Workshop Agenda

- Desired outcomes of the workshop
- Background
- Comprehensive Plan and Strategic Direction
  - Connecting the dots
- Comprehensive Surface Water Management Initiative
  - Overview
- Progress update
- Surface Water Management Program
  - Current program, costs, level of service, and funding sources
  - Proposed program, costs, level of service
  - Funding assessment and Rate analysis
- Proposed schedule
Desired Outcomes

- Board re-affirmation of strategy
  - Focus on prevention versus cure
- Board direction for funding surface water management program
  - Funding sources for program implementation
  - Level of service
  - Rate structure
  - Schedule and next steps
Background

- May 2011 Workshop
  - Local conditions
    - Geology
    - Geography
    - Hydrology
  - Flooding and flood control
  - Water quality impacts
  - Regulatory forecast
  - Funding options
December 6, 2011
Comprehensive Surface Water Management Initiative

- Validation of approach
  - Prevention versus cure
- Approval of interim measures
  - Resources for permit compliance
  - Stormwater asset inventory, condition assessment, and connectivity analysis
  - Discussions with cities
Comprehensive Plan and Strategic Direction

Connecting the Dots
Connecting the Dots: Comprehensive Plan

Comprehensive Plan

- The Surface Water Management Element requires
  - Flood protection
  - Preservation and enhancement of water quality
  - Natural resources protection and enhanced ecological diversity

- Objectives and policies within the Surface Water Element
  - Comprehensive and integrated approach
  - Good inventories and analysis
  - Show measurable improvements in the quality of County waters
  - Watershed planning as foundation for a comprehensive program
  - Such plans shall address water quality, stormwater management, habitat requirements, and biological targets, as well as recommended funding sources
Connecting the Dots: Vision Concepts

- Incorporates existing Comprehensive Plan principles and values

  - **Principle 1:** Sustainability is fundamental to every county policy, plan and decision, to ensure that our actions today do not compromise the quality of our future.

  - **Principle 2:** Pinellas County is committed to meeting its existing needs without compromising the ability of future generations to meet their needs.

  - **Principle 3:** The long-term impacts of each policy decision will be evaluated to ensure that they do not compromise a sustainable future.
Connecting the Dots: County Vision

Vision – Improve Quality of Life

- 25=1
- Engaged citizens
- Revitalized and redeveloped communities
- Protect and promote our region’s unique natural resources
Connecting the Dots: Strategic Direction

- Strategic Direction
- Core Services
  - Improved service delivery
    - Level of service choices
    - Best Management Practices
    - Outcome-oriented
- Sustainable service delivery
  - Life-cycle based asset management
  - Front-end decisions
Connecting the Dots: Strategic Direction

- **Strategic Direction**
  - Improved efficiency of operations
  - Adaptive Management Strategy
  - Proven technologies
  - Data driven decisions
  - Investing in human capital – capacity building
Connecting the Dots: Strategic Direction

- **Strategic Direction**
  - Increase partnerships
    - Watershed planning
    - Monitoring program
    - Public engagement
    - Service sharing
      - Street sweeping
      - Equipment sharing
Connecting the Dots: Strategic Direction

Strategic Direction

- High performing workforce
  - Aligned vision
  - Development and training
  - Increased engagement
  - Increased productivity and efficiencies
Overview
Surface Water Management Initiative

- Pinellas challenges are multiple, complex, and feed off each other
- No one, simple solution
- A complex and multi-faceted response is needed
- Adaptive Management strategy
Surface Water Management Challenges

Aging Infrastructure & Information Gaps

Development History

Limited Public Outreach

Fewer Resources

Financial Needs Exceed Revenue

Flooding and Erosion

Increasing Regulations

Poor Water Quality

Limited Public Outreach

Fewer Resources

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Flooding and Erosion

Increasing Regulations

Poor Water Quality
Pinellas County Development History

Community Flooding

Infrastructure Failures

Water Quality Degradation

Graph showing the development history with percentage increase over time:
- 1913: 1.3%
- 1943: 9%
- 1952: 14%
- 1963: 39%
- 1990: 81%
- 2007: 96%
- 2011: 98%

Images illustrating community flooding, infrastructure failures, and water quality degradation.
Surface Water Management Initiative

- Revenue
- Development and Source Control Policies
- Responsive to Regulations
- Watershed Planning
- Integrated Asset Management
- Increased Inspections, Maintenance and Monitoring
- Improve Existing Facilities
- Community Engagement

Comprehensive Surface Water Management Initiative
Prevention versus Cure
Prevention versus Cure
Prevention versus Cure
Working together, we're saving Tampa Bay

*Tampa Bay Times 3/22/2013*
Surface Water Management – Our History

- TMDL Wilson Grizzle
- FL Stormwater Rule
- Pinellas Comp Plan
- Watershed Restoration Act
- Comp Plan Update
- Fertilizer Ordinance
- Water Pollution Control Act
- Clean Water Act
- Grizzle Figg
- FL Water Policy Rule NPDES Pinellas LDR Updates
- Pinellas Stormwater Ordinance
- LDR Updates


81% Build out

96% Build out
Surface Water Management Initiative

- Integrated Asset Management
- Development and Source Control Policies
- Watershed Planning
- Community Engagement
- Increased Inspections, Maintenance and Monitoring
- Improve Existing Facilities
- Responsive to Regulations

Revenue:
- 14% in 1913
- 39% in 1963
- 98% in 2011
Progress Update

Prior BCC Direction – Interim Measures
Progress Update

- Interim measures
  - Permit requirements
    - Inspections
    - Maintenance
    - NPDES permit challenge
      - Flexibility
    - New permit issued in 2013 – looking ahead
      - Inventory
      - Construction
      - Development
      - Education/Training
      - Inspections
      - TMDLs
Inventory of Public Assets

- Pipes
- Culverts
- Stormdrain inlets
- Ditches, channels
- Weirs
- Other drainage features

30 Inspection Zones
Three (3) zones left to complete pipe and structure inventory
Twenty seven (27) zones left to complete ditch inventory
Progress Update

**Interim measures**

- Stormwater Asset Inventory
  - Public Infrastructure
- Condition Assessment
- Connectivity Analysis
- Schedule
  - Complete data collection/assessment December 2013
  - Complete connectivity analysis December 2014
- Iterative process going forward
Meetings with Cities

- Discussion points
  - How do they fund their program?
  - What does it pay for?
  - Is the funding sustainable?
  - What level of service is provided?
  - Are there opportunities for service sharing?

Summary

- 15/24 have a stormwater fee
- Primarily O&M/NPDES and some capital
- 2/24; fully funded through the fee
- LOS range between B and D
- Service sharing potential:
  - NPDES activities
  - Watershed Planning
  - Street sweeping services
  - Equipment sharing and some vegetation management activities
Progress Update

Meetings with Cities

- Discussion points
  - County-wide fee to support major drainage
  - What is the County’s role in your community and how can we be a better partner?

Summary

- Mixed responses on a County-wide fee for major drainage. All agreed more discussion was needed.
- Common themes on improving our relationships (25=1)
  - Increased communication
  - Joint projects to address community-wide issues
  - Improve collaboration on management plans
## Stormwater fees in Pinellas County

<table>
<thead>
<tr>
<th>Location</th>
<th>Fee/ERU/Month</th>
<th>Funding adequate to support all program needs (self reporting)</th>
<th>Total Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belleair</td>
<td>$11.92</td>
<td>NO</td>
<td>1,132</td>
</tr>
<tr>
<td>Clearwater</td>
<td>$13.40</td>
<td>YES</td>
<td>16,695</td>
</tr>
<tr>
<td>Dunedin</td>
<td>$9.30</td>
<td>NO</td>
<td>6,814</td>
</tr>
<tr>
<td>Gulfport</td>
<td>$2.87</td>
<td>NO</td>
<td>1,773</td>
</tr>
<tr>
<td>Largo</td>
<td>$5.32</td>
<td>NO</td>
<td>11,982</td>
</tr>
<tr>
<td>Madeira Beach</td>
<td>$5.00</td>
<td>NO</td>
<td>572</td>
</tr>
<tr>
<td>Oldsmar</td>
<td>$4.00</td>
<td>NO</td>
<td>5,898</td>
</tr>
<tr>
<td>Pinellas Park</td>
<td>$4.00</td>
<td>NO</td>
<td>10,407</td>
</tr>
<tr>
<td>Redington Beach</td>
<td>$2.50</td>
<td>NO</td>
<td>205</td>
</tr>
<tr>
<td>Redington Shores</td>
<td>$1.50</td>
<td>NO</td>
<td>205</td>
</tr>
<tr>
<td>Safety Harbor</td>
<td>$7.25</td>
<td>NO</td>
<td>3,169</td>
</tr>
<tr>
<td>St. Pete Beach</td>
<td>$3.00</td>
<td>NO</td>
<td>1,321</td>
</tr>
<tr>
<td>St. Petersburg</td>
<td>$6.84</td>
<td>NO</td>
<td>40,414</td>
</tr>
<tr>
<td>Tarpon Springs</td>
<td>$5.65</td>
<td>Not for future needs</td>
<td>5,950</td>
</tr>
<tr>
<td>Treasure Island</td>
<td>$13.04</td>
<td>YES</td>
<td>939</td>
</tr>
<tr>
<td>UNINCORPORATED</td>
<td>N/A</td>
<td>NO</td>
<td>67,449</td>
</tr>
</tbody>
</table>
Surface Water Management Program

Current program, costs, and funding sources
Surface Water Management Program

- **Current program for Unincorporated Areas**

- **Program Management**
  - Engineering and Survey
  - Watershed Management
  - Floodplain Management
  - Asset inventory data collection and management
  - O&M programming
  - NPDES
    - Inspections
    - Education and training
  - TMDL implementation plan
Surface Water Management Program

- **Operations and Maintenance**
  - Emergency response
  - >323 miles of ditches*
  - >390 miles of pipe*
  - ~27,000 structures (to date)*
  - 197 ponds*
  - ~344 acres of mitigation*
  - 4867 miles of street sweeping/year*
  - 5 alum treatment systems*

* Permit Compliance Activity
Surface Water Management Program

- **NPDES Permit Compliance**
  - Development review
  - Roadway maintenance
  - Flood control projects
  - Transfer, storage & disposal facilities (TSDs)
  - Pesticide, herbicide and fertilizer control
  - Illicit connections (regulation, detection, investigation, enforcement)
  - Illicit discharges (and illegal dumping)
  - Industrial and high risk runoff
  - Construction site runoff control
  - Water quality monitoring, analysis, and reporting
  - TMDL compliance
Surface Water Management Program

- Capital Improvement Program
  - Design
  - Permitting
  - Construction
Surface Water Management Program

- **Current Annual Program Costs**
  - $21,398,309
  - Program management
    - $2,147,269
  - NPDES Operations and maintenance
    - $8,972,345
  - NPDES permit compliance
    - $1,562,520
  - Capital Improvement Program
    - $8,716,175

![Pie chart showing the distribution of costs.](chart)

- Program Management: 46.8%
- NPDES Operations and Maintenance: 37.5%
- NPDES Permit Compliance: 7.7%
- Capital Improvement Program - Penny: 8.0%
Surface Water Management Program

- **Current Annual Program Costs**
  - $21,398,309

- **General Fund**
  - $6,358,018

- **Transportation Trust**
  - $5,435,528

- **Penny for Pinellas**
  - $9,604,763
Surface Water Management Program

Current Level of Service Evaluation
## Current Level of Service

![Figure 3-1](image_url)

**Stormwater Governance Study: Stormwater Program Level of Service Matrix**

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Program Management Activities</th>
<th>NPDES Compliance Activities</th>
<th>Capital Improvement Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Comprehensive Planning + Full Implementation Capabilities</td>
<td>Exemplary Permit Compliance</td>
<td>10-year Plan</td>
</tr>
<tr>
<td>B</td>
<td>Pro-Active Planning + Systematic CIP Implementation Capabilities</td>
<td>Pro-Active Permit Compliance</td>
<td>20-year Plan</td>
</tr>
<tr>
<td>C</td>
<td>Priority Planning + Partial CIP Implementation Capabilities</td>
<td>Minimal Permit Compliance</td>
<td>40-year Plan</td>
</tr>
<tr>
<td>D</td>
<td>Reactionary Planning + Minimal CIP Implementation Capabilities</td>
<td>Below Minimum Permit Compliance</td>
<td>50-year Plan</td>
</tr>
<tr>
<td>F</td>
<td>No Planning + No CIP Implementation Capabilities</td>
<td>Non-Compliance</td>
<td>75-year or More Plan</td>
</tr>
</tbody>
</table>
Current Level of Service

- Program Management
  - LOS C
- NPDES Permit Compliance
  - LOS C to C+
- NPDES O&M
  - LOS C-
- Capital Improvement Program*
  - LOS C+ to B-
- Overall
  - LOS C
Surface Water Management Program

Integrated Approach: Proposed Strategies
Surface Water Management Program

- Proposed Strategy
- Current Program +
  - Increased LOS
    - Open conveyances
    - Closed conveyances
    - Street sweeping
    - Public education
    - Site plan/floodplain management program
Surface Water Management Program

**Proposed Strategy** (continued)

- Biological monitoring
  - In response to new water quality standards
- Watershed planning
- Watershed plan implementation
- Adopt-A-Pond
Surface Water Management Program

- Open Conveyances
  - Ditches
  - Channels
  - Swales
- Current Annual Plan: 89,119 LF
- Estimated Inventory: 1.7 M LF
- Maintenance cycle: 22.5 years
- Proposed Annual Plan: 200,726 LF
- Maintenance cycle: 10 years
- Additional funding needed: $1,966,727/year
Surface Water Management Program

- **Closed Conveyance**
  - Corrugated Metal Pipe (CMP)
- Current Annual Plan: <1 mile
- Estimated Inventory: 24 miles
- Years to complete: 24
- Proposed Annual Plan: 2.4 miles
- Years to complete: 10
- Additional funding needed: $2,400,718/year
Surface Water Management Program

Street Sweeping

- Per unit cost one of the most cost effective water quality improvement programs.
- Since 2008; 69% reduction in nitrogen removal due to program cuts.
- Additional cost to get back to 2008 levels: $40,000/year.

Cost Per Pound Nitrogen Removed

- Street Sweeping: $179
- Ditch Cleaning: $45
- Pipe Cleaning: $245
- Pond Cleaning: $16
- CIP: $3,500
Surface Water Management Program

- **Floodplain Management and Stormwater Facility Compliance**
  - Develop and implement comprehensive floodplain management program
  - Inspection/certification of private facilities to ensure stormwater management facilities are functioning per approved designs.
  - Annual cost $189,000

- **Engagement and Education**
  - Digital and print media
  - PSAs, videos
  - Goal to increase awareness that results in positive behavior change
  - Annual cost $50,000
Surface Water Management Program

- **Biological Monitoring Program**
  - New water quality standards require “biological confirmation”
  - Cost shared with cities and FDOT
  - 45% County/55% Partners
  - Total cost: $173,000/year
  - County cost: $77,850/year

- **Watershed Plan Development**
  - Annual cost: $600,000
Surface Water Management Program

- Watershed Plan Implementation
  - Water Quality Improvements
  - Penny: $1,212,000/yr
  - Fee: $1,998,558/yr
  - Total: $3,210,558/yr
  - LOS C - 40 year CIP for water quality
Surface Water Management Program

- **Adopt-A-Pond**
  - Private community ponds
    - Community engagement
    - Pond improvements – clean out and plantings
  - Constraints – demonstrate significance to water quality or community drainage issues
    - Est. 2,000 ponds in unincorporated County
  - Annual cost: ~$469,000
Summary

- Program Management
  - LOS C+
- NPDES Permit Compliance
  - LOS C+ to B-
- NPDES O&M
  - LOS B
  - Potential benefit to CRS
- Capital Improvement Program
  - LOS C
- Overall
  - LOS C+ to B-
Proposed Level of Service

- Very good basic public program
- Focuses on most critical needs first
- Looking ahead 10 years
  - Replace or repair all deficit CMP
  - Restore ditches/channels and implement proactive PM cycles
  - Complete Watershed Plans for priority watersheds
  - Implement data driven maintenance cycles
    - Maximize water quality and quantity benefits
  - Implement capital improvements to achieve drainage and water quality goals in priority watersheds
    - Sustainable service delivery
  - Celebrate 150-200 adopted and restored community ponds
    - Engaged communities
What Happens if We Don’t Move Forward?

- Permit compliance issues
  - New regulations require more

- Our infrastructure will continue to fail
  - Lack of preventative maintenance decreases the life of the asset
  - Catastrophic failures impact other infrastructure
  - More community flooding

- Our water quality will continue to decline
  - Lowers quality of life
  - Impacts our economy
  - Costs more to restore the environment than to prevent the damage
Surface Water Management Program

- Proposed Program Annual Costs
  - $29,284,235
  - Program Management*: $2,336,221
  - NPDES O&M: $10,979,072
  - NPDES Compliance: $2,253,491
  - CIP*: $13,715,452

![Pie chart showing the distribution of annual costs: 40.7% for Program Management, 7.3% for NPDES - MS4 Compliance, 41.9% for NPDES - O&M Program, and 10.0% for CIP Program.]

*Program Management
**NPDES - MS4 Compliance
***NPDES - O&M Program
****CIP Program
Surface Water Management Program

- Proposed Program Annual Costs
  - $29,284,235
  - Penny for Pinellas
    - $9,604,763
  - Stormwater fee
    - $19,679,472
Surface Water Management Program

Funding Assessment and Rate Structure Analysis
Rate Structure Analysis

- **Equivalent Units**
  - Equivalent Residential Unit (ERU)
  - Average impervious area for all residential unit types vs single family detached
    - 2,329 sq ft/2,339 sq ft
  - Options
    - Uniform
      - 70% of Counties use
      - 58% of SWU in Florida
    - Tiered
Rate Structure Analysis

- Non-residential Rates
  - Actual impervious area
  - Data readily available
  - 83% of SWU in Florida
Funding Analysis – Recommended Rate

Rate to support proposed program
- $10.50/month/ERU
- Generates $19,679,472/year
- Index to CPI
- Rate structure applies to all properties within the unincorporated area

Fee Breakdown
- Program Management
  - $1,447,663
- NPDES Compliance
  - $2,253,491
- NPDES O&M
  - $10,979,072
- Capital Investments
  - $4,999,276
Pinellas Park Water Management District

“The PPWMD is responsible for the management of the primary drainage systems within its jurisdictional boundaries. The secondary systems fall under the jurisdiction of the City of Pinellas Park and Pinellas County.”
Facility types

- 5 channel systems
  - Structures at road crossings
  - Weirs
  - Ponds

- Operations and Maintenance and Capital Improvements

- Primary (major) drainage services
PPWMD: Jurisdictional Boundaries
Closed Conveyance (CMP) within PPWMD
Structures, Pipes, and Ditches within PPWMD
Water Quality within PPWMD
Pinellas County versus PPWMD

- **County Services**
  - Operations and maintenance of public secondary drainage systems
  - NPDES compliance
  - CIP
    - Drainage improvements
    - Water quality improvements
    - Watershed Planning

- **PPWMD**
  - Operations and maintenance of 5 major drainage channel systems and associated facilities
  - Capital Improvements for PPWMD major drainage systems

No Overlap of Services
Schedule

- Authority to Advertise Ordinance           April 30, 2013
- Advertise Ordinance                        June 2013
- Ordinance to BCC                           June 2013
- Roll to Property Appraiser                 July 1, 2013
- TRIM notice insert                         August 19, 2013
- Notice Public Hearing for Final Assessment Resolution    By August 22, 2013
- Public Hearing for Final Assessment Resolution                   September 10, 2013*
Discussions

- Board re-affirmation of strategy
  - Focus on prevention versus cure

- Board direction for funding surface water management program
  - Funding sources for program implementation
    - Stormwater fee and Penny for Pinellas
  - Level of service
    - LOS C+ to B-
  - Rate structure and Rate
    - ERU based or tiered
    - $10.50/month/ERU
    - Index to CPI

- Schedule