PUBLIC MEETING
WHITEHEAD CREEK
STORMWATER SEPARATION
PROJECT
PRELIMINARY DESIGN
JULY 21, 2011
5:30 PM
Agenda

- Introductions
- Water Protection Program Overview – Long Term Control Plan
- Review Whitehead Project Preliminary Design
- Property Issues
- Questions
Attendance Sheet

☐ Please Sign In!
Introductions

- City of St. Joseph
  - Bruce Woody, Interim City Manager
  - Roger Sparks, City Engineer

- Burns & McDonnell
  - Steve Yonker, Project Manager
  - David Silverstein, Assistant Project Manager
Purpose of Meeting

- Brief Overview of Water Protection Program
- Review Whitehead Creek Separation Preliminary Design
- Opportunity for Public Input
- Individuals Review Maps
Our Water...Our Future

WATER PROTECTION PROGRAM

PROTECTING THE MIGHTY MISSOURI
ST. JOSEPH, MO

Our Water...Our Future
St. Joseph’s Water Protection Utility

- Maintained and Operated by City of St. Joseph to Treat Wastewater
- Managed by Public Works & Transportation Department - Water Protection Division
Water Protection Goals

- Meet Regulatory Requirements
- Protect Water Quality
- Protect Missouri River as a Recreational Resource
Water Protection Goals

- Accommodate Development and Redevelopment
- Integrate Community Benefits
Combined Sewer System
(in Westside St. Joseph)

- Designed to Convey **Both** Stormwater and Wastewater in Same Pipe
- During Rainfall, Pipes May Get Too Full - Overflow into the Missouri River
Combined Sewer System Problems

- Aging Infrastructure
- Sewers Undersized for Peak Flows When it Rains
- Water Quality Impacts Receiving Streams
Why Is This a Problem?

- Can’t Effectively Convey and Treat Flows
- Health Risks and Threats to Aquatic Life
Long-Term Control Plan In Place

- St. Joseph Required to Control Sewer Overflows as Regulated by:
  - *Clean Water Act*
  - *Missouri Department of Natural Resources (MDNR) and the U.S. Environmental Protection Agency (EPA)*
WHITEHEAD CREEK STORMWATER SEPARATION PRELIMINARY DESIGN
Whitehead Creek Basin

- 5,220 Acres
- Three Sub-basins
  - North
  - Middle
  - South
- Middle and South Basins Are Part of the Project
Project Purpose

New Pipe to:

- Remove Creek Flows from Combined Sewer System
  - Dry Weather Flow of 2 Million Gallons Per Day
  - Runoff from Rainfall of 1.8” or Less

continued
Project Purpose, continued

New Pipe to:

- Increase Wet Weather Flow Capture to 60%
- Reduce or Eliminate Dry Weather Overflows When Missouri River is High
Whitehead Creek Stormwater Separation

- New Diversion Pipe – 5300’ in Length
- 78” Diameter, Increases to 9’ x 9’ West of 6th Street
- Capacity 300 Cubic Feet per Second
- Inlet and Outlet Structures
- Tunnel and Open-cut

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Whitehead Creek Stormwater Separation

- Open-cut Depths of 20’ to 30’
- Wide Area Needed for:
  - Spoil
  - Equipment
  - Materials
- Requires Extensive Shoring and Dewatering
Whitehead Creek Stormwater Separation

Tunnel – 2000’ +/-, Depth 30’-75’ Below Surface
Whitehead Creek Stormwater Separation

Constructed with Boring Machine and Pipe Jacking
Inlet Structure

- Diverts Low Flows to New Pipe
- Passes High Flows to Existing 16’ Diameter Pipe
- No Impacts to Flood Levels or Floodway
Outlet Structure

- Returns Flow to Whitehead Creek
- Maintains Sewage Flow to Waste Water Treatment Plant when Missouri River is Above Flood Stage
Outlet Structure

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Property Acquisition

Necessary for This Project

Types of Acquisitions

- Temporary Construction Easements
- Permanent Storm Drainage Easements
- Full Property Acquisitions
Cost and Schedule

- Estimated Construction cost - $19.86M
  - $1 to $2 Million Less than Other Alternatives

- Schedule
  - Final Design Complete - February 2012
  - Construction Bids Received - Late 2012
  - Construction - Late 2012 to Late 2014
QUESTIONS AND COMMENTS