



# Surface Water Design Manual Update

Planning Commission

July 7, 2016



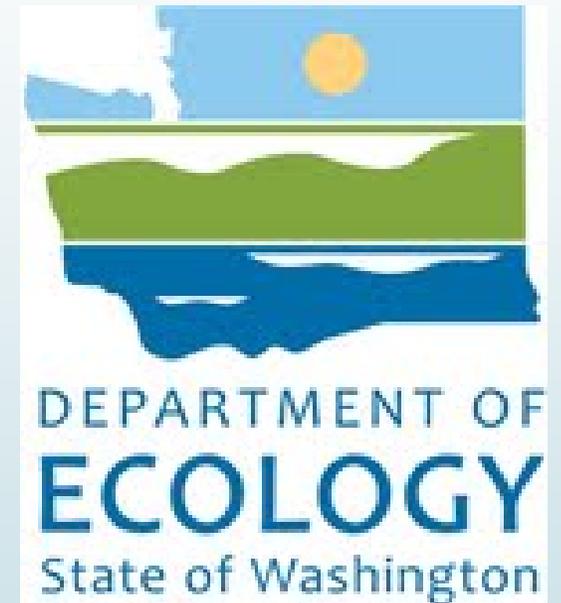
# Tonight's Agenda



- ▶ NPDES Permit Requirements
- ▶ Surface Water Design Manual Options
  - ▶ Update Sammamish Addendum
  - ▶ Staff Recommendations
- ▶ Current Drainage Requirements
- ▶ Future Project Impacts
- ▶ Examples of Projects Impacts
- ▶ Vesting
- ▶ Outreach and Education
- ▶ Schedule

# NPDES Permit

- ▶ Mandated by the Department of Ecology
- ▶ New standards for controlling runoff
  - ▶ Low Impact Development
  - ▶ Priority list of LID BMPs must be implemented



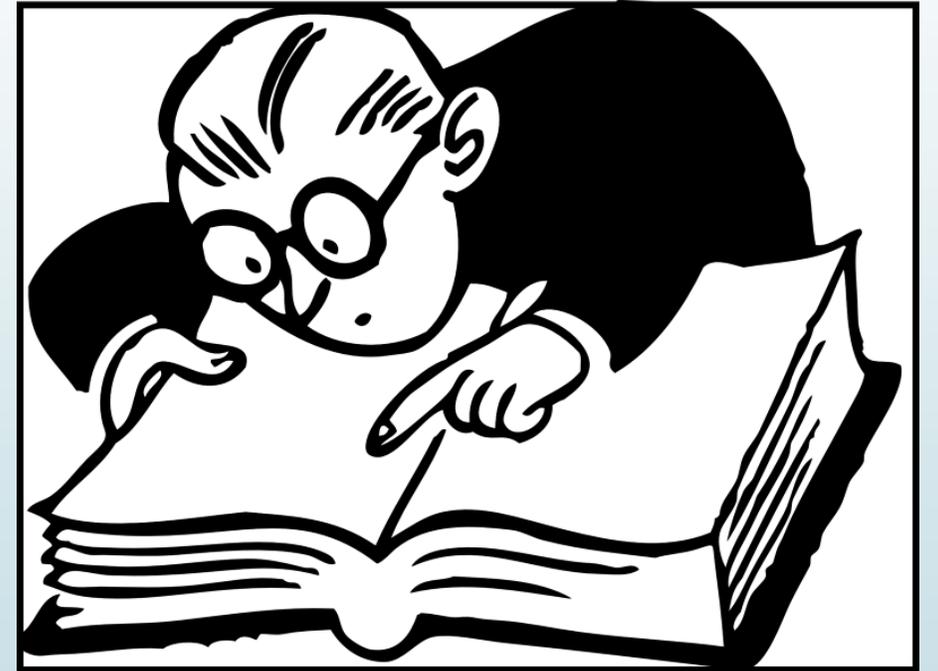


# NPDES Permit Requirements

- ▶ Current design manuals do not comply with 2013-2018 permit
  - ▶ Revision Required
  - ▶ Must be equivalent to *2012 Stormwater Management Manual for Western Washington* (Ecology Manual)
  - ▶ **Adoption by December 31, 2016**

# Surface Water Design Manual Options

1. Adopt 2016 King County Surface Water Design Manual (2016 KCSWDM)
2. Adopt 2012 Stormwater Management Manual for Western Washington (Ecology Manual)
3. Author and adopt a Sammamish specific Stormwater Design Manual



# Design Manual Comparison

	2016 KCSWDM	2012 Ecology Manual	New Sammamish Manual
Ecology approved	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Extensive public involvement process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Consistency in approach between current Sammamish adopted manual (2009 KCSWDM)	<input checked="" type="checkbox"/>		
Staff and developer familiarity with Core Requirements	<input checked="" type="checkbox"/>		
Detailed design guidance	<input checked="" type="checkbox"/>		
Technical/interpretation/training support	<input checked="" type="checkbox"/>		
Feasibility of meeting permit adoption deadline of Dec 31, 2016	<input checked="" type="checkbox"/>		



# Sammamish Addendum

- ▶ Similar to current Sammamish Surface Water Design Manual Addendum
  - ▶ States relevant SMC sections
  - ▶ Refers to appropriate departments
  - ▶ Includes Sammamish-specific interpretations of:
    - ▶ Definitions
    - ▶ Exemptions
    - ▶ General understanding
- ▶ Will include Sammamish flow control and water quality maps
- ▶ Require multi-functional stormwater facilities

**NEW!**

# Staff Recommendations

- ▶ Adopt the 2016 KCSWDM with updated Sammamish Addendum and SMC Title 13
- ▶ Future work may include:
  - ▶ Create Critical Drainage Areas to include Inglewood, Tamarack, and/or other areas
  - ▶ Additional public and stakeholder education and involvement
  - ▶ Revise and distribute technical and general educational material about changes





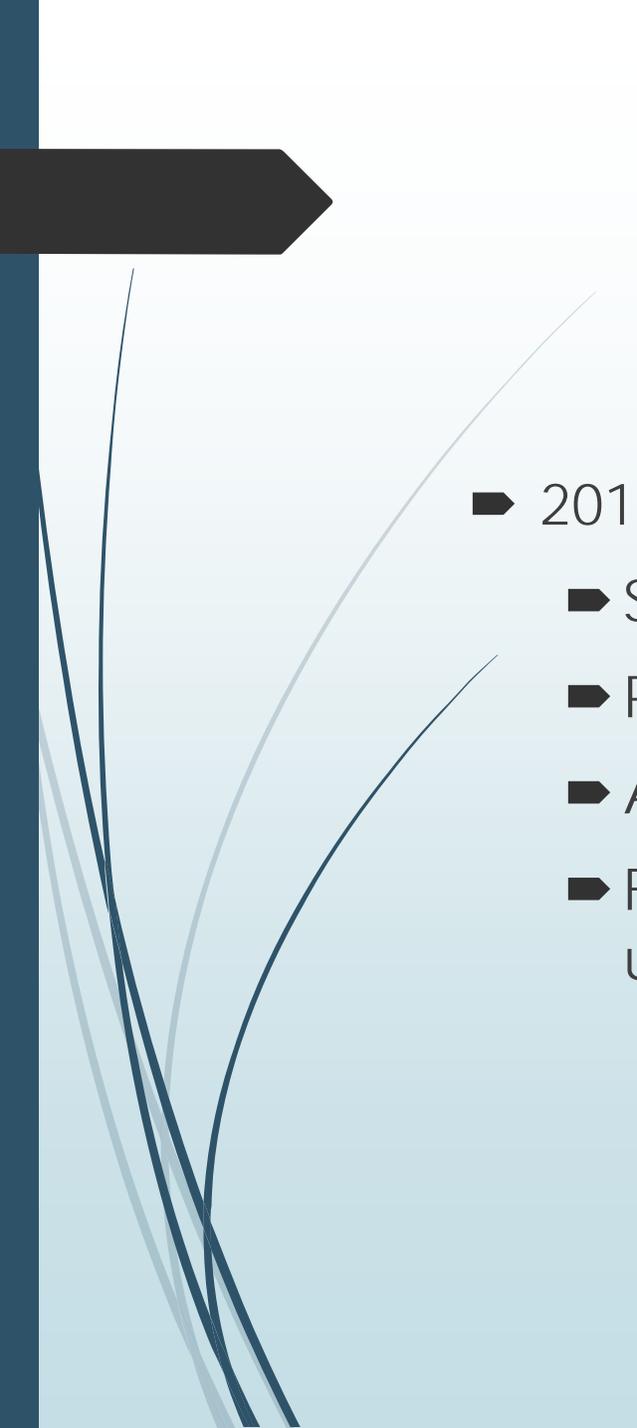
# Current Drainage Requirements

- ▶ Drainage review required when
  - ▶ Creating more than 2,000 sf of new plus replaced impervious surface
  - ▶ 500 sf of new plus replaced impervious surface within Inglewood Historical Plat
- ▶ Use 1998 KCSWDM
  - ▶ Projects disturbing less than 1 acre
  - ▶ Not within erosion hazard near sensitive water body overlay
- ▶ Use 2009 KCSWDM
  - ▶ Projects disturbing 1 acre or more



# Key Changes to Requirements

- 2016 KCSWDM
  - LID now required to the maximum extent feasible
  - Requires tiered approach to assessing feasibility of LID types
  - 'Cafeteria menu' approach to LID implementation
  - May require formal flow controls or water quality facilities



# Key Changes to Requirements cont.

- ▶ 2016 KCSWDM
  - ▶ Streamlined drainage review for small projects
  - ▶ Provides less credit in modeling give for LID
  - ▶ All transportation projects now required to use LID
  - ▶ Facility Design requirements and landslide precautions updated

# Project Impacts

- ▶ Increase in cost and complexity, especially for medium-sized projects
- ▶ Additional documentation and review required
- ▶ LID required for right-of-way projects
- ▶ New maintenance performance standards for LID BMPs



# Example of Single Family In-fill

## *Development Impacts*

- **Background**
  - Tear down & rebuild
  - Existing 9,600 sf lot
  - R4 Zoning
  - Current home: 1,900 sf
  - No critical areas
  - New home: 2,500 sf
    - 600 sf new impervious
    - 1900 sf replaced imp. Surf.
- **1998 KCSWDM**
  - Small Site Drainage Review
- **2016 KCSWDM**
  - Simplified Drainage Review

**Existing Conditions**



**Proposed Conditions**

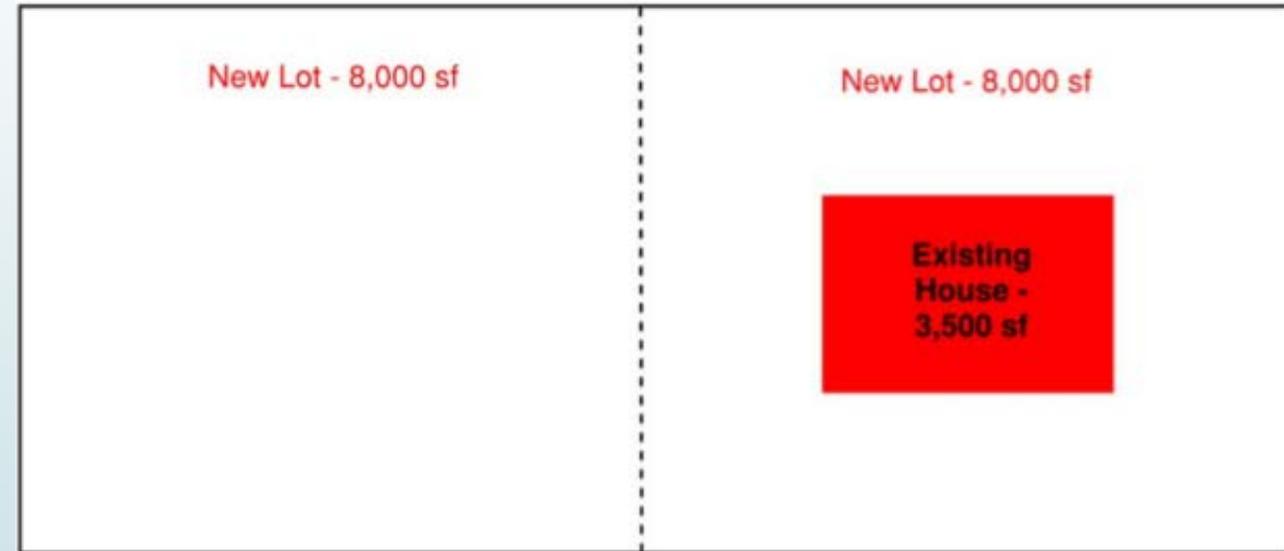


# Example of 2 Lot Short Plat

## *Development Impacts*

### ► Background

- Existing 16,000 sf lot
- R6 Zoning
- Subdivide: two 8,000 sf lots
- No critical areas, No ROW, and frontage improvements
- Existing home: 3000 sf
- Existing driveway: 500 sf



## 2 Lot Short Plat (CONTINUED)



- ▶ **Developed Conditions**
  - ▶ Assume 4,000 sf impervious surface (each lot)
  - ▶ For short plat
    - ▶ 4,500 sf new impervious
    - ▶ 3,500 sf replaced impervious
    - ▶ 8,000 sf new plus replaced impervious surface
    - ▶ 1,000 sf new plus replaced pollution generating impervious

## 2 Lot Short Plat (CONTINUED)



### ► 1998 KCSWDM

- Small Site Drainage Review
- No detention or water quality facility required
- Flow control BMPs required such as dry wells or splash blocks

### ► 2016 KCSWDM

- Full Drainage Review
- Detention and/or water quality facility may be required
- LID BMPs required for all impervious surfaces 8000 sf

# Example of Subdivision Project

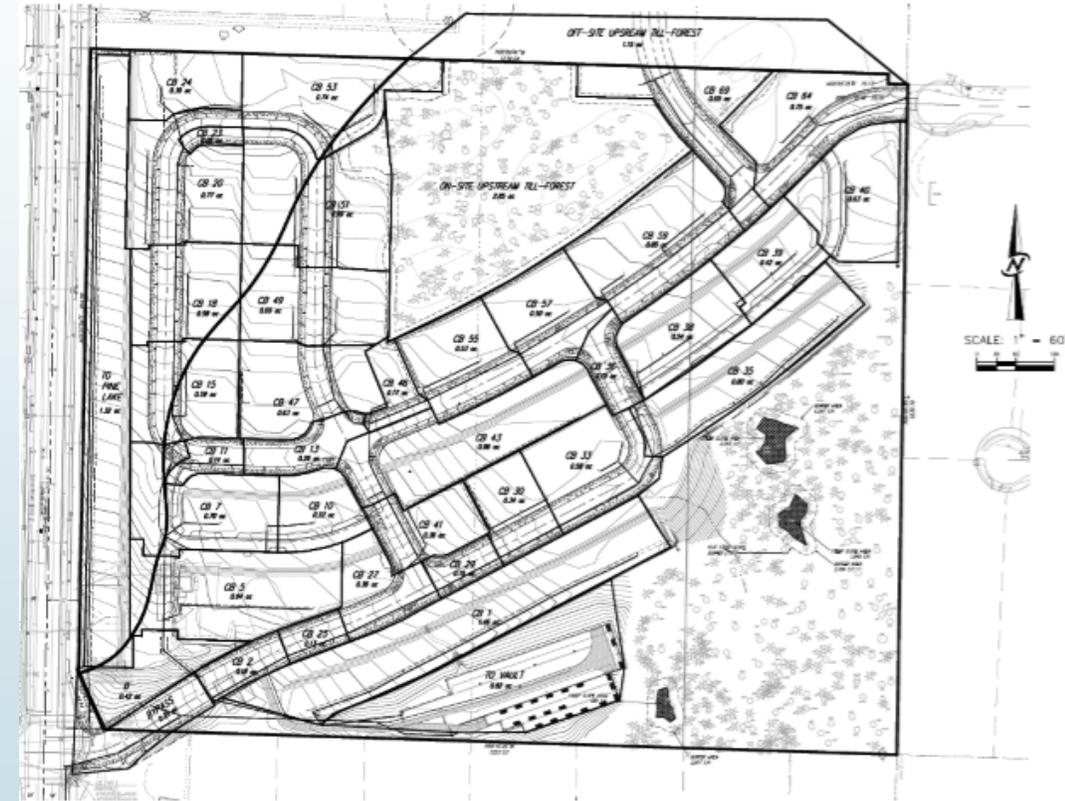
## *Development Impacts*

### ► Background

- Kampp Development
- Total parcel area: 31.2 acres
- R6 Zoning
- Site contains
  - Wetland
  - Erosion hazard
  - Landslide hazard
  - No critical aquifer recharge areas

### ► Developed Conditions

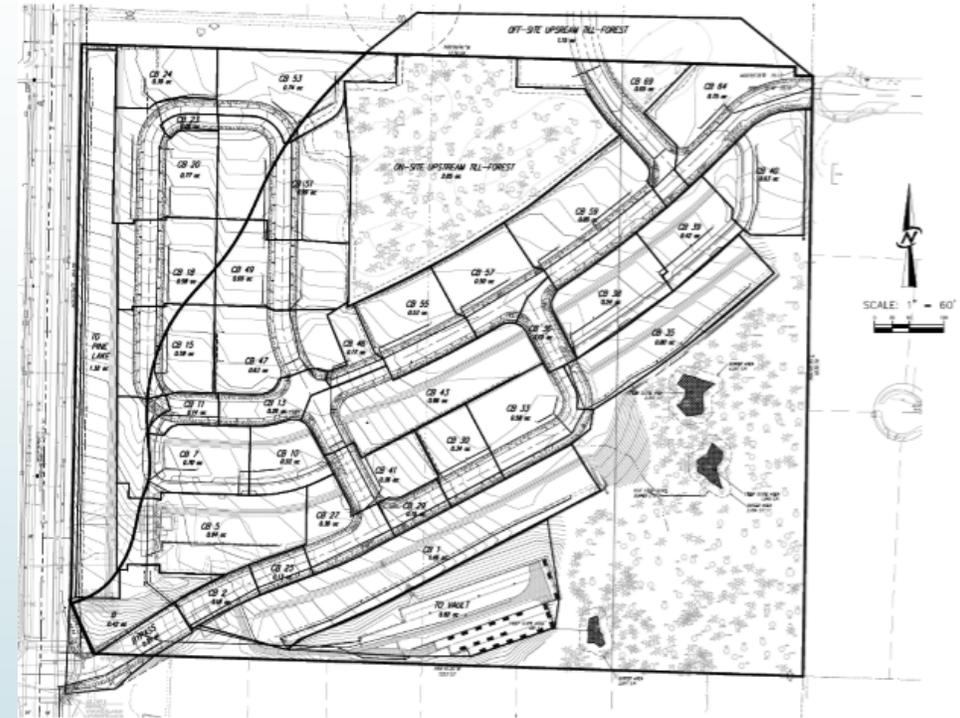
- Project proposed 121 lots
- Reviewed under 2009 KCSWDM



# Subdivision Project (CONTINUED)

- ▶ **2009 KCSWDM**
  - ▶ Full Drainage Review
    - ▶ Detention and water quality facilities constructed
    - ▶ Impervious surfaces from 10% of each lot required to use LID BMPs
    - ▶ Engineer and Developer chose to reduce impervious surfaces to meet LID requirements

- ▶ **2016 KCSWDM**
  - ▶ Full Drainage Review
    - ▶ Detention and water quality facilities are still required
    - ▶ LID BMPs are required for all new and replaced impervious surfaces (including ROW)
    - ▶ Reduced impervious surface only allowed when all other LID BMPs are shown infeasible



# Vesting

- ▶ Dates set by NPDES permit and non negotiable
- ▶ 2009 KCSWDM or 1998 KCSWDM
  - ▶ Applications deemed completed before **December 31, 2016**
- ▶ 2016 KCSWDM
  - ▶ Applications deemed completed on or after **January 1, 2017**
  - ▶ Applications deemed complete prior to January 1, 2017 that have "not started construction" by **January 1, 2022**





# Outreach and Education

- ▶ Coordination and public outreach to inform and get input from
  - ▶ Elected officials
  - ▶ Development community
  - ▶ Consultants
  - ▶ Public
  - ▶ City staff
- ▶ Open House
- ▶ Stakeholder Meetings (2)



# Schedule



Staff introduction to Planning Commission	<b>July 7, 2016</b>
Staff meeting with individual Council members	<b>July 15, 18, 19, 2016</b>
Public Open House	<b>July 27, 2016</b>
Stakeholders Meetings (2)	<b>August and Sept 2016</b>
PC Public Hearing/Deliberation	<b>September 1, 2016</b>
PC Handoff to City Council	<b>November 1, 2016</b>
City Council Discussion	<b>November 8, 2016</b>
City Council First Reading	<b>November 15, 2016</b>
City Council Second Reading and Adoption	<b>December 6, 2016</b>



Questions?