Storm & Surface Water Plan Update

Utilities Advisory Committee

November 2, 2017

Storm and Surface Water Plan Update

Agenda

- Quick Review - **The Why**:
  - Regulatory environment
  - Flooding challenges
  - Water quality challenges
  - Aquatic habitat challenges
- Primary Focus - **The How**:
  - Key recommended enhancements
- Questions, Discussion, and Comments

Storm and Surface Water Plan Update

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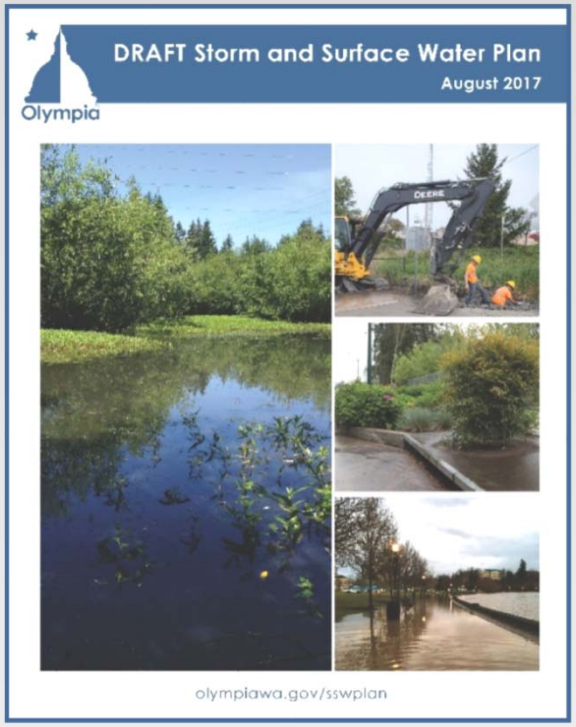
- The **"What"** Chapters:
  - Chapter 1 – Introduction
  - Chapter 2 – Context and Trends
  - Chapter 3 – Surface Water Management
  - Chapter 4 – Built and Natural Infrastructure
- The **"Why"** Chapters
  - Chapter 5 – Legal and Policy Framework
  - Chapter 6 – Flooding
  - Chapter 7 – Water Quality
  - Chapter 8 – Aquatic Habitat
- The **"How"** Chapters
  - Chapter 9 – Core Services
  - Chapter 10 – Strategies
  - Chapter 11 – Capital Improvement Program
  - Chapter 12 – Financial Program



Storm and Surface Water Plan Update

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- Appendices – Completed!
  - Comprehensive Plan Goals/Policies
  - Basin Characteristics – HANDOUT TONIGHT
  - Water Quality Data and Analysis – HANDOUT TONIGHT
  - Implementation Plan – Program Plan Template
  - Stormwater Management Plan Financial Analysis – HANDOUT TONIGHT

What is the Utility Responsible To Do?

Storm and Surface Water Plan Goals

Goal 1: Reduce the frequency and severity of flooding so hazards are eliminated.

Goal 2: Improve surface water quality.

Goal 3: Protect, enhance, and restore aquatic habitat functions provided by wetlands, streams, lakes, marine shorelines, and riparian areas.

Goal 4: Ensure reliable functioning of the built and natural stormwater infrastructure.

Goal 5: Manage Utility finances responsibly and recover costs equitably.

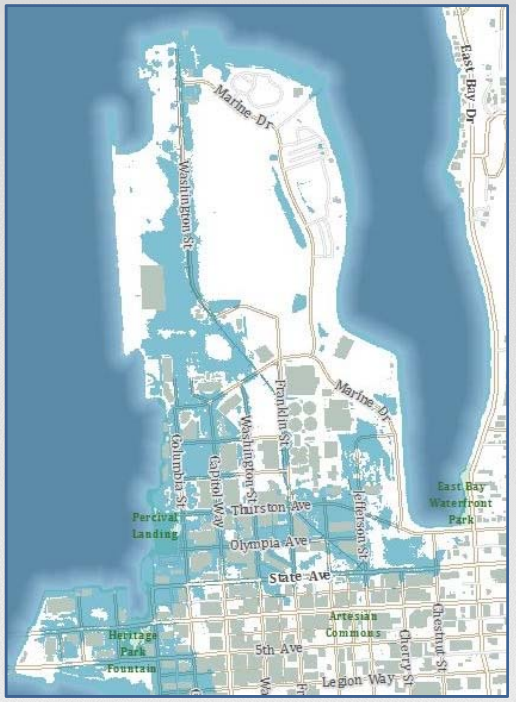
Why Do We Do What We Do?

Municipal Stormwater Permit Requirements

- Keep an updated Stormwater Management Program Plan.
- Maintain an education and outreach program for source control.
- Maintain an inventory and mapping of the stormwater infrastructure.
- Implement an Illicit Discharge Detection and Elimination (IDDE) program.
- Maintain a spill hotline.
- Implement and enforce the Drainage Design and Erosion Control Manual.
- Inspect and enforce erosion and sediment control.
- Annually inspect and maintain all city-owned stormwater facilities.
- Annually inspect and enforce maintenance of private stormwater facilities.
- Inspect (and clean) all city-owned catch basins on a 2-year cycle.
- Comply with the TMDL-specific requirements.
- Contribute to the Regional Stormwater Monitoring Program.
- Report to Ecology to document compliance with permit requirements.

General Challenges

- Equitable and Predictable Rates and Fees
  - Challenging in a complex regulatory environment.
- Legacy Development
  - Infrastructure was developed before stringent regulations.
  - Retrofits required, but more challenging than new construction.
- Reliance on Choices by Individuals
  - How the community maintains cars and lawns, increases impervious surfaces and removes backyard trees impacts our work.
- Land Development Pressure
  - Increased density creates increased impervious surfaces.
- Climate Change and Sea Level Rise
  - More frequent and intense winter precipitation.
  - Increasing investment in infrastructure required.



Flooding Challenges

Asset Management

- To increase understanding of infrastructure and its condition requires staff resources

Low Impact Development (LID)

- Increase in number of facilities with LID regulations
- Increase in inspections and maintenance as a result

Water Quality Challenges

Increasing Permit Requirements

- NPDES Municipal Stormwater Permit requirements changing.
- Requirements could result in less staff time available for other work.

Reliance on the Public for Nonpoint Pollution Prevention

- Nonpoint pollution has no clear single source.
- Challenging to educate people and change behaviors.

Aquatic Habitat Challenges

Multiple Public/Private Ownership

- The Utility must rely on voluntary programs to encourage stewardship on private properties.

Habitat Fragmentation

- Improving habitat on large tracts of land requires strategies that work across the landscape.

Legacy Impacts of Urban Development

- Maintaining functional habitat in an urban environment requires creativity and flexibility.

Appendix: Water Quality White Paper

Water Quality Data Analyzed

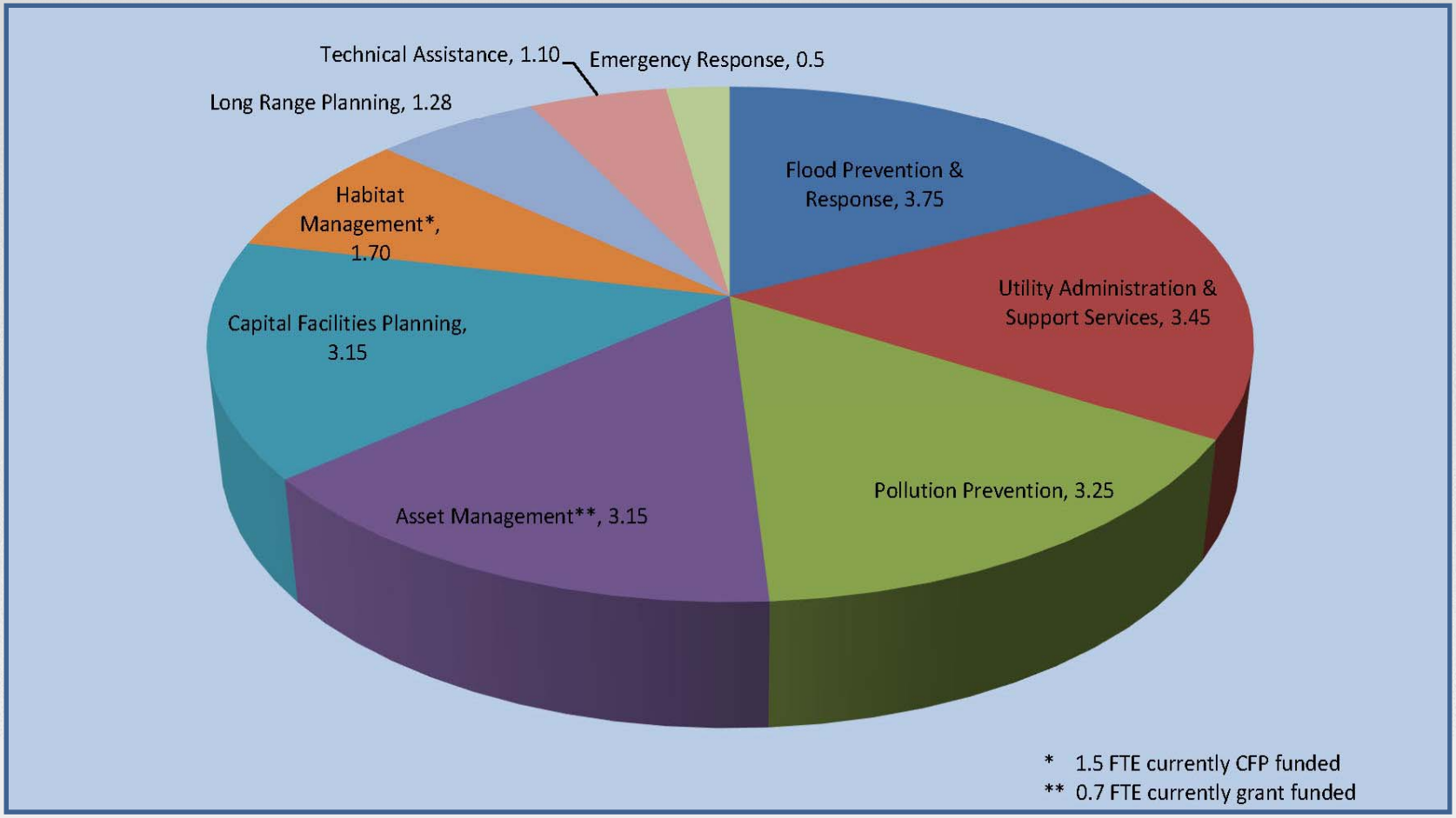
- Department of Ecology
- Thurston County Environmental Health
- City of Olympia

Surface Water Quality Problems

- Runoff from pollution generating impervious surfaces
- Fecal contamination (failing on-site septic systems)
- Excess nutrients/ temperature/ dissolved oxygen

Recommendation: Basin Specific Implementation Plans

How Do We Address Responsibilities?



How Do We Propose Addressing Our Challenges?

Strategies

- Continue core services
  - No reductions recommended
- Enhance core services
  - Reorganization of resources
  - Limited new resources
- Capital Facilities Program

	Strategies	Enhance	Continue
Goal 1 – Reduce the frequency and severity of flooding so hazards are eliminated			
1-1	Identify conveyance capacity problems in the City system. Develop a priority ranking procedure for correcting flooding issues.	CFP	FP
1-2	Evaluate possibilities for regional, City-owned detention facilities and support design and construction where determined feasible through basin planning.	CFP FP	
1-3	Evaluate existing public stormwater detention facilities for effectiveness and potential improvements.	CFP FP	
1-4	Provide information to customers to help investigate and solve drainage issues at their homes or businesses.		TR
1-5	Ensure public and private development complies with the City of Olympia Drainage Design and Erosion Control Manual.		TR
1-6	Provide public education and outreach on how to reduce stormwater runoff.		FP
1-7	Develop post-construction inspection and maintenance capabilities for public stormwater facilities. Focus should be on LID implementation, staffing, and training.	FP	
1-8	Map impervious and pervious surfaces and track implementation of LID stormwater facility installations.		AM
1-9	Encourage use of permeable paving materials and native vegetation in Public Works construction projects.		TR
1-10	Consolidate downtown outfalls to improve manageability.	FP CFP	
1-11	Install tide gates on downtown outfalls to reduce flood risks.	FP CFP	
1-12	Consider separation of storm drainage from combined sewers to protect wastewater treatment plant (LOTT).	FP CFP	
1-13	Develop structural alternatives to mitigate long-term or projected sea level rise impacts.	FP CFP	
1-14	Provide emergency response training to staff.		FP ER
1-15	Respond in a timely manner to emergencies with adequate resources.		FP ER
1-16	Coordinate with other City departments, agencies and local entities to be prepared for emergencies.		FP ER
1-17	Partner with Planning & Engineering, Olympia Fire Department, State and local agencies to develop and implement emergency response plans in the downtown core.		FP ER
1-18	Perform inspections, maintenance, repairs, and installations of Utility infrastructure in anticipation of sea level rise.		PP

How Do We Propose Addressing Our Challenges?

Key Enhancement Recommendations Include:

Permanently funding the pilot habitat program started in 2015. (11 strategies)

- Develop vegetation and habitat management plans
- Acquire important habitat areas/easements
- Manage invasive species
- Implement aquatic habitat protection by watershed
- Monitor aquatic habitat quality and quantity
- Provide focused outreach to private property owners

Expanding education and outreach efforts. (2 strategies)

- Develop a construction stormwater campaign for sediment management
- Provide education and outreach around aquatic habitat, wildlife and ecosystem function

How Do We Propose Addressing Our Challenges?

Key Enhancement Recommendations Include:

Responding to requirements resulting from the Deschutes Total Maximum Daily Load process. (3 strategies)

- Develop a business pollution prevention program
- Develop a program to prioritize retrofits of existing untreated pollution generating infrastructure

Planning for anticipated sea level rise. (6 strategies)

- Consolidate downtown outfalls
- Install tide gates
- Consider separation of storm drainage from combined sewers to protect LOTT
- Develop structural alternatives
- Develop a sea level rise plan

How Do We Propose Addressing Our Challenges?

Key Enhancement Recommendations Include:

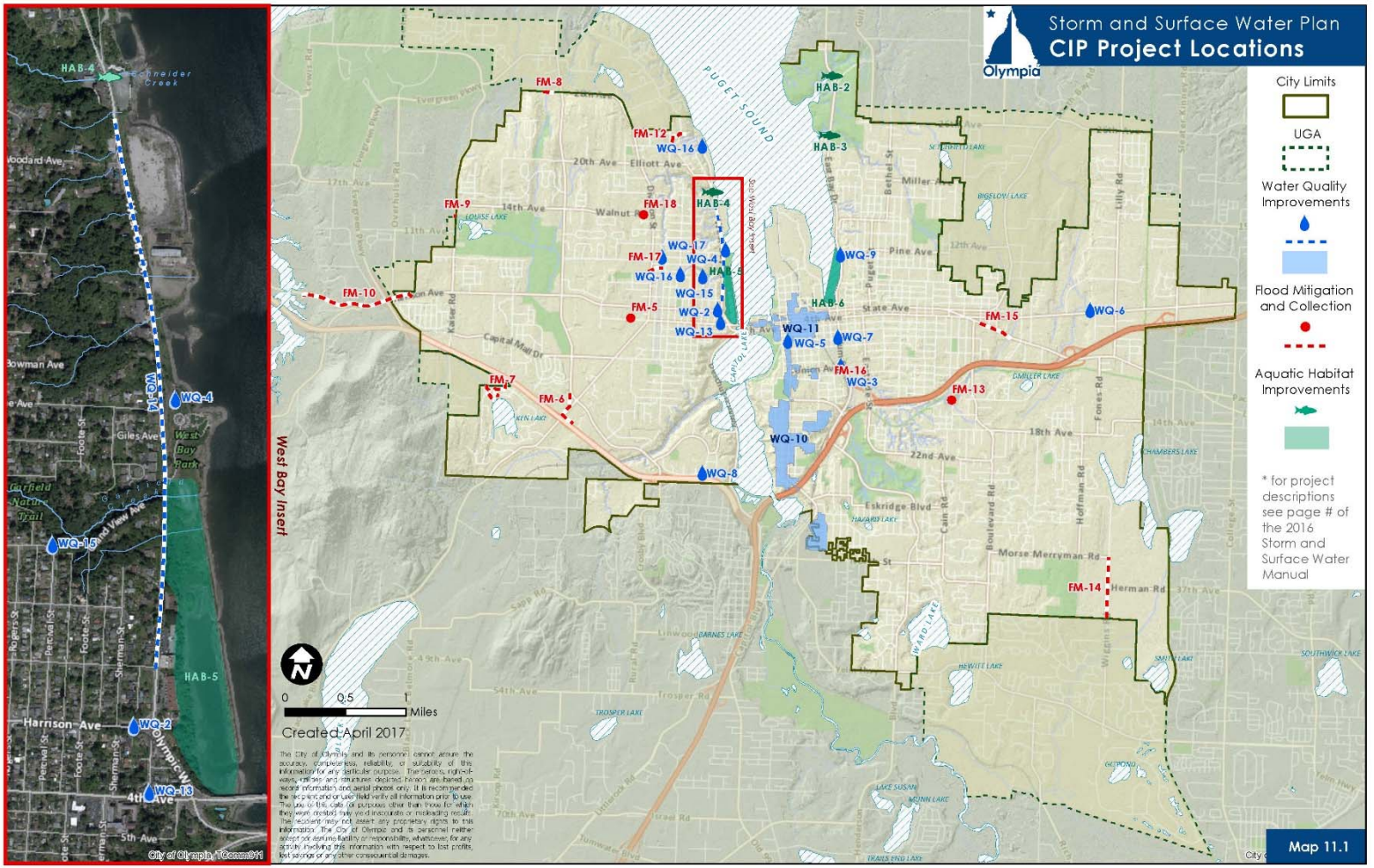
Improving the asset management program. (5 strategies)

- Develop Stormwater Pollution Plans for City material storage facilities
- Develop a natural infrastructure asset management program
- Develop level of service standards
- Monitor resources through a work order system
- Develop CCTV program

Modifying the street sweeping program to have a water quality focus. (3 strategies)

Developing a rate structure that provides an incentive to retrofit private stormwater systems to provide higher levels of treatment. (1 strategy)

How Do We Propose Addressing Our Challenges?



Next Steps

- UAC Recommended Action: January 4, 2018
- Land Use and Environment Committee
  - November 16, 2017 - Briefing
  - January 18, 2017 – Recommended Action
- Draft Plan Availability and Public Comment
  - Mid-November 2017
  - December 20, 2017
- Public Hearing
  - February 2018

Questions and Discussion

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