Plano
City of Excellence

Wastewater Overflows

Wastewater Collection Infrastructure

- 1,001 Miles of Sanitary Sewer Lines
- 15,100 Manholes
- 6 Lift Stations
- 80% of Sanitary Sewer Lines are PVC and 18% are Vitrified Clay

What is a Wastewater Overflow?

is a type of unauthorized discharge of untreated or partially treated wastewater from a collection system or its components (e.g., a manhole, lift station, or cleanout) before reaching a wastewater treatment facility. [See also Texas Water Code, Paragraph 26.049(e)(4)].

Types of Overflows

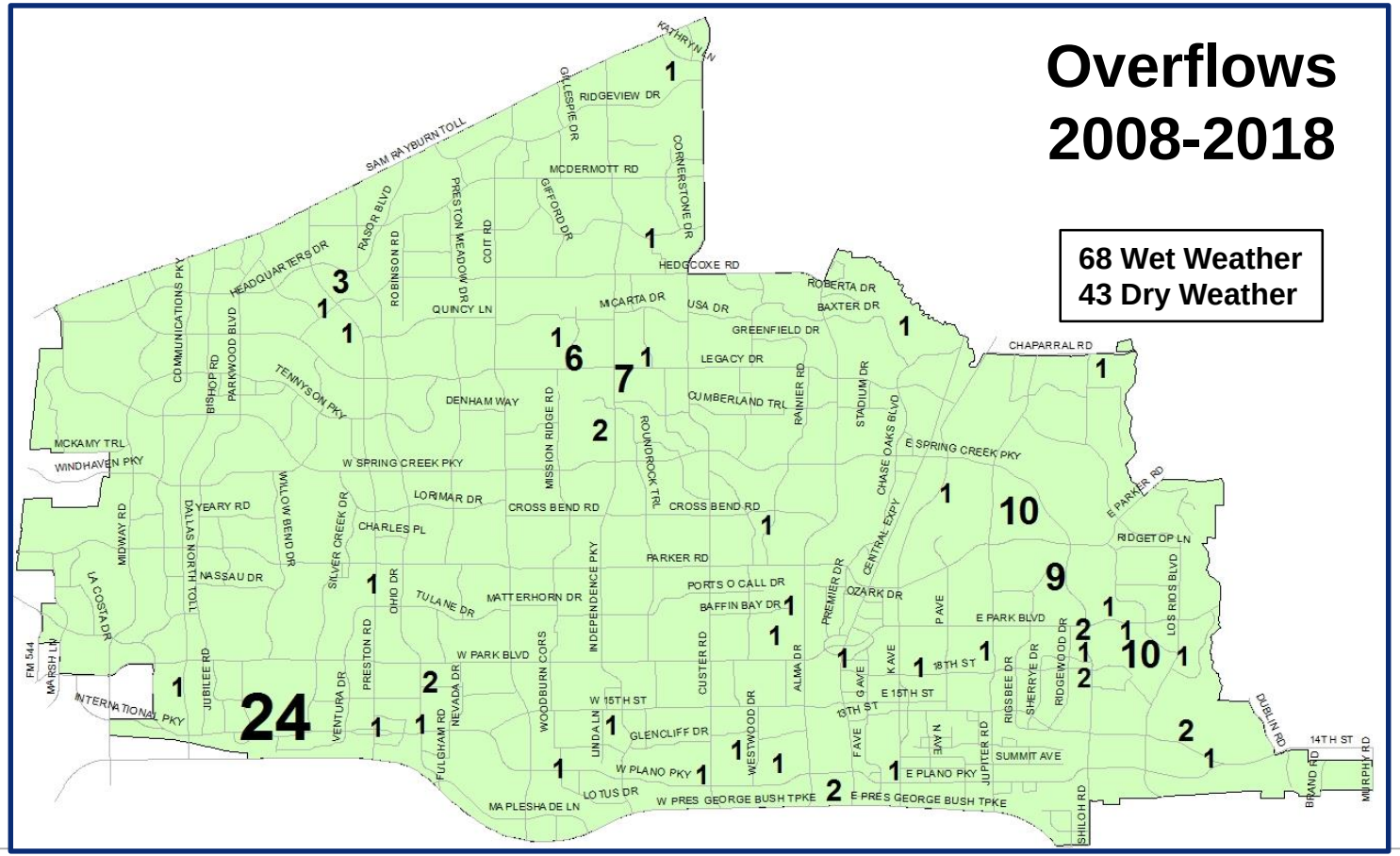
- Wet Weather – usually related to capacity of system to handle excessive inflow and infiltration (I/I)
- Dry Weather – usually related to condition of the system
- FY 2017-18 – 8 wet weather overflows & 7 dry weather overflows

What Overflows must be reported to TCEQ?

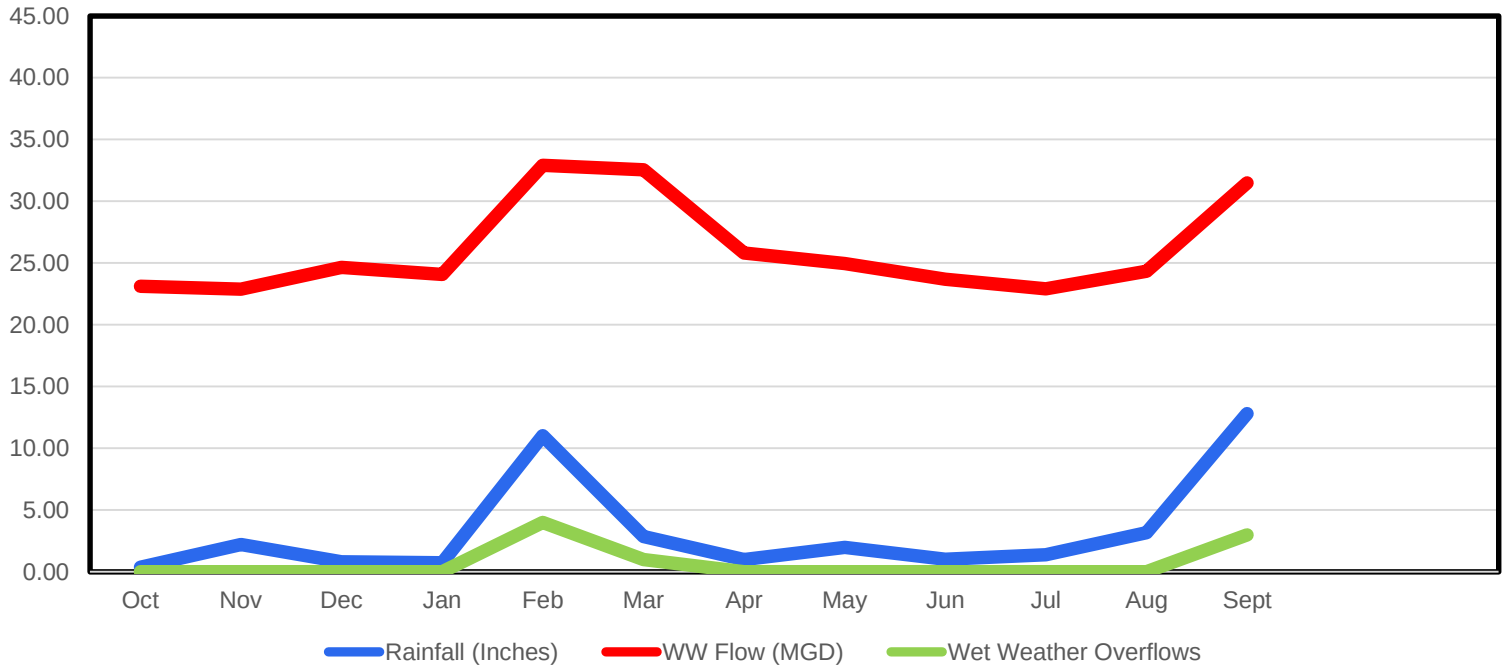
- All must be reported
- Under 1,000 gallons may be reported monthly
- Telephone call within 24 hours
- Written report within 5 days
- All overflows over 100,000 gallons require a press release

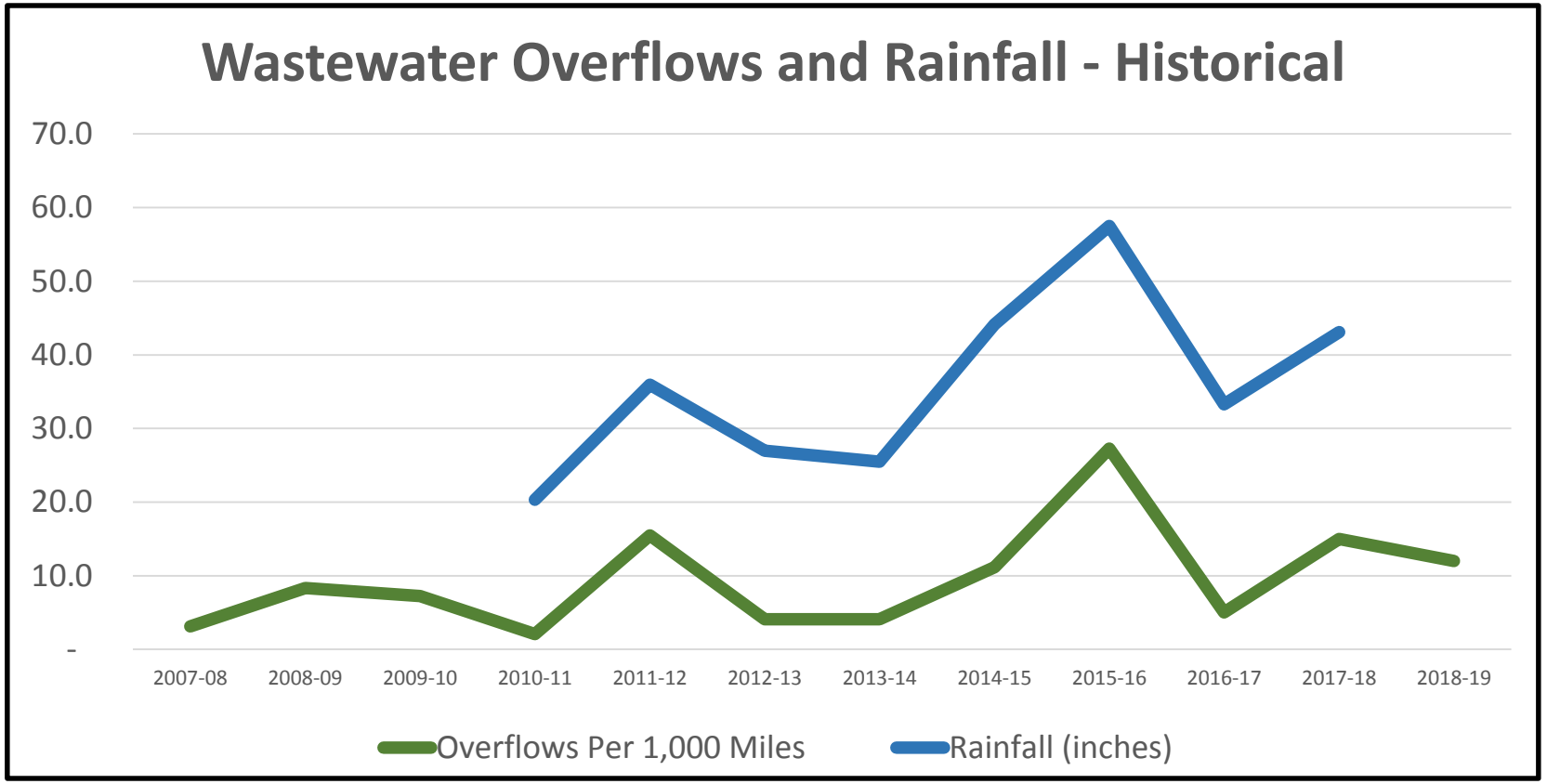
Overflows 2008-2018

68 Wet Weather
43 Dry Weather



Wastewater Flow, Rainfall & Wet Weather Overflows (FY 2017-18)




Wastewater Overflows and Rainfall - Historical
70.0
60.0
50.0
40.0
30.0
20.0
10.0
-
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
2018-19
Overflows Per 1,000 Miles
Rainfall (inches)

What can we do?

- Find & eliminate Inflow & Infiltration
- Add Capacity to the system
- Add Capacity to Lift Station (NTMWD)

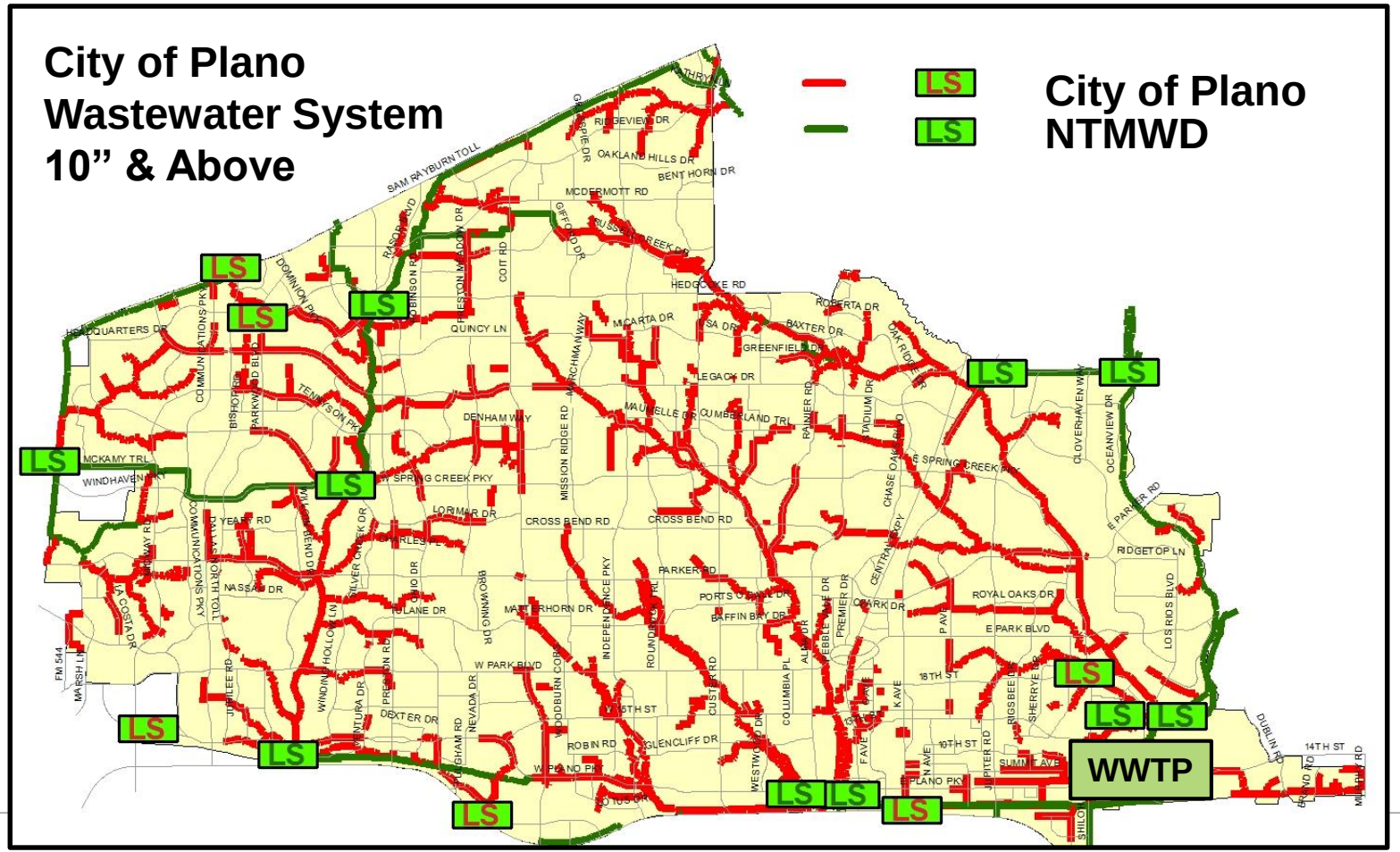
What are we doing?

- Ongoing studies in the J Place and Upper White Rock Creek Basins
- Consultant preparing a Wastewater Model to identify areas that need more capacity
- Annual sewer main lining contract and manhole lining contract

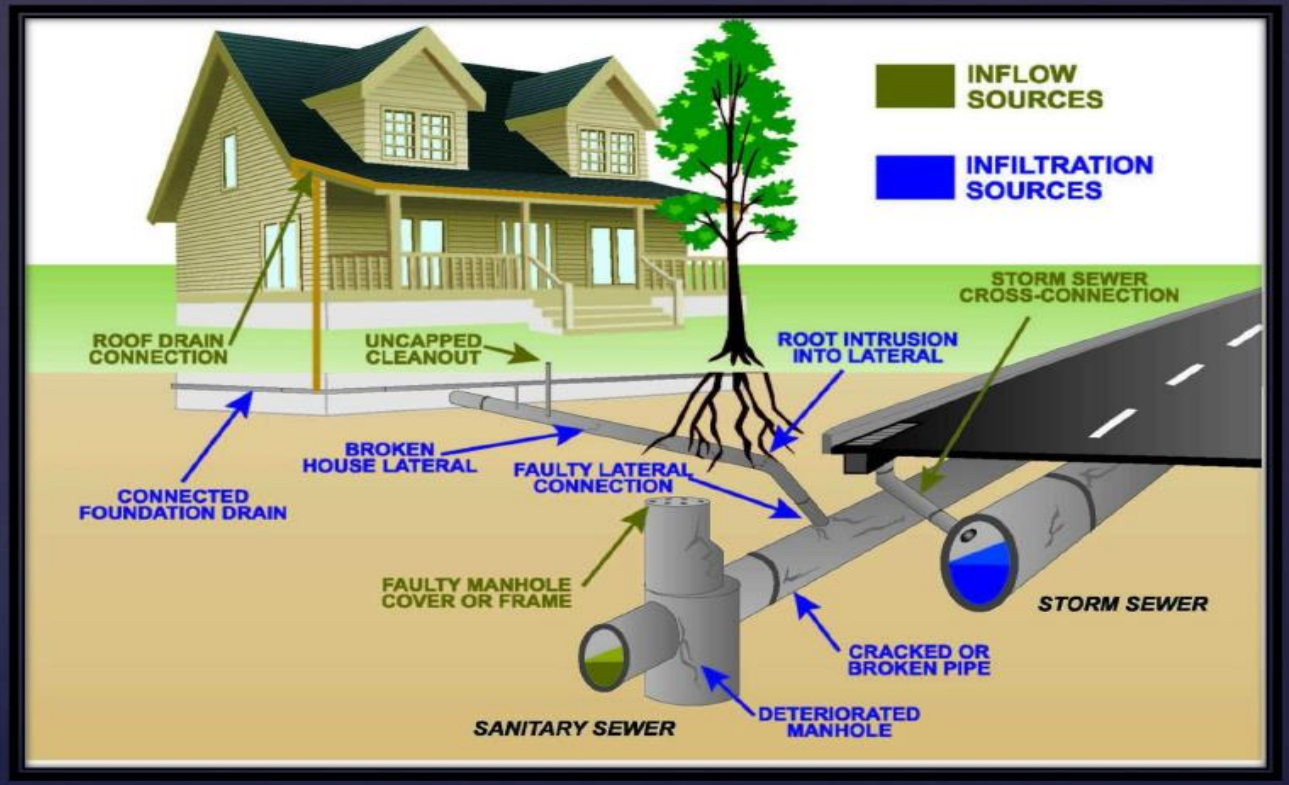
How is the model developed?

- 10 inch diameter and above pipes
- Consultant did flow monitoring with rain gages
- Population and development projections
- Design for 2 year – 24 hour rain event
- Improvements will be designed for 5 year – 24 hour rain event

City of Plano Wastewater System 10” & Above



Infiltration/Inflow (I/I)



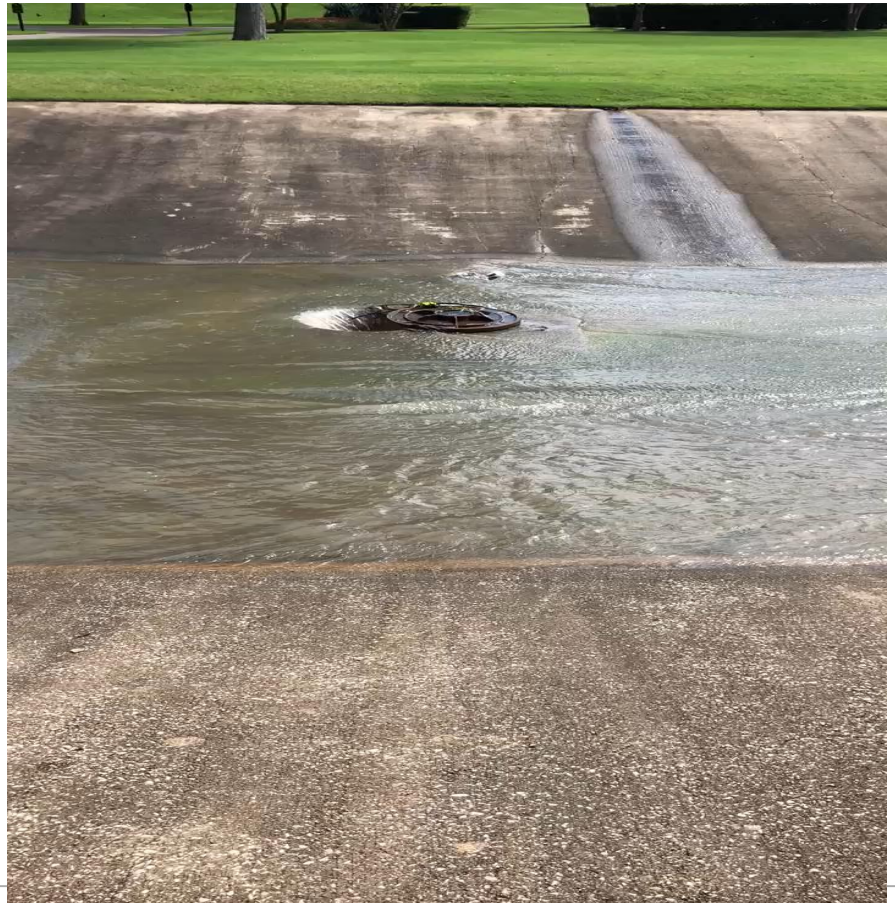
Damaged Manhole



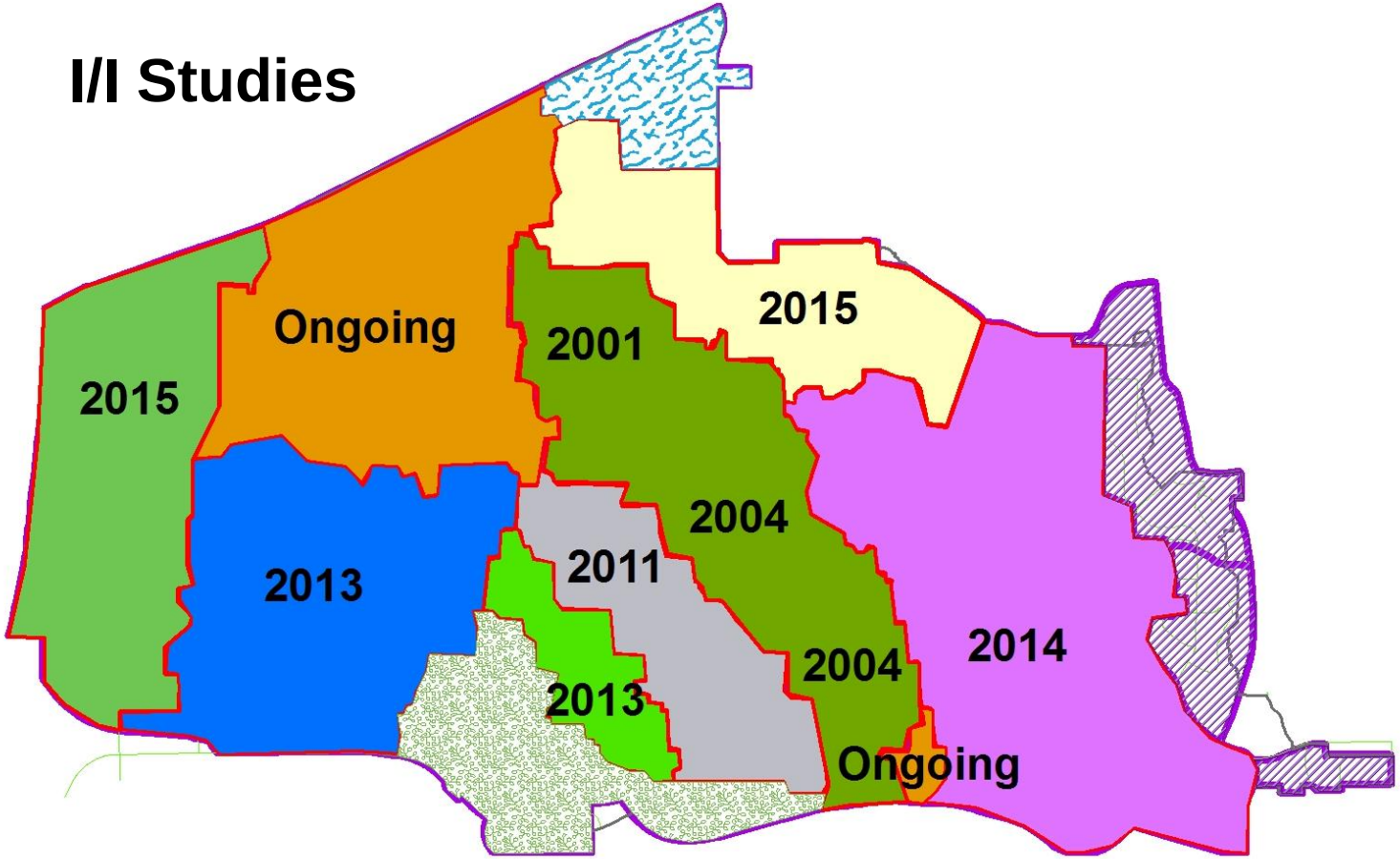
Manhole in a bad location



This is Why!

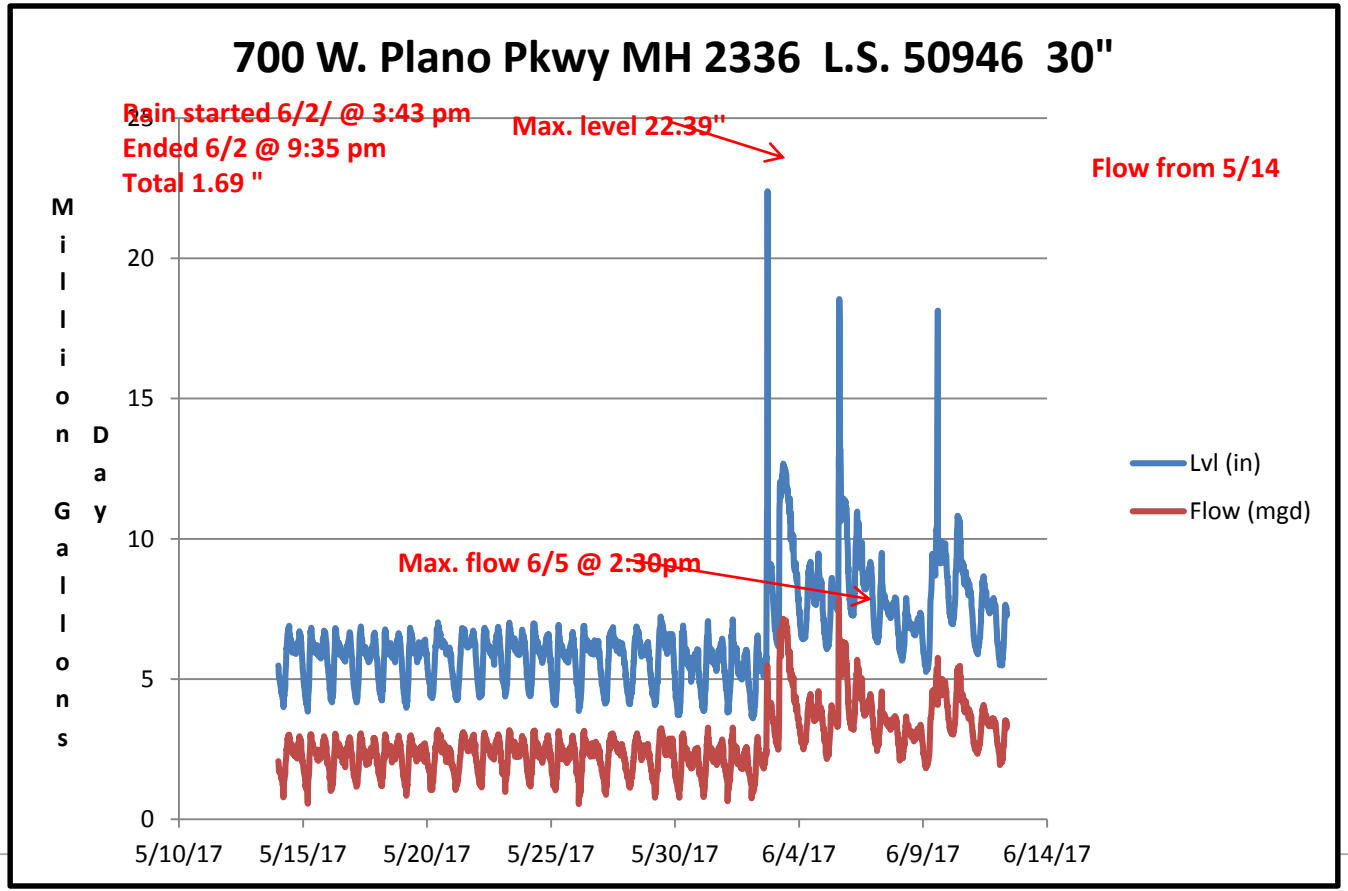


I/I Studies

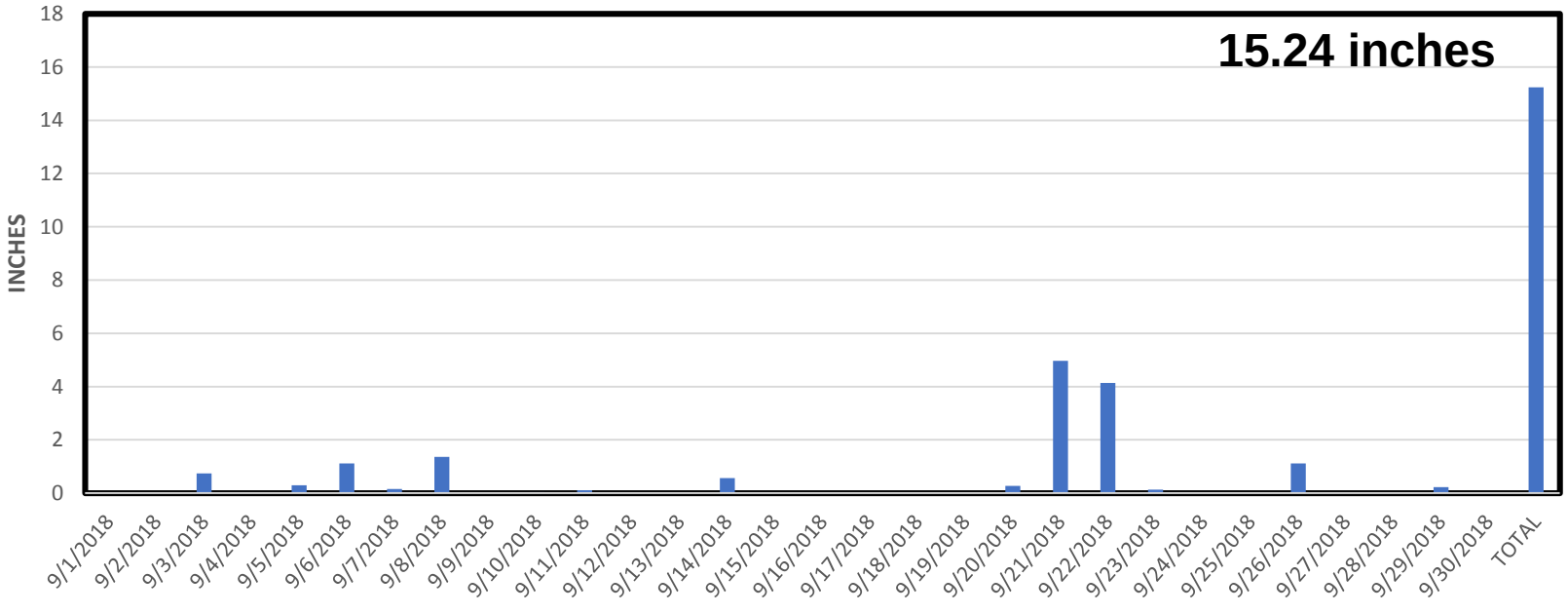

2015
Ongoing
2001
2015
2004
2011
2013
2004
2014
2013
Ongoing

What is in an Inflow & Infiltration Study

- Flow Monitoring
- Rain Gages
- Smoke Testing
- Manhole Inspection
- CCTV
- Dye Water Flooding


700 W. Plano Pkwy MH 2336 L.S. 50946 30"
Rain started 6/2/ @ 3:43 pm
Ended 6/2 @ 9:35 pm
Total 1.69 "
Max. level 22.39"
Flow from 5/14
Max. flow 6/5 @ 2:30pm
Million Gallons Day
25
20
15
10
5
0
5/10/17
5/15/17
5/20/17
5/25/17
5/30/17
6/4/17
6/9/17
6/14/17
Lvl (in)
Flow (mgd)

Rainfall - September 2018
4120 W. Plano Pkwy
Parkway Service Center



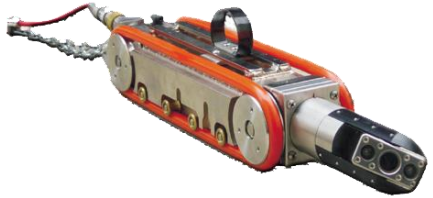
Smoke Testing, Manhole Inspection & CCTV



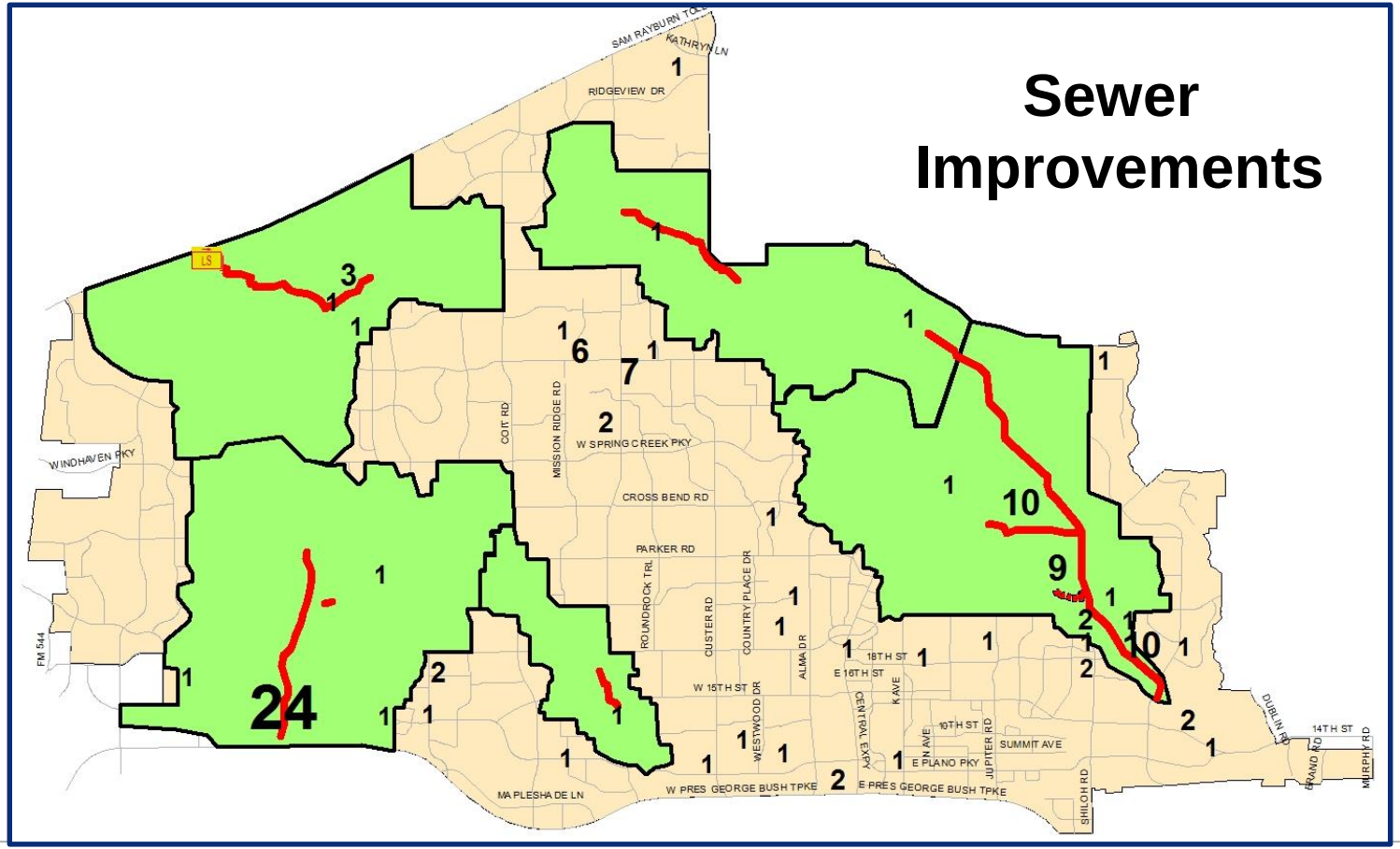








Sewer Improvements



Questions