MEMORANDUM

April 18, 2001

TO: Wastewater Program Staff, Certified Designers, Master Installers, Pumpers and Interested Persons

FROM: Greg Bishop, Supervisor, Wastewater Program
Ellen Marson, Wastewater Program
Environmental Health Division, Public Health – Seattle & King County

RE: **On-Site System Maintainer (OSM) Certification Process**
OSM Certification Renewal Process
Application for Certificate of Competency - OSM

ON-SITE SYSTEM MAINTAINER APPLICATION

Applications will be accepted beginning June 1, 2001 for the new Certificate of Competency category of "On-Site System Maintainer" (OSM). An OSM conducts periodic on-site sewage system (OSS) monitoring, ensures that each system owner is properly operating and maintaining his/her system and that the system is functioning properly. The OSM requires a minimum level of experience and education as well as to pass the Maintainer Competency Exam given by Public Health – Seattle & King County (PH) to become certified. Continuing education credits are required to obtain annual renewals.

INSPECTION DUTIES AND REPAIR LIMITATIONS

During the inspection the OSM must complete an On-Site Sewage System Operation/Performance Monitoring Report form provided by PH. The report is to be given to the OSS owner at the time of the inspection and to PH, along with a $10 filing fee, within 30 days of the inspection.

The OSM may only perform preventive maintenance activities (e.g. filter cleaning) and limited repairs to the system. 'Limited repair', as defined in the King County On-Site Sewage Code, Title 13 (13.08.226), means:

> "the replacement, addition or alteration of a broken or malfunctioning building sewer pipe, sewage tank lid, sewage tank baffles, sewage tank pumps, pump control floats, pipes connecting multiple sewage tanks and drainfield inspection boxes and ports where the subsurface soil absorption system is not failing."

A limited repair permit application must be filed with PH within 5 days of the completion of the limited repair. The limited repair permit signed by the OSM must be submitted with the monitoring report to PH. Identification of cause(s) of system malfunction and/or failure component should be written in the space provided on the monitoring report form.

MAINTAINER COMPETENCY EXAM DATES:
The first exam will be scheduled within the second half of June 2001. Various dates will be scheduled according to the number of applications received in the first two weeks of June. The exam, which will be closed book and will take approximately 4 hours to complete, will most likely be scheduled 8am-12pm (time is subject to change). A letter with your exam date will be sent shortly after PH receives your application.

M101 COURSE IN JUNE 2001 AT THE NORTHWEST ON-SITE WASTEWATER TRAINING CENTER - PUYALLUP
The training center has indicated that there may be another M101 course added to the schedule for June 4 - 6, 2001 if there are at least 15 people interested in taking the course**.** If you are interested in attending, please contact Ellen Marson, (206) 205-8962, by **May 7, 2001**.
NOTE: There is still space available for the May 14 – 16, M101 Basics of Monitoring course in Puyallup.

ATTACHMENTS
The certification program outlined in this memo includes:

- step-by-step instruction for becoming a certified OSM;
- step-by-step instruction for renewing your certification;
- applicant checklist for the certification process; and
- application form: Application for Certificate of Competency – OSM.

Please note that WAIVER NOTICES have been issued throughout this memo because the certification program is beginning mid-year. If you have any questions regarding OSM certification, please call Ellen Marson at the Eastgate District Office, (206) 205-8962 or e-mail at ellen.marson@metrokc.gov.

GB:EM
Attachments 4

cc: Todd Yerkes, Acting Principal, Community Environmental Health Section
Roman Welyczko, Enforcement Coordinator

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ON-SITE SYSTEM MAINTAINER (OSM) CERTIFICATION

I. OSM CERTIFICATION PREREQUISITES

1. Two years work experience as a designer, installer or pumper.

2. Proof of successful completion within the previous 12 months of at least one Public Health – Seattle & King County Health Officer or his/her representative (health officer) – recognized course of instruction in the operation, monitoring and maintenance of OSS.
   See Part IV – OSM Certification Process, #2.c. for details.
   WAIVER NOTICE:
   Due to possible class schedule time constraints between June 1, 2000 and June 1, 2001, Public Health – Seattle & King County will implement a one-time waiver of the 12-month requirement. *This waiver will allow health officer-recognized classes that were taken from December 1, 1999 to June 1, 2001 to be acceptable for this requirement until December 1, 2001. The waiver expires and the 12-month restriction will be enforced on December 1, 2001.*

3. Pass the Maintainer Competency Exam given by Public Health – Seattle & King County.
   See Part IV – OSM Certification Process, #3.a-g for details.
   WAIVER NOTICE:
   The health officer may waive the exam for designers who perform monitoring of only those systems that they have designed.

4. The application may be denied if in the health officer's judgment the applicant is for any reason not qualified to monitor and maintain OSS. These reasons include previous findings of negligence, incompetence, misrepresentation or failure to comply with the King County On-Site Sewage Code, Title 13, Code of the King County Board of Health.

II. CONDITIONS FOR MAINTAINING OSM CERTIFICATION

1. Must submit evidence of and maintain at all times compliance with State of Washington minimum performance bonding requirements (Revised Code of Washington, Chapter 18.27).

2. Must consistently demonstrate reasonable care and skill in performing OSM work and comply with all applicable state and county on-site sewage system rules and regulations.

3. Mandatory informational/educational meetings will be held for all certified OSMs with the minimum of a 4 weeks mailed notice of the meeting time and location. Failure to attend the required meetings, without prior approval of the health officer, is cause for withholding re-certification until an OSM exam is successfully completed.

III. OSM CERTIFICATION EXPIRATION & FEES

1. Expiration date of your OSM Certificate of Competency is DECEMBER 31st OF EACH YEAR. The OSM may not conduct performance monitoring inspections or preventive maintenance of OSS after December 31st unless the certification has been renewed.

2. Initial Application and Maintainer Competency Exam fee: $250.00

3. OSM Certificate of Competency fee after successful completion of Maintainer Competency Exam: $250.00

   WAIVER NOTICE:
   From June 1, 2001 – December 31, 2001, the OSM Certificate of Competency fee will be $125.00. After December 31, 2001, the fee will be $250.00 for a one-year certification.

4. All fees are non-refundable.

IV. OSM CERTIFICATION PROCESS

Please read carefully the following steps for obtaining OSM certification. Attached is a checklist for your convenience.

1. **Request an Application for Certificate of Competency - On-Site Sewage System Maintainer** from Public Health – Seattle & King County, Environmental Health Division, 14350 SE Eastgate Way, Bellevue, (206) 296-4932 or print the application from Public Health's website: www.metrokc.gov/health/wastewater/forms

2. **Submit completed application to address indicated on the form, including:**
   a. Evidence of 2 years experience such as:
      - Written proof of employment on company letterhead
   b. $250.00 Initial Application and Maintainer Competency Exam fee
   c. Proof of successful completion (i.e. certificate of completion) within the previous 12 months of at least one health officer-recognized course of instruction in the operation, monitoring and maintenance of OSS. *Note waiver notice in Section I – OSM Certification Prerequisites, #2.*

Health officer-recognized courses are offered at the **Northwest On-Site Wastewater Training Center**, located at the Washington State University Research & Extension Center, 7612 Pioneer Way E, just west of Puyallup, Washington. There are four Maintenance classes offered at the Northwest On-Site Wastewater Training Center:

1. M101 Basics of Monitoring (novice – approximately 2-4 years experience)
2. M102 Basics of Maintenance (novice – approximately 2-4 years experience)
3. M201 Troubleshooting & Repairs (experienced professionals – approximately 4 years +)
4. M202 Wastewater Sampling (experienced professionals – approximately 4 years +)

For a copy of the Training Center's Class Schedule class booklet and registration, contact:
Washington On-Site Sewage Association (WOSSA)
(253) 927-4403
PO Box 25348
Federal Way, WA 98093-2348

For information regarding content, contact:
Dave Lenning
Training Center Coordinator
(360) 455-8880
dlenning@prodigy.net

- If you have completed a course through a different training center, please submit copy of agenda/syllabus showing date, time, subject matter, presenter, sponsor and evidence of actual participation. Public Health will review the course material to determine if it meets the standards of a health officer-recognized course in monitoring and maintenance.

3. Maintainer Competency Exam:

WAIVER NOTICE:
The exam may be waived for designers who perform monitoring of only those systems they have designed.

a. The exam will take approximately 4 hours to complete and covers all aspects relating to the operation, problem diagnosis, and maintenance of OSS. It includes, but is not limited to, an extended knowledge of the following:
   - King County On-Site Sewage Code, Title 13, Code of the King County Board of Health;
   - Washington State Department of Health Recommended Standards and Guidance documents;
   - Northwest On-Site Wastewater Training Center's *Basics of Monitoring*; and
   - U.S. Environmental Protection Agency's Design Manual.

   See Documents Price List regarding obtaining some of these documents (sent with 2/1/01 Memo – On-Site Sewage System Maintainer Application Prerequisites).
b. The exam will consist of multiple choice and true/false questions.
c. A basic, hand-held calculator is allowed.
d. Results will be mailed to the address indicated on the application.
e. Applicants receiving a near-failing grade may be required to pass a verbal test addressing weak subject areas on the written test.
f. **IF YOU PASSED THE EXAM**, a letter will be included with the exam results requesting:
   - a copy of proof of performance bond (i.e. specialty or general contractor's license) **and**
   - a letter on official letterhead from your present employer stating employment (if not already sent with initial application)
g. **IF YOU FAILED THE EXAM**, you may schedule a re-take of the exam on the next scheduled exam date.
   - A new application form and $250.00 application and exam fee is required

4. Submit OSM Certificate of Competency fee of $125.00 (*Note waiver notice in Section III – OSM Certification Expiration and Fees, #3.)* **after successful completion of the exam.**

5. After Public Health receives the OSM Certificate of Competency fee payment, copy of proof of performance bond, official letter proving present employment, and grants final approval of the application, your proof of OSM certification will be mailed to the address indicated on the application.

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ON-SITE SYSTEM MAINTAINER (OSM) CERTIFICATION RENEWAL

I. OSM CERTIFICATION RENEWAL PREREQUISITES

1. At least one continuing education credit (CEU) must be earned during the previous calendar year. See Part III – OSM Certification Renewal Process, #2.a. for details.

   WAIVER NOTICE:
   OSMs certified in 2001 will be given until their renewal application is submitted for their 2003 Certificate of Competency to earn one CEU. OSMs certified in 2001 are still required to apply for their 2002 Certificate of Competency renewal.

2. Attendance at all mandatory informational/educational meetings held by Public Health. Failure to attend a required meeting, without proof of prior written approval for absence from the health officer, may cause withholding of re-certification until the applicant re-takes and successfully completes the Maintainer Competency Exam.

3. Shown consistent demonstration of reasonable care and skill in performing OSM work and compliance with all applicable state and county on-site sewage system rules and regulations.

II. OSM CERTIFICATION RENEWAL DEADLINES & FEES

1. Expiration date of the OSM Certificate of Competency is DECEMBER 31st OF EACH YEAR. The OSM may not conduct performance monitoring inspections or perform preventive maintenance of OSS after December 31st unless the certification has been renewed.

2. Applications for renewal will be accepted annually beginning in mid-November.

3. The exam re-take ***IS NOT*** required if the renewal application is received prior to February 4th of the certification year.

4. The exam re-take ***IS*** required if the renewal application is received after February 4th of the certification year.

5. OSM Certificate of Competency renewal fee: $250.00

6. A late fee of 25% of the renewal amount ($62.50) will be charged for a renewal application received after January 15th.

7. All fees are non-refundable.

III. OSM CERTIFICATION RENEWAL PROCESS

Please read carefully the following steps for obtaining an OSM certification renewal.

1. **Request an Application for Certificate of Competency On-Site Sewage System Maintainer** from Public Health – Seattle & King County, Environmental Health Division, 14350 SE Eastgate Way, Bellevue, (206) 296-4932 or print the application (same form as initial application) from Public Health's website: www.metrokc.gov/health/wastewater/forms.

2. **Submit completed application to address indicated on the form, including:**
   a. Evidence of at least 8 hours of education (continuing education units) regarding operation and maintenance earned during the previous calendar year. *Note waiver notice in Section I – OSM Certification Renewal Prerequisites, #1.*
      - Hours may be totaled from one or several courses, seminars, workshops etc.
      - Unless specified, Public Health – Seattle & King County sponsored conferences, seminars or industry meetings do not count as continuing education units
      - Courses are offered at the Northwest On-Site Wastewater Training Center, located at the Washington State University Research & Extension Center, 7612 Pioneer Way E, just west of Puyallup, Washington
      - For a copy of the Training Center's Class Schedule booklet, contact the Washington On-Site Sewage Association (WOSSA) at (253) 927-4403
      - For information regarding class content, contact Dave Lenning, Training Center Coordinator, at (360) 455-8880 or dlenning@prodigy.net
   b. Copies of any waivers that were received excusing the applicant from mandatory Public Health meetings.
   c. Copy of performance bond (i.e. specialty or general contractor's license).
   d. OSM Certificate of Competency renewal fee:

Renewal application received January 15th or before	$250.00
Renewal application received after January 15th	$312.50

3. **If the renewal application and application fee is received <u>after</u> February 4th of the year following the expiration, the exam re-take *IS* required.**
   a. Please follow the steps in the OSM Certification, Section IV- OSM Certification Process, #3. a-g.
   b. Maintainer Competency Exam: $250.00

4. **After Public Health receives the OSM Certificate of Competency renewal fee payment, copy of proof of performance bond, official letter proving present employment, and grants final approval of the application, your proof of OSM certification will be mailed to the address indicated on the application.**

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OSM CERTIFICATION CHECKLIST FOR APPLICANT

Application for Certificate of Competency On-Site System Maintainer

Ō	ITEM
	Evidence of 2 years experience as a designer, installer or pumper, i.e. written proof of employment on company letterhead
	Proof of successful completion within the previous 12 months of at least one Public Health Officer-recognized course of instruction in the operation, monitoring and maintenance of on-site sewage systems
	$250.00 Initial Application and Maintainer Competency Exam fee

Maintainer Competency Exam

Ō	ITEM
	Exam is waived because I am a designer who will be performing monitoring of only those systems designed by me.
	Received letter with possible exam dates. *DATE OF EXAM*:
	Received letter with passing exam results and: ____ Sent copy of proof of performance bond (i.e. specialty or general contractor's license). Contact information: Department of Labor and Industries Contractor Registration Section P.O. Box 44450 Olympia, WA 98504-4450 Phone (360) 902-5226 Fax (360) 902-5228 ____ Sent letter on official letterhead from present employer stating employment (if not already sent with application)
	Received letter with failing exam results and scheduled re-take of exam for:_____ (a new application form and $250.00 application and exam fee is required)

OSM Certificate of Competency Fee

Ō	ITEM
	Sent OSM Certificate of Competency fee: ▪ $125.00 if applied between June 1, 2001 and December 31, 2001, OR ▪ $250.00 if applied after December 31, 2001.

OSM Proof of Certification

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	Received proof of OSM certification

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Public Health
Seattle & King County

MEMORANDUM

March 9, 2001

TO: All Licensed Septic System Designers, Installers and Professional Engineers

FROM: Greg Bishop, Eastgate District Supervisor

SUBJECT: Irrigation lines

Irrigation Line

As a point of clarification irrigation lines are considered water lines and therefore must meet the same setback criteria established in Title13, On-site Sewage Code. This was previously established during an industry meeting and is referenced in a December 7, 1994 issues recap.

Typically irrigation lines are installed after the septic system and require a plumbing permit for that portion within the building footprint. Consequently many irrigation systems are installed that are technically in violation of Title 13. This does not come to Public Health's attention until a septic system repair is required, at which time excavations to repair the system may expose these irrigation lines.

Irrigation lines have been observed crossing over septic system drainfields, running over wastewater tanks, and running through and over sand filters and mounds. This presents four potential concerns: (1) Contamination of potable water supplies (Note: vacuum type back-flow preventors are insufficient protection to provide an adequate margin of safety when dealing with potential sewage contamination) (2) mechanical damage to the OSS during installation of the irrigation lines (3) hydraulic overload to the OSS from potential malfunctioning sprinkler heads or leaky and cracked pipes (4) interference with any future septic system repair.

1. Therefore in all future repair situations where irrigation lines cross over or run through system components, the repair proposal is to include appropriate mitigation measures or removal of these lines. Public Health will consider any repair proposal or repair installation unsatisfactory that does not address this issue.
2. Should irrigation lines be discovered during the installation the installer is to make the necessary alterations to bring the repair is into compliance and notify one of the Senior Sanitarians.
3. If a repair installation does not comply with regulations regarding water and sewer lines the installation will be disapproved at the time of inspection by the Health Department.

Scheduling pressure tests

Due to program commitments we request that industry not schedule pressure tests on **Thursdays between 8:00-11:00 AM**. Staff will generally not be available during this time period.

Reminders to designers

Vicinity Maps-and Flagging Lots - It is important to provide meaningful vicinity maps, making a copy of a map page and circling a point with an arrow is not sufficiently detailed to get us quickly and accurately to sites. We are asking you to provide the necessary details to quickly locate the lot to be reviewed, this may mean giving a detailed description of the route to the site. In addition the lot is to be prominently flagged with the designers and clients name at the access point of the lot. The trail to the soil log holes should also be flagged if not obvious.

Orifices Spacing - On sand based systems designs should indicate one orifice per every 6 square feet (see page 18 of the most current PD Guidelines).

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MEMORANDUM

December 1, 2000

TO: All Licensed Septic System Designers, Installers and P.E's

FROM: Greg Bishop, Eastgate District Supervisor

SUBJECT: Permanent power Notice on Title

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1. **Permanent power and pressure testing during the wet season**

   As you all know all PT's must be performed with permanent power and hard wiring. As the wet season approaches and the installation period becomes more restricted there are usually requests for PT's prior to permanent power being available. In the past we have made exceptions to the rule as long as a valid reason existed and a protocol for re-testing was followed. If you have a situation that requires an exception please follow the process listed below.

   Protocol for re-testing:

   - The designer/P.E of record provides the Health Department (HD) a written request for testing without permanent power. This request may be faxed to one of the Senior inspectors at 206-296-4919.
   - Include a statement offering a valid explanation and acknowledging that the designer/P.E. will be responsible for re-testing the system once permanent power is available.
   - The initial PT may be scheduled following permission by the HD to test the system without permanent power. The HD will notify the Designer/P.E. of this permission by phone or fax.
   - Once the system PT is successful and approved, the system may be covered as long as all ends of lines, valve adjustment points as well as the pump tank accesses remain uncovered for re-testing.
   - Once permanent power is available the system is to be scheduled for a re-test. A $50.00 re-inspection fee is required prior to scheduling this test with the HD.
   - If the HD is unable to attend the re-inspection the designer must include proof of successful re-testing with the as-built submission. This would include a statement that the designer performed the retest including a copy of a completed OSS Performance Demonstration Report verifying test/performance results.

2. **Notice On Title for repairs**

   A Notice on Title describes the owner's responsibilities for operating and maintaining their OSS. The Notice on Title typically states nothing in regard to the conformity of the system. The code states that all new systems, change of ownership of existing systems or any remodel, require a Notice on Title 13.56.054.

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MEMORANDUM

September 14, 2000

TO: Wastewater Program Staff, King County Certified Designers, Master Installers and Interested Persons

FROM: Jim Henriksen, Supervisor, Wastewater Program

SUBJECT: Sand filter, course sand media

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1. **Sand Filter Course Sand**

   Q: *May the new sand filter coarse sand media option, described in the July 1, 2000 Department of Health Recommended Standards and Guidance for Intermittent Sand Filters, be used in constructing mounds?*

   A. Yes, provided the specified increased minimum dosing frequency of not less than 18 times per day is also applied.

2. **Mound Bed Design Loading Rate**

   Q: *The **maximum** mound bed design loading rate is now 1.0 gal/sq. ft/day. If a mound is preceded by an Intermittent Sand Filter (ISF) or other Title 13 recognized Treatment Standard No. 2 device, may the maximum bed loading design rate of 1.2 gal/sq/ft/day (as per the previous mound guidance document) be used?*

   A. Yes, on the basis that sewage effluent has been pretreated to Treatment Standard No. 2 in a preceding ISF at not more than 1.0 gal/sq.ft./day **or**, pretreated by another Title 13 recognized method providing Treatment Standard No 2.

3. **Soil Log Hole Diameter & Minimum Construction**

   Upon review of OSS Site Design Applications, Health staff are noting increasing numbers of sites have inadequately sized and/or prepared soil log test holes. Be reminded that Title 13 requires soil log holes to be of sufficient size and depth to adequately demonstrate, to the designer as well as to the regulator, soil texture and vertical separation. In particular, please insure the following are part of your routine soil test procedures:

   - Soil log excavations must not be less than two (2) feet in diameter. This minimum required diameter applies to the entire depth of the excavated log hole.
   - Log holes excavated to support repair proposals must also meet the above minimum requirement (i.e. 2 foot diameter throughout the entire depth) unless otherwise authorized by the District Environmental Health Specialist.
   - Soil/spoils excavated from log holes must be located at least two feet from the edge of the excavation. This is a major safety issue in the case of an excavated pit.

Please review and ensure your design work complies with sections of the code pertaining to soil logs (e.g. Section 13.08.470, Section13.28.050, and Section 13.28.060).

4. **Wastewater/Drinking Water Program**

   Greg Bishop has been assigned from the Solid Waste Program to the Wastewater Program as the Eastgate District Environmental Health Supervisor. You may contact Greg at (206) 296-9753. Bill Heaton, previous Supervisor at Eastgate, has been assigned as Program Supervisor of the Solid Waste Program. Bill is now working at the Wells Fargo Center.

   Mark Allen has now resumed his Senior Environmental Health Specialist responsibilities at the Eastgate District Office. Mark's phone number remains (206) 296-9747.

5. **Sensitive Area Designation – Draft Ordinance**

   For your information and comment, please find attached a draft ordinance proposed by Department of Permitting and Environmental Review (DPER) pertaining to a new option for Sensitive Areas determination.

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MEMORANDUM

August 4, 2000

TO: All licensed Septic System Designers/P.E.'s

FROM: Mark Allen, Health and Environmental Investigator III

SUBJECT: Updating the inspection protocol

An update to the current inspection protocol will be in effect starting August 21, 2000. Reason: Changes to the current protocol are being done in order to simplify the system.

Section A: The following protocol will be used for PT/Final inspections

1. Designer notifies Health Department (HD) by phone of date and time of PT (3 day advance notice is required) Notice to the HD must be made prior to 8:30 a.m. of any given work day to count as one full days notice.
2. Clerical assigns a tracking number to the notice.
3. Should HD not show within 15 minutes of the scheduled PT time the Industry runs the PT and leaves the following information with the permit:
    - Draw down in inches per min
    - Total dynamic head
    - Timer settings
4. Should the PT fail the designer notifies the HD the same day.
5. If the PT is successful, the next workday, following the scheduled PT automatically starts the 3-day clock (3 full working days must be provided before the system can be covered). Additional notice to the HD is not required unless the system fails the PT.
6. Designer submits completed OSS Demonstration Report with Asbuilt documents.

Section B: After you run the PT, make sure the following details are in order

1. Enough water in the system to allow the system to be tested by the HD.
2. Access to the system is provided.
3. Power to the system must be left "ON" or access to the power source with directions must be provided so that the HD may energize the system.
4. The permit is to be on-site with the information demonstrating that you have tested the system (see Section A, item 3 above).

Note: You will no longer need to notify the HD a second time by faxing us the OSS Demonstration Report, however you will need to allow us the time to inspect the system. The OSS Demonstration Report is still required at the time of the Asbuilt submission. Should the system be covered prior to our inspection with the 3 working days not having been observed the requirement will be to uncover parts of the OSS and retest the system with the addition of a $50.00 reinspection fee.

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Public Health
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MEMORANDUM

January 18, 2000

TO: All licensed Septic System Designers/P.E.'s

FROM: Mark Allen, Health and Environmental Investigator III

SUBJECT: Resubmission fees on revised site applications

Some applications are being submitted with the $50.00 resubmission fee which, clearly require a full fee. Industry was notified in the **Wastewater Program Updates**, sent December 3, 1999 regarding the criteria for submitting revised designs. To reinforce what has been previously stated, all applications that are (1) changing the system type, (2) designating a new area for a DF or reserve (requires soil logs), (3) change of designer or (4) revisions that require field review are to have full fee's included at the time of application submission. Some exceptions may apply which, must either be cleared through the District Supervisor/Senior EHS or spelled out in the deficiency report. Applications which have inappropriate fees, without proper documentation will be returned. **This will become effective February 1, 2000**.

If you are unsure of a particular situation please contact the Sanitarian of the Day at 206-477-8050.

As an update please make the following additions with regard to site application resubmissions:

- All resubmissions should include a copy of the deficiency letter of the most recent disapproval.
- All resubmissions should include a cover letter stating what changes have been made in the resubmission and identify any special circumstances regarding the application.
- Any special arrangements made with the District Supervisor or Senior EHS's should be documented in writing from that individual. Verbal agreements without written documentation are not a good method for transferring these arrangements to others.
- If written documentation is not available, identify whom the special arrangements were made with in the cover letter. The application will be routed to that individual for verification. Should these arrangements be unconfirmed the application would be returned.

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Public Health
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MEMORANDUM

September 3, 1999

SUBJECT: Wastewater Program update

Seasonal/Winter Water Table Monitoring

What procedure needs to be followed in submitting seasonal/winter water table monitoring data to the health department?

The expectation is that the applicant/designer will demonstrate that he/she has followed the protocol established in the December 30, 1996 program memorandum, "Site Specific Monitoring of Winter Seasonal Groundwater Tables".

Remember that the application is to include a water table monitoring plan which also includes frequency and interval of measurements to be supplied to the health department on at least a monthly basis.

For example, please ensure that you observe and record sufficient data to accurately establish vertical separation.

Brushing/cleaning of sites

As a reminder, all sites submitted for design review must be consistent with the program memorandum dated August 27, 1997, "Summary of the June 26, 1997 Industry Meeting".

Site design application form

Be sure you are using the current site design application form (REV. 8/4/99 appears in lower left corner). As of October 8, 1999, this version is required for all design submissions. New information fields that are on the form include:

- Name and address of property owner
- Attachment of the legal description
- Designation of rural or urban area
- Public water supply designation of Group A or Group B
- Specific space to designate if the repair design is for correcting an OSS failure
- Soil Texture range 1A to 5
- Trench width
- Presence or absence of garbage grinder
- Designation box for pre-construction meeting

If you need additional application forms, they are available through the Eastgate District Health Center.

Site design pre-screening process

Public Health staff members are prescreening OSS applications prior to the intake process. Applications are screened by the "Sanitarian of the Day" (SOD) to assure that basic information that is required by the code has been submitted (e.g. parcel number, legal description, type of building, etc.). Pre-screening applications reduces the number of applications placed in a disapproved or hold status due to incomplete/missing information. Applications not passing the pre-screening process are returned with the fee and a letter of explanation.

At this stage of the review, will the district's notifying the designer and the applicant?

Based on discussion and suggestions at the industry meeting, incomplete applications and the letter of explanation will be returned to the designer.

Revision fees

When do revision fees apply?

- The revisions proposed must be associated with (i.e. linked to) an approved or disapproved application on file.
- Although revisions are most commonly associated with site design applications, the same applies to revisions to application reviewed for building permits.
- Primarily, revisions apply when the specific changes need only be reviewed in the office. However, there may be some site specific cases when field review is required (e.g. moving the proposed location of a wastewater tank and there is a need to verify that an appropriate area is being chosen). Other examples of revisions could be changes in house location, altering the proposed location of a sand filter, switching primary and reserve locations, changing designated water source, providing corrected calculations or missing information, etc.).

What is the procedure for submitting a revised proposal?

- The application for revision review must be presented on an application form that is void of any previous health officer signatures or comments (i.e. a clean copy).
- Applications for revisions must be signed by the system designer and must be clearly marked with the word "REVISION". A cover letter explaining the application may also be helpful.
- The $50.00 minimum revision fee must accompany all revision applications. If the actual cost of reviewing the revision is greater than $50.00, the applicant will be billed for additional costs.

What types of revisions require a regular fee for health department review?

- Types of revisions that require a standard/regular design review fee, include but are not limited to the following:
    - Changing the system Type.
    - Designating a new area and providing new soil log information for evaluation.
    - Revisions that typically require field review.

Best practices for sand filter design and installation

The Wastewater Program memo "The Best Practices," dated July 16, 1999, was developed as a result of the sand filter workshops in January 1999. Designers and Installers are required to follow these "best practices" for all sand filters in King County.

Sand filter schematics submitted to the Health Department must be site specific and provided by the designer rather than a photocopy of the generic diagram shown in the Best Practices document.

Designers please note that in King County the maximum loading rate allowed for upflow sand filters is the standard rate prescribed by Title 13.

Dual pre-installation stub release

When will the dual pre-installation stub release go into effect?

- Effective December 6, 1999, dual "pre-installation releases" are required for all mound systems and upflow sand filter systems.
- The dual release will remain in effect throughout the fall and winter months, unless otherwise specified by this department.

What is the procedure for requesting a dual pre-installation release?

- After conducting the pre-installation inspection, the system designer calls the Eastgate District Health Center at 206-477-8050 to inform them that a particular site needs a dual release. Information provided to the district should include the Health Department activity number, site address, name of designer, and type of system. **Designers must specify that the request is for a dual pre-installation release.**

- The dual pre-installation request will be assigned to field staff as expeditiously as possible. Field staff will notify License and Permits regarding the status of the dual release.

Issuing OSS permits

What is the health department doing to reduce turnaround on issuing permits?

- An increased number of administrative support staff members are being trained on issuance of permits.
- The health department will be activating a new permit tracking system by mid- December 1999. We anticipate that the system will help expedite issuance of permits through improved status reporting and record keeping capabilities. However, as with any new system we expect there will be a period of adjustment needed in implementing the system.

As an OSS professional, what can I do to help expedite the permit issuance process?

- Assure that the information you provide on applications, reports, forms, correspondence, etc. is complete, accurate (including being up to date), and contains as much detailed information as possible.

Designers:

- Complete all spaces/fields in the site design application form.
- Complete the design checklist and include all items in your design submission.
- Use the pre-installation inspection checklist prior to completing the pre-installation report.
- Forward a copy of the completed pre-installation report to the master installer.
- If a repair design is being submitted to correct an OSS failure, be sure you have marked the appropriate space to help expedite priority routing and processing.

Installers:

- Thoroughly review the approved site design. Look for notes or other indications that a pre-construction meeting is required.
- When the project involves new construction (e.g. new or replacement house or mobile home), enter the building permit number on the application card.
- Obtain a copy of the building permit cover page from the property owner or contractor.
- Attach a copy of the building permit page and a copy of the pre-installation report to the permit application card that you submit to the health department.

OSS performance testing

The term "Pressure Test" has been expanded to "performance testing". The purpose is to verify that the system operates according to the approved design. All designers and installers must be familiar with testing criteria, described in department memorandums dated July 13, July 20, and August 12, 1999.

As a reminder, once an OSS performance demonstration form is completed it must be submitted/faxed to the Eastgate Office. A tracking number is then assigned as a record for verifying receipt of your form. If you do not receive a tracking number within 1 day please contact the Eastgate Office at 206-477-8050.

Float tree installation

A number of systems have been installed in which a separate float-tree was not provided. A separate float tree is required for all pump systems.

Reinspection fees

When do reinspection fees apply?

- The fees apply when additional field inspection is required to verify correction of deficiencies noted in a previous inspection. The reinspection fee is "actual cost/$50 minimum. If the actual cost of the reinspection is greater than $50.00, the applicant will be billed for additional costs.

What is the procedure for requesting a reinspection?

- Requests for reinspection must be in writing, and be accompanied by the minimum reinspection fee ($50.00).
- If the actual cost of reinspection is greater than $50.00, the applicant will be billed for additional costs.

Notice on Title for OSS -- Owner responsibilities

Title 13, Section 13.56.054 requires a recorded notice on title for properties served by OSS. A generic form is enclosed for your information and use. You may use other forms/formats provided the minimum information required by code is included.

Limited repairs

Can a limited repair be started and completed before a limited repair permit is issued?

- Yes - The limited repair can be completed and covered without a permit on site. Inspection of limited repairs by the health department is not required unless unusual circumstances are involved.

What's the purpose of the Limited Repair Permit?

- The permit is the required method of documenting the specific repair work done on the OSS.
- The $25.00 fee is intended to pay for the cost of data entry and for maintaining permanent OSS records.

What's the procedure for applying for a limited repair permit when the limited repair work has been completed and covered?

- Complete a permit application card and page 1 of the repair proposal form. In this type of scenario the repair proposal form serves as your report to the health department, describing/documenting the limited repair.
- Submit the above items with the $25.00 limited repair permit fee to the Eastgate District Health Center.
- Upon receiving the permit, sign the permit, and send the top page to the Eastgate District Health Center.
- Maintain copies of the repair proposal and permits in your office records.

Is a limited repair permit required when a baffle or filter baffle is being installed/replaced in a wastewater tank?

Yes - according Washington State Code and Title 13 all work meeting the definition of OSS repair requires a permit.

Can a Certified Pumper complete limited repairs?

No - except that a Certified OSS Pumper may only install baffles and/or filter baffles at a specific site. The pumper is required to obtain a limited repair permit for such work. As stated, the work may be completed and covered prior to obtaining the limited repair permit. The procedure is the same as that described above.

Continuing education requirements

- For renewal of certification for Year 2000 a total of 6 hours of training/instruction is required. This requirement applies to designers, master installers, associate installers, and pumpers.

- The enclosed CE record form is provided for your use in maintaining a permanent record of individual training and continuing education. A copy of the form may be submitted with the annual application for certification renewal.

Application to renew certification(s)

Application(s) for renewal of all certification categories (Designers, Installers, and Pumpers) are required prior to January 1, 2000. Enclosed for your attention is/are the renewal form(s) applicable to your current certificate or certificates of competency. Please forward all renewal applications to:

Public Health Seattle & King County
Environmental Health Division
401 5th Ave, Suite1100
Seattle, WA 98104

Wastewater program fee changes / schedule

Access Wastewater Program fee schedule.

Environmental Health Services Division
401 Fifth Avenue, Suite 1100
Seattle, WA 98104
206-263-9566 Fax 206-296-0189
TTY Relay: 711
www.kingcounty.gov/health

Public Health
Seattle & King County

MEMORANDUM

July 16, 1999

TO: Wastewater Program Staff, Certified Designers, Master Installers and Interested Persons

FROM: Jim Henriksen, Supervisor, Wastewater Program

SUBJECT: Intermittent sand filters: Best methods and practices for design, construction and inspection

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Purpose

To protect public health by:

- Improving the quality control of Intermittent Sand Filter (ISF) systems.
- Establishing a consistent standard for design, installation and inspection.
- Assuring ISF are designed and constructed using best methods and practices.
- Preventing premature system failure from design or construction related problems.
- Establishing installation inspection criteria based upon critical control points.

The methods and practices provided in this document are the product of conclusions and consensus reached during the King County On-Site Industry Meetings held in January 1999. This information augments and strengthens the DOH Sand Filter Design Standards and Guidance, which in addition to Title 13, is the basis for design, construction and use of ISF. The collation of information and votes received from all attendees, for each category, is attached to this document.

Note: All illustrations in this document are only examples used to clarify design and construction requirements. Designers are expected to provide their own drawings, illustrations and notes with design submissions. Designs should not be submitted with copies of these example drawings. Additionally, all drawings, illustrations, notes and calculations included in a design submission are to be consistent and not contradictory.

Drawings

- **Design Cross Section.** Sand filter drawing detail is to include: depth of cover not to exceed 12 inches with 3-5% grade cover soil crown, drain rock, sand media, pea gravel, underdrain, pump basin pressure distribution system, inspection ports, aeration vents, pump float switch locations, pump specifications, liner and liner placement, liner bedding, liner support framework, dimensions and construction notes. In addition, how the pumpline, transport line and electrical conduit are to pass over the top edge of the liner. See diagram below.

- **Design Plan View.** Show PD layout and underdrain configuration. Underdrain must be calculated to provide adequate return flow rates to the pumpwell based on the pump's capacity. Include specifications for lateral spacing, lateral sidewall spacing, orifice spacing

and diameter, orifice shields or chambers, air vents, inspection ports and overall dimensions.

- **Construction Details.** Sufficient details are to be specified so that the Installer can, from the approval plan, construct the sand filter for a specific site location. For example, ground slope in a sand filter area must be accommodated by the design. In addition, the ISF containment vessel construction must be clearly detailed.

Sand Filter anatomy

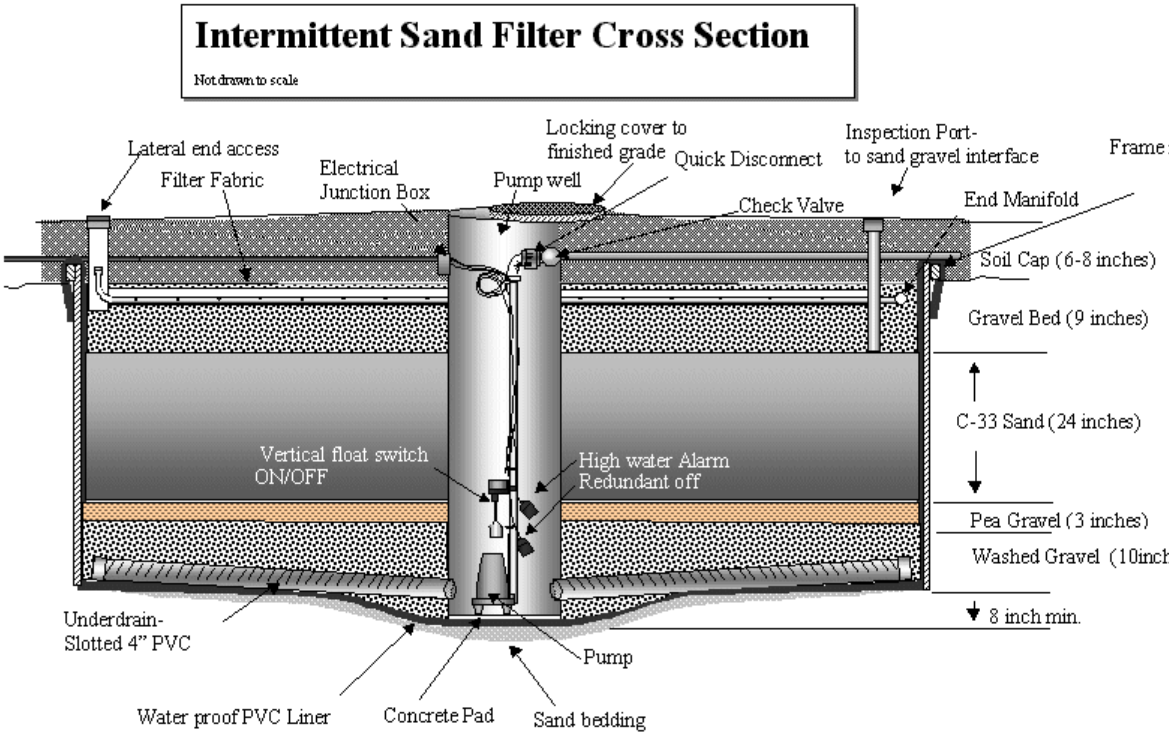

Photo of sand filter on property

Best design practices

The April 5, 1999, DOH ISF Recommended Standards and Guidance includes these suggestions:

- Reducing loading rates applied to intermittent sand filters and sand-lined trench systems to no more than 0.8 - 1.0 gal/ft2/day.

- Incorporating into the system design, methods of improving oxygen exchange within the filter such as, increasing the dose frequency and/or including a venting system in the filter with vents extended to the atmosphere. Vents may need to include an odor scouring device such as an activated carbor filter installed on the end of the vent.

- Quality control of the sand media such as frequent testing of the media to ensure that the media used consistently meets the STM C-33 specification.

The above reinforces the following conclusions and consensus reached during our industry-regulator meetings. Therefore, these specifications will be incorporated into the design and construction of ISF.

- **Increased Frequency Dosing** (greater than 4 times per day) to promote unsaturated flows and better oxygen exchange. Small volume-increased frequency dosing improves the opportunity for exposing sand particle surfaces to oxygen, thus promoting an aerobic environment that in turn reduces probability of ponding and saturated flows.

- **Aeration.** Air vents improve oxygen exposure at the gravel aggregate sand surface. Vents connected to channels that cover each lateral, end to end, are one method to accomplish this. This feature is especially important if cover material is misapplied or is of poor quality.

- **Increased Filter Bed Sizing** (4 or more bedrooms). Sand filters may be enlarged by either increasing the loading rate or increasing the gallons per day design flow figure used in calculations. The April 19, 1999, revised Title 13 now increases gpd for 4 or more bedroom residences by requiring a 120 gpd design volume to be added for each bedroom over 3. For example, this factor now increases the filter bed size for a 4-bedroom system by 75sq. ft., to 475 sq. ft. minimum. *Additionally, since the 4-or-more bedroom design is already upsized by an increase in gpd calculations it is concluded that for the present time, a reduced maximum loading rate for the 4 plus bedroom systems will not be mandated*.

- **Increased Filter Bed Sizing** (3 bedroom). As noted previously, DOH guidance is to decrease the filter loading rate to no more than 0.8 - 1.0 gal/ft2/day. The more oxygen that is present at the gravel sand interface a better environment for aerobic organisms is established, resulting in a more efficient treatment process. Covering a sand filter, depending on the depth and quality of cover, can restrict oxygen flow with increased probability that air is consumed and anaerobic conditions develop. A reduction in loading rates for oxygen restricted (covered) systems increases the size of the filter thus reducing overall stress on the system. By applying a lower (1.0 gal/ft2/day) application rate for a 3-bedroom design the size of the filter bed increases by 75 sq. ft. Therefore a 3 bedroom ISF design becomes 450 sq.ft. I**t was concluded that a 3-bedroom size ISF is to be designed based on not more than 1.0 gal/ft2/day loading rate resulting in a minimum 450 sq. ft. ISF**.

- **Timed dosing for all intermittent sand filters**. Timed dosing prevents the system from receiving peak loads which may pond the filter bed. By timed dosing effluent applications over a 24-hour period, protection from ponding is provided. Prolonged ponding leads to oxygen depravation thus promoting anaerobic conditions with bio-mat formation and resultant longer ponding periods and eventual system failure.

- **Design for surge or peak flows.** Is especially important for large houses (3000 sq. ft and up). Houses with capacity to entertain large groups or increased potential of higher than average peak flows should be designed for these conditions. A 1500-1750 gal. surge tank capacity, along with timed dosing and increased bed for the sand filter can better manage these flows or lifestyle habits. Waste strength concerns may also now be addressed by additional treatment components such as ATU's (aerobic treatment units, in which case a smaller SF component may be justifiable) or designing the system as a recirculating gravel filter.

- **Watertightness of Wastewater Tanks.** Stub out elevations are to be held as high as possible. **Water tables must be below the bottom of the inverts.** Where this is absolutely not possible, additional specific measures to prevent water infiltration must be included in the design. For example, using liners around the tanks to prevent infiltration. Tanks must not be located where ponding or drainage is a concern. Tank location and demonstrated watertightness is considered a major critical control point for all OSS. In addition, consult the tank manufacturer's specifications for installation and maximum cover requirements.

- **Sand Filter Location.** Must be selected to keep the filter protected from surface or ground water influences and in a location that is practical for installation and maintenance. The design must include site specific information for proper construction of the filter on the selected location.

- **Construction and siting details to be included in the design.** Sloping sites are to be adequately addressed in the design. Notes, drawings and illustrations are to address all site-specific conditions.

- **Redesign at Pre-construction Inspection (Stub-out).** Should an originally approved design no longer be appropriate for the project under construction, a redesign will be required. Tank and sand filter locations must be carefully evaluated at the pre-construction inspection to verify proper location. Designs that cannot be implemented for example, due to altered site conditions or house size, must be redesigned at this point.

Construction

- **Pre-construction conferences.** Recommended for all sites and required for those projects having site restrictions which may impact the approved design. Pre-construction conferences may include the Designer, Installer, Builder and Regulator. The Health Department may require a Pre-Con by stating this as a condition of approval on the site design application. However, the designer and installer are encouraged to meet on site preliminary to all sand filter installations.

- **Clean media.** Double washed rock is available upon request. Some gravel pits will provide, at additional charge, rock that has been washed a second time to remove as many fines as possible. Gravelless technology is also now an option. As a presumptive field test, sand

media may be tested on-site using the jar method (see enclosure). This does not replace the necessity of providing results of sieve testing to verify C-33 sand specifications.

- **Sand Filter Frame Support for all 30ml PVC liners.** In order to maintain a smooth and supported sand filter box, the sand filter design and installation shall include a perimeter support frame to hold the liner in place during construction. Plywood or an alternative material with 2x4 framing support is the minimum standard. All corners are to be connected top and bottom. All nails or other attachments must have sharp ends pointed away from the liner. Details are to be provided on the designs. A 3-inch (min.) bedding layer of sand beneath the liner must be placed to protect the liner.

- **Sand Filter Liner.** The sand filter liner must be supported and extend at least 6 inches above natural grade. Sloping sites may require the low end of the containment box to have additional support to prevent sidewall blow out and must be addressed in the design. When placing media into the filter containment box, even lifts must be placed on both sides of the box to prevent blow out. An elongated configuration following the contours is preferable to a square box. These considerations must be detailed in the design. No holes are to be cut in the liner for pipe access. All pump lines and conduit must run up and over the top of the filter containment box frame. The liner must never be folded back over the top of the filter, all liner ends are to be tucked back over and around the outside of the filter box frame.

- **Float Switch Locations.** The sand filter pump basin high water alarm float must be set below the bottom of the filter sand layer to prevent the sand from being flooded. In addition, this alarm float must be wired into the dosing tank pump controls so that any high water event within the sand filter basin (i.e. flooding into the filter sand layer) will automatically de-energize the sand filter dosing pump. This wiring configuration will prevent effluent from flooding the filter sand layer. The control ON/OFF float must be sensitive enough to properly dose the designed flow to the drainfield (i.e., vertical float switches or dual ON/ OFF floats). In addition, floats should be positioned so as to cycle ON/OFF at the level of the of the under drain pipes (see diagram for details). The pump basin must have an indicator line clearly marked on the inside, from which to measure the distance to the bottom of the sand layer. This measurement, in inches, is to be permanently marked on the underside of the pumpwell lid for future reference.

- **Underside construction** of the filter vessel is to include a minimum 3-inch sand layer under the liner for bedding. The bottom of the pump well is to be placed upon a concrete or plastic pad that is of a larger diameter (see diagram). This will prevent any groundwater hydrostatic pressure from pushing the liner up and into the pump well. There must be a sufficient number of under-drain pipe laterals to allow sufficient drain back into the filter pump well so as to prevent the pump from "chattering" by exceeding the return capacity of the under drains. A sloping grade to the pump basin is to be provided to increase the return rate to the pump. All under-drain piping must be slotted pipe. Perf pipe is not to be used due to the tendency of intake holes to become blocked and thus not providing sufficient return capacity. Should effluent return be insufficient, the pump will cycle on and off repeatedly during a dosing phase. If this is observed during the performance test the filter must be disassembled and then correctly rebuilt.

- **Flooded Sand Filters.** Sand filters left uncovered and open to the elements for prolonged periods of time are susceptible to flooding and therefore special precautions are to be taken to prevent this condition. Surface drainage into the filter is to be prevented. Sand filters which are flooded up into the sand layer are not to be pumped out using the sand filter pump alone since the sand layer may be sucked down into the pea gravel. A small sump pump is

to be used to slowly lower the level below the sand layer before triggering the sand filter pump. Sand filters flooded up into the sand from below and pumped out rapidly will often have sand in the bottom of the pump basin and throughout the PD disposal network. In addition, when lowering the level in a flooded sand filter precautions are to be taken to avoid overloading the drainfield.

Post-construction inspections

Inspections of ISF will focus on critical control points, which are those specifications affecting proper functioning of the filter.

- **Siting**
    - Sand filter location does not promote accumulation of surface water
    - Sloping sites utilize elongated configurations running with the contours (to be clarified in the design)
    - Sand filter liner placed at least 6 inches above original grade
    - Setbacks maintained
    - Wastewater tanks held out of water table, watertightness maintained
- **General Construction**
    - Filter vessel of correct dimensions
    - Liner bedded in sand layer (3 inches minimum)
    - Liner supported with frame and siding (box construction) corners connected
    - Pumpwell construction conforms to approved design - underdrains are sufficient to allow for adequate return, pumpwell basin is deep enough to keep pump submerged and prevent sand from being flooded when alarm float is activated.
    - Pumpwell base placed on oversized pad to prevent uplift of liner into pumpwell from hydrostatic groundwater pressure (see diagram)
    - Electrical conduit and pumpline runs up and over the top of the filter box frame
    - Electrical conduit equipped with proper seal-off
    - Clean aggregate used in sand filter (double washed rock method or gravelless technology)
    - Sand depth 24 inches- Installer to indicate measurement from the top of the pumpwell to the bottom of the sand on the underside of the pumpwell lid with a permanent marker.
    - Sand meets C-33 specifications (coarse side of specifications with fewer fines preferable)
    - Separate float tree for float switches attached so that float locations will not slip
    - Vertical float switch or dual ON/OFF floats for accurate dosing to drainfield
    - Seals on all wastewater tank inlets and outlets
    - Orifice and lateral spacing correct
    - Orifices clean free of particles
    - Cover material on-site for sand filter cover- sandy loam or loamy sand
    - System complies with design for inspection ports, aeration, and maintenance access
    - At least one observation port to the land/gravel interface
    - Electrical systems hard wired
- **Performance Testing**

- System meets all performance testing standards (see On-Site System Performance Demonstration Test form)

- **Final cover Inspection**

  - Sand filter properly covered with sandy loam or loamy sand 6-12 inches 3-5% grade cover soil crown
  - Pumpwell access to grade
  - Maintenance access to grade
  - Air vents and observation ports to grade
  - Surface water directed away from sand filter
  - All systems functional
  - Alarm system located and verified on as-built

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Public Health
Seattle & King County

MEMORANDUM

July 2, 1999

TO: Wastewater Program Staff, Certificated OSS Designers and Interested Persons

FROM: Jim Henriksen, Supervisor, Wastewater Program

SUBJECT: Private individual well source -- Guidance for determination of "Neighboring Well"

Background

The Code of the King County Board of Health Title 13, (the Code), requires that an OSS site design application include verification that an approved domestic water supply source is/will be available and is adequate to serve the subject site prior to application approval. Per Code, there are two water source options available:

- **Public water supply source connection.** Availability and adequacy is demonstrated by a water availability letter issued by a public water utility.

- **Individual private water source** (private well or private spring). Availability and adequacy must also be demonstrated prior to site design approval (Section 13.04.070 B and C).

There are potentially three scenarios apparent for demonstrating availability/adequacy for a proposed individual well source.

- Well is drilled prior to application submission. The well is drilled in an approved location, and the resultant water quantity and quality documentation are included in the site design application submission.

- Well is not drilled at time of application submission. The applicant specifies a request to determine the outcome of OSS design review prior to investing in installation of a new individual private well. Additionally, the application does not include any "feasibility" information related to potential water availability for the subject site. The site design application review may proceed; however, the application will be disapproved on the basis of "an approved water source not demonstrated." The applicant could then proceed with the private well development and resubmit, within 90 days for approval, the OSS design application which now includes the installed well's water quantity and quality data.

- Well is not drilled at time of application submission. However, the application includes well information from "neighboring wells." Under this option the application could demonstrate feasibility of adequate water quantity by "providing adequate information to the satisfaction of the health officer to demonstrate the aquifer's capability to provide 400 gallons per day. This information may include well logs or pumping reports from neighboring wells utilizing the same aquifer."

  In lieu of well logs or production reports, an hydrogeological evaluation and report by a

qualified hydrogeologist, geologist or engineer may be submitted for review. In any case, if OSS staff are unsure about evaluating the material submitted, they should consult with the Senior EHS's. The OSS application review may proceed to the approval stage.

When not installed at time of application approval, a proposed individual well must be subsequently installed and documented to be satisfactory prior to issuance of any oss installation permit.

Intent

Under option 3 above, the question is: What constitutes "adequate information" and "neighboring wells"? The following guidance is intended to assist in determining whether information about "neighboring wells" is sufficient to reasonably indicate availability and adequacy of a proposed individual private well location and not to predict actual future production capability of a proposed well that is yet to be installed. Regulatory review, as with other aspects of the OSS application review, consist of evaluation of information submitted about existing conditions in the context of the design application.

Guidance

King County geology consists of four major parent material types:

- Bedrock
- Glacial deposits
- Mud flow deposits
- Alluvium

Each parent material is typically associated with different types of aquifers, as shown in Table 1. In some cases (such as Osceola), there may be different geology below the surficial materials that may have aquifer properties that the overlying material doesn't.

The soil types associated with the parent materials are shown on Table 2. Regulatory staff and design professionals are familiar with soil types so this table is intended to help make a connection between parent (geological) material and soil types. A general geological map of King County is attached with this guidance to assist in determining the general geology type of a particular area in King County.

Table 1 - Surficial Geology and Aquifers

Surficial Geologic (Parent) Material	Aquifer Properties	Distance from site allowed for information	Number of well logs
Bedrock	Very poor yields; often flow occurs only through fractures in rock; subject to large seasonal fluctuations	Less than 1/4 mile; prefer adjoining property	At least two on opposite sides of the parcel
Glacial deposits include:	"Layer-cake" system: aquifers interspersed among confining units	Within one mile; must show similar soils, water level and production.[3]	Ideally, at least three on different sides of the parcel. Most aquifers in these areas have been drilled into, information should be readily available.
Till or lake deposits	Till ("hardpan") has poor yields (may have outwash below)		
Outwash	Outwash usually has best yields; may have protective soil layer (if not at surface itself)		
Mudflow Deposits	Poor yields unless aquifer below	Same as for glacial deposits	Same as for glacial deposits
Alluvium	Variable: high yields in gravelly layers; low yields in silty units	Up to 2 miles; should show similar production and water level.	At least two.

Production information from well logs over 10 years old, or in areas of reported water level decline, should be supported by current (within two years) production information.

Table 2 - Parent Material and Soil Series Association

Geologic Parent Material	Soil types (Series)	Possible underlying geology (e.g., other aquifers)	Where found
Bedrock	Beausite, Ovall	Only bedrock	Hills, mostly in eastern part of County
Glacial deposits include:	Alderwood, Arents, Kitsap, Orcas, Seattle	May be (advance) outwash, or bedrock	Upland plains
Till or lake deposits **Outwash**	Everett, Indianola, Klaus, Neilton, Ragnar	May be till	Lower elevations of upland plains
Mudflow Deposits (Osceola Mudflow)	Buckley	May be glacial deposits, or alluvium	White River Valley and Enumclaw plains
Alluvium	Bellingham, Briscot, Earlmont, Edgewick, Newberg, Nooksack, Norma, Oridia, Pilchuck, Puget, Puyallup, Renton, Salal, Sammamish, Seattle, Si, Snohomish, Sultan, Tukwila, Woodinville	Glacial deposits, bedrock (in river valleys in Cascades)	Major river valleys

Wording for OSS Approval Addendum sheet:
"Acceptance of the proposed well is based on production data supplied by the applicant. This approval does not guarantee that the well will produce the same amount of water as in the neighboring wells. Production from the well to serve this property must be determined before the sewage system installation permit will be issued."

Environmental Health Services Division
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Public Health
Seattle & King County

MEMORANDUM

April 27, 1999

TO: Licensed Sludge Haulers/Pumpers

FROM: Patrick I. Murphy, Senior Environmental Health Specialist

SUBJECT: Title 13 amendments -- important changes in practice for pumpers

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As you may be aware, the King County Board of Health has adopted amendments to Title 13. These amendments include changes to Chapter 13.68, which is now titled "Liquid Waste Pumping and Hauling." New provisions of this chapter affect your current practice as a licensed pumper in King County.

1. Effective today, existing pumpers with current certificates of competency will be placed by the Health Department into one or more of four classifications of liquid waste pumpers without having to take an examination: OSS pumper, grease trap/interceptor pumper, vessel sewage holding tank pumper, and portable toilet pumper (see 13.68.010 A).
2. Only the OSS pumper employee and new pumper applicant for any of the four categories who are not registered as of this date will be subject to the new requirements for completing a course of instruction relevant to the pumper category and acceptable to the Health Department and satisfactory completion of an examination on or before October 19, 1999. However, as the time of certificate renewal on January 1, 2000, all pumpers must demonstrate Continuing Education Units (CEU) for the previous year (see 13.68.010 C & 13.68.030 A).
3. In addition, new provisions of Chapter 13.68 require certified pumpers to provide to the OSS owner at the time of service and to the health officer upon request, a written service report, which contains minimum information specified in the code. The attached sewage tank service report is intended for voluntary use by OSS pumpers, who may opt for this standardized form or the forms prepared by their businesses, provided the individualized company forms are revised to include the minimum information specified on this new report form (see 13.68.040 B).
4. Also attached is a revised wastewater tank pumping report form, which is intended for mandatory use by OSS pumpers when submitting pumping reports monthly to the health officer. The new form requires reporting of any observed sewage discharge and sewage spill/cleanup activities. Please discontinue use of the current pumping report form labeled "forms\sewage\form.34" on the bottom left corner and begin using the new official form labeled:techdata\pool\form\sewage\form.93.
5. As a reminder, any replacement or repair of sewage tank components, such as baffles, will require a permit for limited repair to be issued to an OSS maintainer, installer, or resident owner, but not a pumper, under the revised code (see 13.08.226, definition of limited repair). Until such time the OSS repair policy and maintainer certification program is fully implemented, you may continue to repair or replace defective baffles as part of your services, provided such repair is confined only to baffles and in accordance with any applicable specifications by the manufacturer of the approved component.

The Northwest On-Site Wastewater Training Center in Puyallup offers a CEU course in the basics for pumpers that meets this specific training requirement. For your convenience, we may request that the training center offer the course here in King County. However, doing so will require your support, interest, and participation. Attached is a survey questionnaire to help us collect information in this effort. Please take a minute to complete and return the survey form.

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Public Health
Seattle & King County

MEMORANDUM

March 8, 1999

TO: All Septic System Designers/P.E.'s

FROM: Mark Allen, Health and Environmental Investigator III

SUBJECT: Application for Health Department review

The purpose of this memorandum is to clarify designer/P.E.'s responsibility as well as inform you of a new district policy regarding submission of incomplete or inaccurate applications.

There has been an on-going problem with the submission of incomplete and inaccurate work by some designer/P.E.'s on applications for Health Department review. We have typically held these applications until the required information could be supplied. In some cases an inaccurate parcel number has not allowed us to log-in an application for several weeks. In other cases applications are held by field staff, waiting for information which should have been supplied with the application initially. This has created additional work for Health Department staff and delayed our ability to complete our review. Applicants are misled into thinking their application is in the loop to be reviewed when it is still pending complete or accurate information.

Due to continuing problems with the submission of applications with incomplete or inaccurate information the following policy will be implemented **effective March 22, 1999**:

All site applications, BLA/Short Plats/Plats must be submitted with complete and accurate information or they will not be logged in and will be returned to the designer/P.E. unless previous arrangements have been made. Applications with incorrect parcel numbers, water system names, subdivision names or application lacking valid water availability letters, recorded well covenants, vicinity maps or other relevant information such as illegible documents will be cause for rejection. We will no longer hold applications pending submission of accurate information from the designer when this was a requirement of the application. Should applications be submitted with obvious incomplete or inaccurate information the applicant (designer's client) will be notified at the time of application rejection.

It is recommended that all designers/P.E.'s use the checklists provided in the May 12, 1998 Industry Memorandum. Every effort should be made to supply the Health Department with an application which does not require additional contact with the designer/P.E. in order to complete the evaluation.

Water availability requirements:

1.	Private wells	A recorded well covenant/restrictive covenant
2.	Community wells	A correct water system name and water ID number
3.	Public water	A current water availability letter
4.	Plats	A current water availability letter or where water has been developed for the entire plat - a letter stating that water has been verified to be available to the lot specified in the design by the designer at the time of the applications submission.

For BLAs, long plats and short plats the following information is required:

1. **Per application type, required number of soil logs per lot (vacant) regardless of lot size.** A licensed designer or qualified professional engineer must provide the soils identification.
2. A plot plan with the following information:

    1. The location of any structure or residence with its OSS and reserve area
    2. For BLAs, all lot lines boundaries and existing lot lines with the lines that are being adjusted clearly marked (preferably in a different color). For all long and short plats, all lot line boundaries.
    3. All easements and water lines
    4. Location of surface water, roads, structures, drainage features or sensitive areas if present
    5. Well location and protective radius

3. Parcel numbers for all parcels involved.
4. For BLAs, lot sizes before and after adjustment.
5. An as-built drawing of any existing OSS, or detailed on-site work to verify the location of all septic system components and drain lines (when the drain line locations may be a concern) and a designated 100% reserve area.
6. Water source for each lot (see water availability requirements).
7. All protective and restrictive covenants for well site locations.
8. An updated as-built drawing showing the new property boundaries in relation to the drainfield.

For a designers checklist, please call the Wastewater Program for assistance at 206-477-8050. Your cooperation in this matter will improve our ability to make the most productive use of our time. Should you have any questions regarding this matter you may contact Mark Allen 206-296-9747.