



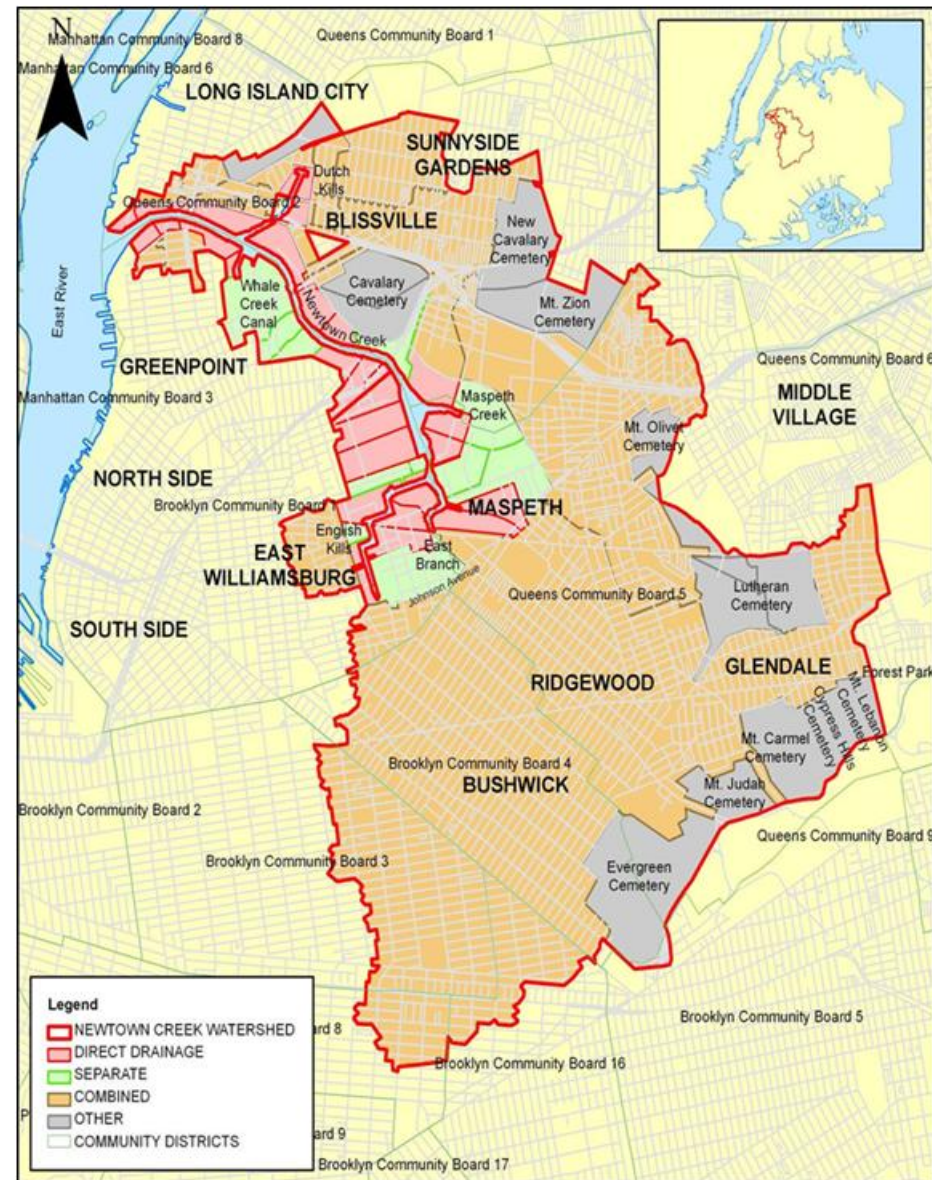
NYC CSO Flow Monitoring Project Newtown Creek

Newtown Creek CAG

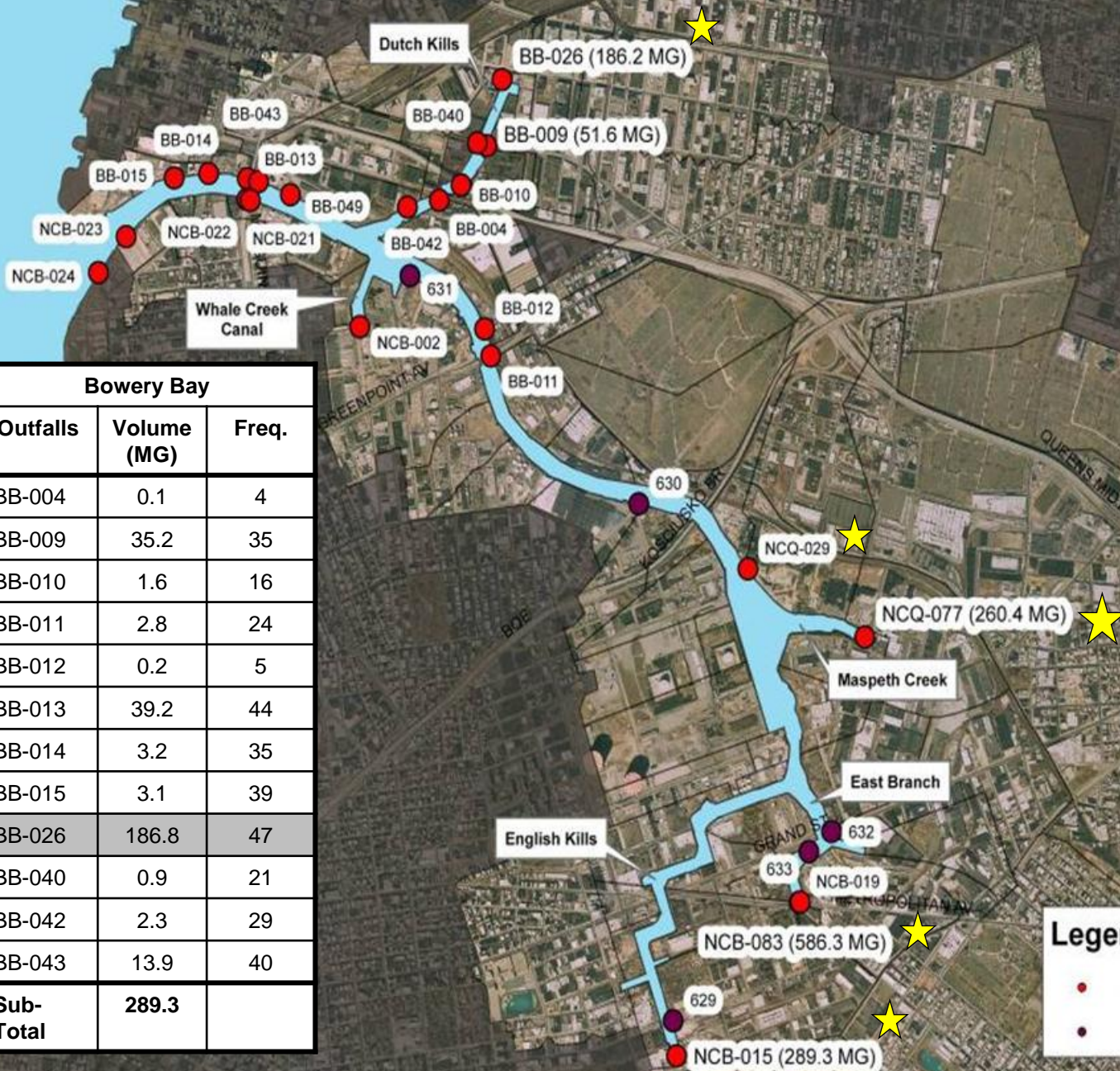
February 6, 2014

Newtown Creek Catchment Area

- ❖ 3.5 mile long urban tributary to East River
 - Contains four major tributaries
 - Bulk headed and channelized
 - No Natural Surface Freshwater Flow
- ❖ Watershed is approximately 10,741 acres
- ❖ Land use in immediate vicinity of Newtown Creek is generally dominated by heavy industry, manufacturing, transportation, and utilities
- ❖ Newtown Creek WWTP wet expansion to 700 MGD – reduces CSO into NC by 150 MGY



Newtown Creek Outfalls



Newtown Creek		
Outfalls	Volume (MG)	Freq.
NCB-015	307.8	33
NCB-019	0.4	7
NCB-022	8.4	42
NCB-023	0.2	5
NCB-024	0.0	0
NCQ-029	18.1	48
NCQ-077	261.5	49
NCB-083	586.2	71
Sub-Total	1182.6	

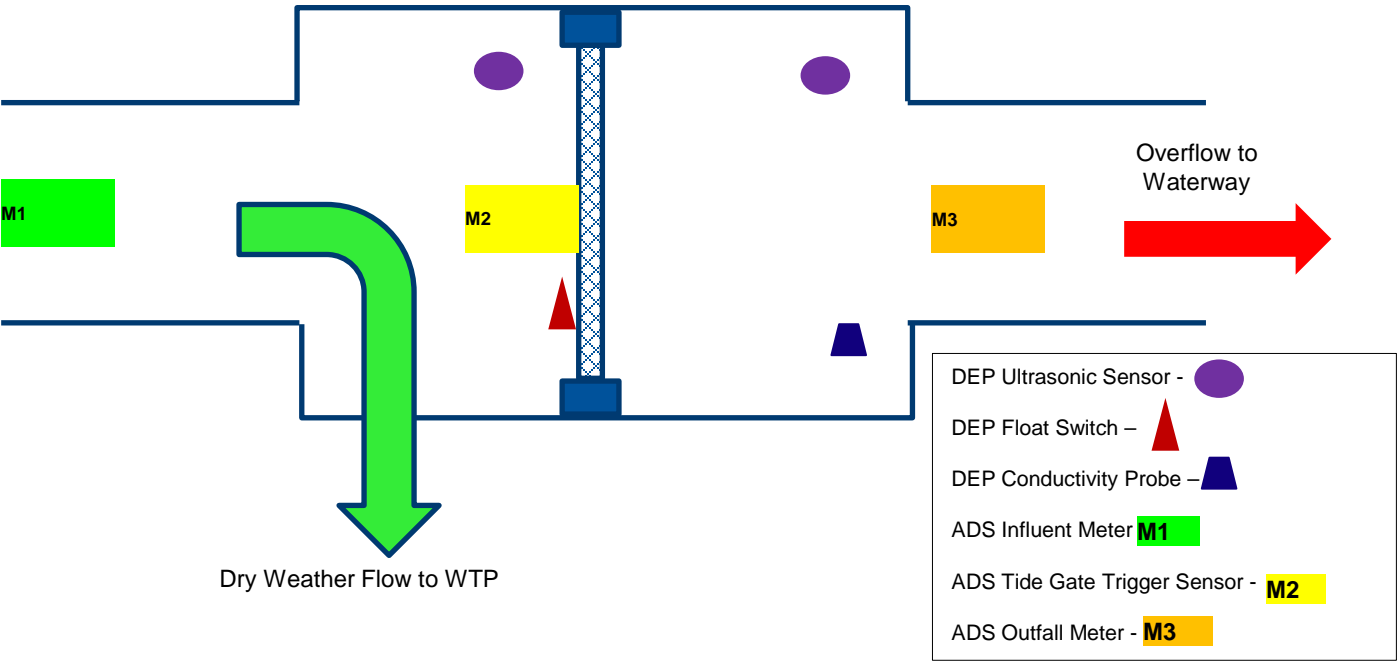
Bowery Bay		
Outfalls	Volume (MG)	Freq.
BB-004	0.1	4
BB-009	35.2	35
BB-010	1.6	16
BB-011	2.8	24
BB-012	0.2	5
BB-013	39.2	44
BB-014	3.2	35
BB-015	3.1	39
BB-026	186.8	47
BB-040	0.9	21
BB-042	2.3	29
BB-043	13.9	40
Sub-Total	289.3	

Legend

- CSOs (AAOV)
- NYCDEP SPDES Permitted Storm Outfalls

Simplified Schematic of Regulator

Simple Regulator

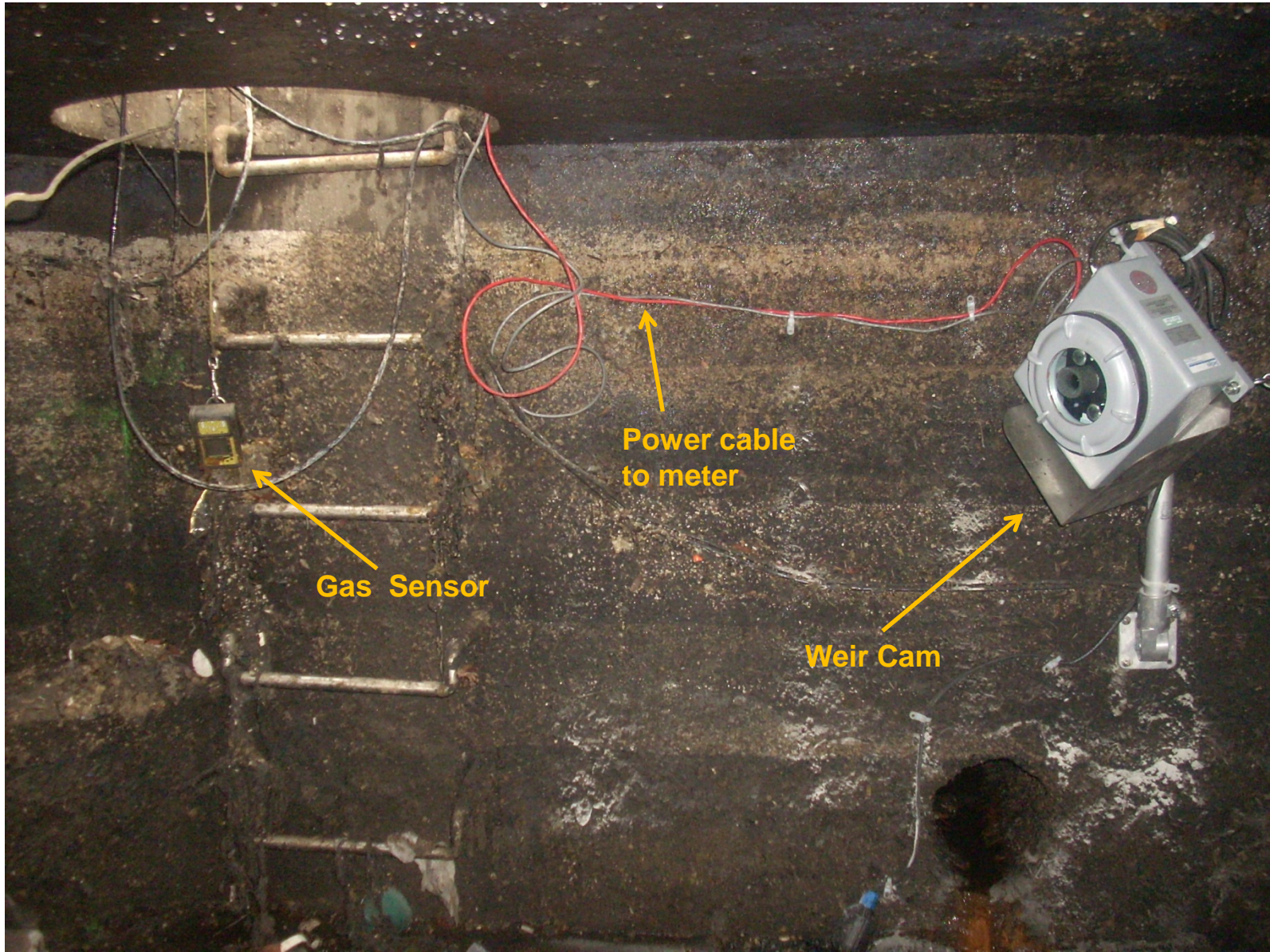


FlowShark Triton Flow Meter from ADS



- Battery power ~8 months
- Sensors set for 2 min readings
- 2 sensor channels per Triton x 3 parameters per sensor
- Up to 6 individual parameters per meter

Weir Cam Installation



How accurately can we...

- ✓ Determine if CSO occurred
- ✓ Duration
- ✓ Quantity

Date/Time	ADS Data Analysis			NYCDEP Data Analysis			
	Preliminary Data Method 1	Preliminary Data Method 2	Final Data	Modeling	SCADA	Rain Gages	Plant Flows
Event 1							
Event 2							
Event 3							

ADS Data Analysis

- Field calibration of all sensors
- Scattergraph analysis
- Q vs. i for incoming flow

NYCDEP Data Analysis

- Hydraulic model comparison
- SCADA data comparison
- Rain data comparison
- Plant Flows

- BB026 was included in a pilot project for CSO flow monitoring
- Data collection began in October 2012 and will continue along with the additional four outfalls that DEP is currently installing flow monitoring systems in

October 2012 - September 2013 Comparative Data Analysis						
Site	ADS Final Data			NYCDEP Modeling Results		
	# Events	Hours	Volume (MG)	# Events	Hours	Volume (MG)
BB-026	40	204	114	39	198	160

- Preliminary results based on one year of data collection show that the model of the BB026 drainage area conservatively predicts 40% greater volume of CSO at this outfall compared to the end of pipe metering system
- NYCDEP is in the process of refining the hydraulic models based on the data collected to date to better align with the flow monitoring data

- ❖ **Complete Installation:** Feb 28, 2014
- ❖ **Start-up/Test Period:** March 2014
- ❖ **Data Collection:** Apr 2014 – Apr 2015

- ❖ DEP will develop a CSO LTCP by June 2017 per the existing administrative consent order
- ❖ Scope of work will cover the following:
 - Additional characterization of the waterbody
 - Robust public participation
 - Determining the future “Highest Attainable Use” of waterbody per EPA CSO policy (sets the LTCP endpoint)
 - Evaluate Additional CSO Controls (Grey & Green) to achieve Highest Attainable Water Quality Use