Leveraging MSD’s Investments

Communities of the Future Advisory Committee

James A. Parrott, Executive Director
MSD of Greater Cincinnati

March 5, 2010
Agenda

• Welcome and Introductions
• Why are we here?
• MSD Weather Challenges and Strategies
• Business Case for Communities of the Future
  – Making Decisions for Future
  – Sustainable Watershed Evaluation Process
  – Leveraging MSD Investments
• Platform for Communities of the Future
  Facilitated Discussion
• Action Items and Plans to Move Forward
Why are we here?

• Community of the Future Advisory Committee
  — Mission is to review and give feedback to MSD’s Wet Weather Strategy and Approach
• Building a Community of the Future is important to all of us
  — Co-development is key to success
• We need input/feedback from you
How Great is MSD’s Environmental Challenge?

41 inches (annual rainfall) = 180 billion gallons (runoff)

25 billion gallons + 75 billion gallons (sanitary flow)

Streams & Rivers

155 billion gallons (overflow)

CSO

Sewer System

Urban Areas

Wastewater Treatment Plant

Effluent
You May Not Know...

**MSD is among the top 5 CSO dischargers in the US**

**MSD has a conditionally approved wet weather plan. Final legal action pending**

**MSD must submit a plan to USEPA by December 2012 for the Lower Mill Creek Remedy**

**MSD has until 2017 to submit Phase II schedule**
PROJECT GROUNDWORK in Your Community

Protecting the Environment
Partnering with our Communities
Revitalizing the Economy
Designing Innovative Solutions

Project Groundwork is your program.
It's an investment in your community for generations to come.
Default Consent Decree Solution
Lower Mill Creek

• Deep Tunnel beneath Mill Creek
  – From Western Hills Viaduct (CSO #5 to Gest Street)
  – 1.5 Miles, 30’ diameter
  – $244 Million
MSD Wet Weather Strategy

• Source Control
  – Removal of natural drainage from entering the system
  – Regional BMPs, Separate Storm Sewers Installation

• Conveyance and Storage
  – Tunnels, parallel interceptors, storage facilities
  – Real Time Control

• Product Control
  – EHRT
Dry Weather

Hydraulic Grade Line
Wet Weather

Hydraulic Grade Line
Wet Weather Strategy
Source Control

Sewer Interceptor (to wastewater treatment plant)
Combined Sewer
Reduced/Eliminated CSO
Waterways

SOURCE CONTROL

Hydraulic Grade Line
Wet Weather Conveyance/Storage

SOURCE CONTROL

CONVEYANCE/STORAGE

Combined Sewer

Reduced/Eliminated CSO

Sewer Interceptor (to wastewater treatment plant)

Waterways

Hydraulic Grade Line
Building Blocks of the Consent Order

Strategy
- Wet Weather Strategy
  - Source Control
  - Conveyance & Storage
  - Product Control

Flexibility
- Phased Approach
  - Phase 1: 2009 – 2019
  - Phase 2: Schedule to be submitted by 2017

Affordability
- Controlled Spending
  - Phase 1: $1.145B
    - Credit for $300M of projects already built
  - Phase 2: To Be Determined
Affordability is a Major Concern

MSD Stakeholders
Affordability is a Major Concern

Policy Makers
Sewer rates going up – for

By Jessica Braun

Hamilton County residents served by the Metropolitan Sewer District will pay a 12 percent increase in their sewer bills next year – and more than 40 percent over the next three years. The rate hike will be phased in over two years, according to county officials.

The sewer district is trying to find ways to offset the increased costs and the county commission will consider the rate increases at its meetings.

The rate increases are necessary if the district continues to operate at a loss. The district is hoping to sell bonds for the projected $2 billion in needed improvements.

The district is also looking at ways to reduce the rate increases, such as selling off excess property or seeking federal funding.

Phillips: Accused killer got out early

Rates: Projected increase

From Page A1

March 1, 2010 Broadcast

“Sewer Rate Hikes Expected for MSD Customers”
MSD Affordability Challenges

- Maintaining affordability of residential usage
- Declining usage per account
## Capital Projects

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**Today’s Decisions**

**Tomorrow’s Liabilities**
Communities of the Future
Can the Challenges become an Opportunity?

- Expanding system capacity according to future city, county and neighborhood plans
- Leverage MSD Capital Investments to attract new customers
- Enabling others to expand customer base through policy
“Use new knowledge to help shape Cincinnati’s new Plan…”

• ...identify the value of urban quality to meet economic goals = Make intangible assets TANGIBLE
• ...reduce “leakage” of dollars to other areas, e.g. for gasoline = Focus efforts on INFILL and Smart Growth
• ...switch from using transportation to bring “people to jobs” to a “jobs to people” strategy
• ...use public funds to support a vitality & reputation that attracts investment from federal & state gov’t and private sector = Co-develop solutions for the future
• How to act as a “region”
“What a Nourishing Economy Does—Reduces Risk, Increases Gain”
What a Nourishing Economy Does, Reduces Risk, Increases Gain: Offers Both Higher Wage Opportunities, Lowers Waste and is more Inclusive
How the Market Views Cincinnati MSA
Moody’s Economy.com

**Strengths**
- *Industrial diversity* provides resilience during recession
- *Presence of large healthcare* services network
- Business services *headquarters* bolsters income

**Weaknesses**
- Still significant exposure to *declining manufacturing*
- *High cost of business* discourages firms from relocating here
- Unemployment 9.8%
- Home value drops 27%
- Personal bankruptcies, delinquency, foreclosures rising

**Forecast Upside**
- *Attract more* corporate headquarters
- *Collaboration* between University of Cincinnati and industries foster high-tech employment

**Forecast Downside**
- Household debt burden rises
- Household financial risk continues
- Air transport falters
- Auto industry restructuring leads to further job losses in parts manufacturing
- Employment growth 2008-2010 ranked 211/392
- Employment growth 2008-2013 ranked 310/392
Cincinnati is poised for success

- Cincinnati is deeply centered around its 52 communities
- Wet weather solutions can be focused around our neighborhoods
- MSD’s wet weather strategy and approach recognizes the value of those neighborhoods & partnerships.
Current Conditions in the Community

Leverage MSD’s Investment

Community’s Vision for the Future

THE CINCINNATI ENQUIRER

Property value at a substantial decline

Expand & improve parks and greenspaces

Opportunities for improved mixed use and affordable housing

Incentives for business retention or redevelopment

MSD
Metropolitan Sewer District
Investment to reduce sewer overflows and meet federal mandates

Green streets

Bike paths

Parks

Active recreation areas

Economics

Sustainability

Infill

Jobs

Bike trails

Smart growth

Safety

Recreational opportunities

Quality place

Community assets

Better education

Community gardens

Revitalization

Metropolitan Sewer District of Greater Cincinnati
Leverage MSD’s Investments....
Making Sustainable Decisions for the Future

- Think “Outside the Pipe” to develop holistic solutions to infrastructure needs
- Community Inclusion to Decision Making
- Public/Private partnerships: build value
- Create the Factor conditions for redevelopment
- Business clusters as an development tool
- Urban/Brownfield Redevelopment as outgrowth of infrastructure projects
The “Getting to Yes” Pipeline

- **Passage 1**
  - Internal Understanding

- **Passage 2**
  - Community Involvement

- **Passage 3**
  - Political Support

- **Passage 4**
  - Federal Policy Solutions
Local Economy Grows by more than $900M

MSD spends $150M/yr on infrastructure

Source: US Conference of Mayors, 2006
The Clock is Ticking

2009
MSD received conditional approval of the Wet Weather Plan after three years of negotiations

2010
Final legal action anticipated

2011
Evaluate alternatives to achieve overflow reductions of 2BG

2012
MSD will integrate results to arrive at a recommended plan to submit to USEPA

2017
Submit Plan for Phase 2 including schedule and costs

2018
MSD must achieve 2 BG overflow reduction in Lower Mill Creek
Communities of the Future
From 50,000 feet to Ground level

MaryLynn Lodor
The MSD Sustainable Watershed Evaluation Process

Lay the Groundwork

Data & Inventory Analysis
- Natural Systems
- Built Systems
- Community Character
- Policy Issues
- Watershed Projects
- Constituency Building

Build the Foundation

Opportunities & Constraints
- Synthesize Outcomes from Inventory
- Formulate Goals
- Perform Modeling
- Develop Risk Assessment
- Evaluate Alternatives
- Constituency Strengthening

Solutions & Action Plans
- Refine Strategies
- Evaluate
- Build Project/Public Interface
- Identify & Assess Potential Risks with Risk Register

Set the Framework

Implementation
- Finalize Watershed Goals
- Refine, Update, Verify Alternatives
- Detail & Market Community of Future Projects

Comprehensive Characterization of Watershed

Wet Weather Strategy Matrix with Conceptual Costs/Benefits

Synthesis Plan for Watershed Integration with Community Revitalization

Business Case Evaluation for Project/Proceed with Detailed Design
The MSD Sustainable Watershed Evaluation Process

Lay the Groundwork

Data & Inventory Analysis

- Natural Systems
- Built Systems
- Community Character
- Policy Issues
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Comprehensive Characterization of Watershed

Impervious Surfaces  Sewer System  Land Use  Opportunity Properties
The MSD Sustainable Watershed Evaluation Process

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Wet Weather Strategy Matrix with Conceptual Costs/Benefits
The MSD Sustainable Watershed Evaluation Process

Build the Foundation

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Wet Weather Strategy Matrix with Conceptual Costs/Benefits

Lick Run Watershed
62 catchments 2.1 billion gallons
(annual stormwater runoff)

Strategic Storm Separation & Detention
Downspout Disconnection (50%)

Reforestation - 50% of Right-of-Way (88 acres)
50% of Steep Hillsides (231 acres)
The MSD Sustainable Watershed Evaluation Process

Build the Foundation

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- Synthesize Outcomes from Inventory
- Formulate Goals
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Wet Weather Strategy Matrix with Conceptual Costs/Benefits

Storm Water Reduction

- 890 MG
- 47 MG
- 40 MG
- 64 MG

results in

800 million gallons annually removed from combined sewer overflow
The MSD Sustainable Watershed Evaluation Process

Build the Foundation

Solutions & Action Plans

- Refine Strategies
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Synthesis Plan for Watershed Integration with Community Revitalization
The MSD Sustainable Watershed Evaluation Process

Urban Audit: South Fairmount

Build the Foundation

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- Refine Strategies
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Synthesis Plan for Watershed Integration with Community Revitalization
The MSD Sustainable Watershed Evaluation Process

Integration with Traffic & Transit

Urban Ravine/Canal Concept

Green Spine/ Central Park Concept

Green Street/ Main Street Concept

Build the Foundation

Solutions & Action Plans

• Refine Strategies
• Evaluate
• Build Project/Public Interface
• Identify & Assess Potential Risks with Risk Register

Synthesis Plan for Watershed Integration with Community Revitalization
Partial Lick Run Community Redevelopment Concept achieves water infrastructure solutions
The MSD Sustainable Watershed Evaluation Process

Build the Foundation

- Refine Strategies
- Evaluate
- Build Project/Public Interface
- Identify & Assess Potential Risks with Risk Register

Solutions & Action Plans

Synthesis Plan for Watershed Integration with Community Revitalization
The MSD Sustainable Watershed Evaluation Process

Set the Framework

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Business Case Evaluation for Project/Proceed with Detailed Design
The MSD Sustainable Watershed Evaluation Process

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Value Creation: Market Analysis of Sustainable Infrastructure Investment

Set the Framework

Implementation

- Finalize Watershed Goals
- Refine, Update, Verify Alternatives
- Detail & Market Community of Future Projects

Business Case Evaluation for Project/Proceed with Detailed Design
The MSD Sustainable Watershed Evaluation Process

Lick Run Status Update

• Conceptual Plan – Complete
  – Base: 8000’ channel, 9 bridges, 46,000 ln storm sewer, utility relocation
  – Base Plus: Roadway enhancements, bike paths, sidewalks, aeration features, civic spaces, active recreation, public gathering spaces, lighting, seating, etc

• H&H Feasibility Study – Complete
  – Fine-tune Sizing & Alignment, Costs, 100 Yr Flood Study
  – Willing Seller Acquisitions
  – Rerun Model prior to 30% design

• Basis of Design 30% Design: June 2010

• Community Engagement
  – Underway through 2011

• Early Success Projects:
  – Planning underway for completion in 2010

Set the Framework

Implementation

• Finalize Watershed Goals
• Refine, Update, Verify Alternatives
• Detail & Market Community of Future Projects

Business Case Evaluation for Project/Proceed with Detailed Design
Lick Run: Community of the Future
Lower Mill Creek SWEP Evaluations

Coarse Evaluation: 6 Sub-basins
15,355 Acres (24 square miles)

SWEP Evaluations: 3 Sub-basins
8,843 Acres (14 square miles)
Lower Mill Creek SWEP Evaluations

Context

- Number of CSOs: 60
- Annual CSO Volume: 7,372 MG
Lower Mill Creek SWEP Evaluations
Source Control Opportunities

Annual Runoff
6,670 MG

Direct Entry Points
143 Total
2,326 MG
Facilitated Discussion

• The mission of this Committee is to review and give feedback to MSD approaches/projects like Lick Run Daylighting project.

• Since USEPA has mandated that MSD must either build a default Tunnel or develop alternatives that would achieve the same wet weather reduction as the tunnel, do you think the community would be receptive to leveraging MSD investments & opportunities to help shape communities of the future?

• From your perspective, what are some of the biggest challenges for this approach?

• How can you contribute to the mission of this committee?
  – Who or what can you inform and influence to assist MSD in implementing COF projects?