

Septic System Operation and Maintenance Proposal For Nisqually Reach Watershed

Draft Proposal – January 25, 2011 Open House

The Nisqually Reach Risk-Based O&M Program project advisory committee began its work in March 2010. The committee members are stakeholders representing the Shellfish Protection District committee, watershed residents, neighborhood associations, real estate industry, on-site sewage industry, State Departments of Health and Ecology, and the shellfish industry. The committee has met five times for discussion of six program elements.

Given that ...

- A septic system operation and maintenance program is a recommendation in -
 - Henderson Inlet and Nisqually Reach Shellfish Protection Districts Implementation Work Plan, March 2005
 - Thurston County On-site Sewage Management Plan, January 2008
 - Nisqually River Basin Fecal Coliform and Dissolved Oxygen Total Maximum Daily Load, Water Quality Implementation Plan), Washington State Department of Ecology, February 2007
- There are water quality problems
 - History of marine and fresh water quality violations of state standards
 - Formation of Shellfish Protection District due to water quality problems
 - Near shore pollution causing shellfish growing area classification restrictions
- Septic systems are identified as a pollution source

What follows is a *DRAFT* Septic System Operation and Maintenance Program Proposal for the Nisqually Reach Watershed. The project advisory committee will forward this draft to the County Boards of Health and County Commissioners for consideration after seeking input from watershed residents. Adoption of such a program requires an official public review process and adoption, through resolution, by the Boards of Health and County Commissioners.

1. Boundary

- The boundary must be adopted by Thurston County Board of Health by resolution.
- The proposed program area includes the portion of the Nisqually Reach Shellfish Protection District that is north of the Lake St Clair area plus a densely populated area south of Interstate 5, next to the Nisqually River, and south to the Nisqually Indian Reservation. This is the area most likely to affect Nisqually Reach marine water quality. See Appendix A: map.
- Prior to implementation, the boundary will be refined to be as accurate as possible using the latest geographic data and technology of the Thurston County Geodata Center: 2-foot contours and LIDAR (Light Distance and Ranging) technology. Staff will verify this boundary in the field, where necessary.

2. Name of area where program would be implemented

Recommendation: The Nisqually Reach O&M Advisory Committee recommends that the area be called ***Nisqually Reach Watershed Protection Area***. It would be the designated name for this particular *marine recovery area* and enables the existing provisions of Article IV of the Thurston County Sanitary code to prescribe an enhanced operation and maintenance program.

3. Criteria for system inspections including intensity and frequency of inspections

- Require renewable Operational Certificates for all septic systems within the designated boundary.
- Septic systems would need to be inspected on an established schedule and all identified maintenance and repairs completed.
- Septic tank scum and sludge levels would be measured every renewal cycle to determine if pumping is needed, and pumped as needed.
- When inspections, maintenance and repairs are completed and accepted, an operational certificate would be issued.

Recommendation: The committee recommends use of the ranking matrix included in Appendix B to determine intensity and frequency of inspection. The various pieces of the matrix define the risk factors to septic system failure. Points are tallied in each of the categories for both frequency and inspection type. The more points the greater the risk of failure and the more extensive the inspection.

Upland and inland septic systems that are weighted as low risk can effectively be evaluated using a visual inspection. Shoreline or near water septic systems would also be evaluated using a dye test. The committee recommends that other methods (including new tools as they become available) should be used as needed to assess the functioning of septic systems in this area.

4. Level and methods of enforcement for the program renewal conditions

In acknowledgment that failing septic systems are a source of pollution to Nisqually Reach and do impact water quality, enforcement is an integral part of the risk-based program.

- Homeowners are required to maintain a **current O&M certificate at all times**. Those owners who do not renew their required operational certificates would be in violation of the Sanitary Code. Renewal of certificates requires that all the conditions be met before a new certificate is issued.
- **Failing septic systems must be repaired in accordance with the County's Sanitary Code.** (A repair permit is valid for 1 year to accommodate possible problems with wet season installations.) If a septic system is in the process of repair, then the renewal cycle would be flexible in order to accommodate the repair. 'Systems in repair' are tracked for compliance. A certificate cannot be issued on a failing system nor on a repair until the repair is complete.

Schedule for notification of O&M certificate renewals is ...

60 days prior to septic inspection due date ... renewal notice sent
30 days after due date ... warning letter sent
60 days after due date ... notice of violation sent
thereafter ... all enforcement options available to bring system into compliance

- Level of enforcement action is based on risk to public health and water quality.

5. Service providers

Low-risk systems: Inspections for low risk systems would be done by certified professionals with the option of a 'certified homeowner' program for gravity, pressure distribution, mound and Glendon type systems. County staff would conduct 10% quality control check on all inspections.

High-risk systems: Inspections the same as low risk plus dye-test evaluations conducted by county staff with the option of using a certified professional if trained and approved.

6. Billing authority and mechanisms, program costs, and rate structure

Authority:

- The authority for an O&M program is in the Thurston County **Sanitary Code**. Nisqually Reach Watershed Protection Area would be designated as a Marine Recovery Area in Article IV of the Sanitary Code.
- The authority for collection of rates and charges exists under the **Shellfish Protection District** legislation. Costs of the program and fee amounts are calculated when actual program boundaries and rate formulas are determined.

Billing mechanism:

The existing Henderson O&M program fees are incorporated into the Stormwater charge line on the annual property tax statement. These charges are an assessment for the Henderson Watershed Protection Area to support a Septic System Operation and Maintenance Program. This option has proven to be a cost-effective method of billing. It is recommended that the Nisqually Reach program would be billed the same way.

Program Costs: An annual fee method is recommended. Program costs, including field staff, equipment, laboratory analysis, program administration, certificate renewals, clerical support, computer programming, technical diagnostic assistance, repair and compliance activities, educational materials, and overhead, have been calculated and divided by the number of systems within the Protection Area. This establishes a baseline from which to recommend a **rate structure** for the program. High risk systems, requiring the dye-test evaluation, are assessed a higher annual rate to fund the dye test evaluations, which is in addition to the baseline rate charged for all systems. Septic systems with annual inspection requirements, i.e. community drainfields, food establishments, and schools, would be charged the current countywide fee for operational certificates.

Rate Structure

The pilot program in the Henderson Watershed has showed that:

- 10% of parcels have more than one system.
- Some septic systems have multiple units/homes connected to them. When more than 2 units are connected to a drainfield, the system is a community system. The community drainfield requires annual inspections, and the individual tanks have a 3-year renewal cycle.
- Some parcels that have multiple systems, i.e. mobile home parks, apartments/multi-family housing, have a degree of complexity that requires considerably more time to accurately set up and review. Due to the complexity, more time is also needed to administer, review inspection reports and issue operational certificates.

The proposed rate structure is based on the estimated number of equivalent residential units (ERU) in the program area. One dwelling, or ERU, on a parcel would be charged a base rate of \$60. Each additional residential unit would be charged a \$10 rate per unit. For example, a four-plex on a single parcel would be charged \$60 for the first of the four units and \$30 for the remaining three units at \$10 per unit.

High risk systems would have an annual charge of \$135 which includes the \$60 base rate plus the additional cost of doing a dye test every six years.

Community drainfields that have an annual inspection requirement would have the annual rate of \$145 which is the current countywide fee for new operational certificates.

All food establishments and schools would have the annual rate of \$145 which is the annual charge for all other schools and food establishments in the county that have new operational certificates.

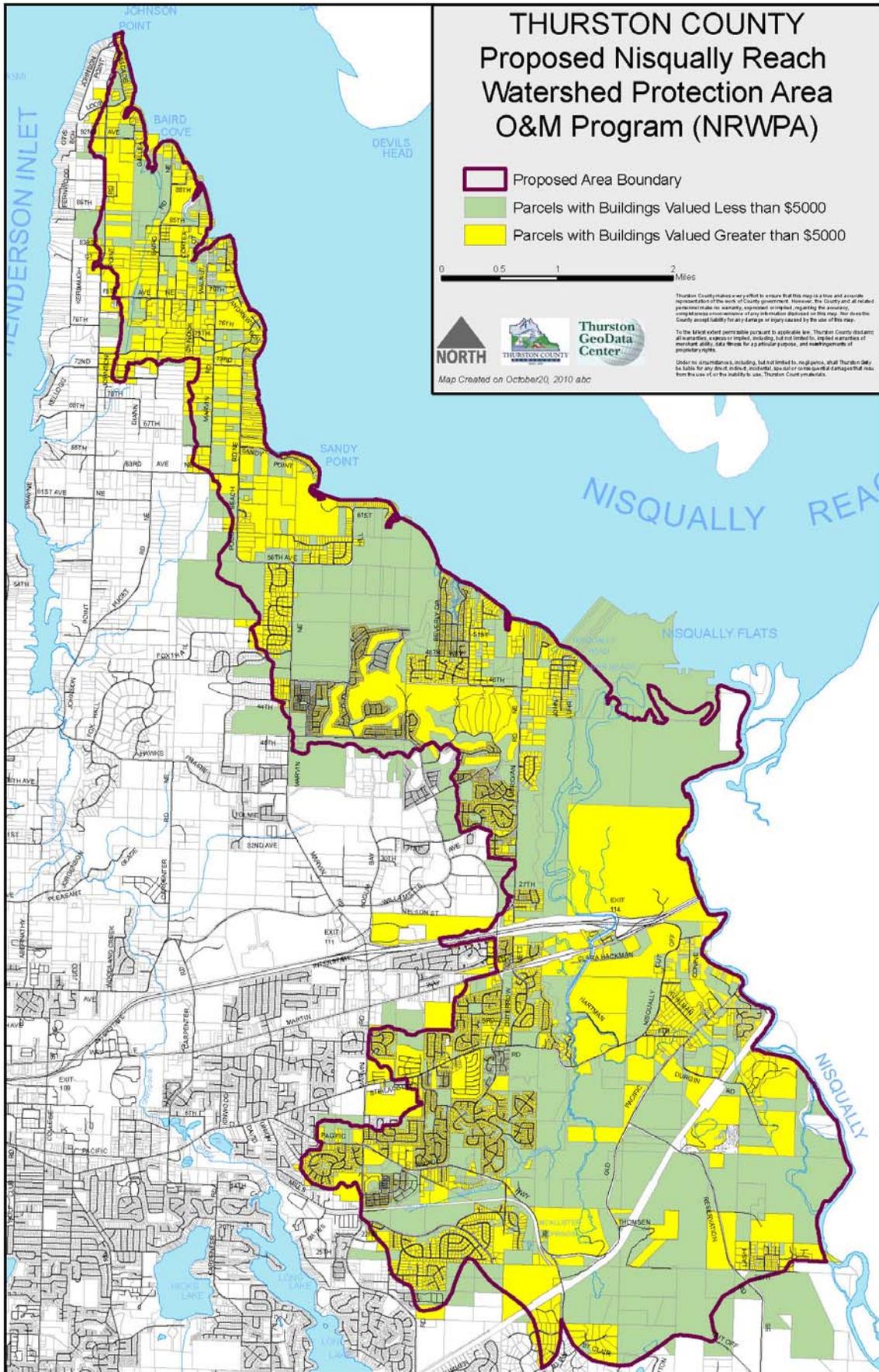
Incentives The County has the following programs in place for the Henderson Watershed Protection Area. The advisory committee recommends offering the same incentives for the Nisqually Reach program.

- **Waiver of Annual program fee for Senior and Disabled Owners** - Owners enrolled in the senior/disabled property tax exemption/reduction program automatically have the program fee waived.
- **Homeowner inspection certification program** – Septic owners take a 5.5 hour class to become certified to conduct the evaluations for their own septic systems if eligible.
- **Mobile Home Park Owners** – some reduction of renewal fees if the mobile home park owner provides detailed records of all septic systems in the park, establishes and follows a comprehensive schedule for inspection and maintenance of all septic systems on site, and provides those reports to the Health Department.

In addition, within the Henderson Inlet and Nisqually Reach Shellfish Protection Districts, there currently is a small grant program to assist low income homeowners with the cost of inspections and minor repairs, as well as a riser rebate program to encourage the installation of septic tank risers. These programs are reviewed and approved on an annual basis and are currently available to septic owners within the Nisqually Reach Shellfish Protection District.

Additional Features recommended by the advisory committee:

- ◆ **Sunset clause:** In order to keep the program, the Board of Health must take action to retain it beyond ten years.
- ◆ **Conduct a 5- Year Program Review**
- ◆ **Use Adaptive management** to adjust program needs and rates



Ranking of Risk Level	
Soil Type	Points
Nonrestrictive: Class 1, 2, 3, non-restrictive layer 4's	0
Restrictive: Class 4 (with restrictive layer*), 5, and 6	10
Area	Points
WHERE any part of the sewage system or wastewater plumbing is within 100 feet of stream.	6
Any property within 200 feet of Henderson marine shoreline.	10
Risk Tally Sheet	
Soil Type	
Area	
Total	
Range of points for Risk Level	
Low Risk	<16
High Risk	≥16

Certificate renewal:

Varies by system type and use:

- A. **Annual renewal**
 - Proprietary treatment products (see Glendon below)
 - Systems with disinfection
 - Community systems
 - Larger on-site systems (LOSS)
 - Food Establishments
 - Schools
- B. **Glendon ® BioFilter**
 - After first year, every 3 years
- C. **Renewal every 3 years**
 - All other systems