

# One Region. Partners in Development.



[www.danc.org](http://www.danc.org)

Village of Clayton  
Development Authority Partnership



# Introductions

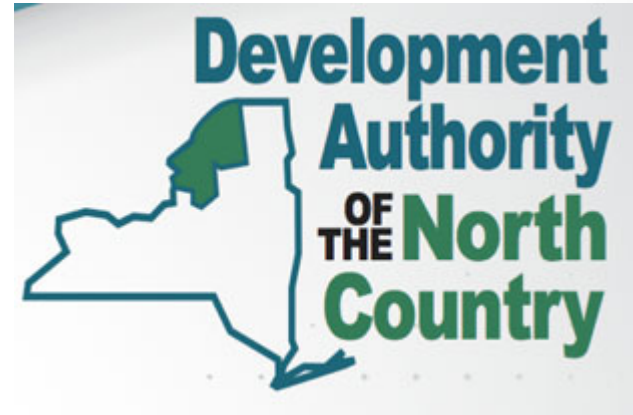
- Carrie Tuttle, PHD, PE, CSP – Chief Operating Officer
- Kevin Feuka, PE – Director of Engineering
- Brian Nutting – Director of Water Quality Management
- Star Carter – GIS Supervisor
- Christian Fout – Water Quality Supervisor II
- Thomas Haynes, PE – Water Quality Supervisor I

# History of Partnership

- 2007 – Address cause of sewer odors and address NASA complaints
- 2009 – Completion of the Village's 1<sup>st</sup> AMP
- 2010 – Began Providing Water/Wastewater Management Services
- 2011 – Geographic Information System (GIS) Mapping
- 2013 – Long Term Control Plan & Offset Control Plan
- 2014 – Sewer and Pump Station Rehabilitation Project
- 2015 – Addressed Combined Sewer Overflows, WWTP & WTP Roof Replacement Project
- 2016 – Bartlett Point Water District Formed, Investigation of Inflow & Infiltration, Replaced Aeration Blowers
- 2017 – Water Treatment Plant & Distribution Upgrade Project, Bartlett Point Grinder Pump Station Relocation, Water Meter Replacement
- 2018 – SBR Tank Cleaning & Diffuser Membrane Replacement
- 2020 – Historic District Sewer Lateral Replacement
- 2021 – Inflow & Infiltration Engineering Report, Wastewater Collection & Treatment Improvements Project

# Water Quality Management

- Hiring a Management Team
  - Pool Resources and Experience
  - Primary Supervisor
  - Continuous Coverage
- Current Supervisors
  - Thomas Haynes – Professional Engineer, 2A Wastewater
  - Christian Fout – 4A Wastewater
  - David Rohe – 3A Wastewater, IIA/IIB/C/D Water
  - Robert Stevenson – 3A Wastewater, IIA/IIB Water



# Supervisor's Responsibilities

- DOH & DEC Permit Compliance
  - Operator of Record
  - Sampling Schedule
  - Operational Changes
- Regulatory Reporting
  - Monthly, Quarterly, and Annual
  - 38 Reports

SPDES Number: **NY0027545**  
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## INTERIM PERMIT LIMITS, LEVELS AND MONITORING

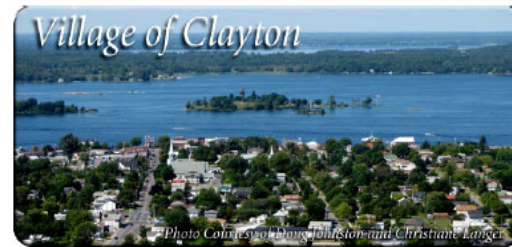
OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING					
001	All Year Round	St. Lawrence River	12/01/2020	Upon notice of completion of facility upgrade + 60 days					

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
Flow	Monthly Average	1.1	MGD	-	-	Continuous	Recorder	X	-	-
Flow	Daily Max	Monitor	MGD	-	-	Continuous	Recorder	X	-	-
BOD <sub>5</sub>	Monthly Average	30	mg/l	280	lbs/d	1/Week	24-hr. Comp.	X	X	1
BOD <sub>5</sub>	7-day average	45	mg/l	410	lbs/d	1/Week	24-hr. Comp.	X	X	-
Solids, Suspended	Monthly average	30	mg/l	280	lbs/d	1/Week	24-hr. Comp.	X	X	1
Solids, Suspended	7-day average	45	mg/l	410	lbs/d	1/Week	24-hr. Comp.	X	X	-
Solids, Settleable	Daily Max.	0.3	ml/l	-	-	2/Day	Grab	X	X	-
pH	Range	6.0 – 9.0	SU	-	-	2/Day	Grab	X	X	-
Total Ammonia (as N)	Daily Max	Monitor	mg/l	Monitor	lbs/d	Monthly	24-hr. Comp.	X	X	-
TKN (as N)	Daily Max	Monitor	mg/l	Monitor	lbs/d	Monthly	24-hr. Comp.	X	X	-
Temperature	Monthly Average	Monitor	°F	-	-	2/Day	Grab	X	X	-
Temperature	Daily Max.	Monitor	°F	-	-	2/Day	Grab	X	X	-
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	1/Week	24-hr. Comp.	X	X	-
Mercury	Daily Maximum	50	ng/L	-	-	1/Month	Grab		X	-
EFFLUENT DISINFECTION - Required All Year		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL	-	-	1/Week	Grab	-	X	-
Coliform, Fecal	7-Day Geometric Mean	400	No./100 mL	-	-	1/Week	Grab	-	X	-
Chlorine, Total Residual	Daily Maximum	2.0	mg/L	-	-	2/Day	Grab	-	X	4
WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote	-	-	15	TUa	1/Quarter	See footnote	-	X	2, 5
WET - Acute Vertebrate	See footnote	-	-	15	TUa	1/Quarter	See footnote	-	X	2, 5
WET - Chronic Invertebrate	See footnote	-	-	100	TUc	1/Quarter	See footnote	-	X	2, 5
WET - Chronic Vertebrate	See footnote	-	-	100	TUc	1/Quarter	See footnote	-	X	2, 5

# Supervisor's Responsibilities

- Health and Safety
  - Village Health and Safety Manual
  - Spill Prevention Plan, PE Stamped
  - PPE Assessments
  - Health and Safety Inspections
- Acting Village Department Head
  - Regulatory Requirements
  - Asset Management
  - Village Employee Supervision
  - Budget Management



## Spill Prevention Report Lift Station 1A

Prepared By:





# Supervisor's Responsibilities

- Asset Management
  - Annual Plan Update
  - Standard Operating Procedures
  - Computerized Work Order Maintenance System
    - <https://danc.nexgenam.com/App#/AssetInventory/List>
- Village Employee Supervision
  - Repairs – Preventative and Corrective
  - Staffing Schedule – Daily Coverage
  - Training – Safety and Regulatory

Training Topic	2022 dates
Fall Protection	11/23/2021
Fall Protection	11/30/2021
Contractor Safety	12/9/2021
Contractor Safety	12/16/2021
Hearing Conservation	12/9/2021
Hearing Conservation	12/16/2021
Compressed Gas	1/13/2022
Lock-Out Tag Out	1/13/2022
Crane & Hoist	2/10/2022
HazComm	2/10/2022
Crane & Hoist	2/17/2022
HazComm	2/17/2022
Compressed Gas	2/22/2022
Lock-Out Tag Out	2/22/2022
Electrical Safety	3/3/2022
PPE	3/10/2022
Accident Investigation	3/10/2022
PPE	3/17/2022
Powered Industrial Lift - Aerial Lift	3/24/2022
Fork Lift (Powered Industrial Truck)	3/24/2022
Electrical Safety	3/31/2022
Test	4/14/2022
Hot Work Program	4/14/2022
Test	4/21/2022
Hot Work Program	4/21/2022
Bloodborne Pathogen w/JSA review for Sharps	5/12/2022
Bloodborne Pathogen w/JSA review for Sharps	5/19/2022
Confined Space for Supervisors, Entrants, Attendants, Rescue Drill, and Permit Process Review	6/9/2022
Confined Space for Supervisors, Entrants, Attendants, Rescue Drill, and Permit Process Review	6/16/2022

# Supervisor's Responsibilities

- Budget Management
  - Combined Budget \$2 million
  - More than Invoice Review
  - 1019 Customers
  - Annual Recommendations
- Capital Projects
  - Recommend Projects Annually
  - Oversee Construction Operational Concerns







# Engineering Division

**Our Services to the Village of Clayton include:**

- Program Management
- Fiscal Coordination
- Grant Administration
- Technical Advisor

# Engineering Division

## PROGRAM MANAGEMENT

### What is “Program Management”?

- Overall coordination from planning stage, through funding, into implementation and close-out.
- “Owner’s” Agent and Technical Advisor to ensure all needs and expectations are met.
- Management that complements, ***not duplicates***, the services of all team partners: legal/bonding counsel, financial advisors, auditors, funding agencies, consulting engineers, contractors, etc.

# Engineering Division

## FISCAL COORDINATION and GRANT ADMINISTRATION

### Recent and Ongoing Projects

**\$5M NYSDOT Historic District “Loop Project”:** Road reconstruction/resurfacing, sanitary sewer lateral replacement, burial of overhead electrical lines.

- Program Management: 2014 – present
- Fiscal Coordination: short- and long-term financing
- Primary Funding: USDA Rural Development (RD) Loan
- Grant Administration
  - NYS Empire State Development (ESD)
  - NYS Department of State (DOS)
  - Northern Border Regional Commission (NBRC)

# Engineering Division

## FISCAL COORDINATION and GRANT ADMINISTRATION

### Recent and Ongoing Projects

#### **\$11.3M Wastewater Treatment Plant (WWTP) and Collection System**

**Improvements:** WWTP Upgrades and collection system improvements

- Program Management: 2019 – present
- Fiscal Coordination: short- and long-term financing
- Primary Funding: USDA RD Loan
- Grant Administration:
  - NYS Environmental Facilities Corporation (EFC) Water Infrastructure & Improvement Act (WIIA) Program
  - NYS EFC REDI Program
  - Village of Clayton Local Match

# Engineering Division

## FISCAL COORDINATION and GRANT ADMINISTRATION

### Recent and Ongoing Projects

#### **\$6.5M NYS Resiliency & Economic Development Initiative (REDI)**

**Improvements:** Protect prominent Village features from potential future flood damage, including: The Riverwalk, Crib Dock at Mary Street Boat Launch, Village Docks by Veteran's Monument and the Frink Park Regional Dock.

- Program Management: 2019 – present
- Fiscal Coordination: short-term financing
- Grant Administration
  - NYS EFC REDI Program
  - Village of Clayton Local Match
  - Northern Border Regional Commission

# Engineering Division

## TECHNICAL ADVISORS

Supporting water/wastewater management, general Village O&M, small and large projects, or just general Village day-to-day questions.

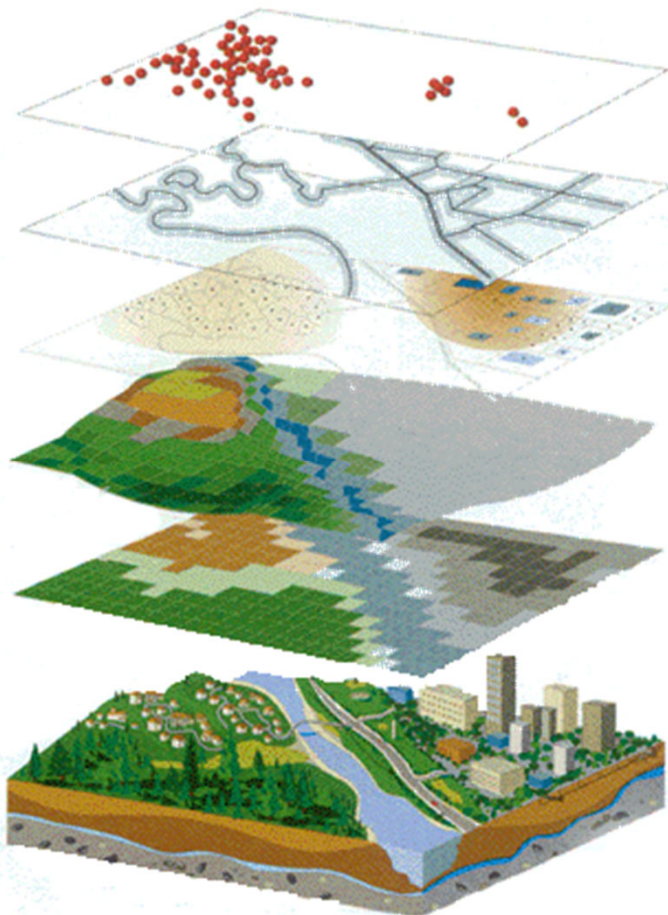
- 4 Licensed Professional Engineers with degrees and experience in:
  - Site/Civil Engineering
  - Environmental (Water/Wastewater) Engineering
  - Structural Engineering
  - Architecture
  - Roadway and Storm Water Design
  - Prior Service as an “Interim Municipal Engineer”

***Like an “in-house” municipal engineering department***



# GIS Services

## Geographic Information Systems A Digital Simulation Of The Real World



- Points
  - Curbstops, Signs, Hydrants
- Lines
  - Water Mains, Roads
- Polygons
  - Parcels, Counties, Towns
- Rasters
  - + • Imagery, Elevation (DEM)

**= Simulation of Real World**

# GIS Services

Clayton has mapped several types of infrastructure over the years. The Village is one of the most active GIS hosting customers, building their database over time and making corrections and additions with each infrastructure project.

## Clayton's GIS Database includes:

### ➤ Water

- Mains
- Laterals
- Valves
- Meters
- Hydrants
- Curbstops

### ➤ Storm

- Pipes
- Outfalls
- Manholes
- Catch Basins

### ➤ Sewer

- Mains
- Laterals
- Manholes
- Cleanouts
- Grinder Pumps
- Air Release Valves
- Pump Stations

### ➤ Other

- Curbs
- Pavement
- Sidewalks
- Pavement
- Street Lights
- Trees



# GIS Services

## More than just maps...

GIS links location coordinates with information and details to enable users to visualize patterns, relationships, and trends. This allows for data analysis that cannot be seen in a simple table or on a paper map.

**Feature** = Thing to be located or mapped (sewer main)

**Attribute** = Information about that feature (material, diameter, type, etc.)

**The database allows users to ask the map questions and receive useful answers.**

Customer.SDE.Sewer_Main											
Flow Type	Material	Diameter	Slope	Length	Upstream Invert	Downstream Invert	Upstream Manhole	Downstream Manhole	Comment	Lining Installed	Lining Material
Gravity	Vitrified Clay	10	0.004	120	264.28	263.82	Manhole 89A	Manhole 89	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.006	273	265.81	264.28	Manhole 91	Manhole 89A	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.006	220	267.05	265.381	Manhole 91A	Manhole 91	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	<Null>	10	270.7	267.05	Manhole 92	Manhole 92A	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.006	126	271.44	270.7	Manhole 92A	Manhole 92	Update 2014	No	<Null>
Gravity	Vitrified Clay	10	0.006	183	272.89	<Null>	Manhole 92B	Manhole NewMH 92C	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.006	150	273.77	272.89	Manhole 93	Manhole 92B	Update 2014	No	<Null>
Gravity	Vitrified Clay	10	0.006	270	275.37	273.77	Manhole 93A	Manhole 93	Update 2014	No	<Null>
Gravity	Vitrified Clay	10	0.006	36	275.58	275.37	Manhole 94	Manhole 93A	Update 2014	No	<Null>
Gravity	Vitrified Clay	8	0.005	361	277.27	275.37	Manhole 202	Manhole 93A	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.006	301	277.35	275.58	Manhole 95	Manhole 94	Update 2014	Yes	CIPP
Low Pressure	PVC	0	<Null>	148	<Null>	<Null>	Manhole 207	Manhole 205	Location of low pressure sewer lines provide	No	<Null>
Low Pressure	PVC	125	<Null>	193	<Null>	<Null>	Manhole 208	Manhole 205	Location of low pressure sewer lines provide	No	<Null>
Gravity	Vitrified Clay	8	0.025	523	271.23	258.05	Manhole 209	Manhole 23	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	<Null>	604	<Null>	<Null>	Manhole 210	Manhole 99	<Null>	No	<Null>
Gravity	Vitrified Clay	10	0.035643	249	270.2	261.33	Manhole 69	Manhole 66	<Null>	No	<Null>
Gravity	Vitrified Clay	8	<Null>	299	<Null>	<Null>	Cleanout 14	Manhole 66	<Null>	No	<Null>
Gravity	Vitrified Clay	12	0.001917	402	261	260.23	Manhole 66	Manhole 64	<Null>	No	<Null>
Gravity	Vitrified Clay	8	0.0043	366	255.76	240	Manhole 12	W Union St PS	Update 2014	No	<Null>
Gravity	Vitrified Clay	8	0.002	268	256.26	255.76	Cleanout 14	Manhole 12	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	<Null>	240	<Null>	268.93	Cleanout 15	Manhole 57	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	<Null>	254	<Null>	<Null>	Cleanout 13	Manhole 66	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.007	331	279.74	275.23	Manhole 96	Manhole 95	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.005	423	281.73	279.74	Manhole 97	Manhole 96	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.037	97	285.47	281.73	Manhole 97A	Manhole 97	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.037	350	296.68	285.47	Manhole 98	Manhole 97A	Update 2014	Yes	CIPP
Gravity	PVC	8	0.004	41	290.74	290.55	Manhole 211	Manhole 212	<Null>	No	<Null>
Gravity	PVC	8	0.004	285	290.45	289.3	Manhole 212	Manhole 213	<Null>	No	<Null>
Gravity	PVC	8	0.004	353	289.2	287.83	Manhole 213	Manhole 214	<Null>	No	<Null>
Gravity	Vitrified Clay	8	0.001	446	251.93	252.9	Cleanout 7	Manhole 80	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	10	0.004	517	<Null>	264.93	Cleanout 20	Manhole 39	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.004	139	268.04	267.54	Cleanout 18	Manhole 44	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.004	119	<Null>	262.47	Cleanout 21	Manhole 34	Update 2014	Yes	CIPP
Gravity	Vitrified Clay	8	0.002	282	274.84	274.24	Cleanout 4	Manhole 82	Update 2014	Yes	CIPP

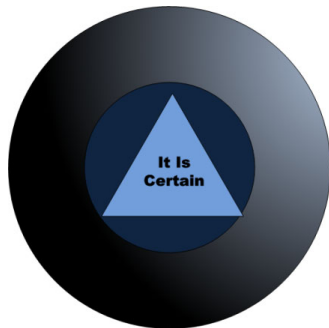
# GIS Services



## The Magic 8 Ball of Maps...

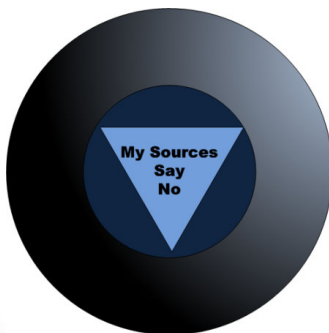
GIS is a map with a database behind it that answers questions.

**Are there sewer mains on the east side of the Village of Clayton?**



Yes, the data includes sewer mains within the Village of Clayton boundary on the east side.

**Are any of those sewer mains classified as 6" force mains?**



No, the data does not show 6" force mains.



# GIS Services

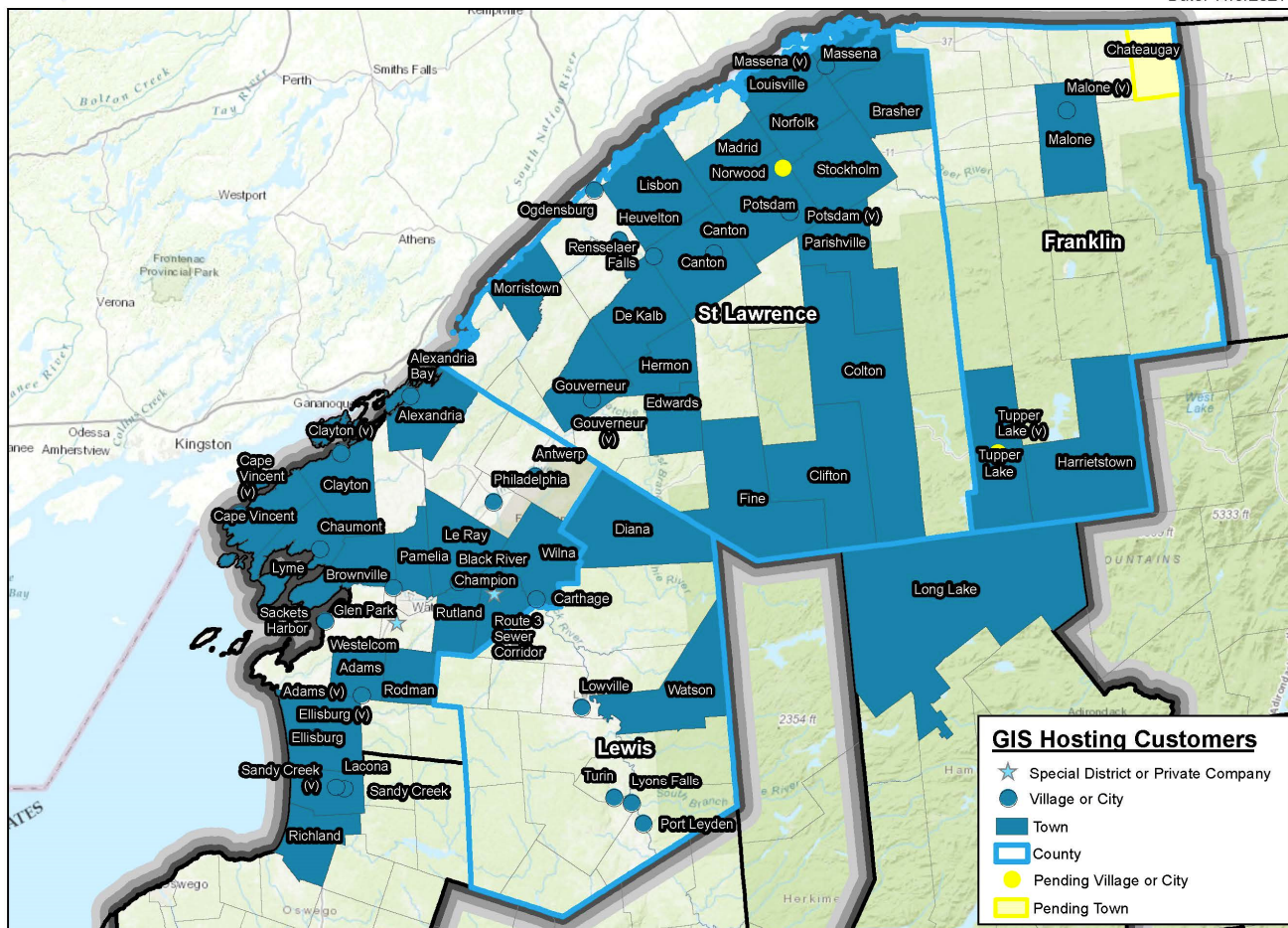
Clayton is part of the Authority's regional shared services GIS platform.

Customers save money by sharing the cost of GIS software and staff labor, and benefit from the efficiency of sharing the same data layers and online mapping platform.



## GIS Hosting Customers - FYE 23

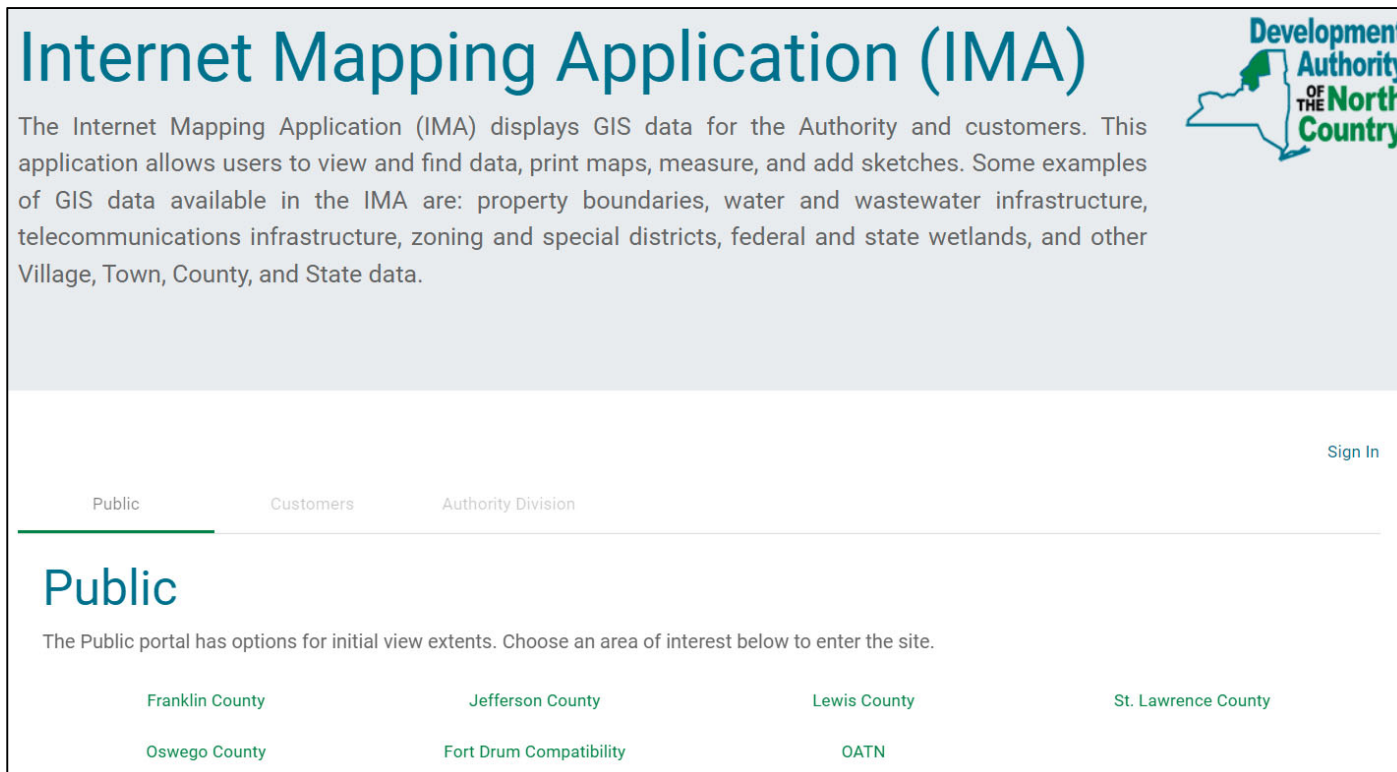
Date: 11/9/2021



# GIS Services

Clayton has access to the desktop Internet Mapping Application (IMA) and the mobile app as part of their GIS services.

Clayton Operators and DPW staff use these resources often – average of 20 portal log-ins per month in the last year. Authority GIS staff are also available for field work, GPS locating assistance, and map creation.



**Desktop IMA** – Accessible from any device with an internet connection.



# GIS Services

## How GIS Fits into the “Big Picture”

**GIS data is integral to other municipal projects:**

- Asset Management Plans
- Water/Sewer Rate Studies
- Water and Sewer Infrastructure Projects
- Municipal Efficiency/Consolidation Studies (including special districts)



**Municipalities that develop and maintain GIS data for municipal assets and infrastructure already have fundamental pieces of the information they need to complete these types of projects.**

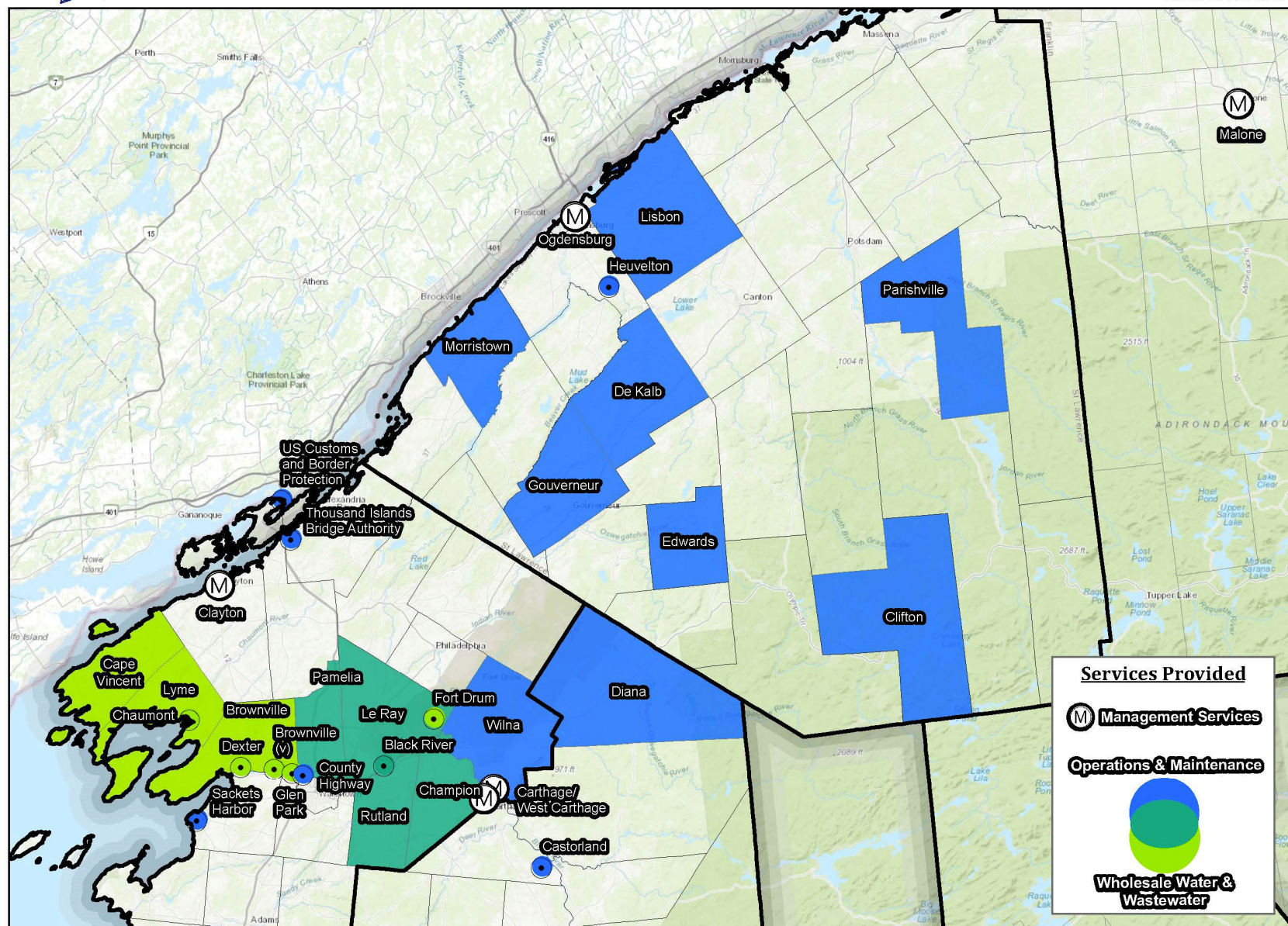


# Water Quality Division

- Additional Resources
- 16 Operators/Technicians
- Specialized Equipment
  - Closed Circuit Television Sewer Camera
  - 6" & 8" Portable Bypass Pumps
  - Service Truck with Crane
  - Vac Trailer/ Valve Maintenance Trailer
- Services
  - Sewer Jetting
  - Leak Detection
  - Pipe Thawing
  - Underground Utility Location
  - Water and Sewer Connection Inspection
  - Certified Backflow Preventer Inspection

## Water Quality Customers - FYE 23

Date: 2/11/2022





# Water Quality Prior Services

- Annual Backflow Preventer Certification
- East Union Pump Station Repair (\$10,000 savings)
- Emergency Material Supply Winter 2021
- Closed Caption Television Sewer Lines

## Project Name: Clayton Sanitary Sewer

Date: 9/23/2010 11:20:00 AM

Location: Merick

Length Surveyed: 10.6

Run Number: 69

Pipe Size: 8"




Asset ID:

Upstream MH Number: co 6a

Downstream MH Number: 22a

Direction Of Survey: Upstream

Pipe Material: Clay Tile

Distance	Fault Observation	Time	Picture
6.0	Crack length of pipe sections Severity: None Percent: 0	47	
8.5	Lateral Left ,protruding Severity: None Percent: 0	01:22	
10.6	can get passed protruding lateral, end of run Severity: None Percent: 0	02:16	

# Management Services Agreement

- Current Agreement
  - Coincides with Village Fiscal Year
  - 5-Year Term Expires:  
5/31/2022
  - Includes GIS Services
  - Includes Authority Team
  - Contract Amount: \$137,445
- Proposed Agreement
  - Continuation Scope of Services
  - 5-Year Term:  
6/1/2022 – 5/31/2027
  - First Year Contract Amount:  
\$140,194

The annual fee for Management Services shall be as follows:

June 1, 2022 – May 31, 2023 - **\$140,194**  
June 1, 2023 – May 31, 2024 - **\$142,998**  
June 1, 2024 – May 31, 2025 - **\$145,858**  
June 1, 2025 – May 31, 2026 - **\$148,775**  
June 1, 2026 – May 31, 2027 - **\$151,750**

 Questions or Comments? 

