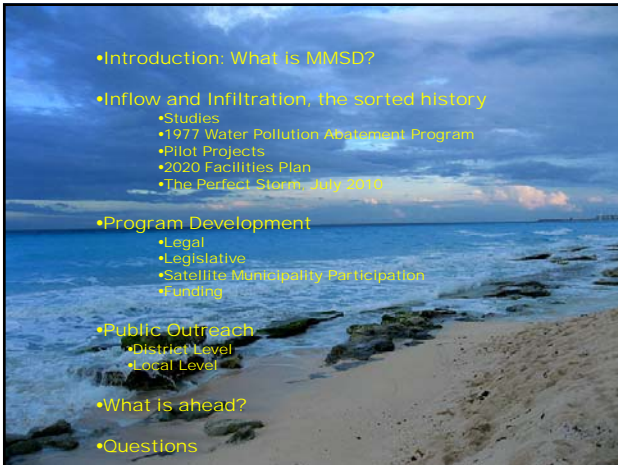


When is it Time to Cross the Line?
The MMSD
Private Property Program





 Preserving The Environment •
 Improving Water Quality

Jerome Fogel, P.E.
 Sr. Project Manager
 MWRD Advisory Technical Panel
 March 21, 2012




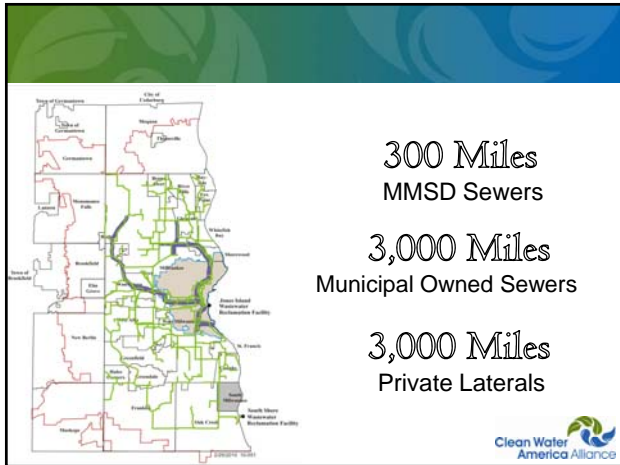
- Introduction: What is MMSD?
- Inflow and Infiltration, the sorted history
 - Studies
 - 1977 Water Pollution Abatement Program
 - Pilot Projects
 - 2020 Facilities Plan
 - The Perfect Storm, July 2010
- Program Development
 - Legal
 - Legislative
 - Satellite Municipality Participation
 - Funding
- Public Outreach
 - District Level
 - Local Level
- What is ahead?
- Questions

What is MMSD?



- WI State Chartered Agency
- Water Reclamation
- Flood Management
- 1.1 Million Residents
- 28 Municipalities
- 411 Square Miles





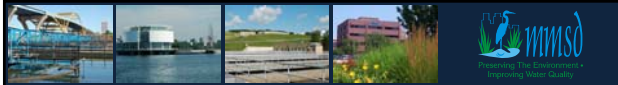


ALLEGED POLLUTION OF LAKE MICHIGAN AND MILWAUKEE AND ROOT RIVERS AND THEIR TRIBUTARIES IN MILWAUKEE AND WASHINGTON COUNTIES

November 23, 1955 the Chief Engineer & Gen. Mgr. presents the following communication:

Metropolitan Sewerage Commission of the County of Milwaukee.
Gentlemen:

"Communities in this (Metropolitan) area are served by separate sanitary sewer systems or by both separate sanitary and combined sewers. Foundation drains contribute immensely to the sewage flow particularly during rainfall or thaw. At such times, limited capacity of the sewers makes it necessary to by-pass untreated sewage to the watercourses through pumping stations or gravity flow control stations operated by the several municipalities to prevent flooding of basements connected to the sewers."



1977 Water Pollution Abatement Program

- EPA Stipulation Clean Water Act
 - \$3B Investment
 - SSES (Separated System)
 - Relief Sewer Projects
 - CSO Reduction Projects
 - Treatment Capacity Projects
 - Storage Facilities
 - Extend Regional Treatment Strategy

Phase One:

- » Length: 19.4 miles
- » Diameter: 17ft. to 32 ft.
- » Depth Underground: 300 ft.
- » Storage: 405 million gallons

Phase Two:


Northwest Side Deep Tunnel

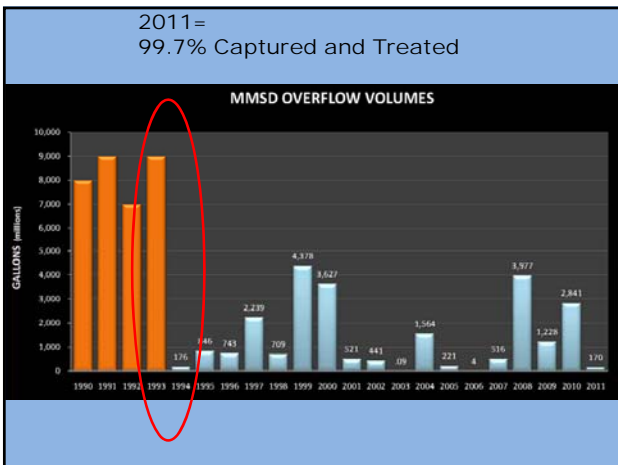
- » Length: 7.1 miles
- » Diameter: 20 feet
- » Depth Underground: 135 ft. to 175 ft.
- » Storage: 89 million gallons

Phase Three:

27th St. Deep Tunnel

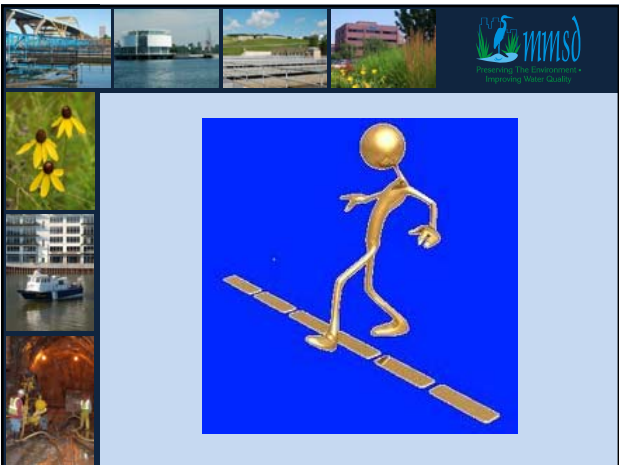
- » Length: 2 miles
- » Diameter: 21 ft.
- » Depth Underground: 300 ft.
- » Storage: 27 million gallons














Action Plan:

- \$151M diverted to private property projects
- Expedited contract to televise 6,000 laterals
- \$1.5M Expedited contract for engineering consulting services
- \$200,000 Expedited contract for public outreach



District Budget:

- Capital Budget: District investment in long term assets.
 - Ad valorem based
 - Tax levy
 - Billings to non-members
- Operations and Maintenance: Operation of WWTF and control of point and non-point pollution sources.
 - User charges based on water usage
 - Milorganite revenue



Reality:

- \$62M available over 10 years
- Annual allocations available to 28 member municipalities for reimbursement of locally administered private property work.
- District lateral inspection contract available for utilization by municipalities.
- District private property engineering contract available for the municipalities.
- District public outreach contract available for the municipalities.






Public _____?

- Municipal
 - Public Meetings
 - Mailings
 - Surveys
 - Onsite project support





Curves in the road:

- TAT feedback
 - Reinvention of the wheel
 - Comfort level of working on private property
 - Policy Revisions





Curves in the road:

- WI state budget
 - Funding level
 - Municipal adjustments
 - Alternative financing
 - Resident cost share
 - Sewer utility
 - Resident finance options





Curves in the road:

- Program Sustainability
 - Funding level
 - Rate structure
 - Rule changes
 - Unit prices/contractor experience
- Competition for attention and resources
- Technical issues
 - Geology / Hydrology
 - Topography
 - Climate




Progress:

- Local policy and ordinance
- Investigative Ingenuity
 - Dye water injection
 - Storm sewer flooding
 - Rain event simulation
 - House inspections
- Construction
 - Lateral CIPP
 - Foundation drains