

BUILDING A WORLD OF DIFFERENCE

MCCLAY VALLEY DETENTION BASIN RETROFITS

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AGENDA

Project Background

Water Quality in Detention Basins

Improvement Features

Proposed Project Improvements

Questions

PROJECT BACKGROUND

PROJECT BACKGROUND

2012 Stormwater Masterplan

- Basins Identified for Water Quality Retrofits
- Black & Veatch team selected for improvement design

Meeting with trustees on May 20th

Hydrologic and Hydraulic Investigations



WATER QUALITY IN DETENTION BASINS

WATER QUALITY

Methods of WQ Improvement

- Removal of Sediment
- Nutrient Uptake
- Detention of Small Events
- Filtering Overland Flow



IMPROVEMENT FEATURES

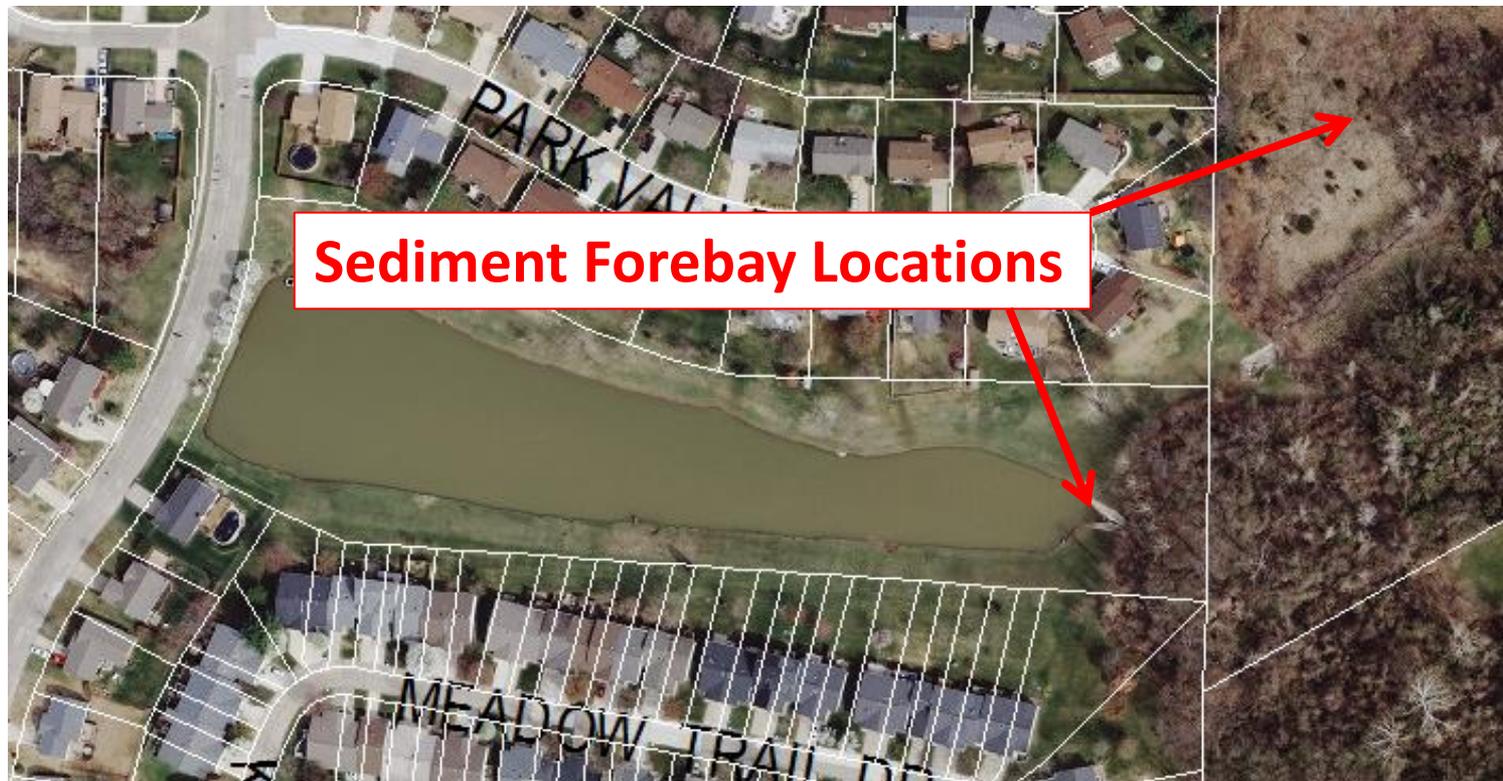
MODIFIED OUTLET

- **Improved McClay Valley Outlet**
 - Debris screen to prevent clogging of the outlet
 - Low flow outlet for small events
- **Improved Francis Howell Outlet will provide Water Quality Improvement**
 - Debris Screen
 - Plate with holes drains small events
 - Overflow outlet for larger storms



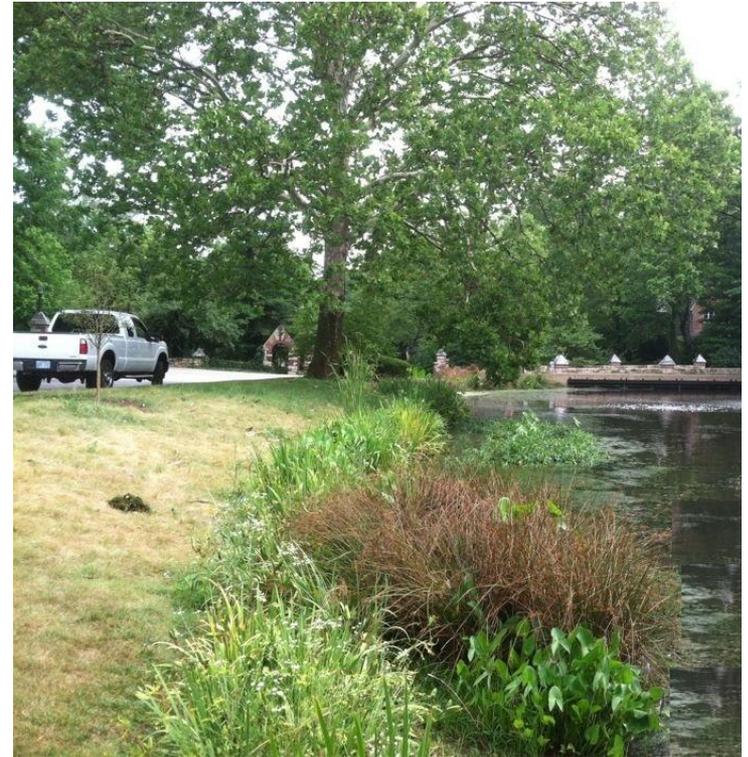
SEDIMENT FOREBAYS

- **Provides Water Quality Improvement**
 - Prevents Sediment Accumulation in Basin
- **Assists with Flood Control**
 - Prevents debris from clogging outlet



SHORELINE TREATMENT

- **Native Plantings**
 - Provides Water Quality Improvement
 - Habitat for Fish and Aquatic Species



PROPOSED PROJECT IMPROVEMENTS

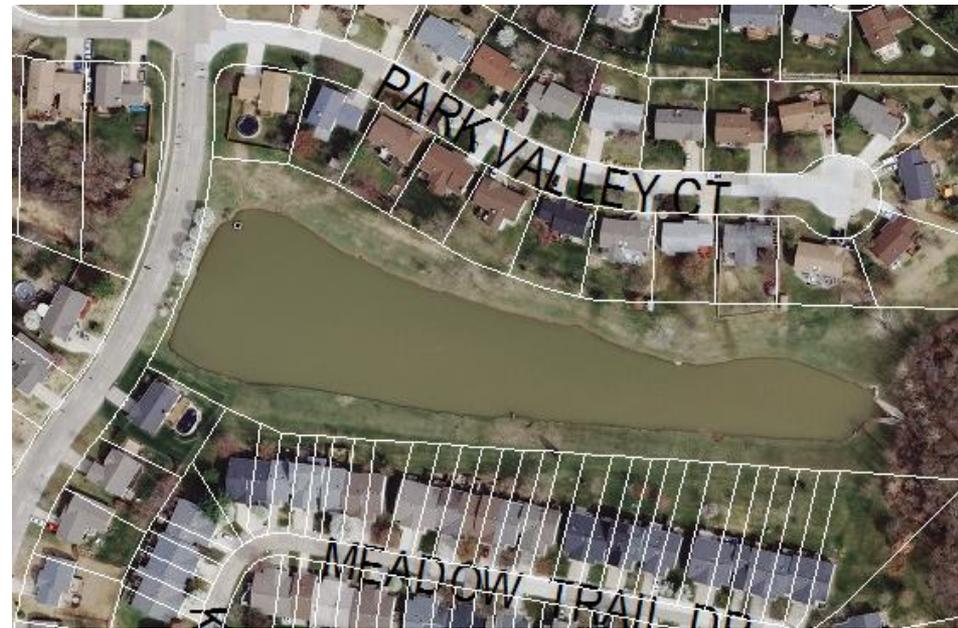
FRANCIS HOWELL BASIN IMPROVEMENTS

- **Rebuild Spillway and Outlet**
 - Replace existing apron
 - Provides WQ Storage
 - Reduces downstream flows
- **Re-shape/Revegetate Basin**
- **Replace Downstream Pipe with Open Channel**
- **Sediment Forebay**
- **Remains a Dry Detention Basin**



MCCLAY VALLEY BASIN IMPROVEMENTS

- **Modified Outlet**
 - Permanent Pool lowered to original 554 elevation
 - Provides WQ Storage
 - Reduces downstream flows
 - Eliminate Overtopping
- **Dredge Sediment**
- **Shoreline Treatments**
- **South Bank Stabilization**
- **Sediment Forebay**



BASIN IMPROVEMENTS

PROPOSED MCCLAY VALLEY IMPROVEMENTS



EXISTING CONDITIONS



PROPOSED ENHANCEMENTS





**EXISTING
CONDITIONS**



**PROPOSED
ENHANCEMENTS**

QUESTIONS



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Together



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