



Updating Excessive Infiltration and Inflow Control Program

First Meeting of the Advisory Technical Panel

November 18, 2011

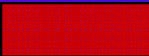

David St. Pierre, P.E.
Executive Director

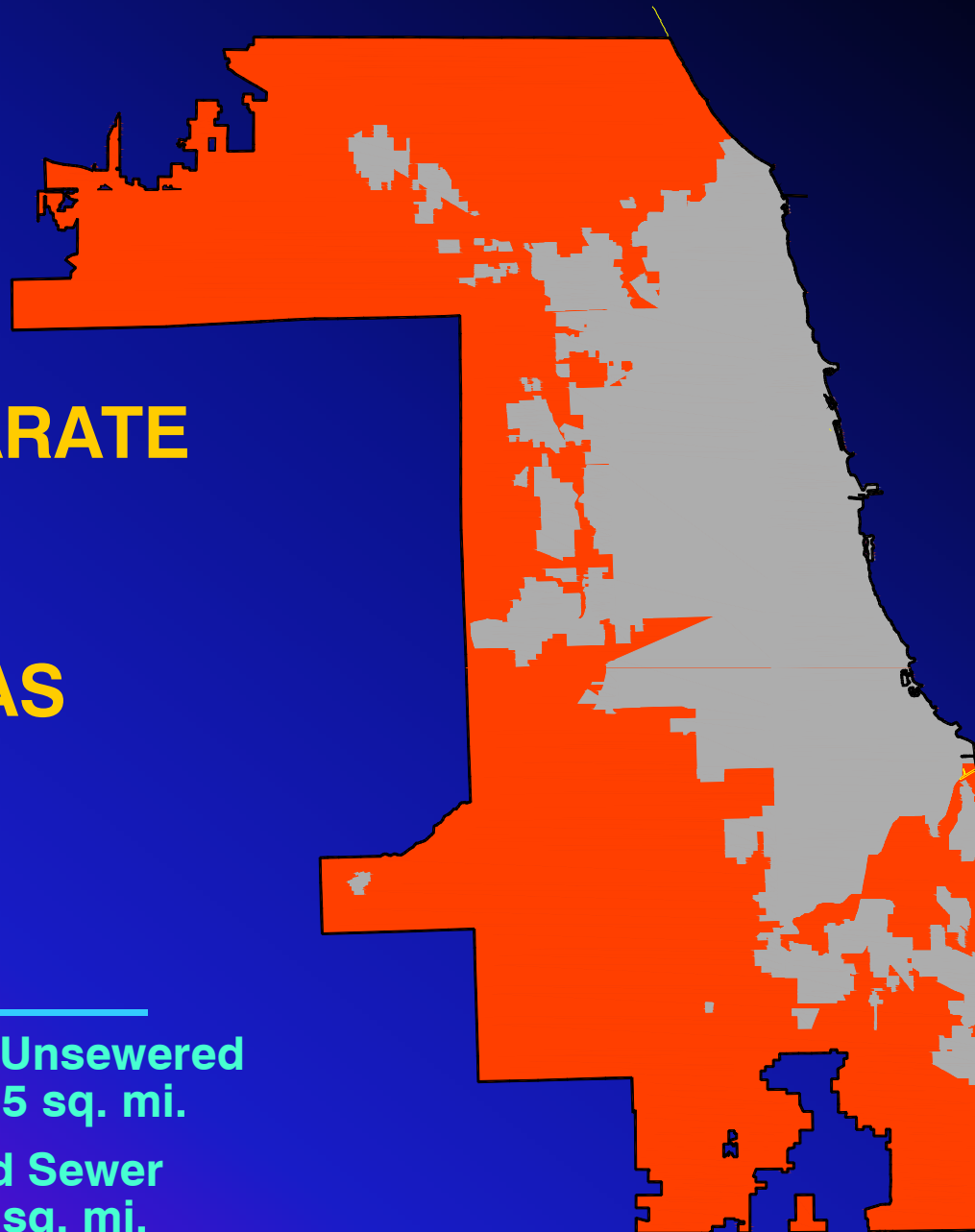
Maureen Durkin, P.E.
Supervising Civil Engineer

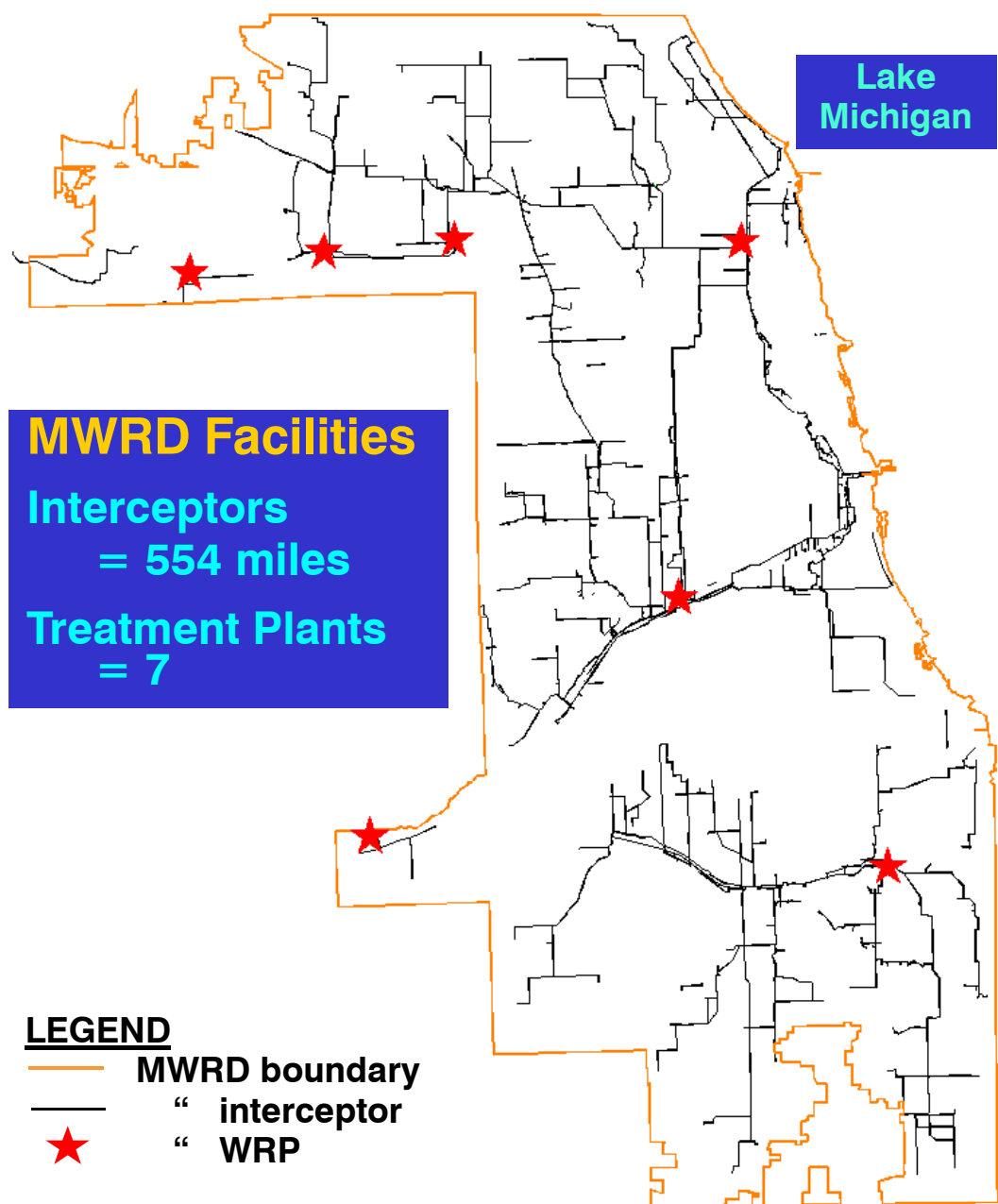
MWRDGC

MWRD SEPARATE SEWER AND COMBINED SEWER AREAS

LEGEND:

-  Separate/Unsewered area, 508.5 sq. mi.
-  Combined Sewer area, 375 sq. mi.





MWRD Facilities
Interceptors
= 554 miles
Treatment Plants
= 7

LEGEND
— MWRD boundary
— " interceptor
★ " WRP

Lake Michigan

Regulations

NPDES Permits

- Current status of the permits and likely issuance dates
- Special Conditions in the draft permits regarding excessive I/I reduction, SSOs, and CMOM

Challenge:

Aging/aged sewerage infrastructure

Solution:

CMOM and I/I Reduction Programs

Sewer Summit Agreement

- **Negotiated in 1986**
- **Sanitary Sewer Rehabilitation Requirements**
 - 150 gpcpd option
 - ICAP option
- **Program has run its course and needs retooling**
- **Benefit from advances in technologies**
- **Address private sector I/I vigorously**
- **Strengthen Long-Term O&M program requirements**
- **Account for mergers, takeovers, dissolutions, etc.**

Advisory Technical Panel (ATP):

Constitution/Make-up (Invitees):

- Representatives of Local Sewer Agencies
- MWRD staff from Engineering and M&O Departments
- Consulting engineers experienced in the field
- A contractor experienced in the field
- Representatives from the US and Illinois EPA

ATP's Task:

Help formulate an excessive I/I control program to comply with the NPDES permit requirements, with due consideration for public health and safety, available technology, costs, economic conditions, etc.

Objectives:

- **Compliance with the NPDES permit requirements**
- **Reduction of public health and safety hazards**
- **Implementation of an effective and meaningful long-term O&M program/CMOM**
- **Prevention of catastrophic system failures**
- **Reduction of O&M costs**
- **Updating associated records and developments**
- **Making use of current opportunities and meeting challenges of the future**

MWRD's Own

Interceptor Inspection and Rehabilitation

Program (IIRP) - I

- **Physical Inspection of Interceptors - 5-yr cycle**
- **TV Inspection**
 - 3-yr Cycle – Older and deterioration-prone segments**
 - 10-yr Cycle – New and sound segments**
- **Development of sewer rehab/replacement projects**

MWRD's Own

Interceptor Inspection and Rehabilitation Program (IIRP) - II

- **Interceptor systems O&M**
 - Three MWRD teams (48 employees)
 - 7-9 contracts for inspection and maintenance (\$2-million)
- **Annual expense for conveyance & TARP system O&M**
 - \$30 –million (non-personnel)
- **Capital improvement projects**
 - Past 7 years - 15 projects, cost \$63 –million
 - In near future - 4 projects, cost \$45 –million
 - In the pipeline - additional 5 projects, cost \$82 –million

Capacity of MWRD Facilities

- **Design of Interceptor systems (ES-011 of 1968):**

- 155 gpcpd for suburbs (mostly separate sewer areas)

- 180 gpcpd for Chicago (combined sewer area)

MWRD mass-mailing dated June 24, 1992 transmitted “Executive Summary: Sewer Rehabilitation Basin Reports” stating

“Existing interceptor sewers and treatment facilities in the MWRD’s eight sewage treatment basins were designed to receive a daily flow of approximately 150 gpcpd [from separate sewer areas]. The 150 gpcpd is approximately 50% greater than the average flow.”

Current Conditions

With periodic, proactive inspection and maintenance/rehabilitation, MWRD strives to maintain the capacity of the aged/aging infrastructure.

With mounting evidence of increasing wet weather flows, resulting violations of regulations, and special conditions imposed in the draft NPDES permits, we need to collaboratively reduce I/I entering the tributary separate sewer systems.

Current economic conditions and resulting funding challenges must not hold us back from ensuring regulatory compliance, protecting our environment, public health and safety, and lowering overall costs to the tax/rate-payers.

Vision

Ultimate Goal: 150 gpcpd (long-term)

Near Term Goal:

- adequate I/I reduction to ensure regulatory compliance
- protection of public health and safety

Mid Term Goal:

- establish pro-active LTO&M programs/CMOM
- periodic checks on flow rates and corrections

Long Term Goal:

Elimination of high cost I/I sources (private sector)

Advantages/Benefits

- **Better know-how**
- **Advances in information management**
- **Improved sewer rehabilitation technology**
- **Capacity for future developments**

Challenges (I)

- **Public Sector**
- **Private Sector**
- **Financing**
- **Long-Term O&M**

Challenges (II)

Public Sector

- Aged/aging repairs are failing
- Leak migration
- Earlier rehab did not achieve desired results
- Cross connections
- Lift station operations

Challenges (III a)


Private Sector

- Entry into residences
 - Down spouts, sump pumps, etc.
 - Service laterals
 - Foundation drains
 - Periodic follow-up inspections
- High-cost works that may require long-term programs

Challenges (III b)

Private Sector

Schaumburg



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APPLICATION - COST SHARING PROGRAM FOR FOOTING DRAIN DISCONNECTION
COMMUNITY DEVELOPMENT DEPARTMENT
 101 Schaumburg Court, Schaumburg, IL 60193-1899
 Phone 847.923.4420 • Fax 847.923.2591
www.villageofschaumburg.com

Property Owner(s)
Name: _____

Property Address: _____

Home Phone # _____ Work Phone # _____

Each of the undersigned, as a resident of the Village of Schaumburg, hereby requests to participate in the Footing Drain Disconnection Cost Sharing Program, and I (we) have reviewed the program information and understand all of its provisions, terms, and conditions.



ENGINEERING DEPARTMENT
 200 EAST WOOD STREET • PALATINE, IL 60067-5339
 Telephone (847) 359-9044 • Fax (847) 776-4733
www.palatine.il.us

BASEMENT PROTECTION PROGRAM APPLICATION

NAME: _____

ADDRESS: _____

TYPE OF IMPROVEMENT FOR WHICH YOU SEEK REIMBURSEMENT

- SEWER BACKUP CHECK VALVE (MANUAL VALVE NOT ELIGIBLE)
- OVERHEAD PLUMBING
- DISCONNECTION OF FOOTING DRAINS FROM THE SEWER SERVICE LINE

TYPE OF IMPROVEMENT FOR WHICH YOU SEEK A LOAN

- SEWER BACKUP CHECK VALVE
- OVERHEAD PLUMBING
- DISCONNECTION OF FOOTING DRAINS FROM THE SEWER SERVICE LINE
- SEWER SERVICE REPLACEMENT FROM THE HOUSE TO THE MAIN
- RELINING OF THE SEWER SERVICE FROM THE HOUSE TO THE MAIN
- REPLACEMENT OR REPAIRS TO THE FOOTING DRAINS
- REPLACEMENT/ INSTALLATION OF BASEMENT WINDOW WELL DRAINS

Challenges (IV)

Financing

- Address cost-effective I/I reduction initially
- Special Assessment
- IEPA SRF loans
- MWRD (?)
- Green Infrastructure funding (?)
- Sewer lateral insurance (?)
- ???

Challenges (V)

Long-Term O&M

- **CMOM**
- **Annual Expenditure**
- **Manpower**
- **5-yr inspection and cleaning cycle**
- *Out of Sight Out of Mind* **mentality**
- **Regular private sector inspections**
- **Flow monitoring**

Enforcement

- Show cause
- Consent decree
- EPA fines passed on to local agencies
- Permit moratorium

Process & Timeline

Formation of Committees

Finance

Technology

O&M

Private Sector

Public Sector

Time Line

1st report to MWRD Board – October 2012

2nd Report to MWRD Board

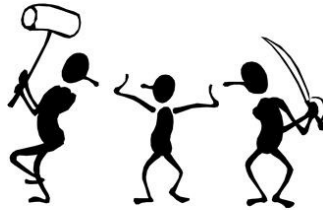
Development of guidelines

Finalize agreement

Adoption of Ordinances by local agencies

Program implementation

Brainstorming/New Ideas/Concerns



Future Meetings

Is this venue convenient to majority?

Any suggestions for days/timings?

Any hosts?

**Best Wishes
and
Happy Holiday Season
to
members of
The Advisory Technical Panel
and their families**