Strategic Business Asset Management: The Vehicle for Successful Implementation of the Asset Management Process

Michael Brown, P.E.

William Allis, P.E.
Mark Pickering, P.E.

James Brock, P.M.P.
Strategic Business Asset Management - SBAM

- Asset Management Drivers
- Asset Management Pitfalls
- SBAM Process
- Case Study
Water Industry Issues Drive the Need for Strategic Management of Assets

- Aging Infrastructure
- Increasing Population
- Scarcity of Resources
Drivers Dictate Needs and Priorities

Population and Scarcity Condition

Growth

Population

State

CA TX FL AZ NC GA VA WA NV MD PA NY NJ
Utility-Specific Constraints Further the Need for Strategic Management of Assets

- Expenses
- Debt
- Customer Expectations
- Regulatory Mandates

- Capital/Funding Sources
- Workforce
Utilities Must Do More, With Less.....

Hometown Utility Financial Projections

<table>
<thead>
<tr>
<th>Years</th>
<th>Expenses</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dollars

Years
Asset Management - The Business Process Between the Current and Future State

State of Adequacy and Good Repair

- Aging Infrastructure
- Population
- Scarcity and Management
- Risk Awareness
- Regulation

Current State
Holistic Approach to Asset Management to Avoid Pitfalls

We need a Fully Justified Financial Plan

Management
We need that new IT System

Operations
We need those Plant Upgrades

Financing
We need that Rate Study

How do you satisfy all business needs?
Is Everyone Working for the Same Strategic Objective?

CIP??

Management
Finance
Info Technology
Engineering
Operations
Asset Management Means Different Things to Different People

- Organization & Personnel
- Asset Inventory
- Work Order Management
- Business Plan
- Financial Assessment
- Condition Assessment
- Risk Assessment
- Management
- Finance
- Info Technology
- Engineering
- Operations
Effective Asset Management Requires
A Collaborative Approach

Operations
Management
IT
Finance
Engineering
Effective Asset Management is a Process, not a Project...

Acquire → Use

Replace → Maintain

Dispose

$
SBAM for Successful Implementation of Asset Management Process

- Management Strategy
- Organizational Plan
- Infrastructure Management Plan
- Financial Plan
- Strategic Business Asset Plan
Management Strategy for Effective Business Decisions

1. Where are we now?
2. Where are we going?
3. How do we get there?
4. How will we know we are there?
Management Strategy for Defined Asset Management Process

- Regional Development
- Customer Expectations
- Regulations

Mission, Vision, and Goals

- Resource Development
- Level of Service
- Growth Assumptions

Management Strategy
SBAM for Successful Implementation of Asset Management Process

Management Strategy → Organizational Plan → Infrastructure Management Plan → Financial Plan → Strategic Business Asset Plan

Organizational Plan highlighted.
Establish Organizational Plan for Coordinated Decisions

- Organizational Structure
- Job Descriptions: Defined Roles and Responsibilities
- Workflow
- SOPs
- Knowledge Management
SBAM for Successful Implementation of Asset Management Process

- Management Strategy
- Organizational Plan
- Infrastructure Management Plan
- Financial Plan
- Strategic Business Asset Plan
Infrastructure Management Plan for Optimization of Physical Assets

Capital/Master Planning
- Risk Assessment
- Condition Assessment
- Life Cycle
- Regulatory Needs

Asset Inventory

O&M
- Proactive
- Emergency
- Knowledge Management
- Work Order Management

Capital Improvement/Physical Asset Plan
SBAM for Successful Implementation of Asset Management Process

- Management Strategy
- Organizational Plan
- Infrastructure Management Plan
- Financial Plan
- Strategic Business Asset Plan
Financial Plan for Fiscally-Sound Long Term Operation

- Capital Needs
- Revenues
- Operating Expenses
- Depreciation

- Funding Sources
- Debt Service
- Rate Analyses
- Financial Plan
Coordinated Effort Leads to Effective, Multi-Faceted Strategic Business Plan

- Full Costing Rates
- Capital Improvement Plan
- Organizational Strengthening
- Funding Strategy
- Efficient Operations
- Growth Strategy
- Debt Service Coverage
- Proactive Maintenance
- Resource Development

Strategic Business Plan
SBAM Case Study: Hazleton, PA

**Current State:**

- Regional Treatment Authority
- BOD & 2 Management Tracks
- Serve 80,000, with flat Growth
- Recently Upgraded 11 mgd WWTP
- Deficient Financial Plan
Future Significant Changes Reinforce Need for Strategic Business Plan

• **Future State:**
  – Addressing Regulatory Orders
  – Acquiring Collection System with Unknown Condition
  – Organizational Strengthening
  – State of Condition Adequacy
  – Sound Financial Plan
Stage 1: Facilitated Workshops to Establish Management Strategy

Drivers
- Increasing Debt
- Acquisition of Assets
- Regulations

Facilitated Workshops

Level of Service

Benchmarking

BOD Adopted Management Plan
- Organization Needs
- Infrastructure Needs
- Financial Needs

Vision

Mission
Stage 2: Organizational Strengthening to Address Acquisition Needs
Stage 3: EPA Spreadsheet Tool for Initiation of Infrastructure Management Plan

**Asset Registry**

<table>
<thead>
<tr>
<th>Asset ID</th>
<th>Condition Rating</th>
<th>Reliability Rating</th>
<th>Redundancy %</th>
<th>Probability of Failure</th>
<th>Consequence of Failure</th>
<th>Asset Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>11234</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>11235</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>11236</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>11237</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>11238</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>11239</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>11240</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>11241</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>11242</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Asset Inventory**
- Mapping
- CCTV
- Inspections

CIP / Replacement & Renewal Program
Stage 4: Plan for Rate Increases to Establish Sound Financial Plan

Financial Projections: No Plan

Financial Projections: Selected Plan
Hazleton Benefits from SBAM

1. Establishes “Buy-in” of Asset Management Process
2. Establishes Common Strategic Plan Across Tracks
3. Allows Bite-size Implementation for Sustainable Solution
4. Improved Financial Health
5. Planning for Routine Replacements & Renewals
1. Industry Drivers Require Strategic Business Planning Approach to Managing Assets.
2. Asset Management is a Process, not a task or tool...
Mike Brown: mtbrown@gfnet.com

Bill Allis: wallis@gfnet.com
Mark Pickering: mpickering@gfnet.com
Jim Brock: jbrock@avantimc.com