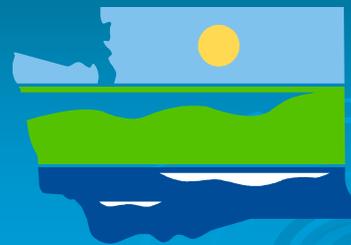


Welcome

Stormwater Management Manuals: 1992 and 2005

Presented to
Clallam County



DEPARTMENT OF
ECOLOGY
State of Washington

1992 Manual

- Stormwater Management Manual for the Puget Sound Basin
- Applied to New and Redevelopment
- 11 Minimum Requirements
- Applies to Projects with $> 5,000$ sq ft new impervious surface
- Small Parcel alternative

1992 Manual Minimum Requirements

1. Erosion and Sediment Control (#2)
2. Preservation of Natural Drainage Systems (#4)
3. Source Control of Pollution (#3)
4. Runoff Treatment BMPs (#6)
5. Stream bank Erosion Control (#7)
6. Wetlands (#8)

1992 Manual Minimum Requirements (cont.)

7. Water Quality Sensitive Areas
8. Off-Site Analysis and Mitigation (Optional)
9. Basin Planning (#9)
10. Operations and Maintenance (#10)
11. Financial Liability

2005 Manual

- Separate Manuals for Eastern and Western Washington
- Applied to New and Redevelopment
- 10 Minimum Requirements
- Applies to Project > 1 acre
- Continue working with projects smaller than 1 acre if currently involved

2005 Manual Minimum Requirements

New

- # 1: Stormwater Site Plan (step-by-step plan)
- # 5: On-Site Stormwater Management

Out

- #7: Water Quality Sensitive Areas
- #8: Off-Site Analysis and Mitigation (Optional)
- #11 Financial Liability

Major Changes Vol. I

➤ Thresholds

- Smaller projects (>2,000 sq ft and < 5,000 sq ft) apply MR 1-5
- Flow Control threshold increased to 10,000 sq ft effective impervious surface
- Elimination of existing impervious surface “credit”
- Apply to “Threshold Discharge Areas”
- Offsite analysis and financial liability changed to optional

Major Changes Vol. I

- Water Quality Treatment Requirement changes (More and less Stringent)
 - Only required for PGIS
 - Design storm volume slightly larger
 - Design storm flow slightly smaller (but treatment facilities about same size)

Major Changes Vol. I

- Flow Control Requirements (More Stringent)
 - Flow duration standard (no longer single storm event)
 - Pre-developed forested conditions (Pasture in special cases) (no longer existing conditions)

Major Changes Vol. I

- Redevelopment (significant change)
 - Specific thresholds for applying criteria to new plus replaced impervious surfaces
 - Added threshold that considers value of improvements into MR selection
 - Exemptions available is plan for regional facilities is in place

Major Changes Vol. II

- Construction Stormwater Pollution Prevention Plan (SWPPP) (Improved)
 - More detailed requirements
 - New Element to “Manage the Project”
 - New guidance for preparation of SWPPP
 - New BMPs including Chemical treatment

Major Changes Vol. III

- Hydrologic Analysis (improved and more stringent)
 - Continuous Runoff Modeling Required
 - Single event only for volume based BMP sizing
 - Ecology provided generic model
 - New on-site flow control BMPs will require dispersion and infiltration BMPs

Major Changes Vol. IV

- Source Control BMPs (improved and expanded)
 - Increase number of activities needing specific source control BMPs from 12 to 30
 - Applies to all Commercial/Industrial sites

Major Changes Vol. V

- Water Quality Treatment BMPs (more stringent and improved)
 - Required level of treatment varies with land use and receiving water type
 - “Basic” treatment for most residential developments, all types of projects discharging to major waters or non-fish bearing waters

Required in addition to other types of treatment

Major Changes Vol. V

- “Enhanced” treatment for discharges from commercial/industrial sites, multi-family, and arterials to fish bearing streams or waters tributary to them
- “Phosphorus” treatment when receiving waters required it (TMDL, Basin Plan)
- “Oil” Treatment for “High-use” sites

Major Changes Vol. V

- Updated design criteria for each BMP
- Performance Evaluation Protocol established (TAPE)
- New On-site water quality BMPs (soil amendments, dispersion, infiltration)

What does this mean to you?

- Formalized Stormwater Site Plan process
 - 10 Minimum requirements
 - Detailed design criteria
- Greatly Revised flow control requirements
 - Continuous Simulation model
- Minimal changes to water quality requirements
 - More choices

What does this mean to you?

- On-site water quality and flow control requirements
 - Dispersion
 - Infiltration
 - Soil Amendments
- Off-site analysis and financial viability now optional

Cost Implications of New Manual

- Limited number of studies completed
 - Multi-family/Duplexes
 - Commercial Redevelopment
 - 5-lot short plat
 - 2-lot short plat
 - Transportation Project (Transit Center)
 - Transportation Project (Roadway)

Cost Implications of New Manual

➤ Water Quality

- Limited Impact
- May require additional treatment (1 of 6 projects)

Cost Implications of New Manual

➤ Flow Control

- One project with no change
- Three projects with 40% to 91% increase in pond size
- Two project required detention/retention only under 2005 Manual

Cost Implications of New Manual

- Source Control
 - Many more types of commercial/industrial uses included
- On-Site BMPs
 - Dispersion/Infiltration for WQ and FC
 - Soil Amendments

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Low Impact Development (LID)

LID Permitting History

- Current Phase 1 Permit (Allow LID)
- PCHB Decision (Mandate LID)
- Advisory Committees (Technical and Implementation)
- Draft Outline for Permit
- Draft Permit Language

Three Pieces to LID in Permit

- Basin Scale Approach
- Site/Subdivision
 - LID Development Principles
 - Performance Criteria

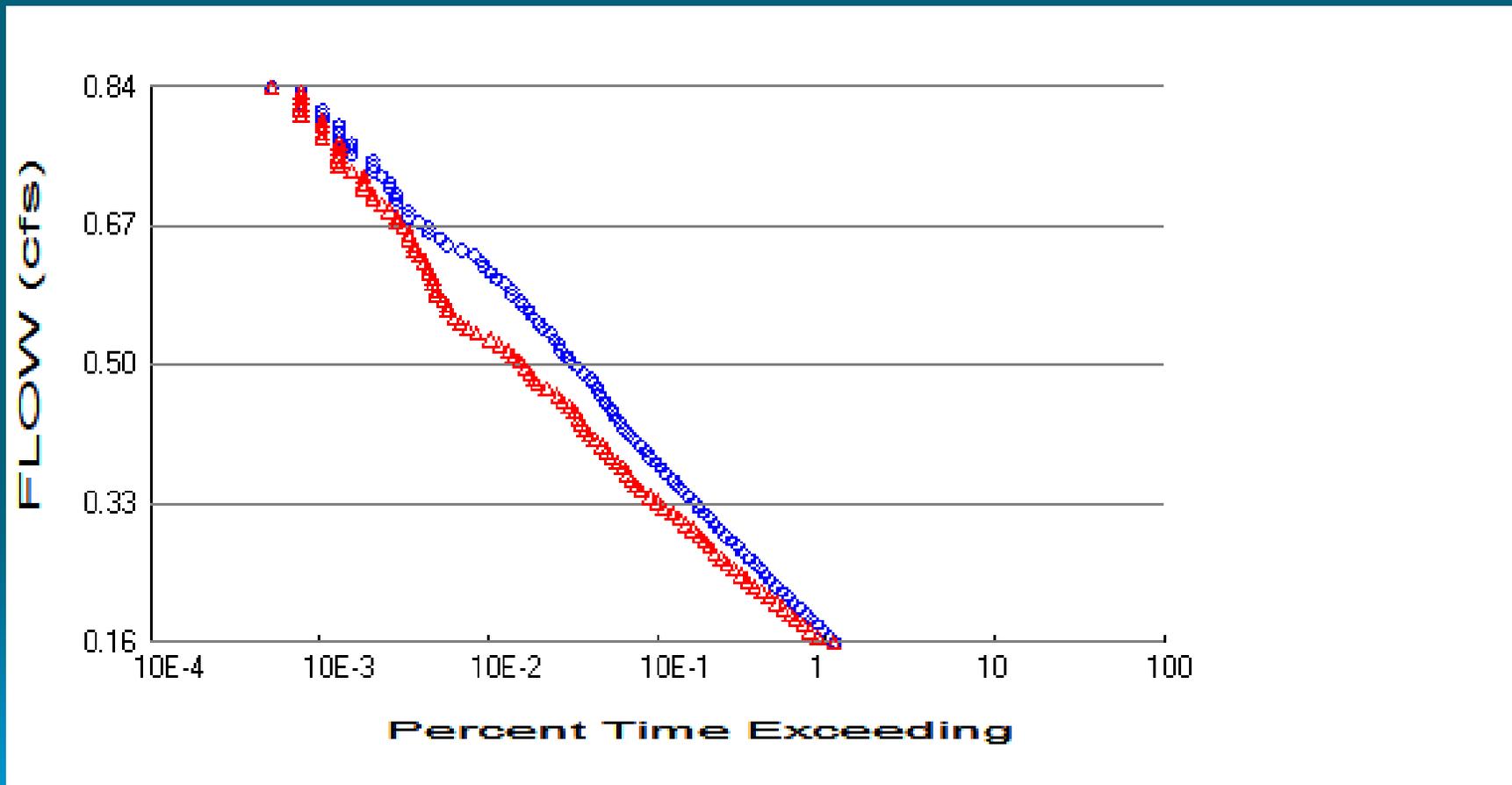
LID Development Principles

- Refers to LID measures authorized through a variety of local development codes beyond the stormwater code. Examples include provisions for:
 - clustering and impervious surface limits (zoning and subdivision code)
 - narrower roads (road standards)
 - native vegetation retention (clearing and grading and subdivision code)
 - reduced lot setbacks (zoning and utilities code)

Performance Standards

- Flow control is the primary standard for LID facilities
 - Continue to meet existing standard (50% of the 2-year flow through 100% 50-year flow)
 - Control from 8% of the 2-year flow through 50% of the 2-year flow
- Different criteria for within UGA

Flow Duration Curve



QUESTIONS?



Comments and Questions

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