Green River System-Wide Improvement Framework (SWIF)

King County Flood Control District
Advisory Committee

May 30, 2013

Protecting public safety, the regional economy and critical infrastructure.
What is the Green River SWIF?

- 2-year planning process until February 2015
- Key issues:
  - Levels of protection
  - Risk-based levee improvements
  - Public outreach
  - Vegetation management
  - Long-term maintenance costs
  - Habitat/water quality
- Identify problems, recommend improvements, and prioritize solutions based on flood risks
Major Tasks

• Stakeholder Committee process
• Agreed upon goals and objectives, vision, and strategy
• Public outreach
• Evaluate flood risks and level of protection alternatives
• Assess habitat restoration opportunities and vegetation management
• Develop capital projects and financing plan
**Tasks and Timeline**

**Green River SWIF Tasks and Timeline**

<table>
<thead>
<tr>
<th>2012 Q4</th>
<th>2013</th>
<th>2014</th>
<th>2015 Q1</th>
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<tbody>
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<td><strong>Q1</strong></td>
<td><strong>Q2</strong></td>
<td><strong>Q3</strong></td>
<td><strong>Q4</strong></td>
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<tr>
<td>Submit Letter of Intent (LOI) to COE</td>
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<td>Approved LOI</td>
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<td>COE Horseshoe Bend Regional Solutions Team</td>
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<tr>
<td>Stakeholder committee meets throughout SWIF planning process</td>
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<td>Set goals, objectives and strategy</td>
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<td>Vegetation assessment</td>
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<td>Analyze existing conditions</td>
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<td>Evaluate flood risks and level of service alternatives</td>
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<td>Assess habitat restoration opportunities and develop vegetation management alternatives</td>
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<td>Capital project development</td>
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<td>Submit SWIF for approval</td>
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**Facilitation Contract**

**Technical Contract**

**Key Decision Points**

1. Decision on SWIF scope
2. Agree on G&O, vision, strategy
3. Horseshoe Bend effort – decision on next steps
4. Review Deficiencies Plan
5. Level of Protection direction
6. Risks/damages – residual risks
7. Direction on vegetation management alternatives
8. Screening criteria
9. Alternatives analysis – select final alternative
10. Implementation/financing plan
11. SWIF review/approval of submittal
Task 1 – Convene Stakeholder Committee (SC) and Conduct Public Outreach

Why are we doing this task?
• Advise Flood District on policy issues and capital improvements
• Seek broad stakeholder support

Products and Timeline:
• Stakeholder Committee – July 2013
• SC Work Plan – July 2013

Estimated Cost:
• Consultant Costs: $75,000; Staff time: 870 hours
Task 1 – Convene Stakeholder Committee (SC) and Conduct Public Outreach

Why are we doing this task?
• Provide input on investment strategy
• Awareness of residual risks

Products and Timeline:
• Public Outreach plan – at least 2 public meetings (Q413, Q314)
• Communication strategy (deficiencies/risk) – Oct. 2013

Estimated Cost:
• Staff time: 250 hours
Task 2 – Goals & Objectives, Vision and Strategy

Why are we doing this task?
• Sets direction for desired future conditions and alternative approaches
• Establishes clarity for the participants

Products and Timeline:
• Goals: Level of protection; Enable accreditation – Aug 2013
• Vegetation goals – Aug. 2013
• Refined Scope of Work – Aug. 2013

Estimated Cost:
• Consultant Costs: $0; Staff time: 220 hours
Task 3 – Vegetation Assessment and Retrospective, focused on PL 84-99 facilities

Why are we doing this task?
• ESA listing and water temperature
• Corps of Engineers concerned about vegetation on levees
• Document conditions/problems to inform decision making

Products and Timeline:
• Map existing vegetation
• Impacts on levee integrity/stability
• Vegetation Assessment Report – Dec. 2013

Estimated Cost:
• Consultant Costs: $30,000; Staff time: 1040 hours
Task 4 – Existing Conditions, Facilities, Infrastructure, Land use, HH Dam

Why are we doing this task?
• Inform decisions on deficiencies and future improvements
• Target problem areas and compare risks
• HHD constraints and opportunities

Products and Timeline:
• Tech memos on discipline topics - ongoing
• Plan for corrective actions for levee deficiencies – Dec. 2013
• Existing Conditions Report – March 2014

Estimated Cost:
• Consultant Costs: $300,000; Staff time: 2800 hours
Task 4 – Existing Conditions, Facilities, Infrastructure, Land use, HH Dam

Elements of Existing Conditions Report:

- **River channel** – sediment, migration, scour depths
- **Hydrology/hydraulics** – conveyance capacity, water levels
- **Levee problems** – Where, how bad?
- **Land use** – critical facilities, infrastructure, development trends, economic impacts
- **Aquatic Resources**
- **Howard Hanson Dam** – structural or operational changes to increase capacity
Task 4.2 – Collect new data to fill critical data gaps

Why are we doing this task?
• Fill critical data gaps needed to assess risks

Products and Timeline:
• Collect/assess new data (within time/budget constraints) – June 2014
  ➢ Geotechnical analysis of existing levees
  ➢ Geomorphic analysis – channel migration and bed scour
  ➢ Levee geometry – identify freeboard deficits between levee elevations and level of protection alternatives

Estimated Cost:
• Included in task 4 budget above
Task 5 – Evaluate Flood Risks and Analyze “Level of Service” Alternatives

Why are we doing this task?
• Levee improvements decisions require info on risks/damages to assess future capital needs

Products and Timeline:
• Report on flood risks/damages by levee reach (May 2014)
• LOS tech memo – evaluation of alternatives and recommendations (Dec. 2013)

Estimated Cost:
• Consultant Costs: $150,000; Staff time: 1250 hours
Task 6 – Assess Habitat Restoration Opportunities and Develop Vegetation Management Alternatives

Why are we doing this task?
• Vegetation constraints result in regulatory conflicts with ESA and Clean Water Act for habitat and water temperature
• Water temperature exceeds standards (TMDL)

Products and Timeline:
• Green River salmon habitat projects – March 2014
• Develop and evaluate vegetation management alternatives – Aug. 2014

Estimated Cost:
• Consultant Costs: $80,000; Staff time: 1810 hours
Task 7 – Capital Project Development

Why are we doing this task?
- Identify alternatives to achieve level of protection, long-term maintenance, and habitat needs
- Evaluate and select final alternative
- Planning-level designs for capital projects
- Priorities and financing

Products and Timeline:
- Capital project conceptual designs – Dec. 2014
- Implementation and Financing Plan – March 2015

Estimated Cost:
- Consultant Costs: $220,000; Staff time: 2040 hours
Task 8 – Develop Interim Risk Reduction Measures

Why are we doing this task?
• Need interim plan to reduce inundation risks while longer-term solutions are planned and implemented

Products and Timeline:
• IRRM Plan (non-structural and structural components)
• Submit draft plan – Sept. 2014

Estimated Cost:
• Costs included in Task 4 and 7
Task 9 – Submit SWIF for FCD and Corps of Engineers Approval

Why are we doing this task?
• FCD is lead agency and must review/approve draft SWIF
• PL 84-99 eligibility granted for 2 years pending completion of SWIF

Products and Timeline:
• Final Reports and draft SWIF to FCD – Jan/Feb 2015
• SWIF and vegetation variance materials to ACOE – Feb/March 2015

Estimated Cost:
• Consultant Costs: $10,000; Staff time: 100 hours