

## **Section 6 Requirements for Approval of Building Permits**

Sonoma County Code Section 7-5(b)(2) requires a septic clearance in relation to building structure improvement projects. Building permits shall be reviewed for compliance with the OWTS requirements of this section. Building permits that do not impose additional burdens upon existing OWTS will be provided a septic clearance. Building permits that do impose additional burdens upon existing OWTS will be evaluated in accordance with this section.

Burdens upon existing systems include new wastewater flows, increases in wastewater flow or strength to existing systems and potential impacts to system components including, but not limited to, septic tanks, dispersal systems and reserve replacement areas. Building permits shown to impose additional burdens upon existing systems and system components shall not be provided a septic clearance until the burden(s) have been mitigated.

### **6.1 Building Permits Not Reviewed by Well and Septic**

- A. Projects that are exempt from obtaining a building permit pursuant to Sonoma County Code section 7-13(C)(2) do not require a review by the Well and Septic Section.
- B. Building permits with no plan check, pursuant to Permit Authority Policy No. 4-0-7 Building Permits No Plan Check, do not require a review by the Well and Septic Section. The following are example building projects that do not require a plan review:
  - 1. Furnaces;
  - 2. Water Heaters;
  - 3. Re-Roofs;
  - 4. Siding;
  - 5. HVAC;
  - 6. Electric Services;
  - 7. Electrical Repairs;
  - 8. Interior Wall Coverings;
  - 9. Dry Rot Repair less than 40 linear feet;
  - 10. Deck Repairs.
- C. Building permits with plan check for a structure that received damage from a declared disaster, earthquake, fire, flood, tree damage, or other untoward event do not require a review by the Well and Septic Section. Building permits must be applied for within 5 years of the catastrophic or damaging event.

### **6.2 Building Permit with Plan Check**

- A. The Permit Authority shall review building permits requiring plan check. Any building permit not listed in Section 6.1 is required to have a plan review.
- B. The minimum septic compliance review shall ensure the property is served by an existing non-conforming septic system consisting of a septic tank and dispersal system and not by a cesspool.

## **6.3 New Dwelling Unit on Undeveloped Land**

- A. A New Dwelling Unit on Undeveloped Land. A proposed dwelling unit on undeveloped land that has no existing dwelling unit(s) and no existing septic system typifies this category.
1. A new code compliant septic system is required.
  2. A code compliant reserve replacement area is required, pursuant to Sections 4.11.A and 6.6.

## **6.4 New Structure on Developed Land**

- A. New Dwelling Unit as a Reconstructed Dwelling. The reconstruction of an existing dwelling typifies this category.
1. Either an existing code compliant septic system, pursuant to Section 6.7 is required; or
  2. A new code compliant septic system is required.
  3. A code compliant reserve replacement area is required, pursuant to Sections 4.11.A and 6.6.
- B. New Dwelling Unit as a Junior Accessory Dwelling Unit (JADU). An existing primary dwelling unit and the proposed construction of a new JADU typifies this category.
1. Either an existing non-conforming septic system, pursuant to Section 6.8, is required; or
  2. An existing code compliant septic system, pursuant to Section 6.7, is required; or
  3. A new code compliant septic system is required.
- C. New Dwelling Unit as an Accessory Dwelling Unit (ADU). An existing primary dwelling unit and the proposed construction of a new ADU typifies this category. Construction of a new ADU could be a newly constructed structure or the conversion of an existing structure to a dwelling occupancy.

Applicant has the option to connect the ADU to the existing septic system serving the primary dwelling unit provided the existing septic system is code compliant and has capacity for the ADU waste flow or to construct a new code compliant septic system for the ADU. This category may also include a bedroom swap between the existing primary dwelling and the proposed ADU.

1. Increase in Bedrooms
  - a. The primary dwelling shall have an existing code compliant septic system, pursuant to section 6.7, which has sufficient capacity to treat and dispose the added wastewater flow associated with the proposed ADU; or
  - b. The applicant shall provide a new code compliant system for the ADU.
  - c. A code compliant reserve replacement area is required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.
  - d. A code compliant reserve replacement area is required for the ADU, pursuant to Sections 4.11.A and 6.6.

## 2. Bedroom Swap

- a. The primary dwelling shall have an existing non-conforming septic system, pursuant to section 6.8, provided no increase in the number of bedrooms or waste flow can be demonstrated.
- b. A code compliant reserve replacement area is required for the primary dwelling unit and ADU, pursuant to Sections 4.11.A and 6.6.

D. New non-bedroom accessory structure to an existing dwelling unit on developed land typifies this category. This category is not a dwelling unit. Examples of structures accessory to dwelling units include, but are not limited to, garages, barns, storage buildings, workshops, pool houses, art studios, exercise rooms and swimming pools. This category has two sub-categories: those with plumbing and those without plumbing.

### 1. Accessory Structures with Plumbing:

- a. An existing non-conforming septic system, pursuant to section 6.8, is required.
- b. The applicant shall provide documentation that the proposed plumbing does not represent an increase in wastewater flow to the existing septic system.
- c. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to section 6.6 and Sections 4.11.A and 6.6.

### 2. Accessory Structures without Plumbing:

- a. An existing non-conforming septic system, pursuant to section 6.9, is required.
- b. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.

E. New guest house, with one or more additional bedrooms, accessory to an existing dwelling unit on developed land typifies this category. This category is not a dwelling unit.

Applicant has the option to connect the guest house to the existing septic system serving the primary dwelling unit provided the existing septic system is code compliant and has capacity for the guest house waste flow or to construct a new code compliant septic system for the guest house. This category may also include a bedroom swap between the existing primary dwelling and the proposed guest house.

### 1. Increase in Bedrooms:

- a. The primary dwelling shall have an existing code compliant septic system, pursuant to section 6.7, which has sufficient capacity to treat and dispose of the added wastewater flow associated with the proposed guest house; or
- b. The applicant shall provide a new code compliant system for the new guest house.
- c. A code compliant reserve replacement area is required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.
- d. A code compliant reserve replacement area is required for the guest house, pursuant to Sections 4.11.A and 6.6.

### 2. Bedroom Swap:

- a. The primary dwelling shall have an existing non-conforming septic system, pursuant to section 6.8, provided no increase in the number of bedrooms or waste flow can be demonstrated.
- b. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.

## 6.5 Building Improvements to an Existing Structure

A proposed addition, interior improvement or tenant improvement to an existing structure typifies this category. This category has two sub-categories: those that increases the occupancy loading (bedroom addition) and/or increases the wastewater flow or strength typifies this category and those that do not increase the occupancy loading (bedroom addition) and/or does not increase the wastewater flow typifies this category.

### A. Building Improvements that increase wastewater:

1. An existing code compliant septic system, pursuant to section 6.7, and which has sufficient capacity to treat and dispose the increase in wastewater flow or strength is required; or,
2. A new code compliant system for 100 percent of the wastewater flow is required.
3. A code compliant reserve replacement area is required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.

### B. Building Improvements that do not increase wastewater:

1. An existing non-conforming septic system, pursuant to Section 6.8, is required.
2. For proposed additions which increase the building footprint, a reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to Sections 4.11.A and 6.6.

## 6.6 Reserve Replacement Area

- A. Table 6.6 summarizes when a code compliant reserve replacement area is required and when a reserve replacement area is to be evaluated. A “Yes” entry indicates a code compliant reserve replacement area is required. A “Land Enc” entry indicates the building permit application will be evaluated for additional land encumbrance. Depending on the result, as discussed below, a code compliant reserve replacement area shall be required or shall be evaluated.

**Table 6.6**  
**Reserve Replacement Area Required or Evaluated**

<b>OWTS Manual Section</b>	<b>Evaluate Reserve Replacement Area</b>	<b>Code Compliant Reserve</b>
6.3.A	No	Yes
6.4.A	No	Yes
6.4.B	No	No
6.4.C	No	Yes
6.4.D	Land Enc	Land Enc
6.4.E.1	No	Yes
6.4.E.2	Land Enc	Land Enc
6.5.A	No	Yes
6.5.B	Land Enc	Land Enc

1. The percent land encumbrance shall be determined. The percent land encumbrance is determined by dividing the encumbered land area by the total land area of the subject parcel. Development within an existing encumbrance shall not be counted twice. For example, a structure's footprint within a well setback shall not be added to the encumbered land area.
  2. When the building permit application creates 50 percent or less land encumbrance, the proposed building permit project shall be evaluated to ensure it does not adversely affect the reserve replacement area.
  3. When the building permit application creates greater than 50 percent land encumbrance, the reserve replacement area shall be required.
- B. Evaluation of the approved reserve replacement area consists of ensuring the proposed building does not physically encroach into, onto or adversely affect the approved reserve replacement area. A site map documenting the location of the proposed structure or structural improvements and the reserve replacement area should suffice.
- C. Requiring a code compliant reserve replacement area consists of site evaluation for soil type, percolation rate and depth of groundwater, pursuant to pertinent sections of this OWTS Manual, as well as a preliminary design of the replacement septic system including system type, sizing calculations, alignment within proposed reserve replacement area and abides by site constraints and setbacks.

## **6.7 Existing Code Compliant Septic System Documentation**

- A. Documentation of an existing code compliant septic system consists of 1 of the following:
1. A finalized septic system permit with documentation the system meets current standards.
  2. A findings report is required when:
    - a. Documentation for a finalized septic system is incomplete or shows non-compliance with current standards; or
    - b. A septic permit does not exist.

## **6.8 Existing Non-Conforming Septic System Documentation**

- A. Documentation of an existing non-conforming septic system consists of 1 of the following:
1. A county record clearly showing the septic tank and dispersal system; or,
  2. County Assessor record clearly showing the septic tank and dispersal system; or,
  3. A finalized septic system permit showing the septic tank and dispersal system; or,
  4. A findings report is required when:
    - a. Information and/or documentation is missing from a septic permit file; or
    - b. A septic permit does not exist.

## 6.9 Findings Report

- A. Finding Reports shall be signed and stamped by a Qualified Consultant.
- B. Finding Reports shall include, but not be limited to, the following information:
  - 1. A site map including the parcel, assessor's parcel number, existing structures, proposed structures, the located septic tank, the dispersal system, the replacement area, a north arrow, direction of slope, and scale or measurements to relevant features on the property.
  - 2. The dispersal system shall be located if the structural improvement and/or associated construction activity has the potential to damage or adversely affect the primary and/or replacement dispersal system.
  - 3. Indicate the bedrooms/units/structures served by the system. Documentation of structures may be derived from building permits and/or assessor records.
  - 4. Evaluation of system performance including at least one of the following:
    - a. Uncovering distribution boxes to ensure that the system is functioning adequately;
    - b. Hydraulic load test (see section 6.10.A-C);
    - c. Pump test (see section 6.10.D); or
    - d. Evaluation of profile holes.
  - 5. Estimated age of system.
  - 6. Estimated sizing of system (linear feet of dispersal).
  - 7. Inspection of all tanks. Inspection shall include presence or absence of baffle walls, inlet and outlet tees, and effluent levels on the inlet and outlet sides of the tank, root intrusion and cracks in the tank.
  - 8. A completed monitoring form for non-standard systems if the monitoring form is past due.
  - 9. Classification of system as either a code compliant system or as an existing non-conforming system.
  - 10. For code compliant septic systems the following shall be included, pursuant to pertinent sections of this OWTS Manual: the soil type, percolation rate and depth of groundwater, elevation of dispersal system and design calculations.
- C. Finding Reports shall be classified by the following types and shall include the numerated items which refer to section 6.9.B:
  - 1. Findings Report – Tier 1. A Findings Report – Tier 1 shall include items 6.9.B.1 and 2.
  - 2. Findings Report –Tier 2. A Findings Report – Tier 2 shall include items 6.9.B.1 through 9.
  - 3. Findings Report –Tier 3. A Findings Report – Tier 3 shall include items 6.9.B.1 through 10.

D. The type of Findings Report required by building project type follows:

1. New Dwelling Units on Developed Land
  - a. Reconstruction requires Tier 3 Findings Report
  - b. New JDUs require Tier 2 Findings Report
  - c. New ADUs require Tier 3 Findings Report
  - d. New Guest House with Increase in Bedrooms requires Tier 3 Findings Report
2. New Accessory Structures (non-bedroom)
  - a. With plumbing require Tier 2 Findings Report
  - b. Without Plumbing require Tier 1 Findings Report
  - c. New Guest House with Bedroom Swap requires Tier 2 Findings Report
3. Building Improvements with
  - a. Increase in Flow or Strength require Tier 3 Findings Report
  - b. No increase in flow or strength require a Tier 1 Findings Report

## **6.10 Hydraulic Load Test Guidelines**

### **A. Septic Tank Hydraulic Load Test**

The septic tank hydraulic load test, as described here, is conducted only for standard gravity-fed leachfields, and does not apply if the system utilizes a pump. A separate pump test procedure is described below. The hydraulic load test is conducted after completion of a review of background data, an initial field performance and the septic tank inspection. The hydraulic load test is conducted by surcharging the septic tank with approximately 150 gallons of water over a 20 to 30 minute period; and then observing the rise in water in the tank and the subsequent draining process. Tracer dye may be used to assist in observing leachfield failure.

A garden hose discharging into the outlet side of the tank can be used to surcharge the tank. The hose outlet should remain well above the water level of the tank to prevent cross-contamination. Before starting the test, the flow rate from the hose should be determined (for example, with a 5-gallon bucket and stop watch) to properly gauge the amount of surcharge water added to the tank. Alternately, a portable water meter can be installed between the house faucet and the hose to directly measure the water volume added.

### **B. Test Procedures**

The step-by-step procedures for the hydraulic load test are then as follows:

1. Measure the location of the static water line in the septic tank (at the outlet side) as an initial reference point.

2. Begin surcharging the tank with water to start the hydraulic load test.
3. Observe any rise in the liquid level at the outlet pipe and measure the water level at the end of filling. Typically, the liquid level will rise from 1/2 to 1 inch, at which point the liquid level should stabilize for the remainder of filling; and the return to the initial level in a matter of minutes after filling is stopped.
4. After the filling cycle is finished, the water level decline in the septic tank is observed until the initial level is reached; and the time to achieve this is recorded. If the initial level is not attained within 30 minutes, the test is terminated and the final water level is noted.

#### C. System Rating

Based upon the water level readings during the test, a hydraulic performance rating shall be assigned to the system in accordance with the guidelines provided in F. below. It should be emphasized that these are guidelines only, and special circumstances may be cause for modifying the evaluation and rating of particular systems. A system receiving a "Failed" rating shall require appropriate upgrading.

#### D. Pump Systems

The pump test is conducted by adding sufficient water to the basin to activate the pump "on" control and observing the performance of the system over at least one pumping cycle. The total amount of water added should be about 150 gallons, to approximate the same hydraulic loading of the leachfield as for gravity systems. Using a garden hose, the water may be added to the outlet side of the septic tank, or directly to the pump basin. If filling the basin directly, care should be taken to minimize turbulence and disturbance of sediment or sludge that may have collected in the basin. This can be best accomplished by directing the stream of water against the interior side of the chamber, rather than directly toward the bottom of the pump chamber.

Observe the filling of the basin, and note and measure the point at which the pump is activated. Immediately stop the filling operation and observe the pumping cycle until the pump shuts off. While the pump is discharging, examine the piping system for any leaks. Note and measure the depth at which the pump shuts off, and calculate the volume of water between the "on" and "off" measurements. Compare this dose with the design dose volume specified for the system. If the dose is too high or too low, float controls should be done by a licensed and properly qualified contractor.

The pumping cycle (from "on" to "off") levels should be timed and the results recorded on the inspection form. Typically, if the pump is sized and operating properly, pump operation lasts 1 to 5 minutes per dose. Pump cycles lasting longer than this may indicate leachfield clogging and/or pump deficiencies. If this is observed, it should be noted and further investigation of the pump and leachfield should be conducted to determine the specific cause.

If during filling of the basin, the pump does not activate when water reaches the high liquid level control (for example "on" float), discontinue the pump test. This indicates a pump failure, defective float switch or wiring problems and will require the repair service of a contractor familiar with these types of systems. The pump system failure should be noted, communicated immediately to the resident/owner and follow-up with a notice requiring prompt corrective action.



#### E. Final Leachfield Inspection

At the completion of the hydraulic load test, the drain field area and downslope areas should be checked again for indications of surfacing effluent, wetness, or odor. If any of these conditions exist as a result of the hydraulic load test, this shall be considered conclusive evidence of system failure. If the field observations of wetness are not obviously the result of the hydraulic load test, further investigation may be necessary to determine if the drain field is failing and the cause of the failure. Additional investigative work may include water quality sampling (for total and fecal coliform, ammonia and nitrate) or dye testing. The cause of seepage could be related to gopher holes, site drainage or erosion problems, excessive water use or simply the age of the dispersal system.

#### F. Clean Up

At the completion of the OWTS inspection and testing, all access lids shall be replaced and tools cleaned before leaving the site. All tools and equipment that come in contact with wastewater should be cleaned and disinfected with a 1 to 5 water to bleach solution: and all contaminated rinse water shall be disposed of in the septic tank.

The following guidelines shall be followed for Hydraulic Load Test ratings of septic tanks:

1. No noticeable rise in water level during filling-Excellent;
2. Maximum water level rise of about 1 inch, with rapid decline to initial level within about 5 minutes after end of filling-**Good**;
3. Maximum water level rise of about 2 inches, with decline to initial level within about 15 minutes after end of filling-**Satisfactory**;
4. Maximum water level rise of about 3 inches, with decline to initial level within about 30 minutes after end of filling-**Marginal**;
5. Water level rise of more than 3 inches, with decline not reaching initial level within 30 minutes after end of filling-**Poor**;
6. Water level rise of more than 3 inches, with no noticeable decline within 30 minutes after end of filling-**Failed**.