Public Forum on Wastewater Infrastructure

Lockport Municipal Building
September 23, 2021
6:00 pm

Agenda

- Introductions
- Background on Wastewater Collection & Treatment Systems
- Completed Projects
- Ongoing Improvements
- Future Initiatives
- Recommendations for Property Owners
- Questions

Introductions

New York State Department of Environmental Conservation

- Robert Locey, Professional Engineer I

City of Lockport

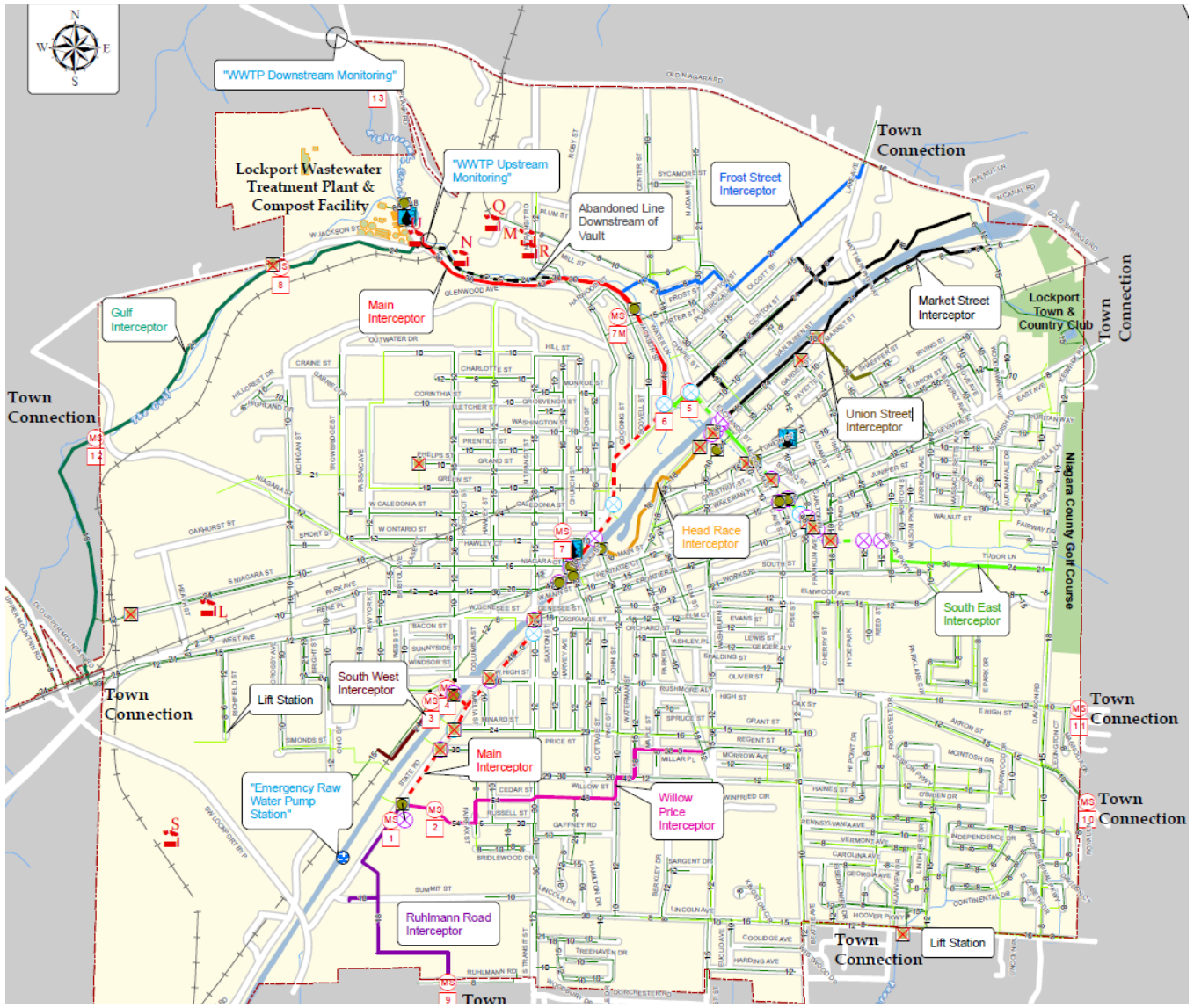
- Michelle Roman, Mayor
- James Elmer, P.E., Director of Engineering
- Jim Nunnari, Wastewater Treatment Plant Chief Operator
- Michael McFall, Wastewater Treatment Plant Assistant Chief Operator
- Dennis McNamara, Water Treatment Plant Chief
- Carter Hawkes, Highway and Parks Supervisor
- Michael Hoffman, Director of Highway and Parks
- Clayton Dimmick, Code Enforcement

Nussbaumer & Clarke, Inc.

- Mike Marino, P.E., Chief Executive Officer
- Rebecca Shaw, P.E., Project Engineer

Where does the City's wastewater go?

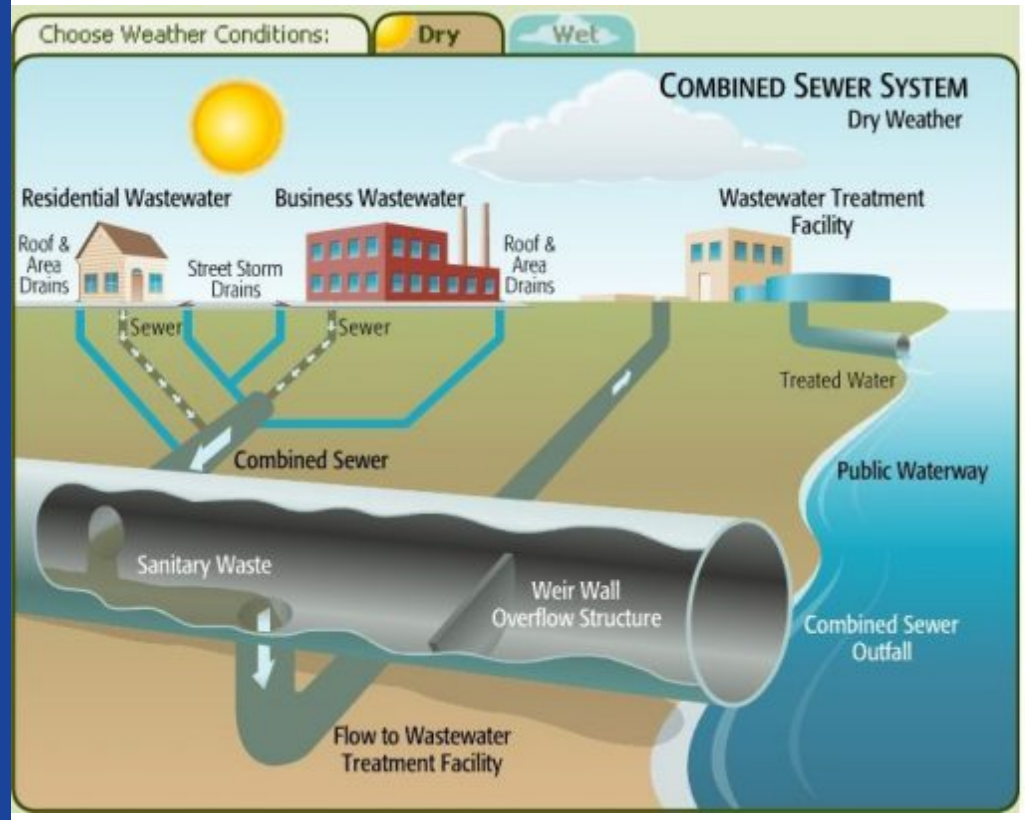
- 100+ miles of sewer pipe and tunnels
- Constructed in Early 1900s
- Population Served: 32,000
- Combined Sewage Flows by Gravity
- Average Daily Flow to WWTP: 22 million gallons per day
- Maximum Daily Flow to WWTP: 78 million gallons per day
- 10 DEC-Permitted Combined Sewer Overflows (CSOs)
- 20 of 30 CSOs closed

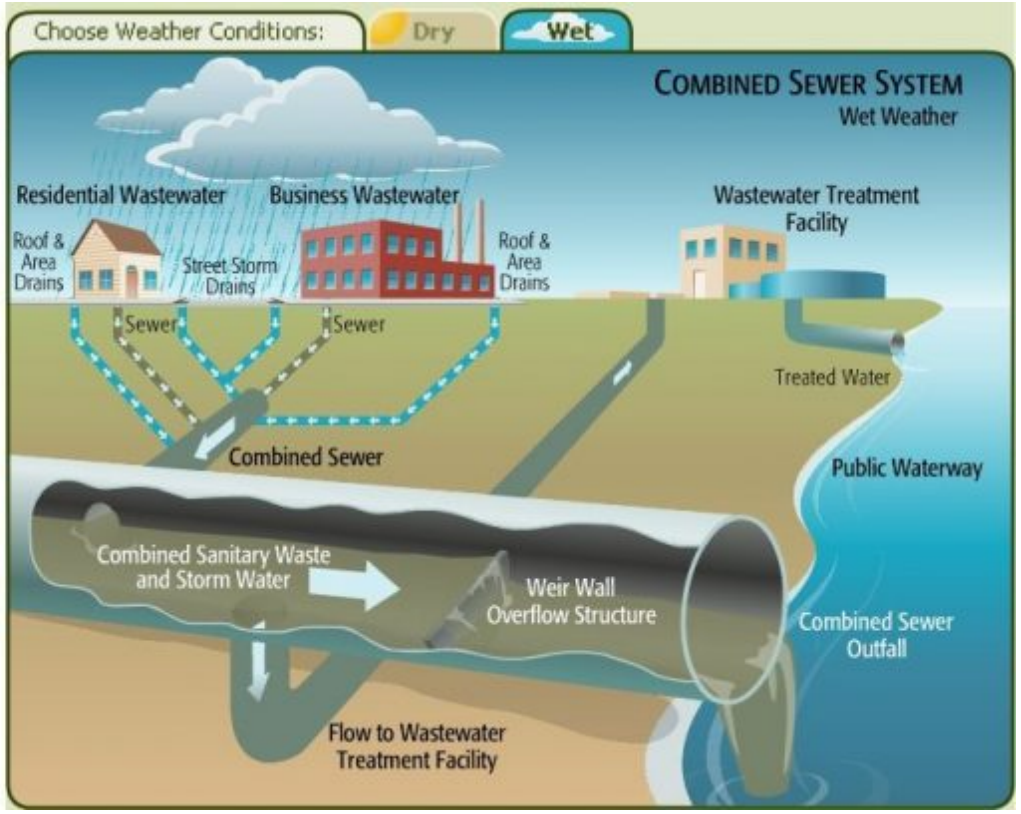


Who is responsible for maintenance/repairs?

What is a Combined Sewer System?

(70% of the City)

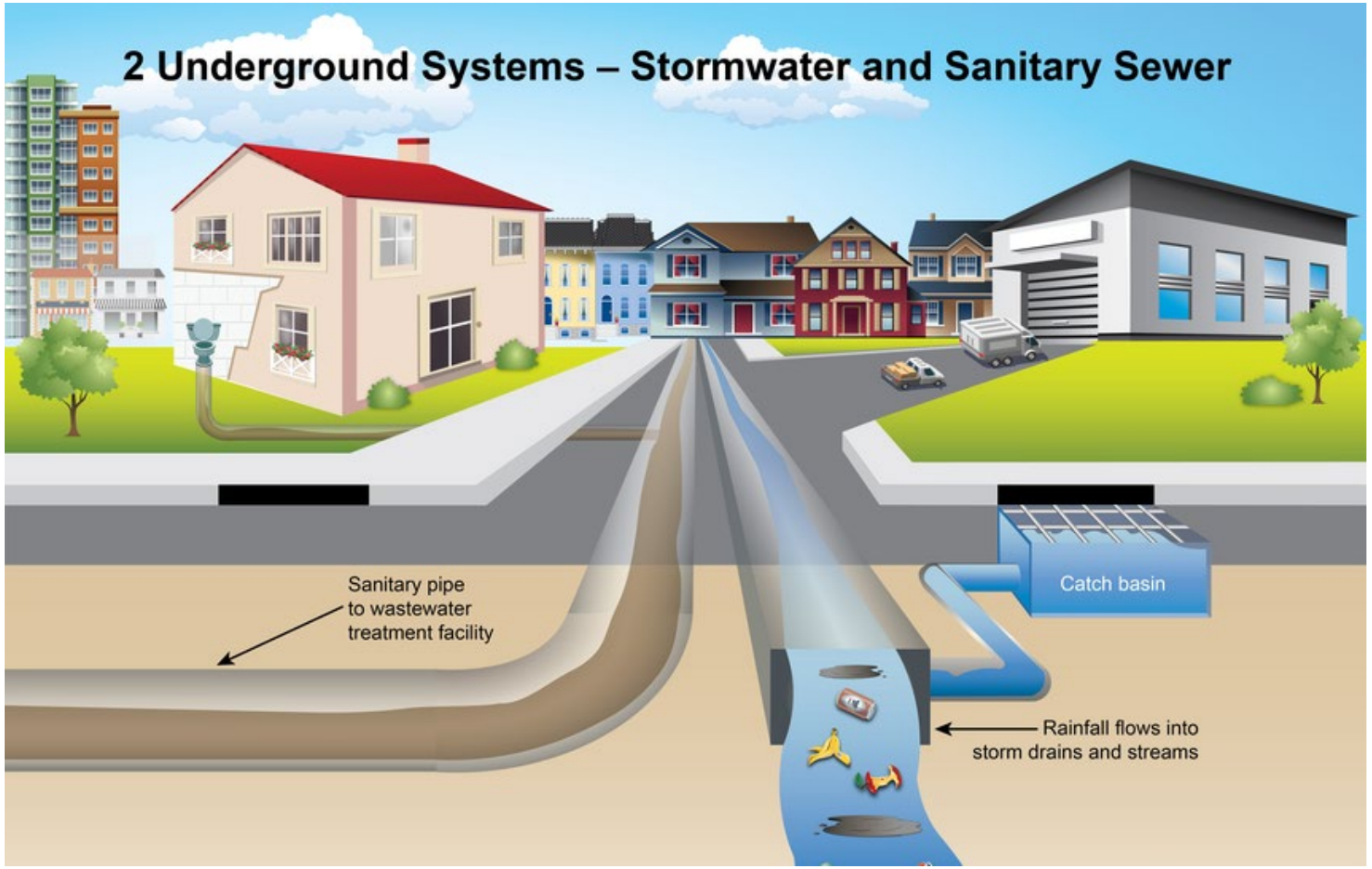




http://bigreddog.com/using-green-infrastructure-to-manage-combined-sewer-overflow-cso/

What is a Separate Sewer System?

(30% of the City)



https://www.alexandriava.gov/tes/stormwater/info/default.aspx?id=100183

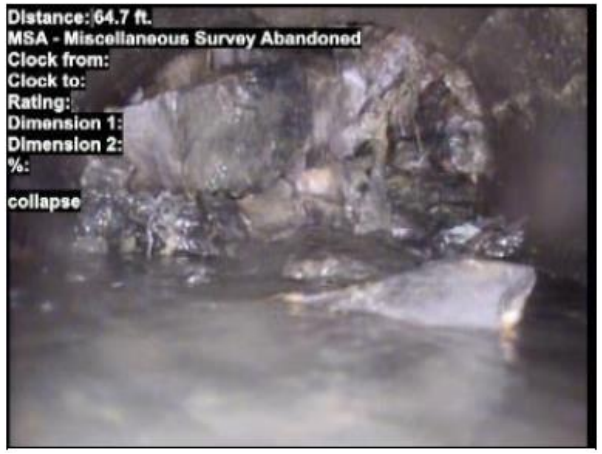
Where does Combined Sewage go?

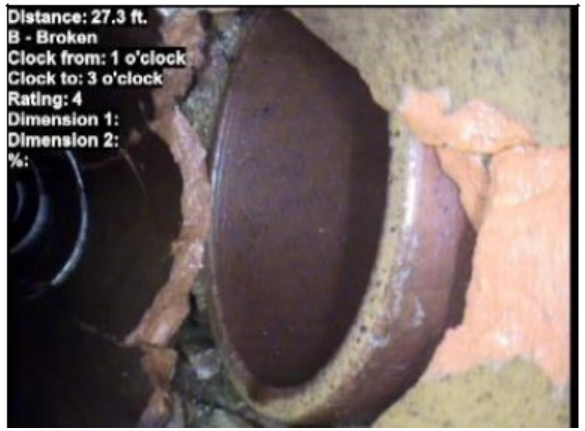
- Discharge to Eighteen Mile Creek & Erie Canal

Google Images

Wastewater System Challenges

- Sewer defects (tree roots, cracks, etc.)
- Equipment service life
- Deterioration of natural floodplains (sediment buildup, overgrown vegetation, debris)
- Residential/Commercial developments
- Extreme weather events (flooding)
- Stringent water quality regulations
- Staffing shortages





Wastewater System Improvements

- Improve conveyance
- Real-time controls
- Storm water management consistent with building code (detention/retention ponds, etc.)
- Upgrade sewer cleaning and wastewater treatment equipment
  - Street sweeper trucks
  - Sewer vacuum trucks
  - Pumps and motors
  - Treatment tank equipment
  - Emergency generators
  - Electrical assets

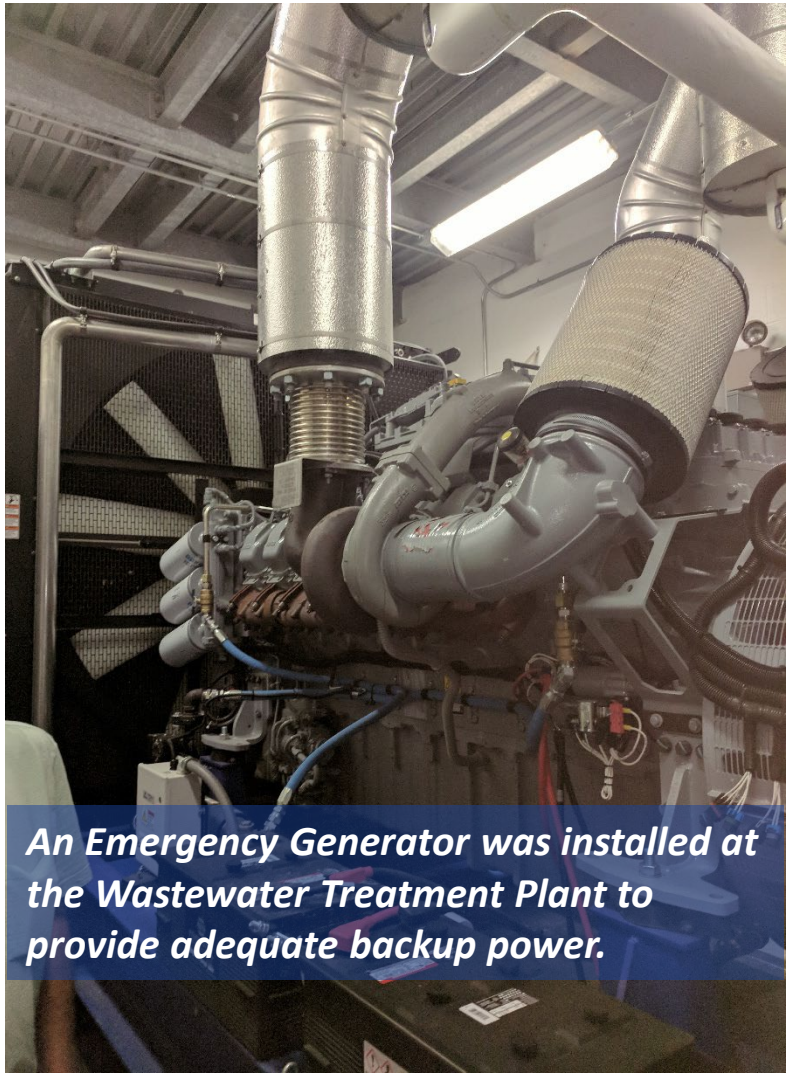
Completed Projects

A bore hole beneath Transit Road allowed for the installation of a storm sewer on High Street.

Primary Clarifier Tank repairs were completed in July 2020 at the Wastewater Treatment Plant.

10 CSO meters were installed in 2017 within manholes to continuously monitor combined sewer overflows, a requirement of the NYSDEC.

Completed Projects (cont'd)



An Emergency Generator was installed at the Wastewater Treatment Plant to provide adequate backup power.

A Sludge Thickener Tank drive unit is replaced at the Wastewater Treatment Plant for solids handling.

Sewers have been lined throughout the City to improve conveyance to the Wastewater Treatment Plant.

Ongoing improvements

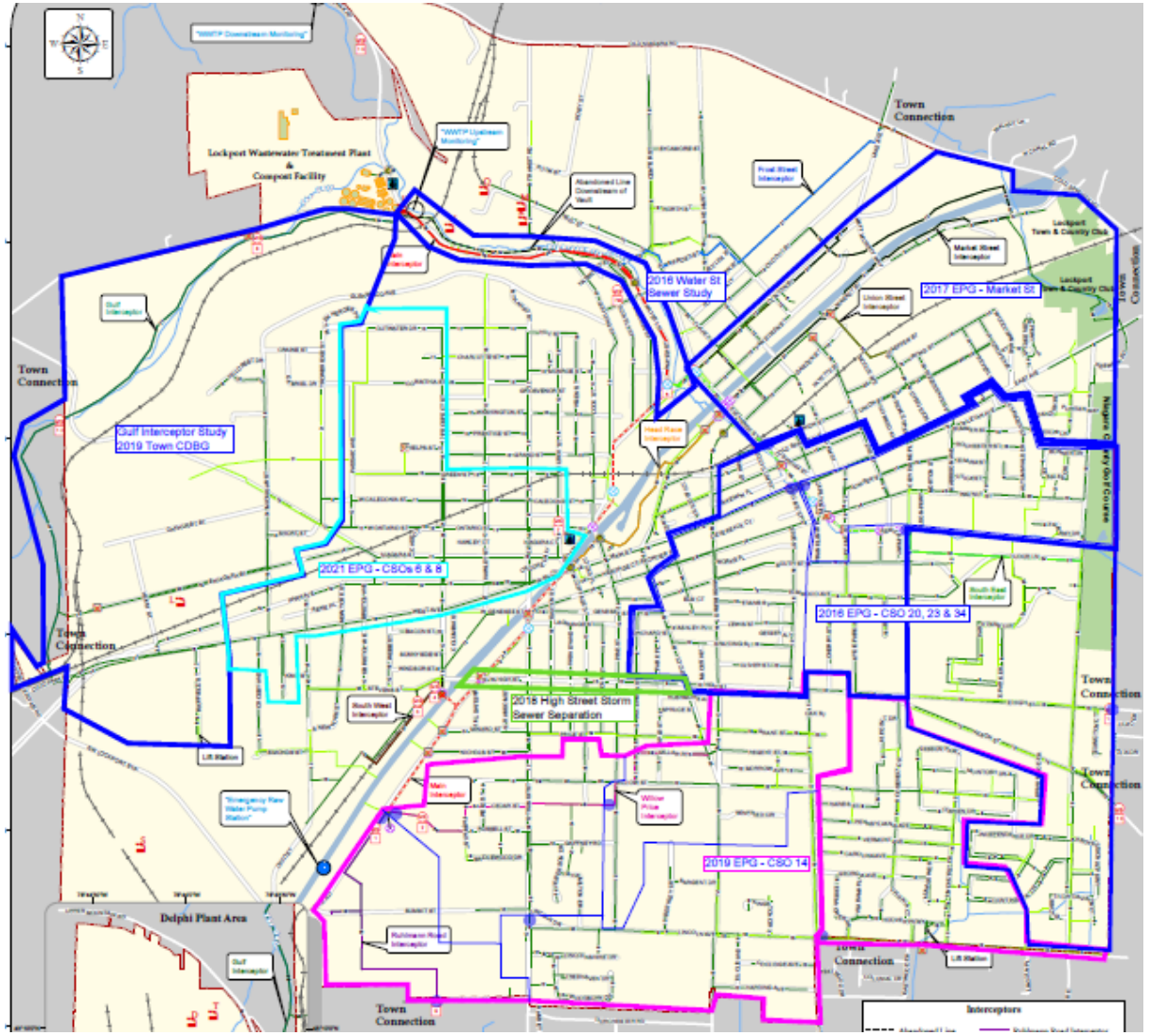
- Ultraviolet (UV) Wastewater Disinfection
- Gulf Interceptor Sewer Relocation
- Continuous monitoring of 10 combined sewer overflows
- Green Infrastructure Improvements Phase I (Pine, Washburn & South Street)

Construction of a UV Disinfection System is anticipated to begin in 2021.

Green Infrastructure is proposed along South Street (rendered), Pine and Washburn Street.

Future Projects

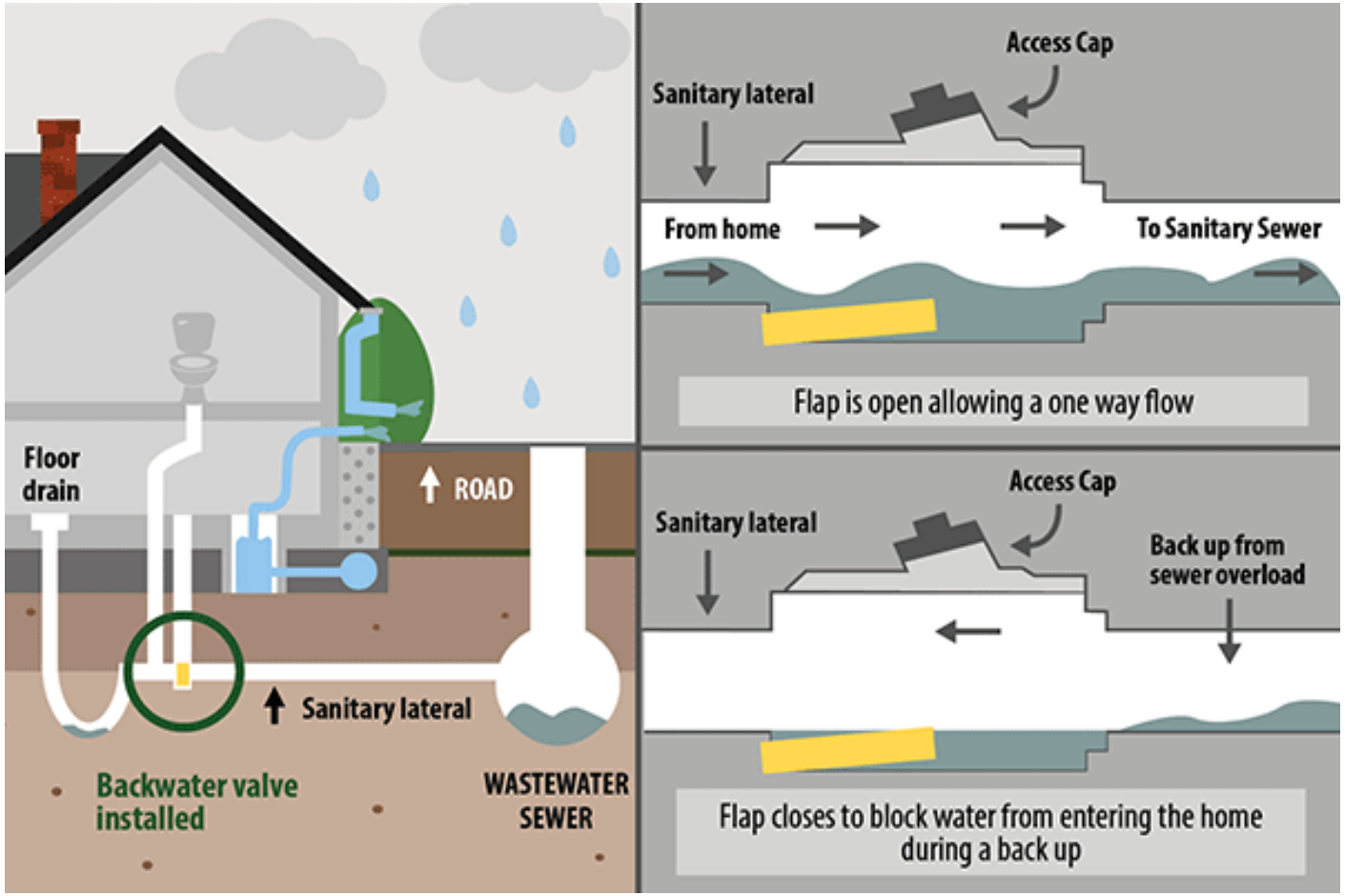
- Water Street Sewer
- Market Street Sewer
- Green Infrastructure Improvements Phase II (Pine/Lock/Gooding intersection)
- Sewer Lining
- Sewer Separations
- Improvements at:
  - CSOs 6 & 8
  - CSO 14
  - CSOs 20, 23, and 34



What can property owners do?

Recommendations for Property Owners

- Install Backflow Preventers on Sewer Laterals



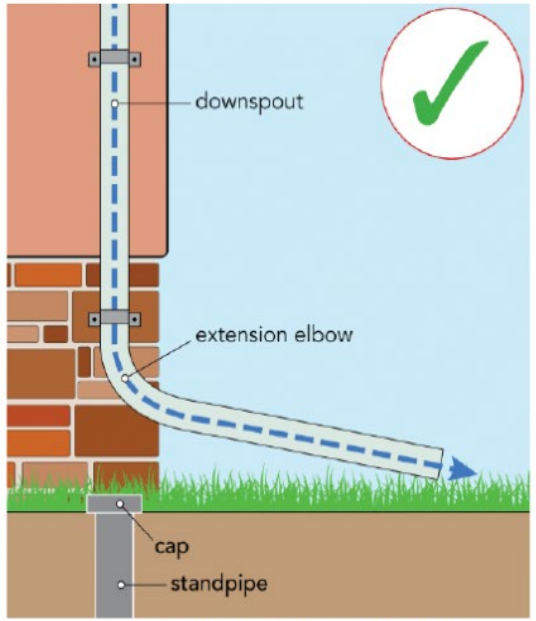
https://www.outofthisworldhomeservices.com/blog/do-i-need-a-backwater-valve/

Is your property in an established FEMA floodplain?

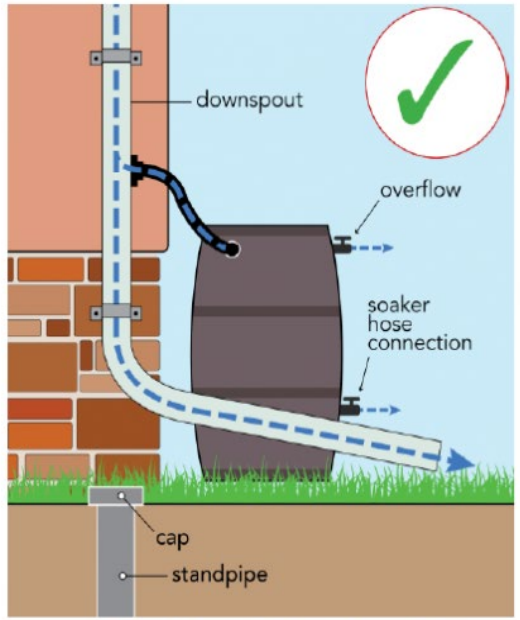
https://msc.fema.gov/portal/home

Recommendations for Property Owners

- Install Backflow Preventers on Sewer Laterals
- Obtain flood insurance where necessary
- Maintain/Clean Sewer Laterals
- Install sump pumps (discharge to yard or bubbler)
- Install downspout disconnections
- Install rain barrels
- Avoid the installation of bathrooms in basements
- Clear catch basin debris
- Communicate any issues to the City



DOWNSPOUT DISCONNECTED FROM SEWER SYSTEM



DOWNSPOUT CONNECTED TO RAIN BARREL

https://www.dcwater.com/projects/downspout-disconnection-program

THANK YOU!