West Sacramento Area Flood Control Agency
January 12, 2012

Update on Current Levee Construction Projects and the Southport Sacramento River Levee Early Implementation Project
Flood Protection Management Activities

- Design funding agreement amendment approved ($14.3 million increase)
- Draft Central Valley Flood Protection Plan
- USACE GRR update
- Washington, D.C. trip
- FEMA remapping update
Update on Current Levee Construction Projects

- CHP Academy Early Implementation Project
- The Rivers Early Implementation Project
- Sacramento Bank Protection Project in Southport
- Yolo Bypass North Slip Repair Project
- Yolo Bypass South Emergency Slip Repair Project
Southport Technical Feasibility and Alternative Formation

• Design Decision Hierarchy and Sequence
  1. Identify particular problems
  2. Test particular solutions
  3. Assemble solutions to solve problems
  4. Minimize impacts
  5. Maximize benefits
Status of Steps 1, 2 and 3 of Design Decision Hierarchy and Sequence
CMAs Studied During Current Design Phase

- Adjacent levee (CMA 1)
- Setback levee (CMA 2)
- Strengthen in-place (CMA 3)
- Under seepage measure the same for each CMA - Cutoff wall or Seepage berm - depending on technical feasibility
What corrective measures were found to be technically feasible in each segment?
Segment A

Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

Under Seepage
- Seepage berm √
- Relief wells x
- Cutoff wall √

Erosion
- Rip rap √
- Setback levee √

Geometry and Stability
- Slope flattening √
- Adjacent levee √
- Setback levee √

01/12/2012
Segment B

Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

Under Seepage
- Seepage berm √
- Relief wells x
- Cutoff wall √/x

Erosion
- Rip rap √
- Setback levee √

Geometry and Stability
- Slope flattening √
- Adjacent levee √
- Setback levee √
Segment C

**Deficiency**
Corrective measure
- technically feasible (√)
- not technically feasible (x)

**Under Seepage**
- Seepage berm √
- Relief wells x
- Cutoff wall x

**Erosion**
- Rip rap √
- Setback levee √

**Geometry and Stability**
- Slope flattening √
- Adjacent levee √
- Setback levee √
## Segment D

### Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

### Under Seepage
- **Seepage berm** √
- **Relief wells** x
- **Cutoff wall** √

### Erosion
- **Rip rap** √
- **Setback levee** √

### Geometry and Stability
- **Slope flattening** √
- **Adjacent levee** √
- **Setback levee** √
Segment E

Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

Under Seepage
- Seepage berm √
- Relief wells x
- Cutoff wall √/x

Erosion
- Rip rap √
- Setback levee √

Geometry and Stability
- Slope flattening √
- Adjacent levee √
- Setback levee √

01/12/2012
Segment F

Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

Under Seepage
- Seepage berm √
- Relief wells x
- Cutoff wall x

Erosion
- Rip rap √
- Setback levee √

Geometry and Stability
- Slope flattening √
- Adjacent levee √
- Setback levee √

01/12/2012
Segment G

Deficiency
Corrective measure
- technically feasible (√)
- not technically feasible (x)

Under Seepage
- Seepage berm √
- Relief wells x
- Cutoff wall √

Erosion
- Rip rap √
- Setback levee √

Geometry and Stability
- Slope flattening √
- Adjacent levee √
- Setback levee √

01/12/2012
CMA 1, 2 and 3 Project Costs

- Property acquisition,
- Structural demolition and relocations,
- Utility relocations,
- Environmental mitigation,
- Transportation and access,
- Levee improvements,
- Cultural preservation,
- Planning, engineering and design; and
- Construction management.
State Cost Share - CMA Analysis

- Base State Cost Share for all CMA’s is 55%
  - State Route 84 provides a 5% State share increase
- CMA’s 1 & 3 cost share will range between 55%-60%
  - Small setback in Reach E near Bee’s Lake will increase State Share
- CMA 2 has the Highest State cost share potential
  - Setback levee in Reaches A, B, C, D, E, & F increase State Share

<table>
<thead>
<tr>
<th>TO 3 - CMA</th>
<th>State Cost Share Range</th>
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<tbody>
<tr>
<td>CMA 1 (Adjacent)</td>
<td>60% 55%</td>
</tr>
<tr>
<td>CMA 2 (Setback)</td>
<td>77% 67%</td>
</tr>
<tr>
<td>CMA 3 (Fix-in-place)</td>
<td>60% 55%</td>
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Recap of Feasibility-Level Study

- Guiding Objectives for Alternative Formulation
  1. Construct as much flood protection as possible, as soon as possible.
  2. Minimize, to the extent feasible in achieving the first objective, adverse impacts upon the community.

- Goal 1 has greater emphasis during feasibility-level study due to Design Decision Hierarchy and data limitations.

- CMAs 1, 2 and 3 assemble the remediation measures that work under Southport conditions into different solution sets that solve deficiencies throughout Southport
• CMAs 1, 2 and 3 are the outer range of feasible options for reach-wide design alternatives, based upon available information.

• Design-level study increases emphasis on cost-effectiveness and reduction of adverse impacts upon the community (Alternatives Goal 2).

• Preliminary design alternatives are refined assemblies of levee and seepage remediation measures that provide the best balance of community flood protection and private property impact, based upon available information.
Southport EIP
Task Order No.4 Preview

General:
1) Complete public draft and final environmental documentation to meet requirements of CEQA and NEPA, and
2) Complete 60%, 90%, 100% construction plans, specifications and estimates for preferred alternative.
Technical Investigations:

- **Hydraulics**: Model flood events in two dimensions to confirm required levee crest elevation and local hydraulic effects of project
Southport EIP
Task Order No.4 Preview (cont)

Technical Investigations (continued)

- **Geotechnical Engineering**: Where proposed, confirm required seepage berm widths and cutoff wall depths; and confirm borrow material availability
Technical Investigations (continued)

- **Geomorphology**: Model flood event and more frequent events to evaluate erosion and sedimentation dynamics and required erosion control measures
Technical Investigations (continued)

- **Groundwater**: Evaluate potential for cutoff wall impact on local groundwater wells; evaluate potential for groundwater impacting borrow operations
Technical Investigations (continued)

- **Civil Design**: Obtain design level topographic, bathymetric, utility and encroachment survey; modify levee improvement design based on geotechnical refinements; develop and implement utility and encroachment removal and relocation plan; develop contract documents to take the project to construction in 2013
Projected Milestone Overview

- January 26, 2011: 6-8 p.m., Southport Sacramento River EIP Levee Workshop, City of West Sacramento Community Center, Community Room
- February 2012: WSAFCA Board selects preferred alternative, approval of Task Order No. 4, Direction on 60% design and process for refining design features
- March 2012: CHP & Rivers Tree Restoration contract award
- Late Summer/Early Fall 2012: Complete 60% design; initiate appraisal process
Projected Milestone Overview (cont)

- Early 2013: Certify EIR – 100% design complete; WSAFCA will engage in formal real estate acquisition proceedings with owners whose properties are affected by or needed to implement final project design
- Mid 2013: Federal and state regulatory approvals received
- Late 2013: WSAFCA Board approves construction contract
Public Outreach Opportunities

• Monthly JPA Board Meetings (2nd Thursday of every month at 10:30 a.m.)

• January 26, 2011: 6-8 p.m., Southport Sacramento River EIP Levee Workshop, City of West Sacramento Community Center, Community Room

• One-on-one meetings w/ WSAFCA staff on request
Questions?