet from the nearest stream or other body of water. Conventional OWTS with disposal (leach/drain) fields shall be located a minimum 100 feet from the nearest stream or other body of water. Septic tanks for conventional OWTS shall be located a minimum 50 feet from the nearest stream or other body of water. All conventional OWTS shall be located a minimum of 900 feet from an Active Water Well, 600 feet from Impaired Water Bodies, and 5 feet above the groundwater table, as defined herein and shown on the maps maintained by the Bureau of Sanitation, Department of Public Works (BOS).

All new, replacement, or altered OWTS systems shall be referred to BOS for their review. The OWTS systems within the distances described above are considered high-risk, as defined herein as High-Risk OWTS, and will be referred to the RWQCB. The RWQCB may impose a Waste Discharge Requirement (WDR) which may include a Supplemental Treatment System approved by the RWQCB. All commercial and multi-residential (more than two units) buildings will be referred to the RWQCB to obtain a WDR.

Nothing contained in this information bulletin shall be construed to prevent the Administrative Authority from requiring the compliance with additional and/or other applicable requirements outside of those contained in the Los Angeles Plumbing Code (LAPC), when additional/higher requirements are essential to maintain a safe and sanitary condition.

DEFINITIONS

For the purpose of this bulletin, the following terms are defined:

1. An **Active Water Well** is any active production water well.
2. **Bedrooms** (for OWTS purposes only) - All rooms shall be counted as bedrooms except the following rooms: Living rooms, dining rooms, dens, storage room(s), recreation rooms, family rooms, kitchens, bathrooms, laundry rooms, and closets.

3. **BOE** is the Bureau of Engineering within the Department of Public Works.
4. **BOS** is the Bureau of Sanitation within the Department of Public Works.
5. A **Conventional OWTS**, also referred to as a “Private Sewage Disposal Systems (PSDS)” in the Los Angeles Municipal Code, is an Onsite Wastewater Treatment System (OWTS) consisting of a septic tank and typically a subsurface effluent dispersal system, such as a leach field or seepage pit. A conventional system may include septic tank effluent pumping where the dispersal area is located at a higher elevation than the associated septic tank.

A Conventional OWTS shall be located so that the setback distances from streams, Impaired Water Bodies, the seasonal high groundwater table, and Active Water Wells is greater than for a High-Risk OWTS, as defined below.

6. A **Critical Soil Survey** is the percolation test to determine the seepage pit capacity.
7. A **Disposal Field** (leach field) is a system of shallow trenches containing a filter material surrounding a drain line that is constructed to allow disposal of effluent from a septic tank.
8. **Failed Septic Systems** are where any part of the system is surcharged to the point of backing up into the dwelling, or overflow on to the ground surface, are required to be pumped out, and/or have sewage effluent leaking on or off the lot.
9. **Hillside Area** - Any land designated as a Hillside Area on the Bureau of Engineering Basic Grid map, Map No. A-13372, excluding those areas specifically identified in maps entitled Hillside Ordinance Amended Exhibit A attached to Council File No. 91-1621.
10. A **High-Risk OWTS** is any OWTS located where the septic tank is within 50 feet from the nearest stream or other body of water; where the disposal field is within 100 feet of a stream or other water body; or where a seepage pit is within 150 feet of a stream or other body of water; or where the OWTS system is within 600 feet from Impaired Water Bodies or 900 feet from an Active Water Well, or less than 5 feet from the seasonal high groundwater table, as defined herein.
11. An **Impaired Water Body** is any water body identified by the Regional Water Quality Control Board as impaired due to high levels of nitrates and/or bacteria under section 303d of the Clean Water Act.
12. An **Onsite Wastewater Treatment System (OWTS)**, also known as a septic system, and also referred to as a “Private Sewage Disposal System (PSDS)” in the Los Angeles Municipal Code (LAMC) and the Los Angeles Plumbing Code, is an individual treatment and disposal system that uses subsurface disposal of effluent.

13. **PCIS** is the Department of Building and Safety Plan Check and Inspection System for issuing permits.
14. **Potential High-Risk OWTS Property (PHROP)** is any parcel completely or partially within 500 feet from the nearest stream or flow path as defined herein. The applicant for any proposed OWTS or any modification to an existing OWTS on such a parcel shall be required to submit a licensed survey report to the Bureau of Sanitation indicating the distance from the various OWTS components to the edge of the nearest stream location as verified in a field survey.
15. **RWQCB** is the Los Angeles Regional Water Quality Control Board.
16. A **Seepage Pit** is typically any drilled or dug hole which is 4 to 6 feet in diameter and 10 to 100 feet deep and that is constructed to allow disposal of effluent from a septic tank or other OWTS. It does not include cesspools that do not receive effluent from a septic tank.
17. A **Septic Tank** is a watertight, covered receptacle designed for primary treatment of sewage and constructed to:
 - Receive wastewater discharged from a building;
 - Separate settleable and floating solids from the liquid;
 - Digest organic matter by anaerobic bacterial action;
 - Store digested solids; and
 - Clarify wastewater for further treatment with final subsurface discharge.
18. **Streams** - For the purpose of siting/permitting OWTS, the identification of Streams shall be based on, but not limited to, their identification as Streams and flow paths on the following;
 - The RWQCB modified EPA Streams Map;
 - The National Hydrologic Data Stream Map (from USGS 100:000 scale); or
 - Any stream as shown on the Simulated Stream Flow Paths Map generated from a Digital Elevation Model.

The definition of stream/creek shall include, but is not limited to, the following:

- A watercourse that is a naturally occurring swale or depression; or
- An engineered channel or conduit which carries fresh or estuarine water either seasonally or year round subsurface within the City boundaries; and/or
- Any area identified through field investigation by a trained biologist, licensed civil engineer, licensed landscape architect, hydrologist, fluvial geomorphologist, or ecologist as meeting the above criteria and as verified by the Department of Public Works, City of Los Angeles.

Stream/creeks include tributary drainage that carry storm water runoff from any size watershed to larger streams.

19. **Supplemental Treatment** is any OWTS or component of an OWTS, except a septic tank or dosing tank, that performs additional wastewater treatment prior to the subsurface disposal of effluent. Supplemental Septic treatment systems must be approved by the RWQCB and they must meet performance requirements that may be set by RWQCB.
20. A **Survey Report** is a report prepared by either a licensed Land Surveyor, a licensed Geologist or a Professional Civil Engineer licensed to perform survey work that indicates the horizontal distance from the nearest point of any part of an OWTS to the nearest point of a Stream, from an Active Water Well, and from an Impaired Water body.
21. A **WDR** is a Wastewater Discharge Requirement issued by the RWQCB for construction and operation of wastewater treatment facilities.
22. **USGS** is the United States Geological Survey.
23. **ZIMAS** is the Department of City Planning's Zone Information and Map Access System.

I. GENERAL REQUIREMENTS

A. Permits Requirement

1. A Grading Permit, issued by the LADBS Grading Division, is required in order to excavate a seepage pit and to perform a percolation test on the completed seepage pit.
2. A Plumbing permit, issued by the LADBS Grading Division, is required for installation of the septic tank (including supplemental treatment when required by the RWQCB) and the sewer line connection from the building into the septic tank.

B. Required Agency Clearances

All Plumbing/Grading permits for new, replacement, or altered OWTS shall be referred to BOS and BOE to obtain sign-off prior to issuance of the permits. BOE will determine sewer availability (sewer within 200 feet), while BOS will determine if OWTS are in an area considered High Risk; which requires review by the RWQCB. All OWTS for commercial and multi-residential buildings, as well as all High Risk OWTS, will require review by RWQCB for the issuance of WDR's, or LADBS may not issue plumbing/grading permits for such OWTS..

C. Design Requirements

All OWTS shall be designed such that additional seepage pits or subsurface drain fields, equivalent to at least one hundred percent of the required original system, can be installed if the original system cannot absorb all the effluent.

All new, replacement, or altered OWTS systems shall meet the following requirements:

1. The design of the OWTS system shall comply with Chapters 7, 11 and Appendix H of the Los Angeles Plumbing Code (LAPC).
2. The OWTS system shall consist of a septic tank with effluent discharging into one or more seepage pit(s) or disposal field.
3. No excavation for a disposal field or seepage pit shall extend within five (5) or ten (10) feet of the high ground water level, respectively.
4. The location of the OWTS system shall comply with Table H 1.7 of the LAPC.
5. The liquid capacity of the septic tank shall comply with Table H 2.1 of the LAPC.
6. No rain water, surface or subsurface water shall be discharged into the OWTS system.
7. When the original/existing system cannot percolate all of the designed quantity of effluent stated in item (8) below as a result of the addition of new rooms, additional disposal fields or seepage pits shall be added. The combined percolation rate of both the existing and the new seepage pits may be used to meet the percolation requirement. However, the percolation from a failed seepage pit shall not be used for calculation purposes and such pits shall be abandoned as stipulated in Section VI.
8. The proposed seepage pits shall be capable of percolating at least five times the liquid capacity of the required septic tank in a 24-hour period.
9. Percolation shall not be permitted to occur within fill nor where rock strata, discontinuities, or combinations of dense soils could force the effluent to surface. For site suitability, refer to Section III.B.
10. No additions or alterations shall be permitted to an existing building which is connected to an OWTS system unless the OWTS system for the building with the additions and/or alterations, complies with all provisions of this Information Bulletin.
11. Any expansion of an existing OWTS system shall be done so as not to impair the function of any existing OWTS system nor affect the stability of adjoining slopes and shall not be located within an area subject to inundation nor where it will cause contamination.

D. Failed Seepage Pit

Failed seepage pits shall be abandoned as stipulated in Section V of this Information Bulletin.

E. Geologic Report Requirements

In high ground water areas or in the Hillside areas where the existing or graded slope is steeper than ten degrees, a geologic report for all proposed OWTS is required. The report shall evaluate the suitability of the site for the proposed OWTS and shall include, but need not be limited to, the following:

1. A detailed geologic map and cross-section showing all the existing and proposed additions or buildings, location of the existing and proposed disposal field or seepage pit including the expansion area, large trees, proposed grading, and the top and toe of existing slopes and proposed graded slopes.
2. Recommendations for providing the required clearances/setbacks from the slope, including the depth of the sealing lid/cap.
3. The potential for any stability problem that may be caused by the proposed OWTS system. Information shall be provided on the type of soil/bedrock and all relevant geologic conditions. Where the slope gradient exceeds 2:1, slope stability calculations, based on the expected zone of saturation, shall be performed to verify that the slope will have a minimum static factor of safety of 1.5.
4. Depth of highest ground water level, distance to streams as identified on maps prepared by the Bureau of Sanitation (BOS), Department of Public Works, and all areas subject to inundation.

II. SPECIAL REQUIREMENTS FOR HIGH-RISK OWTS AND POTENTIAL HIGH RISK OWTS PROPERTIES (PHROPS)

All new, replacement, or altered OWTS systems, are required to be referred to the Bureau of Sanitation (BOS), who will then determine if the OWTS will be classified as Conventional, Potential High-Risk or a High-Risk. If the OWTS is determined to be Potential High-Risk, then a survey report prepared by either a licensed Land Surveyor, licensed Geologist or a Professional Civil Engineer is required to be submitted to the Bureau of Sanitation for review to determine if the proposed OWTS is a Conventional OWTS, as defined herein, or a High-Risk OWTS. Where a geologic report is required in accordance with Section IE and it contains the required setback information it may be used to satisfy the survey report requirement.

If the OWTS is determined to be a high-risk OWTS, then approval is required from the Los Angeles

Regional Water Quality Control Board for possible Waste Discharge Requirements (WDR). A Supplemental treatment system may be required by the WDR. The owner shall comply with all requirements of the monitoring and reporting program stipulated in the WDR.

III. SEEPAGE PIT LOCATION AND PERCOLATION TEST REQUIREMENTS

A. Application for Percolation Test and Seepage Pit

A Percolation test is required for all new seepage pits needed for both new and existing buildings. For additions to existing buildings where new bedrooms are added, a percolation test for the existing pit will be required. The capacity of the existing pit may be added to that of any new pit to meet the required percolation rate.

Applicants for an OWTS shall obtain a grading permit for the required percolation test and the installation of a seepage pit by completing a Building/Grading permit application and submit it to the LADBS Grading Division Plan Check staff along with the following:

- Copies of Geology reports and Department approval letters (of the geology report), when required per Section IE.
- A 8 ½ x 11 Floor plan. The number of all bedrooms shall be noted on the floor plan and the Building/Grading permit application.
- Site plot plan. The plot plan shall include all property lines, buildings, large trees, improvements, septic tanks, seepage pits, elevation contours, tops and toes of slopes, and the required expansion area.
- CAL/OSHA permit for drilling seepage pit.

The Grading Plan Check staff shall determine the number of bedrooms and enter this number on the plumbing permit application to determine the correct size of the septic tank. The required capacity of the septic Tank is given in Table H 2.1 of LAPC, Appendix H.

B. Seepage Pit

1. Location

- a. The seepage pit shall meet the following:
 - i. The seepage pit shall be sealed/capped at a minimum vertical distance of 5 feet below the weathered bedrock and/or soil/fill contact; and at least 25 feet minimum horizontal distance from the sloped surface of un-weathered

bedrock, whichever is deeper. See Figure A.

- ii. Seepage pits on slopes of 45 degrees or exceeding 45 degrees shall require the setback distance to be measured from an imaginary plane of 45 degrees to the horizontal projected upward from the toe of such slope. It shall be noted that these values are minimums and site conditions may warrant a greater setback distance or Sealing Cap depth.
 - iii. Seepage pits shall be located a minimum of 150 feet from any Stream, 600 feet from an Impaired water body and 900 feet from an Active Water Well.
 - iv. A 6" ABS pipe shall be installed between the pit cover and ground level. This pipe shall be capped at grade level.
- b. The construction of seepage pits shall be in accordance with Section H 7.0, Appendix H of the LAPC.
 - c. The method of capping shall be an approved type arch dome or slab detailed in accordance with Section H 7.7 Appendix H of the LAPC. The top cover or arch dome shall be structurally designed to withstand all anticipated earth or other applicable loads such as a vehicle (AASHTO HS-20 truck) by a licensed Civil or Structural Engineer.

2. Inspection

Prior to excavating the seepage pit the following items are required to be completed prior to the pre-construction inspection:

- Flag, stake and dryline all property lines according to a licensed survey. This survey may be waived by filing for a Department administrative approval if the site is relatively level and it can be demonstrated to the grading Inspector's satisfaction that the location of the OWTS system is within the subject site.
- Dryline all corners of proposed buildings.
- Dryline the location of any existing and/or proposed OWTS system.
- Stake the center of proposed seepage pit(s).

After approval of the tentative location, the contractor shall notify CAL/OSHA prior to the excavation of the pit(s).

After the pit has been drilled, but prior to the placement of any liner, the consultant

geologist shall:

- Inspect and approve the pit and location and verify that the bedrock/soil conditions encountered are as anticipated in the report.
- Leave a written notice to inform the Grading Inspector that it is acceptable to seal the pit as per report and the LADBS Grading approval letter.
- Submit a supplemental report to LADBS for approval if the site conditions are different than given in the approved original report.

The grading inspector shall be notified when the side walls/liner are completely installed, but prior to placement of the lid and introduction of any fluids. During this inspection, the grading inspector shall verify the location, depth, separation distances between components and capping requirements as per approved plans by the LADBS Grading division.

C. Percolation Tests

A percolation test is required for all new seepage pits for both new and existing buildings. For new dwellings and additions to existing dwellings, the percolation rate shall be based on the bedroom count. The capacity of any seepage pit (existing or new) shall be determined by a percolation test. The capacity of the existing pit may be added to that of any new pit to meet the overall requirement provided that the existing pit is tested and the current calculations are used to meet the code required percolation rate. The Grading Inspector shall check the pit diameter and depth.

The percolation rate shall be determined 24 hours after water is added to the pit. The Grading Inspector shall measure the percolation rate by noting the amount of water that was poured into the pit according to the meter reading at the hydrant source, and then subtracting the residual amount of water left in the pit after 24 hours (which shall be derived by measuring the depth times the volume per foot of depth of water left in the pit).

As a guideline and for consistency purposes, the volume of water per foot depth through a seepage pit shall be as listed below:

Outside Diameter (OD) of Seepage Pit Liner	Seepage Pit capacity per Foot of Depth (gallons)
4	65
5	110
6	165

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Exception: In most cases, it is not possible to accurately determine the percolation rate of an existing private sewage disposal system. Therefore, in order to mitigate the problem of the overflowing seepage pit, and instead of abandoning the existing overflowing seepage pit, an additional seepage pit may be constructed without the benefit of a percolation test, provided the following criteria are complied with:

- a. No new rooms are added to the existing structure which may be considered as bedrooms.
- b. The applicant shall file a “request for modification“ for an administrative approval to omit the percolation test accompanied with the appropriate fees.
- c. The new additional seepage pit shall be six (6) times the capacity of the septic tank. The details are given below:

Bedrooms	Septic Tank Capacity (Gals)	4' Liner OD Min. Wet Depth (ft)	5' Liner OD Min. Wet Depth (ft)	6' Liner OD Min. Wet Depth (ft)	Required Seepage Pit Storage Capacity (Gals)
1	750	69	31	27	4500
2	750	69	31	27	4500
3	1000	92	41	36	6000
4	1200	111	49	44	7200
5	1500	138	61	55	9000
6	1750	162	71	64	10500

- NOTE:
1. Depth indicated is below the lid/inlet pipe
 2. Pit diameter is 5 feet.

IV. DISPOSAL FIELD LOCATION/SIZING REQUIREMENTS

A. General Requirements

1. The location of the disposal field shall be in accordance with Table H 1.7 of the LAPC.
2. The sizing of the disposal field may be either done in accordance with Table H 2.1(2) or by conducting percolation tests.

3. A 100% expansion area shall be provided for the disposal field.

B. Percolation Testing

1. The percolation test may be performed by an Environmental Health Specialist, a California Registered Professional engineer, a California Registered Geotechnical Engineer, a California Registered Geologist or a California Registered Engineering Geologist.
2. The Ryon Formula may be used to determine the sizing of the disposal (leach/drain) field. Acceptable procedures for testing and application of the formula may be found in "A Professional Guide To Requirements and Procedures For Onsite Wastewater Treatment Systems (OWTS)" by the Los Angeles County Department of Public Health. The guide may be viewed at: http://publichealth.lacounty.gov/eh/docs/ep_lu_OWTS_procedures.pdf

V. FINAL OWTS APPROVAL

A. Clearance For Building Permits

The Grading Inspector Supervisor shall review the following prior to signing off the PCIS "Private Sewage Disp. Approval" clearance on the building permit for the dwelling/addition.

1. The plot plan of all existing and proposed buildings and the OWTS system.
2. The OWTS system shall be fully dimensioned with at least two coordinates such as property lines, etc.
3. The Inspector's Summary Sheet shall be completed for each project which shall include the number of gallons perked, the number of bedrooms, the capacity of the septic tank, with the name of the inspector and the date completed.
4. Where a Supplemental Treatment is required, the qualified installer shall certify that the system has been installed according to the approved plans and the manufacturer's specifications. This certification letter shall be submitted to the LADBS Grading Inspector upon completion of the installation of the OWTS.

B. Grading Permit

The Grading permits for the percolation test (critical soil survey) and seepage pit will be issued when the following are provided:

1. Applicant has obtained the required WDR and cover letter from the RWQCB, when required.

2. Applicant has shown the plans are in compliance with the WDR, when required.
3. Applicant has obtained the required sign-offs, as indicated on the PCIS Clearance Summary Worksheet, which is given to the applicant by the Grading Division plan checker.
4. Applicant has provided copies of Geology reports and the LADBS Grading approval letters (from the geology report) when required, as per Section IE.
5. A plot plan, to scale, showing the locations of the components of the OWTS and the Supplemental Treatment System (when required). The locations of the streams and the depth to groundwater, shall be clearly indicated on the plot plan.

C. Plumbing Permit

A plumbing permit shall then be obtained for the septic tank, the supplemental treatment system (when required), and for connecting sewer lines into the OWTS system. An additional fee shall be paid for each building drain connected to the building sewer line serviced by the OWTS system.

The name of the Supplemental Septic Treatment System (when required by the RWQCB), the manufacturer, and the name of the installer certified by the manufacturer shall be indicated on the plans and the plumbing permit.

VI. ABANDONED CESSPOOLS, SEEPAGE PITS, AND SEPTIC TANKS

Every cesspool, seepage pit, and or septic tank which has been abandoned, discontinued from further use, or to which no pipe from a plumbing fixture is connected shall have the sewage removed therefrom and be completely filled with an approved material. For suggested methods of abandonment see Figure B.

A. Grading Permit

A grading permit shall be obtained to backfill abandoned cesspool, septic tank, and/or seepage pits. The methods to be used for structural or non-structural backfilling shall be as shown in the Septic/Cesspool Seepage Pit Backfill Requirements (Figure B) or as recommended by a soils engineer and approved by the Grading Division. A plot plan showing the location of the abandoned cesspool, septic tank, or seepage pit shall be shown on the back of, or attached to, the permit application.

B. Backfill Requirements

1. Prior to the placement of the backfill and after the cesspool, septic tank, and/or seepage pit have been cleaned, the cesspool, septic tank, and/or seepage pit shall be inspected by the Grading Inspector. Inspection by a soils engineer is also required prior to the inspection by the grading inspector for backfill.
2. The top cover or arch dome over the cesspool or seepage pit shall be removed before backfilling.
3. All backfill shall be compacted to a minimum of 90% relative compaction as tested by a soils testing agency licensed by the City and certified by a licensed Soil Engineer. A minimum 5-foot depth of fill is required above the top of the cap/lid covering the cesspool or seepage pit.

Exception: Flooded clean sand or gravel may be used as fill material provided the fill is used as a non-structural backfill.

4. Abandoned septic tanks shall be cleaned, flushed, backfilled with clean sand, slurry, or concrete, and covered with the original lid. A grading permit shall be obtained for this backfill. The permit application shall include a plot plan showing the location of the abandoned tank.
5. All materials used as backfill other than regular earth, shall require administrative approval through modification and, in some cases, an affidavit to that effect may be required as determined by the department.
6. The placement of CLSM (slurry) for backfill shall comply with the current version of information bulletin P/BC 2014 -121.

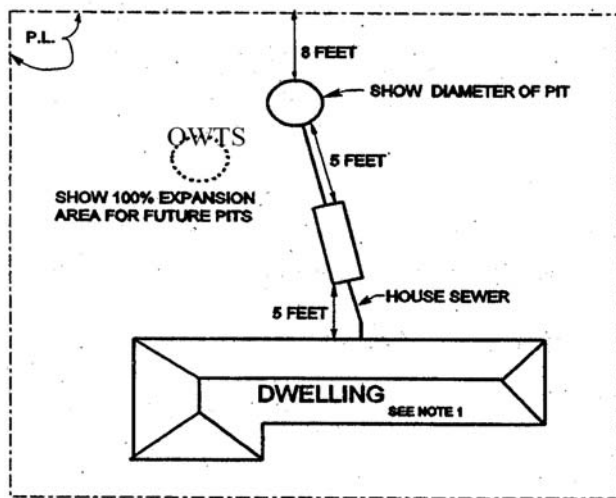
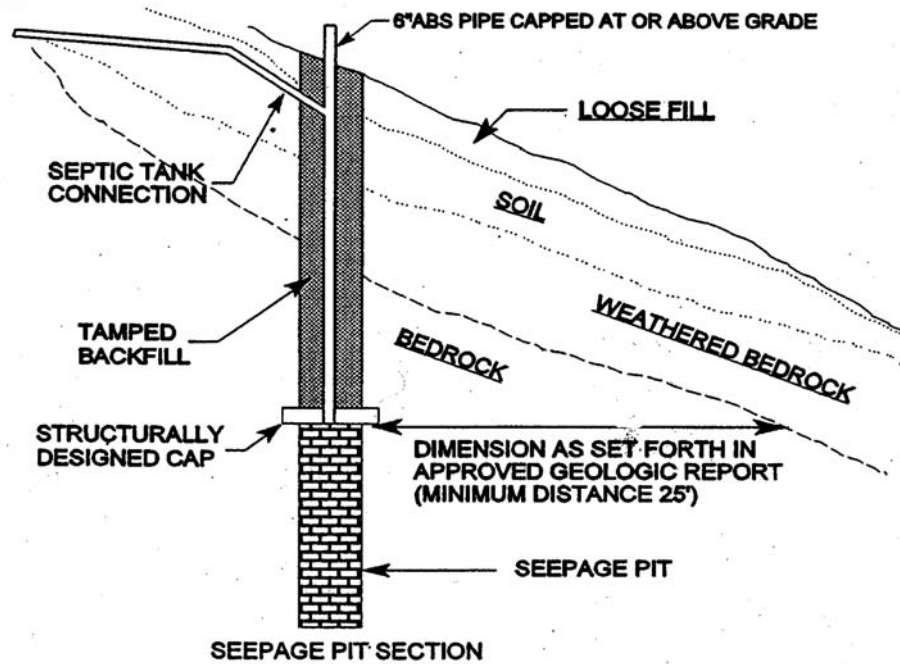
C. Plumbing Permit

While a plumbing permit is not required to abandon the cesspool, septic tank, or seepage pit, plumbing permits are required for any new plumbing fixtures and/or the connection of a house sewer to a public sewer. All plumbing fixtures and pipe lines connected to the OWTS system shall be disconnected upon such abandonment.

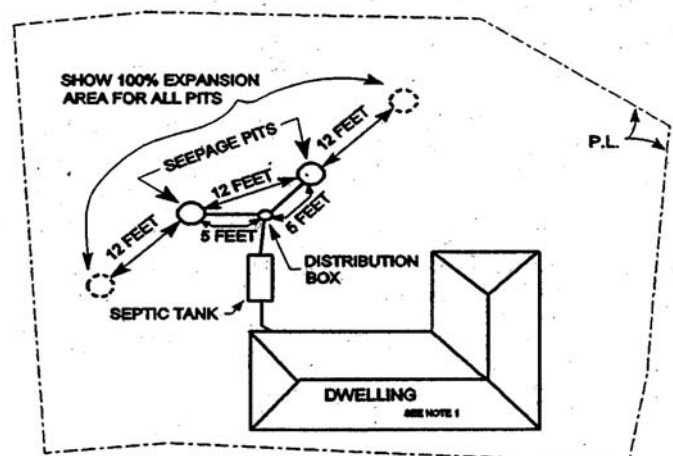
FIGURE A: SEEPAGE PIT REQUIREMENTS

ILLUSTRATIONS and DESIGN

No OWTS or part thereof shall be located at any point with less than the minimum distances shown in the related sketches.



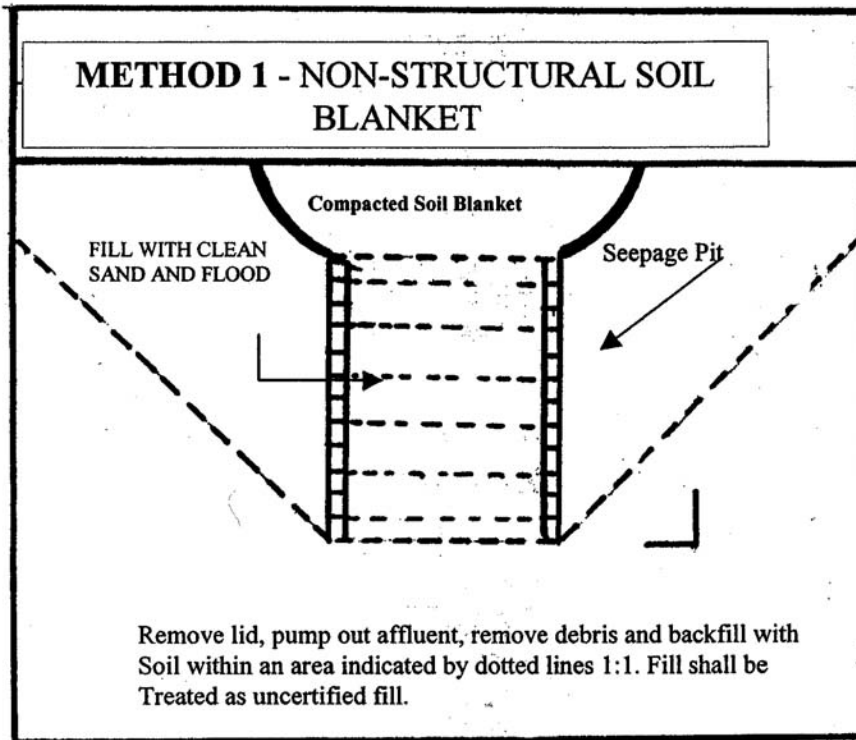
SINGLE PIT INSTALLATION



MULTIPLE PIT INSTALLATION

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FIGURE B - SEPTIC/CESSPOOL BACKFILL REQUIREMENTS



NOTES

1. A grading permit is required prior to abandonment or backfill of an existing OWTS system.
2. Inspection by Soils Engineer is required prior to start of backfill operation for Structural fill.
3. Inspection by Dept. Grading Inspector is Required prior to start of backfill operations.
4. All structural fill shall be compacted and tested to 90% relative density.
6. A compaction report shall be submitted for all structural fill.
7. Pea gravel shall be mechanically compacted.
8. Administrative approval is required for leaving brick lining in situ for structural fill.
9. Use of slurry as backfill shall require Dept. Administrative approval.
10. Compaction report Shall address, when pea gravel is used for backfill, subsidence due to voids in pea gravel and differential settlement between cesspool backfill and surrounding native soil.

