

## Section 6 Requirements for Approval of Building Permits

Sonoma County Code Section 7-5(b)(2) requires a Well and Septic Section clearance in relation to building structure improvement projects. Building permits shall be routed to the Well and Septic Section for review. Building permits that do not impose additional burdens upon existing OWTS will be provided a Well and Septic Section clearance. Building permits that do impose additional burdens upon existing systems 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 Well and Septic Section clearance until the burden(s) have been mitigated.

### 6.1 Building Permit without a Plan Review

- A. Building permits without a plan review do not require a review by the Well and Septic Section. Table 6.1 lists the building permits that do not require a plan review.

Table 6.1 – Building Permit Projects Without a Plan Review

<u>Furnaces</u>
<u>Water Heaters</u>
<u>Re-Roofs</u>
<u>Siding</u>
<u>HVAC</u>
<u>Electric Service</u>
<u>Electrical Repairs</u>
<u>Interior Wall Coverings</u>
<u>Dry Rot Repair (&lt;40 Linear Feet)</u>
<u>Deck Repairs</u>

### 6.2 Building Permit with a Plan Review

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

### 6.3 New Dwelling Unit on Undeveloped Land

- A. 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 section 4.13.A General Provisions.

## **6.4 New Dwelling Unit 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 6.9 Existing Code Compliant Septic System Documentation, is required; or
  2. A new code compliant septic system is required.
  3. A code compliant reserve replacement area is required, pursuant to section 4.13.A General Provisions.
- B. New Dwelling Unit as a Junior Dwelling Unit (JDU). An existing primary dwelling unit and the proposed construction of a new junior dwelling unit typifies this category.
  1. Either an existing non-conforming septic system, pursuant to section 6.10 Existing Non-Conforming Septic System Documentation, is required; or
  2. An existing code compliant septic system, pursuant to section 6.9 Existing Code Compliant Septic System Documentation, 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.

The 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.

1. The primary dwelling shall have an existing code compliant septic system, pursuant to section 6.9 Existing Code Compliant Septic System Documentation, which has sufficient capacity to treat and dispose the added wastewater flow associated with the proposed ADU; and
2. The ADU shall have a dedicated septic tank; or

3. The applicant shall provide a new code compliant system for the ADU.
4. A code compliant reserve replacement area is required for the primary dwelling unit, pursuant to section 4.13.A General Provisions.
5. A code compliant reserve replacement area is required for the ADU, pursuant to section 4.13.A General Provisions.

## **6.5 New Accessory Structure**

A. A proposed structure accessory to an existing dwelling unit on developed land typifies this category. 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: ones with plumbing and those without plumbing. This category is not a dwelling unit and does not contain a bedroom.

### **B. Accessory Structures with Plumbing**

1. An existing non-conforming septic system, pursuant to section 6.10 Existing Non-Conforming Septic System Documentation, is required.
2. The applicant shall provide documentation the proposed plumbing does not represent an increase in wastewater flow to the existing septic system.
3. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to section 6.8 and section 4.13.A General Provisions.

### **C. Accessory Structures without Plumbing**

1. An existing non-conforming septic system, pursuant to section 6.10 Existing Non-Conforming Septic System Documentation, is required.
2. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to section 6.8 and section 4.13.A General Provisions.

## **6.6 Building Improvements Increasing Wastewater Flow or Strength**

- A. A proposed addition, interior improvement or tenant improvement to an existing structure that increases the occupancy loading (bedroom addition) and/or increases the wastewater flow or strength typifies this category.
1. An existing code compliant septic system, pursuant to section 6.9 Existing Code Compliant Septic System Documentation, 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% of the wastewater flow is required.
3. A code compliant reserve replacement area shall be required for the primary dwelling unit, pursuant to section 6.8 and 4.13.A General Provisions.

## **6.7 Building Improvements without Increasing Wastewater Flow or Strength**

- A. A proposed addition, interior improvement or tenant improvement to an existing structure that does not increase the occupancy loading (bedroom addition) and/or does not increase the wastewater flow typifies this category.
  1. An existing non-conforming septic system, pursuant to section 6.10 Existing Non-Conforming Septic System Documentation, is required.
  2. A reserve replacement area shall be evaluated or required for the primary dwelling unit, pursuant to section 6.8 and section 4.13.A General Provisions.

## **6.8 Reserve Replacement Area**

- A. For sections 6.3 and section 6.4 a code complaint reserve replacement area is required. For sections 6.5 through 6.8 reserve replacement areas shall be evaluated or required depending on the amount of land encumbrance and whether or not the proposed building permit increases the percent land encumbrance above 50%.
  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
  2. When there is 50% 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 there is greater than 50% land encumbrance, the reserve replacement area shall be required.
- B. Evaluation of the reserve replacement area consists of ensuring the proposed building does not physically encroach into, onto or adversely affects the 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 reserve replacement area consists of site evaluation for soil type, percolation rate and depth of ground water, 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.

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

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

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

- A. Documentation of an existing non-conforming septic system consists of one 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 per Table 6.10 – Type of Findings Report

Table 6.10 – Type of Findings Report

<u>Building Project</u>	<u>Type of Findings Report</u>
<u>New Dwelling Units on Developed Land:</u> <u>Reconstruction</u> <u>New JDU</u> <u>New ADU</u>	<ul style="list-style-type: none"> <li>• <u>Code Compliant Septic System</u></li> <li>• <u>Non-Conforming Septic System</u></li> <li>• <u>Code Compliant Septic System</u></li> </ul>
<u>New Accessory Structure (non-bedroom):</u> <u>with Plumbing</u> <u>without Plumbing</u>	<ul style="list-style-type: none"> <li>• <u>Non-Conforming Septic System</u></li> <li>• <u>Location Only</u></li> </ul>
<u>Building Improvement:</u> <u>Increase in Flow/Strength</u> <u>No increase in Flow/Strength</u>	<ul style="list-style-type: none"> <li>• <u>Code Compliant Septic System</u></li> <li>• <u>Non-Conforming Septic System</u></li> </ul>

## **6.11 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, 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 structure 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 insure that the system is functioning adequately.
    - b. Hydraulic load test,
    - c. Pump test or
    - d. Evaluation of profile holes.
  5. Estimated age of system.
  6. Estimated sizing of system.
  7. Inspection of all tanks and recent pumpers report (within last 5 years); this should include presence or absence of baffle walls, inlet and outlet tees, effluent levels on the inlet and outlet sides of the tank, root intrusion and cracks in the tank.
  8. A completed monitoring form for nonstandard systems.
  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 ground water, 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 6.11.B:
1. Findings Report – Location Only. A Findings Report – Location Only shall include items 1 and 2.

2. Findings Report – Non-Conforming Septic System. A Findings Report – Non-Conforming Septic System shall include items 1 through 9.
3. Findings Report – Code Compliant Septic System. A Findings Report – Code Compliant Septic System shall include items 1 through 10.

## **6.12 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 leach fields, 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 20-30-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 leach field 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 (i.e., 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 0.5 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 the following table. 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 no edits hydraulic loading of the leach field 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 1-5 minutes per dose. Pump cycles lasting longer than this may indicate leach field clogging and/or pump deficiencies. If this is observed, it should be noted and further investigation of the pump and leach field 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 (i.e. “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 competent 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 Leach Field Inspection

At the completion of the hydraulic load test, the drainfield area and downslope areas should be checked again for indications of surfacing effluent, wetness, or odors. 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 drainfield 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, the inspector shall replace all access lids and clean all tools before leaving the site. All tools and equipment that come in contact with wastewater should be cleaned and disinfected with a 1:5 bleach solution: and all contaminated rinse water shall be disposed of in the septic tank.

**Table 6.8 Hydraulic Load Test Rating Guidelines**

<b>Rating</b>	<b>Septic Tank Response to Hydraulic Loading</b>
Excellent	No noticeable rise in water level during filling
Good	Maximum water level rise of about 1 inch, with rapid decline to initial level within about 5 minutes after end of filling.
Satisfactory	Maximum water level rise of about 2 inches, with decline to initial level within about 15 minutes after end of filling.
Marginal	Maximum water level rise of about 3 inches, with decline to initial level within about 30 minutes after end of filling.
Poor	Water level rise of more than 3 inches, with decline not reaching initial level within 30 minutes after end of filling.
Failed	Water level rise of more than 3 inches, with no noticeable decline within 30 minutes after end of filling.