WELCOME TO THE MAY EDITION OF THE 2015 M&R SEMINAR SERIES
BEFORE WE BEGIN

• SILENCE CELL PHONES & SMART PHONES

• QUESTION AND ANSWER SESSION WILL FOLLOW PRESENTATION

• PLEASE FILL EVALUATION FORM

• SEMINAR SLIDES WILL BE POSTED ON MWRD WEBSITE

• STREAM VIDEO WILL BE AVAILABLE ON MWRD WEBSITE
  (www.MWRD.org: Home Page ⇒ MWRDGC RSS Feeds)
Edward W. Podczerwinski, P.E.

**Current:** Managing Civil Engineer, Environmental Monitoring & Research Division, MWRDGC

**Experience:** Managing Civil Engineer in M&R. Manages Process Facilities Capital Planning and Wastewater Treatment Process Research Groups (Since March 2013)

**Other District Positions Held (August 1997 to March 2013):**

- Principal Civil Engineer, Plant Design Management, Process Facilities Division
- Senior Civil Engineer, Process Design
- CAD Manager, Process Facilities Division
- Associate Civil Engineer, Process Design
- Assistant Civil Engineer, Process Design


- Project Manager
- Project Engineer
- Design Engineer
- Construction Engineer
- Land Surveyor
- CAD Drafter

**Education:**

- BS in Civil Engineering, Warsaw University of Technology | Warsaw, Poland
- MS in Structural Engineering, Warsaw University of Technology | Warsaw, Poland

**Professional:** Registered Professional Engineer in Illinois
Registered Professional Engineer in Wisconsin
Jonathan Grabowy, P.E.

**Current:** Principal Civil Engineer, Capital Facilities Planning, M&R, MWRDGC (Since 2013)

**Experience:** Senior Civil Engineer, Stormwater Management, Engineering, MWRDGC (2006-13)
- Project Manager – *Poplar Creek and Cal-Sag Detailed Watershed Plans*
- Project Manager – *Various Stormwater Capital Improvement Feasibility Studies*
- Project Manager – *Various Stormwater Capital Improvement Final Designs*

Associate Civil Engineer, Engineering Department, MWRDGC (2001-06)
Assistant Structural Engineer, Engineering Department, MWRDGC (1999-01)

**Education:**
- **B.S. Civil Engineering** (1999), Purdue University, West Lafayette, IN
- **Master of Engineering Management** (2004) *Northwestern University, Evanston, IL*
- **M.S. Computer Science, Telecommunication and Information Systems** (2002), DePaul University, Chicago, IL

**Professional:** Licensed Professional Engineer – Illinois and Wisconsin
Certified Floodplain Manager
Project Vetting Process &
Long Term Capital Plan

Edward Podczerwinski, PE
Managing Civil Engineer
MWRDGC | Wastewater Research & Capital Planning
Environmental Monitoring & Research Division

Jonathan Grabowy, PE
Principal Civil Engineer
MWRDGC | Process Facilities Capital Planning
Environmental Monitoring & Research Division
District’s Project Vetting
PROCESS
- Provide an objective decision making process
- Appropriately allocate limited resources
- Assign priorities based on organizational goals and needs
- Promote a more informed decision making process
- Understandable
- Provide level of confidence for Board
- Standard (repeatable and defensible)
- Sustainable
- Enables continuous improvement and expansion
PROJECT VETTING PROCESS

- Projects Reviewed by Interdepartmental Panel
  - Economics (Cost vs. O&M)
  - Method (Repair, Retrofit and Replace)
  - Project Need (Regulatory, Safety, Process, etc.)

- Panel Approved Projects Sent to Executive Team for Final Approval
CIP Questionnaire

- Project Name & Description
- Scope of Work & Estimated Cost
- Project Justification
- Urgent Needs & Priorities
- Impacts:
  - O & M
  - Economic Sustainability
  - Environmental Sustainability
  - Social Equity Sustainability
- Scoring Weighting Factors
# CIP Prioritization Questionnaire

<table>
<thead>
<tr>
<th><strong>Project Name:</strong></th>
<th><strong>Project Number:</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Project Manager:</strong></th>
<th><strong>Estimated Project Cost:</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Department Head Name &amp; Approval Date:</strong></th>
<th><strong>Project Category:</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Funding Panel Approval Date:</strong></th>
<th><strong>Executive Team Approval Date:</strong></th>
</tr>
</thead>
</table>

## Project Description:

## Scope of Work:

## Project Justification:

## Consequences of Delaying the Project:

## Urgent Needs:

- Does this project address any of the following urgent needs that are occurring or will most likely occur if not addressed within the 5-year CIP planning horizon?
  - Serious public health, safety or security threat(s)?
  - Significant infrastructure failure(s) for which a repair or replacement will be required?
  - Significant violation of service(s) or compromise to delivery of service(s)?
  - A legal judgment, court order, regulatory mandate, or state or federal law?
  - If yes, please cite the specific judgment, court order, mandate or law.

If you selected "Yes" to any of the urgent needs above:

- Which fiscal year of the CIP planning horizon will the negative impact(s) occur or most likely occur?
- Please briefly describe how the project will address the urgent need(s) selected above.

## Planning Priorities:

- Does this project directly implement:
  - A priority project(s) or recommendation(s) identified in Master Plan?
- Please cite the project(s) or recommendation(s) and briefly describe how this project will implement them.

- Strategies identified in strategic/business plans?
- Please cite the strategies and briefly describe how this project will implement them.

## Policy Directives:

- Does this project directly address a policy directive, or directive, approved by the Board?
- If yes, please cite the resolution(s) and briefly describe how it will be addressed with the CIP.

## Impact:

**Cost Impact:**

Does this project reduce the District's financial commitments by:

- Decreasing current operating and maintenance costs?
- Preventing future operating and maintenance costs?
- Preventing future capital costs?
- Increasing - or preventing anticipated loss of - District revenue?

If you selected yes to any of the above, please briefly describe how this project will reduce the District's existing or future financial commitments.

## Operating and Maintenance Impact:

If available, please provide either the positive or negative impact this project will have on the following Operating and Maintenance costs:

- Annualized O&M
- FTE (Full-Time Employees)
- Revenue

Please provide supporting evidence for any positive impacts noted above.

## Economic Sustainability Impact:

Does this project increase the economic sustainability by:

- Facilitating activities that will produce jobs?
- Facilitating activities that will attract new companies?
- Facilitating activities that will retain and/or grow local business?
- Integrating or leveraging investments in local innovation and emerging technology?

If you selected yes to any of the above, please briefly describe how this project will increase the economic sustainability.

## Environmental Sustainability Impact:

Does this project increase the environmental sustainability by:

- Making critical access or services more resilient so they can adapt to or recover from disruptive events?
- Improving environmental conditions: greenhouse gas reduction, water quality effects?
- Demonstrating an innovative approach to more sustainable, environmentally friendly service delivery?

If you selected yes to any of the above, please briefly describe how this project will increase the environmental sustainability.

## Social Equity Sustainability Impact:

Does this project increase the social equity sustainability by:

- Providing infrastructure or services to a previously underserved geographic area or population?
- Directly contributing to the preservation or vitality of cultural or historical assets?
- Providing cultural and recreational opportunities?

If you selected yes to any of the above, please briefly describe how this project will increase the social equity sustainability.

## Scoring Weighting Factors:

<table>
<thead>
<tr>
<th>Provide weighting factors that will be used for project scoring:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Critical, Improvements to Environmental Quality</td>
<td></td>
</tr>
<tr>
<td>Preservation/Replacement to Maintain Acceptable Service Levels</td>
<td></td>
</tr>
<tr>
<td>Commitment to Community/Return on Investment</td>
<td></td>
</tr>
</tbody>
</table>

Total: 0

Provide justification for the proposed weighting factors.
Capital Projects are Grouped into (3) Categories
*(only like projects compete against each other)*

<table>
<thead>
<tr>
<th>Project Type A</th>
<th>Project Type B</th>
<th>Project Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Critical / Improvements to Environmental Quality</td>
<td>Preservation / Replacement to Maintain Acceptable Service Levels</td>
<td>Commitment to Community / Return on Investment</td>
</tr>
</tbody>
</table>

|                                                                 |                                                                 |                                                             |
| Strategic Goals / Plan and Vision | Asset Management / Protection                                | Improves public Image                                      |
| Legal/Regulatory Requirement      | Service Disruption                                          | Supports community vision and excellence in service delivery |
| Natural Resource Protection        | O & M / Cost Savings                                        | Support Region Planning/Goals                              |
| Environmental Impact              | Equipment Life / Asset Damage                               | Contractual Requirements and Mandates                      |
| Public Health and Safety          | Employee Safety / Code Compliance                           | Sustainable Responsible Financial Service                 |
| Capacity Needs                    | System Reliability / Risk Reduction                         | Financing availability                                    |
# CIP Scoring Sheet

## CIP Prioritization Scoring Sheet

<table>
<thead>
<tr>
<th>A. Mission Critical, Improvements to Environmental Quality</th>
<th>50%</th>
<th>0%</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Preservation/Replacement to Maintain Acceptable Service Levels</td>
<td>30%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>C. Commitment to Community/Return on Investment</td>
<td>20%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>0%</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

### Parameter Scoring Criteria

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>Scoring Criteria</th>
<th>Score</th>
<th>Points</th>
<th>Score Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1 Strategic Goals</td>
<td>50%</td>
<td>5 - Multiple Strategic Goals 3 - Single Goal with High Priority 1 - Single Goal without High Priority 0 - No Strategic Goal Supported</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>A.2 Consistency with Existing Approved Plans and in Alignment with the Strategic Plan and Vision of the District</td>
<td>55%</td>
<td>5 - Consistent 3 - Somewhat consistent 1 - Inconsistent 0 - Conflicts with existing laws, regulations and/or policies</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>A.3 Environmental Impact</td>
<td>15%</td>
<td>5 - Significant effect on environment improvement 3 - Modest effect on environment improvement 1 - No effect - environmentally neutral 0 - Adverse effect on the environment</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>A.4 Legal/Regulatory Requirement</td>
<td>25%</td>
<td>5 - Meet projected future regulations 3 - Exceed current regulations 1 - Meet current regulations 0 - None</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>A.5 Consistent with Existing Legislation and/or Policies</td>
<td>25%</td>
<td>5 - Consistent 3 - Somewhat consistent 1 - Inconsistent 0 - Conflicts with existing laws, regulations and/or policies</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Parameter Subtotal**

<table>
<thead>
<tr>
<th>Parameter Subtotal</th>
<th>Scoring Criteria</th>
<th>Score</th>
<th>Points</th>
<th>Score Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Mission Critical / Improvements to Environmental Quality</strong></td>
<td><strong>50%</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0%</strong></td>
</tr>
</tbody>
</table>

(sum of parameter scores) / (maximum possible score)
# CIP Scoring Sheet

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>Scoring Criteria</th>
<th>Score</th>
<th>Points</th>
<th>Score Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Preservation/Replacement to Maintain Acceptable Service Levels</strong></td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.1 Asset Management / Protection</strong></td>
<td>30%</td>
<td>5 - Falling, needs replacement</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Poor Asset Condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Good Asset Condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - New or near new</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.2 Operations &amp; Maintenance</strong></td>
<td>20%</td>
<td>5 - Significant reduction in O&amp;M costs</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Modest reduction in O&amp;M cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Has a neutral effect on O&amp;M costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - Will cause increase in O&amp;M costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.3 Process Improvement</strong></td>
<td>15%</td>
<td>5 - Improves a key process (more than 15%)</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Modest impact by (5% to 15%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Low Impact (1% to 5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - No Impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.4 Safety and Code Compliance</strong></td>
<td>20%</td>
<td>5 - Conforms to mandatory compliance and prevents potential injury</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Necessary to meet recommended compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Contributes to meeting safety but is not required for compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - Does not address safety or code compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.5 System Reliability &amp; Risk Reduction</strong></td>
<td>15%</td>
<td>5 - Significant improvement</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Minor improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - Project does not enhance reliability or reduce performance risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - Will cause decrease in reliability or increase performance risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parameter Subtotal</strong></td>
<td>100%</td>
<td>sum of parameter scores, max = 500</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal B**

(sum of parameter scores) / (maximum possible score) = 0%


# CIP Scoring Sheet

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Weighting Factor</th>
<th>Scoring Criteria</th>
<th>Score</th>
<th>Points</th>
<th>Score Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C. Commitment to Community/Return on Investment</strong></td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C.1 Community Vitality</strong></td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Public health, safety, and welfare</td>
<td>40%</td>
<td>5 - Significant improvement 3 - Minor improvement 1 - Low improvement 0 - No improvement</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>b. Social justice and equity</td>
<td>30%</td>
<td>5 - Significant improvement 3 - Minor improvement 1 - Low improvement 0 - No improvement</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>c. Economic growth</td>
<td>20%</td>
<td>5 - Significant growth 3 - Modest growth 1 - Low growth 0 - No growth</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>d. Cultural and recreational opportunities</td>
<td>20%</td>
<td>5 - Significant improvement 3 - Minor improvement 1 - Low improvement 0 - No improvement</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>C.2 Community Acceptance</strong></td>
<td>10%</td>
<td>5 - Accepted by all communities 3 - Accepted by most communities 1 - Accepted by most, may create some hurdles 0 - Not likely to be accepted by any community</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>C.3 Number of People to Benefit</strong></td>
<td>10%</td>
<td>5 - More than $120,000,000 3 - $50,000 to $100,000 1 - $10,000 to $50,000 0 - Fewer than $10,000</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>C.4 Benefit to Cost Ratio</strong></td>
<td>40%</td>
<td>5 - Ratio is greater than 1 to 1 3 - Ratio is between 1 to 1 and 3 to 1 1 - Ratio is between 1 to 3 and 1 to 5 0 - Ratio is less than 1 to 5</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>C.5 Financing availability</strong></td>
<td>10%</td>
<td>5 - $10 million or &gt;50% of cost of project 3 - $5 million to 10 million or 25% of cost of project 1 - $1 million to 5 million or 10% of cost of project 0 - $500,000 or &lt;5% of cost of project</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Parameter Subtotal**

<table>
<thead>
<tr>
<th></th>
<th>Weighting Factor</th>
<th></th>
<th>Score</th>
<th>Points</th>
<th>Score Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>= sum of parameter scores</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>max</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(sum of parameter scores) / (maximum possible score)</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Project Supporting Data

Deterioration Under Influent Conduit

GS-1 Hydraulic Oil Leak

- Due to corrosion of the hydraulic operator's rod, the cylinder packing has been damaged and a hydraulic oil leak has developed that cannot be repaired in the field.

- Hydraulic operator inspected by Bosch Rexroth technician on 9/25/2013. Technician confirmed corrosion of rod is damaging the cylinder packing during each stroke of roller gate and removed shims to increase pre-stress of packing on rod to reduce leakage.

- Due to failure of the packing and the hydraulic oil leak, GS-1 may fail closed and the Torrence Avenue leg of the Calumet TARP System could not be dewatered.

- The operating procedure has been changed due to the risk of failure. GS-1 is now normally closed to relieve the hydraulic oil pressure, lessening the capacity of the Torrence Avenue leg for rain events.

Current Issues

- Increasing Maintenance Costs

PROJECT 14-714-21
PARKING LOT REPLACEMENT AT EWRP

- EXISTING CONDITIONS

- EXISTING CONDITIONS
VETTING PANEL

I like the panel’s new approach to project vetting.
Vetting Panel consisting members from M&O, M&R and Engineering

Vetting Panel reviews the CIP Prioritization Questionnaire and the Matrix Scoring Sheet

Panel reviews project scoring and reasons/justification for the scoring along with project supporting data

Projects not sufficiently justified or projects that require more information, are returned to the Project Sponsor

Projects approved by the Vetting Panel are then presented to the Executive Team for review and approval
After passing the Vetting Panel, the Project Sponsor is required to present to the Executive Team for final approval.

Vetting Panel supports the Project Sponsor in front of the Executive Team.
- Executive Team decides which projects are authorized to move forward
- Executive Team decides which projects require further evaluation
On January 24, 2014, the Executive Director presented the formal project vetting procedure to the staff of M&R, Engineering and M&O Departments (presentation). Projects anticipated costing more than $250,000 and are due for award in 2015 and beyond are subject to vetting by a multi-department vetting committee and approval by the District’s Executive Team (memo). The Vetting Panel has authority to approve projects less than $500,000. A flow chart of the process is available here.

All projects are required to have a project sponsor complete a project questionnaire and complete a project scoring sheet and submit both via e-mail to the vetting committee. The subject line of the e-mail should have a brief description of the project. If the sponsor would like to include any additional information on the project, the sponsor should create a folder in the vetting committee drop box (\haw\Capital_Project\ProjectDropBox).

The Vetting Panel typically meets on every third Friday of the month at SWRP. The 2015 Vetting Panel Date are:

<table>
<thead>
<tr>
<th>January 29</th>
<th>July 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 20</td>
<td>August 21</td>
</tr>
<tr>
<td>March 20</td>
<td>September 18</td>
</tr>
<tr>
<td>April 17</td>
<td>October 16</td>
</tr>
<tr>
<td>May 15</td>
<td>November 20</td>
</tr>
<tr>
<td>Jun 19</td>
<td>December 18</td>
</tr>
</tbody>
</table>

The 2015 Executive Team Meetings Dates to Review to review project (over $500,000) are as follows:

<table>
<thead>
<tr>
<th>March 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 3</td>
</tr>
<tr>
<td>September 2</td>
</tr>
<tr>
<td>December 2</td>
</tr>
</tbody>
</table>
Approved Projects

✓ Replacement of Sacrificial Deep Anode at MSPS
✓ Inspection and Rehab of Mainstream Pump #8
✓ 04-132-3D A/B & C/D Service Tunnel & Connecting Tunnel Rehabilitation, SWRP
✓ Hydraulic Operator at TARP Gate No. 1 in CSA
✓ 14-714-21 Egan WRP Parking Lot
✓ 14-824-2D Rehabilitation of Bridges on the North Shore Channel, North Service Area
✓ 15-711-21-OWRP Process Control Building Restoration
✓ Replacement of 125th Street Boiler
✓ Replacement of M&R Area 6 Roof
✓ Installation of Baffle Plates in OBWRP Final Tanks
✓ Central Heat DCS Upgrade at SWRP

Total Estimated Cost: **$17 Million**

Projects Scheduled for Presentation to the Executive Team on June 3, 2015

- Compost Turners for LASMA and CALSMA
- 06-212-3M: Digester Sludge Heating System Upgrades and Boiler Removal, CWRP
- 15-069-3D Rehab of Steel Beams of Pump & Blower House at OBWRP
- Rehabilitation of Centrifuge Rotating Assemblies, Stickney WRP
- 14-823-3D Safety Railings Around Tanks, SWRP

Total Estimated Cost: **$23 Million**
IDEAS

VETTING PANEL

EVALUATION

DESIGN
CONSTRUCTION

EXECUTIVE TEAM
END OF PRESENTATION on Vetting
Developing a Long Term Capital Plan
Why Do We Need to Plan?

- Ensure District Vision, Mission and Goals are Aligned
  - Promotes clarity of direction
  - Align our organization with our strategic direction
  - Goals change—we need to constantly adapt

- Public Awareness & Responsible Governance
  - Promotes organizational transparency and cooperation
  - Proactive versus reactive

- Be a Leader in the Wastewater Industry
  - Regulatory concerns
  - Business initiatives
  - Community service level expectations
Why Do We Need to Plan?

- Road Map to Ensure/Maintain Financial Stability
  - Provides clear direction of future needs
  - Ensures responsible use of capital funds
  - Live and operate within our means
  - Adhere to bonding limits
    - ~$200 Million for limited and unlimited
    - ~$50 Million for stormwater
Who Does The Planning?

- Hint—It is the most capable people

  - Engineering
  - Maintenance & Operation
  - Monitoring and Research
  - Treasury
  - General Administration
  - Finance
  - Purchasing
  - Law
Planning Coordination

- Planning Group Placed in Environmental Monitoring and Research Department
  - Centralized Location
  - Synergy with Wastewater Research Section
  - Multidisciplinary Section (Civil, Mechanical, Electrical, Research Scientists)
  - Facilitates Data Driven Analysis

- Project Evaluation/Selection
  - Uniform Process
  - Triple Bottom Line
    - Economics
    - Technical Factors
    - Social / Environmental Considerations
How Are We Planning?


PARALLEL WORK

Energy (TBD)

Biosolids Master Plan (2014)

Odor Master Plan (2014)

Regulatory Work Group

- Reviewed Current and Anticipated Regulatory Issues
  - NPDES Permits
  - Nutrients (P&N)
  - Ammonia
  - Bacteria
  - Clean Air
  - CSOs
  - DO
  - Discretionary Diversion
  - Part 503 (Biosolids)
2014–District Initiatives Reviewed

- Reviewed All Current and Pending Initiatives
- Performed SWOT Analysis
- Identified Synergies, Competing Interests and Gaps in Knowledge

- Alternate Energy Evaluation
- NH₃ Demand Based Control of Air Delivery
- CWRP Digester Gas Utilization
- CWRP Sidestream P Recovery
- CWRP P Removal
- EWRP Sidestream NH₃ Removal
- EWRP Sidestream P Recovery
- KWRP P Removal
- Mainstream Shortcut Biological Nitrogen Removal
- North Branch PS CSO Treatment

- OBWRP Algae Treatment for Nutrient Removal
- OBWRP P Removal
- RAPS CSO Treatment
- Resource Recovery
- SWRP Digester Gas Utilization
- SWRP Sidestream P Recovery
- SWRP P Removal
- SWRP Sidestream NH₃ Removal
- SWRP WASSTRIP
- SWRP West Side Primary Tanks
- Treatment of TARP Reservoir Water
Capital Planning

1–5 Year
Solid/executable/
FULLY VETTED PLAN

6–10 Year
Well defined/not 100%
certain

11–20 Year
Planning focus/what
should be on our radar

PROJECT/CONCEPT UNCERTAINTY
How We Will Continue To Plan

Yearly Cycle

1. Updated CIP Released
2. DRAFT CIP Submitted for Executive Team Approval
3. Placed in Updated Draft CIP
4. Workgroups Review Changes/Updates
5. Departments Submit Changes/Updates
6. Yearly Cycle
What Have We Accomplished

- Created and Staffed Planning Section
- Implemented and Documented a Planning Process
- Increased Communication/Awareness
- Identification of Areas for Further Study
- A Better Understanding of What we Don’t Know
- Transparency
## Areas for Further Study

<table>
<thead>
<tr>
<th>Areas of Study</th>
<th>Tentative Start Date</th>
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<tbody>
<tr>
<td>Treatment of Thornton Reservoir Water</td>
<td>2015/2016</td>
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<tr>
<td>O’Brien Algae Treatment/P Removal</td>
<td>On-Going</td>
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<tr>
<td>Mainstream Shortcut N Removal</td>
<td>On-Going</td>
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<tr>
<td>Lemont WRP Evaluation</td>
<td>2017</td>
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<td>Hanover Park WRP Evaluation</td>
<td>2018</td>
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<td>Bacteriophage Limits</td>
<td>2018? (EPA)</td>
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<tr>
<td>Alternate Energy</td>
<td>On-Going</td>
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<tr>
<td>Nitrogen Limits</td>
<td>2018</td>
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<td>Stickney Disinfection</td>
<td>2023</td>
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<tr>
<td>Lemont Disinfection</td>
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<td>New Ammonia Limits</td>
<td>2023</td>
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<td>Egan/Hanover Park/Lemont P Removal</td>
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<td>Egan Phosphorus Recovery</td>
<td>2024</td>
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<td>Treatment of McCook Reservoir Water</td>
<td>2029</td>
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<tr>
<td>RAPS/NBPS CSO Treatment</td>
<td>2029</td>
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</table>
Planning Website

MWRD Long Term Capital Plan

On January 24, 2014 (presentation), the Executive Director presented a vision for long term strategic planning at the District. This vision identified the need for a plan to promote clarity of direction, provide a clear direction of future needs, and promote organizational transparency and cooperation. The vision served as the basis for the Long Term Capital Plan (Plan) framework which is predicated on a multi-department effort that will formally document the three drivers of the plan: (1) regulatory, (2) strategic business initiatives, and (3) community service level expectations. The Plan will focus on the 20-year timeframe for the District and set a sustainable path forward with a frequent review cycle to keep the Plan in line with internal and external changes. Projects expected to be implemented prior to the 5 to 20-year timeframe are expected to go through the vetting process.

A formal kickoff of the Plan was held on February 18, 2014 (presentation, minutes) and set a schedule for the initial plan to be developed. The Plan development will occur in three phases and is schedule to wrap up in early 2015. The first phase of the plan (March-May 2014) will review and document the regulatory factors and District Strategic Initiatives and will propose a methodology to understand the community service level expectations. The second phase of the plan (May - August 2014) will review the work products developed in the first phase to identify conflicts and synergies, identify gaps and overlaps, and present its findings to the Executive team. After direction is received from the Executive team, the third phase of the plan will be to review the District's CIP, make recommendations, and solidify the District's 10-year plan. Along with the three main phases of the Plan, additional parallel work will be developed to support the planning efforts including a Budget/Financial Workgroup that will bring financial constraints into the planning process as well as the Supporting Information Workgroup where tools (models, management processes, documents, etc.) will be recommended.

Below are links to minutes and the final work products of each process in the 2014 Plan development.

Phase 1

<table>
<thead>
<tr>
<th>Regulatory Workgroup</th>
<th>Strategic Business Initiative Workgroup</th>
<th>Community Service Level Expectations Workgroup</th>
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<tbody>
<tr>
<td>Group Members</td>
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<tr>
<td>Jonathan Grabowy</td>
<td>Junli Bai</td>
<td>Dan Collins</td>
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<tr>
<td>Adam Gronski</td>
<td>Reed Dring</td>
<td>Jonathan Grabowy</td>
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<tr>
<td>Lakhwinder Hundal</td>
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<td>Avanti Kavathekar</td>
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<td>Avanti Kavathekar</td>
<td>Sanjay Patel</td>
<td>Kuldir Kumar</td>
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<tr>
<td>Judith Moran-Andrews</td>
<td>Brian Perkovich</td>
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<td>Susan O’Connell</td>
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<td>Jennifer Wask</td>
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</tbody>
</table>

Documents:

- Regulatory Summary Table
- Ancillary Regulatory Summary Table
- Project Forms
- Summary of Involvement with Professional and Industry Groups
- Summary of Involvement with Community Groups
Other Planning Items...

- **Biosolids**
  - District Biosolids Master Plan
    - Past, Present and Future
  - CWRP Biosolids Technology Evaluation

- **Odor**
  - District Odor Master Plan
  - CWRP Headworks/Grit
  - OdoWatch

- **Modeling**
  - Hydraulic
  - Process
  - Dispersion
Questions:

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END OF PRESENTATION

Thank You!