LEVEL 3 PROJECT REPORTS

AS OF DECEMBER 31, 2011

Wet Weather Improvement Plan Projects and Bundles and Selected Asset Management Projects

Planning Phase
Wet Weather Improvement Plan and Selected Asset Management Project Planning Dashboard

Project Status as of December 31, 2011

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Float (Least) to Milestone</th>
<th>Schedule Health Indicator</th>
<th>Change in Schedule Health Indicator from Last Month</th>
<th>Current Estimated Project Cost</th>
<th>Estimated Cost at Completion</th>
<th>Projected (Over-run) or Under-run</th>
<th>Budget Health Indicator</th>
<th>Change in Budget Health Indicator from Last Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Miami Wastewater Treatment Plant – Planning Only</td>
<td>N/A</td>
<td>GOOD!</td>
<td>No change</td>
<td>$6,600,000</td>
<td>$5,200,000</td>
<td>$1,400,000</td>
<td>GOOD!</td>
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<tr>
<td>Lower Mill Creek Partial Remedy (LMCPR)</td>
<td>185 days</td>
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<td>$440,000,000</td>
<td>$427,000,000</td>
<td>$13,000,000</td>
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<tr>
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<td>$59,900,000</td>
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<td>Upper Muddy Creek Interceptor Replacement</td>
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<td>$31,200,000</td>
<td>$31,200,000</td>
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<td>GOOD!</td>
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</tr>
</tbody>
</table>
Little Miami Wastewater Treatment Plant

This project will provide planning for the necessary upgrades, expansion, and reliability to treat a firm dry weather capacity of 35 MGD through the entire plant and a firm wet weather capacity of 100 MGD through primary treatment and disinfection. Specific processes to be evaluated include: pumping, hydraulics, chemically enhanced primary, secondary modifications, chemical feed systems, a sludge receiving facility, and dual standby power. Planning for the bundle will be completed under this project number.

The Little Miami Wastewater Treatment Plant bundle projects being planned under this project number are scheduled for planning and design during Phase I and construction in Phase 2 (after 2018) of the Wet Weather Improvement Program. Upon completion of the planning phase, priority infrastructure needs will be identified and included in subsequent capital improvement plans.

Current Activities and Accomplishments

The negotiating team is working with the consultant on the development of the Professional Services Agreement. A draft scope of services for the consultant has been developed and is being circulated at MSD for review.

Look Ahead

A schedule will be submitted after the professional services agreement is completed.

Issues

None at this time.

Current Estimated Project Cost: $6,616,500

Legislated Funds: $6,616,500

Actual Costs to Date: $53,900

% Complete Current Estimated Project Cost: <1%
The Lower Mill Creek Partial Remedy (LMCPR) is the largest single project MSD will undertake to address combined sewer discharges into Lower Mill Creek. The multiple strategies being employed include an enhanced high rate treatment facility (EHRT), a 7,600-foot underground combined sewer storage tunnel, and basin-wide storm water management improvements.

The largest components of the original remedy, the EHRT consolidation sewers, and the tunnel, are being planned. All work associated with this project will be substantially completed by the Consent Order Milestone date of December 31, 2018.

Current Activities and Accomplishments

The 30 percent design of the tunnel project was completed in December. The geotechnical investigation and surveying are moving forward. Other reports and activities associated with the study and planning phases have been finalized. Transition to the Project Delivery Group is ongoing.

Ten percent of the design for the EHRT is being done by the design consultant for the tunnel. Work in December focused on finalizing the Professional Service Agreement with Wade Trim and finalizing the scope with the Office of the Director.

Look Ahead

The Value Engineering Agenda for the tunnel project will be developed in January 2012. Submittal to EPA for the EHRT portion of the work is anticipated in June 2012.

Issues

None at this time.

Current Estimated Project Cost* $440,000,000

Legislated Cost $27,183,200

Actual Cost To-Date $8,246,500

% Complete of Legislated Cost 30%

*Inclusive of all project components including tunnel, EHRT, consolidation sewers, outfall structures, screening, and pump station.
The Mill Creek Bundle includes key projects targeted at enhancing the treatment capacity of the Mill Creek Treatment Facility. Individual treatment components to be upgraded include the primary sludge pumping system, the auxiliary outfall, and the secondary bypass weir. Enhanced treatment capacity reduces the volume of untreated sanitary flows directed to Mill Creek via combined sewer overflow and sanitary sewer overflow events.

This bundle of projects was classified under “Phase 1” of the Wet Weather Improvement Plan to increase the reliability of the Mill Creek Wastewater Treatment Plant and its ability to adequately treat additional flows resulting from elimination of sanitary and combined sewer overflows throughout this basin. All work associated with these projects will be substantially complete by the Consent Order Milestone date of December 31, 2016 (Attachment 1A – Final WWIP).

### Current Activities and Accomplishments

The scope of planning and design is being developed for the Auxiliary Outfall Improvements project. Project 10145580, Primary Sludge Pumping, is under consideration by the Office of the Director.

### Look Ahead

The schedule will be developed when the professional services agreement is completed.

### Issues and Risks

None have been identified.
The Muddy Creek WWTP Bundle includes projects intended to increase the reliability of the facility’s grit removal and dewatering treatment processes. The upgraded facility will be able to treat peak wet weather flows up to 35 million gallons per day (MGD) for extended periods of time.

Construction for this bundle of projects was classified under “Phase 1” of the Wet Weather Improvement Plan to ensure the Muddy Creek Wastewater Treatment Plant has adequate capacity to treat additional flows resulting from elimination of sanitary and combined sewer overflows.

MSD is committed to bringing these treatment plant improvements on-line expeditiously. All work associated with the New Belt Filter Press Project and the Grit Replacement Project will be substantially complete by the Consent Order Milestone date of December 31, 2015 (Attachment 1A – Final WWIP).

Current Activities and Accomplishments

In December, the Consultant obtained drawings from the Electrical Upgrades project which will impact this bundle. The Consultant received various documents, including the Financial Analysis Manual and electronic copies of O&M manuals needed to complete the submittals for this project. Work continued toward the 60% design, but the December 9 submittal date was missed. Thelen continued to study information provided by MSDGC on existing piles and pile capacity. Planning is complete, and turnover continues. SCADA, grit, and odor control activities are on-going.

Look Ahead

Design is scheduled to be complete by September 2012. The 60 percent design submittal is expected soon. The NOA/COR will be written with approval from the Cross Functional Core Team (CFCT).

Issues

A Notice of Advisement (NOA) is needed for inclusion of SCADA components and the grit and odor control activities are on-going.

The Muddy Creek Basin extends from just south of Interstate 74 all the way to the Ohio River, and serves a substantial area west of Cincinnati, including portions of Western Hills and Bridgetown and extending westward along River Road (Rt. 50).
Upper Duck Creek Bundle

**Project Status as of December 31, 2011**

**Project ID:** 10170000 etc.

**Municipality:** Norwood/Columbia Twp./Cincinnati

**Basin:** Little Miami River

**Project Phase:** Planning

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**BUNDLE INFORMATION**

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Project Activities</th>
<th>Schedule for Completion</th>
<th>Actual Date of Completion</th>
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<tbody>
<tr>
<td>Planning &amp; Design</td>
<td>Project Legislated</td>
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<tr>
<td>100% Planning</td>
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<tr>
<td>100% Design</td>
<td>September 2014</td>
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<tr>
<td>ROW Acquisition</td>
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<td>Permitting (PTI Submittal)</td>
<td>May 2016</td>
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<td>Bidding</td>
<td>July 2016</td>
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<td></td>
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<tr>
<td>Bidding &amp; Construction</td>
<td>Start Construction</td>
<td>October 2016</td>
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<tr>
<td>Complete Construction</td>
<td>July 2016</td>
<td></td>
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</tr>
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</table>

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**BUNDLE PURPOSE AND BENEFIT**

The Upper Duck Bundle includes 16 projects intended to improve the quality of Duck Creek by reducing several sanitary sewer overflows and combined sewer overflows to levels required in the Final WWIP. Overflows from 13 CSOs and two SSOs will be reduced via a combination of alternatives including construction of separate storm and sanitary sewer systems, a storage facility, and a high rate treatment facility.

These projects were classified under the Wet Weather Improvement Plan (WWIP) because they provide MSD with the ability to eliminate existing overflows. All work associated with planning these bundle projects will be substantially complete by the Consent Order Milestone date of December 31, 2018 (Attachment 1A – Final WWIP). Additionally, six of the bundle projects including elimination of SSOs 228 and 1000, improvements to CSOs 54 and 187, and sewer separation for CSOs 551 and 553 will be constructed by December 31, 2018.

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**BUNDLE TEAM**

**Planner:** Rob Kneip

**Planning Consultant:** Wade Trim Group/Jacobs

**Project Manager:** Dan Anderson

**Design Consultant:** TBD

**Construction Manager:** TBD

**Contractor:** TBD

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**CONSENT DEGREE MILESTONES**

<table>
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<tr>
<th>Milestone</th>
<th>Dates</th>
<th>Float</th>
<th>Status</th>
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<tbody>
<tr>
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<td>No delay</td>
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<tr>
<td>Start Construction</td>
<td>12/31/2017</td>
<td>425 days</td>
<td>No delay</td>
</tr>
<tr>
<td>Complete Construction</td>
<td>12/31/2018</td>
<td>500 days</td>
<td>No delay</td>
</tr>
</tbody>
</table>

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**BUNDLE STATUS**

**Current Activities and Accomplishments**

In December, the Consultant continued coordination of work and developing subcontracts. The Consultant submitted various deliverables and concluded a portion of the soil borings by Terracon on Marburg Avenue. The Consultant submitted the Future Conditions Model Technical Memorandum (TM) on December 8th, and MSD returned comments on that document December 14th. Soil boring work along the proposed Marburg storm sewer route for the Oakley Station development was concluded. The Initial Property Investigation TM was submitted on December 19th, and comments were returned to the consultant on December 21st. Community strategy meetings were held December 15th and 20th.

**Look Ahead**

Planning activities are scheduled to continue through the second quarter of 2013.

**Issues**

None have been identified.

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**BUNDLE BUDGET OVERVIEW**

<table>
<thead>
<tr>
<th>Bundle Project</th>
<th>Project Number</th>
<th>Legislated Funds</th>
<th>Actual Costs</th>
<th>Construction Legislation (WWIP Phase 1)</th>
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<tbody>
<tr>
<td>Upper Duck Creek Bundle Planning</td>
<td>10170000</td>
<td>$4,122,400</td>
<td>$456,300</td>
<td>To be determined after Planning</td>
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</table>

We anticipate requesting legislation of construction funds for the Phase 1 projects during 2016.

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The Little Miami WWTP service area is located in the southeast quadrant of Hamilton County. The area is bordered on the south by the Ohio River, on the east by Clermont County, on the west by the Mill Creek service area, and on the north by the Sycamore WWTP service area.

The Little Miami WWTP service area includes all or portions of the City of Cincinnati, Kennedy Heights, Madisonville, Oakley, Hyde Park, Mount Lookout, East End, Pleasant Ridge, Evanston, Fairfax, Mariemont, Madeira, Silverton, Norwood, Indian Hill, Columbia Township, Anderson Township, Symmes Township, the Village of Indian Hill, Newtown, and Terrace Park.
Werk and Westbourne EHRT Facility

This project includes installation of an enhanced high rate treatment (EHRT) facility to provide storage, settling, and screening for combined sewage at CSO 522 located at Werk Road and Westbourne Drive. This project will greatly improve the quality of the water being discharged to Muddy Creek during wet weather events. The EHRT facility will be able to store, settle, and screen up to 106 million gallons a day of combined sewage.

This project was classified as a “Phase 1” Wet Weather Improvement Plan project because it has the ability to improve the quality of water being discharged through CSO 522 during wet weather events. All work associated with this project will be fully completed by the Consent Order Milestone date of December 31, 2017 (Attachment 1A – Final WWIP).

Current Activities and Accomplishments
Work in December focused primarily on the Alternatives Analysis and Pumping Analysis Studies. Odor control is a Consent Decree requirement for this project; but since the odors come from the open sewers upstream of the proposed Enhanced High Rate Treatment (EHRT) facility, treating them at the EHRT is not feasible, partly due to expense. The proposed dry weather channel SS 937B (12230003) will provide a pilot channel in the upstream pipes to increase velocity, which will help improve sediment transport and odor reduction. The BCE for this project was completed in December. On-going activities include preparation and submittal of related memoranda.

Look Ahead
The Turnover Review Committee is reviewing the BCE and Collections will provide comments by January 16, 2011. The Final Concept Design Report is anticipated in early May.

Issues
Sanitary Sewer 41 with the CSO 522 Conveyance Sewer Project (Asset Management) must be relocated prior to construction of the EHRT (10230120). The Project Manager is working to prepare a task order for the Consultant.

The Muddy Creek Basin extends from just south of Interstate 74 all the way to the Ohio River, and serves a substantial area west of Cincinnati, including portions of Western Hills and Bridgetown and extending westward along River Road (Rt. 50).

In the Final WWIP, the Werk and Westbourne project was proposed as the pilot project for enhanced high rate treatment (EHRT). This technology is intended to treat storm water overflows. Since the system proposed by MSD does not include ballasted flocculation, piloting is being performed to determine the effectiveness of the EHRT technology for this specific application.

Construction legislation is scheduled for 2014.
West Branch Muddy Creek Bundle

PROJECT PURPOSE AND BENEFIT

The West Branch Muddy Creek Bundle originally included nine projects intended to improve the quality of the Ohio River and Muddy Creek by reducing the quantity of combined sewer discharges during wet weather. The planning process for that bundle included reducing overflows at will be reduced via a combination of alternatives including construction of separate storm sewer systems, screening and control improvements to regulator structures, and increasing the capacity of the West Branch Muddy Creek Interceptor.

Also included in the bundle is an upgrade to the Muddy Creek Pump Station and diversion of wet weather flows to the Muddy Creek Basin Storage & Conveyance Sewer for storage and later treatment at the Muddy Creek WWTP. The projects were all planned together, but will be designed based on scheduling and logic dependencies.

Current Activities and Accomplishments

The Value Engineering (VE) Evaluation is nearing completion for this bundle, and is currently under review in the Office of the Director.

Look Ahead

A detailed schedule will be completed for each project in the bundle.

Issues

None at this time.

PROJECT STATUS

BUNDLE BUDGET OVERVIEW

- **Bundle Project**: 10130001
  - **Legislated Funds**: $19,516,200
  - **Actual Costs**: $2,064,061
  - **Construction Legislation**: TBD

The tunnel project (10130000) was legislated through the 2011 CIP. We anticipate requesting legislation of design funds for the other bundle projects individually through the CIP and legislation process. MSD will de-legislate approximately $16 million in unused planning dollars.

CONSENT DECREE MILESTONES

No Consent Decree milestones apply to this project.

PROJECT INFORMATION

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<th>Description</th>
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<td>10130001 etc.</td>
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<tr>
<td>Municipality</td>
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<td>Basin</td>
<td>Muddy Creek</td>
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<tr>
<td>Project Phase</td>
<td>Planning</td>
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PROJECT TEAM

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<tr>
<td>Planner</td>
<td>Matt Spidare</td>
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<tr>
<td>Project Manager</td>
<td>Daniel Anderson</td>
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<td>Design Consultant</td>
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<td>Construction Manager</td>
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</tr>
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<td>Construction Inspector</td>
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<td>Contractor</td>
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</table>

The Muddy Creek Basin extends from just south of Interstate 74 all the way to the Ohio River, and serves a substantial area west of Cincinnati, including portions of Western Hills and Bridgetown and extending westward along River Road (Rt. 50).
Indian Creek Wastewater Treatment Plant

While the overall treatment at the Indian Creek Plant is considered satisfactory and the flow being treated is within the plant's capacity, certain components no longer meet the functional requirements for the facility. The project was developed to update plant equipment where needed and address functional deficiencies identified by MSD during a recent needs assessment. Deficiencies were identified in the influent pump station, screening and grit facilities, aeration basin and clarifier drives, secondary clarifier distribution chamber, effluent channel configuration and associated isolation gates, aerobic digester No. 1 pump, aerobic digester decanters, control building, and the elevated walkway. When the project is finished, the plant, which was originally built in 1935 by the Village of Cleves, will be updated to modern standards and the equipment repaired, improving the function of the facility and increasing its reliability. Phase 2 (of the Wet Weather Improvement Plan) activities will address plant capacity needs.

Current Activities and Accomplishments

The Notice to Proceed was issued to the Planning consultant on May 7, 2010.

Look Ahead

Turnover is anticipated in January 2012. Detailed design work is expected to begin shortly thereafter.

Issues

None at this time.

Design and construction legislation are included in the 2012 CIP submittal.
Upper Muddy Creek Interceptor Replacement

**Project Purpose and Benefit**

This project is intended to reduce overflows in the Upper Muddy Creek area. The work consists of installing approximately 3,300 feet of 30-inch sewer from CSO 522 (Werk Road and Westbourne Drive) to the intersection of Muddy Creek Road and Westbourne Drive, and approximately 9,000 feet of 36 inch sewer from the intersection of Westbourne Drive and Muddy Creek Road to the oxbow in Muddy Creek.

This project includes dynamic underflow control at CSO 522, CSO 198, and CSO 518 and the elimination of SSO 1061. It is located in the upper portion of the Muddy Creek Basin. Because it is intended to address non-enumerated SSOs in this portion of the basin, the project qualifies for funding under the Urgent Capacity allowance.

**Current Activities and Accomplishments**

Planning for this project was completed as part of the West Branch Muddy Bundle planning effort. This project is included in the 2012 CIP.

**Look Ahead**

As soon as funding is legislated through the CIP process, design work will begin.

**Issues**

None at this time.

**Project Status**

<table>
<thead>
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<th>Project Phase</th>
<th>Project Activities</th>
<th>Schedule for Completion</th>
<th>Actual Date of Completion</th>
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<tr>
<td></td>
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</tr>
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**Project Budget Overview**

- **Current Estimated Project Cost**: $31,200,000
- **Funds to be Legislated (2012 CIP)**: $3,900,000
- **Actual Costs to Date**: $0
- **% Complete Current Estimated Project Cost**: 0%

The Muddy Creek Basin extends from just south of Interstate 74 all the way to the Ohio River, and serves a substantial area west of Cincinnati, including portions of Western Hills and Bridgetown and extending westward along River Road (Rt. 50).