

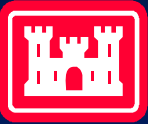


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MISSOURI RIVER DEGRADATION Mid-America Regional Council

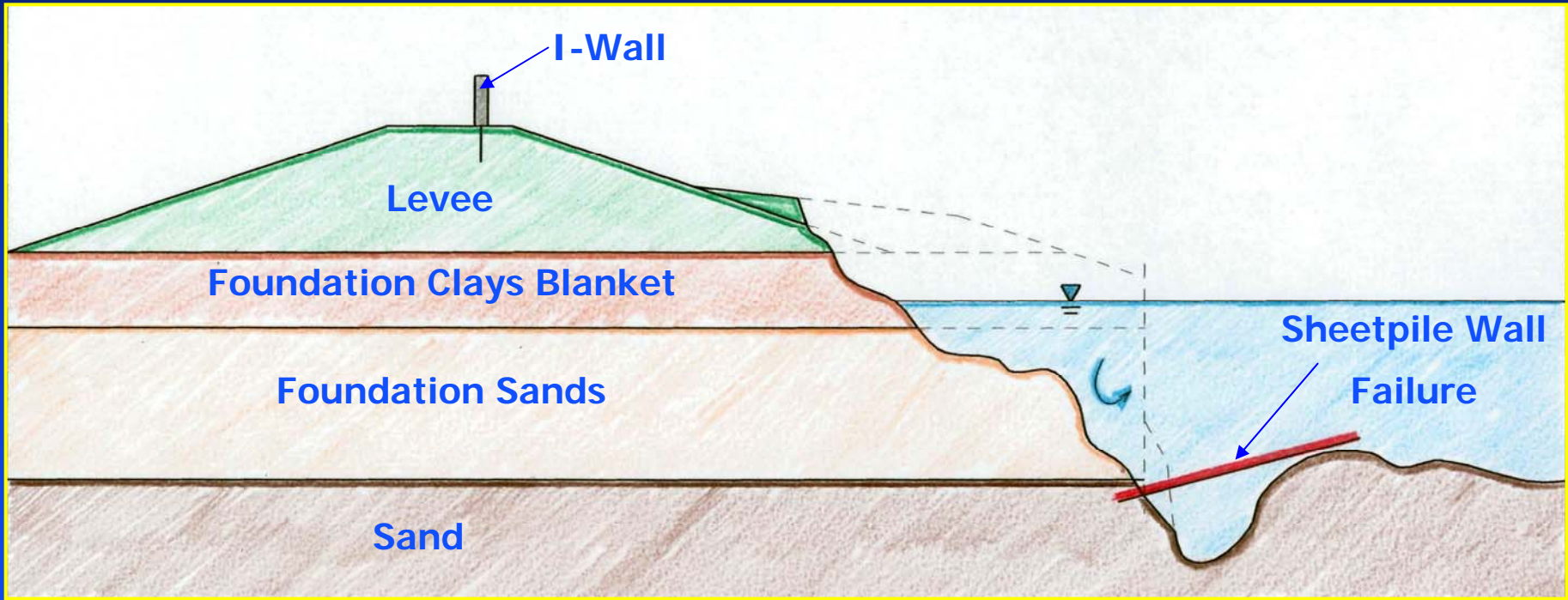
March 14, 2007



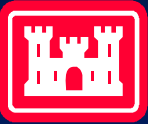
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Degradation Process



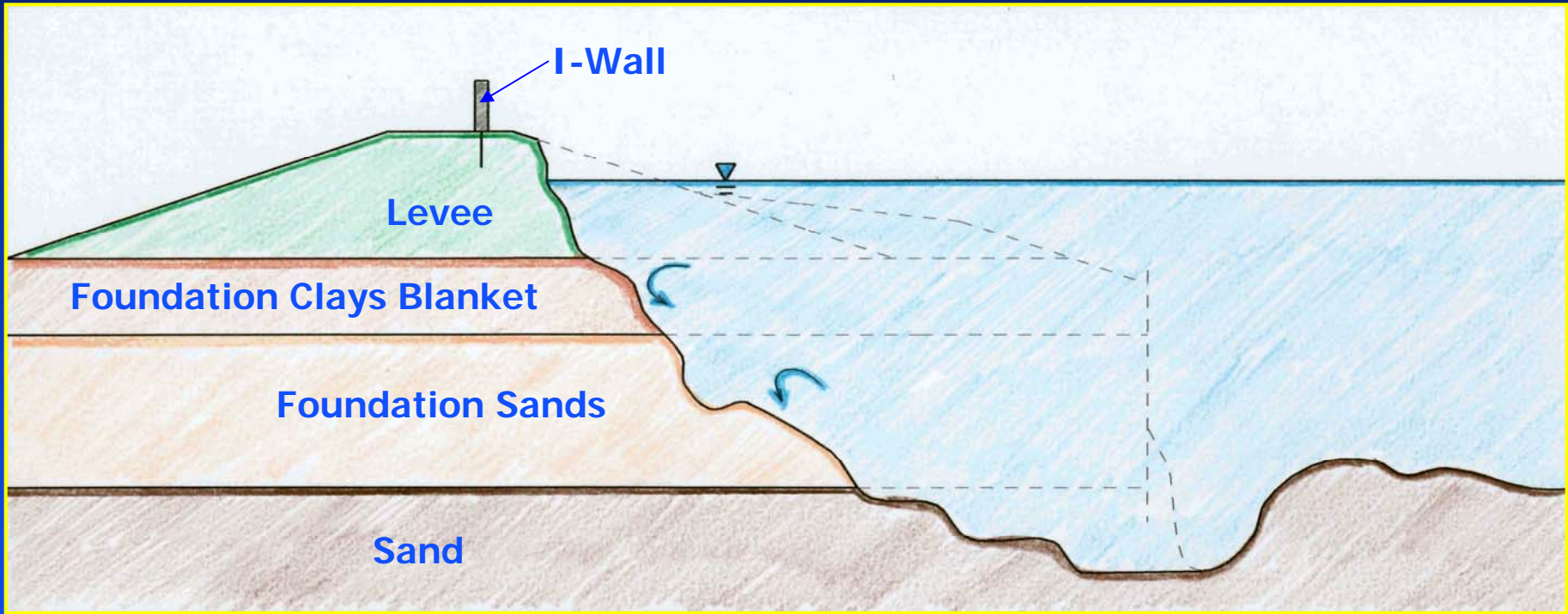
Adverse Effects to Levee System



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Degradation Process



Adverse Effects to Levee System





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Adverse Impacts

- Modification of water intakes & outfalls
- Tributary head-cuts / degradation
- Bank instability and undermining of levee system
- Pipeline and potential affects to bridge foundations
- Further encroachment of the high bank
- Dredging limitation
- Loss of aquatic habitat / spawning impacts
- Navigation hazards
- Missouri degradation causing lower Kansas to degrade



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Potential Causes of Degradation

- Over-confinement of River (levees, dikes)
- Channel shortening or cut off of bends
- Excessive velocities
- Reduced sediment inflow above Gavins Point
- Dredging
- Decreased sediment loads from tributaries
- Natural processes



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Costs

(USACE NWD, NWK, & J. Larandeu)



- **Intake low Water Costs for 2000 to 2004** **\$18,773,321**
- **Intake Costs for Near Future Actively Planned Projects** **\$63,159,120**
- **Low Water Future Infrastructure Investment** **\$286,075,000**
- **Expected Regional Costs of a nonnavigation season (FAPRI)** **\$128,000,000**
- **Planned Federal Levee upgrades** **\$250,000,000**
- **Cost of regional blackout** **More than a billion \$**



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Investigation of Degradation



- Detailed evaluation of potential causes of degradation
- Bathymetric and other surveys
- Data collection and analysis from previous studies
- Research results of studies on similar river systems
- Economic investment and likely future impacts
- Computer models and potential physical model
- Employ regional and national expertise on evaluation team
- Evaluation of potential remedies – alternatives



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More Information Needed

- Likely future conditions and geographic extent
- Estimated rates
- Role of Kansas River and tributaries
- Rock bottom controls and bridge foundation information
- Effects on ground-water and wetlands
- Better understanding of ecosystem impacts
- Accounting of current and future economic investment and level of risk



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Actions Planned for 2007

- Applied Limited Funding to Study Stage Trend Effects on Aquatic Habitat
- Applied Limited Funding for Data Collection for Comprehensive Study of Degradation Problem
- Proposed Regulatory Plan for Commercial Sand Dredgers:
Potential Extraction Caps, Reach limits, EIS



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Investigation Requirements

- Authorization NOT required
- Authority: Section 216 of FCA of 1970 - based on BSNP
- If significant modifications to the River or River projects required “Investigations” process is required, Federal O&M and local funding will NOT accomplish this
- Preliminary Investigation (Recon.) \$300,000, Investigations Funds could proceed very quickly given existing data
- Detailed Investigation, \$3,000,000 and approx. 3 years, cost sharing



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QUESTIONS?