City of Kent Watershed Overview
Stormwater Utility Update

- Green River Levee Repairs
- FEMA Flood Map Update
- Local Mill Creek Drainage
- Local Drainage
- Natural Resource Enhancement
- National Pollutant Discharge Elimination System (NPDES) Permit
- Maintenance Needs
- Utility Rates
Green River Levee Projects in Kent

- Public Safety
- FEMA Accreditation
- Protect Parks & Open Spaces
- Environmental Restoration
The Green River Valley:
An Economic Engine

What’s at Risk?

• About 4,000 businesses and roughly 90,000 jobs
• Fourth largest manufacturing/distributing center in the US
• One eighth ($42 billion) of the state’s GDP
• Regional Transportation and Utility Corridors
Green River Recreation
Green River Levees
Steady Progress of Repairs and Improvements since 2008
Breda (Horseshoe Bend) Levee
Complete ILA, Planning and Design in 2018

Potential Levee Alignment
Milwaukee #2 Levee
Finalize Levee Alignment in 2018
Hawley Road Levee

Completed Levee Connection to SR 167 in Oct 2017
Signature Pointe / County Road #8 Levee
Prepare Interlocal Agreement with King County Flood Control District
Lower Russell Road Levee

Continue Partnership with King County Flood Control District
Anticipated Construction in 2019/2020
Kent Airport Levee – Green River Left Bank

Submit Levee Certification Report to FEMA in 2018
Frager Road Levee – Green River Left Bank

Submit Levee Certification Report to FEMA in 2018

Levee Slope Erosion

City of Kent Photo – January 12, 2016

Frager Road Levee - Looking South from S 212th Street
Stormwater Utility Update

- Green River Levee Repairs
- **FEMA Flood Map Update**
  - Local Mill Creek Drainage
  - Local Drainage
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[Map of the area with marked flood zones]

*2017 Preliminary FEMA Maps*
FEMA Flood Maps Update

FEMA Flood Maps Background

FEMA Flood Maps

• Requires FEMA Flood Insurance
• Increases Development Regulation
• Affects Property Values
FEMA Flood Maps Update

Completed Levee Repairs Have Revised FEMA Flood Maps
FEMA Flood Maps Update

FEMA Flood Maps Implementation Schedule

FEMA Flood Map Schedule

- Local Agency Meeting
  Nov 2017

- FEMA Public Meeting
  Feb 2018

- Preliminary Map Appeal Period
  Mar through May 2018

- Effective Map Implementation
  Spring 2019
Stormwater Utility Update

- Green River Levee Repairs
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- **Local Mill Creek** Drainage
  - Local Drainage
  - Natural Resource Enhancement
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- Utility Rates
Mill Creek Plan
Major Projects to Address Flooding

- James Street Pump Station
- Upper Mill Creek Dam
- Mill Creek Culvert Replacements
- Mill Creek Reestablishment
- Green River Natural Resource Area
  Pump Station
- Green River Natural Resource Area
  South Pump Station
Mill Creek Plan
James Street Stormwater Pump Station – Completed 2016

Operational in October 2016
Mill Creek Plan

Improve Upper Mill Creek Dam for Additional Flood Storage
Mill Creek Plan
Replace Undersized Drainage Culverts along 76th Ave South

Narrow Culverts and Channel Sediment
Roadway Flooding along 76th Ave South
Mill Creek Channel Reestablishment

Restore Conveyance Capacity of Mill Creek
Mill Creek Plan
Future Partnership with Drainage District #1 of King County

- Maintain 14.2 miles of creek in Kent and Renton
- Remove grass and brush along banks of creek yearly;
- Remove blocking downed logs and perform beaver control as necessary;
- Plant ~2000 LF of native plants along streambanks annually;
- Perform twice-yearly water quality monitoring
Earthworks Park Sediment Pond Culverts
Replace Aging Storm Drainage Culvert Pipe

Replace Aging Drainage Culverts
Green River Natural Resources Area

Stormwater Pump Station Improvement – Increase Flood Storage

Green River

Force Main Pipe

Stormwater Pump Station
Green River Natural Resource Areas

South Pump Station

Stormwater Pump Station Improvement – Reduce Flood Risk

Future Stormwater Pump Station
Other Mill Creek Capital Projects

- S. 267th St. Culvert Replacement
- Green River Natural Resource Area Forebay Maintenance
- Mill Creek at Senior Center Conveyance and Sedimentation Improvements
- Mill Creek at BNSF Culvert Improvements
- 104th Ave. SE/SE. 256th to 260th St. Trunk Storm Drain
Stormwater Utility Update

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- **Local Drainage**
  - Natural Resource Enhancement
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Southeast 223rd St and Meridian Valley Creek
Lake Meridian Estates Storm Improvements – Phase II
Upsize Storm System and Clear Outfall Pipe

Plugged Storm Drain Pipes and Failed Pavement - Lake Meridian Estates
Southeast 223rd Street Drainage Improvements

Investigate Downstream System to Improve Roadway Drainage

Roadway Flooding on Southeast 223rd Street
144th Avenue SE Drainage Improvements
Address Nuisance Roadway Flooding

City of Kent Photo – March 6, 2014

Culvert Maintenance and Cleaning - 2011
Springbrook Creek

Conditional Letter of Map Revision

S. 188th St. Culvert

- Previously caused floodwater backup
- Removed by developer
- 2017 preliminary maps still include effects from culvert
Kent Scenic Hill Drainage at Kensington

Address Ongoing Erosion Problems along Steep Ravine

Riprap Repair in 2010 to Address Erosion Problems
Lake Fenwick
Water Quality
South 212th Street Roadway Repair Phase II

Relocate Garrison Creek
Other Local Drainage

Capital Projects

- Stormwater component of roadway projects (e.g. S. 224th and 228th Streets, S. 248th at the YMCA)
- Springbrook Creek Flood Containment
- Springbrook and Garrison Creek Reestablishment
- S. 196th at 84th Ave. Trunk Storm Drain
- Big Soos Creek Bridge at SE 256th St.
- N. Meridian Valley Ck Culvert at SE 236th St.
Stormwater Utility Update

- Green River Levee Repairs
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- Local Mill Creek Drainage
- Local Drainage
- **Natural Resource Enhancement**
- National Pollutant Discharge Elimination System (NPDES) Permit
- Maintenance Needs
- Utility Rates
Environmental Issues along the Green River
Vegetation, Temperature and Salmon Habitat
Green River Environmental Restoration Projects

1. Teufel Property (King County)
2. Downey Farmstead Restoration
3. Riverview Park Restoration
4. Leber Homestead Restoration
Leber Homestead Restoration Project

Completed in 2016

August 28, 2017

Artist Rendering of Leber Channel
Downey Farmstead Restoration Project

Relocate Frager Road and Overhead Utilities
Stormwater Utility Update

- Green River Levee Repairs
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- Local Mill Creek Drainage
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- **National Pollutant Discharge Elimination System (NPDES) Permit**
  - Maintenance Needs
  - Utility Rates
National Pollutant Discharge Elimination System Program

Current NPDES Program Implementation Requirements

- NPDES Program permit requirements:
  - Public Education and Outreach
  - Public Involvement and Participation
  - Illicit Detection and Elimination
  - Controlling Runoff from New Development, Redevelopment and Construction Sites
  - Municipal Operations and Maintenance
National Pollutant Discharge Elimination System Program

Water Quality Monitoring and Assessment
Water Quality Monitoring Program
Collective regional water quality monitoring fund
National Pollutant Discharge Elimination System Program

2019 NPDES Permit Reissuance
New Requirements

- Development of a Source Control Inspection Program
- Public Education and Outreach Program expansion
- Illicit Discharge Detection and Elimination Program Updates
- Implement a Long-term Municipal Planning Program
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- Maintenance Needs
- Utility Rates
Maintenance Needs

Stormwater Problem Spots
Maintenance Needs

Stormwater Problem Spots
Maintenance Needs

Mill Creek/Titus Access Hatches
Maintenance Needs

Earthworks Park and Garrison Creek Sedimentation Removal
Maintenance Needs

Soosette Ck/124th Ave. SE Culverts
Maintenance Needs

James St. Hill Sinkhole/Pipe Repair
Maintenance Needs

Summit Pipe Replacement
Maintenance Needs

Beaver Dams
Maintenance Needs

Vactor Solids Storage and Disposal
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- **Utility Rates**
City of Kent 2018 Single Family Rate - $12.51
2017 Non-Single Family Residential Drainage Comparison

One acre heavy development

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<th>Location</th>
<th>Drainage Cost</th>
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12/1/2017