

City of Derby  
**Water Pollution Control Authority**



**PUBLIC INFORMATION SESSIONS**

**February 25, 2013**

**February 27, 2013**



## Presentation Outline

- Opening Statement by WPCA
- Introduction to Referendum Process
- How We Got Here
  - Facilities Planning Process
  - Wastewater System Understanding
  - Capital Projects
- Referendum Questions
- Closing Statement by WPCA
- Questions and Answers



# Purpose of the Referendum

## PUBLIC VOTE TO AUTHORIZE FUNDING TO ADDRESS AND UPGRADE AGING INFRASTRUCTURE INCLUDING:

- Roosevelt Drive Wastewater Pumping Station
- Route 34 – Downtown Sanitary Sewers
- Roosevelt Drive Sanitary Sewers
- Water Pollution Control Facility
- South Division Street Wastewater Pumping Station
- Burtville Avenue Wastewater Pumping Station
- Division Street Siphon (Abandonment)
- East Derby Siphon (Abandonment)



# Referendum Questions

- Question #1
  - Appropriates funding for **ALL** major capital improvements needed over the next **10 years**
- Question #2
  - Appropriates funding for **THE MOST CRITICAL** capital improvements to alleviate enforcement actions
- Question #3
  - Appropriates funding for **LIMITED** major capital improvements needed over the next **5 years**



# Referendum Process

- Public Information Sessions
  - February 2013
  - Presentation of Project *Technical Details*

FEBRUARY 2013						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		





# Referendum Process

- Public Hearing
  - March 2013 – Final date to be determined
  - Presentation of Project **Technical Details**
  - Presentation of Project **Financial Details**
  - Receipt of **Public Comments**

March 2013						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						





# Referendum Process

- Board of Aldermen / Tax Board
  - March 2013 – Final date to be determined
  - Boards' Discussions
  - **Boards' Vote to Conduct Referendum**

March 2013						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						





# Referendum Process

- Referendum
  - April 2013 – Final date to be determined
  - **Public Referendum Vote**

APRIL 2013						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				







## How We Got Here

- Few capital improvements over the last 30 years
- Rapidly deteriorating infrastructure
- Recurring overflows to the Housatonic River
- Skyrocketing operational costs
- Skyrocketing sewer use fees
- Hindered economic development

Due to these issues, in 2010 the WPCA began a **Wastewater Facilities Plan**, which was recently completed

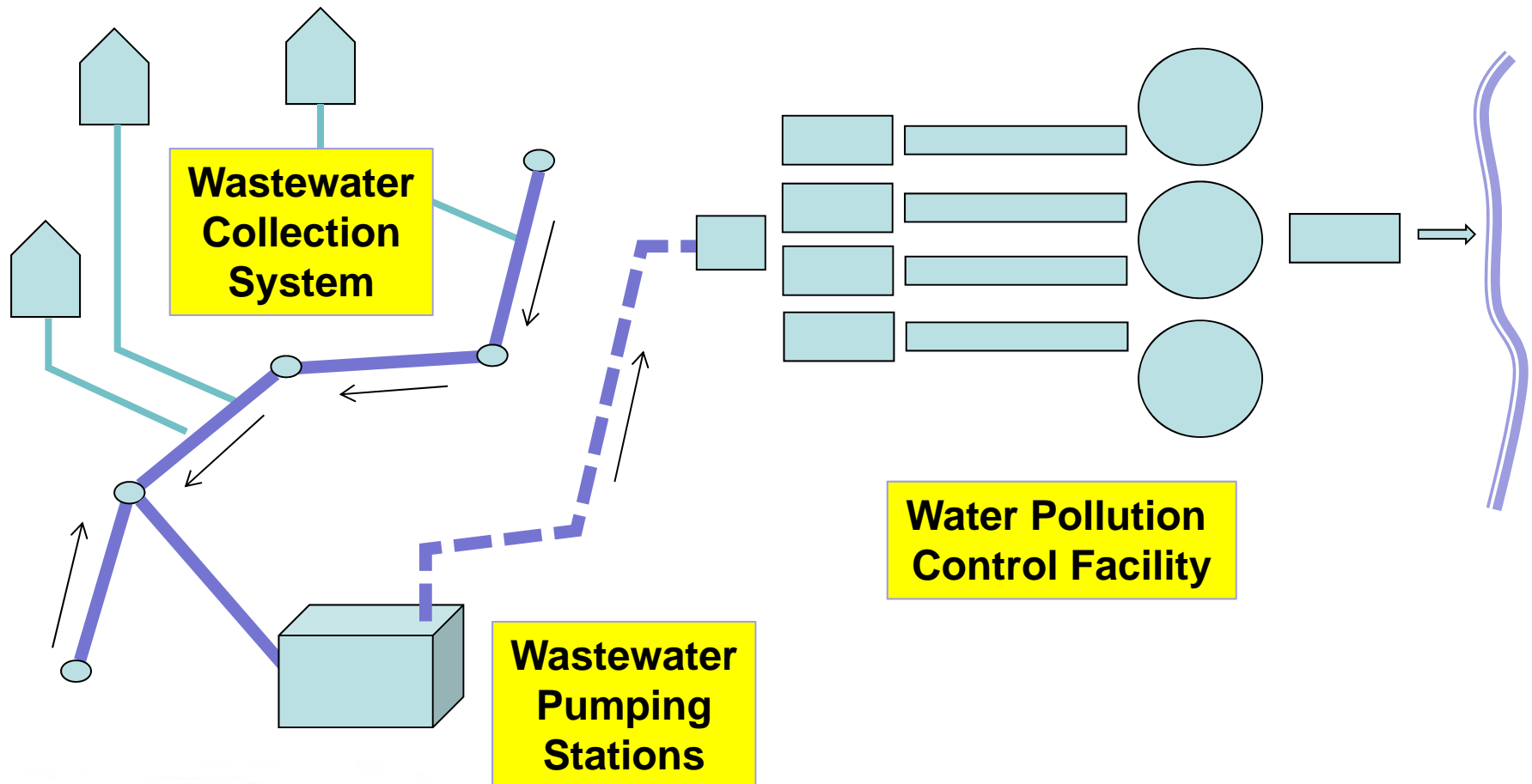


# Wastewater Facilities Plan

- 20-Year City-Wide Planning Study
- Evaluates existing conditions
  - Infrastructure condition assessment
- Evaluates future Conditions
  - Build-out and Infill / Expansion of collection system
- Identifies **Wastewater System** Capital Needs:
  - Sanitary Sewer Collection System
  - Wastewater Pumping Stations
  - Water Pollution Control Facility



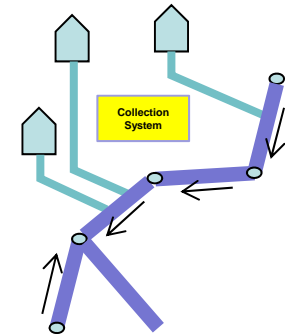
# Wastewater System Understanding





# Wastewater Collection System

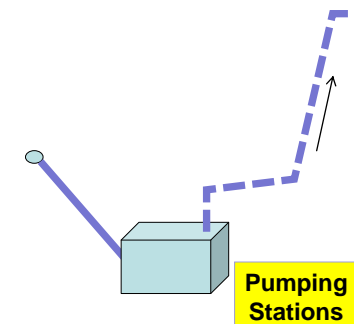
- Nearly 41 Miles of Pipe (215,000 LF)
- 6-inch through 24-inch sizes
- 75% constructed Pre-1970
- 50% constructed Pre-1950





# Wastewater Pumping Stations

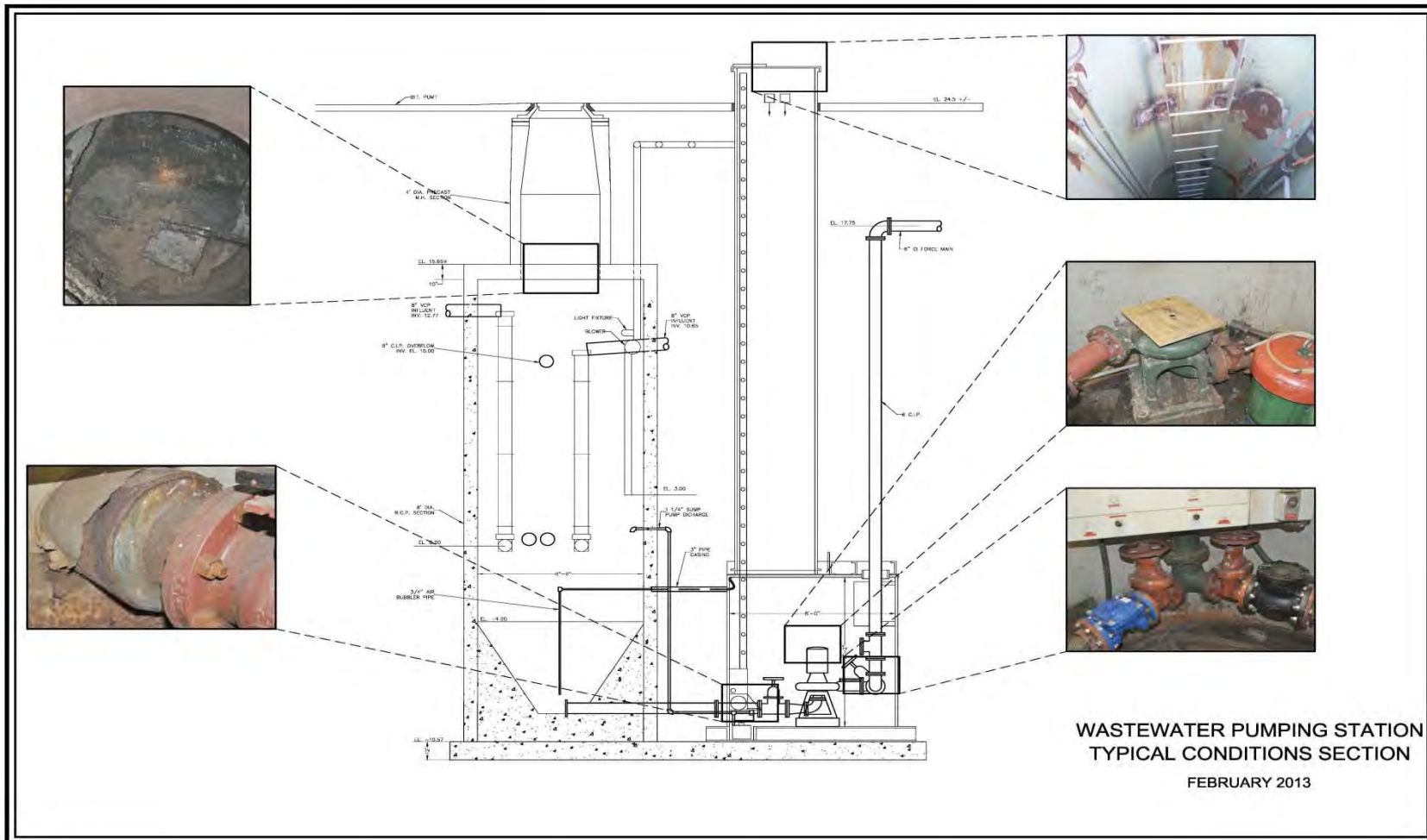
- 4 Municipally Owned and Operated
  - South Division Street (1966)
  - Burtville Avenue (1965)
  - Roosevelt Drive (1965)
  - Patty Ann Terrace (1971)



**All Pumping Stations Need Major Overhauls**



# Wastewater Pumping Station Diagram





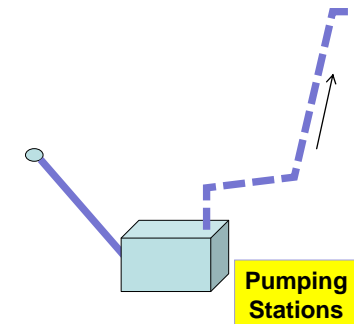
# South Division St. Pumping Station





# South Division St. Pumping Station

- Structural integrity concerns
- 30ft deep without fall protection
- Safety issues
- Frequent station flooding
- Weekly operational issues
- Beyond its useful life



**COMPLETE  
REPLACEMENT**





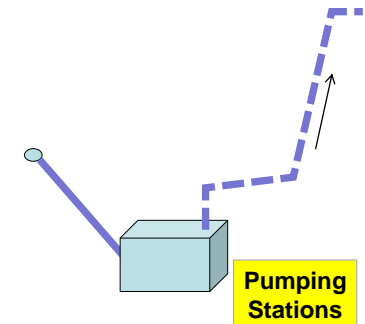
# Burtville Avenue Pumping Station





# Burtville Avenue Pumping Station

- 20ft deep without fall protection
- Beyond its useful life
- Safety issues
- Frequent station flooding
- Insufficient wetwell volume
- Insufficient operations space
- New site needed



**COMPLETE  
REPLACEMENT**



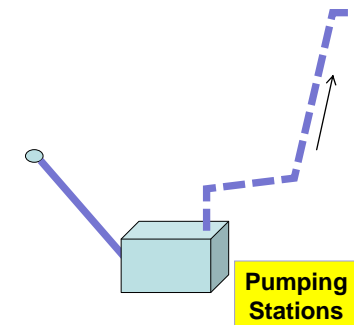
# Patty Ann Terrace Pumping Station





# Patty Ann Terrace Pumping Station

- Replacement parts difficult to obtain
- Vacuum priming system difficulties
- Beyond its useful life
- Safety issues
- Insufficient wetwell volume
- Insufficient operations space



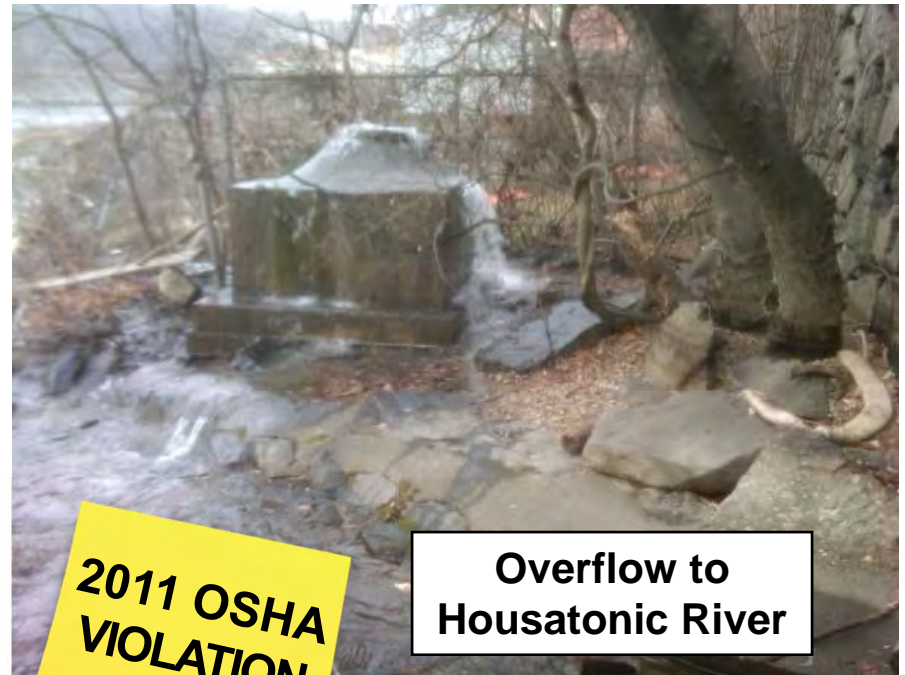
**COMPLETE  
REPLACEMENT**



# Roosevelt Drive Pumping Station



**CTDEEP  
ENFORCEMENT  
ACTION**



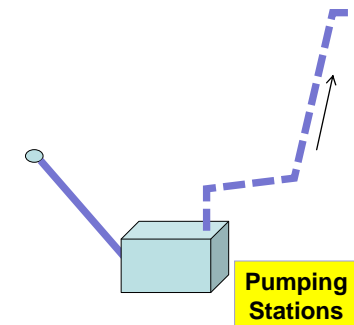
**2011 OSHA  
VIOLATION  
& FINES**

**Overflow to  
Housatonic River**



# Roosevelt Drive Pumping Station

- Last upgrade – 1972
- Pumps 40-50% of all flow in Derby
- Located in river floodway
- Numerous overflows
- Daily operational issues
- Significant operational costs
- Beyond its useful life



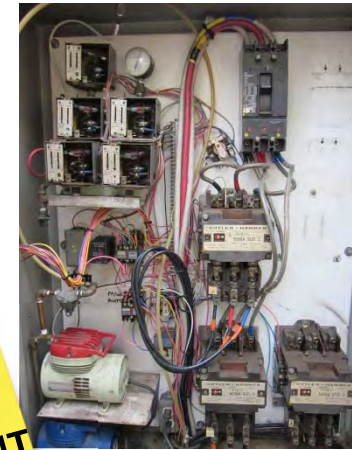
**2011 OSHA  
VIOLATION  
& FINES**

**CTDEEP  
ENFORCEMENT  
ACTION**



# Roosevelt Drive Pumping Station

- Insufficient wetwell volume
- Insufficient operations space
- Cannot handle current flows

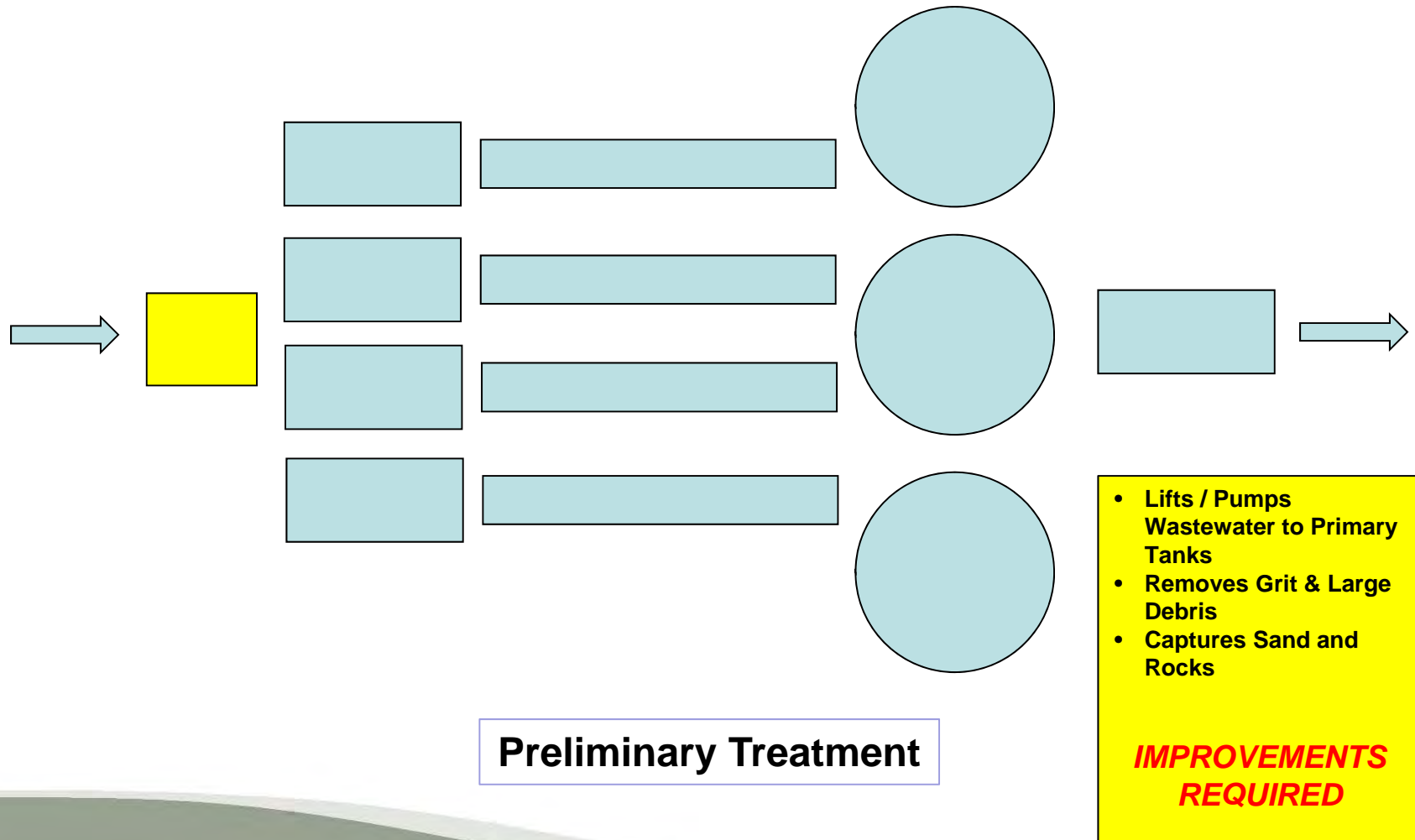


**COMPLETE  
REPLACEMENT**





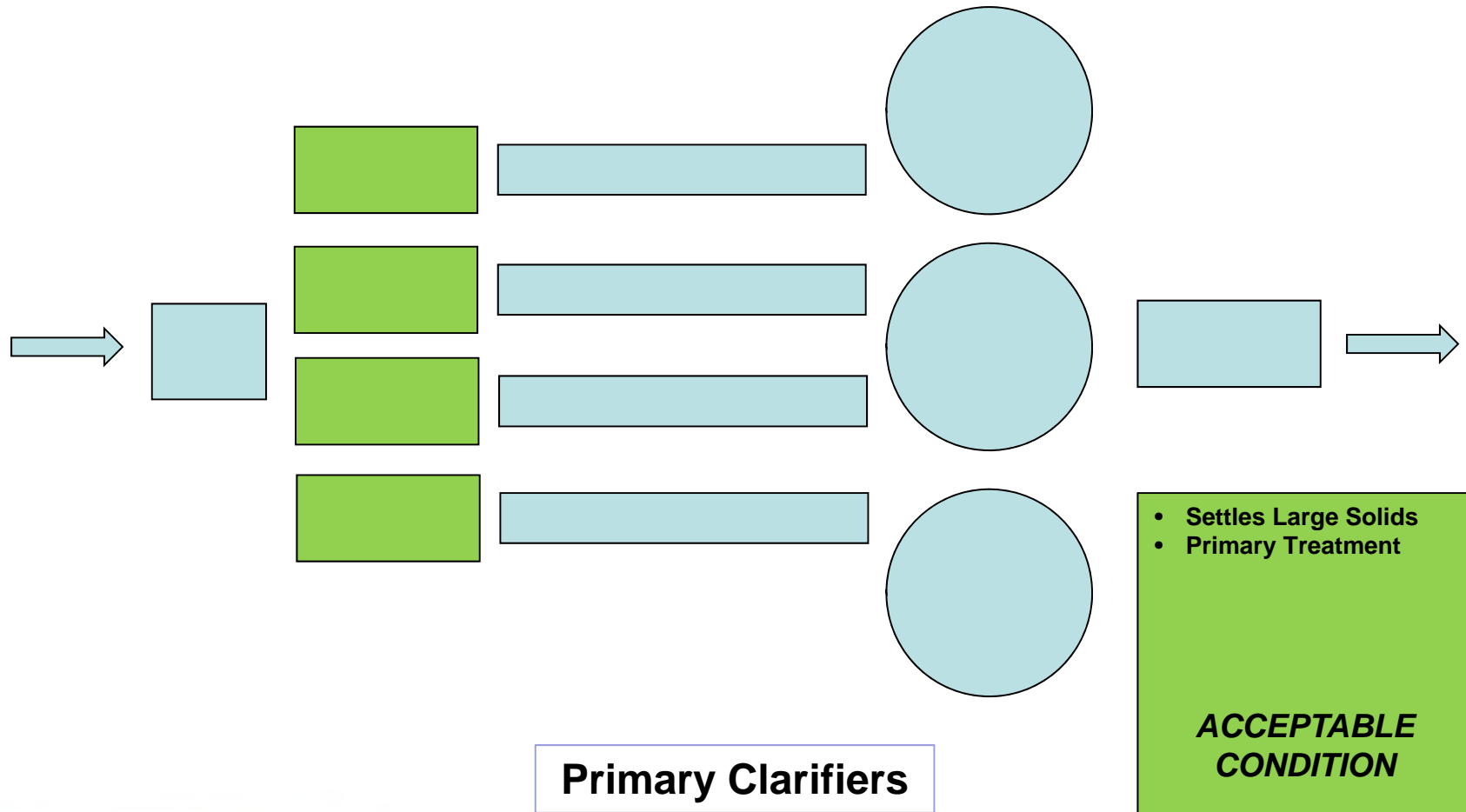
# Water Pollution Control Facility





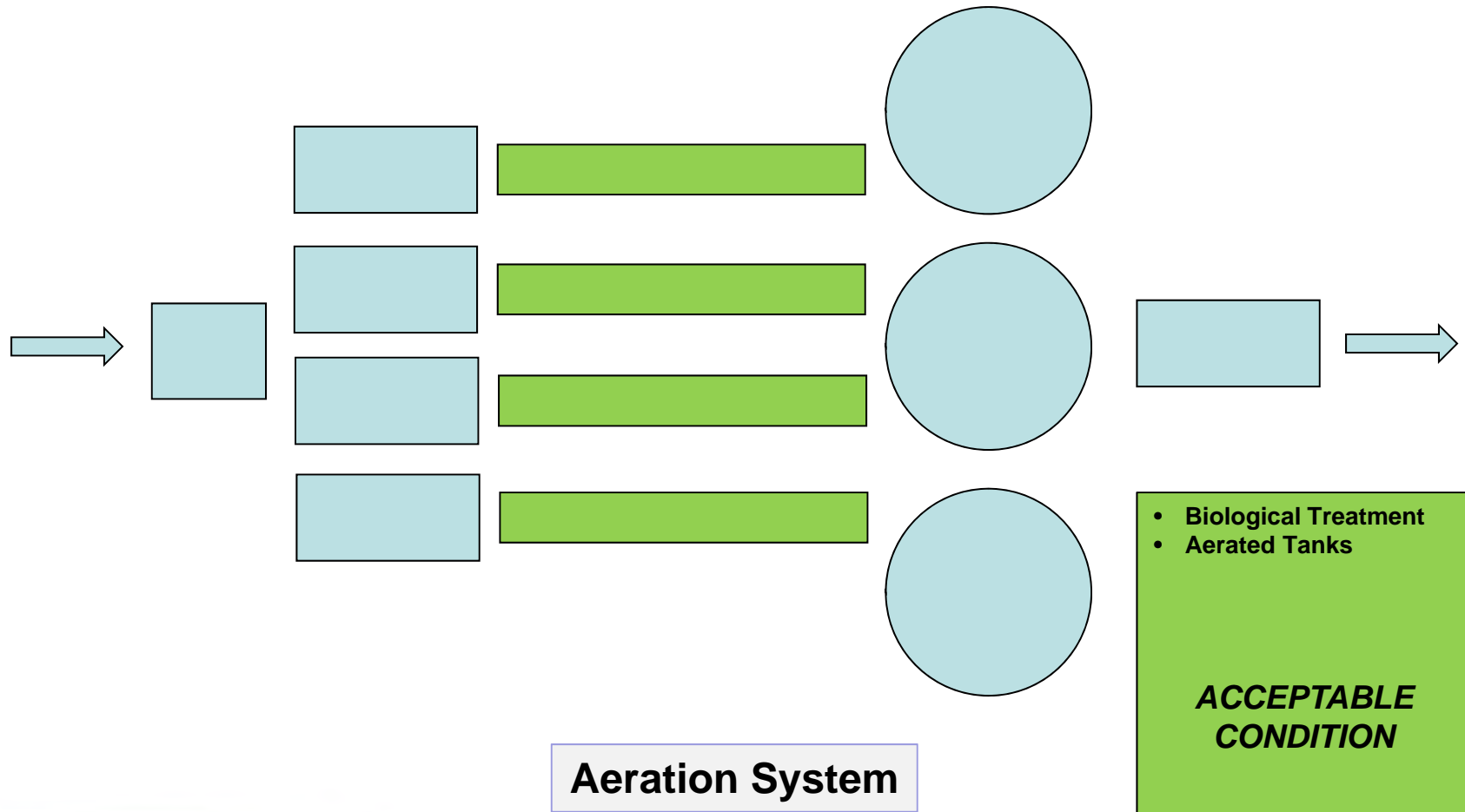


# Water Pollution Control Facility



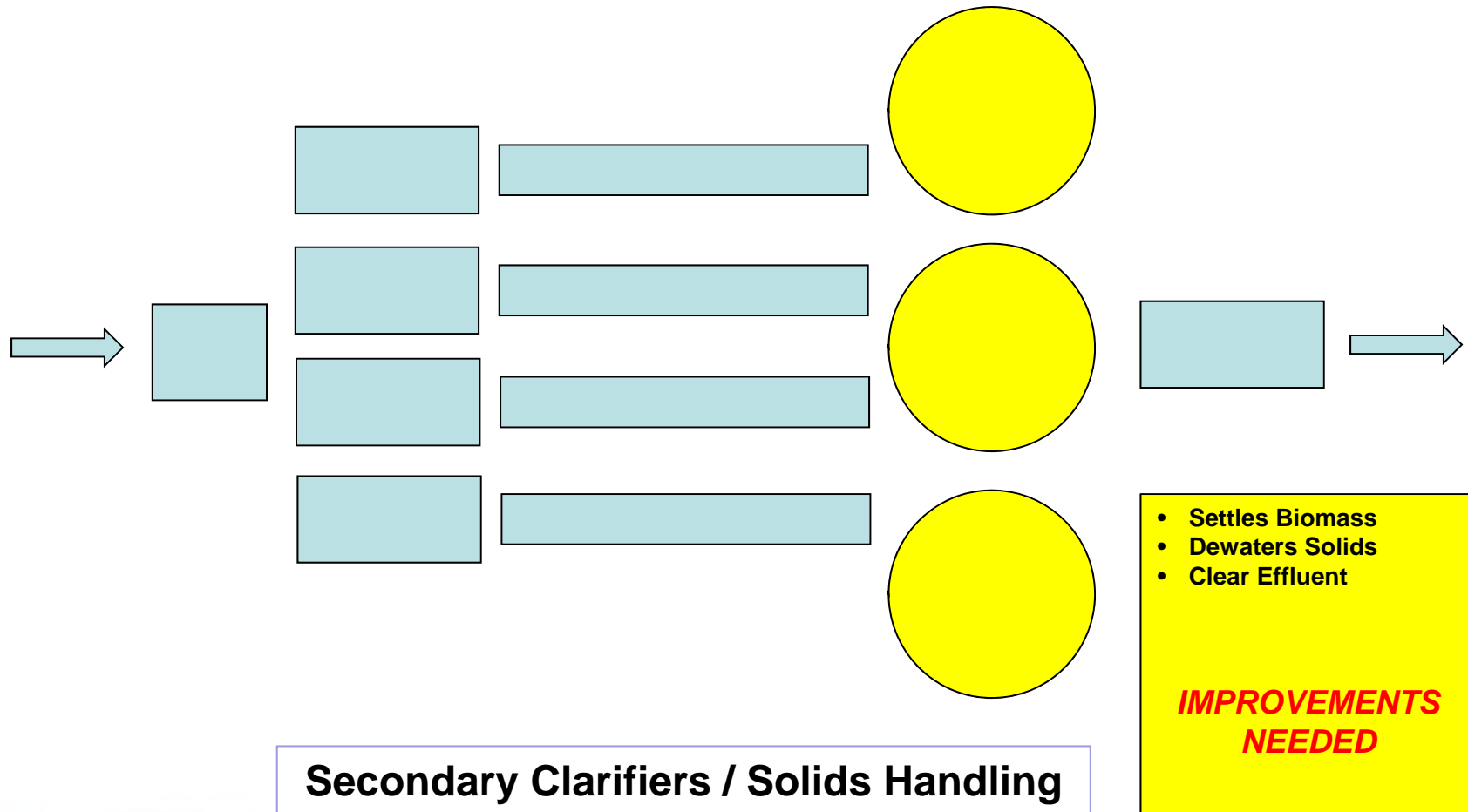


# Water Pollution Control Facility



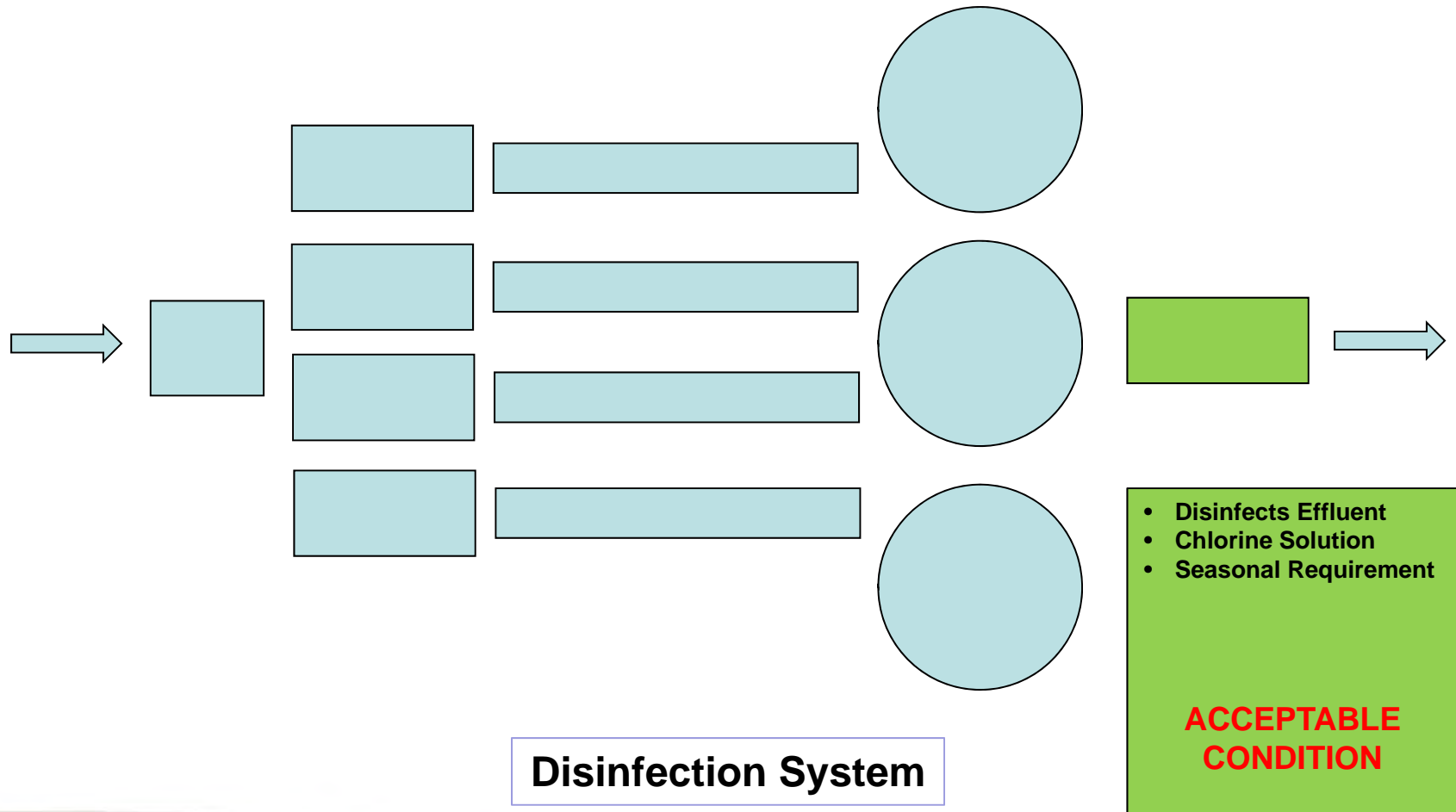


# Water Pollution Control Facility





# Water Pollution Control Facility



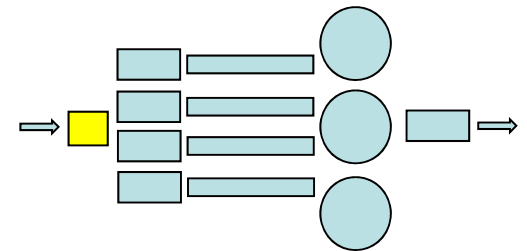


# Water Pollution Control Facility

- **Preliminary Treatment System**

- **Manual Bar Rack:**

- Ineffective Rag Removal
    - Labor Intensive Process
    - Safety Issues



**INSTALL NEW  
AUTOMATIC  
FINE SCREEN**

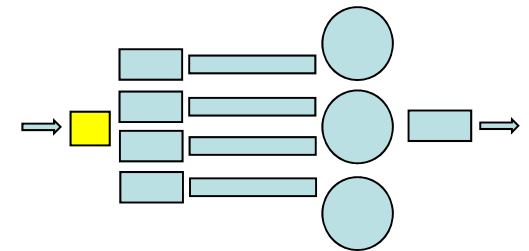


# Water Pollution Control Facility

- **Preliminary Treatment System**

- **Influent Pumping System:**

- Deficient Bearings
- Inefficient Pumping System
- Frequent Pump Clogging
- Overheating Motors



**REPLACE  
PUMPS, PIPING,  
AND VALVES**

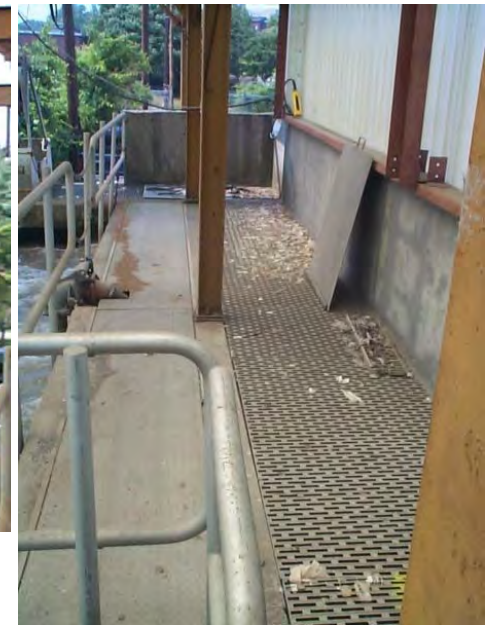
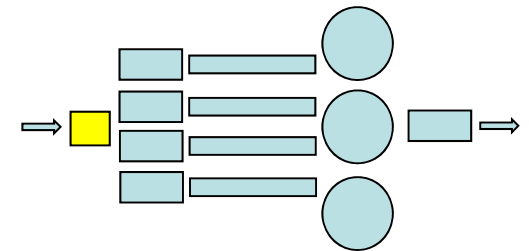


# Water Pollution Control Facility

- **Preliminary Treatment System**

- **Grit Removal:**

- Does not meet current standards
    - Insufficient Capacity
    - Inefficient grit capture
    - Odor concerns

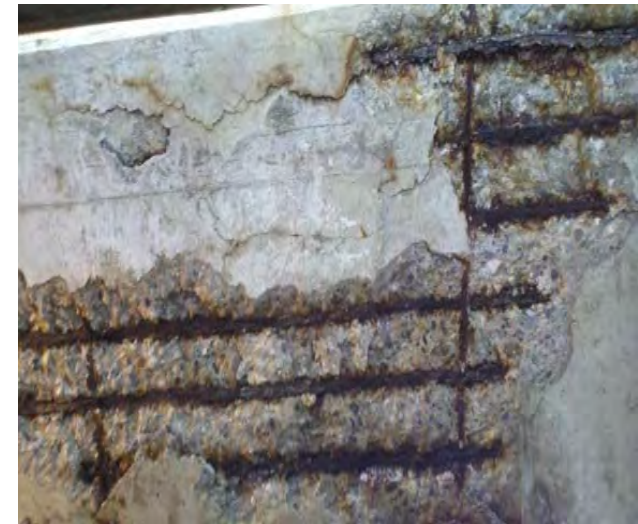
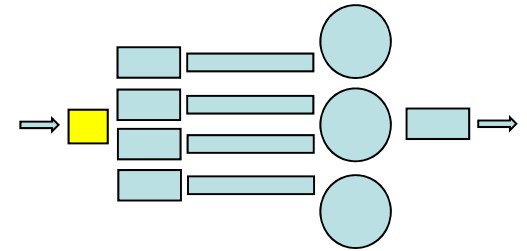


**UPGRADE  
ENTIRE  
SYSTEM**



# Water Pollution Control Facility

- Preliminary Treatment System

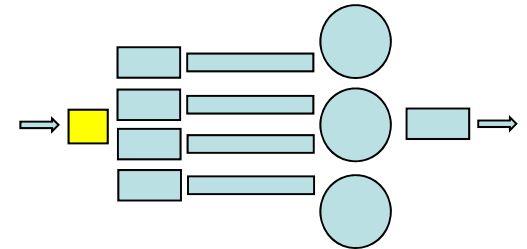






# Water Pollution Control Facility

- **Preliminary Treatment System**
  - Overall Facility:
    - Severe Structural Degradation
    - Safety Issues

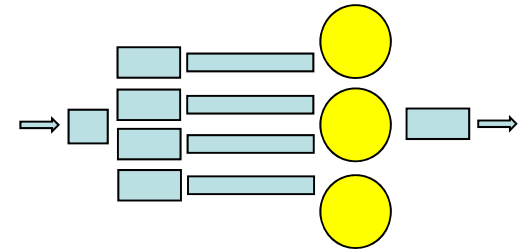


**PROVIDE  
FACILITY-WIDE  
STRUCTURAL  
REPAIRS**



# Water Pollution Control Facility

- Solids Handling Facilities

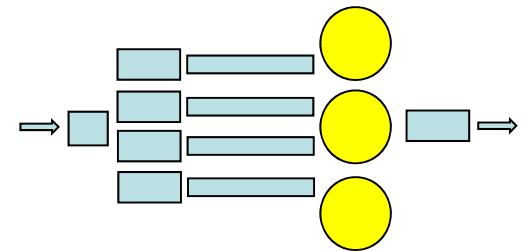




# Water Pollution Control Facility

- **Solids Handling Facilities**

- No Process Redundancy
- Digestion System Inoperable
- Primary Sludge Processing
  - Belt Filter Press – 2013 Failure
- Secondary Sludge Processing
  - Thickener – 2013 Failure
- All systems well beyond useful life

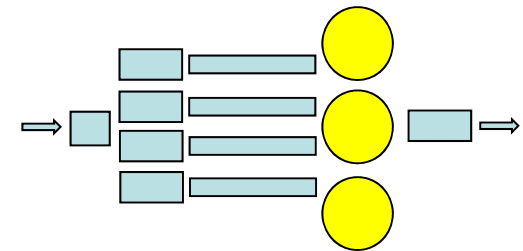




# Water Pollution Control Facility

- **Solids Handling Facilities**

- Major Operational Inefficiencies
- Major Operating Costs



**CONSOLIDATE  
PRIMARY &  
SECONDARY  
SYSTEMS**

**REHABILITATE  
DIGESTER  
SYSTEMS**

**INSTALL  
DUPLEX  
FILTER PRESS  
UNITS**





# Referendum Questions

Project	Question #1	Question #2	Question #3	Schedule
Roosevelt Drive Pumping Station				2013-2017
Roosevelt Drive Sanitary Sewers				2013-2017
Water Pollution Control Facility				2013-2017
Route 34 – Downtown Sanitary Sewers				2013-2017
South Division Street Pumping Station				2013-2017
Burtville Avenue Pumping Station				2013-2017
Division Street Siphon (Abandonment)				2018-2023
East Derby Siphon (Abandonment)				2018-2023
<b>Approximate Total Funding:</b>	<b>\$35M</b>	<b>\$20M</b>	<b>\$25M</b>	



# WPCA Closing Statement

- Citywide benefit
- Address Administrative Enforcement Actions from CT DEEP
- Stabilizes annual WPCA budget
- Stabilizes financial impacts to system users
- Addresses Environmental Concerns
- Limits cities risk related to emergency replacement and associated costs / environmental impacts
- Allows for Economic Development and Growth



**QUESTIONS?**