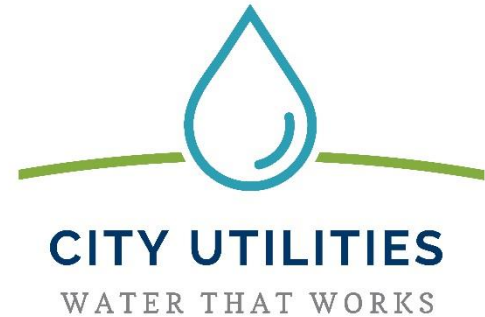


# Hydrant Operations Status App



Receipt of IGIC 2020 Excellence in GIS Award  
For Large Community

Fort Wayne City Utilities GIS  
Created By: Michelle Kyrrou

# Hydrant Maintenance



- ❖ Scheduled routine maintenance on each hydrant
- ❖ Performed by Water Maintenance & Service (WMS) Hydrant Technicians
- ❖ Includes the following work on hydrants:
  - Properly turned
  - Sufficiently greased
  - Completely drained

# Hydrant Operations



- ❖ Flow testing
- ❖ Flushing main breaks
- ❖ Fighting fires
- ❖ Flushing sewers
- ❖ Sweeping streets
- ❖ Installing hydrant meters

# Problem



- ❖ Non-communication of operated hydrants
- ❖ No common platform for communication
- ❖ No central data storage location
- ❖ No oversight or enforcement across departments



# Effects of Problem



- ❖ Hydrants become frozen
- ❖ Hydrants may not be operable in a fire
- ❖ Increased cost for hydrant repairs
- ❖ Increased cost for human resources to complete repairs

# Road To A Plan



- ❖ WMS hydrant technicians recognize the problem
- ❖ WMS hydrant technicians approach GIS analyst
- ❖ Collaboration begins.....

# Goal



- ❖ Communicate location of all operated hydrants to WMS Hydrant Technicians immediately after operation

# Challenges



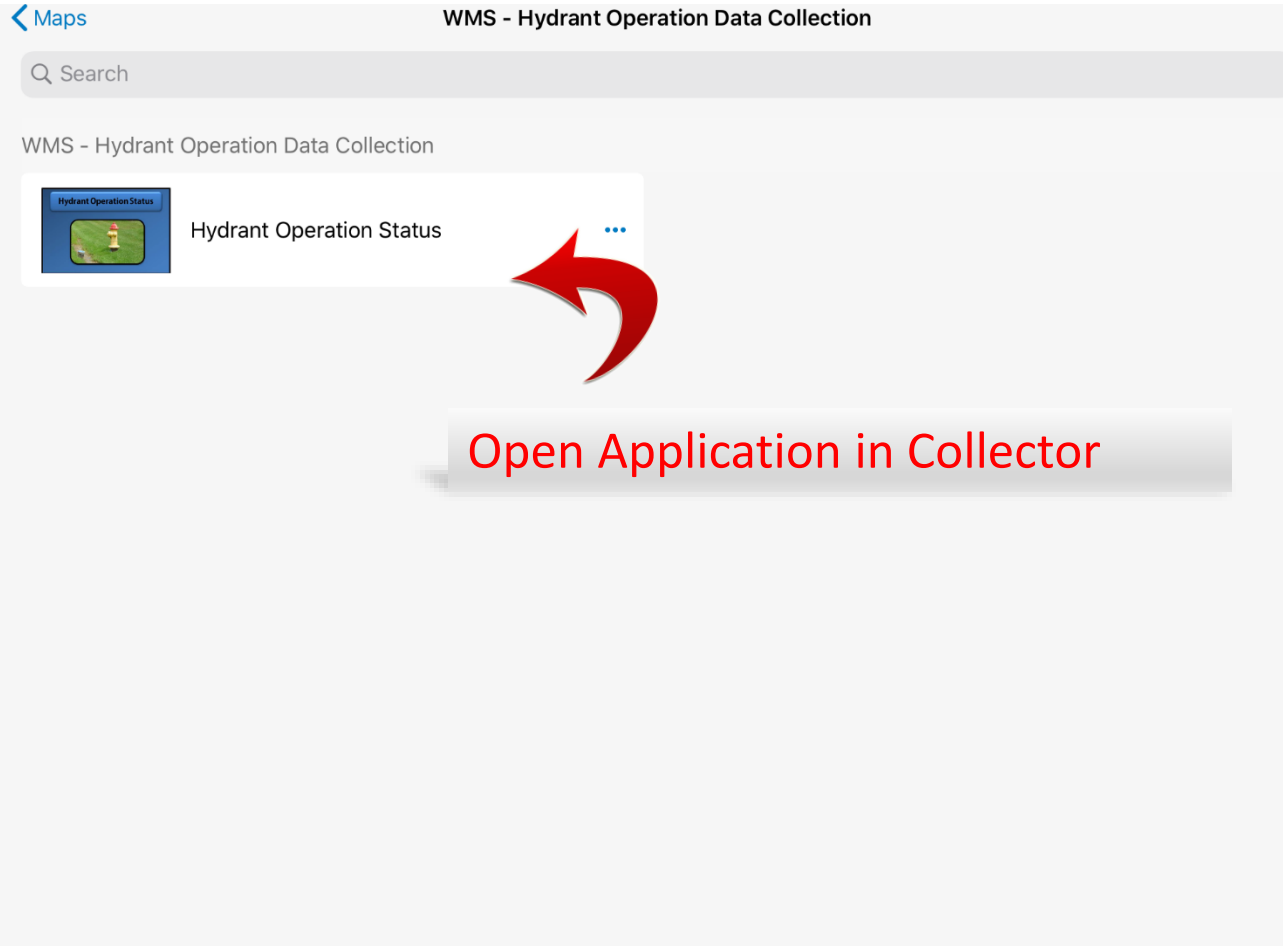
- ❖ Determine efficient platform
- ❖ Develop centralized location
- ❖ Implement across departments
- ❖ Breakdown communication barriers

# Solution

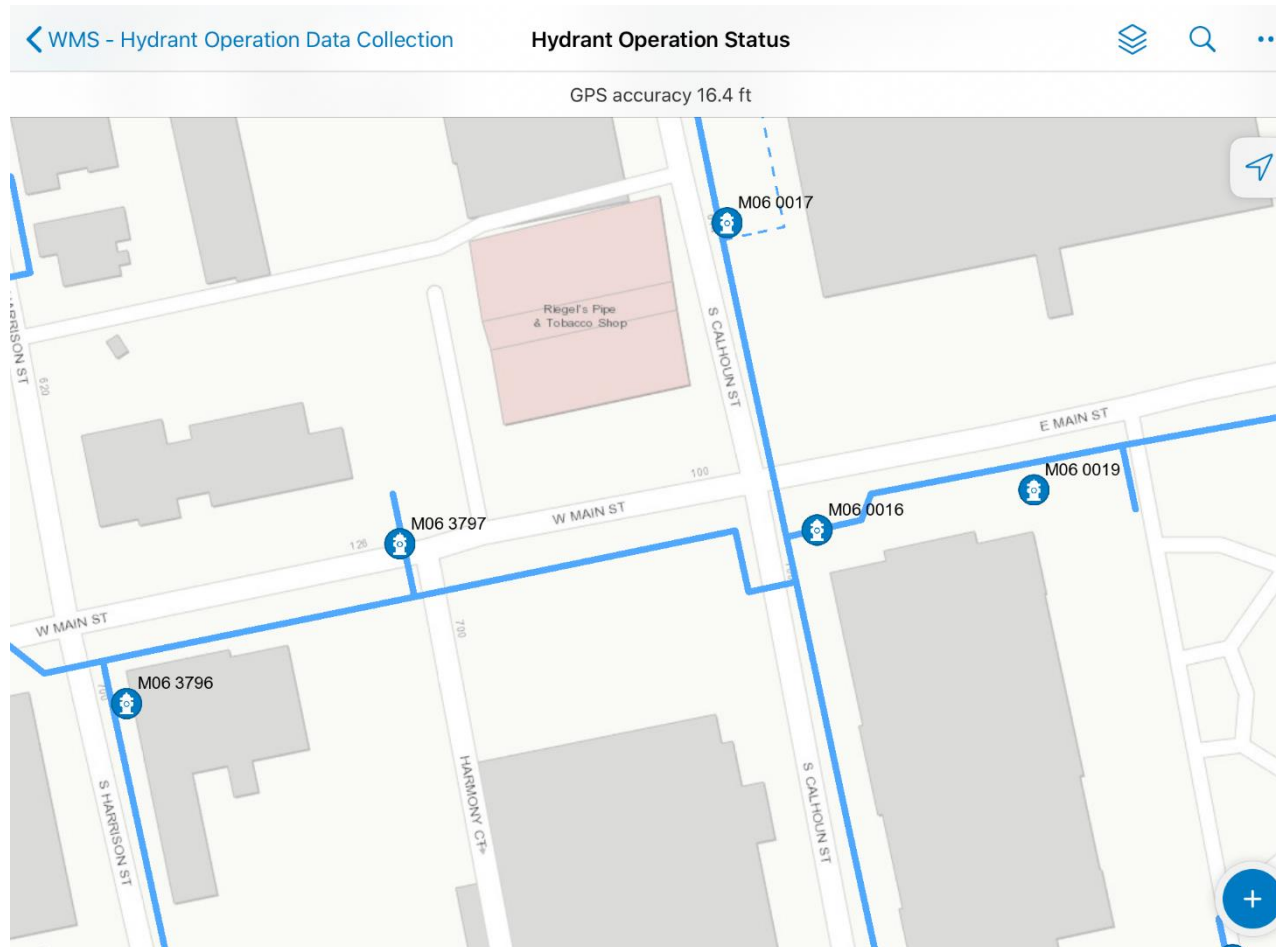
- ❖ Create Hydrant Operations Status App
  - ❖ *Hydrant Preservation...One Dot At A Time*



# Collector - APP



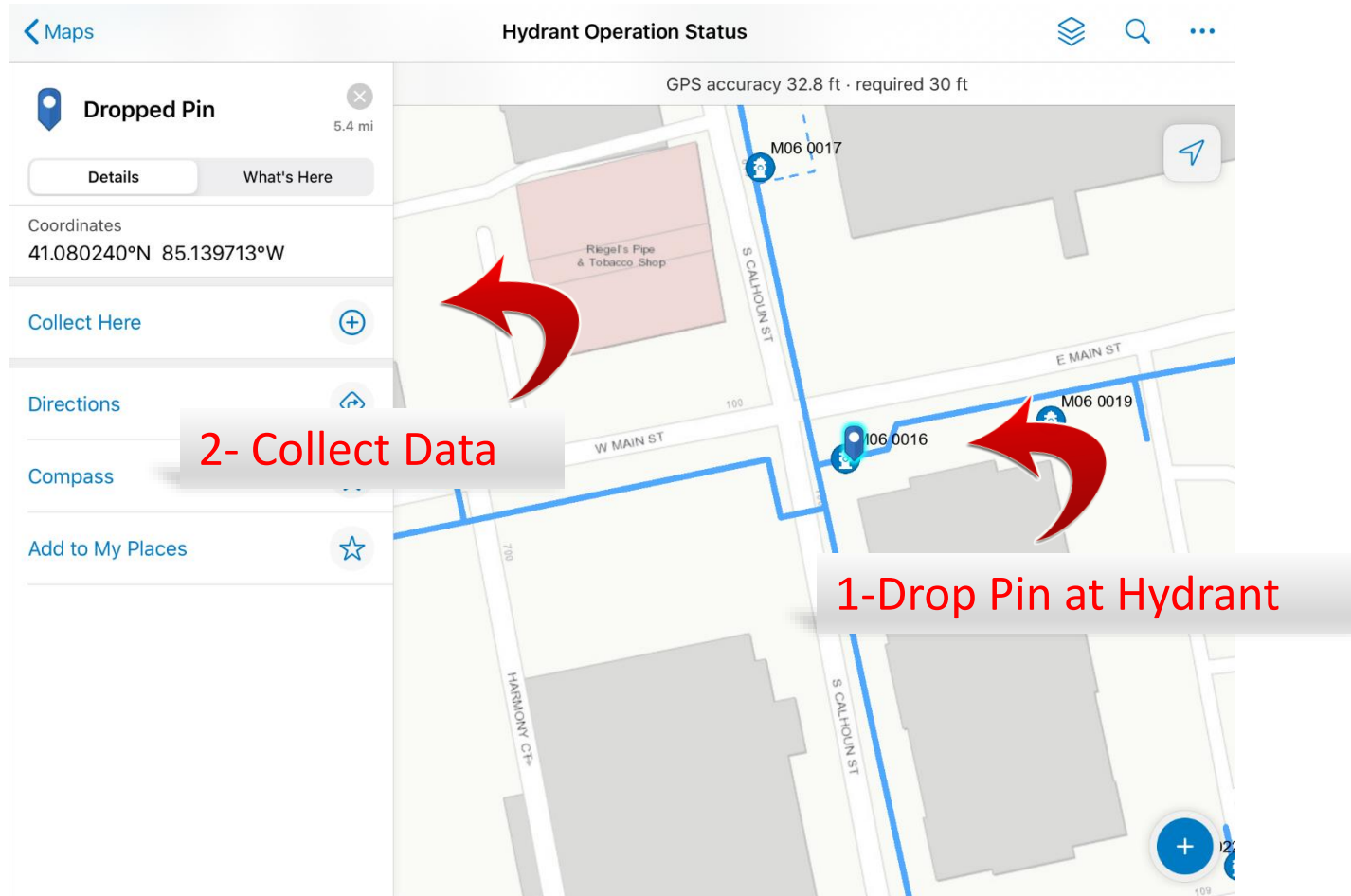
# Collector - APP



General View of Hydrants in App

[effortwayne.org/utilities](http://effortwayne.org/utilities)

# Collector - APP





# Collector - APP



Cancel Collect Submit

**Hydrant Operation...** 41.080255°N 85.139737°W

**Update Point**

Facility ID  
M06.0016

Date Operated  
11/30/2020, 1:35 PM

Hydrant Operation Status  
CUE Dept

Department Unit  
City Utilities Engineering

Person Operated By  
Test-MK

Hydrant Operation Reason  
Other

Comments 10/255  
TEST ENTRY

Date Hydrant Truck Checked

GPS accuracy 32.8 ft · required 30 ft

M06 0017

M06 0019

M06 0016

3797

W MAIN ST

S CALHOUN ST

E MAIN ST

HARMON

S CALHOUN ST

Riegel's Pipe & Tobacco Shop

Enter Hydrant Operation Details

# Collector - APP



WMS - Hydrant Operation Data Collection Hydrant Operation Status

GPS accuracy 32.8 ft · required 30 ft

**Hydrant Operation Status...**  
41.080255°N 85.139737°W 5.4 mi

Created by  
makyfa · Just Now

Facility ID  
M06 0016

Date Operated  
11/30/2020, 1:35 PM

Hydrant Operation Status  
CUE Dept

Department Unit  
City Utilities Engineering

Person Operated By  
Test-MK

Hydrant Operation Reason  
Other

Comments  
TEST ENTRY

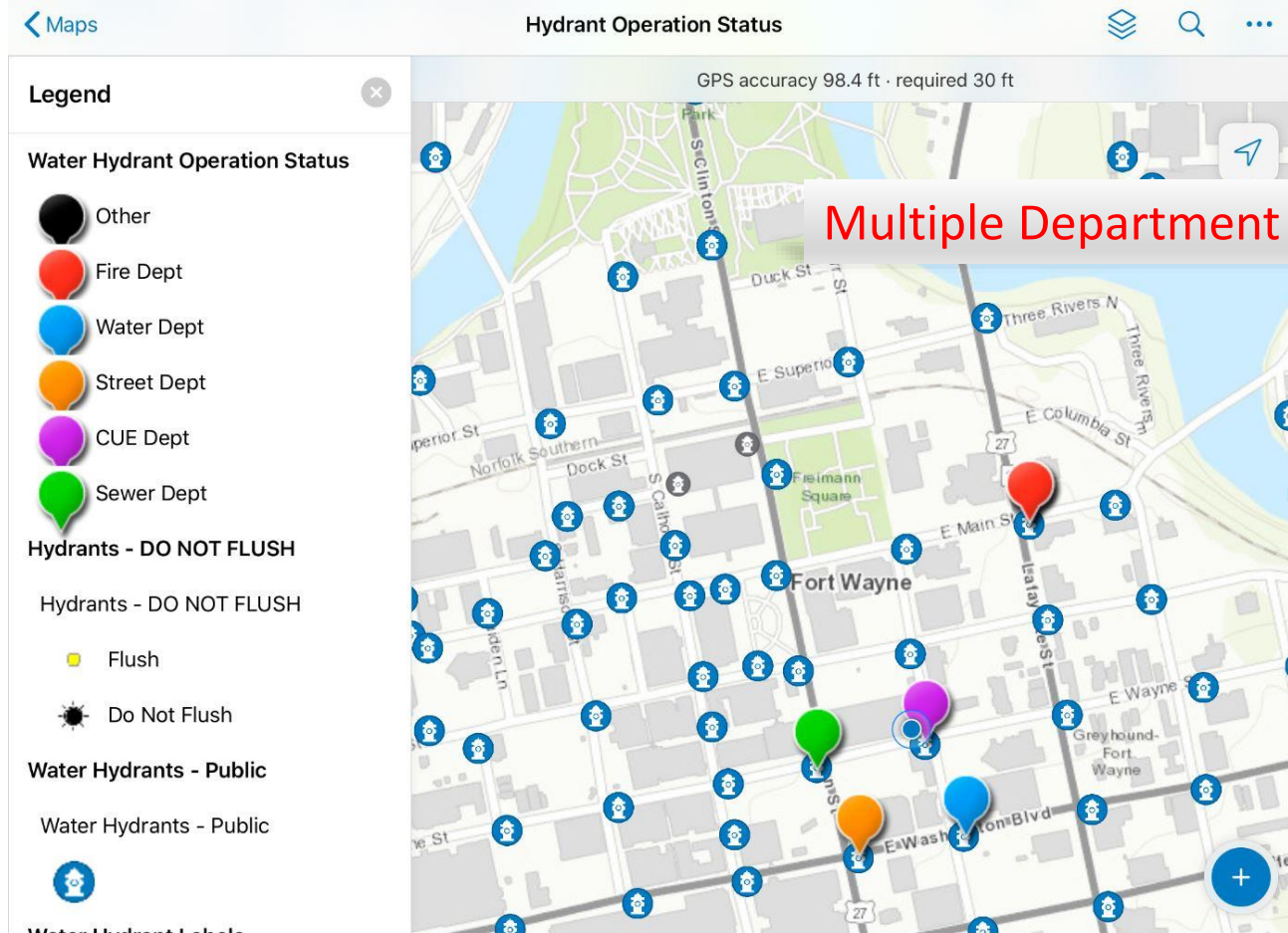
M06 0017  
M06 0019  
M06 0016  
M06 3797

S CALHOUN ST  
W MAIN ST  
E MAIN ST  
HARMONY CT

Riegel's Pipe & Tobacco Shop

Hydrant Operation Notification Successfully Added

# Collector - APP



Multiple Department Notifications



# Dashboard View

## Hydrant Operations Dashboard

### Hydrants Operated - Need to be serviced by WMS Hydrant Technician

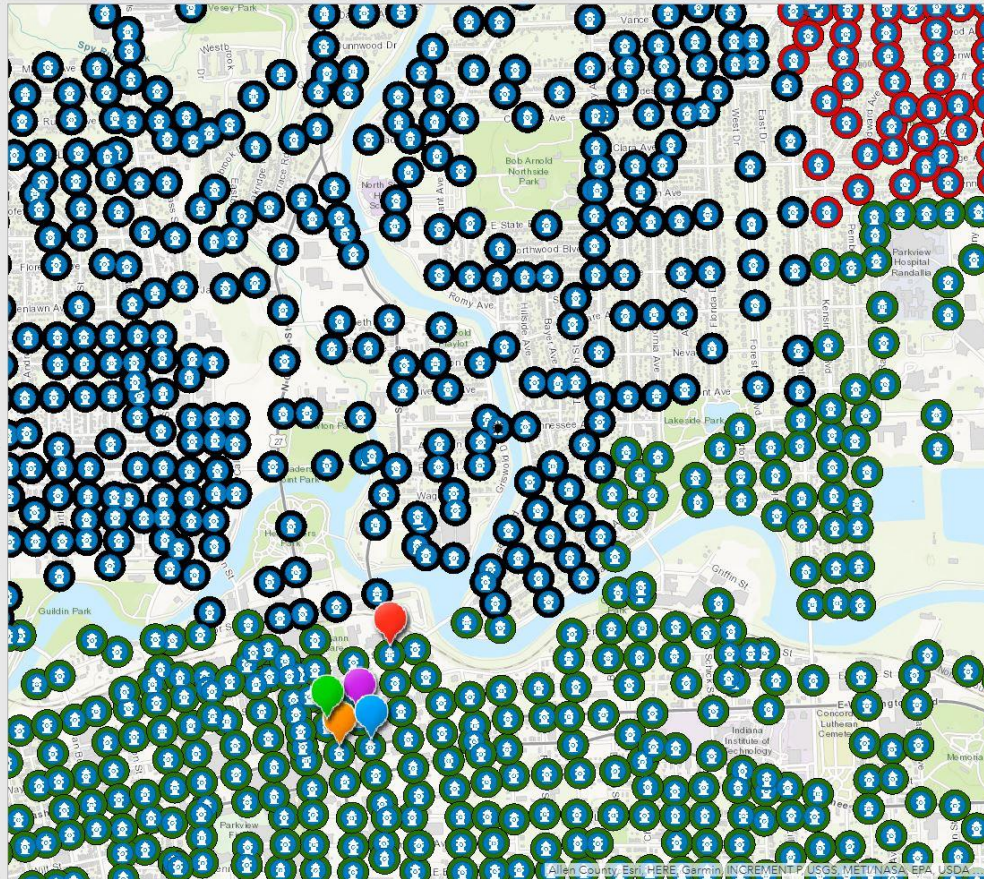
- M06 0023 Hard to turn
- M06 0032
- M06 0033 Trouble getting hydrant to shut off completely
- M15 0119 Used to flush for main break

Last update: a minute ago

### Hydrants Being Operated Today

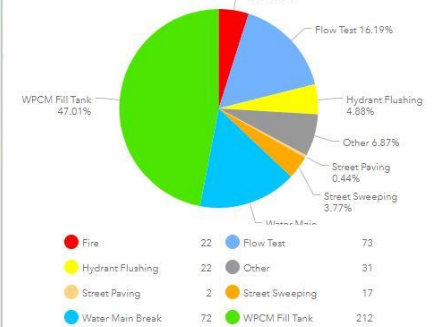
- M06 0024
- M06 0038 Used for training

Last update: a minute ago



### HISTORY OF PAST RECORDS

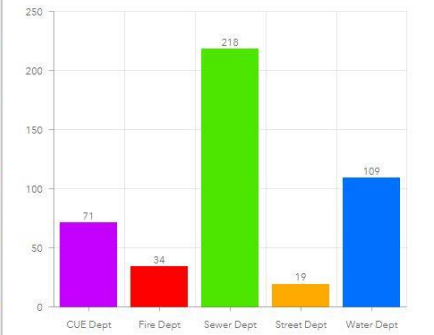
#### Hydrant Operation Status - Overview by Reason for Operation (to date)



Last update: a minute ago

### HISTORY OF PAST RECORDS

#### Hydrant Operation Status - Overview by Department (to date)



Last update: a minute ago

Chart by Dept Total Hydrant Operations

Shows Current, Past, Patterns, & Location with Inspection Quadrant

# Problem

- ❖ Non-communication of operated hydrants
- ❖ No common platform for communication
- ❖ No central database
- ❖ No oversight department



SOLVED

# Questions



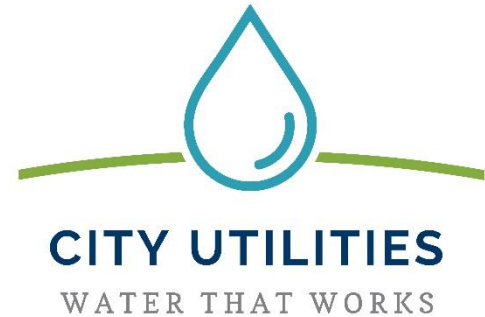
THANK YOU



Fort Wayne City Utilities Engineering GIS

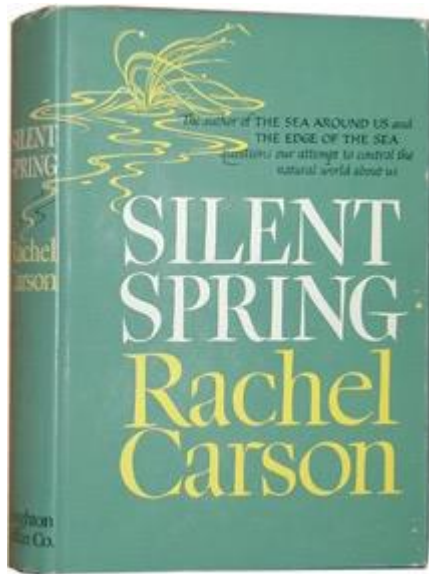


Happy 50<sup>th</sup> Birthday  
Environmental Protection Agency  
(U.S. EPA)



Fort Wayne City Utilities  
Brandi Wallace, M.P.H.  
Tom Pallone, P.E.

# HOW IT BEGAN



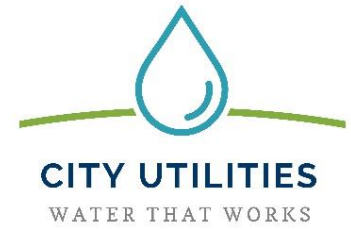
1962 Published



Established 1970



# THE JOURNEY



## Beginning



Source: <https://www.smithsonianmag.com/history/cuyahoga-river-caught-fire-least-dozen-times-no-one-cared-until-1969-180972444/>

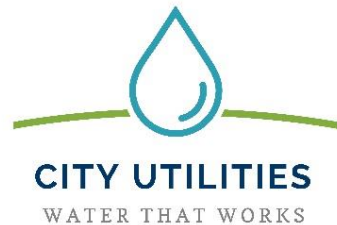
## 50 Year Later – 2020



Source:  
<https://www.nps.gov/cuva/learn/kidsyouth/the-cuyahoga-river.htm>



# Fort Wayne WPC Plant Declared Regional Treatment Plant



Fri., July 26, 1974 FORT WAYNE NEWS-SENTINEL 7A

## Septic Tank Misuse Begets Beastly Mess

By LIZ SCHEVCHUK

The dingy dragon of water pollution is loose in Allen County, dirtying the St. Joseph, St. Mary's, and Maumee rivers and their tributaries.

While the beast assumes many identities, one of the most obnoxious pollutants appears to be septic tank discharges.

No officials or environmentalists could estimate the number of septic tanks used in Allen County. However, they agree on two points: Only 5 per cent of County land is suitable for septic tanks; and the number of tanks, in ratio to good land, is excessive.

and leached into the soil.

Dr. Oliver Kaiser, Assistant Allen County Health Commissioner, Jane Dustin, of the local Izank Walton League Clean Water Committee, and Jack Suter, Executive Director of the Allen County Plan Commission, say because of unsuitable soil or a homeowner's failure to pump the septic tank periodically, the filter bed often clogs. Subsequently, they add, sewage backs up into the home.

They contend developers often offer the homeowner a choice of replacing the filter bed, at a cost of \$800-\$1,000; or of running a direct line from the septic tank

standards forbid dumping raw sewage into waterways.

Under stipulations of another County law, the Subdivision Control Ordinance, approval of the Allen County Board of Health and (as of May, 1974) the County Plan Commission are necessary prior to development of any homes which would use septic tanks. The Board formerly had sole control over septic tank approvals.

"One source said frequently 'taken approval' was given by the Board and that soil tests required for approval of septic tanks were not adequately completed.

He claimed the Board must steer a middle course between allowing continuing water pollution and placing bans on further homebuilding in areas unsuitable for septic tanks.

Sewage from homes built prior to the enactment of laws covering sewage disposal also presents problems, Dr. Kaiser said. Manholes should be required near each septic tank to determine if illegal by-passing methods are used.

Suter said the Board of Health had been too heavily on questions

stance in approval of septic tank systems, although now "the Plan Commission has ultimate jurisdiction" and will issue injunctions against developers who fail to provide adequate sewage facilities, Suter said.

Despite such Commission powers, developers who develop no more than two lots in a given location yearly, can, and do, circumvent the Subdivision Control Ordinance's requirement of total sewage

disposal by draining into ditches throughout the Fort Wayne area.

Raw sewage also creeps into the rivers in the City through combined water and storm sewers, Paul Brunner, Superintendent of the Fort Wayne Sewage Treatment plant, said.

Seventy-five per cent of old City sewers are combined storm and sanitary lines, he noted.

During periods of heavy rain, regu-

## New Haven-City Sewer Tiff Resolution Advised

A Fort Wayne-New Haven sewage spat surfaced again Monday as the Northeast Indiana Regional Coordinating Council looked at \$55 million worth of Fort Wayne sewage construction proposals.

The Council, which has local review responsibility on requests for Federal grants, approved a motion indicating they are "not in favor of these projects unless agreement is reached" on an East Allen County-Fort Wayne sewer arrangement.

The City has been mandated by State and Federal agencies to provide sewage service for New Haven, and an Allen County representative on the Council argued that approval of other Fort Wayne sewer projects prior to a Fort Wayne-New Haven sewage agreement could "cut the throat" of a community.

Council Executive Director Elias Samaan said today he considered the Council action to be approval of the Fort Wayne grant requests.

"Basically, they have been approved last night," he said. "We are just pointing out that the North Maumee project is important." He said the Council is trying to point out that they want the New Haven sewage situation cleared up before anything else is done.

Proposals covered by the motion included construction of a \$9 million advanced wastewater treatment facility to remove nitrogen and ammonia from the City's wastewaters; a

(Turn to Page 6D, Column 7)

### COVER STORY

## Allen County cleans up its ditches



Doug McComb, the engineer whom Huntstown hired to design its hookup to Fort Wayne, says the best thing to do is to leave the increasingly difficult job of sewage treatment to someone else.

system, they're bringing to us." EPA was generous to Fort Wayne as a consequence. Three-fourths of that \$100 million invested in interceptor sewers, treatment plant expansion and new sewer lines since 1972 came from Washington. The State of Indiana kicked in 10 percent, and Fort Wayne paid 15 percent plus some related costs that pushed its actual investment to about \$18 million, Embury said.

The city water pollution control plant is state-of-the-art and capable of handling industrial wastes and household wastes for Fort Wayne's current population (plus all the county residents served now and in the future) and all the growth anticipated through the year 2000, according to the plant's dedication booklet.

It's been a big change for Fort Wayne and for Allen County.

"At one time, the city was not interested in extending sewers outside its corporate limits," Embury said. As a result, many subdivisions grew up with septic tanks or sewage treatment provided by private companies.

**Companies' destinies**

Utilities Center, the descendant of the four or five private companies that used to serve Allen County residents, is still the largest private utility in the state, its vice president Vernon Gore said. It serves 4,000 customers, mostly in Abbot Township. It used to serve 19,000.

Since 1960, Diversified Utilities, one of the companies which merged to create Utilities Center, sold its authority to serve all of St. Joseph Township to the City of Fort Wayne. Utilities Center's only interest in the north or east side of the county is now the about 400 homes in Pine Valley, where it is responsible for billing and maintaining the collection system. Diversified used to have a small treatment plant in Pine Valley, but it was closed and demolished, he said.

**Towns' sewage fate**

EPA's push for regionalization forced some difficult changes on the county's small towns, too.

## Towns adjust to changing sewers

the sewage they would generate, he said.

"It's important to be able to open up the community again for some commercial building or small industry," he said.

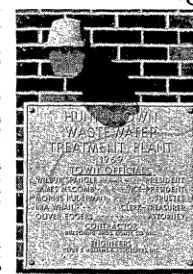
Doubts were also raised about the proposed plant's design.

"There were some real concerns about the type of plant designed for us. Towns had problems with it elsewhere in Indiana," he said.

Then the bids came in 43 percent over the Engineer's estimates, and the project ground to a halt with redesigns and more and more questions.

**A tough decision**

When the current town board members came into office in January 1984, they had a big problem to resolve.



of funding, the town could be hooked into Fort Wayne's sewers by winter, McComb said.

**No increases since 1968**

Huntstown residents have been as worried as Grabbill's residents about how high their sewage treatment bills will go.

They will go up, Rudolph said, but most of the increase won't be Fort Wayne's charges to treat the sewage.

It'll be repaying the debt for the new hookup and paying off the last nine years of indebtedness on the old plant.

Huntstown residents haven't had a single rate increase since their plant went on line in 1968, he said.

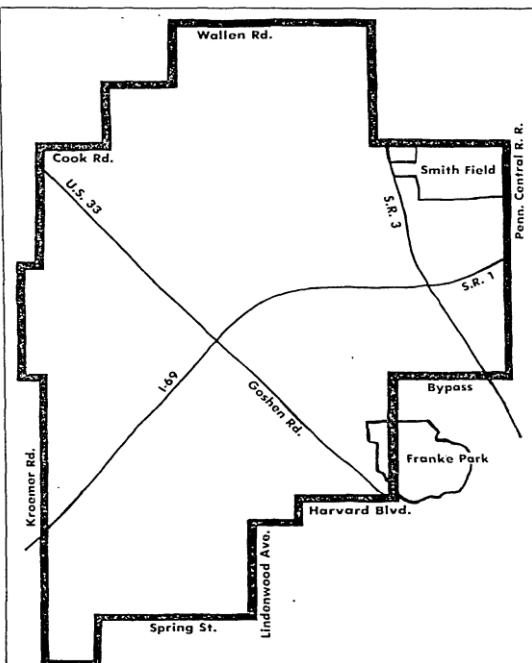
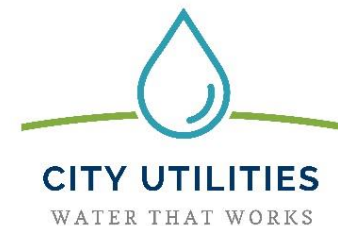
His current best estimate is that Fort Wayne's treatment charges will add about 40 cents a month to a residential customer's bill, with the debt repayment costs added on top

# The News-Sentinel

FORT WAYNE, INDIANA 46802, TUESDAY, JUNE 15, 1976 1D



# The Days of Funded Mandates



## Spy Run Area Sewer Borders Set

This map by staff artist Jerry Stewart shows the boundaries of the Spy Run Area Sewer System which would be improved at a cost of \$4.9 million, funded from state and federal grants. The improvements would alleviate pollution of both the Spy Run Creek and the St. Marys River.

## Spy Run Sewer Project To Alleviate Pollution

# The News-Sentinel

FORT WAYNE, INDIANA 46802

MONDAY, FEB. 25, 1980 1C

## ON JUNK DITCH, NORTH MAUMEE PROJECTS

# \$14 Million Sewer Hearings Thursday

The News-Sentinel

Wednesday, August 19, 1981/Section D

## Metro News

Statistics	4D
Obituaries	8D
Classified	9D
State/Regional	16D

## Washington Squabble Won't Stop Sewer Project

**By JERRY GRAFF**  
The stalemate between Congress and the Reagan administration over federal funding for sewers apparently won't affect Fort Wayne's efforts to secure a federal grant for the \$28 million Lakeside Interceptor Sewer Project.

Monday there are presently no monies in the 1982 federal budget to continue the nine-year-old program which has funneled \$30 billion to help cities build sewage treatment plants, to lay sewer pipe and to upgrade older sewer lines. A dispute between the Reagan administration

monies for each project. At a public hearing June 4, Mark Akers, then works board chairman, noted, "If there are no federal funds then there are no projects." The city is proposing each project to bring city sewer lines into the more sparsely populated areas on

Orchard Ridge projects call for sewer lines up to 18 inches while the Lakeside one goes up to nine feet (108 inches). The city has had the Lakeside project on the drawing board for several years. According to Duane Embury, project engineer for the Lakeside sewer

up the city's request for the Lakeside federal grant, Embury said. Once that study is received it will be made a part of the city's request, and the city then expects to be placed on the municipal priority listing of the U.S. Environmental Protection Agency and the Indiana

the largest of those involving sewer lines, possibly the largest in city history. The \$28 million project calls for tunneling under key intersections on the city's north and northeast side as well as under the St. Joseph River near Griswold Avenue.

## City Snares \$2,172,225 Grant for Sewer Line

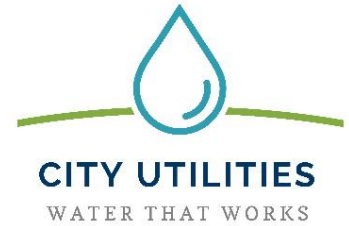
**By INDIANA NEWS SERVICE**

WASHINGTON — Fort Wayne will receive a \$2,172,225 Federal grant for construction of the North Maumee interceptor sewer line, Fourth District U.S. Rep. Dan Quayle announced today.

The \$2.9 million project is being planned to construct a line to a point where it will connect with a line from New Haven. The lines are to be used to carry New Haven's sewage to Fort Wayne's Water Pollution Control plant for treatment.

The plan to bulk-ship New Haven's sewage is the result of the State Stream

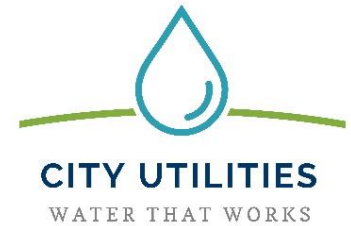
# The Days of Funded Mandates



- **St Joe Interceptor**
  - St. Joe Pump Station – New Gravity Connection
- **Spy Run Interceptor Sewer**
  - Franke Park pump Station – Removed
- **North Maumee Interceptor**
  - New Haven eliminated Treatment Plant flow connected to Fort Wayne
  - Paulding Rd. & Tillman Rd. Pump Stations - Removed
- **Junk Ditch Interceptor**
  - Westmore Addition Pump Station - removed
  - Burbank Blvd., & South Bend Dr. unsewered homes connected to a Sanitary Sewer

# IMPACTS - ENVIRONMENT

## CU Employees & Community

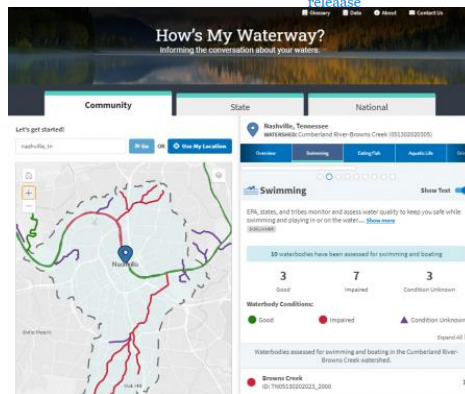


- Clean Air Act – 1970
- Great Lakes Water Quality Agreement – 1972
- Clean Water Act - 1972
- Resources & Accomplishments
  - How's My Waterway
  - Water Quality Improvements
  - Cross-Connection Control



March 2, 1973  
First  
Wastewater  
Permits  
Issued

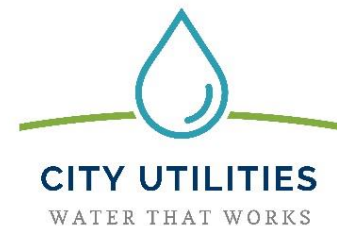
In the first action of its kind in the nation, the Indiana Stream Pollution Control Board issues EPA-approved permits to five Indiana companies.  
[Read the press release](#)



<https://www.epa.gov/history/milestones-epa-and-environmental-history>

<https://www.epa.gov/waterdata/how-s-my-waterway>

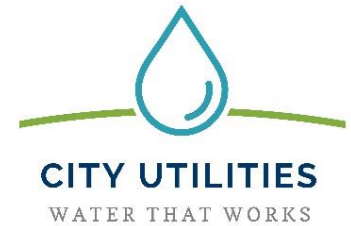
# IMPACTS - PUBLIC HEALTH



- Lead Based Paint Restrictions – 1972
- Chlorofluorocarbon (CFC) – phaseouts – think ozone layer
- PCB phase-out, Asbestos testing in schools, Ethylene Dibromide (EDB) ban – Cancer-Causing Agents
- Passive Smoking Health Effects - No smoking
- Food Quality Protection – standards for pesticides
- Environmental Justice Movement Begins – 1982
- Amendments to Safe Drinking Water Act, Clean Air Act, Clean Water Act – constantly evaluating and strengthening to protect human health



# IMPACTS - PUBLIC HEALTH



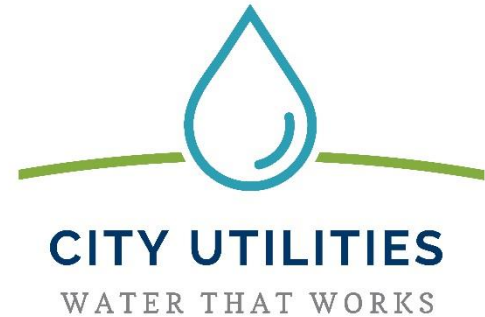
- Waste site cleanup, toxic and medical waste tracking and monitoring –
  - BP Oil Spill, 9/11 Attacks, Hurricane Katrina, Japanese Earthquake & Tsunami Damage to Nuclear Reactor
- Transparency – community right to know & notifying consumers when not meeting standards
- Job creation!

# QUESTIONS





# Consent Decree Update

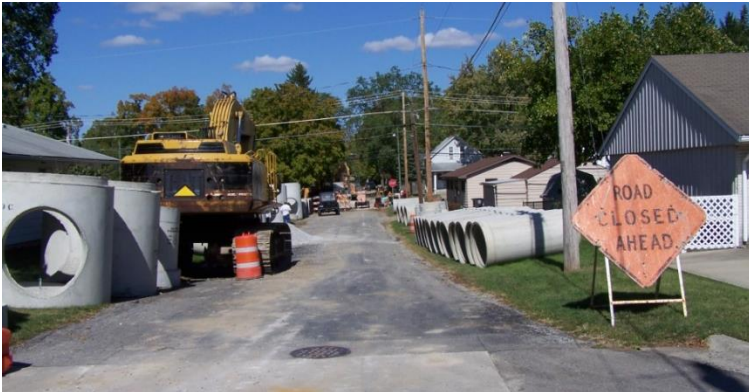
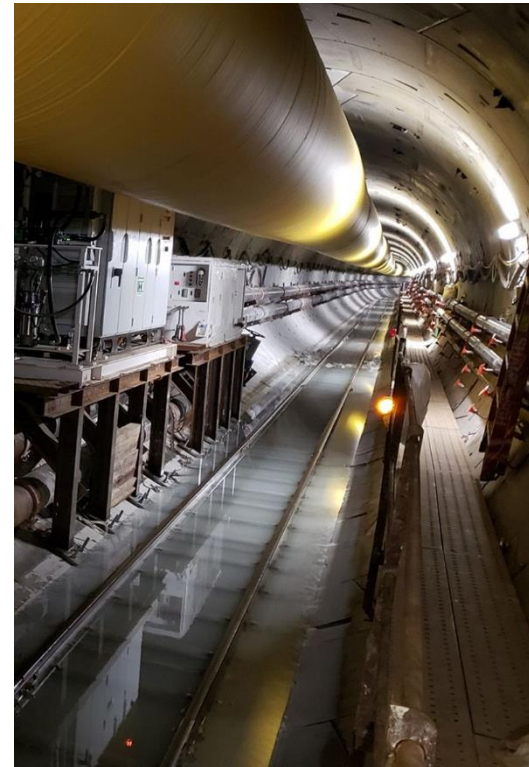


Matthew Wirtz, Deputy Director of Engineering  
December 2, 2020



# LONG-TERM CONTROL PLAN

- Reduce overflow through sewer separation
- Treat/Store more overflow through plant expansion
- Collect more overflow through pipe expansion





# Consent Decree

- Completed St. Joe River - 2015
  - No overflows - 42 months
- Reduced overflows - 1 Billion Gallons Per Year
- Improved protection for approx. 33,600 homes
- Improvements in over 200 neighborhoods





# Consent Decree

*“City Utilities said they were going to fix our problems, and they did! In North Highlands, we had frequent basement back-ups and street flooding nearly every time we had a rainstorm. But, after a sewer separation project and other stormwater improvements, these events are no longer occurring. Our rain headaches are gone, and we see great value in the investment made in North Highlands.”*

John Modezjewski  
North Highlands Past President





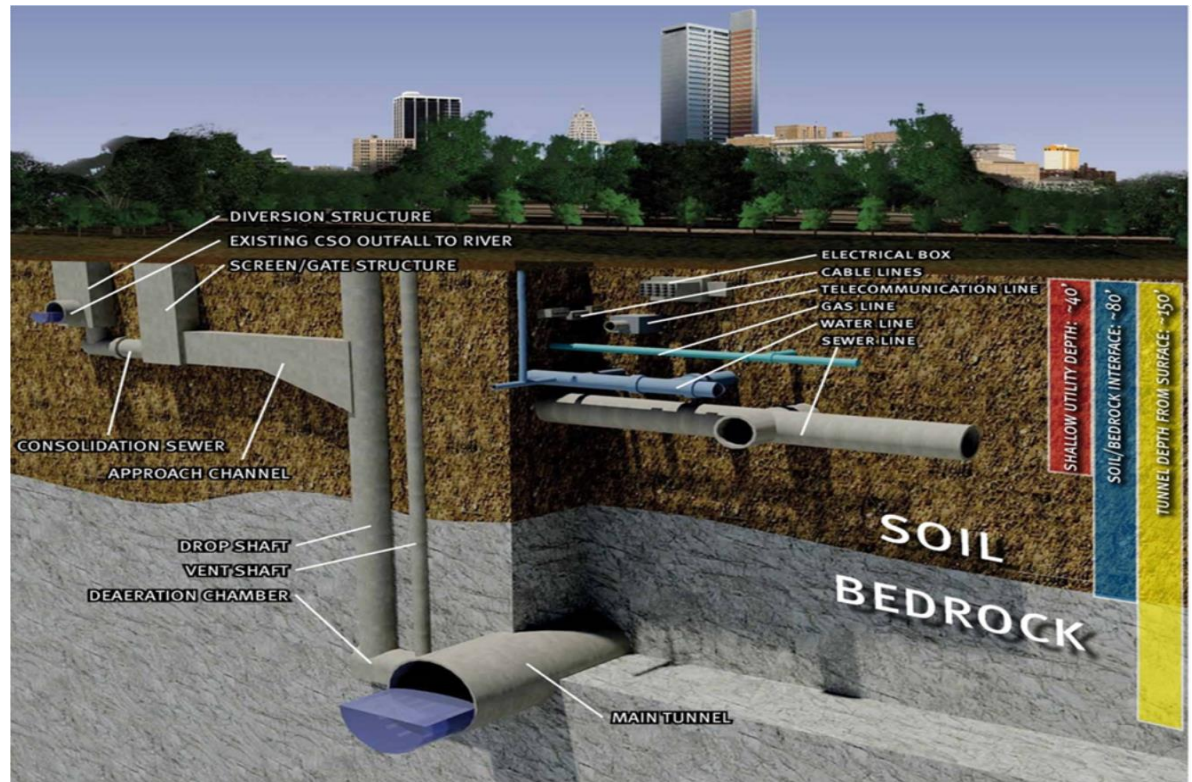


# MamaJo



# Consent Decree

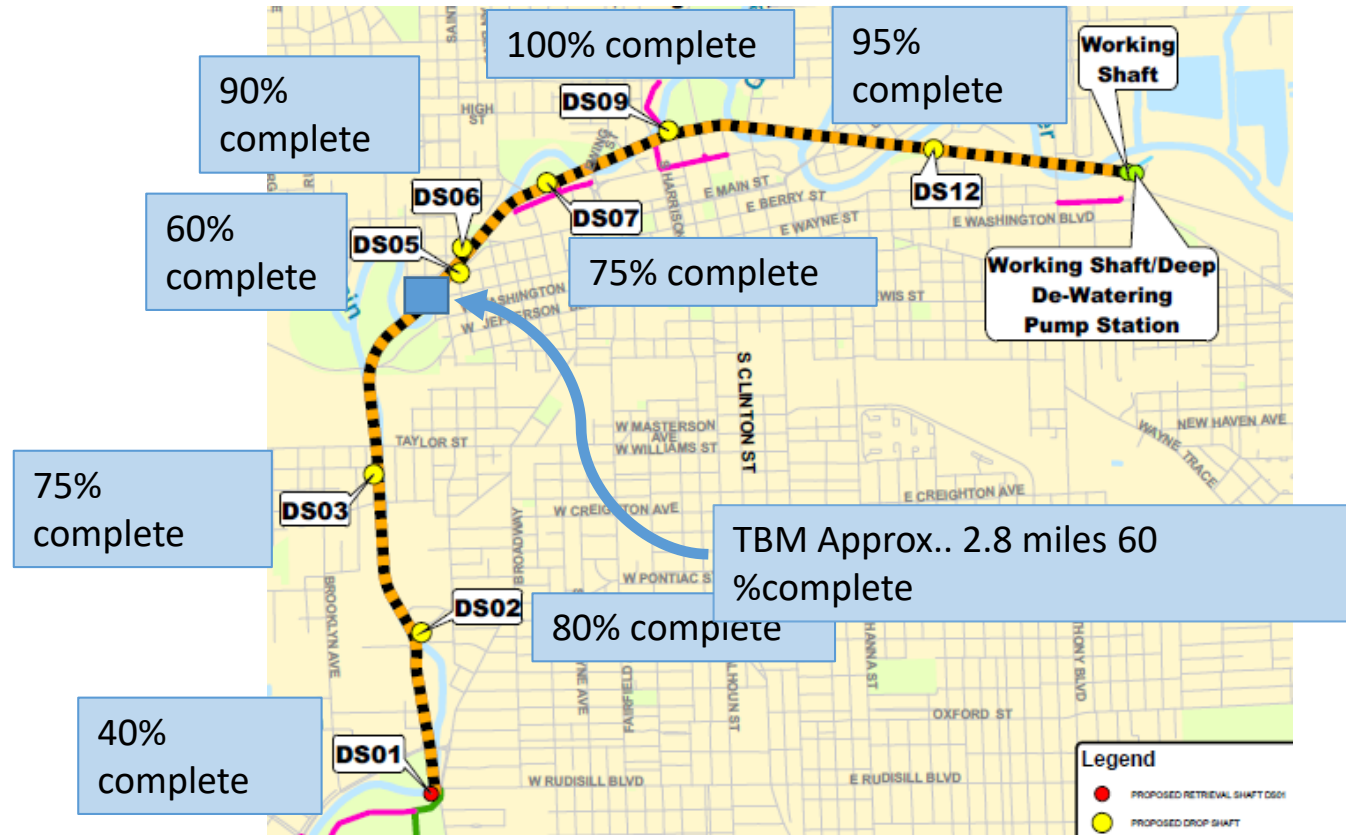
- 3RPORT Tunnel
- Drop & Vent Shafts
- Screen/Gate Structures
- Consolidation Sewers
- Diversion Structures







# MamaJo





# Mama Jo

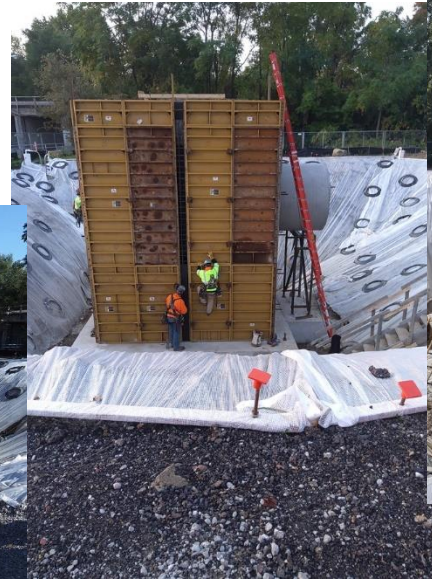


220 Feet





# Drop Shaft #12 - 95% complete



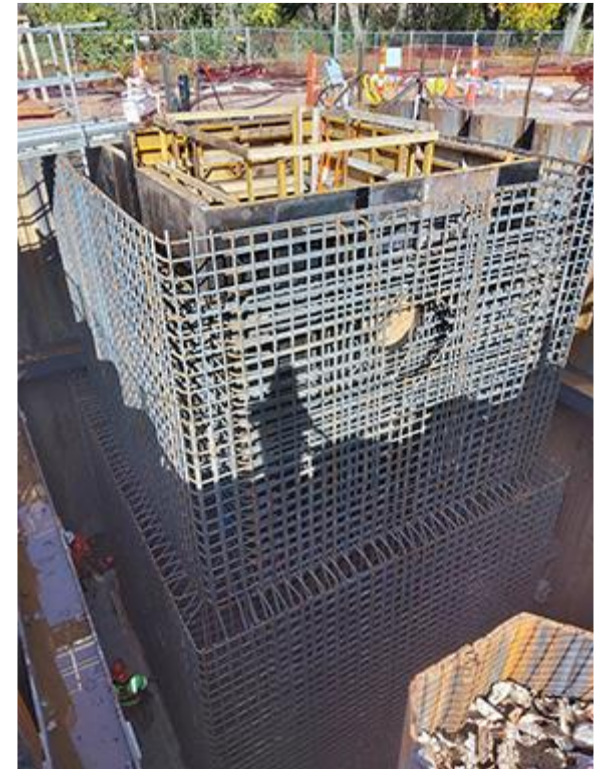
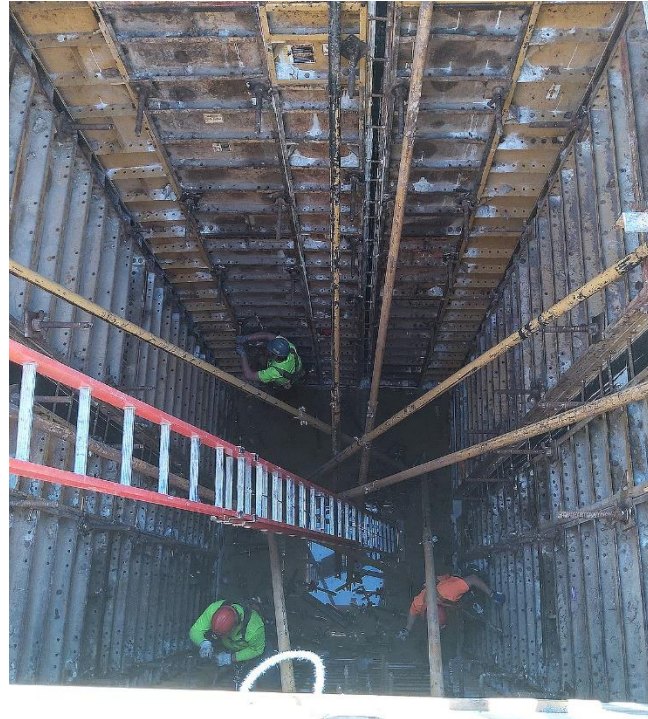


# Drop Shaft #9 - 100% complete





# Drop Shaft #7 - 75% complete



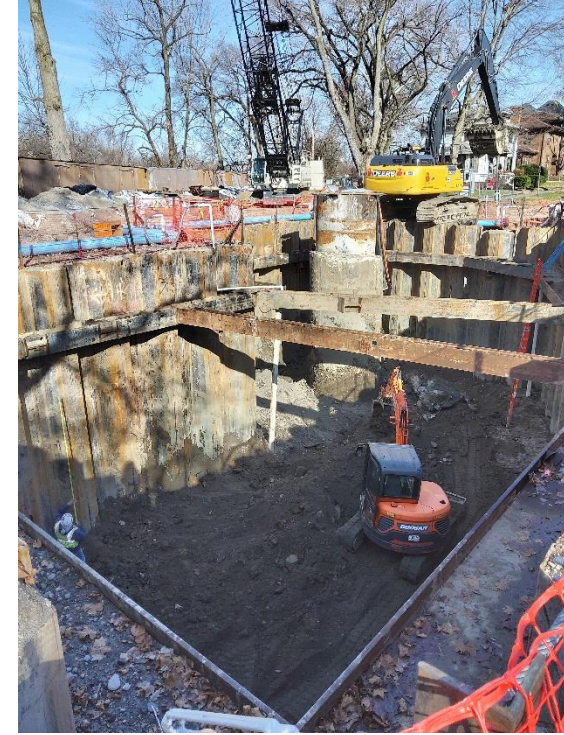


# Drop Shaft #6 - 90% complete



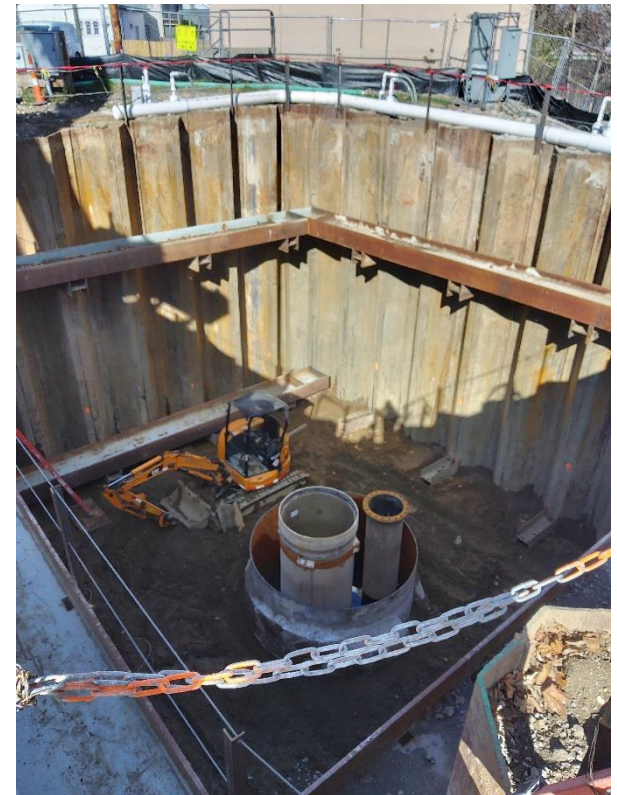


# Drop Shaft #5 - 60% complete



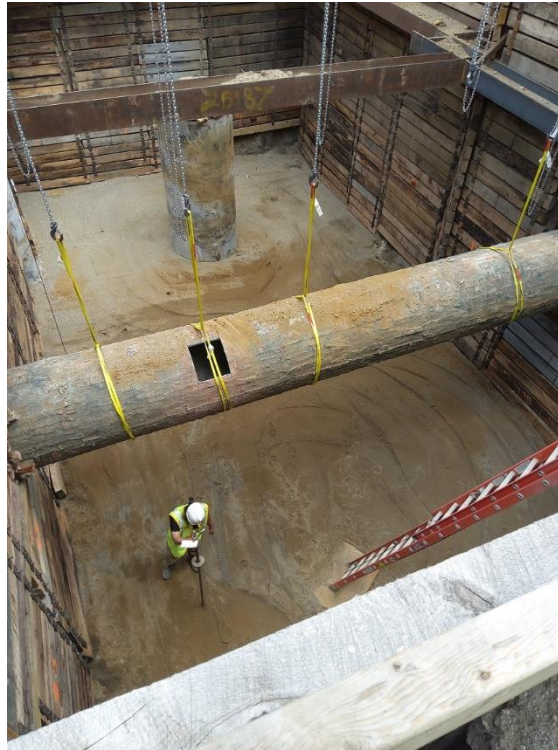
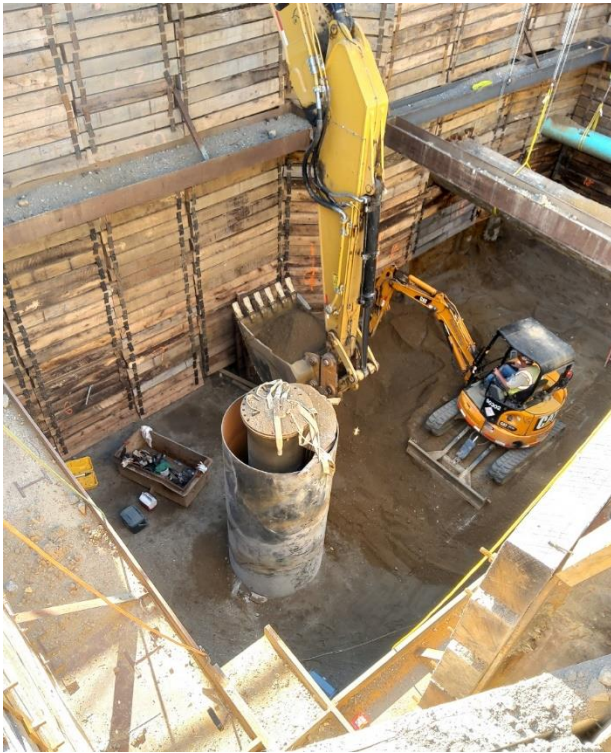


# Drop Shaft #3 - 75% complete





# Drop Shaft #2 - 80% complete





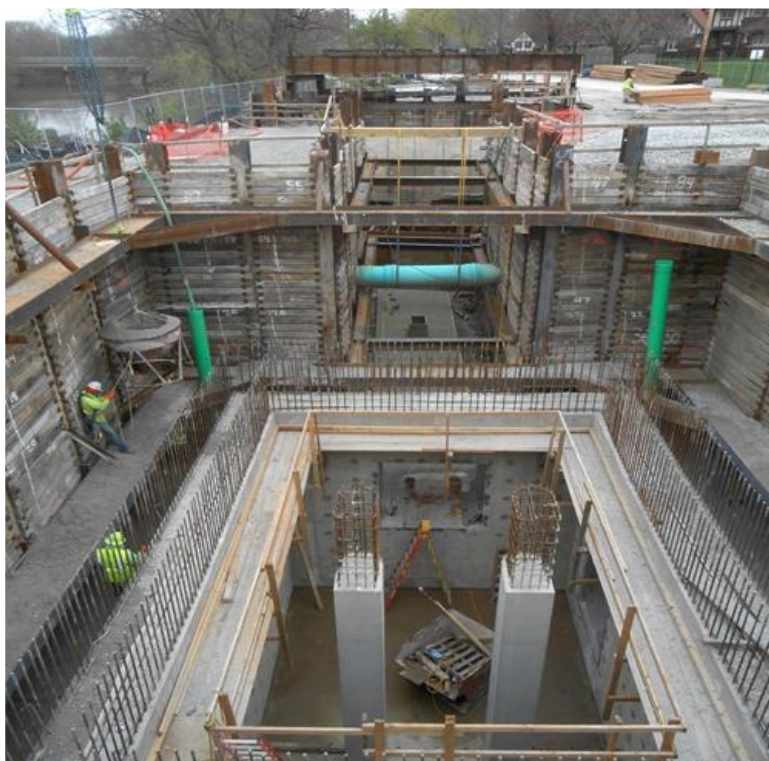
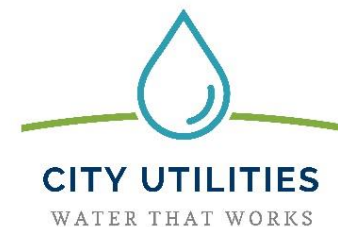
# Drop Shaft #1 - 40% complete



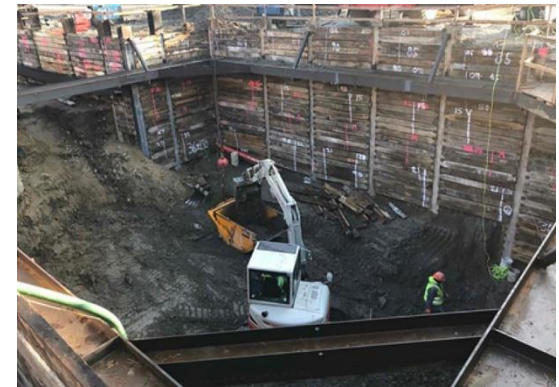




# Sizeable Construction

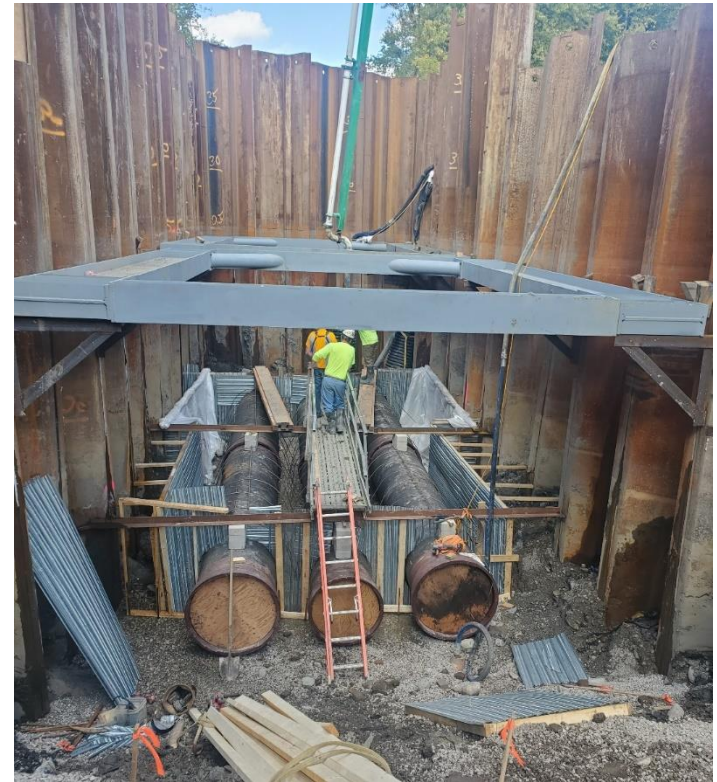


# Rudisill/Broadway Consolidation Sewer





# Third Street Consolidation Sewer



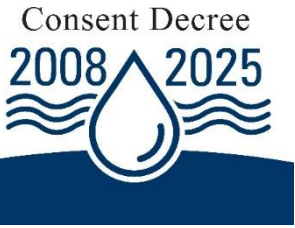




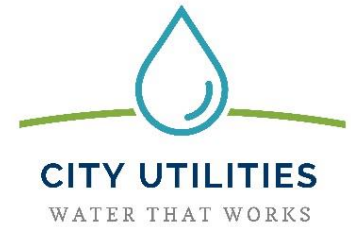
# Superior Street Consolidation Sewer





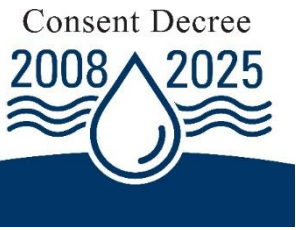


# Upcoming Consolidation Sewers

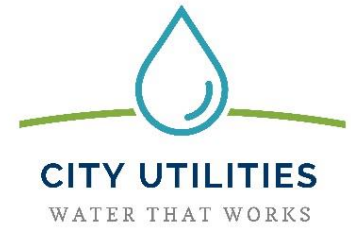


East Central Park  
Superior & Spy Run  
Superior by Superior Circle  
Camp Allen  
Brown Street  
Foster Park



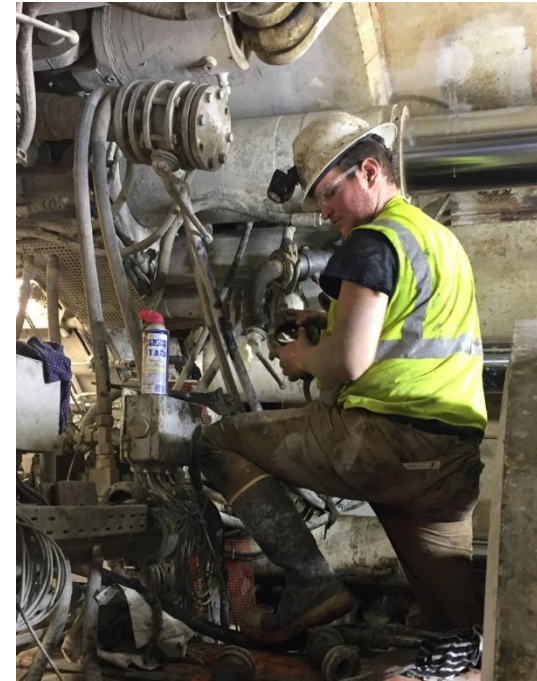
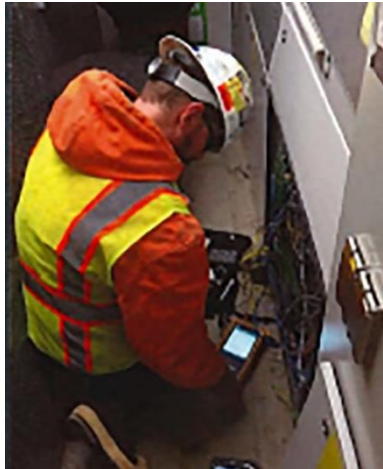


# Supporting Jobs

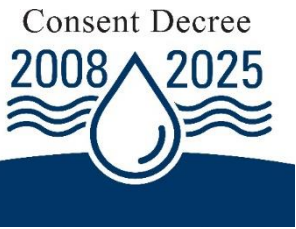


2008-2020 - 19,000

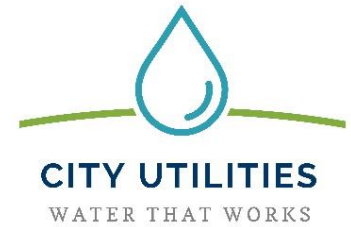
2021-2025 - 8,700







# Supporting Development



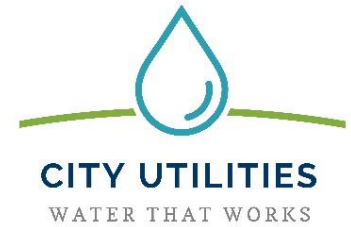
COLLEGE of PHARMACY

East Central Park  
Superior & Sky Run  
Superior  
Camp A  
Brown





# Supporting Development



The Village at Woodfield



**Lakes  
of  
Woodfield**

*Sage Pointe...*  
**MILAGRO**



*River Hollow*

**Hawthorne Park Estates**





# Restoring Our Rivers Protecting Our Neighborhoods

