APPENDIX C

FLOW METER INSTALLATION REPORTS

REGULATOR 034 STUDY AREA

FLOW METER OF-034 GEORGE

(Installed 11-20-2013)

Site Name / Manhole # Regulator 34_George

Investigation Date: 8/27/13 Time: 116:58 Crew Members: KE/MH

Installation Date: Time: Crew Members:

Address/Location: 229 George Street (across from New Haven Hotel, middle lane)

Latitude: N 41°18.283' Longitude: W 72°55.767'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 2.30 ft/sec

Depth 5.75 in

Turbulence Amplitude:

(Less than 0.25")
0.25" to 0.75"
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	48.25"		48.25"
Width	37"		37"
Material	Brick		Brick
Shape	Egg		Egg

Sediment Present:

~~Yes~~
(No) Hard packed: _____ in. deep
Soft: _____ in. deep

Surcharge / Backwater Influence:

No evidence visible
(Remains in pipe)
_____ ft from rim
Reaches Rim (potential meter damage)
Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)
Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)
Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)
(Traffic Control only (Requires extra traffic control)
Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __
Manhole depth 8'6"
Structural Integrity of Manhole:
Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole
Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole
Approx Distance to change: _____ ft
(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

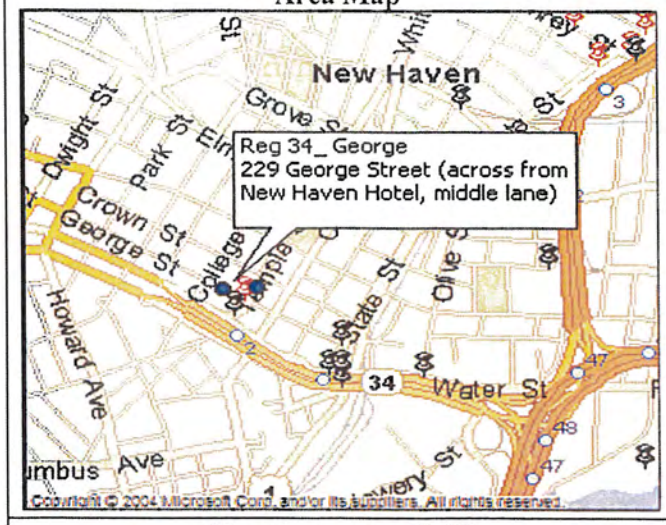
Sensor Configuration:

(Please include Serial Numbers when possible)

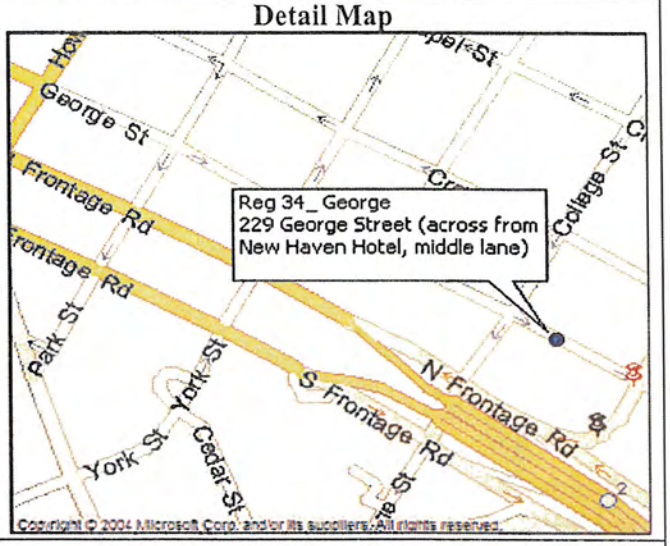
Level	Primary: 878 (Flowav)
	Redundant:
Velocity	Primary: 878 (Flowav)
	Redundant:
Meter Logger	Flowav 293662

Comments:

Area Map



Detail Map



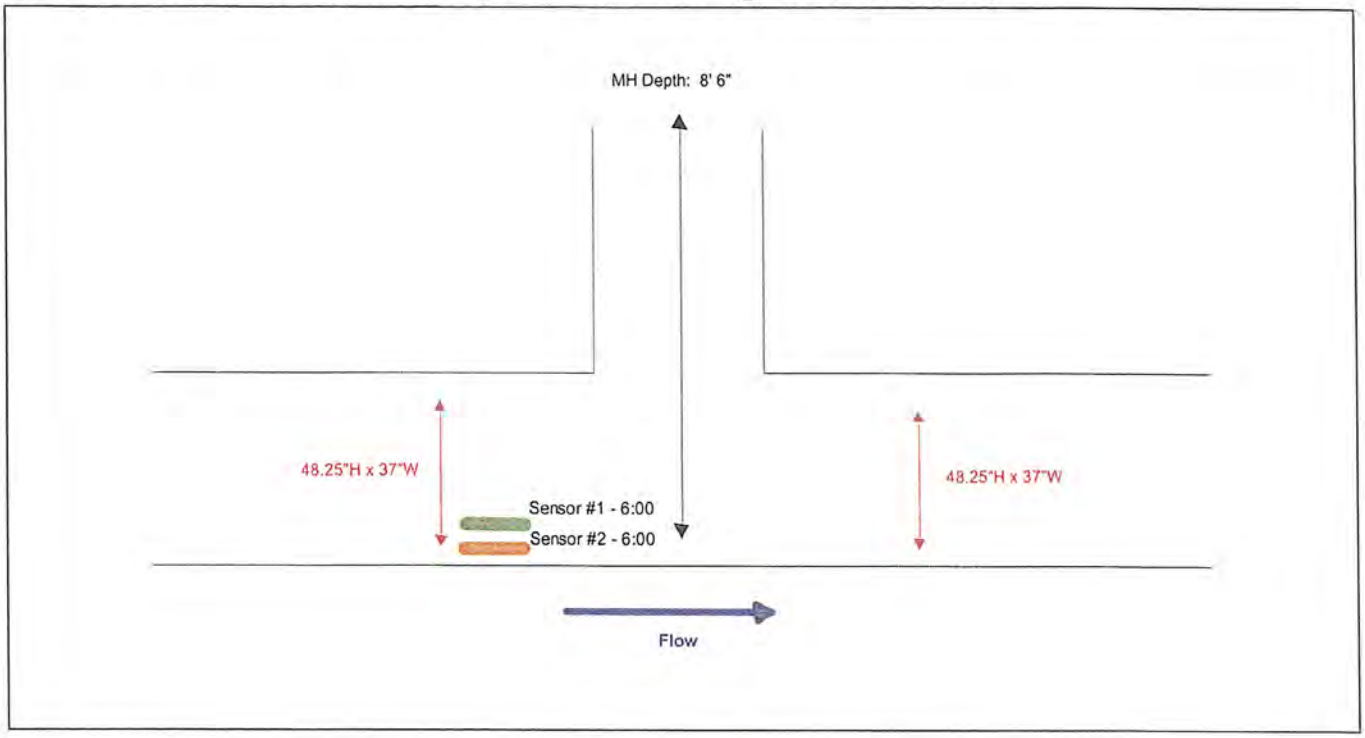
View from top of MH

Site Overview

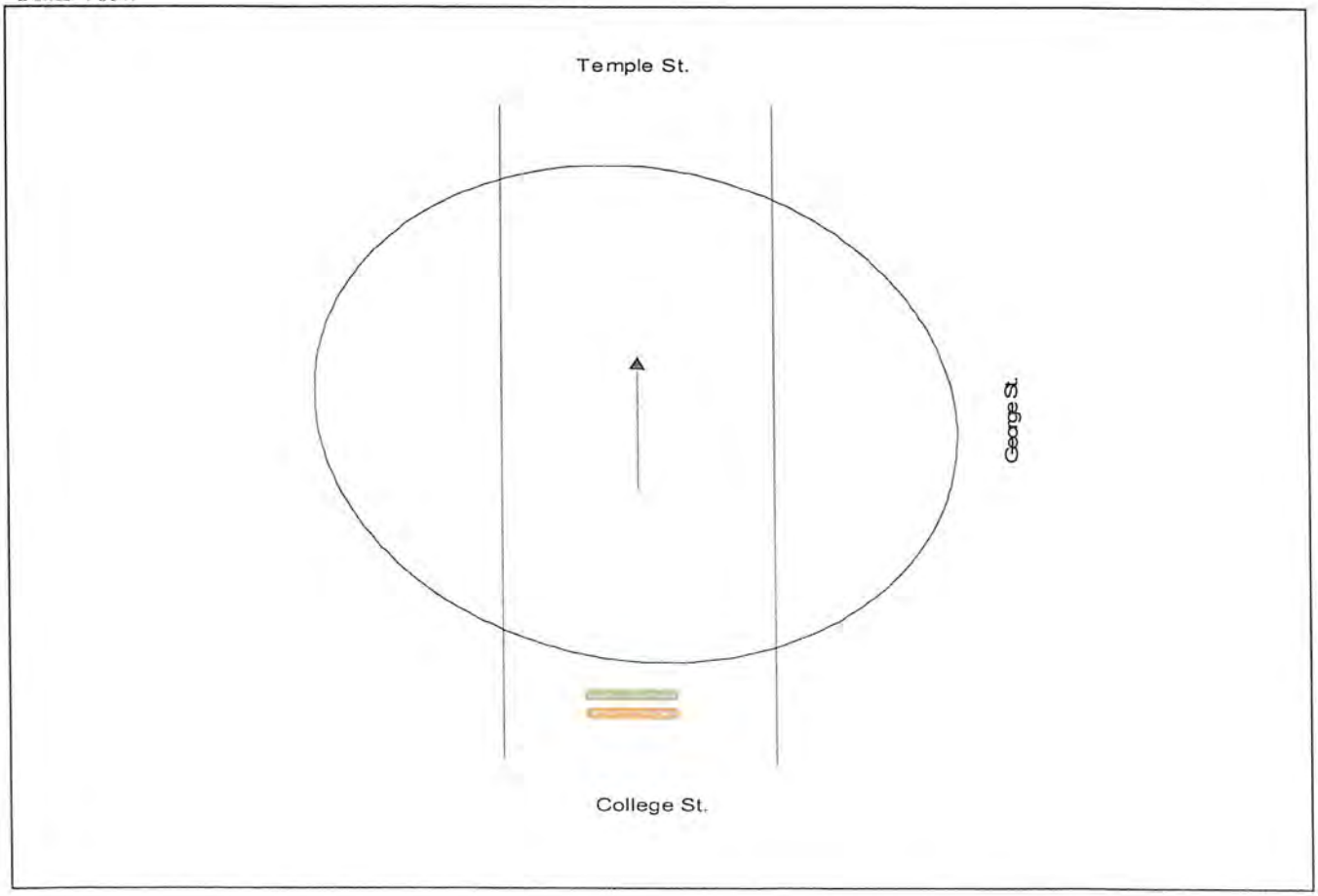
View of flow through influent line

View of flow through effluent line

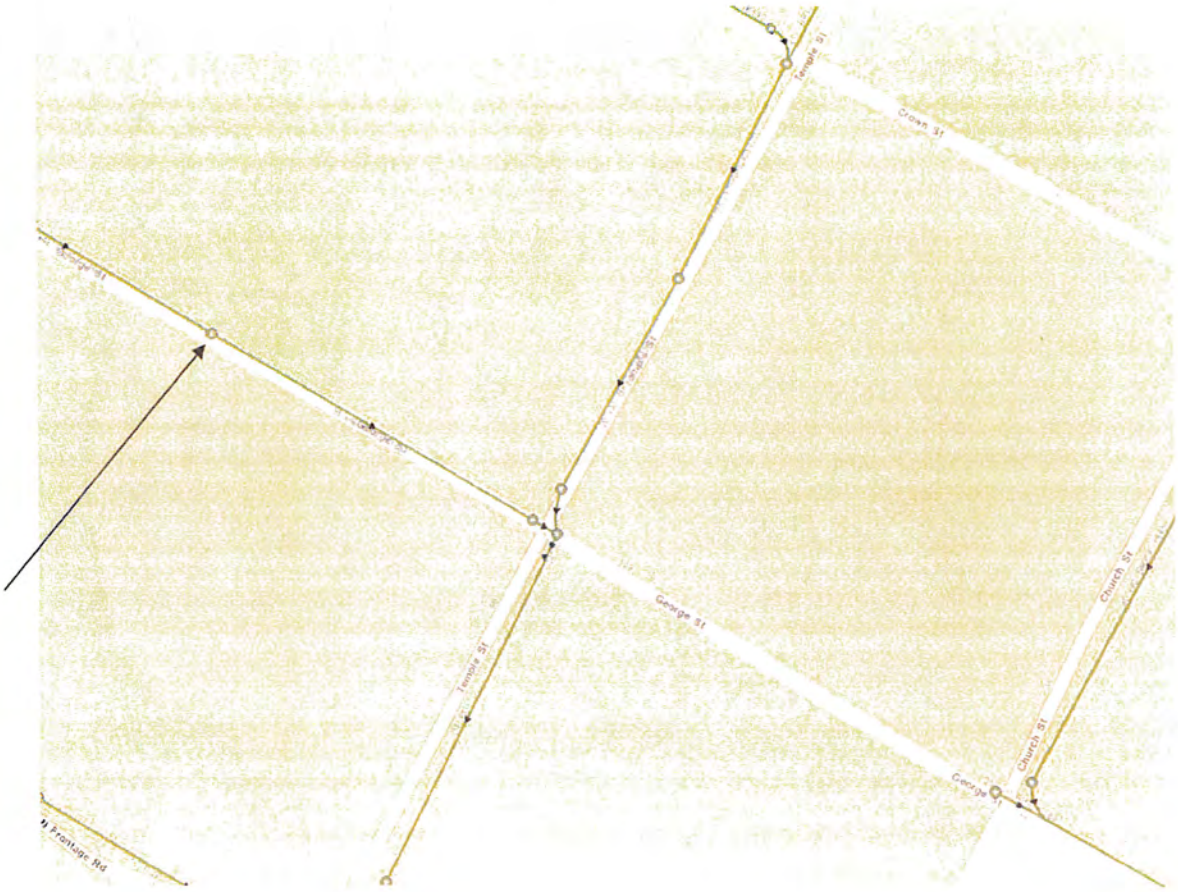
Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.



FLOW METER OF-034 TEMPLE

(Installed 11-20-2013)

Site Name / Manhole # Regulator 34_Temple

Investigation Date: 8/27/13 Time: 17:56 Crew Members: KE/MH

Installation Date: 8/30/13 Time: 9:00 Crew Members: KE/MH

Address/Location: 100 Temple Street

Latitude: N 41°18.292' Longitude: W 72°55.698'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 1.01 ft/sec

Depth 10.75 in

Turbulence Amplitude:

~~Less than 0.25"~~

(0.25" to 0.75")

0.75" to 1.5"

1.5" to 3"

Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	38.75"		38.75"
Width	24.75"		24.75"
Material	Brick		Brick
Shape	Egg		Egg

Sediment Present:

(Yes) Hard packed: _____ in. deep

No Soft: Approx. 5.0 in. deep

Surcharge / Backwater Influence:

(No evidence visible)

Remains in pipe

____ft from rim

Reaches Rim (potential meter damage)

Evidence unclear: _____ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)

Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)

(Traffic Control only (Requires extra traffic control)

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 11'

Structural Integrity of Manhole:

Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole

Approx Distance to bend:____ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change:_____ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

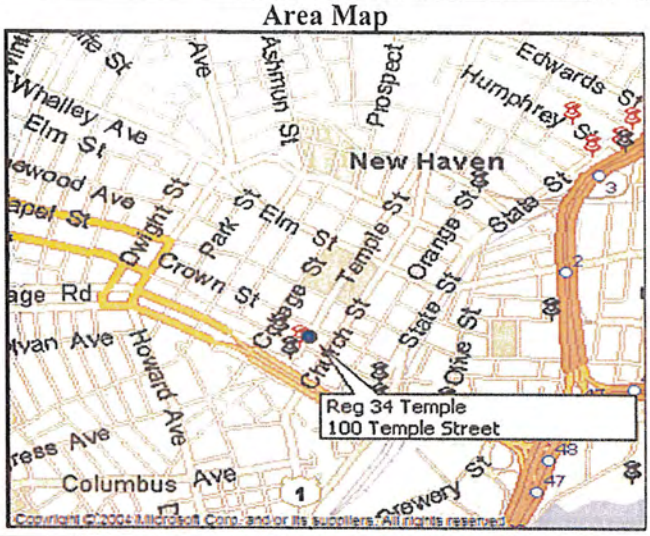
Sensor Configuration:

(Please include Serial Numbers when possible)

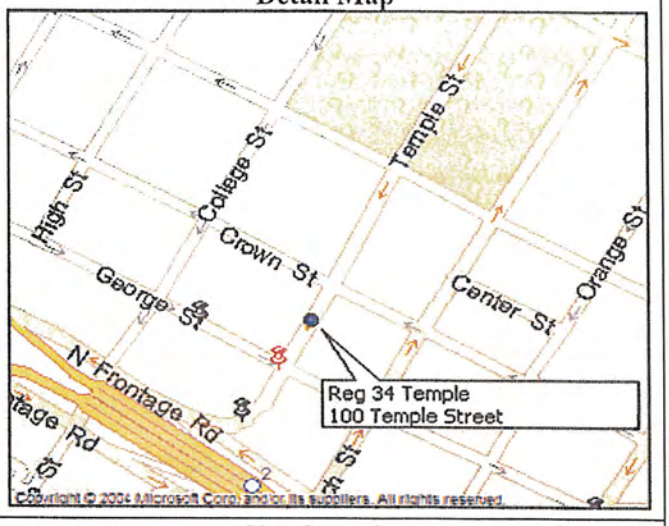
Level	Primary: 159 (Flowav)
	Redundant: 757 (Flowav)
Velocity	Primary: 159 (Flowav)
	Redundant: 757 (Flowav)
Meter Logger	Telog 293377

Comments:

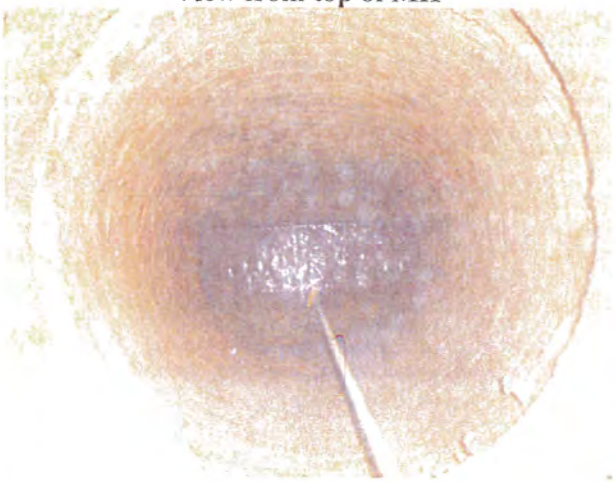
Area Map



Detail Map

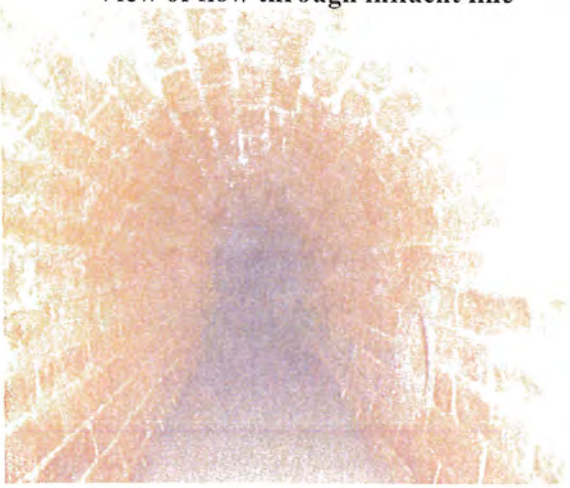


View from top of MH

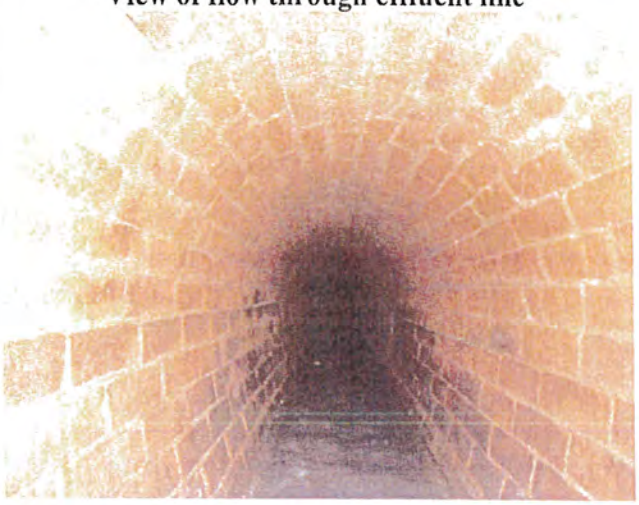


Site Overview

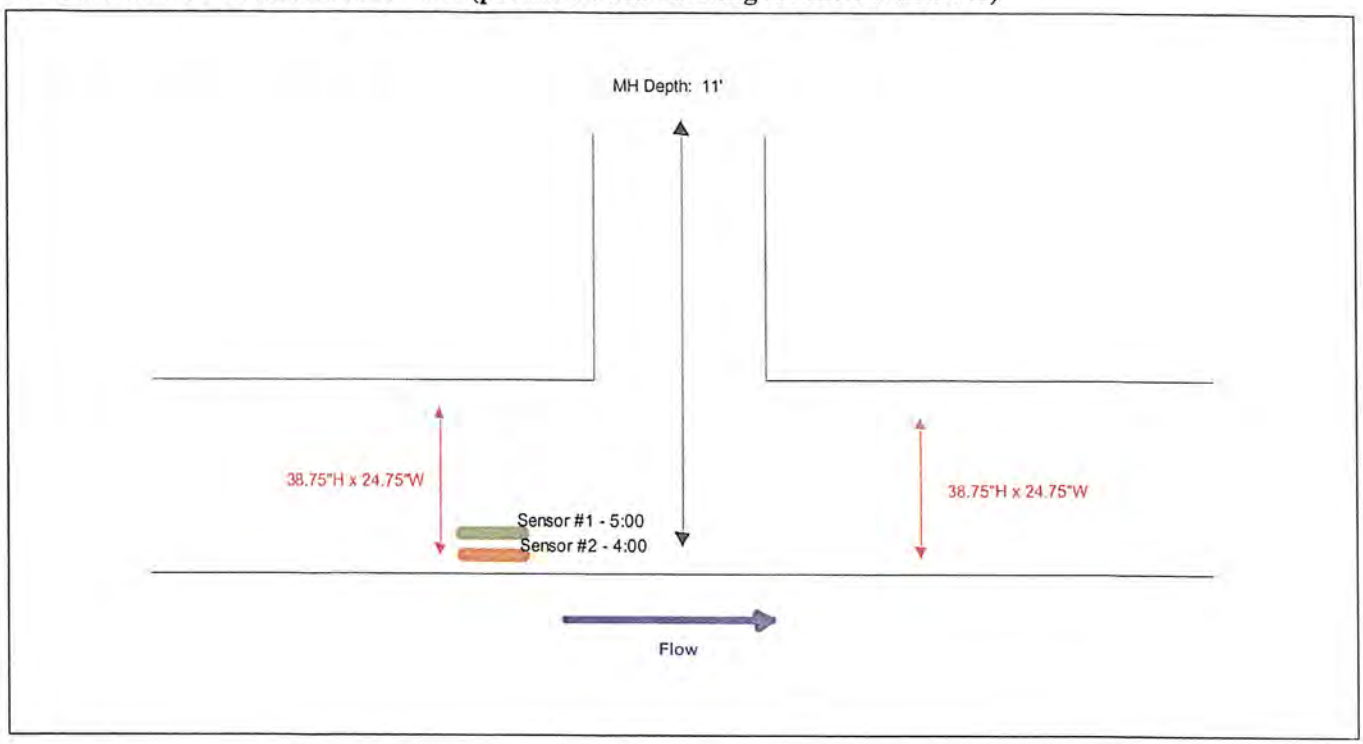
View of flow through influent line



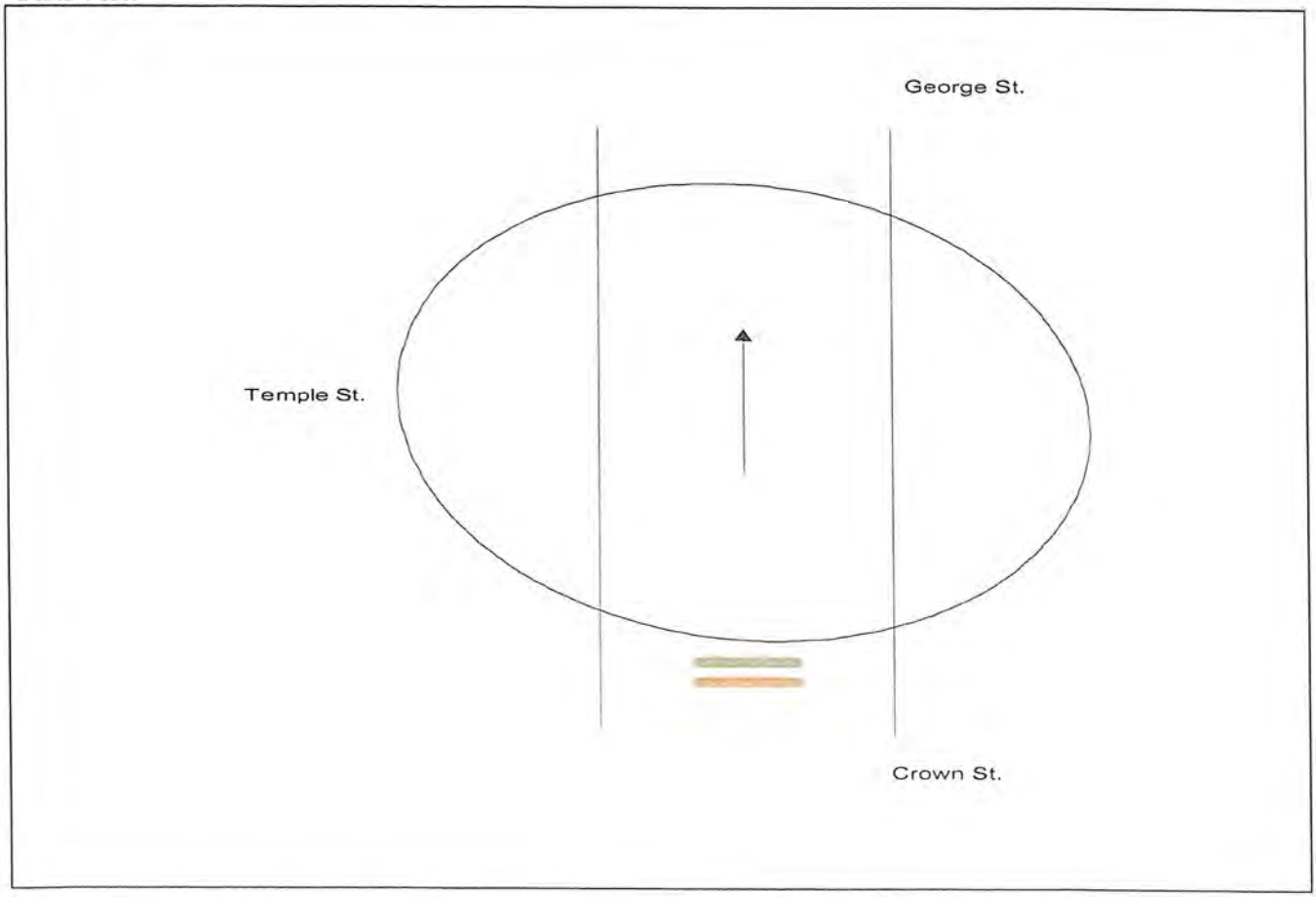
View of flow through effluent line



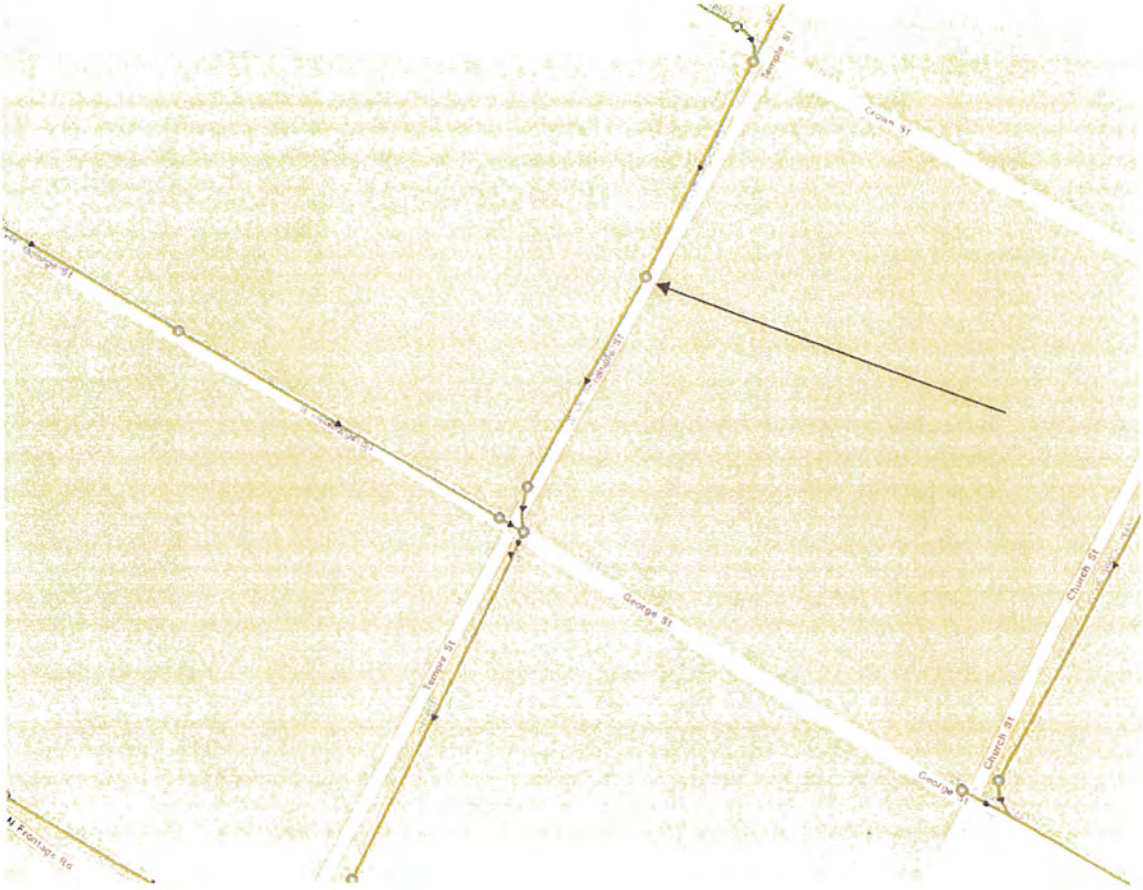
Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.



FLOW METER OF-034 OVERFLOW

(Installed 11-20-2013)

Site Name / Manhole # Regulator 34-Weir

Investigation Date: Time: Crew Members:

Installation Date: 11/20/13 Time: 12:54 Crew Members: CL/ME

Address/Location: On Temple Street at George Street, in the crosswalk

Latitude: N 41° Longitude: W 72°

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity N/A ft/sec

Depth N/A in

Turbulence Amplitude:

Less than 0.25"
0.25" to 0.75"
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Sewer Influent 1	Sewer Effluent	Storm Influent 1	Storm Influent 2	Overflow Effluent
Height	48"	24"	48"	15"	48"
Width	48"	24"	48"	15"	48"
Material	RCP	RCP	RCP	RCP	RCP
Shape	Round	Round	Round	Round	Round

Sediment Present: *in downstream*

Yes Hard packed: _____ in. deep

(No) Soft: _____ in. deep

Surcharge / Backwater Influence:

No evidence visible

(Remains in pipe)

_____ ft from rim

Reaches Rim (potential meter damage)

Evidence unclear: _____ ft from rim

Gas Investigation: ( )

Good _____ (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)

Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)

(Traffic Control only (Requires extra traffic control)

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 11'5"

Structural Integrity of Manhole:

Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole

Approx Distance to bend:____ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change:_____ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

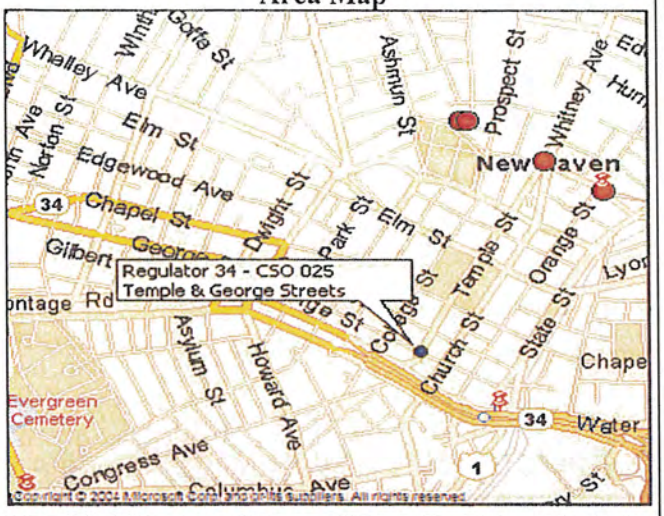
Sensor Configuration:

(Please include Serial Numbers when possible)

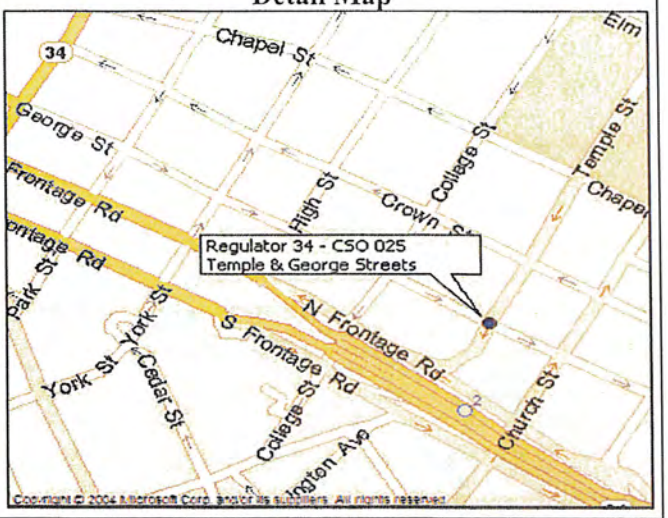
Level	Primary:
	Redundant:
Velocity	Primary:
	Redundant:
Meter Logger	FloWav 293305

Comments: *Effluent has silt coming from Influent 2. Effluent is the larger pipe.*

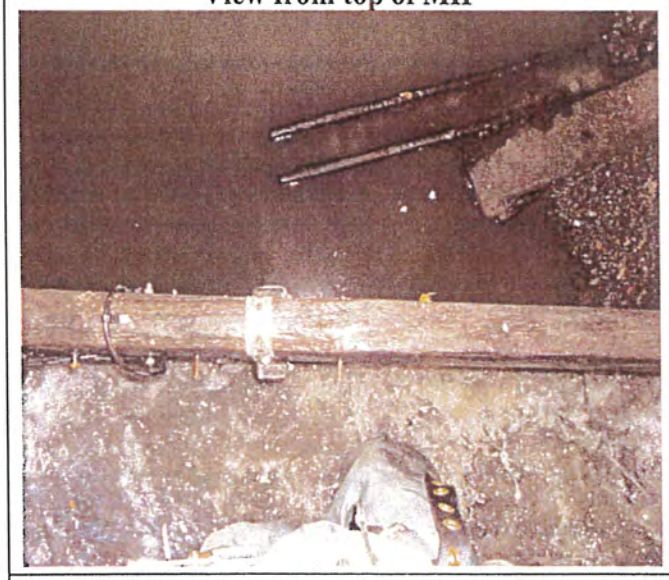
Area Map



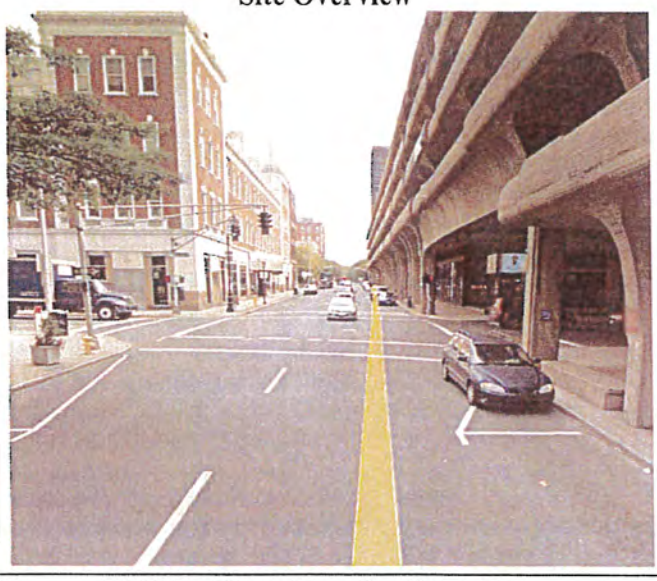
Detail Map



View from top of MH

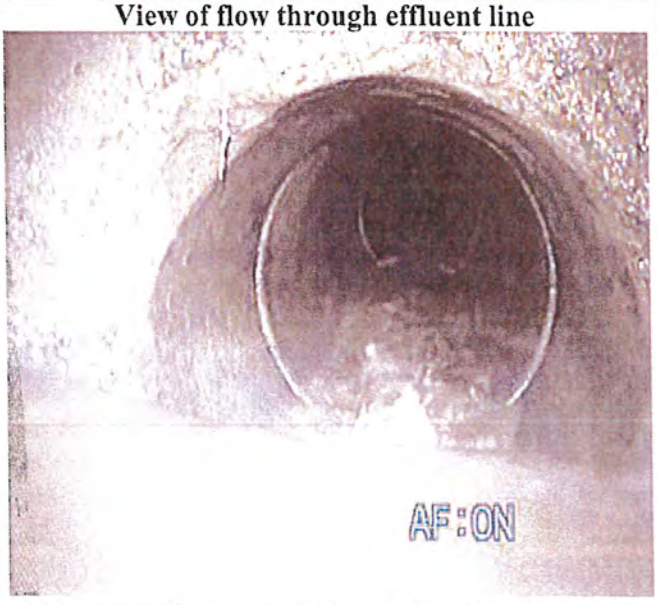


Site Overview

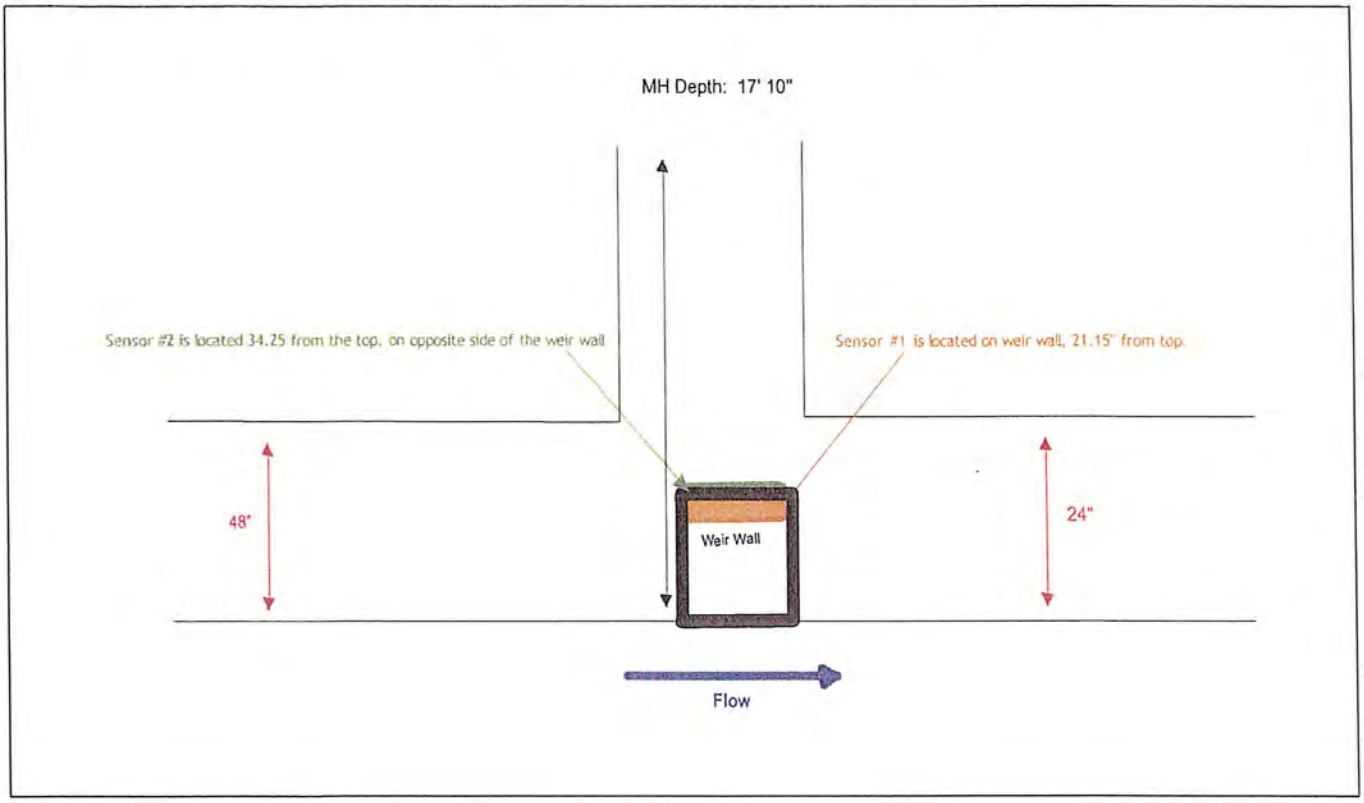


View of flow through influent line

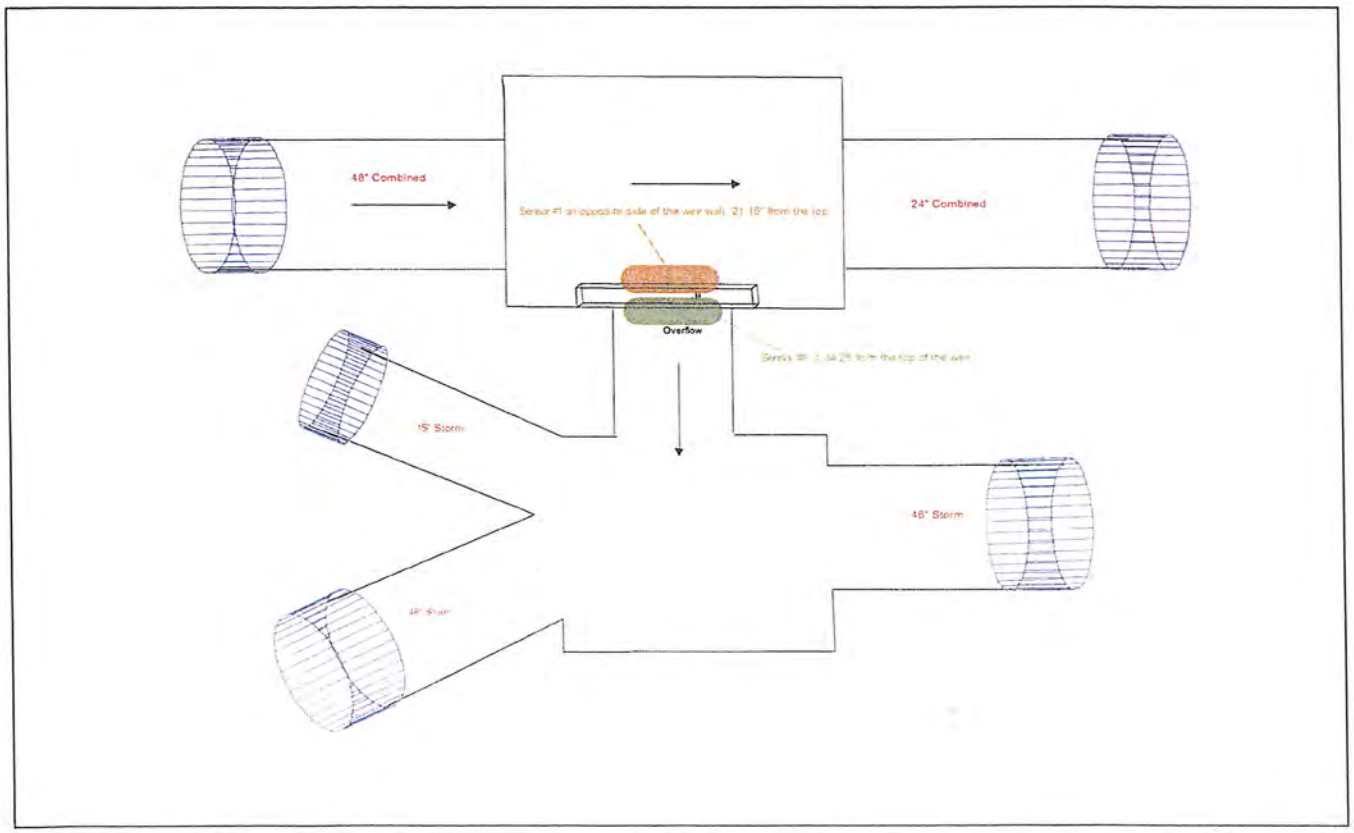
View of flow through effluent line



Dimensional Structure Profile View (profile sketch showing location of sensors)

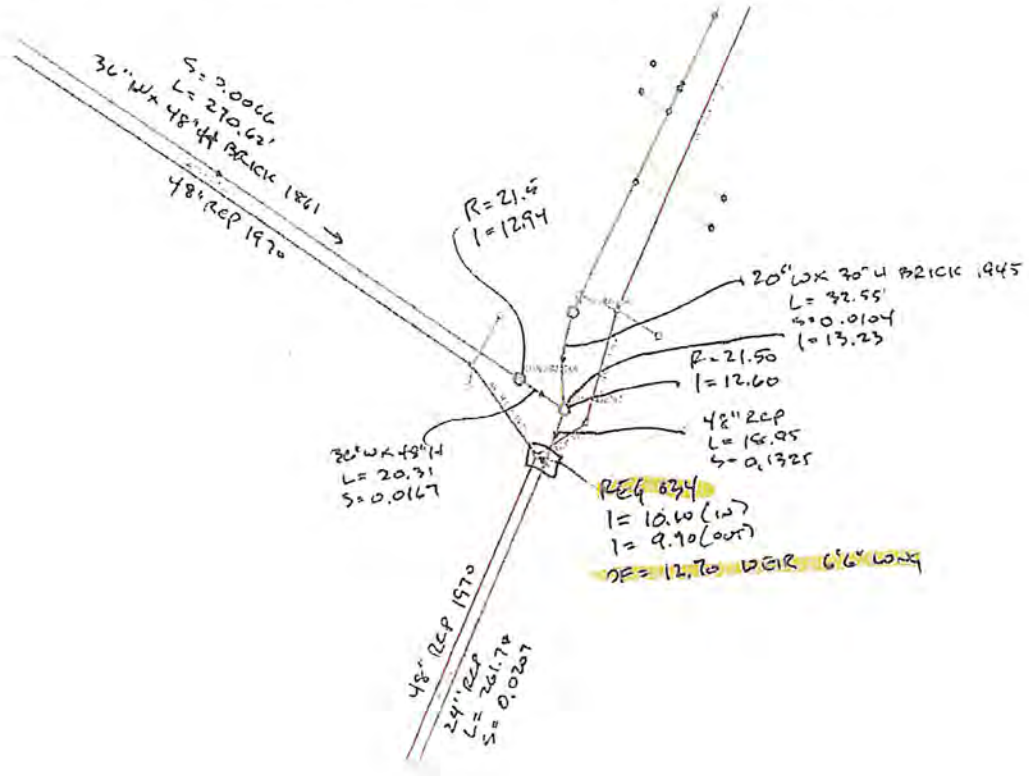


Plan View



Site Location Plan View

Sketch or plat showing upstream and downstream manholes, connections, and bends.



FLOW METER OF-025 FRONTAGE

(Installed 11-20-2013)

Site Name / Manhole # OF-025_Frontage

Investigation Date: 8/27/13 Time: 11:44 Crew Members: KE/MH

Installation Date: Time: Crew Members:

Address/Location: On N. Frontage Road, above State Street (across from the bus stop)

Latitude: N 41°18.154' Longitude: W 72°55.488'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 2.05 ft/sec

Depth 11.25 in

Turbulence Amplitude:

~~Less than 0.25"~~

(0.25" to 0.75")

0.75" to 1.5"

1.5" to 3"

Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	30"		30"
Width	30"		30"
Material	RCP		RCP
Shape	Round		Round

Sediment Present:

(Yes) Hard packed: _____ in. deep

No Soft: 3.0 in. deep

Surcharge / Backwater Influence:

No evidence visible

(~~Remains in pipe~~)

____ft from rim

Reaches Rim (potential meter damage)

Evidence unclear: _____ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)

Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)

(Traffic Control only (Requires extra traffic control)

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 15'

Structural Integrity of Manhole:

Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole

Approx Distance to bend:____ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change:_____ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

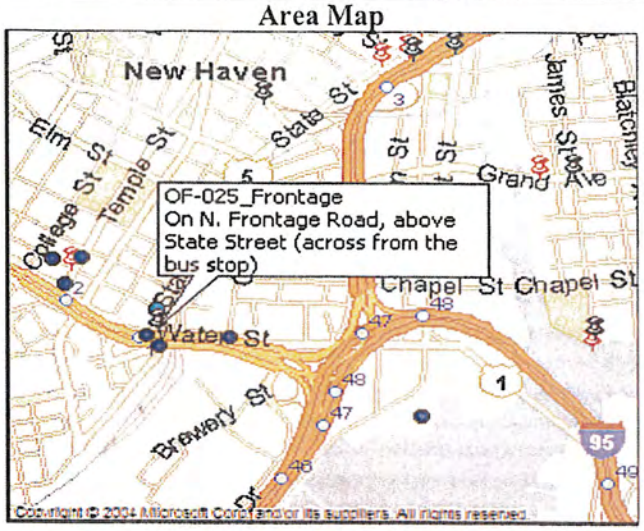
Sensor Configuration:

(Please include Serial Numbers when possible)

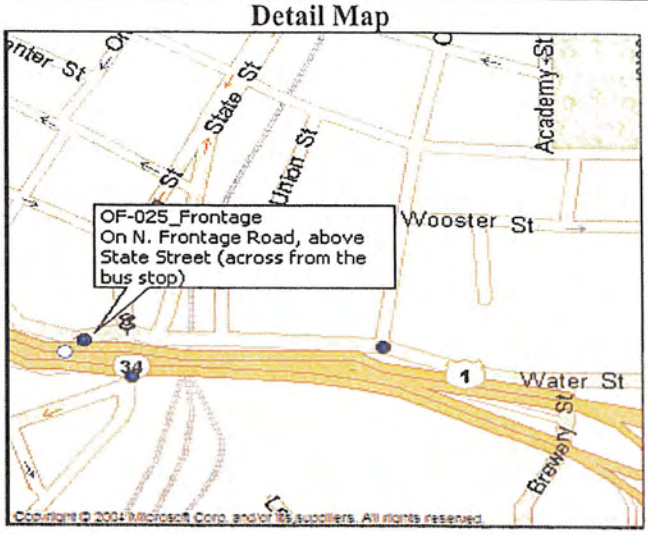
Level	Primary: 222 (Flowav)
	Redundant: 678 (Flowav)
Velocity	Primary: 222 (Flowav)
	Redundant: 678 (Flowav)
Meter Logger	Telog 291630

Comments:

Area Map



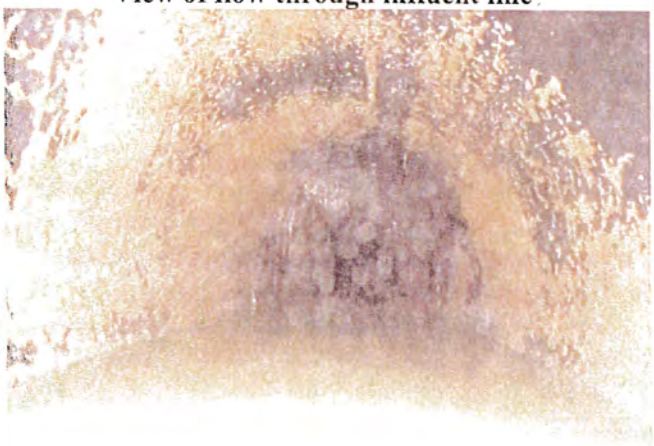
Detail Map



View from top of MH

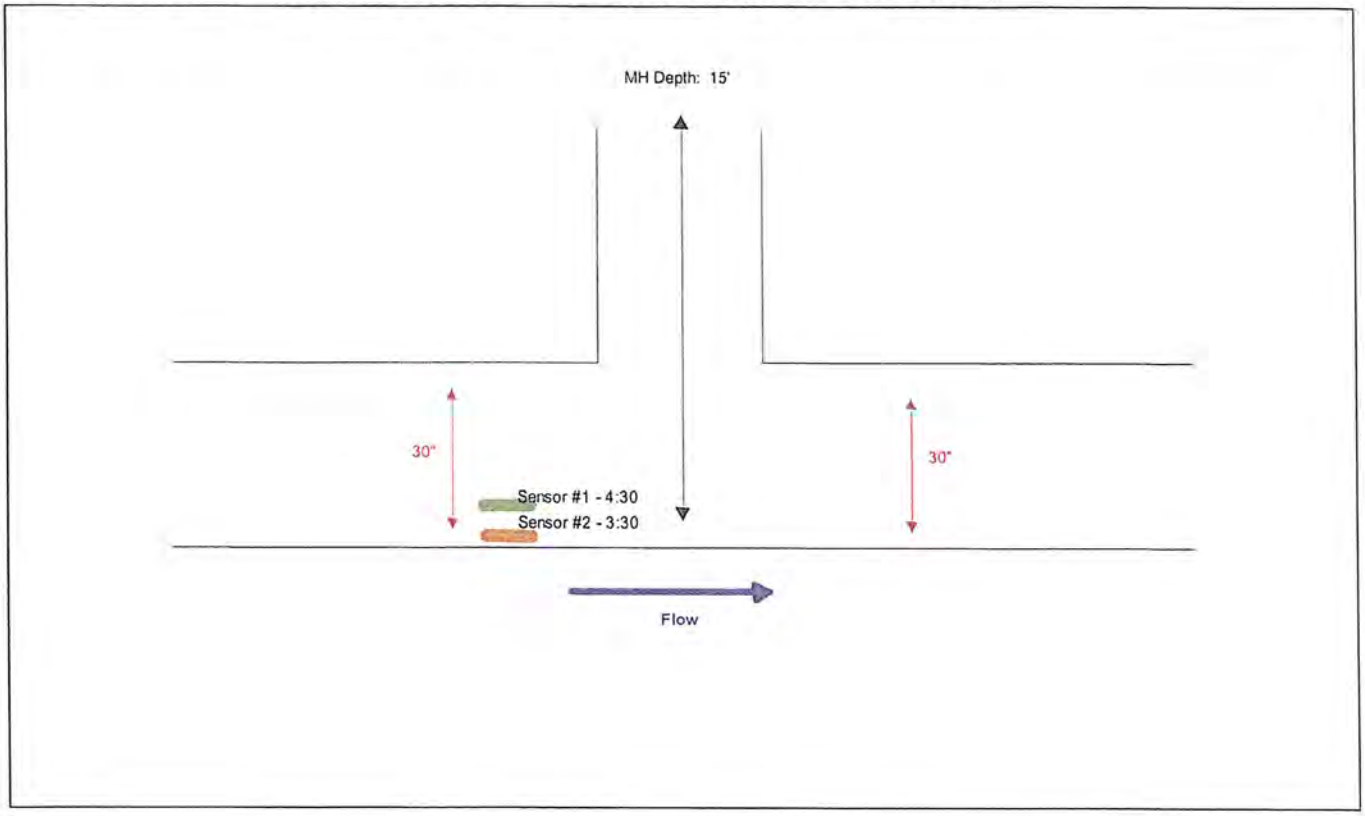
Site Overview

View of flow through influent line

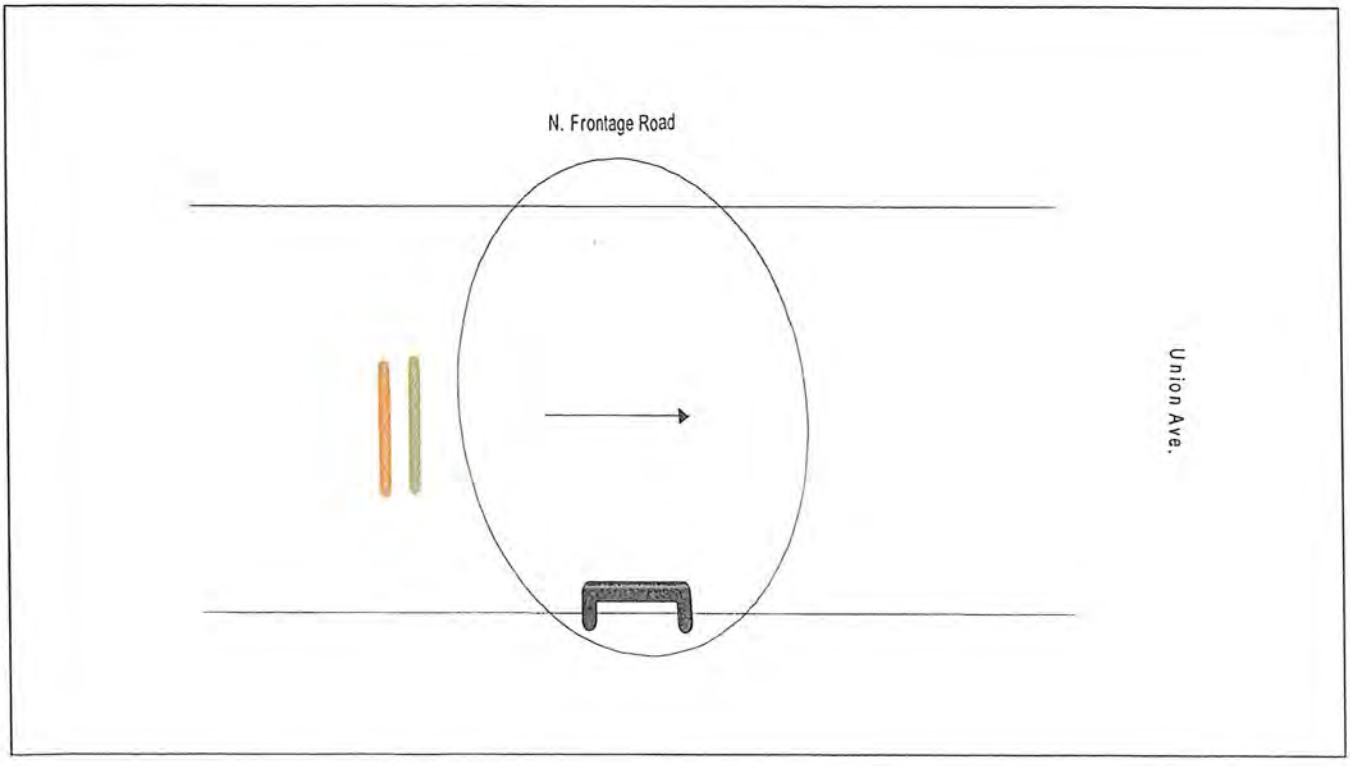


View of flow through effluent line

Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.

FLOW METER OF-025 COLUMBUS

(Installed 11-20-2013)

Site Name / Manhole # OF-025_Columbus

Investigation Date: Time: Crew Members:

Installation Date: 11/20/13 Time: 15:00 Crew Members: CL/ME

Address/Location: End of Columbus Ave (on the pavement, MH in the middle)

Latitude: N 41°17.937' Longitude: W 72°55.679'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 7 ft/sec

Depth 5 in

Turbulence Amplitude:

Less than 0.25"

0.25" to 0.75"

(0.75" to 1.5")

1.5" to 3"

Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	30"	12"	32"
Width	30"	12"	32"
Material	Concrete	Concrete	Concrete
Shape	Round	Round	Round

Sediment Present:

Yes Hard packed: _____ in. deep

(No) Soft: _____ in. deep

Surcharge / Backwater Influence:

No evidence visible

(Remains in pipe)

_____ ft from rim

Reaches Rim (potential meter damage)

Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)

Poor (remote areas, steel embankments, No safe place to park, elevated MH >3 ft)

(Traffic Control only (Requires extra traffic control)

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 12'

Structural Integrity of Manhole:

Good (Fair) Poor

Pipe Bends:

Influent Effluent Manhole

Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change: _____ ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

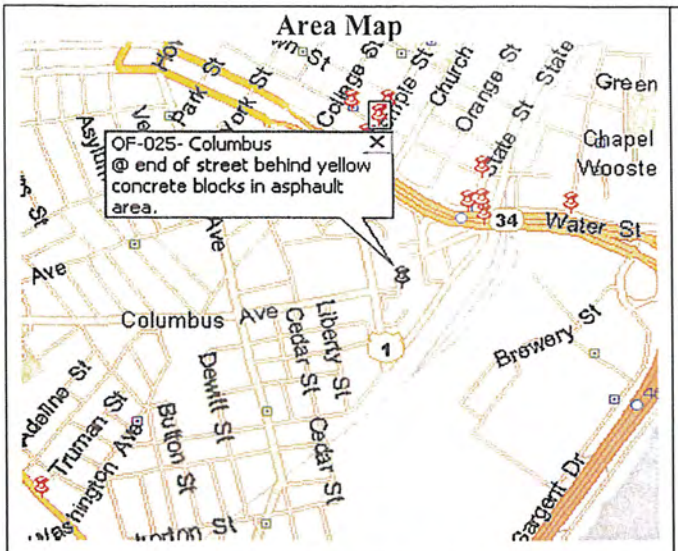
Sensor Configuration:

(Please include Serial Numbers when possible)

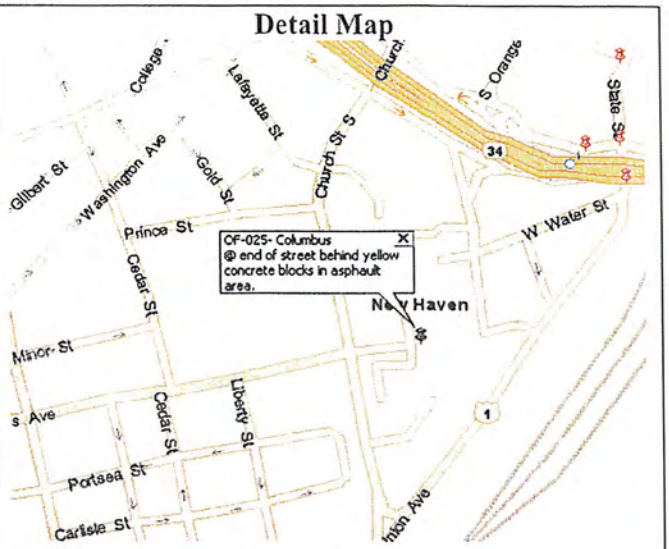
Level	Primary:
	Redundant:
Velocity	Primary:
	Redundant:
Meter Logger	FloWav 293699

Comments:

Area Map



Detail Map



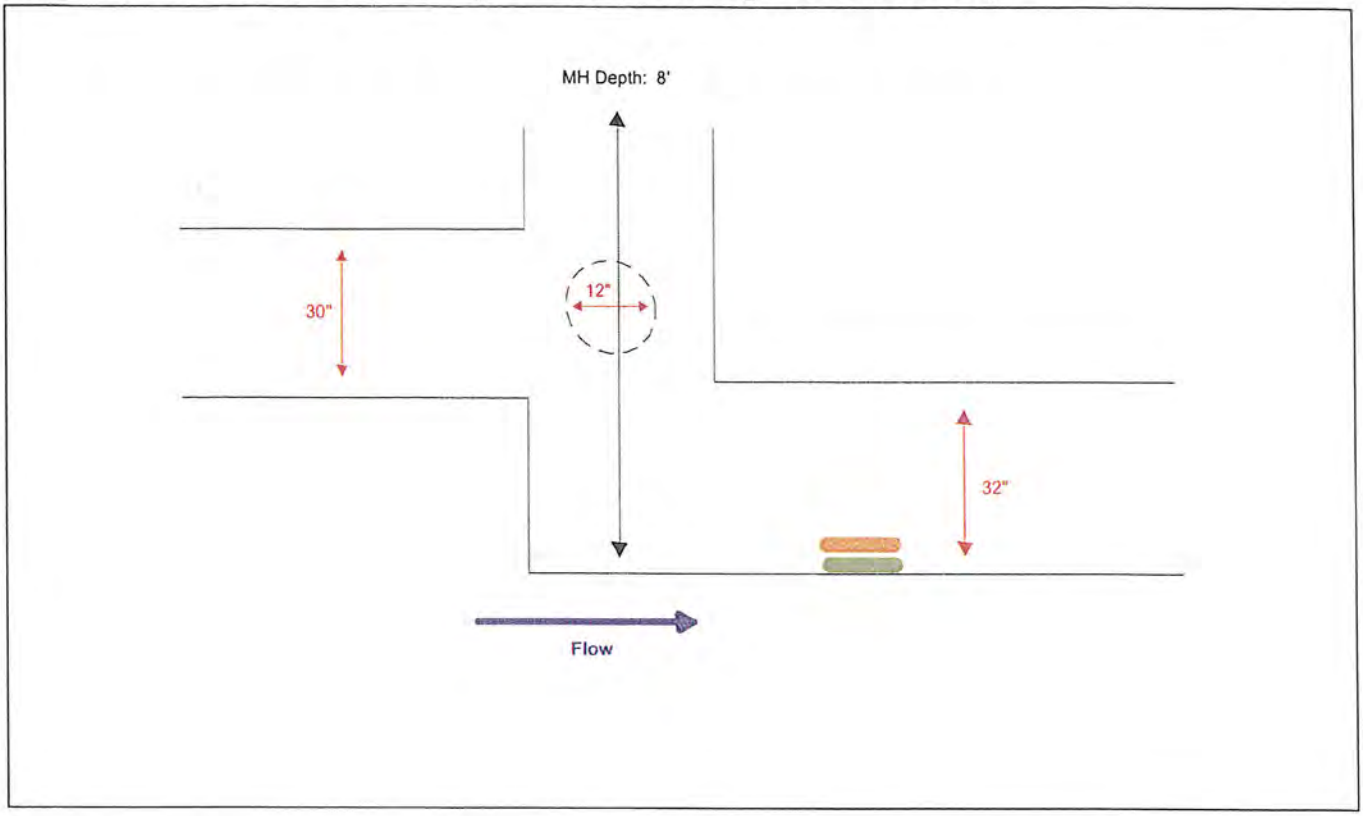
View from top of MH

Site Overview

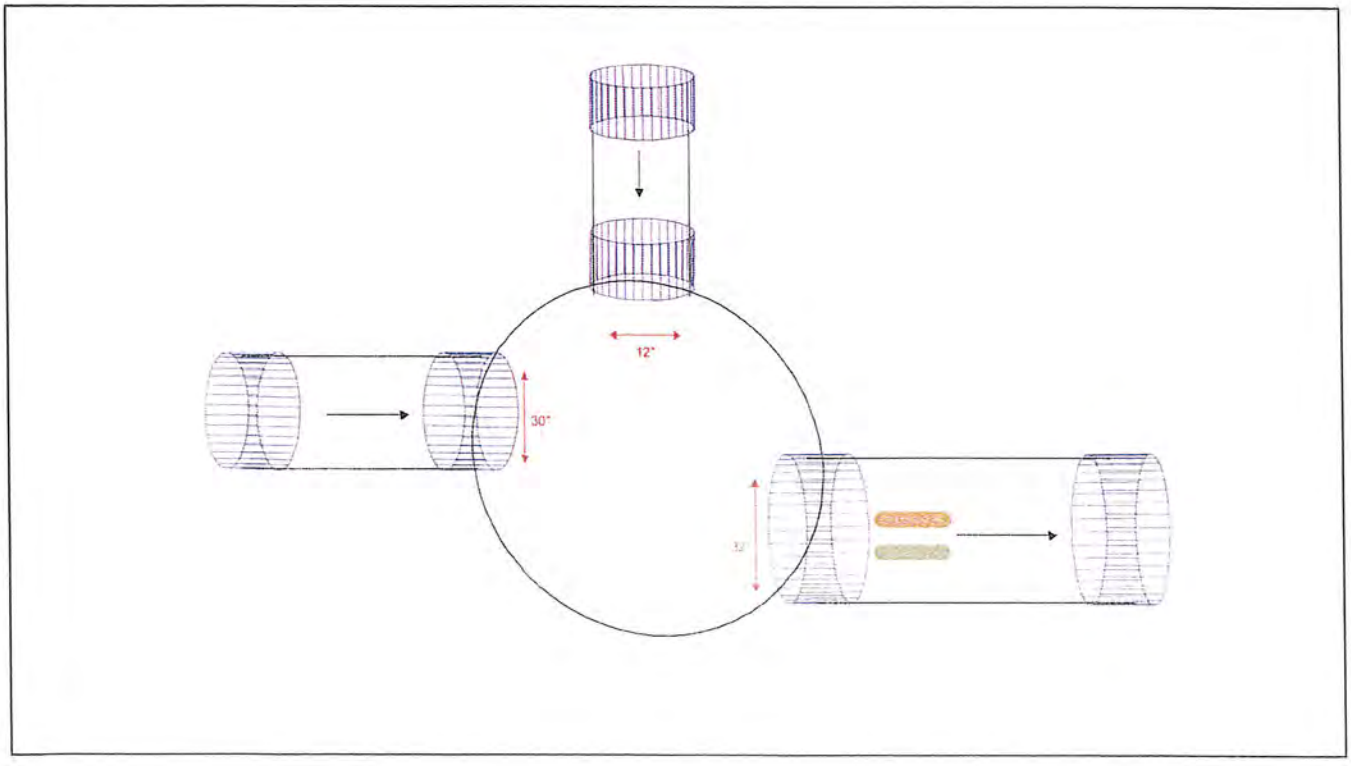
View of flow through influent line

View of flow through effluent line

Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.

FLOW METER OF-025 STATE

(Installed 11-20-2013)

Site Name / Manhole # OF-025_State

Investigation Date: 8/27/13 Time: 12:40 Crew Members: KE/MH

Installation Date: Time: Crew Members:

Address/Location: Intersection of George &State Streets (on sidewalk, close to the parking lot)

Latitude: N 41°18.154' Longitude: W 72°55.488'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 3.02 ft/sec

Depth 6.25 in

Turbulence Amplitude:

~~Less than 0.25"~~

(0.25" to 0.75")

0.75" to 1.5"

1.5" to 3"

Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	59.5"		59.5"
Width	46"		46"
Material	Brick		Brick
Shape	Elliptical		Elliptical

Sediment Present:

Yes Hard packed: _____ in. deep

(No) Soft: _____ in. deep

Surcharge / Backwater Influence:

~~No evidence visible~~

(~~Remains in pipe~~)

_____ft from rim

Reaches Rim (potential meter damage)

Evidence unclear: _____ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)

Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)

(Traffic Control only (Requires extra traffic control)

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 11'

Structural Integrity of Manhole:

Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole

Approx Distance to bend:____ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change:_____ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

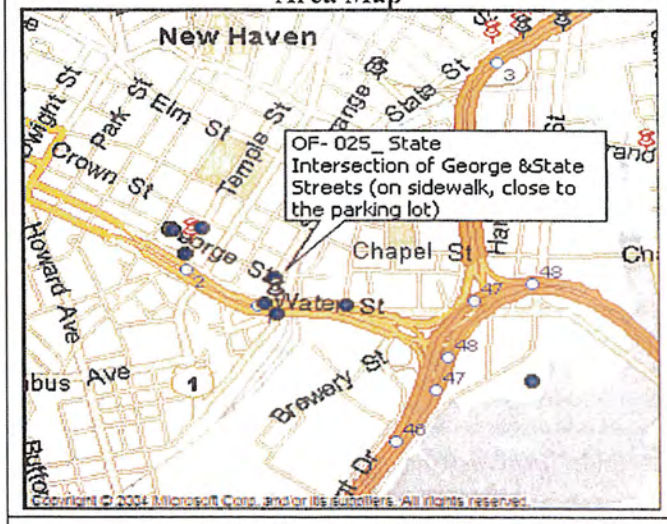
Sensor Configuration:

(Please include Serial Numbers when possible)

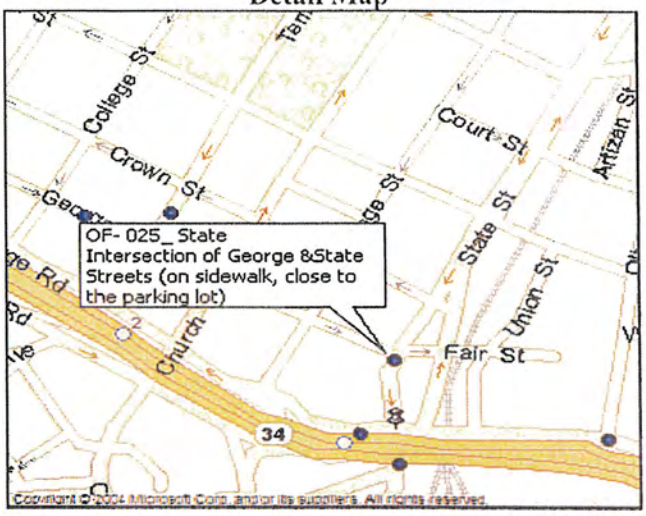
Level	Primary: 489 (Flowav)
	Redundant: 184 (Flowav)
Velocity	Primary: 489 (Flowav)
	Redundant: 184 (Flowav)
Meter Logger	293662

Comments:

Area Map



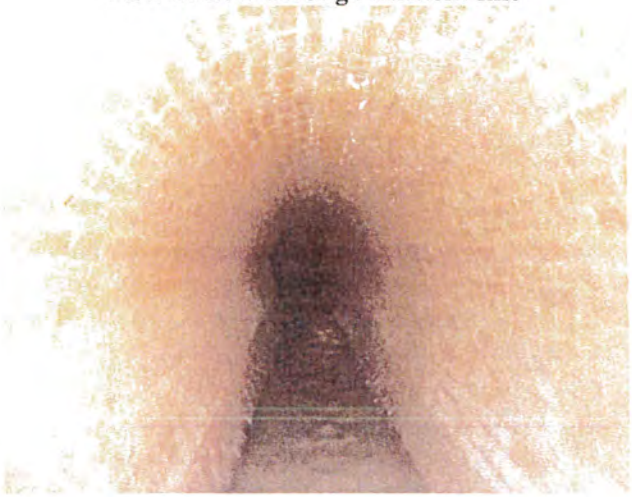
Detail Map



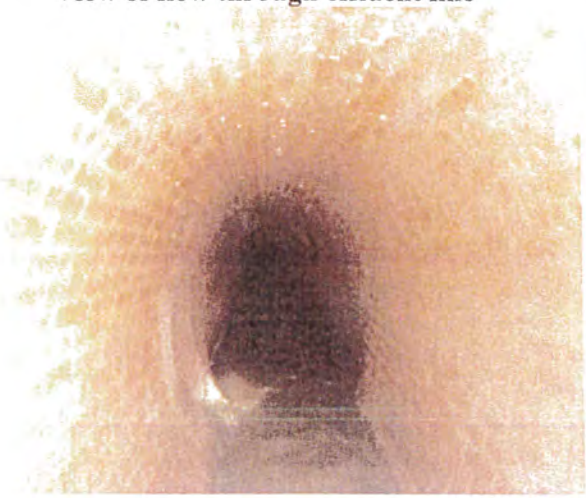
View from top of MH

Site Overview

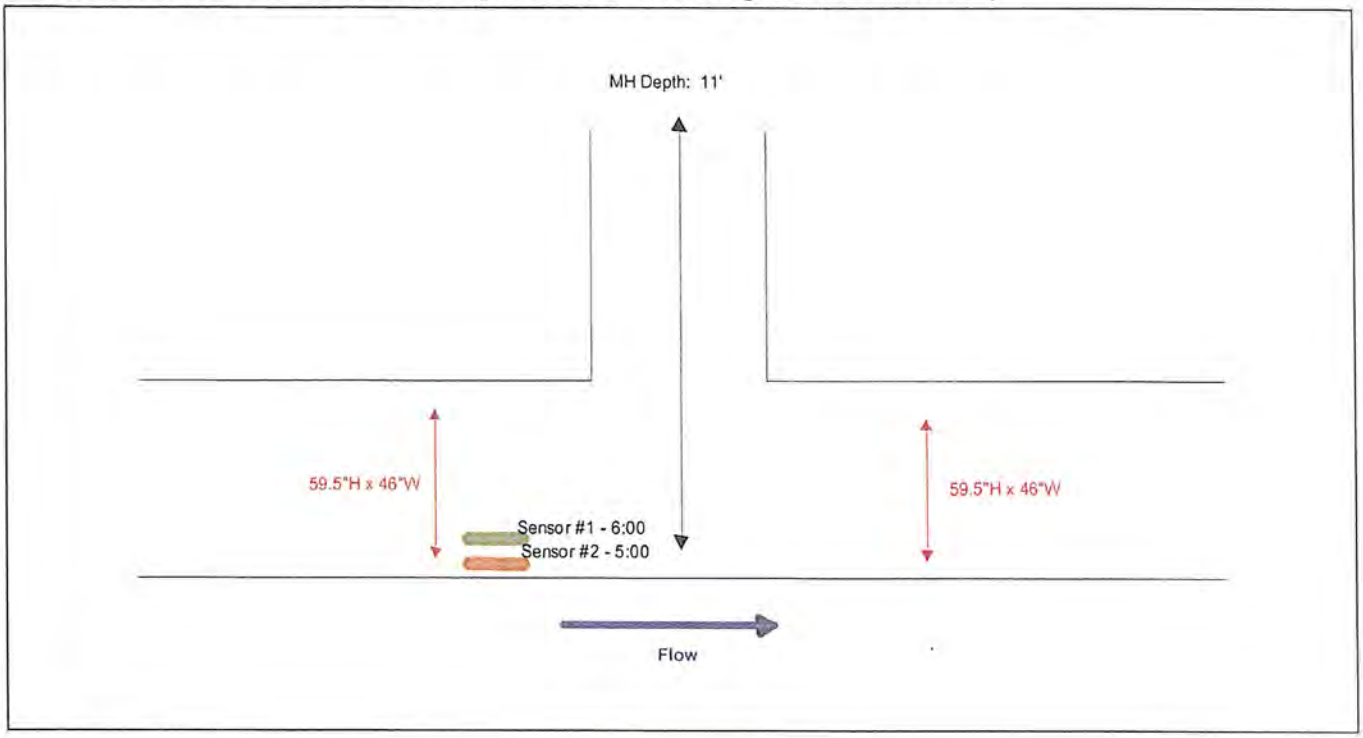
View of flow through influent line



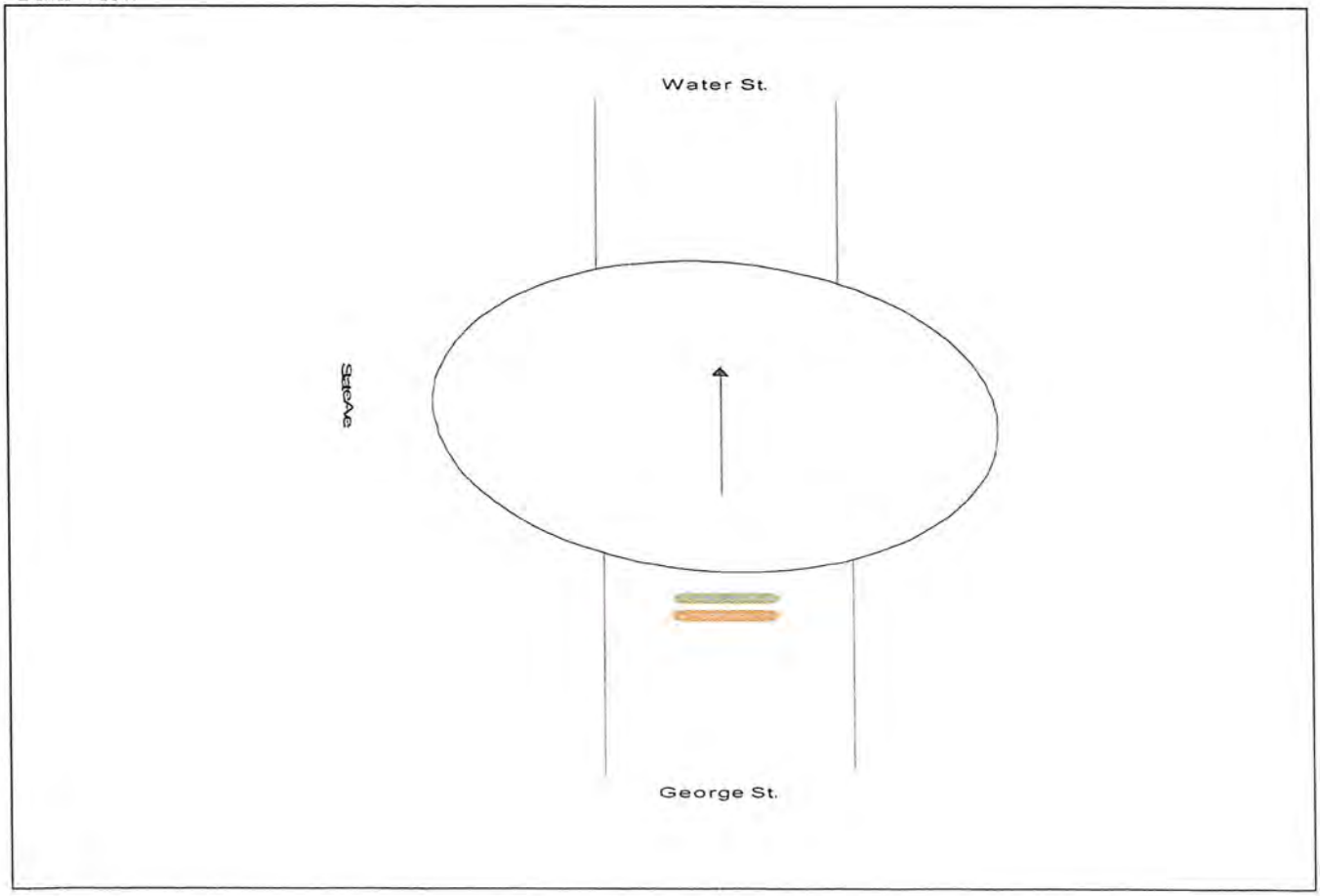
View of flow through effluent line



Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.

FLOW METER OF-025 OVERFLOW

(Installed 11-20-2013)

Site Name / Manhole # OF-025 - Weir

Investigation Date: Time: Crew Members:

Installation Date: 11/20/13 Time: 11:35 Crew Members: CL/ME

Address/Location: Intersection of State Street and N. Frontage Road

Latitude: N 41° Longitude: W 72°

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow: *Stagnant*
Velocity 0.0 ft/sec
Depth 4.0 in

Turbulence Amplitude:
~~Less than 0.25"~~
(0.25" to 0.75")
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	47		
Width	61		
Material	Brick		
Shape	Weir Wall		

Sediment Present:

(Yes) Hard packed: _____ in. deep
No Soft: _____ in. deep

Surcharge / Backwater Influence:

No evidence visible
(Remains in pipe)
____ ft from rim
Reaches Rim (potential meter damage)
Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:
Good (no problems accessing site)
Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)
Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)
(Traffic Control only (Requires extra traffic control)
Unusable (Document in Comments section)

Manhole Information:
Elevated Manhole: Yes (No)

Height above ground __
Manhole depth 15'
Structural Integrity of Manhole:
Good (Fair) Poor

Pipe Bends: *None within camera view*
Influent Effluent Manhole
Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:
Influent Effluent Manhole
Approx Distance to change: _____ ft
(detail is comments)

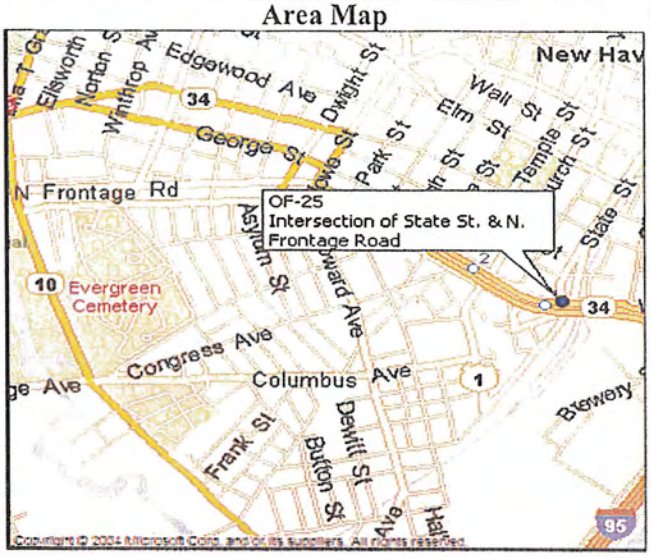
Crew Member: Can you maintain this site?
(Yes) No Maybe

Sensor Configuration:
(Please include Serial Numbers when possible)

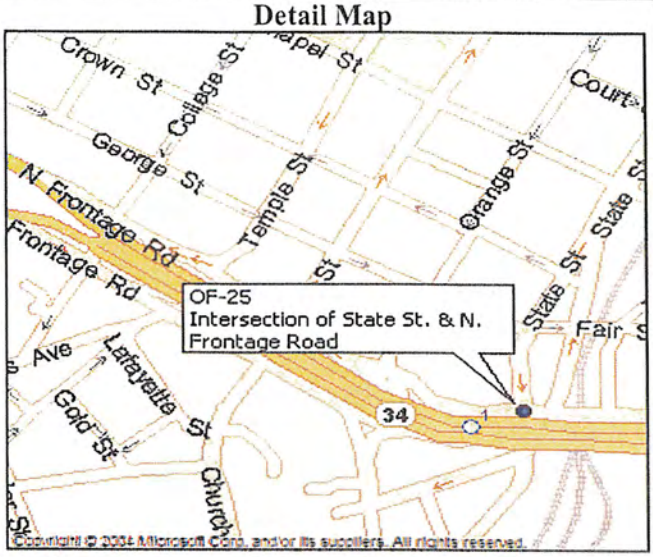
Level	Primary:
	Redundant:
Velocity	Primary:
	Redundant:
Meter Logger	Sigma 920 02020000235

Comments:

Area Map



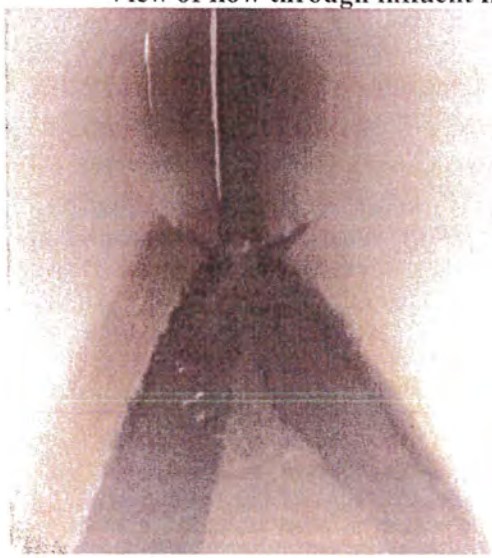
Detail Map



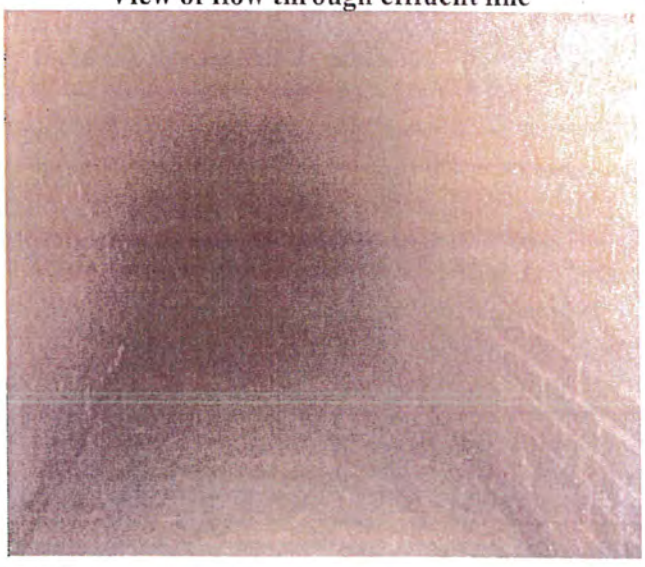
View from top of MH

Site Overview

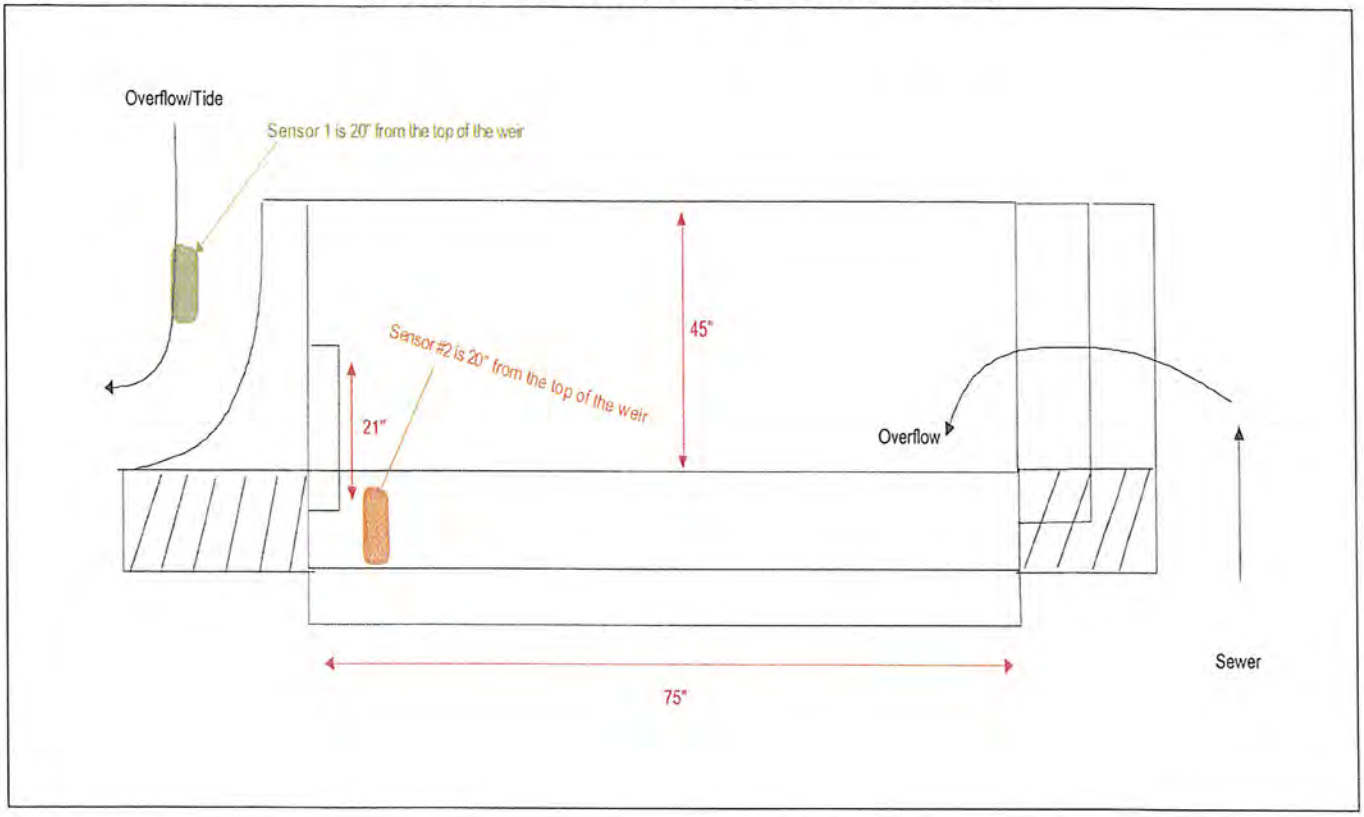
View of flow through influent line



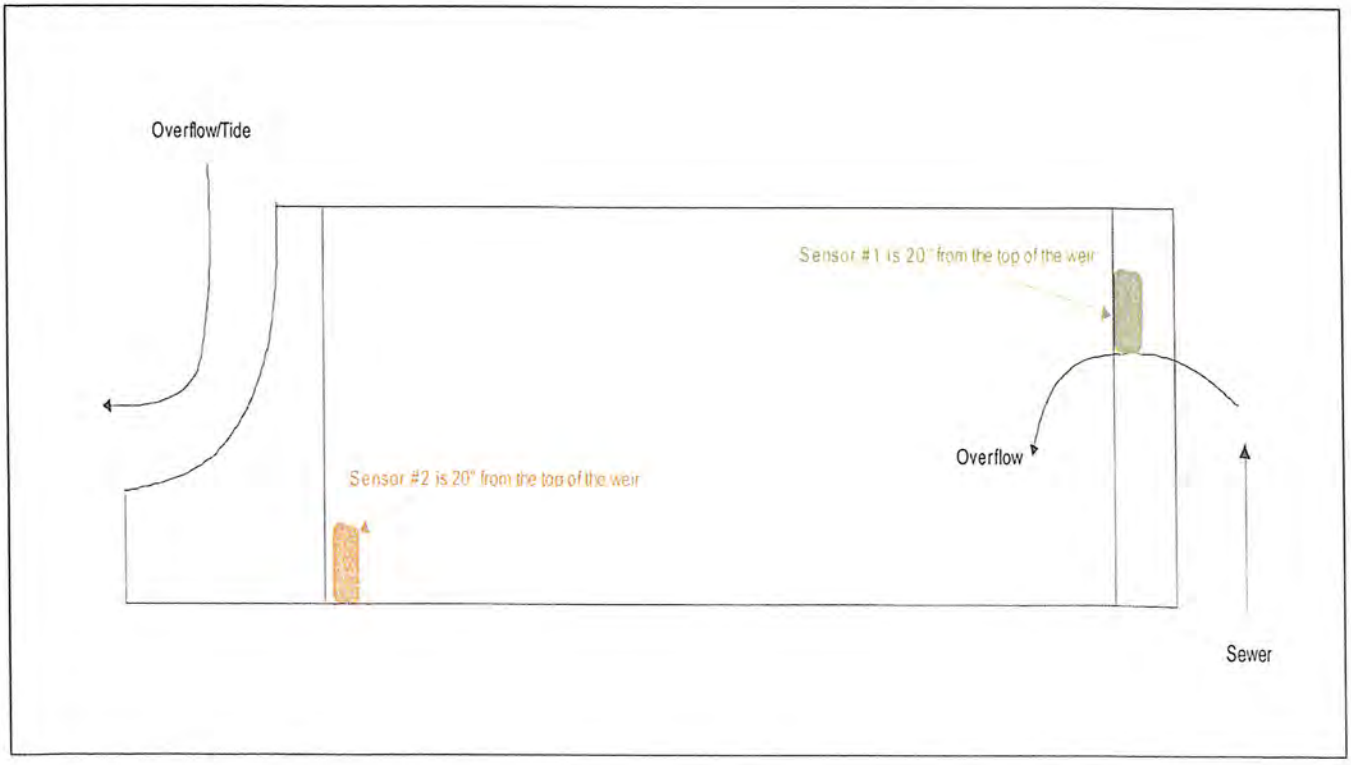
View of flow through effluent line



Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View

Sketch or plat showing upstream and downstream manholes, connections, and bends.

APPENDIX C

FLOW METER INSTALLATION REPORTS

REGULATOR 012 STUDY AREA

FLOW METER FM-15

(Installed 04-28-2014)

Site Name / Manhole # FM-15

Investigation Date: 4/21/14 Time: 10:29 Crew Members: KE/BR/GM

Installation Date: 4/28/14 Time: 16:59 Crew Members: KE/ME/JS/LR

Address/Location: Willow Street & Mitchell Drive (in the driveway of the East Rock School)

Latitude: N 41°19.151' Longitude: W 72°54.416'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 2.75 ft/sec

Depth 23.75 in

Turbulence Amplitude:

Less than 0.25"
(0.25" to 0.75")
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	50"		50"
Width	37"		37"
Material	PVC-lined		PVC-lined
Shape	Egg		Egg

Sediment Present:

Yes Hard packed: _____ in. deep
(No) Soft: _____ in. deep

Surcharge / Backwater Influence:

(No evidence visible)
Remains in pipe
____ ft from rim
Reaches Rim (potential meter damage)
Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

(Good (no problems accessing site))
Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)
Poor (remote areas, steel embankments, No safe place to park, elevated MH >3 ft)
Traffic Control only (Requires extra traffic control
Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground ___
Manhole depth 8' 4"
Structural Integrity of Manhole:
Good (Fair) Poor

Pipe Bends: *None within camera view*

Influent Effluent Manhole
Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole
Approx Distance to change: _____ ft
(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

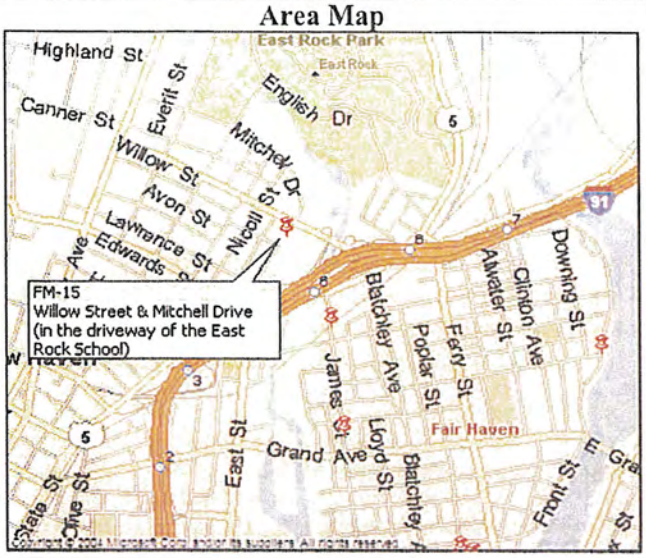
Sensor Configuration:

(Please include Serial Numbers when possible)

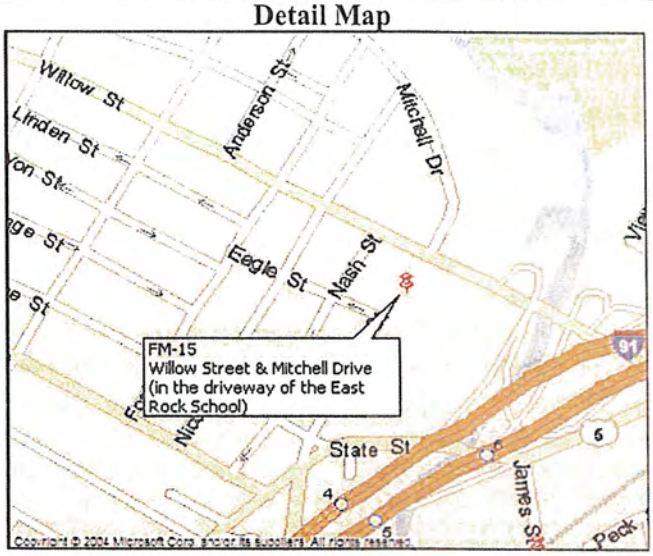
Level	Primary: 0713-1066
	Redundant:
Velocity	Primary: 0713-1066
	Redundant:
Meter Logger	FloWav 294542

Comments: *Located in the driveway of a school*

Area Map



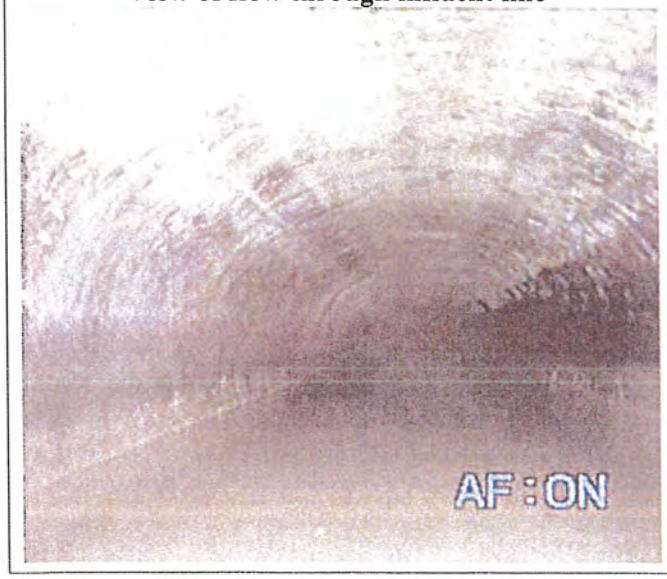
Detail Map



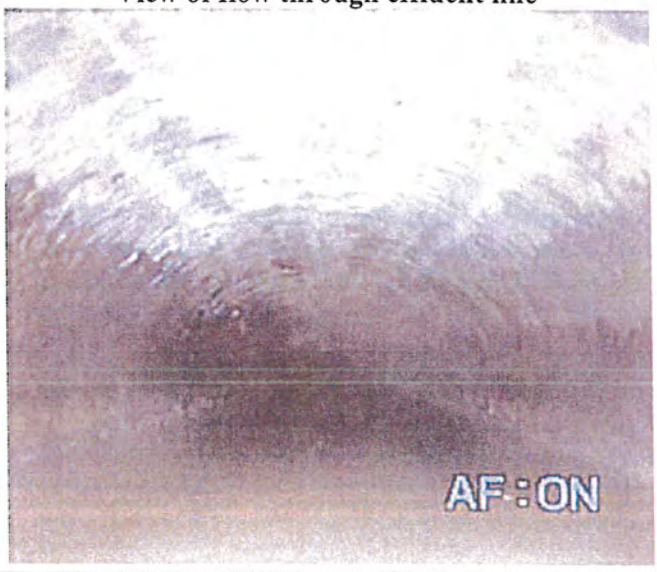
View from top of MH

Site Overview

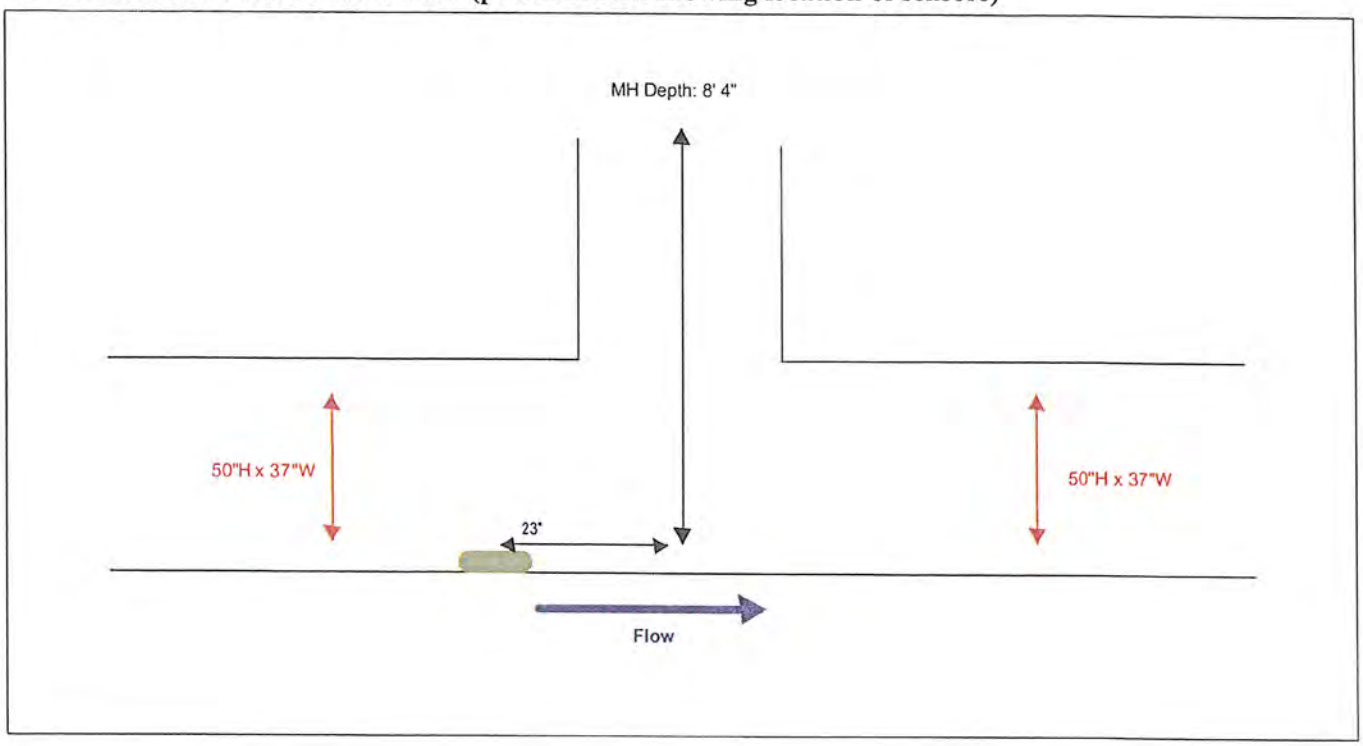
View of flow through influent line



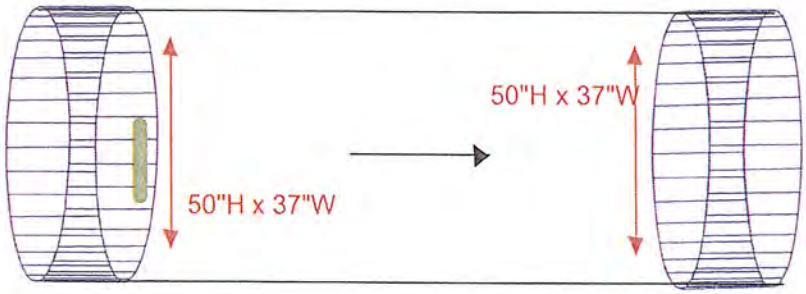
View of flow through effluent line



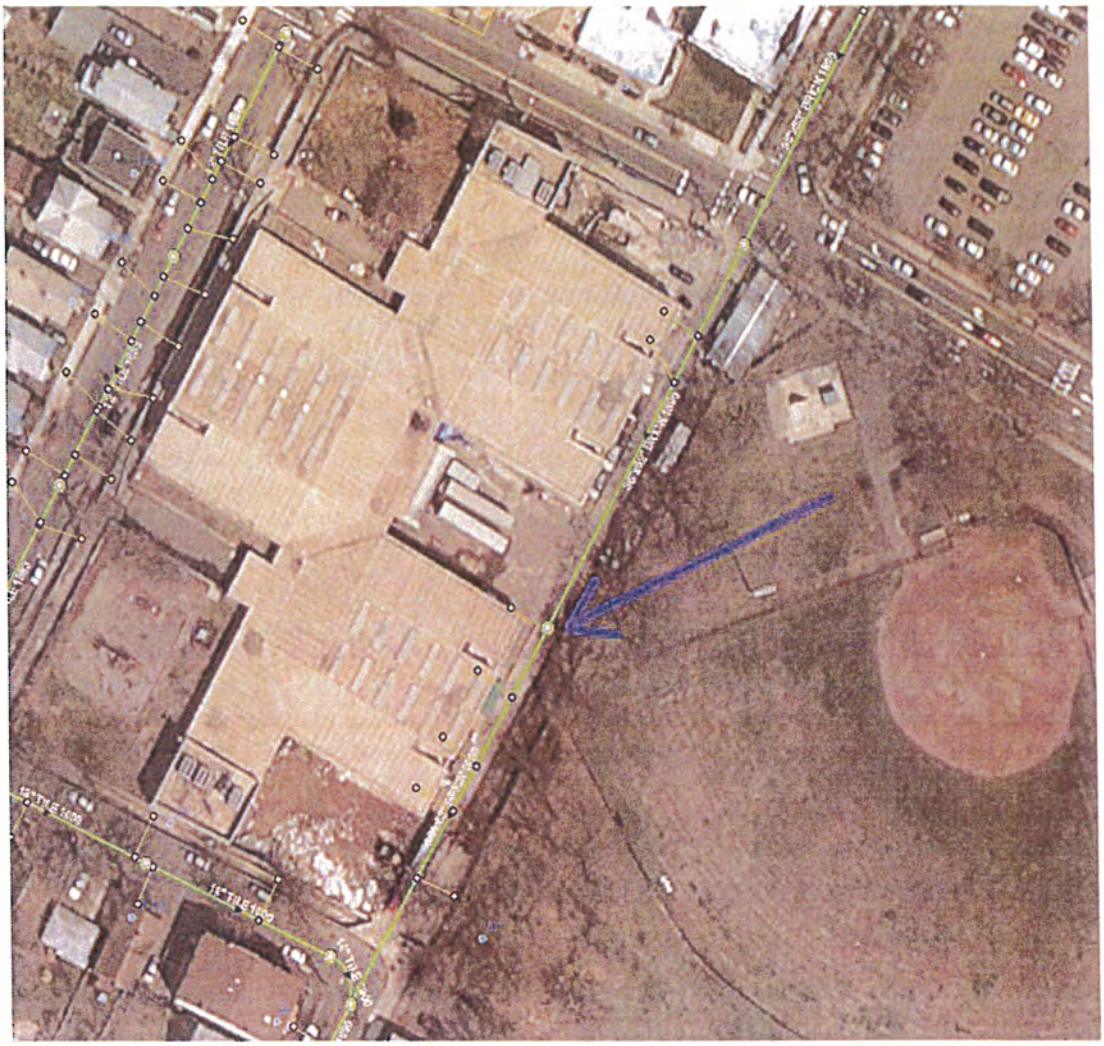
Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.



FLOW METER OF-012A OVERFLOW

(Installed 08-13-2012)

Site Name / Manhole # OF 012A

Investigation Date: 7/11/12 Time: 15:58 Crew Members: RD/LR/KE

Installation Date: 8/13/12 Time: 15:00 Crew Members: RD/LR/KE

Address/Location: 75 Mitchell Drive (across from Wilbur Cross Field)

Latitude: N 41°19.254' Longitude: W 72°54.350'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow: *Dry pipe*

Velocity ____ ft/sec

Depth ____ in

Turbulence Amplitude: *NA*

Less than 0.25"
0.25" to 0.75"
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	24"		36"
Width	24"		36"
Material	Concrete		Brick
Shape	Round		Round

Sediment Present:

(Yes) No Hard packed: _____ in. deep

Soft: _____ in. deep

Surcharge / Backwater Influence:

(No evidence visible)

Remains in pipe
____ ft from rim
Reaches Rim (potential meter damage)
Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) 20.9 (condition)

Site Conditions

Site Access:

Good (no problems accessing site)

(Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site))

Poor (remote areas, steel embankments, No safe place to park, elevated MH >3 ft)

Traffic Control only (Requires extra traffic control

Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground __

Manhole depth 7'6"

Structural Integrity of Manhole:

(Good) Fair Poor

Pipe Bends: *Drop-in (2 tiers)*

(Influent) Effluent Manhole

Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole

Approx Distance to change: _____ ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

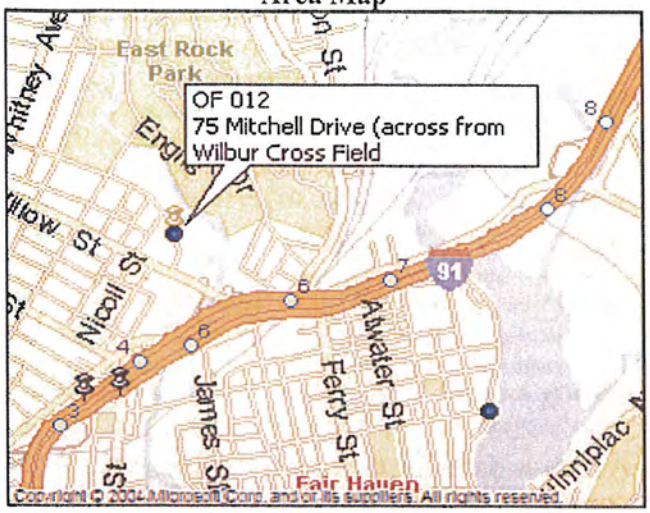
Sensor Configuration:

(Please include Serial Numbers when possible)

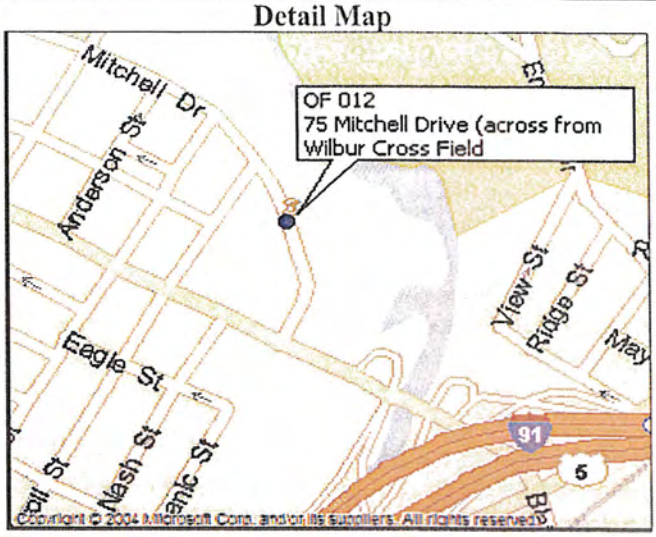
Level	Primary: Pressure
	Redundant: Pressure
Velocity	Primary: Doppler
	Redundant: Doppler
Meter Logger	FloWav 293698

Comments: *MH is located in the grass next to the sidewalk*

Area Map



Detail Map

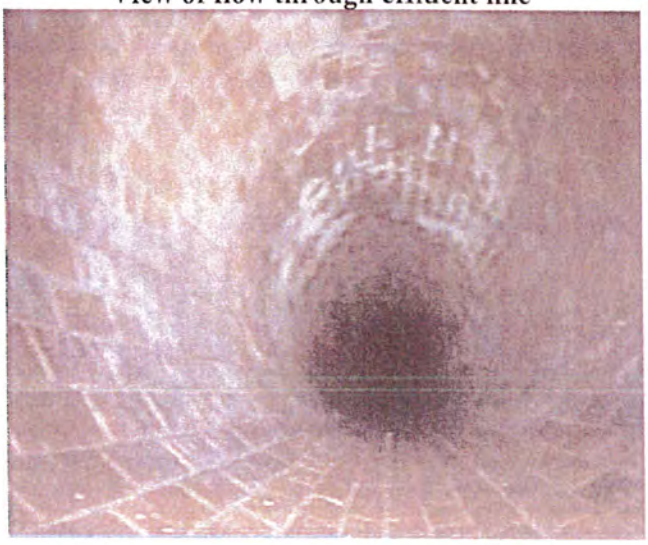


View from top of MH

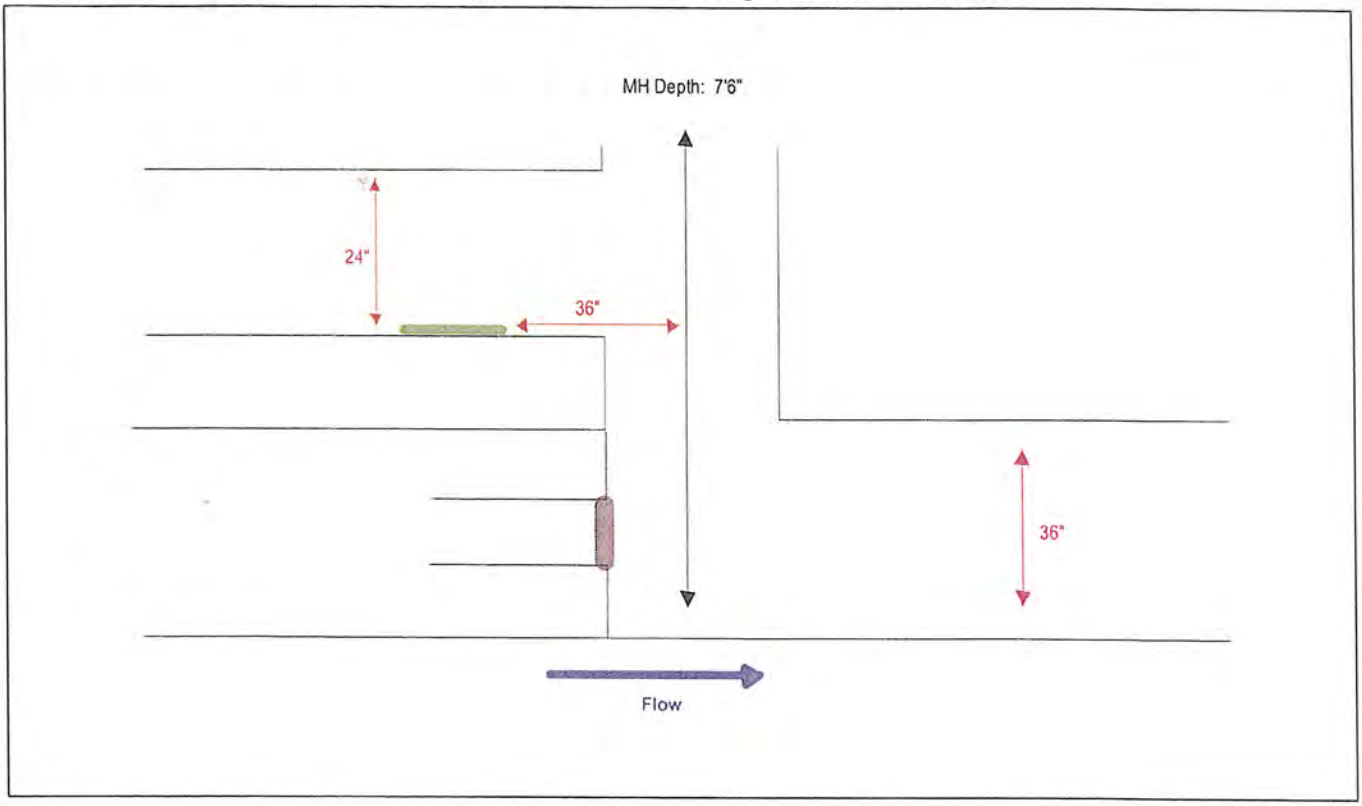
Site Overview

View of flow through influent line

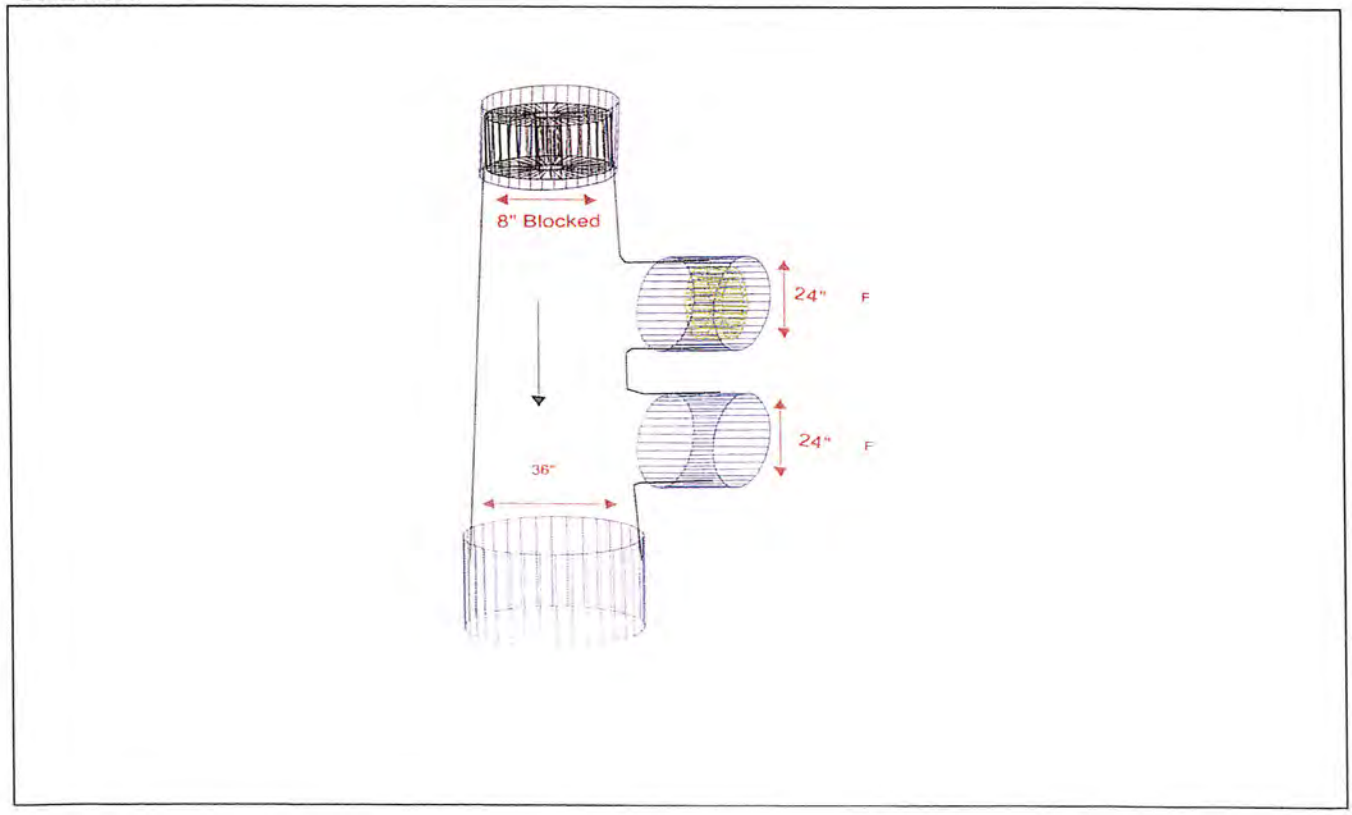
View of flow through effluent line



Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



FLOW METER OF-012B OVERFLOW

(Installed 08-13-2012)

Site Name / Manhole # OF-012B

Investigation Date: 7/11/12 Time: 15:58 Crew Members: RD/LR/KE

Installation Date: 8/13/12 Time: 15:00 Crew Members: RD/LR/KE

Address/Location: 75 Mitchell Drive (across from Wilbur Cross Field)

Latitude: N 41°19.254' Longitude: W 72°54.350'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow: *Dry pipe*

Velocity ____ ft/sec

Depth ____ in

Turbulence Amplitude: *NA*

Less than 0.25"
0.25" to 0.75"
0.75" to 1.5"
1.5" to 3"
Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Effluent
Height	24"		36"
Width	24"		36"
Material	Concrete		Concrete
Shape	Round		Brick

Sediment Present:

Yes Hard packed: _____ in. deep
(No) Soft: _____ in. deep

Surcharge / Backwater Influence:

(No evidence visible)
Remains in pipe
____ ft from rim
Reaches Rim (potential meter damage)
Evidence unclear: _____ ft from rim

Gas Investigation:

(Good) ___ (condition)

Site Conditions

Site Access:

Good (no problems accessing site)
(Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site))
Poor (remote areas, steel embankments, No safe place to park, elevated MH >3 ft)
Traffic Control only (Requires extra traffic control
Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: Yes (No)

Height above ground ___
Manhole depth 7'6"
Structural Integrity of Manhole:
(Good) Fair Poor

Pipe Bends: *Drop-in (2 tiers)*

(Influent) Effluent Manhole
Approx Distance to bend: ____ ft

Pipe Size/Geometry/Material Change:

Influent Effluent Manhole
Approx Distance to change: _____ ft
(detail is comments)

Crew Member: Can you maintain this site?

(Yes) No Maybe

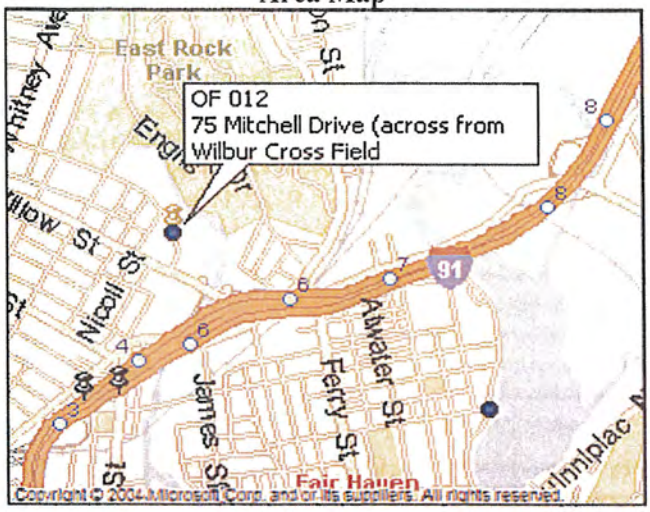
Sensor Configuration:

(Please include Serial Numbers when possible)

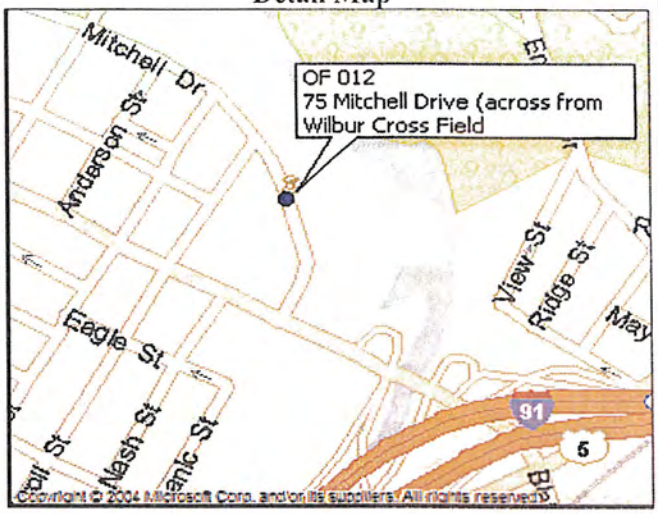
Level	Primary: Pressure
	Redundant: Pressure
Velocity	Primary: Doppler
	Redundant: Doppler
Meter Logger	FloWav 293702

Comments: *MH is located in the grass next to the sidewalk*

Area Map



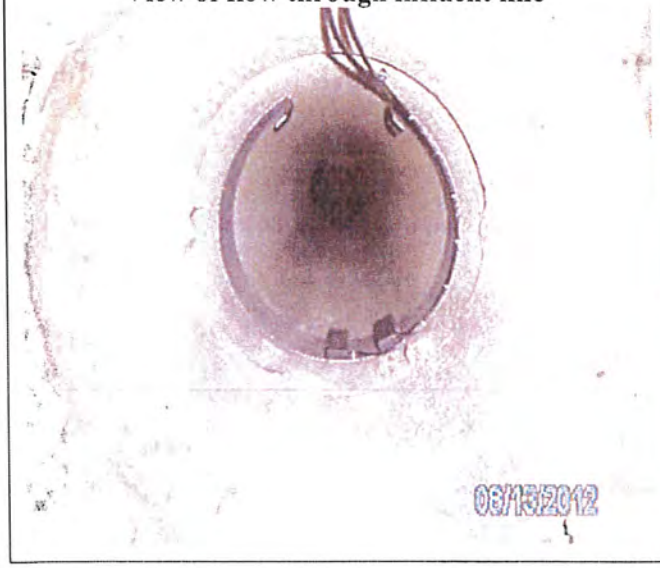
Detail Map



View from top of MH

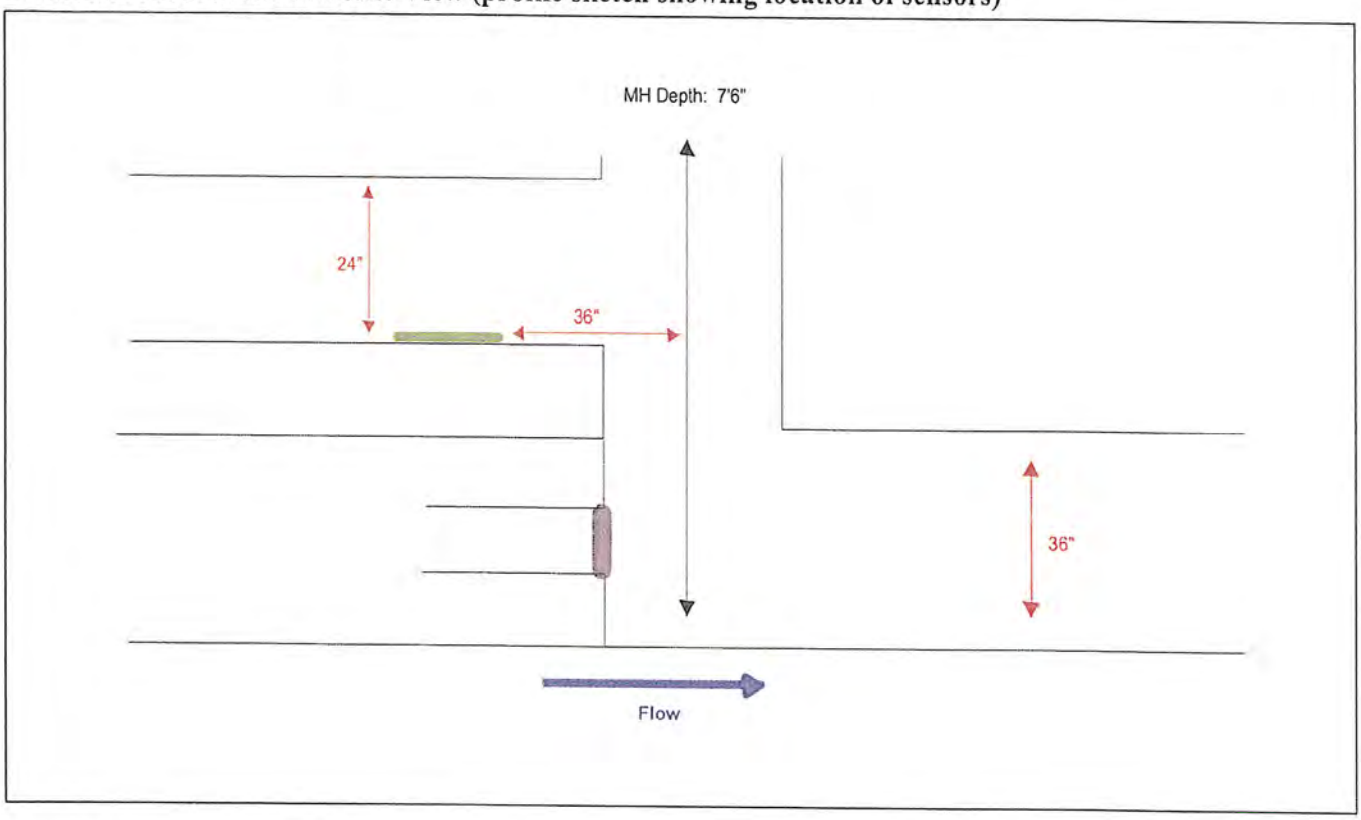
Site Overview

View of flow through influent line

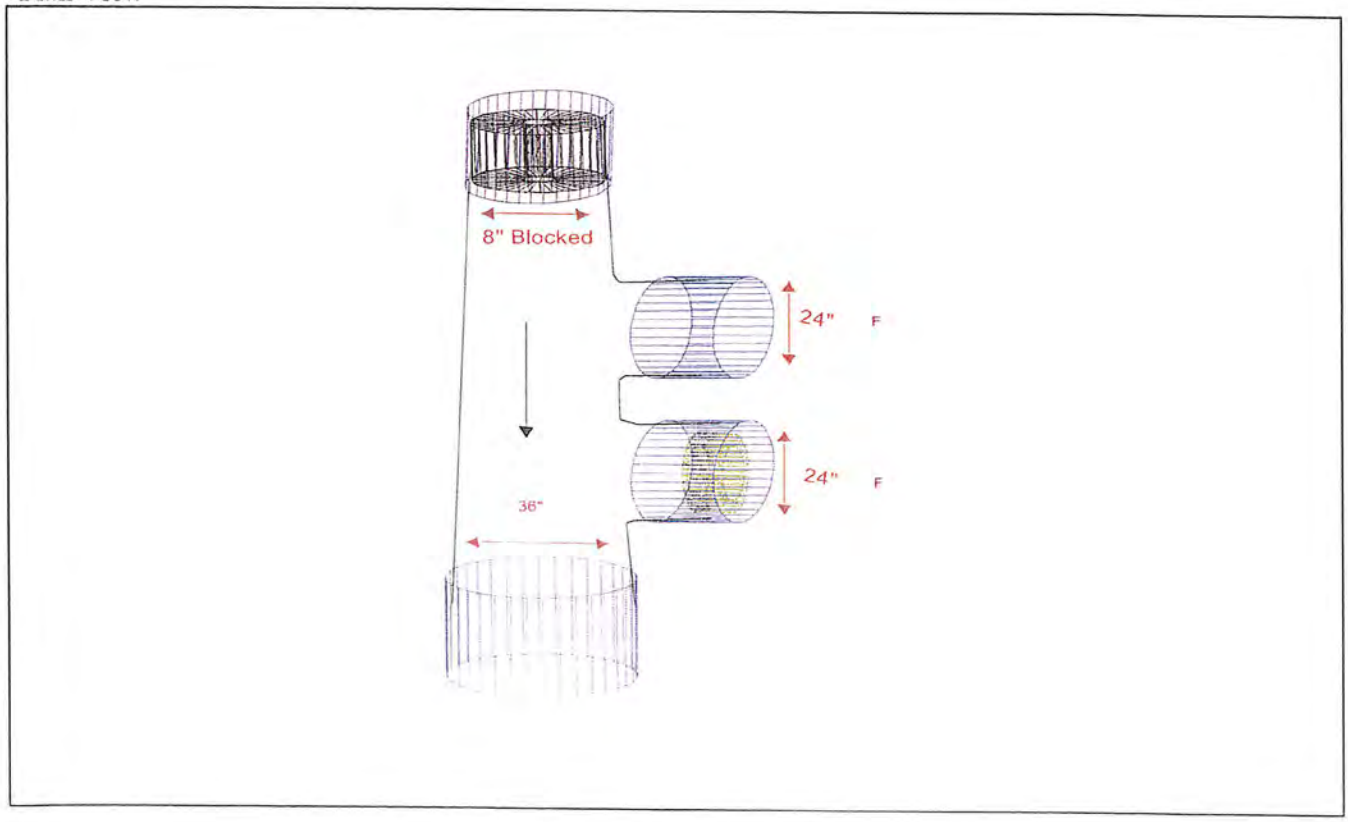


View of flow through effluent line

Dimensional Structure Profile View (profile sketch showing location of sensors)



Plan View



APPENDIX C

FLOW METER INSTALLATION REPORTS

REGULATOR AND CSO OUTFALL

020 STUDY AREA

FLOW METERS OF-020 AND OF-020 OVERFLOW

(Installed 03-27-2013)

Site Name / Manhole # OF-20

Investigation Date: 3/6/13 Time: 11:00 Crew Members: GM/LL/RW

Installation Date: 3/27/13 Time: 12:20 Crew Members: LR/LL/KE

Address/Location: Intersection of Clifton Street & Quinnipiac Avenue

Latitude: N 41°19.564' Longitude: W 72°53.089'

Weather Conditions: Wet (Dry)

Hydraulic Conditions

Influent Flow:

Velocity 1.75 ft/sec

Depth 18.0 in

Turbulence Amplitude:

- (Less than 0.25")
- ☐ 0.25" to 0.75"
- ☐ 0.75" to 1.5"
- ☐ 1.5" to 3"
- ☐ Greater than 3"

Sewer Line Characteristics:

	Influent 1	Influent 2	Influent 3	Effluent	Overflow
Height	24"	12"	3"	24"	16"
Width	24"	12"	3"	24"	16"
Material	Concrete	Cast Iron	Steel	Concrete	Cast Iron
Shape	Round	Round	Round	Round	Oval

Sediment Present:

- ☐ (Yes) Hard packed: _____ in. deep
- ☐ No Soft: 1.25 in. deep

Surcharge / Backwater Influence:

- (No evidence visible)
- ☐ Remains in pipe
- ☐ _____ft from rim
- ☐ Reaches Rim (potential meter damage)
- ☐ Evidence unclear: _____ft from rim

Gas Investigation:

☐ (Good) 20.9 (condition)

Site Conditions

Site Access:

- ☐ Good (no problems accessing site)
- ☐ Fair (minor traffic control, truck accessible off-road site, can safely carry equipment to site)
- ☐ Poor (remote areas, steel embankments, ~~No safe place to park, elevated MH >3 ft~~)
- ☐ (Traffic Control only (Requires extra traffic control)
- ☐ Unusable (Document in Comments section)

Manhole Information:

Elevated Manhole: ☐ Yes (☐ No)

Height above ground

Manhole depth 4' 2"

Structural Integrity of Manhole:

☐ Good ☐ (Fair) ☐ Poor

Pipe Bends: *None within camera view*

☐ Influent ☐ Effluent ☐ Manhole

Approx Distance to bend:____ft

Pipe Size/Geometry/Material Change:

☐ Influent ☐ Effluent ☐ Manhole

Approx Distance to change:_____ft

(detail is comments)

Crew Member: Can you maintain this site?

(Yes) ☐ No ☐ Maybe

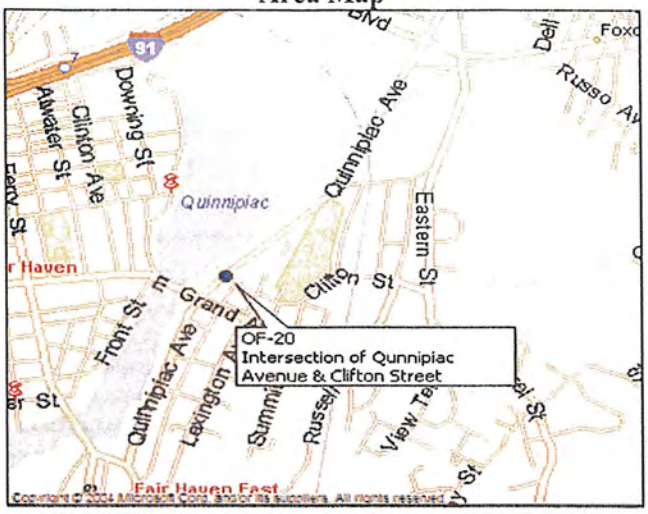
Sensor Configuration:

(Please include Serial Numbers when possible)

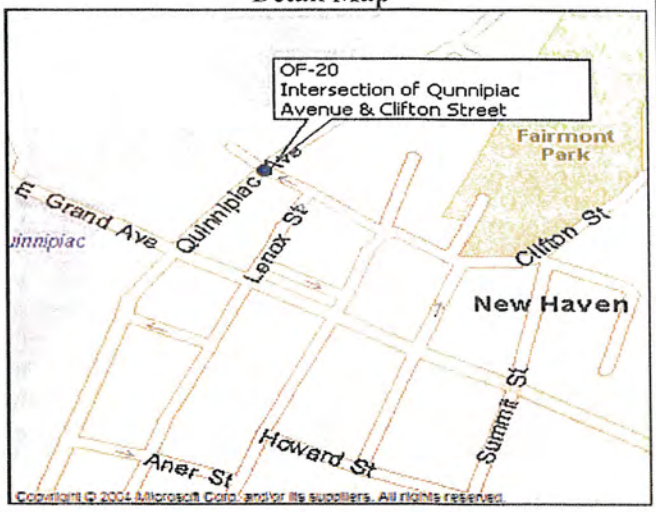
Level	Primary: Pressure
	Redundant: Doppler
Velocity	Primary: Pressure
	Redundant: Doppler
Meter Logger	Flowav 293468

Comments: *34.75" bottom of the pipe to the bottom of the connection*

Area Map



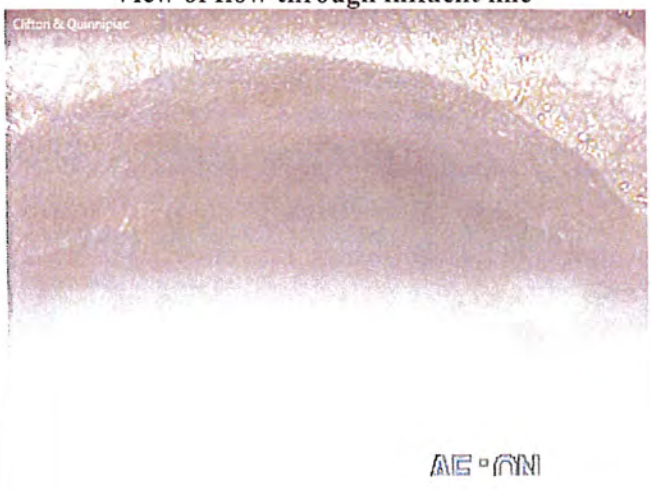
Detail Map



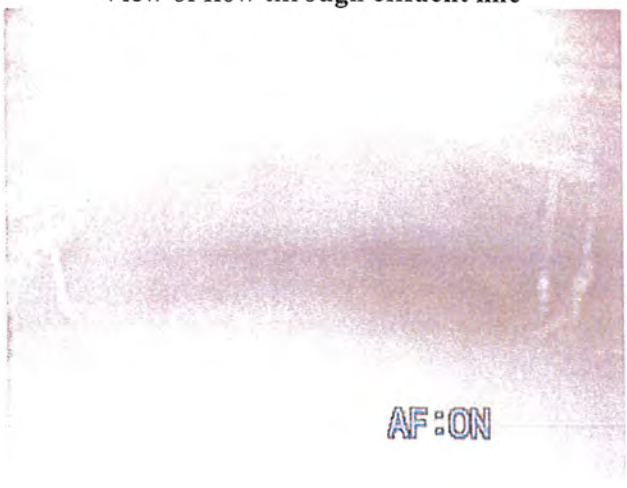
View from top of MH

Site Overview

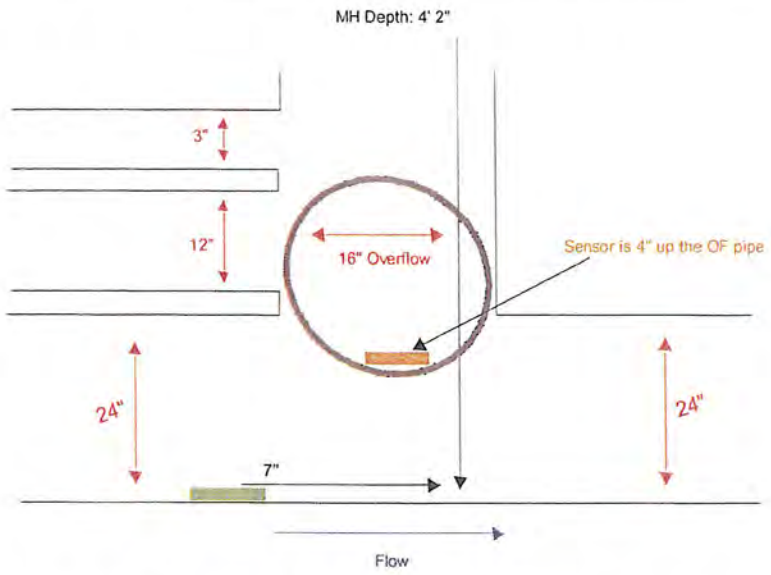
View of flow through influent line



View of flow through effluent line

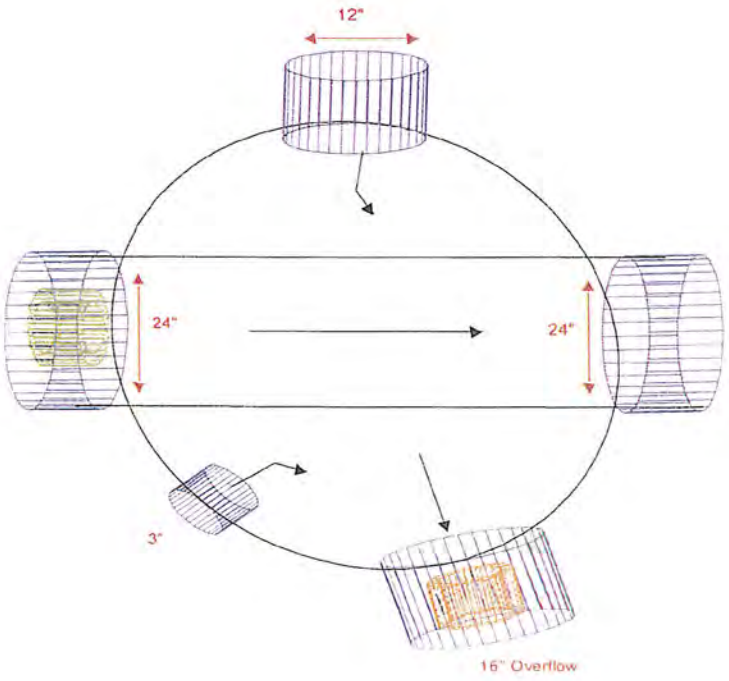


Dimensional Structure Profile View (profile sketch showing location of sensors)



Sensor #1 is 7" up pipe at 5:00. Sensor #2 is 4" up the overflow pipe.
The base of the overflow pipe is 31" from the invert.

Plan View



Site Location Plan View
Sketch or plat showing upstream and downstream manholes, connections, and bends.

APPENDIX D

DRY WEATHER CALIBRATION RESULTS

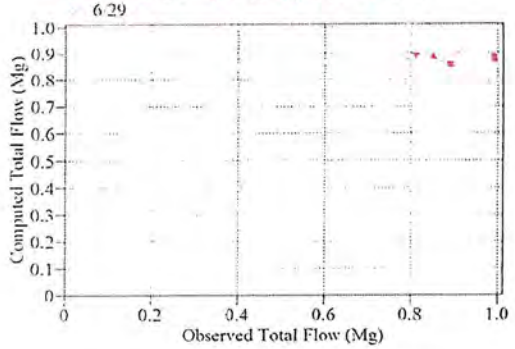
REGULATOR 034 STUDY AREA

FLOW METER OF-034 GEORGE

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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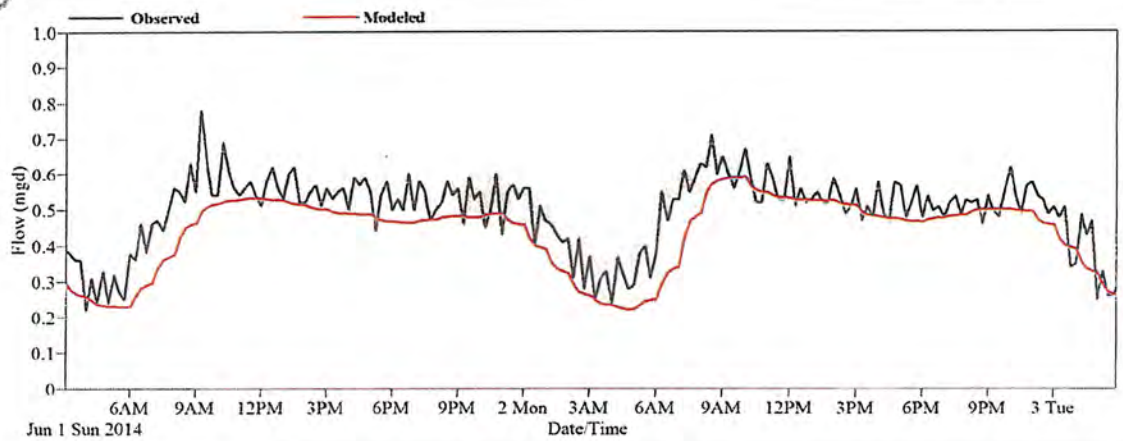

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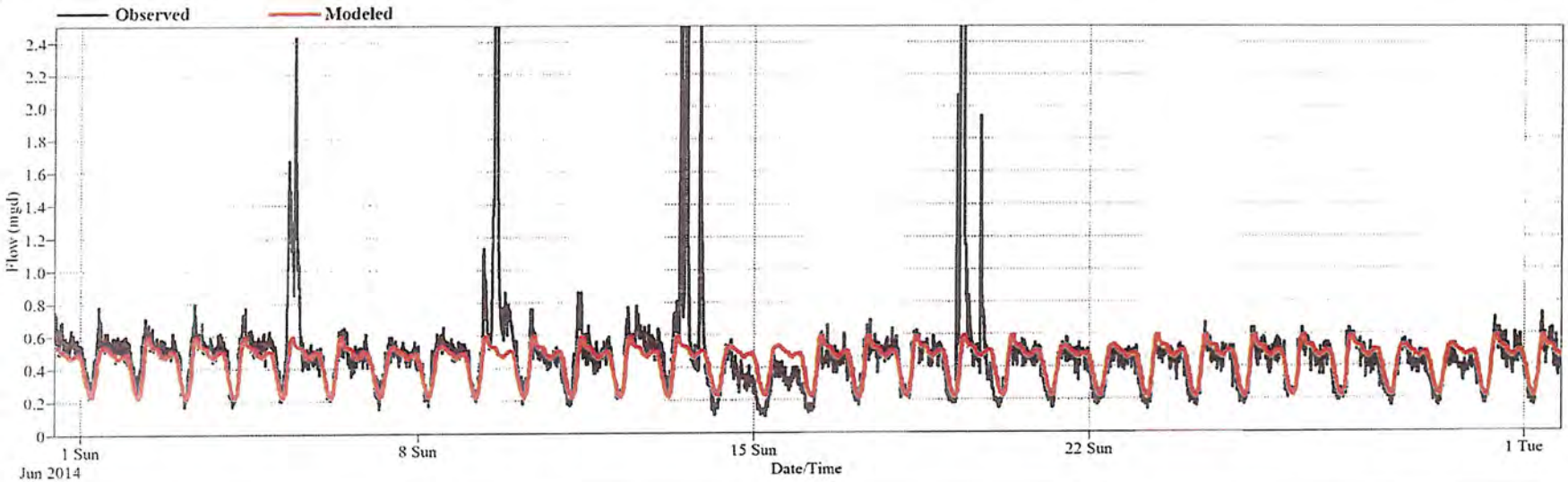


Model Calibration Results

Flow Meter: OF-034 George

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

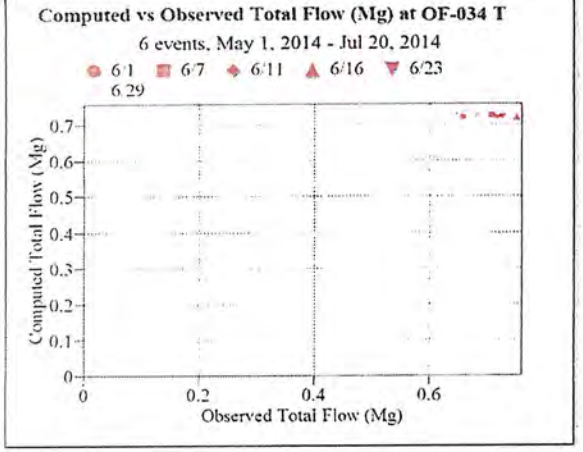
CH2MHILL

FLOW METER OF-034 TEMPLE

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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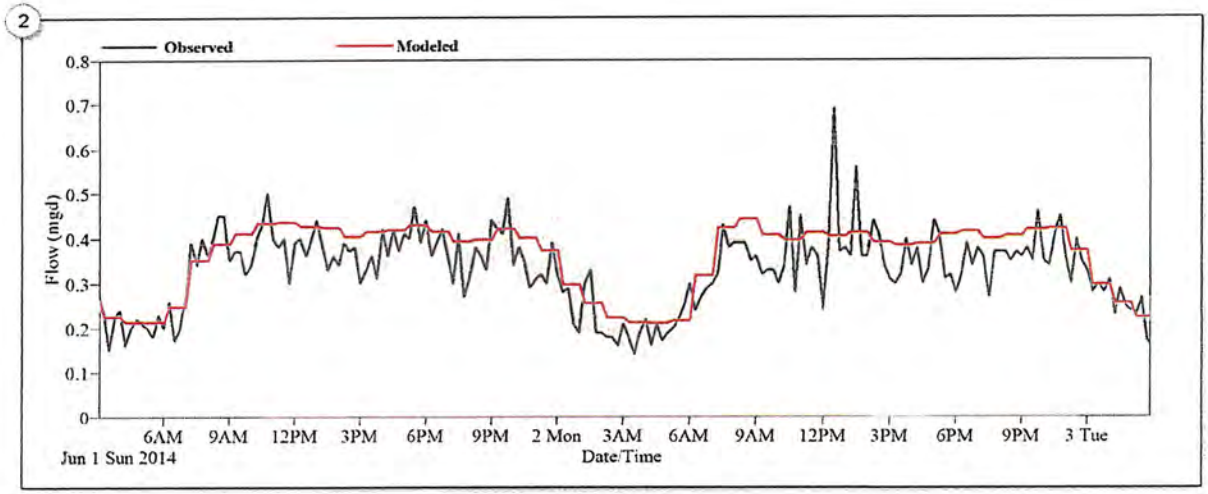

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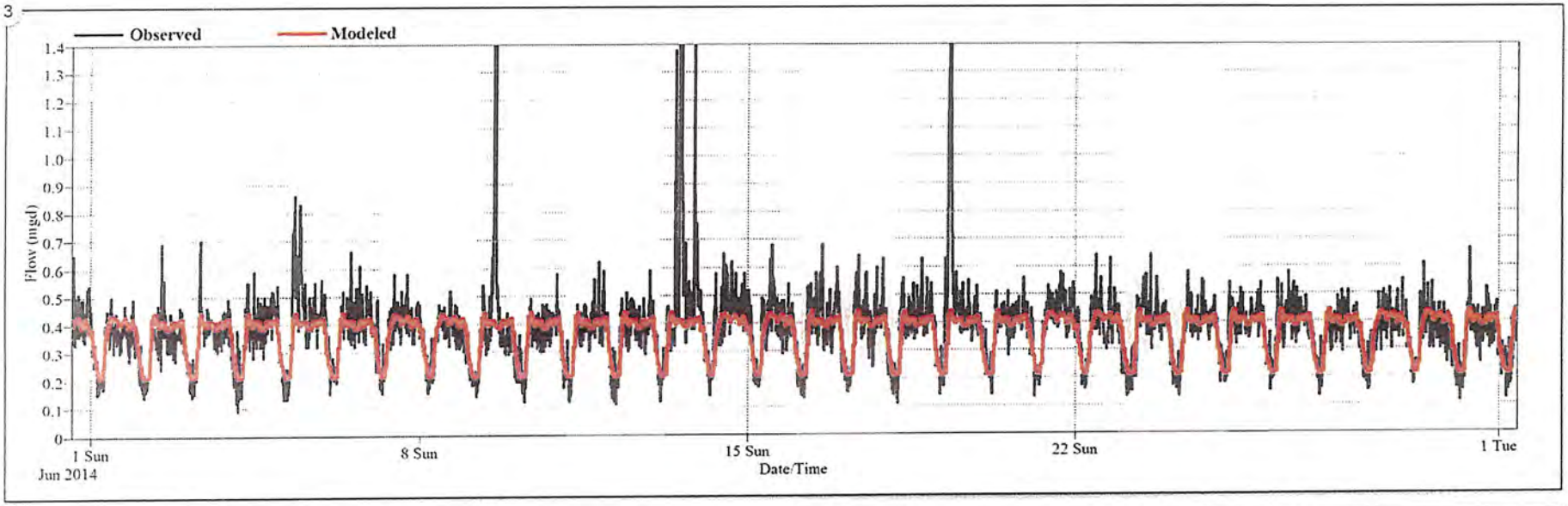


Model Calibration Results

Flow Meter: OF-034 Temple

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

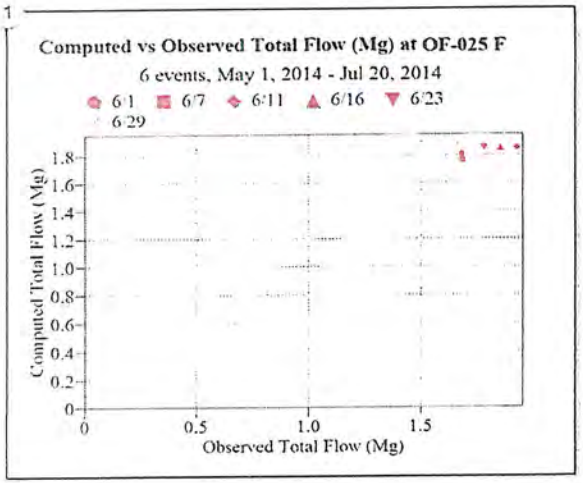
CH2MHILL

FLOW METER OF-025 FRONTAGE

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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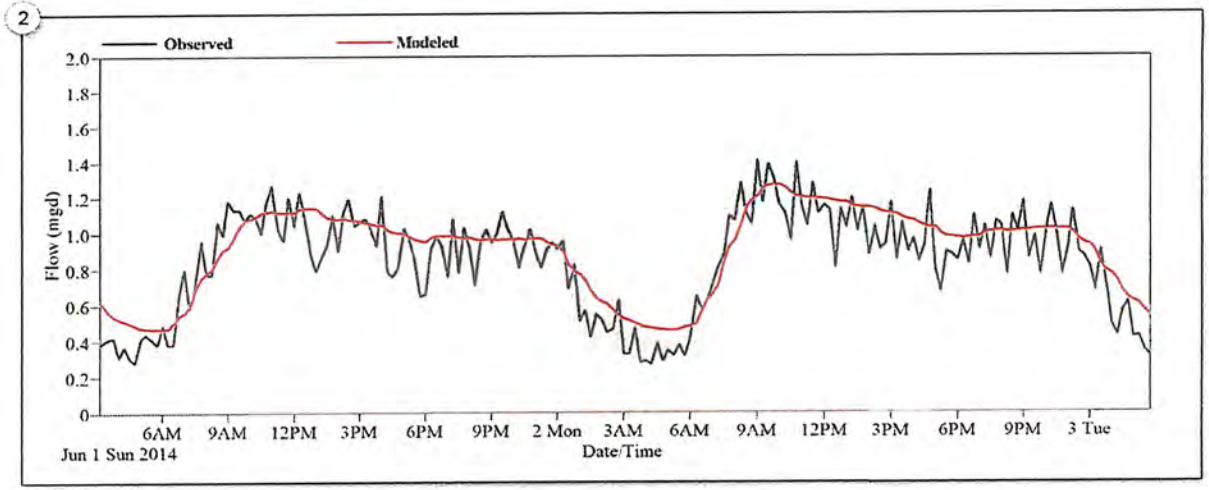

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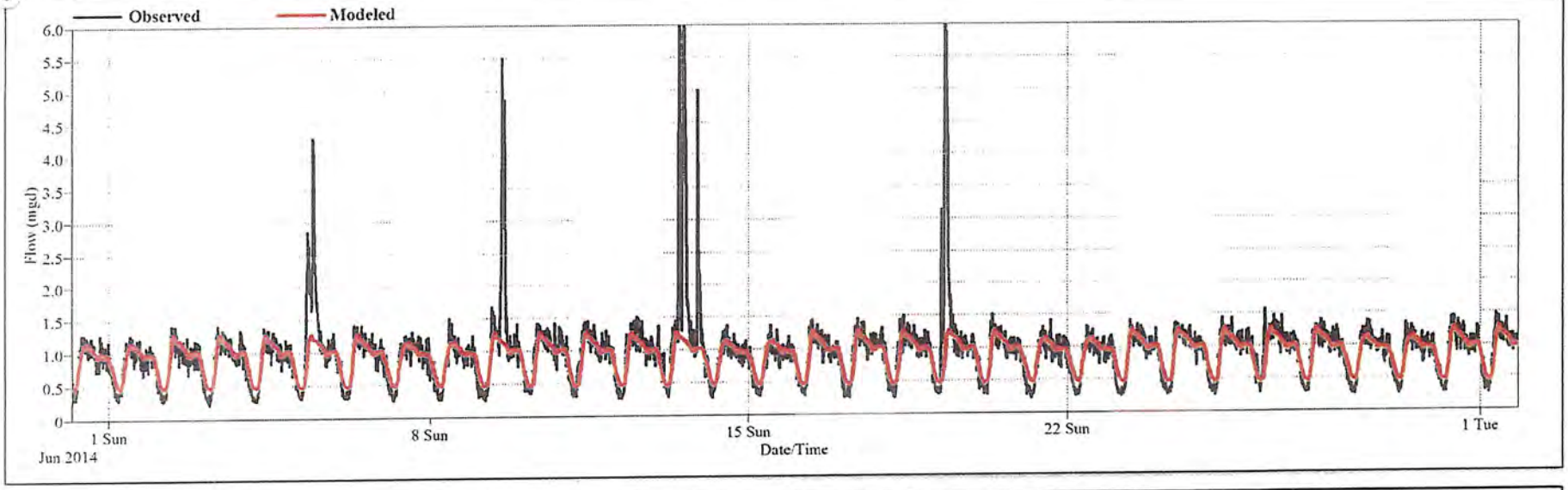


Model Calibration Results

Flow Meter: OF-025 Frontage

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

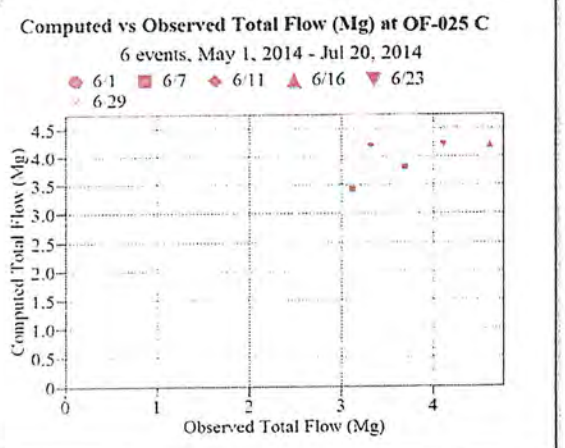
CH2MHILL

FLOW METER OF-025 COLUMBUS

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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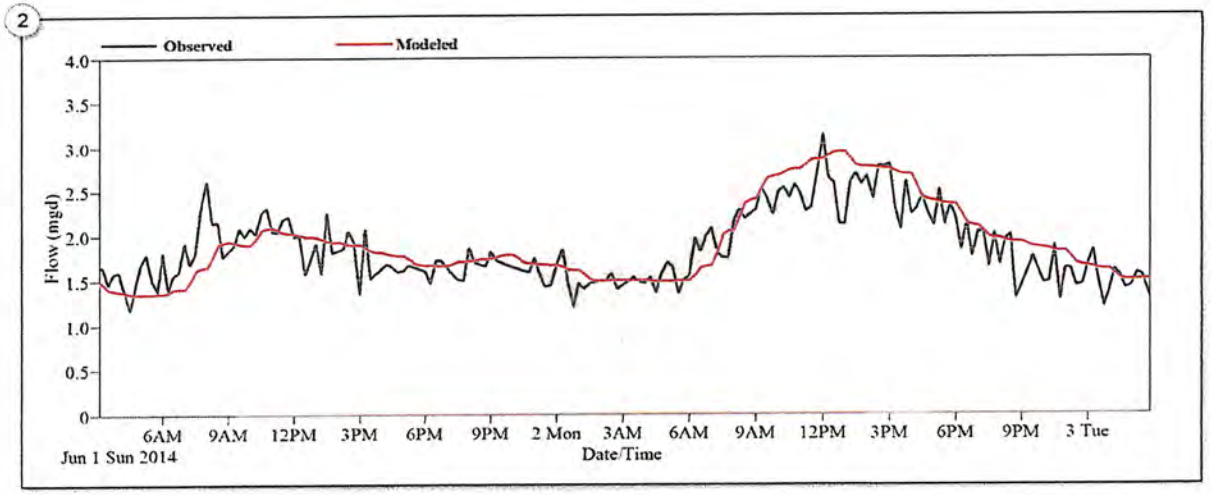

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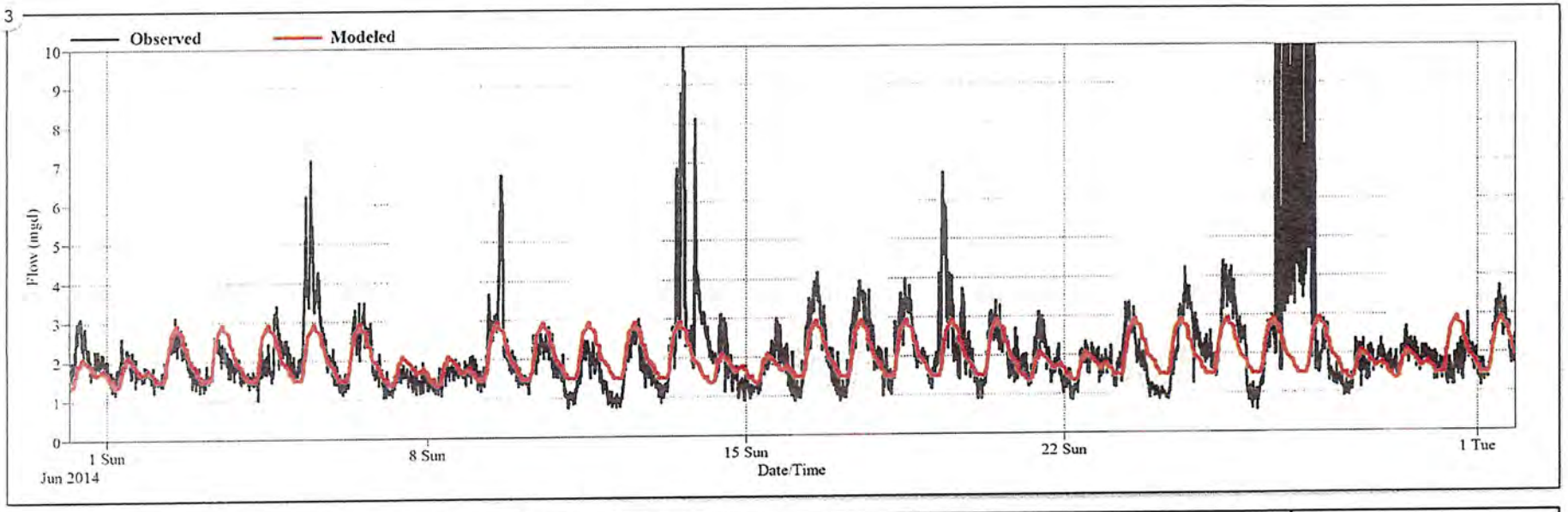


Model Calibration Results

Flow Meter: OF-025 Columbus

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

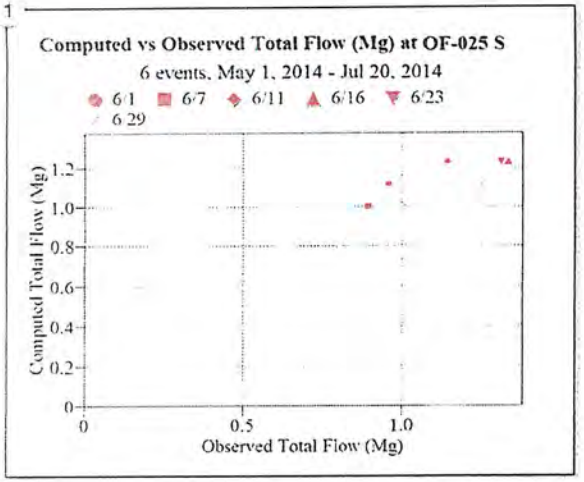
CH2MHILL

FLOW METER OF-025 STATE

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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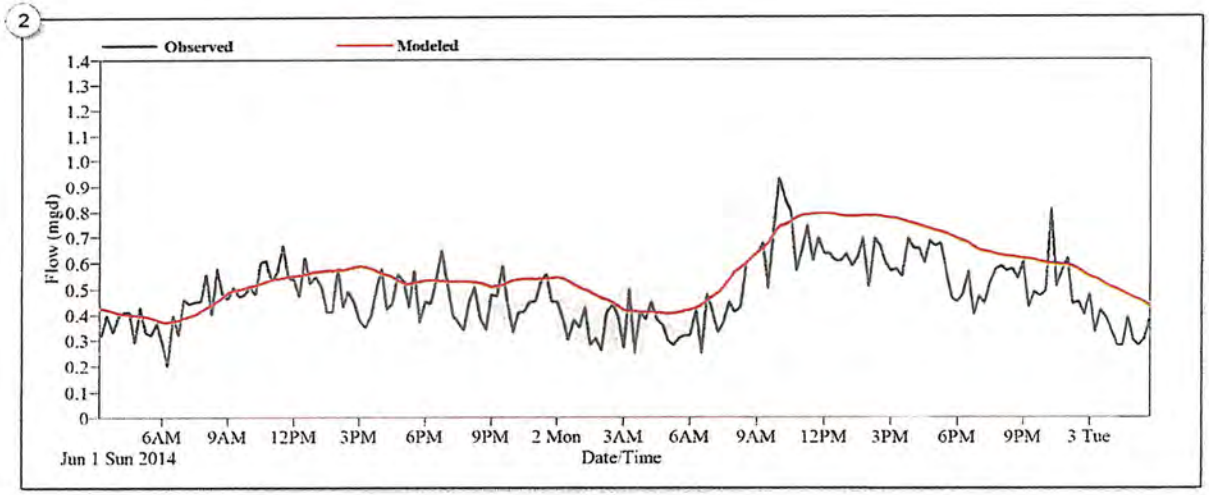

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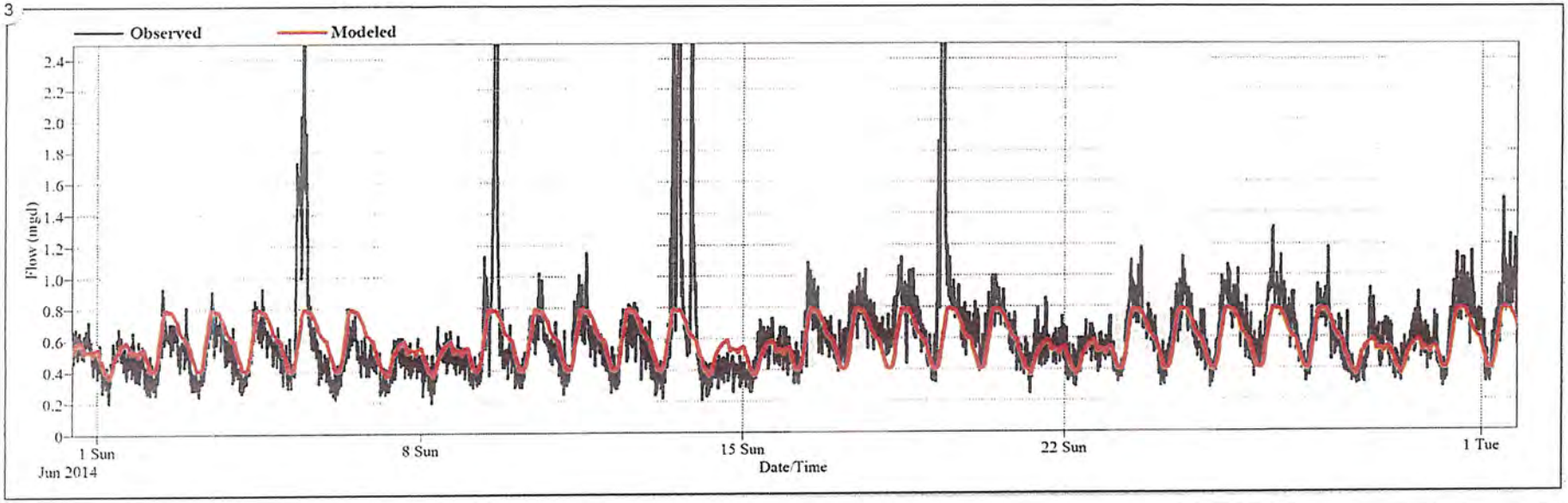


Model Calibration Results

Flow Meter: OF-025 State

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

CH2MHILL

APPENDIX D

DRY WEATHER CALIBRATION RESULTS

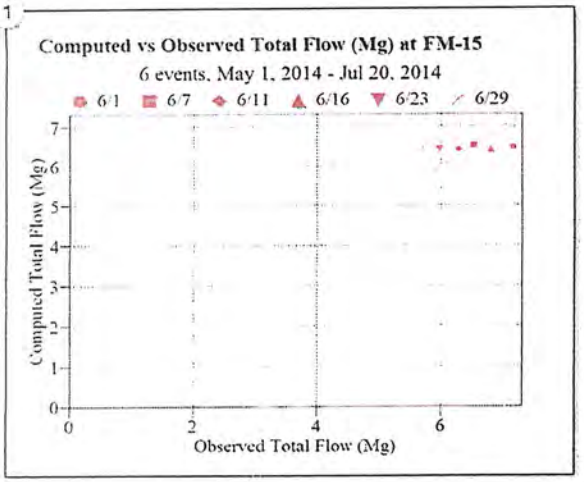
REGULATOR 012 STUDY AREA

FLOW METER FM-15

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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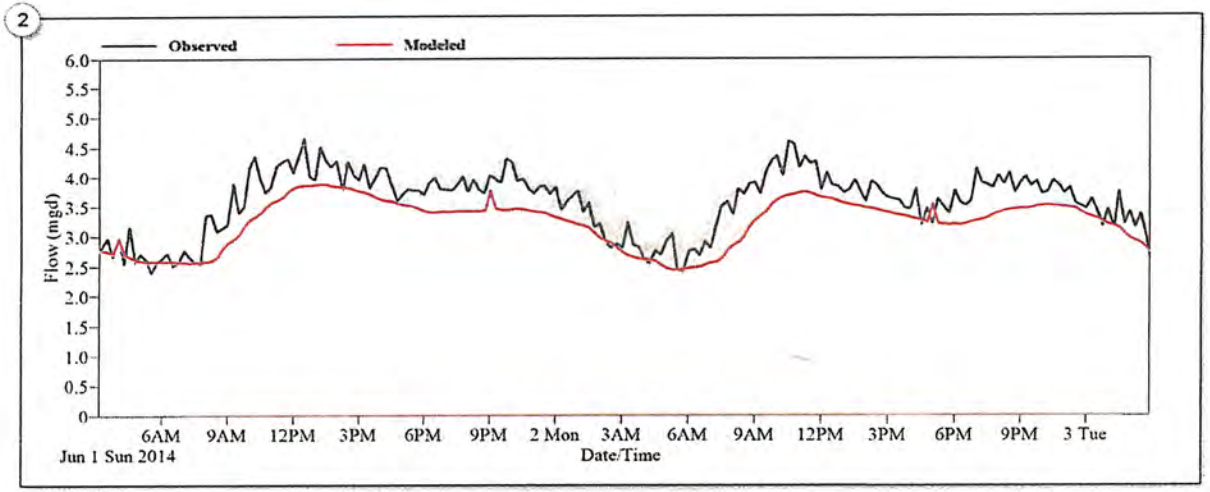

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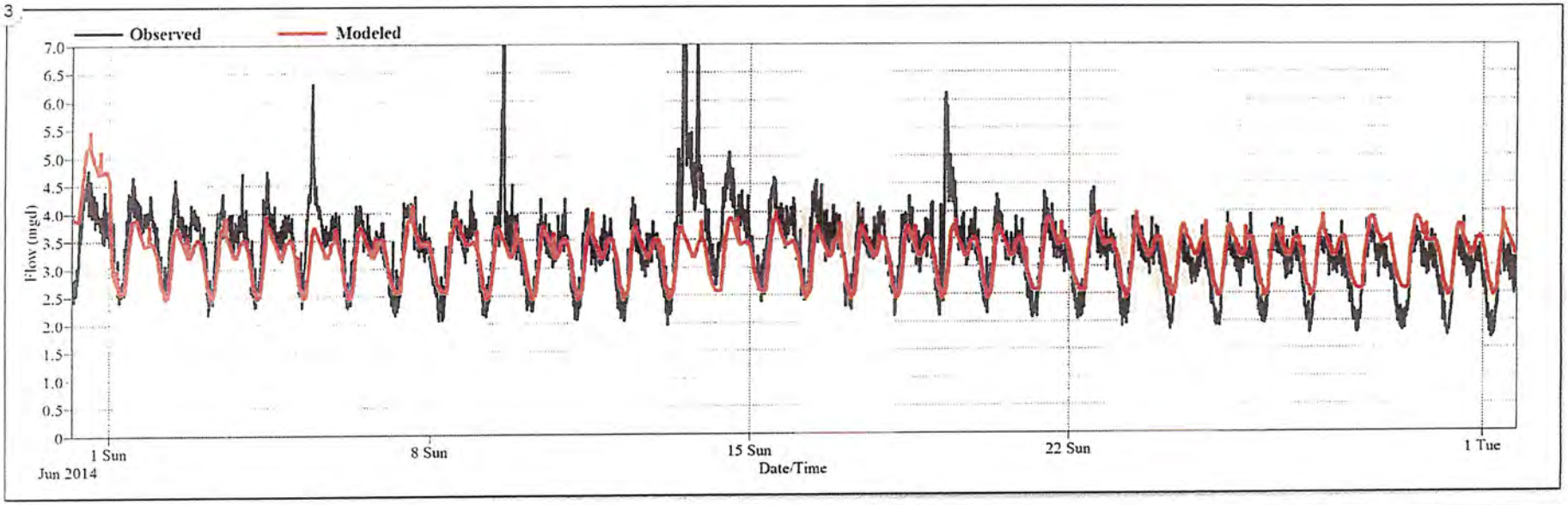


Model Calibration Results

Flow Meter: FM-15

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

CH2MHILL

APPENDIX D

DRY WEATHER CALIBRATION RESULTS

REGULATOR AND CSO OUTFALL

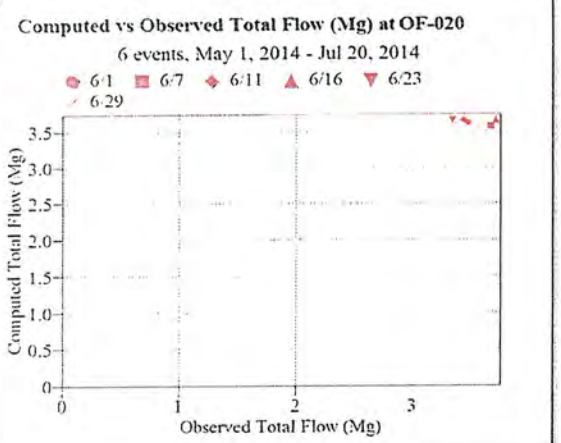
020 STUDY AREA

FLOW METER OF-020

DRY WEATHER CALIBRATION RESULTS

(June 2014)

1



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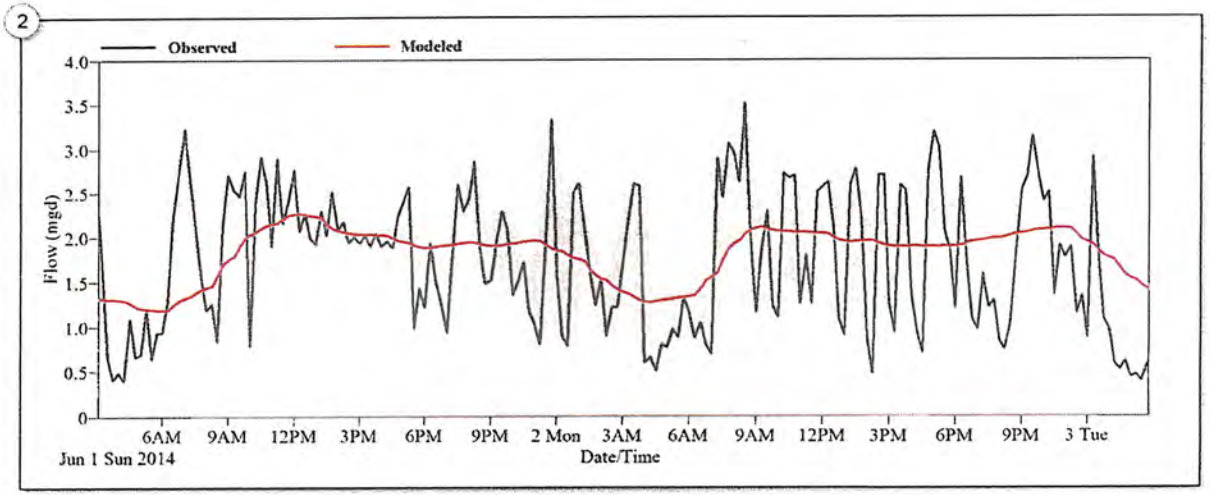

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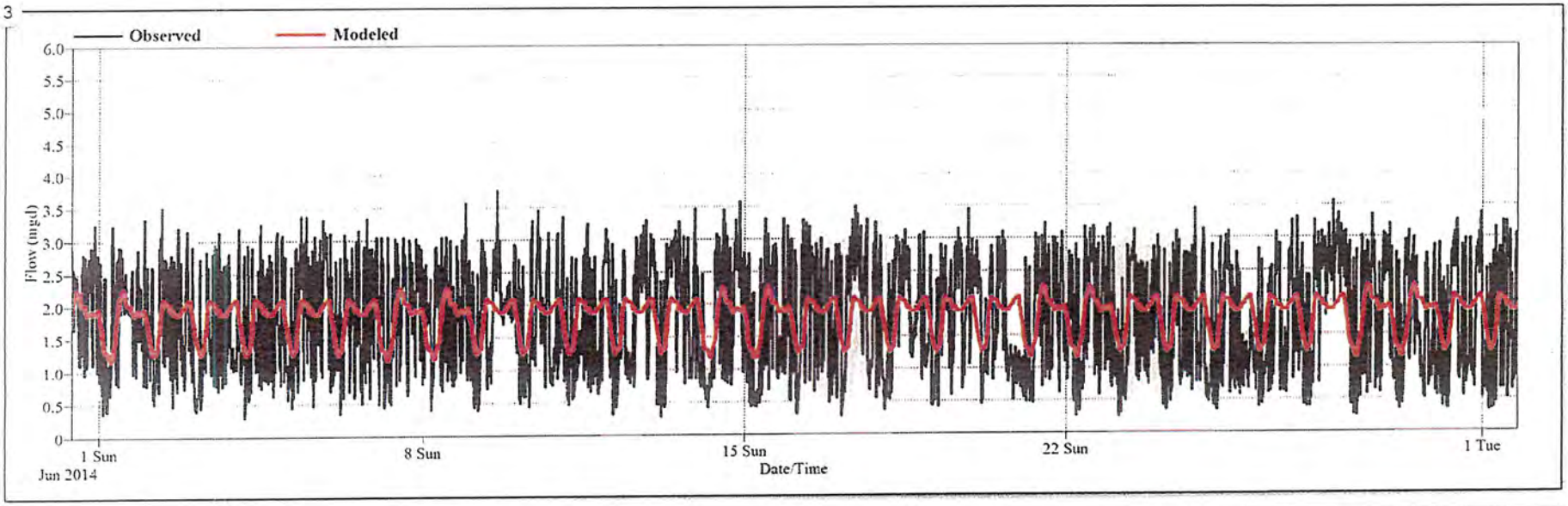

Model Calibration Results

Flow Meter: OF-020

Dry Weather Flow

1. Total Event Volume
2. June 1st Event Flow
3. All Event Flows

6 dry weather flow events on June 1, 7, 11, 16, 23 and 29 were used for dry weather calibration.

Prepared for:
Greater New Haven Water Pollution Control Authority (GNHWPCA)

Prepared by:

CH2MHILL