



## Part Four: Operation, Monitoring, and Maintenance

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## Part Four: Operation, Monitoring, and Maintenance (OM&M)

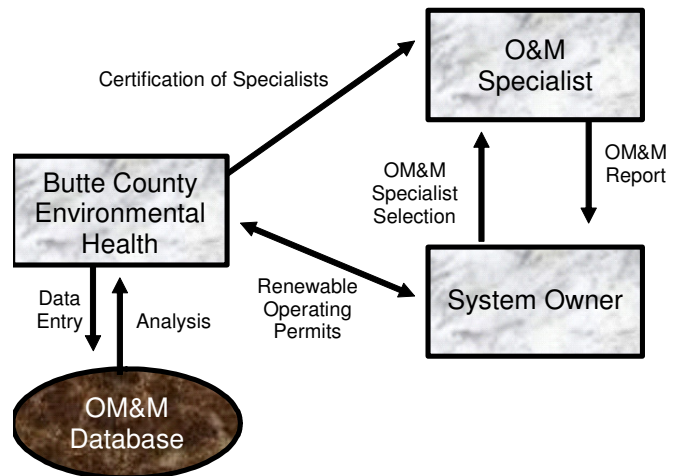
### Chapter 1. Applicability

- A. The program will apply to new and repair on-site wastewater systems as specified in the On-Site Wastewater Ordinance and this Manual.
- B. Owners of existing systems that do not include pressure distribution, sub-surface drip irrigation, or supplemental treatment will be encouraged to voluntarily opt into the program.

### Chapter 2. Administration

#### A. Administrative Overview

1. The program will be administered county-wide by the LEA.
2. Any required OM&M inspections will be performed by certified OM&M Specialists.
3. OM&M Specialists are individuals or corporations who are certified by the LEA.
4. The LEA may perform OM&M inspections for quality assurance surveys and investigations.
5. The diagram shows the relationship between the parties involved in the program.



#### B. Roles and Responsibilities

1. LEA:
  - a. Develop and administer the OM&M program in consultation with the Butte County On-Site Wastewater Advisory Committee.
  - b. Establish a record keeping and reporting system to ensure that up-to-date records are kept of the location, ownership, site evaluation, design, and OM&M reports so that performance of the systems can be monitored.



- c. Assure ongoing program quality control and quality assurance.
  - d. Monitor and analyze the performance of on-site systems within the County by reviewing OM&M data in relationship to written performance standards.
  - e. Inspect supplemental treatment systems located within the Cleveland Hills Alquist-Priolo Earthquake Fault Zone in the event of an earthquake centered on the Cleveland Hills Fault resulting in appreciable surface fault displacement.
  - f. Inspect supplemental treatment systems in the event of an earthquake centered within 25 miles of Butte County with Richter Magnitude of 5.0 and above.
  - g. Assure timely follow up and correction, including enforcement action, when problems are encountered with individual wastewater systems or with treatment and dispersal technologies which are being monitored through this OM&M program.
2. System Owner
- a. System owner must use the on-site system in conformance with its design parameters
  - b. Participates in the OM&M program as outlined in this document
  - c. Assures continued operation and maintenance of their on-site wastewater system consistent with the On-Site Wastewater Ordinance and this Manual
  - d. Must report any system malfunctions resulting in surfacing sewage to the LEA within 24 hours of discovery
  - e. Must contact an OM&M Specialist within 24 hours of discovering the following conditions that could indicate system malfunction requiring major system repair:
    - (1) Persistent and excessive odor of sewage
    - (2) Activation of the system audible and/or visual alarm
    - (3) Wastewater backing up into the plumbing fixtures, toilets not flushing properly, or sink drains not functioning
  - f. Must obtain permits, procure services, and pay fees as may be necessary to correct deficiencies in on-site system identified by the LEA or the OM&M Specialist
3. Certified Pumper
- a. Pump septic tank and inspect the tank for integrity, including baffles and “T”s.



- b. Report findings on a standardized form provided by the LEA and submit completed forms to the LEA on no less than a monthly basis.
- c. Any malfunctions resulting in surfacing sewage must be reported to the LEA within 24 hours of discovery.
- 4. Certified Designer
  - a. For each system designed, develop and provide a system owner's OM&M Manual, as described in Chapter 3 of this Part of the Manual. An electronic version of the OM&M Manual must be provided to the LEA for review and for archival purposes.
- 5. Proprietary System Authorized Agent
  - a. Assure that instructions regarding OM&M of the system or device is provided to the LEA, designer, and owner of the residence or facility
  - b. Provide instructions in sufficient detail for maintenance to be achieved through certified OM&M specialists
- 6. Certified OM&M Specialist
  - a. Meet and maintain the requirements for certification outlined in this program
  - b. Provide all required maintenance and monitoring reports to the LEA within 30 days of service
  - c. Report to the LEA within 24 hours of discovery any system malfunctions resulting in surfacing sewage or in the judgment of the OM&M Specialist, will require major system repair
  - d. Notify the LEA of system maintenance activities as specified in the On-Site Wastewater Ordinance.
- 7. Wastewater Advisory Committee  
Assist the LEA in the development, adoption, oversight, evaluation, and improvement of this OM&M program

### **Chapter 3. Program Elements**

#### **A. Homeowner Education**

The LEA will establish methods for increasing public understanding about the proper use and care of on-site systems. The program goal is to provide system owners with the information they need to properly operate and maintain their systems.



B. OM&M Data Management

The LEA will track the maintenance and performance of all systems in the OM&M database.

C. OM&M Manual

1. For standard gravity systems, the LEA will provide an informational packet to new owners at the time of installation and at change of ownership.
2. For supplemental treatment systems, the certified designer will provide the homeowner's with an OM&M Manual and provide an electronic version to the LEA for archival purposes.
  - a. The OM&M Manual will be supplemented and/or updated by the certified designer when a system is repaired.
  - b. The manual will include the following elements, as applicable and available:
    - (1) Diagrams of the system components
    - (2) Accurate, fully dimensioned as-built of the system
    - (3) Explanation of general system function, operational expectations, owner responsibility, etc.
    - (4) Routine maintenance schedule
    - (5) Names and telephone numbers of the certified designer, certified installer, and certified OM&M Specialist
    - (6) List of proprietary system components, including manufacturer name and model number
    - (7) Information on "troubleshooting" common operational problems that might occur with that specific system

D. Operating Permit

1. Requirements for Approval
  - a. System installation has received Final Approval by the LEA as described in Part 1 of this Manual.
  - b. The OM&M Manual has been provided by the system designer for supplemental treatment systems.
  - c. System has an approved, fully dimensioned As-Built document and designer certification as described in Part 1 of this Manual.
  - d. For pressure distribution and supplemental treatment systems, appropriate notice of Operating Permit requirements and a Licensing Agreement have been recorded on the



property deed as described in Subsection E of this Part of the Manual.

2. Operating Permit Renewal Frequency

Operating permits need to be renewed at a frequency based on system type and location.

3. Renewal Procedures

a. The LEA will notify the system owner of the need to renew their system's operating permit. The notice will list certified OM&M Specialists that may be used by the homeowner for inspecting and maintaining the system.

b. The LEA will renew the operating permit upon receipt of the appropriate fee and verification of compliance with OM&M requirements.

4. Special Inspections

a. Operating permits will include a condition to allow inspect supplemental treatment systems located within the Cleveland Hills Alquist-Priolo Earthquake Fault Zone in the event of an earthquake centered on the Cleveland Hills Fault resulting in appreciable surface fault displacement.

b. Operating permits will include a condition to allow inspect supplemental treatment systems in the event of an earthquake centered within 25 miles of Butte County with Richter Magnitude of 5.0 and above.

E. Notice on Property Deed

Owners of systems utilizing pressurized distribution and/or supplemental treatment will record, with the property deed for the benefit of future owners and successors:

1. Notice of the requirement for an Operating Permit
2. A Licensing Agreement granting the LEA access to inspect the system after providing the property owner with prior notification

**Chapter 4. Inspection Frequency and Maintenance Checks**

A. Inspection Frequency

Inspection Interval (Following Initiation of System Use)	Standard Gravity Sys- tem	Pressure Dist. or Siphon	Mound or Single-Pass Sand Filter	ATU or Packed-Bed Filter (1)	Disinfection Units
First 6 weeks					PL or OM
First 3 months		OM	OM	PL or OM	



Inspection Interval (Following Initiation of System Use)	Standard Gravity Sys- tem	Pressure Dist. or Siphon	Mound or Single-Pass Sand Filter	ATU or Packed-Bed Filter (1)	Disinfection Units
Monthly					PL or OM (if no telemetry)
Annually			OM		
As required by the manufacturer or NSF, but not less than once per year				PL or OM	PL or OM (with telemetry)
Year 1-2 of cycle		HO or OM			
Year 3 of cycle		OM			
Year 4 of cycle					
Year 5 of cycle	PU or IN or OM (Recommended Only)				

(1) Supplemental treatment systems, other than single-pass sand filters, used for treatment prior to disinfection must be monitored monthly for the first year of operation and longer if necessary to assure treatment requirements are reliably met

PL= Proprietary Device Licensee (also must be locally certified as OM&M Specialist)

PU= Certified Pumper

INS= Certified Installer

HO= Homeowner

OM= Certified Operation, Monitoring, and Maintenance Specialist

## B. System-Specific Requirements

Complexity and frequency of inspection will be related to the complexity and maintenance requirements of the system components, and based upon consideration of:

1. Recommendations of the Wastewater Advisory Committee
2. Recommendations of the manufacturer
3. Industry standards of practice

## C. Minimum Inspection Requirements

1. Septic Tank
  - a. Scum and sludge measurements (pumped as needed)
  - b. Water intrusion (dissolved oxygen measured by OM&M Specialist only)
  - c. Integrity of tank, including observation for:
    - (1) Cracks or indications of structural deterioration
    - (2) Condition of inlet and outlet "T"
    - (3) Condition of lids



- (4) Indication of leaks in risers
    - d. Condition of effluent filter, if present
  2. Pump and Dosing Chamber
    - a. Scum and sludge measurements, pumping as needed
    - b. Indication of water intrusion (dissolved oxygen measured by OM&M Specialist only)
    - c. Integrity of tank, including observation for:
      - (1) Cracks or indications of structural deterioration
      - (2) Condition of inlet and outlet "T"
      - (3) Condition of lids
      - (4) Indication of leaks in risers
    - d. Condition of and correct operation of all floats
    - e. Orderly wrap of float cords
    - f. Condition of pump intake screen
    - g. Verification of pump cycle
    - h. Siphon sitter functioning, if applicable
  3. Control panel in good working order based on checking the following components:
    - a. Timer and digital counter readings recorded by OM&M Specialist during the inspection for future reference. For control panels that record pump activity electronically, it is not necessary to record activity during field inspection.
    - b. Pump cycle counter operation verified by the OM&M Specialist in the field by manual operation of the pump. For control panels that record pump activity electronically, counter operation can be verified remotely.
    - c. Audible and visual alarms functioning
    - d. Run time appropriate, if demand dose
    - e. Electrical box free from moisture and secure connections
  4. Gravity Drainfield (Conventional or Gravelless), if applicable
    - a. Depth of effluent ponding within trench
    - b. Indication of effluent breakout or discharge to surface of the ground
    - c. Upkeep and accessibility of observation ports
    - d. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    - e. Results of hydraulic loading test, if test is needed
  5. Pressure Distribution Drainfield
    - a. Depth of effluent ponding within trench



- b. Indication of effluent breakout or discharge to surface of the ground
    - c. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    - d. Upkeep and accessibility of observation ports
    - e. Check for equal distribution by measuring distal end orifice residual pressure head
    - f. Condition of orifices and verification of hydroflush if necessary
  6. Mound
    - a. Excessive ponding of effluent
    - b. Effluent breakout or discharge to surface of the ground
    - c. Maintenance of area free from roads, structures, livestock, vehicular traffic, surface water drainage with down spouts properly diverted
    - d. Upkeep and accessibility of observation ports
    - e. Check for equal distribution by measuring distal end orifice residual pressure head
    - f. Condition of orifices and verification of hydroflush if necessary
  7. Single-Pass Sand Filter
    - a. Ponding of effluent over sand
    - b. Effluent breakout or discharge to surface of the ground
    - c. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    - d. Upkeep and accessibility of observation ports
    - e. Check for equal distribution by measuring distal end orifice residual pressure head
    - f. Condition of orifices and verification of hydroflush if necessary
    - g. Within pump well, check for same items as listed under "Pump and Dosing Chamber"
  8. Aerobic Treatment Units, Including Packed-Bed Filters  
Follow requirements outlined by manufacturer and/or NSF.
  9. Add-On Disinfection Component  
Follow requirements outlined by manufacturer and/or NSF.
- D. Supplemental Treatment Effluent Monitoring
  1. Any system that incorporates supplemental treatment shall be monitored annually for performance in the following manner:



- a. Treated effluent and, where applicable, untreated influent will be sampled and tested at least annually for total and fecal coliform, BOD, and TSS.
  - b. Influent and effluent of systems with Operating Permits requiring nitrogen reduction shall, in addition, be tested for Total Nitrogen.
  - c. When effluent quality monitoring results indicate that the supplemental treatment and/or add-on disinfection did not meet the minimum treatment levels specified in this Manual, a second sample will be taken within three months. If the follow up sampling results indicate that the supplemental treatment and/or add-on disinfection unit is not performing to the treatment levels specified in this Manual, the OM&M Specialist will inform the LEA and will take the corrective action necessary to achieve the treatment levels specified in this Manual. Correction of treatment problems will be verified by two consecutive compliant sample results within a three month period.
2. Use of supplemental treatment technologies for new and replacement systems may be restricted or prohibited where it has been determined that a technology is not capable of consistently meeting treatment standards under field conditions.

## Chapter 5. Corrective Action

Corrective action for non-compliance with treatment standards may include the following:

- A. Notification of Non-Compliance  
A Notification of Non-Compliance with the treatment sent to the system's certified designer and system proprietor;
- B. Hearing  
A hearing with the LEA and/or the Wastewater Advisory Committee;
- C. Extended Testing  
Extended field testing of the system until compliance can be verified;
- D. Restricted or Prohibited Use  
Restricted or prohibited use of the system for new and repair applications.