Issue Paper for 9/30/2008 LOSS RAC Meeting		*Number of Members Present: ____*	
Soil / Site Evaluation Topics	**Topic Number: 6**	*50% +1= ____*	*Two Thirds = ____*

Topic Statement	Minimum Land Area Requirements and their potential application to LOSS.
Problem Statement	▪ The primary intent of a minimum land area requirement is to establish a maximum allowable "density of development" when OSS are used. The rule suggests that soil, vertical separation, and other requirements will sufficiently remove pathogens. Minimum land area exists to minimize the potential for nitrate contamination of groundwater by spreading out or diluting nitrates with larger land areas. ▪ The current LOSS rule was excerpted out of the 1995 OSS rule in 2003 with little change in language. The language outlines requirements to be enforced by local health jurisdictions (no role assigned to DOH although LOSS Standards require applicants to demonstrate compliance with this section). Thus, it appears that this requirement may have more application to development not using LOSS. ▪ Chapter 70.118B RCW requires DOH to assure LOSS projects comply with Chapter 90.48 RCW. Thus, specific requirements are being added to the new LOSS rule that will remove health and environmental contaminants of concern in the treatment processes and/or the soil. Additionally, requirements for nitrate balances and hydrogeology reports are being added. With these additional requirements, the need for minimum land area requirements becomes less clear. ▪ Minimum land area requirements could be construed as imposing land use requirements on development. Land use requirements are usually within the realm of local land use and growth management regulations.
Background	▪ Since the initial OSS rule was promulgated by the State Board of Health in 1974, a requirement of minimum land area for all development has existed. They became part of the current LOSS rule when it was excerpted from the OSS rule in 2003. The rule establishes minimum lot sizes which seem to focus on residential development but which apply to "any development." ▪ WAC 246-272B-20501 addresses "developments, subdivisions, and minimum land area". Provisions appear to apply mostly to smaller systems. Language is confusing and requirements have been contentious with the regulated community. ▪ The rule provides "Method 1 & 2" for calculating required land area. Method 1 is a simple "cookbook" table that specifies minimum lot size based on soil type and water supply. The minimum lot size is 12,500 ft^2. (See reference section.). Method 2 requires a relatively complicated analysis for justification but allows lots to a minimum of 12,500 ft2 regardless of soil type. The maximum allowable "density" under Method 2 is 1575 GPD per acre. Land area under water is not credited but roadways and other dedicated areas within the plat may be included in the calculation. ▪ The current LOSS rule approach is consistent with (but much more complicated than) an existing Ecology rule (WAC 173-240-035). In the Ecology rule allows a maximum allowable loading of 900 GPD/acre for coarse soil or 1570 GPD/acre for other soil type for all development using subsurface disposal. ▪ The actual impact of onsite systems on groundwater nitrate levels is dependant on the waste water source, treatment, and soil/site conditions.

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- DOH currently requires a nitrate balance for most projects, and where warranted, pretreatment for nitrogen removal. There is some uncertainty in relying exclusively on nitrate balances to evaluate groundwater risk and accurately predict the effect of pretreatment.
- A literature review conducted in 2002 (refer to Technical Issue Report in reference section below) concluded that the intent of establishing minimum lot sizes was to assure each lot (in a plat to be served by individual onsite systems) has sufficient area to locate the drain field along with other constructed improvements, while meeting all appropriate setbacks. This typically isn't a concern with LOSS projects.

Reference / Research

WAC 246-272B-20501 – Method 1

Minimum Land Area Requirement
Single Family Residence or Unit Volume of Sewage

Type of water supply	**Soil Type (defined by section 11001 of this chapter)**					
	1A, 1B	2A, 2B	3	4	5	6
Public	0.5 acre1	12,500 sq. ft.	15,000 sq. ft.	18,000 sq. ft.	20,000 sq. ft.	22,000 sq. ft.
	2.5 acre2					
Individual on each lot	1.0 acre1	1 acre	1 acre	1 acre	2 acres	2 acres
	2.5 acres2					

WAC 173-240-035(4)

Domestic wastewater facilities using subsurface sewage treatment and disposal, as defined in WAC 173-240-020(5), are prohibited except under those extraordinary circumstances where no other reasonable alternatives exist and: Providing that…

(4) Loading rates do not exceed 1,570 gallons per day per acre of gross land area in medium sands or finer grained soils and may not exceed 900 gallons per day per acre of gross land in coarser grained soils or other soils where conditions do not provide for adequate treatment. For the purposes of this section gross land area is defined as the contiguous land area of a proposed development that might include the centerline of adjoining road or street right-of-ways.

Option A

Status Quo / No Change

Rationale / Pros & Cons

PROs: Easiest approach, no further discussion required

CONs: Application/enforcement remains confusing, requires greater area for development with no apparent benefit to health or environmental protection; Department remains in land regulation business; required lot sizes may conflict with some county's cluster development rules.

TRS Recommendation: NO.

Draft Rule Language

Same as existing language

Option B

Replace current rule with streamlined language similar to WAC 173-240-035 with minimal extra provisions as deemed appropriate. Continue to require nitrate balance.

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Rationale / Pros & Cons	**PROs**: Simple to apply, enforce, retains some safety factor **CONs**: May not allow development of some small parcels (may not be an issue for LOSS); extra enforcement issue **TRS Recommendation: NO.**
Draft Rule Language	Loading rates must not exceed 900 gallons per day per acre of gross land area in Type 1 or Type 2 soils or 1,575 gallons per day per acre of gross land area in all other soil types or where conditions do not provide for adequate treatment. For the purposes of this section gross land area is defined as the contiguous land area of a proposed development that might include the centerline of adjoining road or street right-of-ways, if dedicated as part of the development but may not include land area under surface water.
Option C	The LOSS rule doesn't contain minimum land area requirements. Nitrate balances, hydrogeology reports, and treatment requirements will assure groundwater protection.
Rationale / Pros & Cons	**PROs**: Streamlines rule, eliminates administrative hassles, complaints from developers **CONs**: May reduce safety factor in current rule, could lead to enforcement hassles if nitrate balance fails to accurately predict future nitrate levels, places greater emphasis/reliance on pretreatment, management. **TRS Recommendation: NO.**
Draft Rule Language	Eliminates current language (no new language)
Option D	For all development other than single family residential, include a Baseline Land Area requirement – figures noted in Option B.
Rationale / Pros & Cons	**PROs**: Minimum land area doesn't seem to fit LOSS, especially the larger ones. Since a primary reason for minimum land area has been touted to be related to dilution of nitrogen concentrations, land area is not as important since increased emphasis is being placed on properly treating effluent. **CONs**: Could reduce safety factor contained in current rule, could lead to enforcement hassles if nitrate balance fails to accurately predict future nitrate levels, places greater emphasis/reliance on pretreatment, management. **TRS Recommendation: YES.**
Draft Rule Language	1) No minimum baseline area requirement applies to development consisting of single family residences. 2) For non-single family development, baseline land area of 900 gallons per day per acre in Type 1 or Type 2 soils or 1,575 gallons per day per acre in all other soil types. 3) Baseline Land Area may be reduced by DOH if justification prepared by a licensed individual is presented and approved.

RAC Vote		
GRN	***YEL***	***RED***