

Lake Whatcom Watershed Overlay District

*Proposed land use and stormwater regulations for new
development as part of responding to the Department of
Ecology's Lake Whatcom Total Maximum Daily Load (TMDL)*

Whatcom County Planning & Development Services and Public Works

BIAWC Presentation-December 8, 2011



1

Lake Whatcom Watershed Background Information

Multi-pronged approach to addressing water quality concerns

- Lake Whatcom Management Program
- Lake Whatcom Total Maximum Daily Load (TMDL) Findings
- Current Whatcom County watershed regulations since 2002
 - ≡ Stormwater treatment
 - ≡ Seasonal clearing limitations
 - ≡ Impervious surface limitations
 - ≡ Erosion and Sediment Control
 - ≡ Native vegetation retention

2

Current and Future Development in Whatcom County's jurisdiction

| Watershed Breakout Areas | Existing Dwelling Units | Potential Units on Vacant Land | Gross Potential Buildout |
|--------------------------|-------------------------|--------------------------------|--------------------------|
| Urban Growth Area | 1,554 | 164 | 1,718 |
| Sudden Valley | 2,561 | 688 | 3,249 |
| Rural Watershed | 1,122 | 986 | 2,108 |
| TOTALS | 5,273 | 1,838 | 7,075 |

Approximately 1,600 of existing dwelling units were constructed under the current watershed regulations.

*Approximate build-out based on the City of Bellingham's "Lake Whatcom Watershed: Annual Build-out Analysis July 2011" 3

Criteria To Meet from Department of Ecology

•Accomplish "no additional loading" of phosphorus from new development through flow control and treatment options so that new development contributes no more phosphorus than "native vegetation" per Washington State Department of Ecology Stormwater Management Manual for Western Washington (WSDOE SWMMWW).

•*"Native Vegetation": Vegetation comprised of plant species, other an noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include Douglas fir, Western hemlock, Western Red Cedar, Vine Maple, willow, elderberry, salmonberry, sword fern, fireweed, etc....*

•Achieving this goal through development regulations is one part of complying with the TMDL.

Proposed Lake Whatcom Watershed Overlay District

- Combining current regulations from existing county code (ex. Seasonal clearing provisions, erosion and sediment control, uses, etc.) with new “no additional loading” criteria provided by the Department of Ecology
 - ≡ Stormwater management options are taken from the most current version of the WSDOE SWMMWW.
 - ≡ Best Management Practices (BMPs) are currently utilized in the Whatcom County Code
- New language starting at section 20.51.420 of the Whatcom County Code

5

Changes in Code

New thresholds for a full stormwater review to meet the “no additional loading” of phosphorus (WCC 20.51.420):

- Adding 200 sq. ft. of new, replaced, or new + replaced impervious surface, or
- Land disturbing activity of more than 5,000 sq. ft. between June 1st and September 30th, or
- Creation of a subdivision or short subdivision

Other changes:

- Greater flexibility of impervious surface allowances
- Clearing thresholds modified

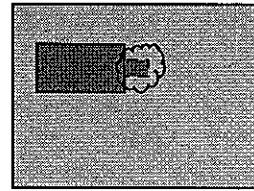
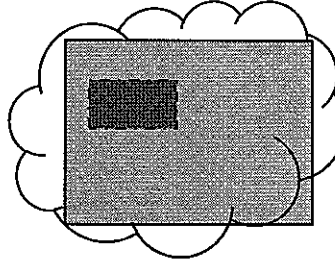
6

What does this code regulate?

Runoff from development activity above a threshold

Examples:

- New Home – Runoff from entire site
- Subdivision – Runoff from entire site
- Replace Carport with Garage (> 200 sq. ft.) – Runoff from Garage
- Modify landscape (> 5000)– Runoff from cleared area



7

Options for Stormwater Treatment

When new development meets or exceeds the new thresholds, you can utilize *Full Dispersion*, *Full Infiltration*, or a *Fully Engineered Stormwater Facility* as adopted in the WSDOE SWMMWW.

General Overview:

• **Full dispersion** means that the development is limited to 10% impervious surface area on the development site where stormwater runoff from that impervious surface and landscaped areas are dispersed on the ground through native vegetation.

- ⊗ The ratio of native vegetation area is 6.5 times the impervious surface area.
- ⊗ Native vegetation is put into a "Protective Native Growth Area" (PNGA) (WCC 20.51.420 (a)).
- ⊗ This meets the "Presumptive approach" of the DOE criteria.
- ⊗ Potential benefits: Passive maintenance of the PNGA, no engineer required, and reduced impervious surface results in less PNGA.

8

Options for Stormwater Treatment cont.

• ***Full infiltration*** means that all stormwater generated by new development is 100% infiltrated into the ground as calculated by Ecology's Continuous Runoff Computer Model.

- ≡ Examples include infiltration trenches, infiltration basins, and infiltration drywells.
- ≡ Meets the "demonstrative approach" of DOE criteria.
- ≡ Potential benefits: Low maintenance depending on BMP utilized, not dependent on native vegetation.

9

Options for Stormwater Treatment cont.

• ***Engineered stormwater facility*** will require a licensed engineer that may employ all techniques and all technologies available to not exceed the phosphorus loading profile of the property from its native vegetated condition.

- ≡ Meets the "demonstrative approach" of the DOE criteria.

10

Overview of Proposal

New Thresholds

- 200 sq. ft of new, replaced, or new + replaced impervious surface
- Land disturbing activity of 5,000 sq. ft. or more during June 1st and September 30th (current regulations say during October 1st and May 31st no more than 500 sq. ft. of exposed soils is allowed)
- Creation of a subdivision of short subdivision

New stormwater treatment requirements to meet the “no additional loading” of phosphorus from new development to comply with the TMDL by meeting the requirements from the WSDOE SWMMWW for:

- Full Dispersion
- Full Infiltration
- Fully Engineered Stormwater Facility

11

Question and Answer Session

12