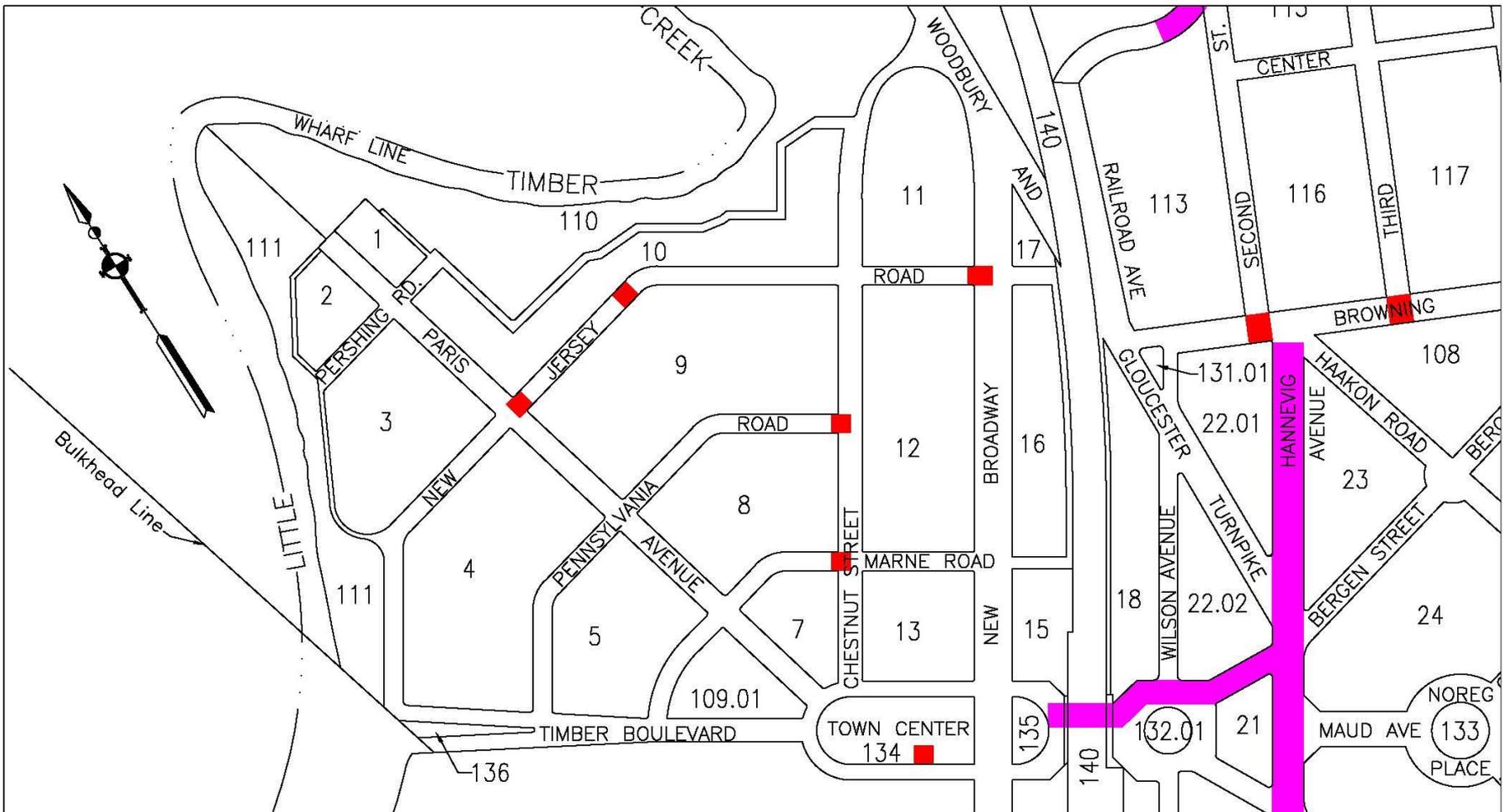


Outline for Brooklawn Sewer and Water Project



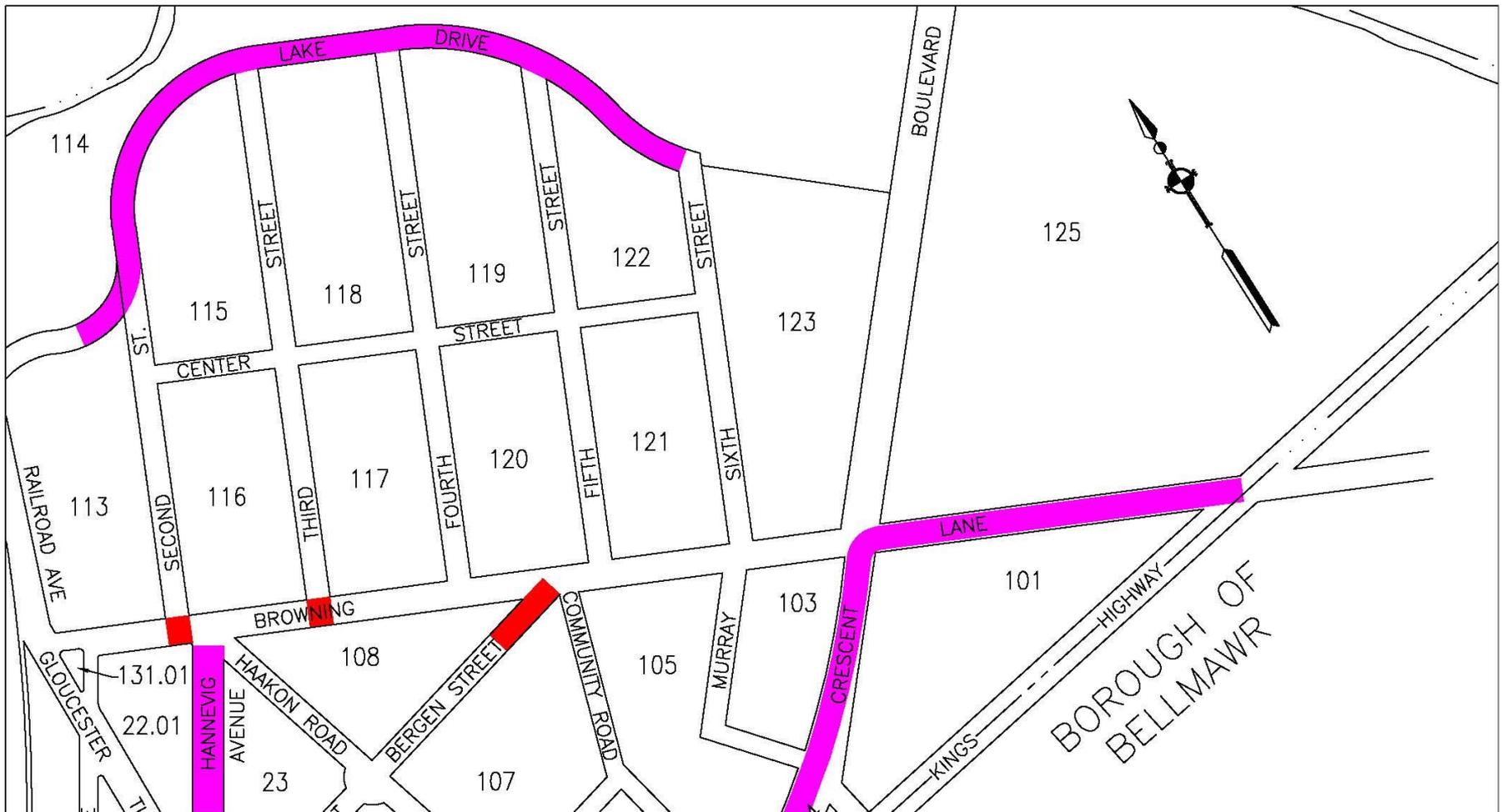
Sewer and Water Project Map

■ WATER PROJECTS:

- MAIN LOOPS:**
- CHRISTIANA STREET
 - DELAWARE STREET
 - BERGEN STREET
 - OLD SALEM ROAD
- VALVE REPLACEMENTS**
- HYDRANT REPLACEMENTS**
- WATER PLANET IMPROVEMENTS:**
- NEW CLARIFIER
 - NEW AERATOR
 - MEDIA REPLACEMENT

■ SANITARY SEWER PROJECTS:

- SANITARY MAIN REPLACEMENT:**
- LAKE DRIVE
 - BROWNING ROAD
 - NORTH AND SOUTH HANNEVIG
 - ROUTE 130 (BROWNING ROAD TO HAAKON ROAD)
- MANHOLE REPLACEMENTS**
- PUMP STATION REPLACEMENT**



Sewer and Water Project Map

WATER PROJECTS:

MAIN LOOPS:

- CHRISTIANA STREET
- DELAWARE STREET
- BERGEN STREET
- OLD SALEM ROAD

VALVE REPLACEMENTS

HYDRANT REPLACEMENTS

WATER PLANET IMPROVEMENTS:

- NEW CLARIFIER
- NEW AERATOR
- MEDIA REPLACEMENT

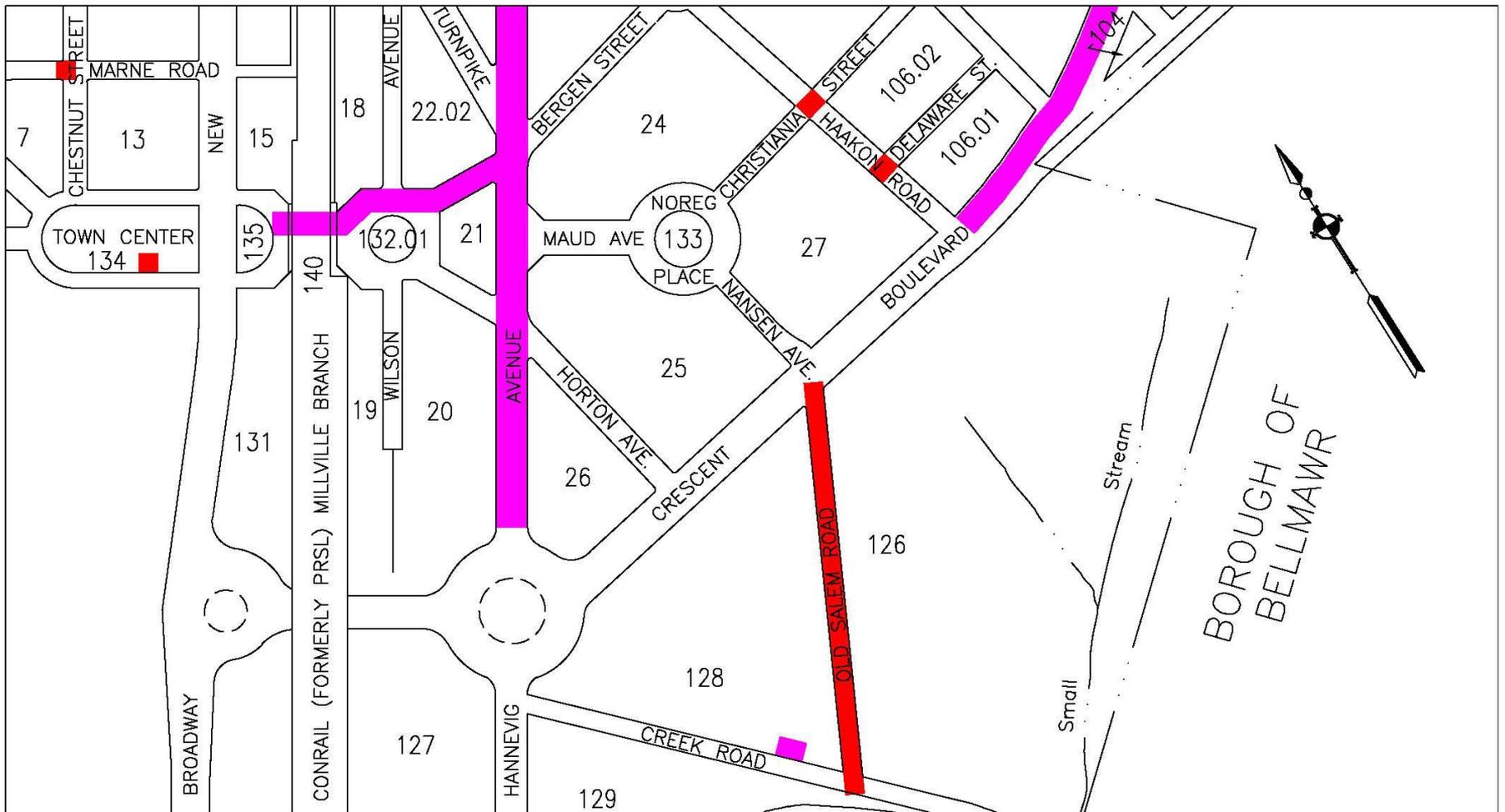
SANITARY SEWER PROJECTS:

SANITARY MAIN REPLACEMENT:

- LAKE DRIVE
- BROWNING ROAD
- NORTH AND SOUTH HANNEVIG
- ROUTE 130 (BROWNING ROAD TO HAAKON ROAD)

MANHOLE REPLACEMENTS

PUMP STATION REPLACEMENT



Sewer and Water Project Map

WATER PROJECTS:

MAIN LOOPS:

- CHRISTIANA STREET
- DELAWARE STREET
- BERGEN STREET
- OLD SALEM ROAD

VALVE REPLACEMENTS

HYDRANT REPLACEMENTS

WATER PLANET IMPROVEMENTS:

- NEW CLARIFIER
- NEW AERATOR
- MEDIA REPLACEMENT

SANITARY SEWER PROJECTS:

SANITARY MAIN REPLACEMENT:

- LAKE DRIVE
- BROWNING ROAD
- NORTH AND SOUTH HANNEVIG
- ROUTE 130 (BROWNING ROAD TO HAAKON ROAD)

MANHOLE REPLACEMENTS

PUMP STATION REPLACEMENT

SANITARY SEWER SYSTEM

- **How the system was designed**
 - **Terra cotta pipe segments 2 feet long. Joints made with Jute Rope**
 - **Cast iron force main w/ lead joints**
 - **Brick manholes w/ 24" diameter castings**
- **What age has done to the system**
 - **Jute Rope disintegrated**
 - **Tree root intrusion**
 - **Cracked and settled piping**
 - **Manholes are deteriorating**
 - **Grease build-up**
 - **Numerous sump pump discharges have been connected**

Result

Very bad blockages due to:

- **Severe grease build-up**
- **Very bad tree root intrusion**
- **Severe groundwater infiltration in pipe joints and manholes**
- **Excessive inflow from sump pumps have jeopardized the capacity of the pipe**

WATER SYSTEM

- **How the system was designed**
 - **Cast iron pipe with lead joints**
- **What age has done to the system**
 - **Joints become brittle and leak**
 - **Inside of pipe become turbocolated**
 - **Valves no longer open and close**
 - **Hydrants do not function properly**
 - **The equipment at the water plant no longer functions efficiently to maintain proper water quality**

Result

- **Leaking and broken pipe mains**
- **The system can't be isolated to make repairs if a leak occurs**
- **Hydrants can't be used properly during an emergency**
- **Water quality is compromised**

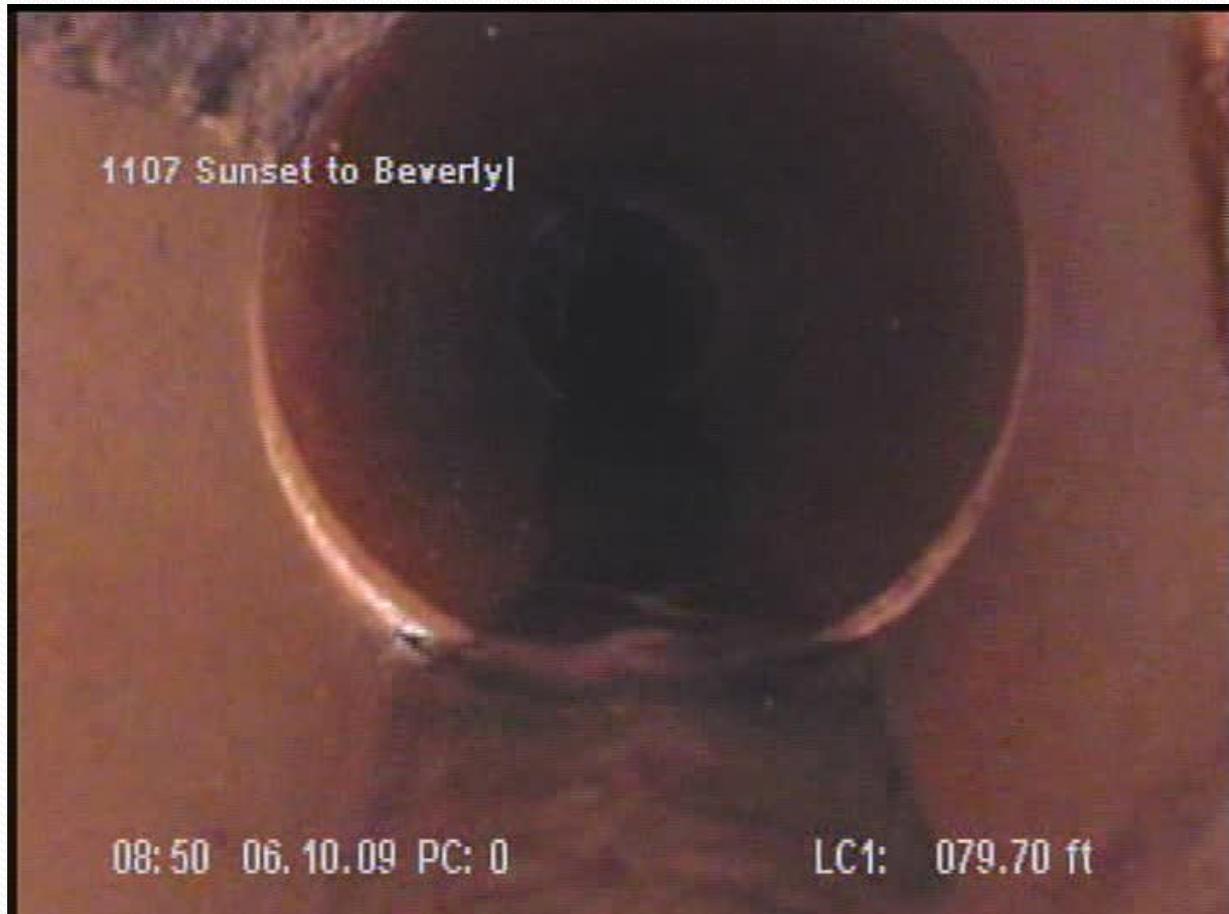
- **Photos of deteriorated sewer mains**



- **Photos of manholes**



Example of Terra Cotta Pipe in Good Condition



Vassar Ave Dead End to S. Browning
5/25/10]

12:33 25.05.10 PC: 0

LC1: 002.90 ft

Vassar Ave Dead End to S. Browning
5/25/10

12.37 25.05.10 IPC: 0

LC1: 004.20 ft

Manhole available dredged to Sunset
12/19/08 3rd attempt with small tires

12:00 19.12.08 PC: 0

LC1: 006.80 ft

Manhole at 802 Mildred to Sunset
12/19/08 3rd attempt with small tires

12:01:09.12.08 PC: 0

LC1: 008.20 ft

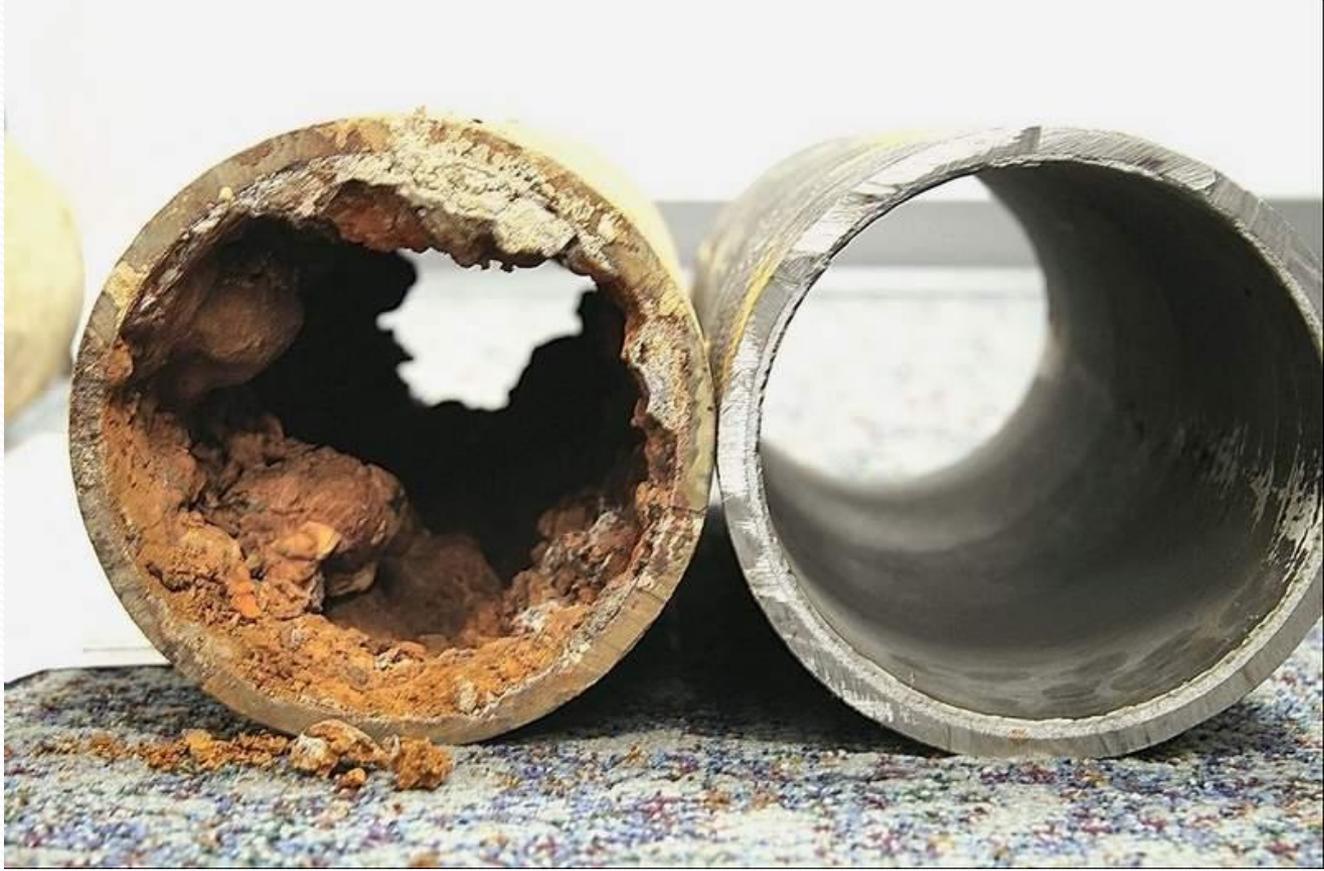
1007 Sunset to Beverlym |

08:56 06.10.09 PC: 0

LC1: 110.80 ft



- **IMAGES OF TURBOCOLATED PIPE**





How Does It Affect Me? (Sewer System)

- **Sanitary effluent can back up into homes and basements.**
- **Continual ground water infiltration and illegal sump pump connections cause pump stations to run constantly. This results in higher energy costs to operate the system.**
- **During times of inclement weather, rain water and ground water enter the system causing long sections of the system to be over burdened and effluent spills into the street.**
- **The system is well beyond its expected useful service life. Sewer main blockages that must be repaired in an emergency cost 2 to 3 times as much as scheduled or planned repairs.**

Past Sewer Main Emergency

- Brooklawn spent over \$100,000 in fixing a small area on Horton and Hannevig. This includes professionals, labor, and materials.
- A section sewer main was lined along Horton, two manholes were reconstructed, and part of the sewer main near Maude and Hannevig was reconstructed.
- This was not budgeted for in the Municipal Budget. All funding was created through an emergency capital note.
- If this project scope was done proactively, it would have cost approximately \$55,000.

How Does It Affect Me? (Water System)

- **Poor water quality and added expense to meet drinking water standards**
- **Poor water pressure and inadequate water flow in the homes**
- **Poor water pressure and inadequate water flow at hydrants for fire protection.**

We Have Been Getting By All This Time, What Are We Worrying About?

- **The cost of labor and materials are skyrocketing.**
- **Rain water and ground water intrusion is so high that the system can no longer handle the flow.**
- **The additional clear water flow is effecting the operations at the Camden County Municipal Utilities Authority plant in Camden.**
- **The water system is becoming difficult and expensive to maintain**
- **It is becoming harder for the water plant operations to meet the drinking water standards**

Proposed Sewer System Improvements

Sewer Main Restoration

- Portions of Lake Drive
- Browning Road – Route 130 to Kings Highway
- North and South Hannevig Avenue
- Route 130 – Browning Road to Haakon Road
- Bergen Street – Hannevig Avenue to the Rail Road
- Bergen Street under the Rail Road
- New Broadway Marne Road to New Jersey Road
- Route 130 – Nansen Avenue to Haakon Road

Manhole Repairs and Casting Replacements

- Various Locations throughout the system

Pump Station Projects

- Replacement of the Creek Road Pump Station
- Installation of Residential Pumps

Proposed Water System Improvements

Water Main Loop Projects

- Christiania Street
- Delaware Street
- Bergen Street
- Old Salem Road

Hydrant Replacements

- New Jersey Road at Chestnut Street
- Chestnut Street at Pennsylvania Road
- New Jersey Road and Paris Avenue
- New Jersey Road near House #220
- 300 Block of New Broadway
- 6th Street near House #200
- Lake Drive near House #156
- South Hannevig Avenue near House #200
- 300 Block of Paris Avenue

Valve Replacements

- At all hydrant Locations
- Marne Road at Chestnut Street
- New Broadway and New Jersey Road
- Browning Road near Water Tank, Browning at 2nd Street, Browning at 3rd Street.

Water Plant Improvements

- Purchase and Install a New Aerator
- Purchase and Install a New Clairifier
- Replace the Sand Medium in the Water Filters
- Redevelop Well Number 4

Possible Funding Sources

- **Municipal Bonding**
 - **Borrow the Money for 20 years at 5% interest**
 - OR -
- **New Jersey Environmental Infrastructure Trust**
 - **20 year Loan**
 - 1/2 **of the loan is at market rate**
 - 1/2 **of the loan is at 0%**
 - Result is a 20 year loan at about 2.5%**
 - OR -
- **United States Department of Agriculture**
 - **40 year loan at 3%**
 - **Possible Grant Money Available**

USDA Funding Application

- The Borough made application to the USDA for both water system and sewer system improvements
- **The USDA awarded the Borough of Brooklawn the following:**
 - Sewer Improvements: (\$1,648,000.00 Project) A Loan in the amount of \$1,537,000.00 for 40 years at 3.25% and a Grant in the amount of \$111,000.00
 - Water Improvements: (1,650,300.00 Project) A Loan in the amount of \$1,141,000.00 for 40 years at 3.25% and a Grant in the amount of \$509,300.00

User Impact Breakdown

- **Water:**

USDA	\$1,650,300.00
Grant	-\$509,300.00
Total Bond	\$1,141,000.00

Rate	3.25%
Years	40.00
Annual Payment	\$51,186.00 (payments are made semi annually)
Residential	716 user accounts
Commercial	77 user accounts
Total Billed	793 user accounts

Eligible for Discounts **43 user accounts**

Accounts Billed **750 user accounts**

Current Rate **\$296.00/yr or \$74.00/ qtr**

Annual increase Payment: **\$68.25**

4 Quarters **\$17.06**

Per Quarter **\$18.00 per quarter increase recommended**

User Impact Breakdown

- **Sewer:**

USDA	\$1,648,000.00
Grant	-\$111,000.00
Total Bond	\$1,537,000.00
Rate	3.25%
Years	40.00
Annual Payment	\$70,042.00 (payments are made semi annually)
Residential	\$716.00
Commercial	\$77.00
Total Billed	793 User Accounts
Eligible for Discounts -	43.00 User Accounts
Accounts Billed	750.00 User Accounts
Current Fee	\$128.00/ yr or \$32.00/ qtr
Annual Increase Payment:	\$93.39
4 Quarters	\$23.35
Per Quarter	\$24 per quarter increase recommended

Proposed 2015 Bill (3rd Quarter)

BOROUGH OF BROOKLAWN

301 CHRISTIANA STREET, BROOKLAWN, NJ 08030
856-456-0750

ACCOUNT NO.	BILLING DATE
28406-0	10/10/2015
SERVICE LOCATION	
XXX Second Street	
SERVICE CHARGE	BILLING PERIOD
7/1/2015	10/1/2015
CURRENT METER READING	ARREARS
51380	0.00
PREVIOUS METER READING	MINIMUM
50425	85.00
USAGE	EXCESS
900	0.00
ADJUSTMENTS	SEWER
0.00	45.00
DUE DATE	TOTAL AMOUNT DUE
11/10/2015	130.00

**PLEASE RETURN THIS
STUB WITH PAYMENT
MAKE CHECKS PAYABLE TO:
BOROUGH OF BROOKLAWN**

FIRST CLASS MAIL
U.S. POSTAGE PAID
PERMIT # 238
BELLMAWR, NJ

ACCOUNT NO.	
28406-0	
SERVICE LOCATION	
XXX Seconf Street	
DUE DATE	TOTAL AMOUNT DUE
11/10/2015	130.00

Proposed 2016 Bill (2nd Quarter)

BOROUGH OF BROOKLAWN

301 CHRISTIANA STREET, BROOKLAWN, NJ 08030
856-456-0750

ACCOUNT NO.	BILLING DATE
28496-0	7/10/16
SERVICE LOCATION	
XXX Secon Street	
SERVICE CHARGE	BILLING PERIOD
4/1/2016	6/30/2016
CURRENT METER READING	ARREARS
51380	0.00
PREVIOUS METER READING	MINIMUM
50425	94.00
USAGE	EXCESS
955	0.00
ADJUSTMENTS	SEWER
0	57.00
DUE DATE	TOTAL AMOUNT DUE
8/10/2016	151.00

**PLEASE RETURN THIS
STUB WITH PAYMENT
MAKE CHECKS PAYABLE TO:
BOROUGH OF BROOKLAWN**

FIRST CLASS MAIL
U.S. POSTAGE PAID
PERMIT # 238
BELLMAWR, NJ

ACCOUNT NO.	
48496-0	
SERVICE LOCATION	
XXX Second Street	
DUE DATE	TOTAL AMOUNT DUE
8/10/2016	151.00

Existing Ordinances

- **Residents Are Reminded of the Following Municipal and State Regulations:**
 - A. All fixtures with outlets emptying into the main sewer hereafter installed in cellars or basements of any or all buildings within the limits of the Borough of Brooklawn are done so solely at the risk of the owner. Any fixtures are required to have a back flow prevention device installed between the fixture and the sewer connection line.**
 - B. The Borough of Brooklawn will not be responsible for any damage or inconvenience sustained by any property owner owing to the backing of sewage into cellars or basements of any or all buildings where fixtures have been installed preceding the adoption of this Article.**
 - C. Maintenance of the house drain to the main sewer shall be the responsibility of the property owner.**
 - D. The Borough shall maintain the main sewer, manholes and pumping stations.**

Existing Ordinances

- **Residents Are Reminded of the Following Municipal and State Regulations Which Prevent the Following Discharges to Occur to the System:**
 - A. Sump Pumps**
 - B. Cellar Drains**
 - C. Leaders**
 - D. Downspouts**
 - E. Developer's Cellar Pits**
 - F. Foundation Underdrains**
 - G. Floor Drains**
 - H. Area or Yard Drains**
 - I. Industrial or Manufacturing Equipment Drains**
 - J. Conductors**
 - K. Air-Conditioning Equipment**
 - L. Stormwater Inlets**
 - M. Catch Basins**
 - N. Stormwater Conduits or Drains**
 - O. Grease**