

# City of Milwaukee Department of Public Works



## 2013 Sewer Budget

# 2013 Sewer Program

## Sewer Maintenance Relay

|   |                            |
|---|----------------------------|
| Paving Related Projects                     | \$1,700,000                |
| Non-Paving Related Projects                 | \$23,300,000               |
| Preliminary Engineering for 2014 Projects   | \$1,500,000                |
| Fringe Benefits                             | \$800,000                  |
| Reserves                                    | \$2,700,000                |
| <b><u>Total Sewer Maintenance Relay</u></b> | <b><u>\$30,000,000</u></b> |

## Sanitary Pump Rehabilitation Project

|  |                           |
|--|---------------------------|
| Sanitary Bypass Pump Rehabilitation              | \$650,000                 |
| Sanitary Bypass & Lift Station Pump Inspection   | \$200,000                 |
| Fringe Benefits                                  | \$50,000                  |
| Reserves   | \$100,000                 |
| <b><u>Total Sanitary Pump Rehabilitation</u></b> | <b><u>\$1,000,000</u></b> |

## I/I Reduction Projects

|  |                           |
|--|---------------------------|
| I/I Reduction Projects                       | \$2,190,000               |
| Noncompliant Metershed Areas                 | \$2,600,000               |
| Sanitary Manhole Inspection & Rehabilitation | \$900,000                 |
| Fringe Benefits                              | \$500,000                 |
| Reserves                                     | \$710,000                 |
| MMSD Grant                                   | \$2,800,000               |
| <b><u>Total I/I Reduction Projects</u></b>   | <b><u>\$9,800,000</u></b> |

Channel Maintenance **\$200,000**

Water Quality Projects **\$500,000**

**Total 2013 Preliminary Sewer Program** **\$41,500,000**

# 6 Year Capital Improvement Program

|              | Relief and Relay     | Inflow and Infiltration | Pump Rehabilitation | Water Quality Projects | Channel Maintenance | Total Budget    |
|--------------|----------------------|-------------------------|---------------------|------------------------|---------------------|-----------------|
| Year         | (million)            | (million)               | (million)           | (million)              | (million)           | (million)       |
| 2012         | \$31.70              | \$10.85*                | \$1.00              | \$0.50                 | \$0.40              | \$44.45         |
| 2013         | \$30.00 <sup>Δ</sup> | \$9.80**                | \$1.00              | \$0.50                 | \$0.20              | \$41.50         |
| 2014         | \$31.00 <sup>Δ</sup> | \$8.80**                | \$0.70              | \$0.50                 | \$0.20              | \$41.20         |
| 2015         | \$32.00 <sup>Δ</sup> | \$8.80**                | \$0.70              | \$0.50                 | \$0.20              | \$42.20         |
| 2016         | \$33.00 <sup>Δ</sup> | \$8.80**                | \$0.70              | \$0.50                 | \$0.20              | \$43.20         |
| 2017         | \$34.00 <sup>Δ</sup> | \$8.80**                | \$0.70              | \$0.50                 | \$0.20              | \$44.20         |
| <b>Total</b> | <b>\$191.70</b>      | <b>\$55.85</b>          | <b>\$4.80</b>       | <b>\$3.00</b>          | <b>\$1.40</b>       | <b>\$256.75</b> |

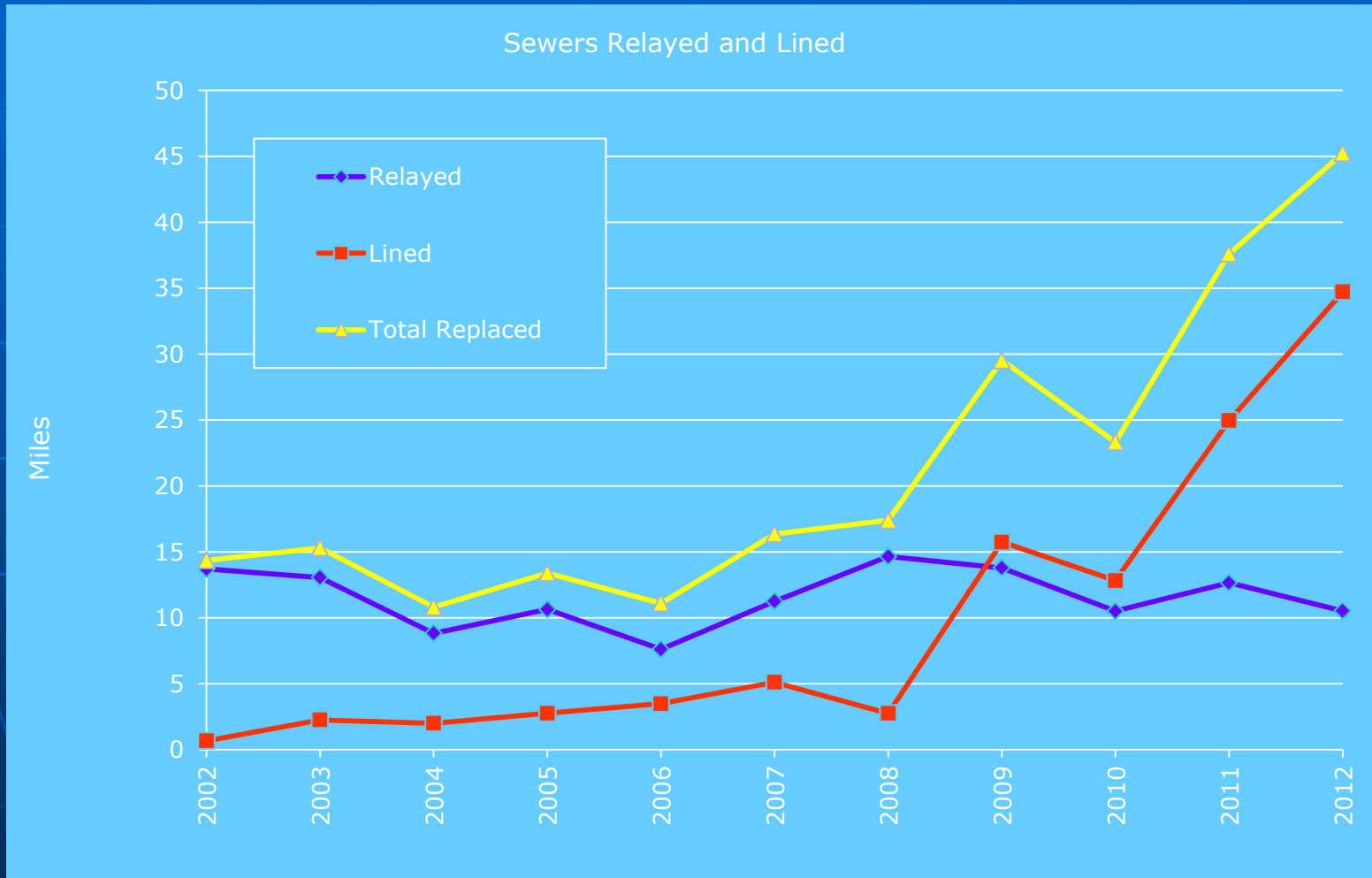
\* INCLUDES \$2.8M GRANT FROM MMSD  
 \*\* INCLUDES \$1.8M GRANT FROM MMSD  
 Δ DOES NOT INCLUDE RESERVES

# 2012-2017 Relief and Relay

|              | R/R Budget<br>(million) |
|--------------|-------------------------|
| 2012         | \$31.70                 |
| 2013         | \$30.00                 |
| 2014         | \$31.00                 |
| 2015         | \$32.00                 |
| 2016         | \$33.00                 |
| 2017         | \$34.00                 |
| <b>Total</b> | <b>\$191.70</b>         |



# 2002-2012 Sewer Replacement



# Age of Sewers

| Type of Sewer | < 50 Years | 51 to 90 years | > 90 Years | Total   |
|---------------|------------|----------------|------------|---------|
|               | (miles)    | (miles)        | (miles)    | (miles) |
| Combined      | 265.6      | 108.6          | 175.0      | 549.2   |
| Sanitary      | 356.9      | 564.2          | 20.7       | 941.8   |
| Storm         | 293.1      | 645.8          | 22.9       | 961.8   |
| Total         | 915.6      | 1318.6         | 218.6      | 2,452.8 |



# Sewer Replacement Information

- 219 miles of sewers out of 2,453 miles are greater than 90-years old
- Our current sewer replacement rate is once every 115 years based on annual average replacement rate of 21.3 miles for the last 10 years.
- Our useful sewer life cycle is 90 years. Our future replacement rate should be 27 miles annually

# 2012-2017 Inflow and Infiltration (I/I)

|              | I/I Budget<br>(million) |
|--------------|-------------------------|
| 2012         | \$10.85                 |
| 2013         | \$9.80                  |
| 2014         | \$8.80                  |
| 2015         | \$8.80                  |
| 2016         | \$8.80                  |
| 2017         | \$8.80                  |
| <b>Total</b> | <b>\$55.85</b>          |



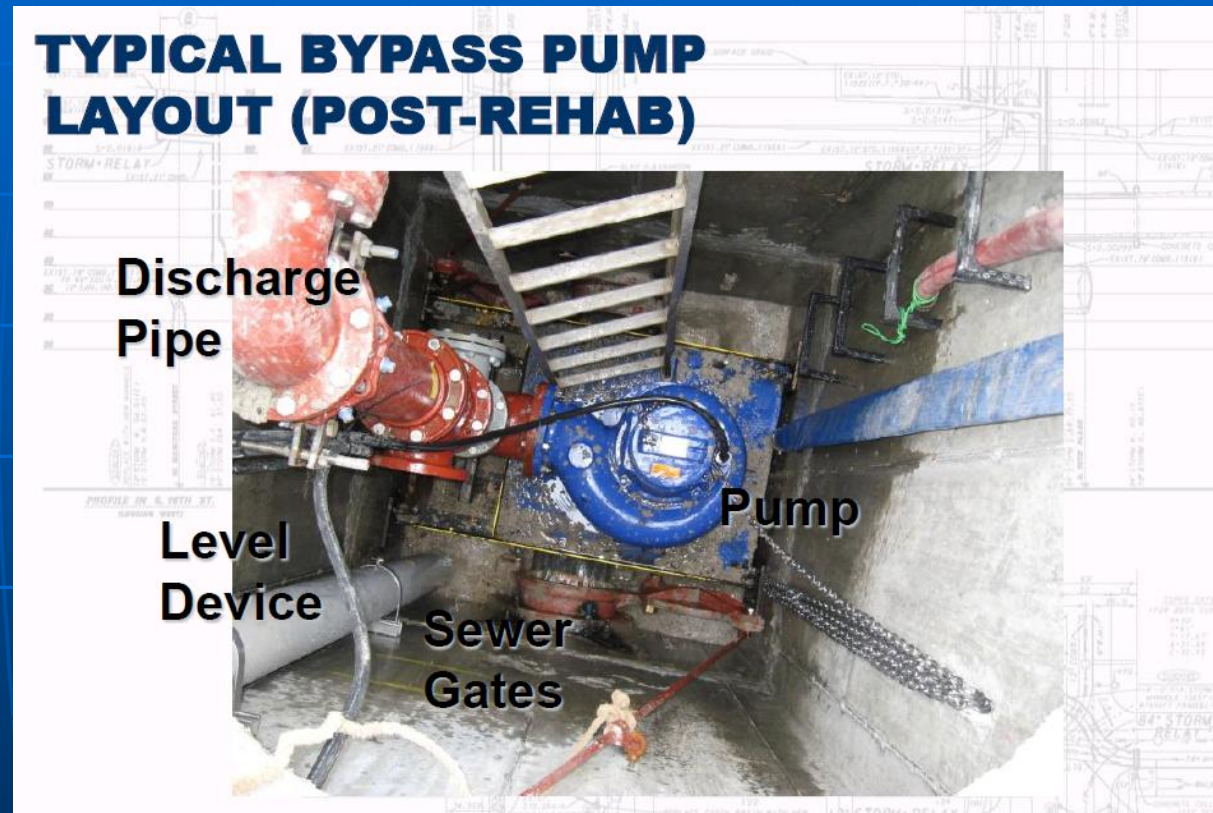


# Purpose of Inflow and Infiltration (I/I) Projects

- To comply with MMSD's non-compliant metersheds
- To reduce basement backups, remove unwanted clear rain water from sanitary sewers
- To reduce Sanitary Sewer Overflows (SSO)

# 2012-2017 Pump Rehabilitation

|       | Pump Rehab<br>(million) |
|-------|-------------------------|
| 2012  | \$1.00                  |
| 2013  | \$1.00                  |
| 2014  | \$0.70                  |
| 2015  | \$0.70                  |
| 2016  | \$0.70                  |
| 2017  | \$0.70                  |
| Total | \$4.80                  |



# Purpose of Pump Rehabilitation

- Flow is pumped from the sanitary sewer to a higher level sanitary sewer or a storm sewer to prevent basement backups.
- Rebuild existing pump sites, including new pump and components
- Maintain SCADA telemetry system
- Perform monthly pump checks and “load” tests at all sites



# 2012-2017 Water Quality Projects

|              | Water Quality Projects (million) |
|--------------|----------------------------------|
| 2012         | \$ 0.50                          |
| 2013         | \$ 0.50                          |
| 2014         | \$ 0.50                          |
| 2015         | \$ 0.50                          |
| 2016         | \$ 0.50                          |
| 2017         | \$ 0.50                          |
| <b>Total</b> | <b>\$3.00</b>                    |



# Purpose of Water Quality Projects

- Protect and restore the quality and usability of surface water resources in accordance with applicable federal, state and local regulations.
- Reduce Stormwater Peak Flows
- Improve Water Quality of Rivers and Lakes
- Improve Urban Aesthetics



# N. 92 St. Green Street Project



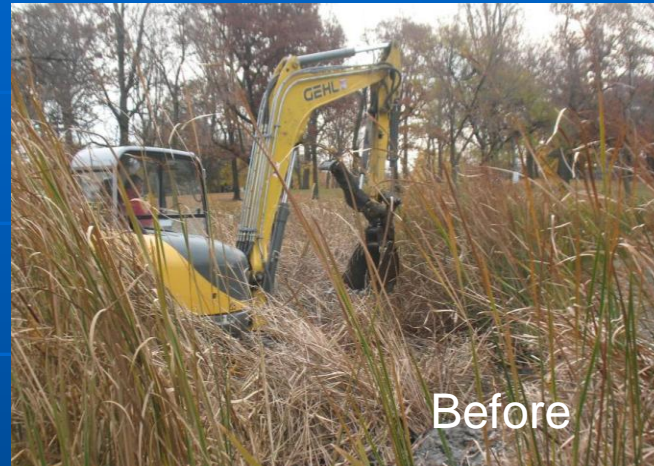
# W. Grange Ave. Green Street Project





# 2012-2017 Channel Maintenance

|              | <b>Channel Maintenance<br/>(million)</b> |
|--------------|--|
| <b>2012</b>  | <b>\$0.40</b>                            |
| <b>2013</b>  | <b>\$0.20</b>                            |
| <b>2014</b>  | <b>\$0.20</b>                            |
| <b>2015</b>  | <b>\$0.20</b>                            |
| <b>2016</b>  | <b>\$0.20</b>                            |
| <b>2017</b>  | <b>\$0.20</b>                            |
| <b>Total</b> | <b>\$1.40</b>                            |



# Purpose of Channel Maintenance

- Remove trash and debris from channels and culverts to maintain proper drainage
- Cut grass along banks of channels
- Clean sediments from channels