



City of Malibu

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GUIDELINES FOR THE INSPECTION OF OWTS

Introduction

California has a tiered regulatory structure for regulation of onsite wastewater treatment systems (OWTS). Federal, state, and local government are all involved with the implementation of regulations pertaining to OWTS. The Malibu Municipal Code governs regulation of OWTS within city limits. Experience has shown that when properly designed, sited, and maintained, these systems provide an acceptable level of wastewater treatment, and are a valid treatment and disposal option in areas where centralized sewers are not available. However, traditionally these systems were often neglected after installation, which can result in harm to the environment, and threats to the public health and safety. In order to address this problem, the City requires that systems be routinely inspected and monitored to assure proper operation and maintenance of OWTS.

City Registered Inspectors are responsible for inspecting OWTS in accordance with these Guidelines and the Malibu Municipal Code, and reporting their findings to the City. This document is intended to provide guidance to both the system owner and the Registered Inspector for evaluating the adequacy of an OWTS.

The goal of the inspection is to provide sufficient information to make a determination as to whether or not the system is functioning as designed, and is adequate to protect the environment and public health. If conditions exist which show the system is failing to protect the environment, or public health, then the system must be repaired, upgraded, or replaced to eliminate these adverse impacts.

These routine inspections are intended to avoid disruption of the existing system, and should be conducted to minimize disruption of the site in general while obtaining all necessary information to assess the proper operation of the OWTS. The inspection process must adhere to the training each City Registered Inspector has received from the National Association of Wastewater Technicians (NAWT), City of Malibu or other approved training program. Inspection procedures adapted for these guidelines are outlined in the *NAWT Inspection Manual for Onsite Wastewater Treatment Systems*.

All City Registered Inspectors are required to complete an Official Inspection Form for OWTS when performing an OWTS inspection and evaluation. The Official Inspection Form consists of Section A – Compliance Report Form, Section B – Official Inspection Form, and Section C – Supplemental information for advanced wastewater systems. Section B consists of eight distinct parts.

All sections of the Official Inspection Form must be completed to be considered an acceptable report. The Registered Inspector must submit the complete Official Inspection Form to the City within 14 days from the date the inspection was performed. These guidelines are intended to provide the inspector with the necessary information and directions to meet this requirement.



The completed Official Inspection Form shall include the following documents;

Section A – Compliance Report Form

Section B – Official Inspection Form

Part I – Site Information

Part II – History

Part III – System Type

Part IV – Tanks

Part V – Distribution

Part VI – Pump Stations

Part VII – Dispersal System

Part VIII – Hydraulic Test

Site Plan

Certified Fixture Unit Worksheet (City of Malibu form)

SECTION C – Supplemental information for advanced OWTS

OPTIONAL – pictures may be attached to the inspection report in order to provide support findings



Guidelines for Completing the Official Inspection Form

Section A – Compliance Report Form

The Compliance Report Form provides two principle functions. First, it provides information on the property being inspected and the inspector. This information is necessary to generate the Operating Permit when the OWTS is eligible for the issuance of the permit. Second, it presents the summary result of the OWTS inspection in the inspector's Certification Statement. The inspector certifies that the conditions existing at the time of inspection are accurately presented on the Official Inspection Form and are herein summarized. This summary information is essential for the City to determine eligibility for the issuance of an Operating Permit.

The Certification Statement must indicate one of the three findings for the condition of the OWTS inspected. The findings and qualifications for each are listed below.

System Passes

The system is functioning properly at the time of inspection. No additional action is required at this time.

System Conditionally Passes

The system is functioning; however, components within the system are in need of repair, renovation, or replacement as identified in the Official Inspection Form. Examples of this condition include, but are not limited to, installation of risers, lids, electrical components, root removal or other minor adjustments. The system may be determined to be functional and receive a pass designation when these required corrective actions are accomplished. Approvals and permits may be required to effect this scope of work.

System Fails

The system fails when it has been determined that the OWTS contains one or more of the listed failure criteria. If the system fails, the owner, or operator of the system shall contact the City before any attempt is made to repair, upgrade, or replace the system, or otherwise attempt to bring the system into compliance. Approvals and permits are required to affect this scope of work.

Failure Criteria

A. Eminent Public Health or Environmental Threat:

1. Facility Backup: Sewage effluent is backing up into the facility served by the OWTS. If the backup is caused by an overloaded, and/or clogged dispersal area, then the system fails the inspection.
2. Surface Discharge: Sewage effluent is ponding on the surface of the ground, or otherwise breaking out to the surface of the ground or to surface waters of the City. If the discharge is caused by an overloaded, and/or clogged dispersal area, then the system fails the inspection.



3. Septic Tank Backup: Sewage effluent is backing up above the inlet, and/or outlet plumbing tees, or there are signs of previous backup (i.e. toilet paper, or sewage solids above the inlet, and/or outlet plumbing tees, or collected inside the manhole riser, etc.) as a result of an overloaded, and/or clogged subsurface dispersal area. The system fails the inspection.

4. Treatment Tank/Device Backup: Sewage effluent is backing up above the inlet, and/or outlet plumbing tees, or there are signs of previous backup as a result of an overloaded, and/or clogged dispersal area. The system fails the inspection.

5. Distribution Box Backup: Sewage effluent is backing up above the outlet laterals as a result of an overloaded, and/or clogged dispersal area. The system fails the inspection.

6. Excessive Pumping: When any component of an OWTS is pumped three (3) or more times within any 180 day period requiring a new tank or dispersal area to repair the OWTS. The system fails the inspection.

B. Component Failure:

1. Septic Tank: Sewage effluent is backing up above the inlet, and/or outlet plumbing tees, or there are signs of previous backup (i.e. toilet paper, or sewage solids above the inlet, and/or outlet plumbing tees, or collected inside the manhole riser, etc.) as a result of sewer lateral breakage, clogging, or collapse. Groundwater, or storm water is infiltrating into the septic tank, or effluent is leaking from the septic tank into surrounding strata. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency. If a tank replacement is required, the system fails the inspection.

2. Treatment Tank/Device: Sewage effluent is backing up above the inlet, and/or outlet plumbing tees, or there are signs of previous backup as a result of sewer lateral breakage, clogging, or collapse. Groundwater or storm water is infiltrating into the treatment tank/device, or effluent is leaking from the treatment tank/device into surrounding strata. There is a mechanical, electrical component failure, or the system is not operating within design specifications. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency. If a tank replacement is required, the system fails the inspection.

3. Pump Station/Dosing Tank: Sewage effluent is backing up above the inlet, and/or outlet plumbing tees, or there are signs of previous backup as a result of sewer lateral breakage, clogging, or collapse. Groundwater or storm water is infiltrating into the pump station, or dosing tank, or effluent is leaking from the pump station, or dosing tank into surrounding strata. There is a mechanical or electrical component failure, or the system is not operating within design specifications. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency.



4. Distribution Box: The distribution box has collapsed, or is distributing effluent flow unequally. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency.

5. Sewer Laterals: Groundwater or storm water is infiltrating into a sewer lateral, or effluent is leaking from a sewer lateral into the surrounding strata as a result of sewer lateral breakage, clogging or collapse. Effluent is backing up as a result of sewer lateral clogging. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency.

6. Dispersal Area: Sewage effluent is backing up as a result of distribution lateral clogging or collapse. The system may receive a Conditionally Passes if there are no other failure criteria and minor repairs are required to correct the deficiency. If installation of future dispersal areas are required the system fails the inspection.

C. Capacity Failure

Hydraulic Test: If the dispersal area fails an infiltration test, the system fails the inspection. The system may receive a Conditionally Passes if no evidence of surfacing or breakout are observed and the hydraulic test result is marginal.

D. Treatment Failure

Effluent Quality: The system is not capable of treating the effluent to a level acceptable by the City for the type of system and quantity of effluent produced by the system. The system may receive a Conditionally Passes if minor adjustments can be made to correct the deficiency.

Minimum Requirements for an Inspection

Inspectors may consult the NAWT *Inspection Manual for Onsite Wastewater Treatment Systems* or the California Wastewater Training and Research Center *Inspection Manual for Onsite Wastewater Treatment Systems* for additional guidance.

The following are the minimum requirements necessary to complete an OWTS inspection. All components of the OWTS shall be located and inspected to the greatest extent feasible. If a complete inspection cannot be performed, the Registered Inspector must provide adequate documentation of the specific conditions that prevented a complete inspection. A brief statement must be provided on the Official Inspection Form to this effect.

The inspector shall note the general conditions of the property, and identify any obvious signs of system failure. These signs of system failure include, but are not limited to, backup of sewage into the facility, effluent ponding, effluent breakout to the surface of the ground or to surface waters, excessive pumping of OWTS components and any other occurrences which professional judgment would deem indicative of system failure.



Preliminary Activities

Inspection of an OWTS shall begin with a records search at the City, the Los Angeles County Department of Health Services, or other appropriate sources to obtain design plans and as-built drawings. This information will facilitate locating the system components in the field. If these records are not available, then the system components will have to be located by other means. Non-invasive techniques for locating system components, such as the use of electronic locators, are preferred. However, as a last resort, it may be necessary to expose system components in order to determine the location, construction, and current condition of the system.

Inspection Procedure

General:

Walk around the entire site to note the general conditions, and check for obvious signs of system failure, such as sewage odor, effluent ponding, effluent breakout to the surface of the ground or to surface waters, sewage stains on the ground, hydrophilic plants, or saturated, spongy soils.

The inspector shall determine the cause of any sewage backup into the facility, effluent ponding, effluent breakout to the surface of the ground or to surface waters, or excessive pumping of the OWTS components. If the problem is due solely to broken or obstructed laterals, then this shall be considered a Conditionally Pass situation. However, if the problem is due to a general clogging of the dispersal area by solids, then this may be justification for system failure.

Section B – Official Inspection Form – Onsite Wastewater Treatment System

All information to complete the Official Inspection Form is required where such information may be obtained through reasonable measures. Indeterminate information must be indicated on the form by stating: unknown (UK), not applicable (NA), and not determinable (ND).

Part I – Site Information

The information required in this section is to be completed in its entirety. The property owner, or their agent, must provide the requested information. The Assessor's Parcel Number (APN) may be obtained from the City at the public counter. The site location refers to specific geographical areas of Malibu such as La Costa Beach, Malibu West, or Big Rock.

Part II – History

Information to complete this part of the inspection form may be available from the property owner or the City. General information such as OWTS permits, permit dates, and percolation test results may be available from the City. The inspector will be required to verify the number of existing bedrooms and the number of existing fixture units. The inspector shall use the City fixture unit worksheet to complete this section and provide the certified fixture unit worksheet with the inspection form.



Part III – System Type

The inspector shall determine the type of system installed, conventional or advanced OWTS. The inspector shall make a quantitative analysis as to the source/type of wastewater generated, including the use (i.e. domestic, commercial, industrial, etc.). This may be accomplished by the records research or the site inspection. The influent type shall be determined by the specific site observation by the inspector. Residential designation shall include all single family residences and duplexes. Multifamily designation shall include all apartments and properties with three or more connected dwelling units such as condominiums.

Any observed grey water system must be reported. Permitted graywater systems are authorized. Unpermitted graywater systems must be properly permitted or abandoned and noted on the inspection form. The disconnection of the graywater system must occur prior to any hydraulic testing of the OWTS.

Part IV - Tanks

Septic Tank

The inspector shall locate the septic tank expose/remove manhole covers, if any, or note the absence of adequate manholes or access. Compliant access risers, a minimum of 24 inches, are required on all septic tanks. The septic tank size, approximate age, and construction material shall be determined. The inlet and outlet plumbing tees, and the septic tank baffle shall be checked for damage or absence of these components. The effluent filter, if any, shall be checked for clogging and cleaned. Any necessity for immediate pumping shall be determined and noted on the inspection form. If installation of access risers is required, a determination of Conditionally Passes may be assigned to a system that meets all other required criteria.

The inspector shall determine the liquid level in the septic tank for evidence of leakage. If the septic tank is discharging when there is no flow from the facility, there may be infiltration into the septic tank, which would indicate that the septic tank may be in high groundwater, and is not watertight. If the liquid level is below the outlet invert, then the septic tank is probably leaking into surrounding strata. These septic tanks shall be pumped, and inspected further. If further inspection shows that the septic tank is cracked, structurally unsound, is leaking, or if groundwater is infiltrating into the septic tank through a crack or seam, this condition shall warrant a status of Failed and requires replacement of the septic tank. If the liquid level is above the outlet, and there is no outflow, then the outlet lateral may be clogged, or broken, or the distribution box may be damaged, or surcharged. The inspector shall determine the cause. If a surcharge in the septic tank is due to a broken or clogged lateral or other easily correctable circumstance, the system may receive a Conditionally Passes if no other failure criteria are noted.

The inspector shall measure sludge depth, and thickness, and recommend pumping if the sludge layer is within twelve inches of the outlet tee, or baffle inlet. The inspector shall measure scum depth, and thickness, and recommend pumping if the bottom of the scum layer is within two inches of the bottom of the outlet tee, or if the top of the scum layer is within two inches of the top of the outlet tee.



The inspector shall check for evidence of backup (i.e., liquid level is significantly higher than the invert of the outlet pipe). The outlet lateral between the septic tank and the distribution box, the seepage pit, or the leach trench shall be examined to determine the cause of the backup. If the backup is due to a broken or obstructed lateral, the system may receive a Conditionally Passes, if no other failure criteria are noted.

Treatment Tank/Device

The inspector shall locate the treatment tank, and/or treatment device (i.e. sand filter, textile filter, etc.), and expose/remove any manholes, or other access covers, if any, or note the absence of adequate manholes or other access. The treatment tank, and/or treatment device size, approximate age and construction material shall be determined. As with septic tanks above, the treatment tank, or treatment device shall be checked for signs of infiltration of groundwater, or storm water into the tank, or device, or leakage of effluent from the tank, or device into surrounding strata.

The inspector shall check any inlet and outlet plumbing tees, and any baffle, and shall check for evidence of sewage solids carryover. The effluent filter, if any, shall be checked for clogging. The necessity for immediate pumping shall be determined and noted on the inspection form.

The inspector shall obtain a copy of the operator's manual from the owner/operator, or from the City, and shall use the manual to test, and determine the proper function of the system and its individual components. The inspector shall check any mechanical or electrical components of the system and note any deficiencies on the report form.

Pump Station or Dosing Tank

The inspector shall locate any pump station, or dosing tank, and expose/remove manhole covers, if any, or note the absence of adequate manholes or access. The pump station, or dosing tank size, approximate age, and construction material shall be determined. As with septic tanks above, the pump station, or dosing tank shall be checked for signs of infiltration of groundwater or storm water into the pump station, or dosing tank, or leakage from the pump station, or dosing tank into surrounding strata.

The inspector shall check any inlet and outlet plumbing tees, and any baffle, and shall check for evidence of sewage solids carryover. The effluent filter, if any, shall be checked for clogging. The necessity for immediate pumping shall be determined and noted on the inspection form.

The inspector shall check the pump function. If the pump(s) is not functioning properly, the system may receive a Conditionally Passes provided that the pump(s) is repaired, or replaced.



Part V - Distribution

Distribution Box:

The inspector shall locate, and expose/remove the distribution box cover, determine if the distribution box is level, and if the flow is equal, and check for evidence of sewage solids carryover.

The inspector shall check if the static water level is at, or higher than the outlet laterals. If the liquid level is above the outlet laterals, and there is no outflow, either the outlet laterals are clogged, or the dispersal area is surcharged and in failure. The inspector shall determine the cause. The system may receive a

Conditionally Passes if the high liquid level is due to broken or obstructed laterals, a broken distribution box, or if the distribution box is uneven or settled.

Active Distribution Devices:

The inspector shall locate and expose any active distribution element of the OWTS. These may include hydrosplitters, and other similar valves. The type of valve shall be noted. The proper functioning of the valve shall be determined and noted.

Part VI – Pump Stations

Systems that do not contain a pump component may be marked in Part VI with an NA designation. This part must be completed for systems with pumping components. The location within the system of the pumping component must be indicated on the form. The available access to the pump component must also be indicated. The pump(s) must be activated to determine their functionality. All pump station floats must be checked and determined functional. All indications of a pump or float failure, or wiring problems shall be noted. The alarm system for the pump component must be checked and noted on the report form. The pump component of the system will pass when all elements of the pump component are operational and functional.

Part VII – Dispersal Area

It is extremely important that the inspector locate the existing soil dispersal area. Approximate location of the dispersal area may be determined by examining the topography and noting drainage arrangement from access at the distribution box. Location of the dispersal area can often be accomplished by running a snake down the laterals from the distribution box.

If the dispersal area is a drainfield, then excavation of the drainfield, once it is located, is typically not required. It shall be appropriate to expose a portion of the drainfield to determine its condition if the other indications of failure, such as backup of sewage into the facility, effluent ponding, effluent breakout to the surface of the ground or to surface waters, excessive pumping and any other occurrences which professional judgment would deem indicative of system failure have occurred.



When the dispersal area consists of one, or more, seepage pits, it may be appropriate to expose the seepage pit(s) to determine the effluent level, pit diameter, depth below the inlet, capping depth of the seepage pit(s), and to determine if there is an outlet connection pipe to another seepage pit, where seepage pits may be connected in series. This action shall only be performed when it can be clearly demonstrated that this will not cause harm, or failure to the individual seepage pit.

It should be noted that, if the hydraulic backup is due to a failed dispersal area, the system cannot be made to pass by application to the dispersal area of physical, chemical, or biological agents, or treatments. The City must be consulted before any effort is made to repair, or upgrade a failed dispersal area.

Part VIII - Hydraulic Test

The hydraulic load test is conducted by surcharging the septic tank with approximately 300 gallons of water over a 30 minute period; and then observing the rise of water in the septic tank and any observable effects on the dispersal component. Tracer dye may be used to assist in observing dispersal failure. A garden hose discharging into the outlet side of the tank can be used to surcharge the tank. The test shall be initiated by measuring the static effluent level in the septic tank at the outlet side as a reference point. Any rise in the liquid level at the outlet pipe is measured at the end of the addition of the water to the tank. The initial level and final level are recorded on the report form. The time required for the tank to return to the initial level is recorded. The dispersal area must again be inspected for any indicators of surfacing effluent, wetness, or odors. Such events may be considered conclusive evidence of system failure. The system will be deemed to have passed the test if the liquid level returns to the same level at which the test was initiated within 30 minutes. The system will be deemed to have passed marginally, if the liquid level subsides, but does not return to the initial level within 30 minutes. The system will be deemed as failed if no measurable reduction in the liquid level can be detected after 30 minutes.

Site Plan for Onsite Wastewater Treatment System Location:

A site plan must be attached to the Official Inspection Form. An existing City approved site plan is acceptable if the location of all known components for the OWTS are in the exact location indicated on the plan. If no site plan exists, or is determined to be inadequate to meet the requirements of this section, or if components of the existing OWTS are not in the location indicated on an existing site plan, a new site plan meeting the criteria listed below must be provided. The setback distances when requested for any element of the OWTS shall be determined in the most effective manner available. Measurements may be rounded to the nearest foot. Where requested elements are not present, a NA designation is appropriate.

Site Plan Requirements:

1. The site plan shall clearly identify the location of all components of the existing OWTS including tanks, sumps, pump stations, distribution systems, and dispersal systems.
2. The site plan shall be drawn to approximate scale.
 - a. 1"=20' for parcels one acre or less
 - b. 1"=40' for parcels greater than one acre



3. The site plan shall indicate all property boundaries.
4. The site plan shall show all structures including buildings, houses, garages, driveways, pools, tennis courts, and other similar features, including future OWTS elements.
5. The site plan shall indicate the horizontal distance from the primary site structures in feet. These distances are required for system location for future inspections or maintenance.

Section C – Supplemental Information for Advanced OWTS

All information pertaining to components of the advanced system shall be entered on the form. A copy of the most current maintenance agreement shall also be provided.

