



Haverhill

Paul J. Jessel, Collection System Supervisor
Water/Wastewater Division
Phone: 978-374-2382 Fax: 978-521-4083
pjessel@haverhillwater.com

April 6, 2011

United States Environmental Protection Agency
Office of Environmental Stewardship
1 Congress Street, Suite 1100 (SEW)
Boston, MA 02114-2023
Attn: Joy Hilton

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Resource Protection
205B Lowell Street
Wilmington, MA 01887
Attn: Nihar Mohanty

Subject: City of Haverhill, MA NPDES Permit # **MA 0101621**
Combined Sewer Overflow Annual Report 2010

Dear Ms. Hilton and Mr. Mohanty:

In accordance with the City of Haverhill's NPDES Permit, we are providing this status report for the 2010 calendar year. Please note that throughout this report the items in *italic* are the requirements taken directly from the NPDES permit followed by the response.

Activation frequency and discharge volume for each CSO during the previous calendar year. The report shall include this information for each of the CSO discharge outfalls listed on attachment E.

EPA and DEP previously approved the City of Haverhill's SWMM computer model for simulating CSO activations. For details of the model, the reader should consult the report titled "SWMM Model Calibration and Evaluation of Existing Conditions" prepared by Camp Dresser & McKee (CDM) dated July 1998.

APPENDIX A: CSO SUMMARY CALANDER YEAR 2010 was prepared based on output from this SWMM model and includes estimates of CSO activations (including number of events, duration and volume discharge) during the 2010 calendar year. Note there were no predicted discharges from many of the CSOs listed in Appendix A.

a. Precipitation during the previous year for each day, including total rainfall (express in inches), peak intensity (highest 15 minute sample multiplied by four to convert to inches per hour), and average intensity (the total rainfall for the storm event divided by the duration of the storm, expressed in inches per hour.)

Rain data is collected at the City of Haverhill Wastewater Treatment Plant using a RainWise, Inc., rain gage. The rain is measured in 15-minute intervals to within 0.01 inches. In order to keep track of each storm, peak and average intensities are recorded and calculated base on the daily rainfall, rather than from the entire storm duration. Most storm durations frequently start and stop more than once in a day. See **APPENDIX B: CALENDAR YEAR 2010 RAINFALL DATA**. The City received 42.64-inches of rainfall for calendar year 2010. The average rainfall amount is 42.91 inches.

b. A certification, which states that the previous calendar's year's monthly inspections were conducted, results recorded, and records maintained.

I certify that the City of Haverhill inspects and maintains pertinent records from all CSOs at least monthly. The City of Haverhill actively maintains the CSO block testing program. This program consists of placing a small wooden block on each CSO weir attached to a cable. After every significant rainfall event, Collection System Division personnel visually check each block, record results, and notify downstream communities as appropriate Block check results can be observed in **APPENDIX C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS**.

c. A summary of modifications to the approved NMC programs which have been evaluated, and a description of those, which will be implemented during the upcoming year.

The City of Haverhill is currently minimizing CSO discharges to the maximum extent possible and in compliance with the Draft Nine Minimum Controls submitted to EPA in September 1996. The City has completed the CSO Phase I upgrades, which reduce CSO volume by 66 percent. This CSO mitigation has increase the wet weather capture to 97 percent. The City's nine minimum control measures submitted in 1996 do not need modification. Therefore, no implementation is plan or required.

In the first annual report submitted in accordance with this permit, the permittee shall submit a public notification plan to describe the measures actively being taken to meet NMC #9 (see NMC #9 in part I.C.1a.i.8), and an evaluation of future measures to enhance the public notification program, including the following;

- i. Outfall sign visible from both water and land.*
 - ii. Sign/Notices are where people may be using CSO-impacted waters for recreation such as swimming, boating, fishing, and places where the public may gain access to the water (e.g. boat put-in areas). The notice would include information on health risk posed by CSO and links for additional information on CSOs and water quality.*
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Public notification programs are intended to ensure that the public and community receives adequate information about CSOs including the locations of the outfalls, the magnitude of the discharges, and the affect on the receiving waters. The principal benefit of a notification program is to reduce the potential public health risk in affected areas and to increase public awareness of

CSOs. Within 24-hours of a CSO occurrence an email notification is sent to Downstream Communities see **APPENDIX E: DOWNSTREAM COMMUNITIES**, which has the email notification list.

The City's Public Notification Program, (required by the NMC), consists of public education about CSO discharges and their impacts. "Real-Time" notification of the receiving water impacts or use restrictions during the activation of the CSO discharge is not feasible (due to its transient and intermittent occurrences). Accordingly, the City relies on a general education program and the City's official web site to keep the public aware of the possible health risks. The address below is the City's CSO web site.

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/index.htm

Signs have been installed at each CSO location in the City and will be maintained over the coming year. See **Appendix D: Work Order 37835** verifying that all CSO signage is posted.

iii. Review of the sewer system model to determine the threshold rain events, which normally will cause overflows.

The City has compiled all block test results and plotted these results with available Supervisory Control and Data Acquisition, (SCADA) influent flows. Further analysis shall be undertaken during this calendar year to arrive at a flow driven and minimum rainfall amount, which causes CSO activation.

The City in its annual report for 2009 sent graphs for all CSO activations from 2003 through 2008. This report has graphs for CSO activations only for calendar year 2010

The following are the data points were used to create each CSO graph:

- CSO activation; Rainfall inches /day;
- Peak intensity in./hr.;
- Influent flow.

See **Appendix F: CSO Graphs 2010**. The City has established whenever the influent flow reaches 25 MGD then the Collection Division checks the CSO blocks.

iv. Quarterly postings on the permittee's website and links to other relevant web-sites which would give the locations of the CSOs, and associated health risks and estimate of CSO activations and volumes. The permittee shall update the CSO website within two(2) months of the effective date of the permit.

The City of Haverhill's CSO official web site is

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/index.htm

The SWMM model statistics from 2003 to 2009 are shown on the City web page on the following link:

http://www.ci.haverhill.ma.us/departments/water/waste_water/collection/cso1.html

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- v. *Annual press release and notification to interested individuals and groups on the progress of the CSO abatement work, also noting contacts for additional information on CSOs and water quality.*
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The City has contacted downstream communities for each CSO activation. When other interested individuals are identified, this notification will be sent to them.

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- vi. *Notice to local health agents and other downstream public officials, including drinking water treatment plants (where appropriate), shellfish wardens, harbor masters, and the Massachusetts Division of Marine Fisheries (via FAX at 617-727-3337) or via telephone (978-282-0308 extension 160) within 24 hours of activation of CSOs. The permittee shall also notify the Massachusetts Divisions of Marine Fisheries by the same method if the treatment plant discharges effluent without disinfection. When City of Haverhill staff is unavailable to confirm an actual discharge from a CSO during a significant precipitation event, the permittee shall report the probable occurrence of a CSO discharge in the same manner. Subsequently, the occurrence of the CSO discharge event shall be confirmed or dispelled as staff becomes available. The planned notice distribution contact list shall be provided to EPA and DEP.*
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The public notification plan shall include a schedule for implementation of enhanced public notice measures.

APPENDIX E: DOWNSTREAM COMMUNITIES represents the list of the current email addresses notified for Calendar 2010.

If you require additional information, please call me at 978-374-2382.

Sincerely,



Paul J. Jessel
Collection System Supervisor

cc: Mike Stankovich, DPW Director
Robert Ward, Deputy DPW Water/Wastewater
Fred Haffty WWTP Facility Manager

APPENDIX A: CSO SUMMARY 2010

NPDES#	STRUCNAME	fullname	events	Hrs	Vol. MG
001	NLRS28WR	Bates Bridge			
010	NLRS04WR	Boardman Street			
013	NLSIGTOF	Lower Siphon	5	19.50	20.64
016	NLWS09WR	Fire Station			
019	NLWS13OF	Main Street - North			
021A	NMESOF-D	Middle Siphon	14	41.63	9.31
021D	NMNS01B	Little River West	8	22.13	0.48
021E	NMMSE3	Little River East	16	55.88	10.33
021H	NMDH04W	Winter Street & Hale St	14	40.50	6.17
022	NUWS09OF	Railroad Bridge			
023	NUWS02WR	River Street	1	0.38	0.00
024	NUSIGTOF	Upper Siphon	7	22.49	13.52
025	NUMN04WR	Beach Street			
031	SUSB02WR	Front Street	12	29.61	3.45
032	SMSB03WR	Bradford Avenue	19	283.16	12.67
033	SMSB01WR	South Prospect Street	7	24.36	0.41
034	SLSB12WR	Middlesex Street	11	436.87	32.64
035	SLSB10WR	South Main Street	13	32.99	1.36
036	SLSB08WR	Ferry Street	5	7.12	0.36
037	NMBR02W	Broadway Regulator			
038	NMHI01W	High Street Regulator			

Maximum 19.00

Totals: 111.34MG.

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
1/1/2010				
1/2/2010	0.04	0.18	4.50	0.01
1/3/2010				
1/4/2010				
1/5/2010				
1/6/2010				
1/7/2010				
1/8/2010				
1/9/2010				
1/10/2010				
1/11/2010				
1/12/2010				
1/13/2010				
1/14/2010				
1/15/2010				
1/16/2010				
1/17/2010	0.08	0.04	0.75	0.01
1/18/2010	0.28	1.26	14.50	0.02
1/19/2010	0.08	0.33	7.25	0.01
1/20/2010	0.04	0.01	0.25	0.01
1/21/2010				
1/22/2010				
1/23/2010				
1/24/2010				
1/25/2010	0.28	0.79	5.75	0.03
1/26/2010				
1/27/2010				
1/28/2010				
1/29/2010				
1/30/2010				
1/31/2010				
2/1/2010				
2/2/2010				
2/3/2010				
2/4/2010				
2/5/2010				
2/6/2010				
2/7/2010				
2/8/2010				
2/9/2010				
2/10/2010	0.04	0.08	2.00	0.01
2/11/2010				
2/12/2010				
2/13/2010				
2/14/2010				
2/15/2010				
2/16/2010	0.16	0.49	6.00	0.02
2/17/2010	0.08	0.13	2.50	0.01
2/18/2010				
2/19/2010				
2/20/2010				
2/21/2010				
2/22/2010				
2/23/2010				
2/24/2010	0.24	2.17	19.00	0.03
2/25/2010	0.44	1.66	13.75	0.03

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
2/26/2010				
2/27/2010				
2/28/2010				
3/1/2010				
3/2/2010				
3/3/2010				
3/4/2010				
3/5/2010				
3/6/2010				
3/7/2010				
3/8/2010				
3/9/2010				
3/10/2010				
3/11/2010	0.04	0.01	0.25	0.01
3/12/2010	0.04	0.01	0.25	0.01
3/13/2010	0.24	1.09	8.50	0.03
3/14/2010	0.44	4.89	22.75	0.05
3/15/2010	0.20	1.43	17.75	0.02
3/16/2010	0.04	0.01	0.25	0.01
3/17/2010				
3/18/2010	0.12	0.03	0.25	0.03
3/19/2010				
3/20/2010				
3/21/2010				
3/22/2010	0.08	0.08	1.75	0.01
3/23/2010	0.40	1.85	12.75	0.04
3/24/2010	0.04	0.01	0.25	0.01
3/25/2010	0.16	0.04	0.25	0.04
3/26/2010	0.08	0.22	4.50	0.01
3/27/2010				
3/28/2010				
3/29/2010	0.28	1.36	15.25	0.02
3/30/2010	0.80	3.57	20.50	0.04
3/31/2010	0.12	0.26	4.50	0.01
4/1/2010				
4/2/2010				
4/3/2010				
4/4/2010				
4/5/2010				
4/6/2010	0.24	0.11	1.25	0.02
4/7/2010				
4/8/2010				
4/9/2010	0.28	0.55	8.25	0.02
4/10/2010	0.12	0.08	1.00	0.02
4/11/2010				
4/12/2010				
4/13/2010				
4/14/2010				
4/15/2010				
4/16/2010	0.12	0.25	5.00	0.01
4/17/2010	0.16	0.47	8.00	0.01
4/18/2010	0.04	0.05	1.25	0.01
4/19/2010				
4/20/2010				
4/21/2010				
4/22/2010	0.16	0.07	0.75	0.02

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
4/23/2010	0.04	0.01	0.25	0.01
4/24/2010				
4/25/2010				
4/26/2010				
4/27/2010	0.20	0.12	1.50	0.02
4/28/2010	0.04	0.03	0.75	0.01
4/29/2010				
4/30/2010				
5/1/2010				
5/2/2010				
5/3/2010	0.04	0.01	0.25	0.01
5/4/2010	0.48	0.26	1.00	0.07
5/5/2010				
5/6/2010	0.08	0.03	0.50	0.02
5/7/2010				
5/8/2010	0.32	0.66	6.00	0.03
5/9/2010	0.04	0.01	0.25	0.01
5/10/2010				
5/11/2010				
5/12/2010				
5/13/2010				
5/14/2010	0.36	0.18	1.75	0.03
5/15/2010	0.04	0.01	0.25	0.01
5/16/2010				
5/17/2010				
5/18/2010	0.12	0.09	1.25	0.02
5/19/2010	0.44	1.58	17.00	0.02
5/20/2010	0.04	0.01	0.25	0.01
5/21/2010				
5/22/2010				
5/23/2010				
5/24/2010				
5/25/2010				
5/26/2010				
5/27/2010	0.12	0.11	1.75	0.02
5/28/2010				
5/29/2010				
5/30/2010				
5/31/2010				
6/1/2010	0.04	0.02	0.50	0.01
6/2/2010				
6/3/2010	1.56	0.72	0.75	0.24
6/4/2010				
6/5/2010	0.16	0.07	0.75	0.02
6/6/2010	0.28	0.24	2.50	0.02
6/7/2010				
6/8/2010				
6/9/2010				
6/10/2010	0.72	0.56	4.50	0.03
6/11/2010	0.04	0.04	1.00	0.01
6/12/2010	0.12	0.11	2.00	0.01
6/13/2010	0.08	0.05	1.00	0.01
6/14/2010				
6/15/2010				
6/16/2010				
6/17/2010	0.04	0.02	0.50	0.01

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
6/18/2010				
6/19/2010				
6/20/2010	0.12	0.04	0.50	0.02
6/21/2010				
6/22/2010				
6/23/2010	0.24	0.23	3.00	0.02
6/24/2010				
6/25/2010				
6/26/2010				
6/27/2010	170.56	0.01	0.25	0.01
6/28/2010				
6/29/2010				
6/30/2010				
7/1/2010				
7/2/2010				
7/3/2010				
7/4/2010				
7/5/2010				
7/6/2010				
7/7/2010				
7/8/2010				
7/9/2010				
7/10/2010	0.36	0.29	2.25	0.03
7/11/2010				
7/12/2010	1.40	0.81	1.25	0.16
7/13/2010	0.08	0.03	0.50	0.02
7/14/2010	0.40	0.51	4.75	0.03
7/15/2010				
7/16/2010	0.16	0.10	1.25	0.02
7/17/2010				
7/18/2010				
7/19/2010	0.60	0.16	0.50	0.08
7/20/2010				
7/21/2010				
7/22/2010	0.04	0.01	0.25	0.01
7/23/2010	0.08	0.12	1.75	0.02
7/24/2010				
7/25/2010				
7/26/2010				
7/27/2010				
7/28/2010				
7/29/2010				
7/30/2010				
7/31/2010				
8/1/2010				
8/2/2010				
8/3/2010				
8/4/2010	0.04	0.01	0.25	0.01
8/5/2010	0.16	0.08	1.00	0.02
8/6/2010	0.04	0.01	0.25	0.01
8/7/2010				
8/8/2010				
8/9/2010	0.40	0.10	0.25	0.10
8/10/2010				
8/11/2010				
8/12/2010				

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
8/13/2010				
8/14/2010				
8/15/2010				
8/16/2010	0.08	0.03	0.50	0.02
8/17/2010	0.04	0.01	0.25	0.01
8/18/2010				
8/19/2010				
8/20/2010				
8/21/2010				
8/22/2010	0.04	0.01	0.25	0.01
8/23/2010	0.16	0.40	8.00	0.01
8/24/2010	0.20	0.66	8.75	0.02
8/25/2010	0.52	1.71	12.75	0.03
8/26/2010				
8/27/2010				
8/28/2010				
8/29/2010				
8/30/2010				
8/31/2010				
9/1/2010				
9/2/2010				
9/3/2010	0.04	0.01	0.25	0.01
9/4/2010	0.72	0.56	2.75	0.05
9/5/2010				
9/6/2010				
9/7/2010				
9/8/2010	0.24	0.09	1.00	0.02
9/9/2010				
9/10/2010				
9/11/2010				
9/12/2010				
9/13/2010				
9/14/2010				
9/15/2010				
9/16/2010				
9/17/2010	0.60	0.15	0.25	0.15
9/18/2010				
9/19/2010				
9/20/2010				
9/21/2010				
9/22/2010				
9/23/2010				
9/24/2010				
9/25/2010				
9/26/2010	0.04	0.03	0.75	0.01
9/27/2010	0.04	0.07	1.75	0.01
9/28/2010	0.04	0.03	0.75	0.01
9/29/2010				
9/30/2010				
10/1/2010	0.56	1.09	7.50	0.04
10/2/2010				
10/3/2010				
10/4/2010	0.12	0.07	1.25	0.01
10/5/2010	0.04	0.05	1.25	0.01
10/6/2010	0.24	0.68	10.50	0.02
10/7/2010	0.04	0.06	1.50	0.01

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
10/8/2010				
10/9/2010				
10/10/2010				
10/11/2010				
10/12/2010	0.04	0.01	0.25	0.01
10/13/2010				
10/14/2010	0.04	0.01	0.25	0.01
10/15/2010	3.96	1.75	8.75	0.05
10/16/2010				
10/17/2010				
10/18/2010				
10/19/2010				
10/20/2010				
10/21/2010	0.04	0.03	0.75	0.01
10/22/2010				
10/23/2010				
10/24/2010				
10/25/2010	0.04	0.02	0.50	0.01
10/26/2010	0.04	0.01	0.25	0.01
10/27/2010	0.40	0.14	1.00	0.04
10/28/2010	0.04	0.01	0.25	0.01
10/29/2010				
10/30/2010				
10/31/2010				
11/1/2010				
11/2/2010				
11/3/2010				
11/4/2010	0.08	0.07	1.50	0.01
11/5/2010	0.12	0.20	4.00	0.01
11/6/2010				
11/7/2010				
11/8/2010				
11/9/2010	0.08	0.05	1.00	0.01
11/10/2010	0.04	0.03	0.75	0.01
11/11/2010				
11/12/2010				
11/13/2010				
11/14/2010				
11/15/2010				
11/16/2010	0.12	0.04	0.50	0.02
11/17/2010	1.36	1.03	2.75	0.09
11/18/2010				
11/19/2010				
11/20/2010				
11/21/2010				
11/22/2010				
11/23/2010				
11/24/2010				
11/25/2010				
11/26/2010	0.12	0.37	4.75	0.02
11/27/2010	0.04	0.01	0.25	0.01
11/28/2010				
11/29/2010				
11/30/2010	0.04	0.01	0.25	0.01
12/1/2010	0.16	0.40	5.75	0.02
12/2/2010				

Appendix B: Rainfall Data for Calendar Year 2010

Storm Date	Peak Hour Depth Intensity (in./in.)	Rain Total (in.)	Duration (hours)	Daily Avg. Intensity (in./in.)
12/3/2010				
12/4/2010				
12/5/2010				
12/6/2010				
12/7/2010				
12/8/2010				
12/9/2010				
12/10/2010				
12/11/2010				
12/12/2010	0.32	1.13	12.75	0.02
12/13/2010	0.76	0.50	2.25	0.06
12/14/2010				
12/15/2010				
12/16/2010				
12/17/2010				
12/18/2010				
12/19/2010				
12/20/2010				
12/21/2010	0.04	0.03	0.75	0.01
12/22/2010				
12/23/2010	0.04	0.04	1.00	0.01
12/24/2010	0.04	0.01	0.25	0.01
12/25/2010				
12/26/2010				
12/27/2010				
12/28/2010				
12/29/2010				
12/30/2010				
12/31/2010				

42.64

Appendix C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS

[illegible]

all on	3/4/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/5/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/6/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/7/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/8/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/9/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/10/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/11/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/12/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/13/10	1.09	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/14/10	4.89	0.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/15/10	1.43	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/16/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3/17/10	0.00	0.00	1	0	1	0	0	1	1	1	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0
	3/18/10	0.03	0.12	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	3/19/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/20/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/21/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/22/10	0.08	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/23/10	1.85	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/24/10	0.01	0.04	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	0	1	0	1	0	0	0	0	
	3/25/10	0.04	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/26/10	0.22	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/27/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/28/10	0.00	0.00																								

Appendix C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS

[illegible]

Appendix C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS

[illegible]

Appendix C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS

all on	9/13/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/14/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/15/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/16/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/17/10	0.15	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/18/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/19/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/20/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/21/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/22/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/23/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/24/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	9/25/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9/26/10	0.03	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9/27/10	0.07	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9/28/10	0.03	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9/29/10	0.00	0.00	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0
	9/30/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/1/10	1.09	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/2/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/3/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/4/10	0.07	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/5/10	0.05	0.04	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	10/6/10	0.68	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/7/10	0.06	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/8/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/9/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/10/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/11/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10/12/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10/13/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/14/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/15/10	1.75	3.96	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	
10/16/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/17/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/18/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/19/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/20/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/21/10	0.03	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/22/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/23/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/24/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/25/10	0.02	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/26/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/27/10	0.14	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/28/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/29/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/30/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10/31/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
all on	11/1/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/2/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/3/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/4/10	0.07	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/5/10	0.20	0.12	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0		
	11/6/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/7/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/8/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/9/10	0.05	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/10/10	0.03	0.04	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
	11/11/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/12/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/13/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/14/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11/15/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0														

Appendix C: CALENDAR YEAR 2010 CSO BLOCK CHECK RESULTS

all on

11/16/10	0.04	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/17/10	1.03	1.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/18/10	0.00	0.00	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	1	0	1	0	0
11/19/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/20/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/21/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/22/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/23/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/24/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/25/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/26/10	0.37	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/27/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/28/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/29/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/30/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/1/10	0.40	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/2/10	0.00	0.00	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
12/3/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/4/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/5/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/6/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/7/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/8/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/9/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/10/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/11/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/12/10	1.13	0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/13/10	0.50	0.76	0	0	0	0	0	1	1	1	1	1	0	0	1	1	0	1	1	0	1	1	1	1	0
12/14/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/15/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/16/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/17/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/18/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/19/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/20/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/21/10	0.03	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/22/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/23/10	0.04	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/24/10	0.01	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/25/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/26/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/27/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/28/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/29/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/30/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/31/10	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CSO Total:	42.64		1	1	3	1	1	25	25	27	22	19	1	0	4	5	1	2	17	2	24	8	15	5	0

Appendix D

Work Order No. 37835

Close Date 3/7/2011

3/7/2011

11:41:29AM

Page 1

37835

ANYTHING TO DO WITH CSO

Task No. CSO	Request Date 2/28/2011
Tenant CITY WIDE	Request Time 07:00:00
Assigned By PAR	Originator PJJ
Assigned To DWS	Telephone No.
Scheduled Start Date 3/1/2011	Extension
Scheduled Finish Date 3/1/2011	WO Type PLANNED
Perform by Warranty No	Completion Date 3/1/2011
Priority 2.00	Completion Time 07:23:12
Expense Class LSTA	

Craft	Crew Size	Estimated Labor Hours
COLL-REG	2.00	4.00

* _ *

Equipment No. -	Easement
Equipment Description	Easement Book/Page
Serial No.	Map
Cost Center	User-defined Field 4
General Ledger Code	Dimentional Info
Department	Must Be Down No
Location SEPERATE	Down Time
Sub-location 1 -	Estimated Down Time
Sub-location 2 -	
Sub-location 3 -	
Reason for Outage _____	

Safety Notes

Comments

CHECK CSO DISCHARGE LOCATION SIGNAGE. ALL SIGNS ACCOUNTED FOR.

Equipment No.	Meter Name	Meter Reading

Item No.	Equipment No.	Description	Qty Required	Date Used	Qty Used	Total Unit Cost

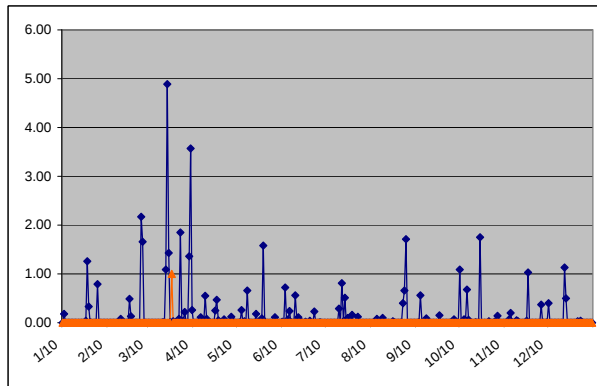
List extra parts and comments here

Employee Code	Equipment No.	Work Date	First Name	Last Name	Regular Hours	Overtime Hours
DWS	-	3/1/2011	DAVID	SHAW	4.00	
ZEB	-	3/1/2011	ZEBULUN	DAY	4.00	

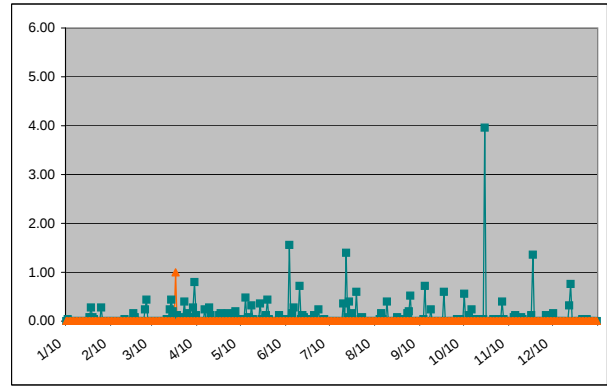
Appendix E: Downstream Notification

First Name	Last Name	Address	City	State	PostalCode	Tele #	DEPT	E-mail
Robert	Desmaris	62 Friend Street	Amesbury	MA	01913	1-978-388-8127	Engineering	rob@ci.amesbury.ma.us
Jeff	Mason		Amesbury	MA	01913	978-388-0853	Water System Manager	masonj@ci.amesbury.ma.us
Nihar	Mohanty	1 Winter Street	Boston	MA	02108-4746	1-978-694-3237	Mass DEP	nihar.mohanty@state.ma.us
Joy	Hilton	1 Congress St	Boston	MA	02203	(617) 918-1877	EPA Region I	hiltoh.joy@epa.gov
Robert	O'Hanley	183 Main Street	Groveland	MA	01834	(978) 372-3942	Board of Health	health@grovelandma.com
Thomas	Cusick	183 Main Street	Groveland	MA	01834	(978) 556-7200 x219	Water/Sewer	Tcusick@grovelandma.com
Bonnie	Dufresne	4 Summer Street	Haverhill	MA	01830	(978) 374-2325	Board of Health	bdufresne@cityofhaverhill.com
Michael	Vets	72 Coffin Avenue	Haverhill	MA	01830	(978) 374-2100	Harbor Master	vetsm@comcast.net
Fred	Haffty	40 South Porter Street	Haverhill	MA	01835	(978) 372-2382	Haverhill WWTP	fhaffty@haverhillwater.com
Mike	Stankovich	500 Primrose Street	Haverhill	MA	01830	(978) 374-2360	Haverhill DPW Director	mstankovich@haverhillwater.com
Philip	Ryan	40 South Porter Street	Haverhill	MA	01835	(978) 374-2383	Senior Collection Operator	pryan@haverhillwater.com
Tracie	Sales	600 Suffolk Street, Fifth Floor	Lowell	MA	01854	(978) 275-0120 X13	Merrimack River Watershed Council, Inc.	tsales@merrimack.org
Mr.	Richard	Spinale	Merrimac	MA	01860		DPW Director	rspinale@townofmerrimac.com
Eileen	Hurley	2 School Street	Merrimac	MA	01860	978-346-4066	Board of Health	boh@townofmerrimac.com
Alba L.	Gouldthorpe	25 High Road	Newbury	MA	01951	(978) 499-3898	Board of Health	boardofhealth@townofnewbury.org
John	Morris	60 Pleasant Street	Newburyport	MA	01950	(978) 465-4410	Board of Health	jmorris@cityofnewburyport.com
Ralph L.	Steele	60 Pleasant Street	Newburyport	MA	01950	(978) 462-3746	Harbor Master	rsteale@cityofnewburyport.com
Jamie	Tuccolo	16A Perry Way	Newburyport	MA	01950	1-978-417-1223	Collection System Manager	jtuccolo@cityofnewburyport.com
Joseph	Dugan		Newburyport	MA	01950	(978) 465-4461	Newburyport Wastewater Pl	jdugan@cityofnewburyport.com
Andrea	Brouchu	P.O. Box 5072	Salisbury	MA	01952	(978) 462-3430	Board of Health	abrochu@salisburyma.gov
Jeff	Ingalls	P.O. 5221	Salisbury	MA	01952	(978) 465-4058	Sewer Treatment Plant	wwtp@salisburyma.gov
Donald	Levesque	39 Lafayette Road	Salisbury	MA	01952	978-463-0656	Director Public Works	dlevesque@salisburyma.gov
Ray	Pike	5 Beach Road	Salisbury	MA	01952	978 499 0740	Harbor Master	harbormaster@salisburyma.gov
Paul	Sevigny	381 Main Street	West Newbury	MA	01985	(978) 363-1109	Board of Health	psevigny@town.west-newbury.ma.us
Jeff	Kennedy					978-465-3553 x320	North Shore Shellfish Project	shellfish.newburyport@state.ma.us
							N. Shore Shellfish Project	shellfish.newburyport@state.ma.us

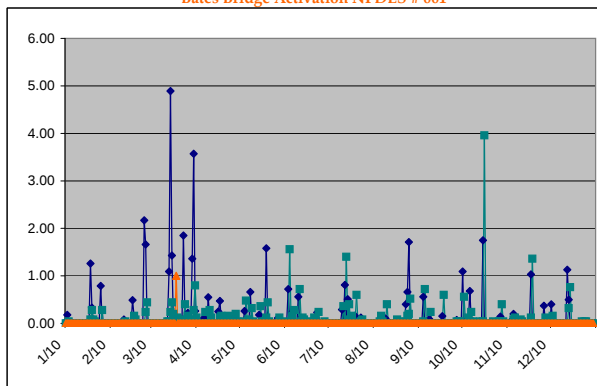
Rainfall (in./day)
Bates Bridge Activation NPDES # 001



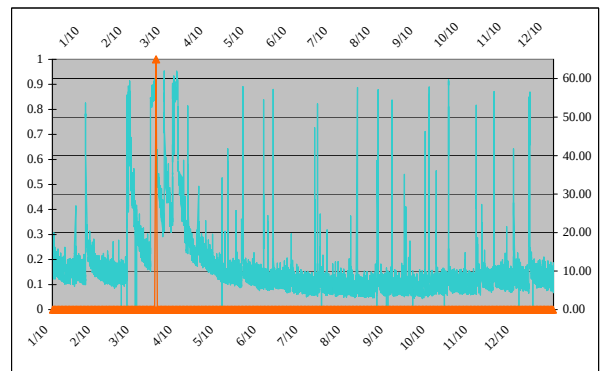
Peak Intensity/hr.
Bates Bridge Activation NPDES # 001



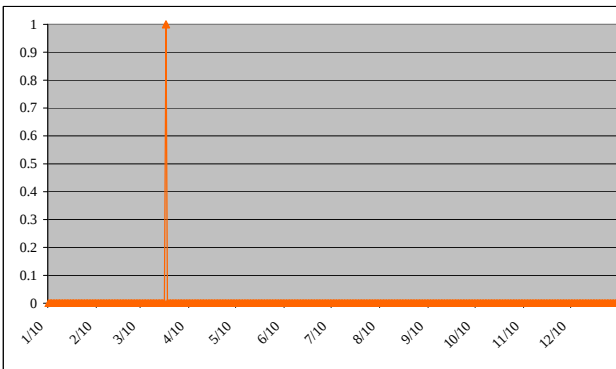
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Peak Intensity/hr.
Bates Bridge Activation NPDES # 001



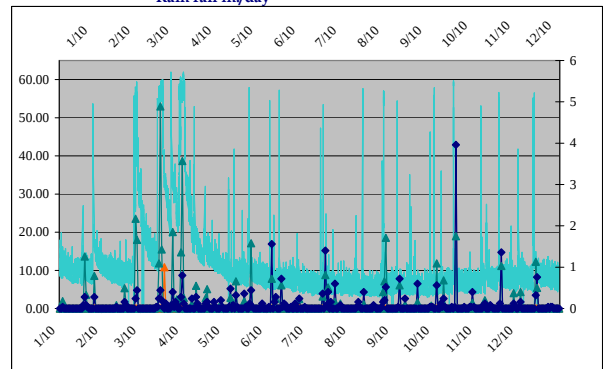
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Bates Bridge Activation NPDES # 001



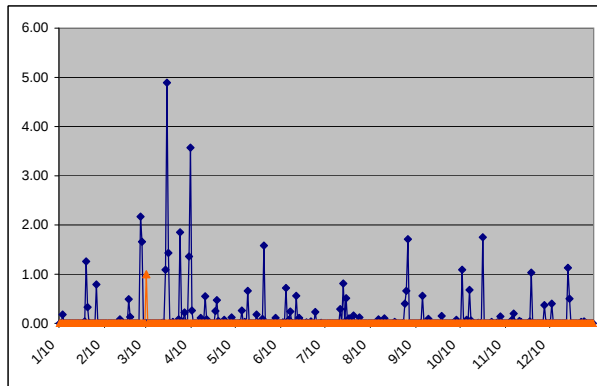
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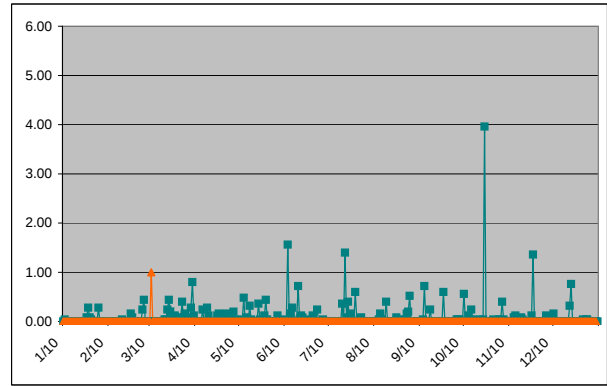
Influent MGD
Bates Bridge Activation NPDES # 001
Rain fall in./day



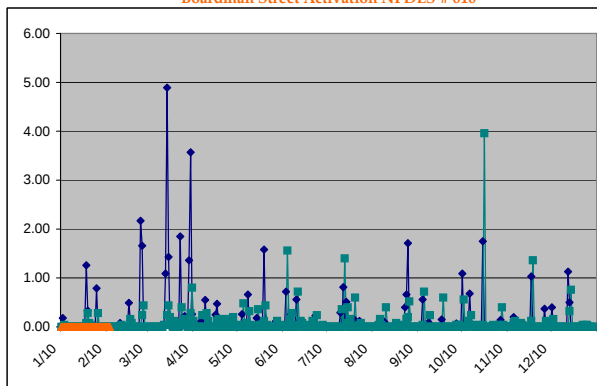
Rainfall (in./day)
Boardman Street Activation NPDES # 010



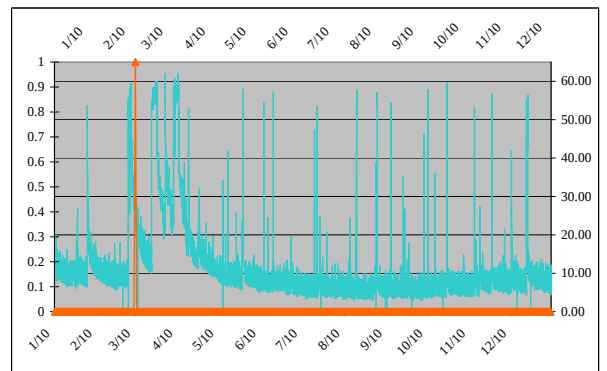
Peak Intensity/hr.
Boardman Street Activation NPDES # 010



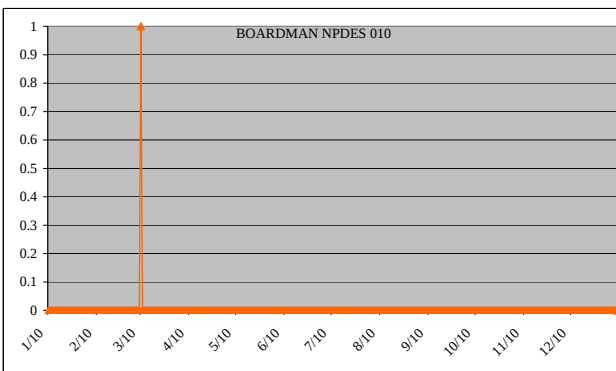
Rainfall (in./day)
Peak Intensity/hr.
Boardman Street Activation NPDES # 010



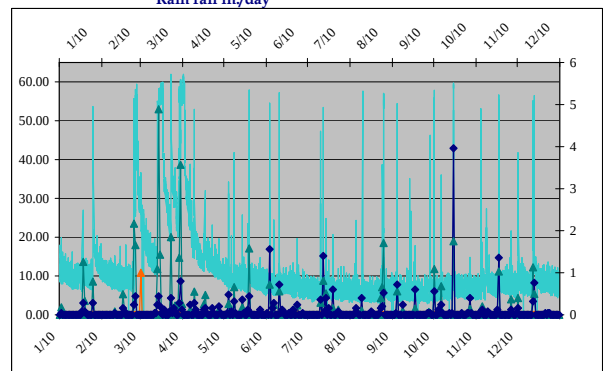
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Boardman Street Activation NPDES # 010



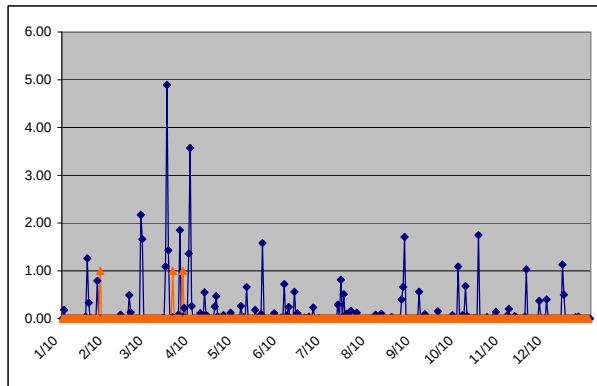
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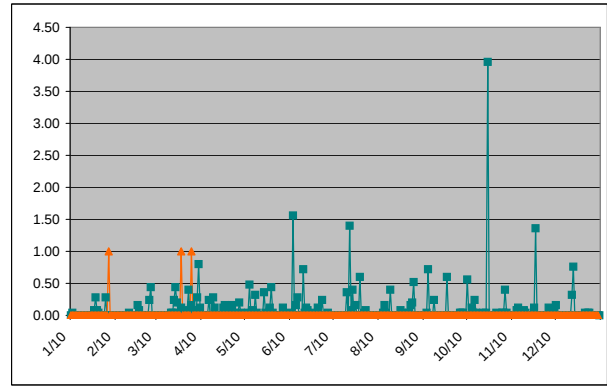
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Boardman Street Activation NPDES # 010
Rain fall in./day



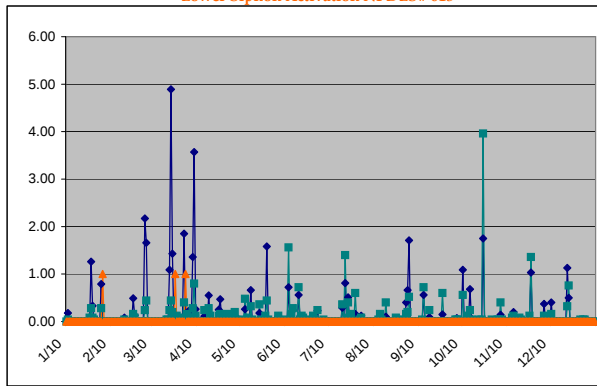
Rainfall (in./day)
Lower Siphon Activation NPDES# 013



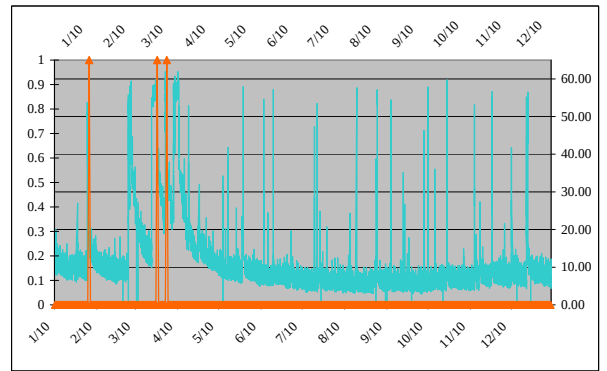
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013



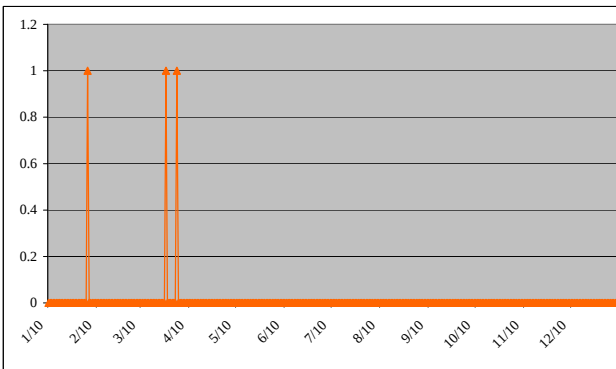
Rainfall (in./day)
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013



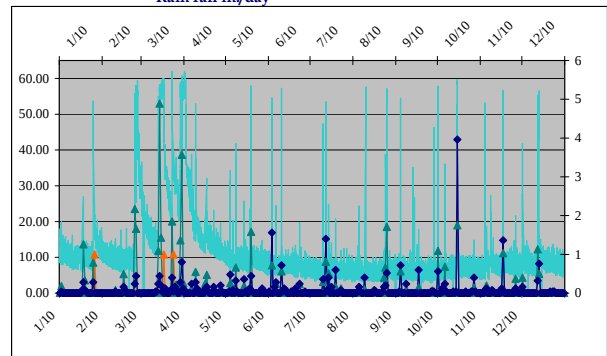
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Lower Siphon Activation NPDES# 013



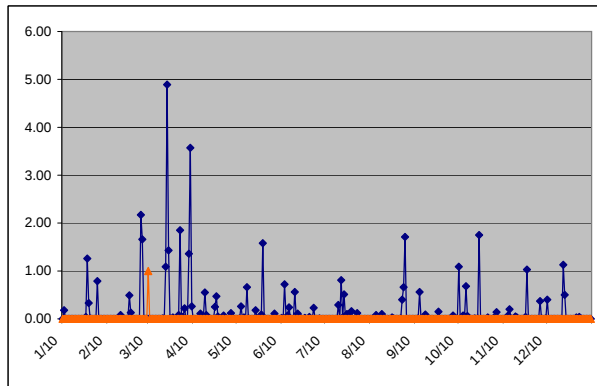
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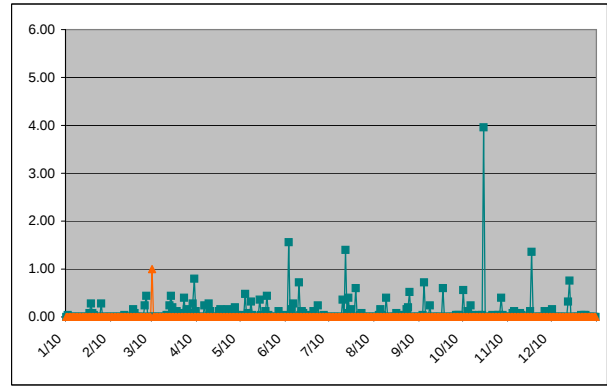
Influent MGD
Lower Siphon Activation NPDES# 013
Rain fall in./day



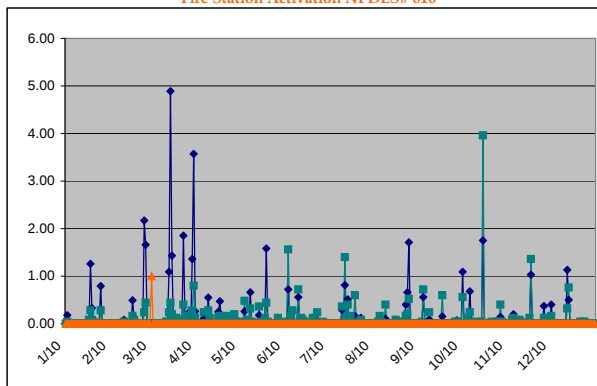
Rainfall (in./day)
Fire Station Activation NPDES# 016



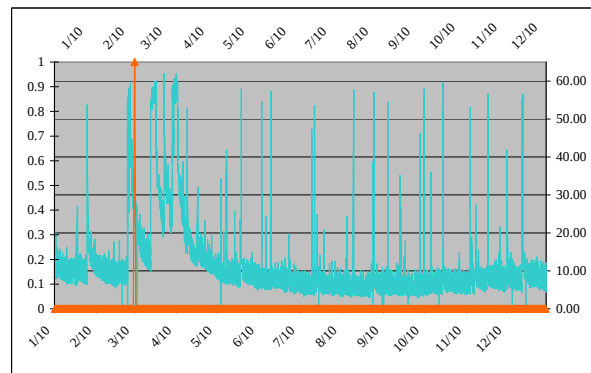
Peak Intensity/hr.
Fire Station Activation NPDES# 016



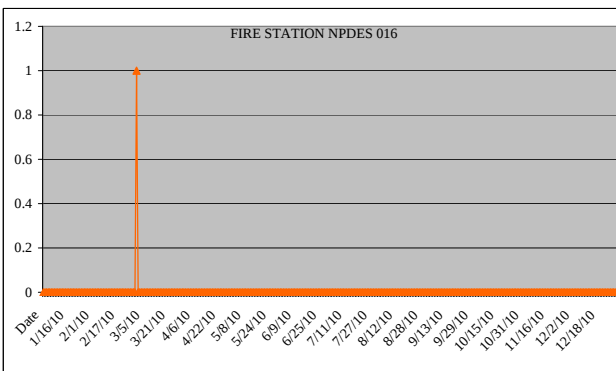
Rainfall (in./day)
Peak Intensity/hr.
Fire Station Activation NPDES# 016



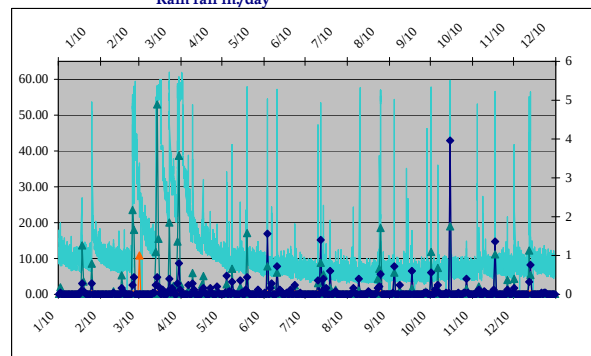
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Fire Station Activation NPDES# 016



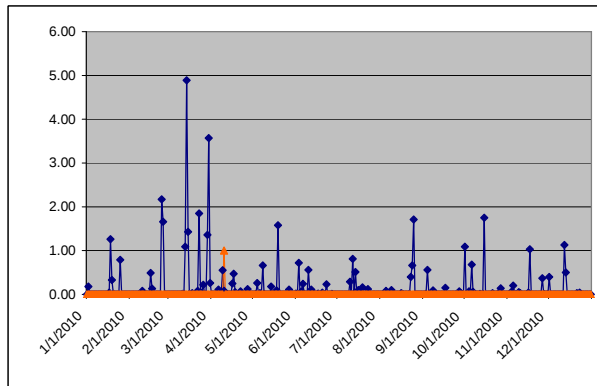
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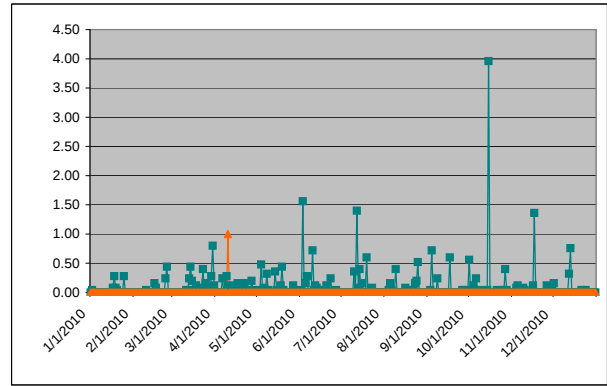
Influent MGD
Fire Station Activation NPDES# 016
Rain fall in./day



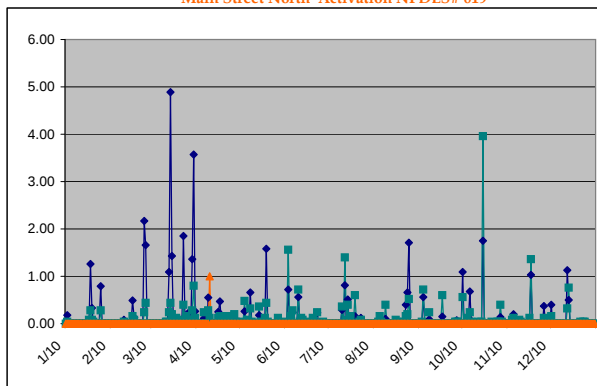
Rainfall (in./day)
Main Street North Activation NPDES# 019



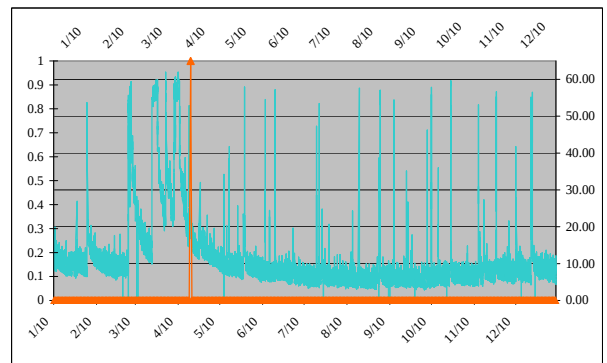
Peak Intensity/hr.
Main Street North Activation NPDES# 019



Rainfall (in./day)
Peak Intensity/hr.
Main Street North Activation NPDES# 019

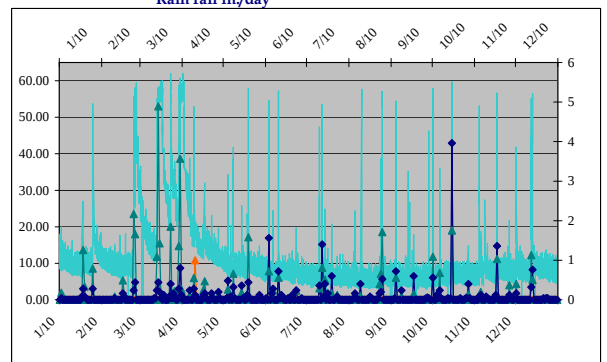
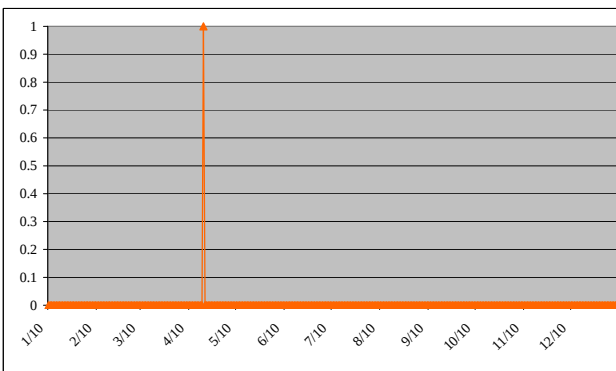


Influent MGD
Main Street North Activation NPDES# 019

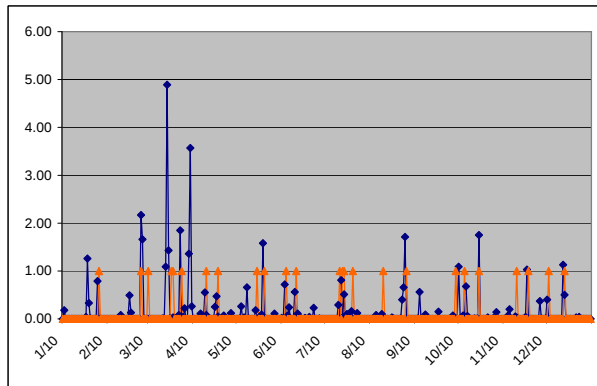


Main Street North Activation NPDES# 019

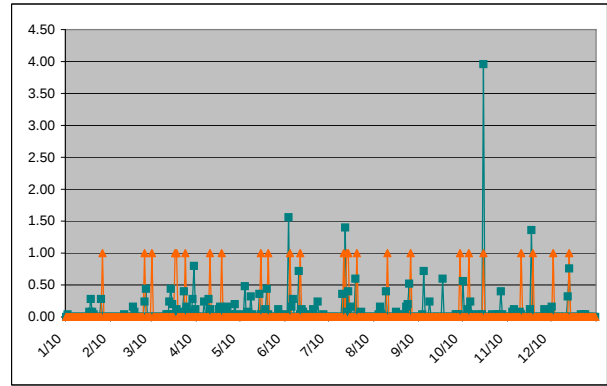
Influent MGD
Peak Intensity/hr.
Rain fall in./day



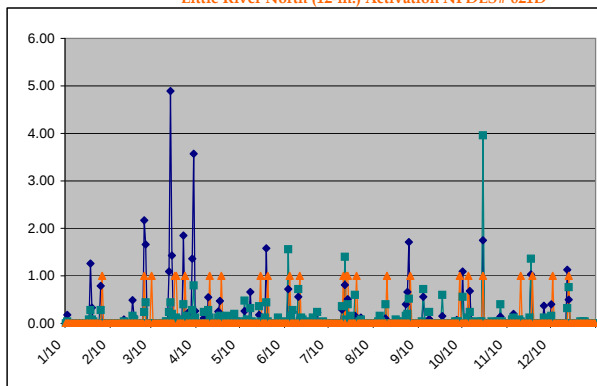
Rainfall (in./day)
Little River North (12-in.) Activation NPDES# 021D



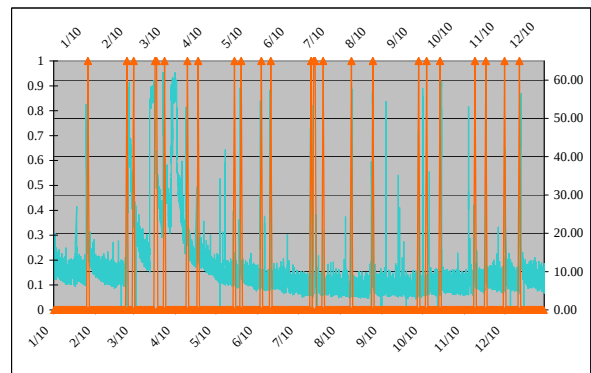
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D



Rainfall (in./day)
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D

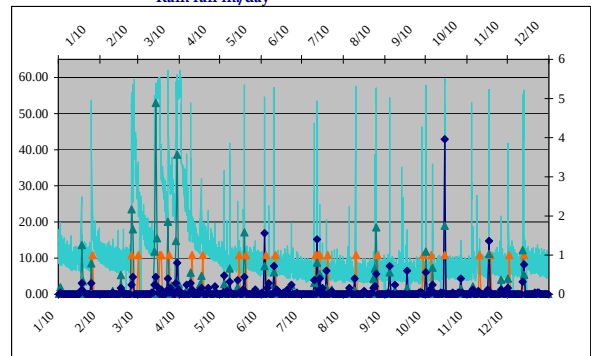
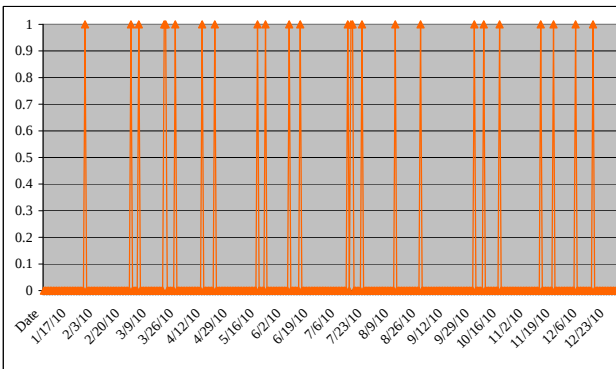


Influent MGD
Little River North (12-in.) Activation NPDES# 021D

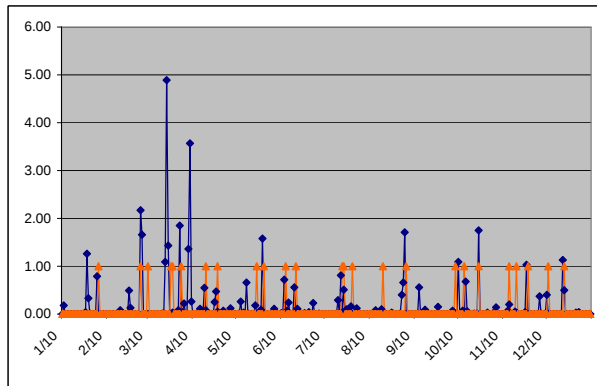


Little River North (12-in.) Activation NPDES# 021D

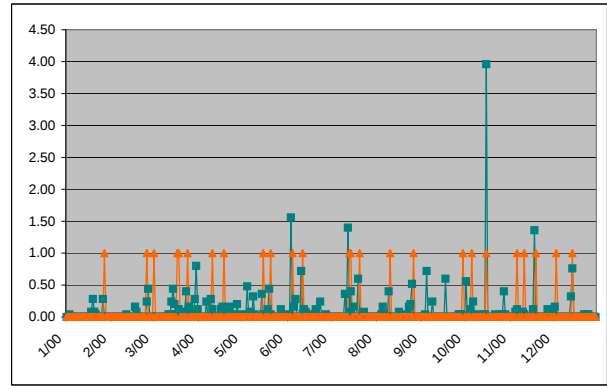
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Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D



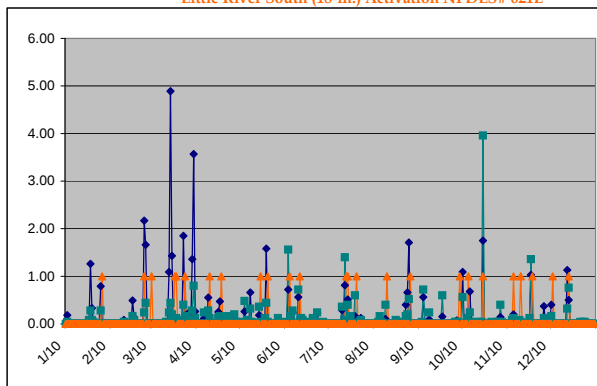
Rainfall (in./day)
Little River South (18-in.) Activation NPDES# 021E



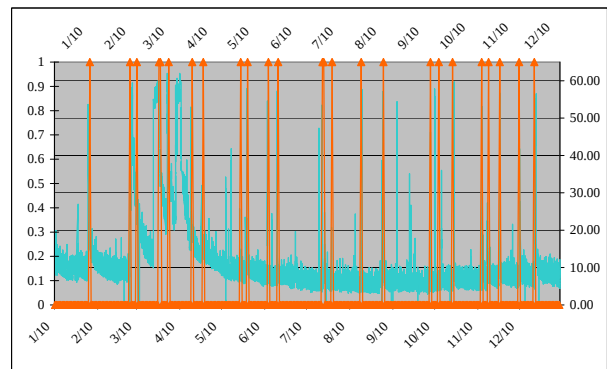
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E



Rainfall (in./day)
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E

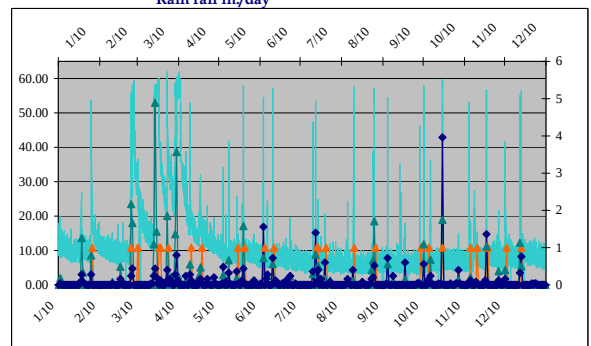
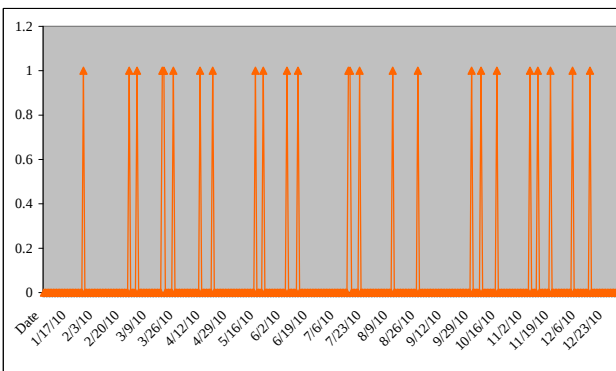


Influent MGD
Little River South (18-in.) Activation NPDES# 021E

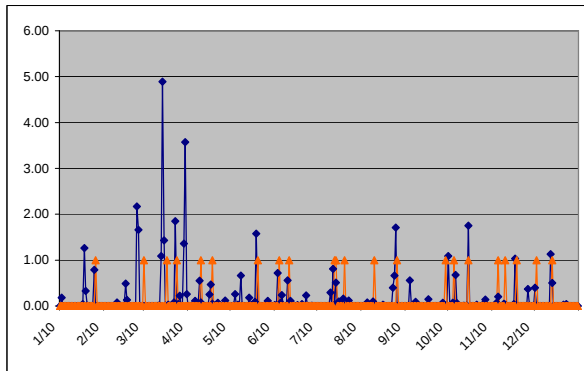


Little River South (18-in.) Activation NPDES# 021E

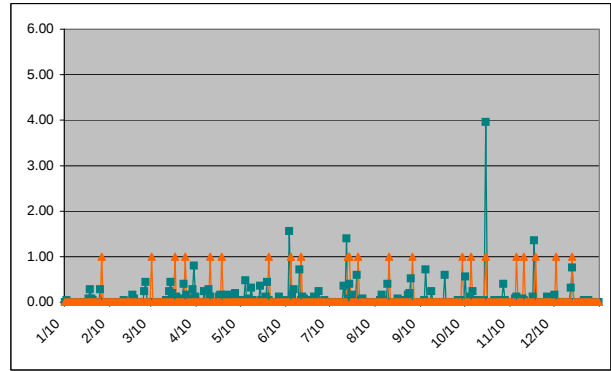
Influent MGD
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E
Rain fall in./day



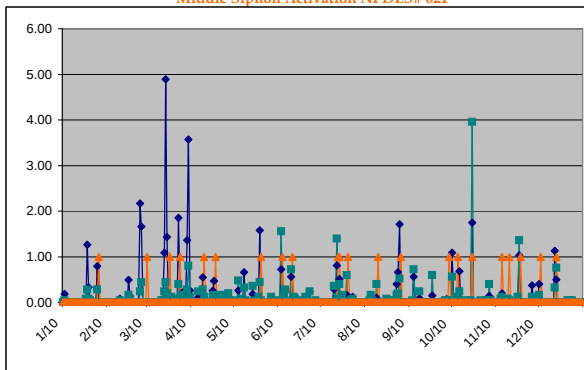
Rainfall (in./day)
Middle Siphon Activation NPDES# 021



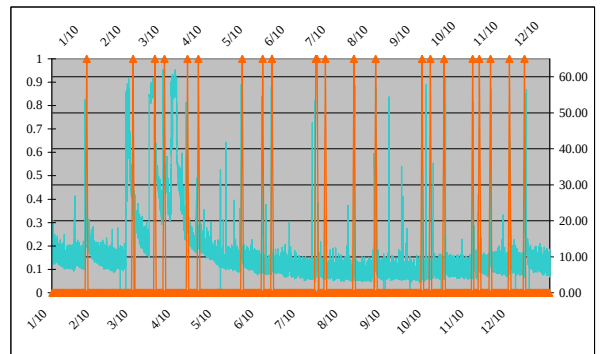
Peak Intensity/hr.
Middle Siphon Activation NPDES# 021



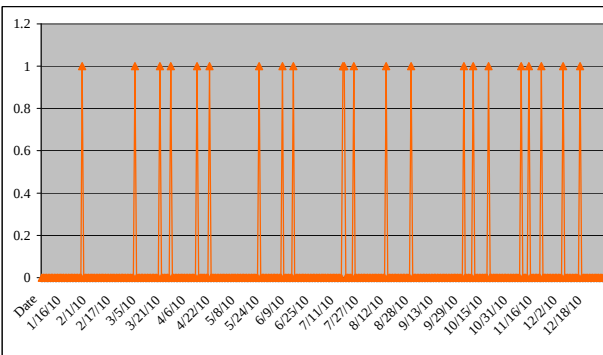
Rainfall (in./day)
Peak Intensity/hr.
Middle Siphon Activation NPDES# 021



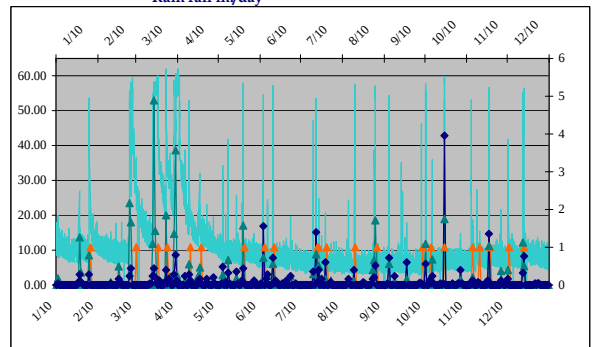
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Middle Siphon Activation NPDES# 021



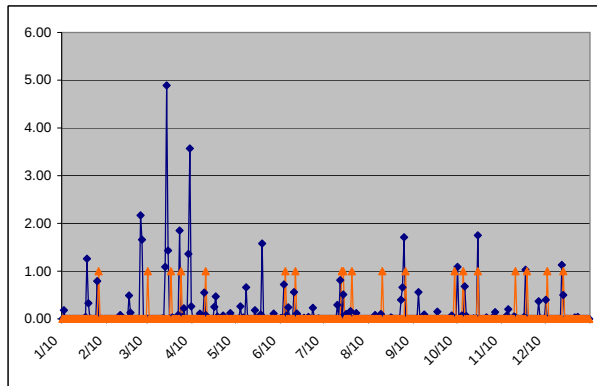
Middle Siphon Activation NPDES# 021



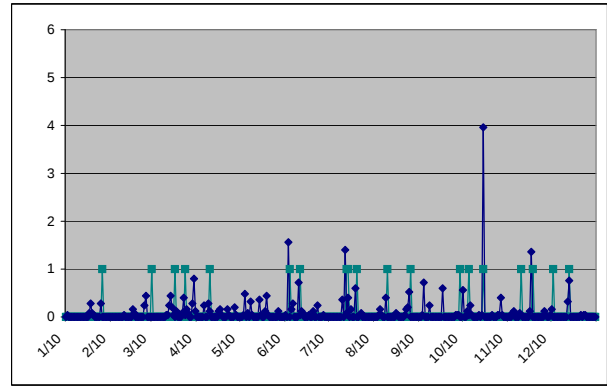
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Peak Intensity/hr.
Middle Siphon Activation NPDES# 021
Rain fall in./day



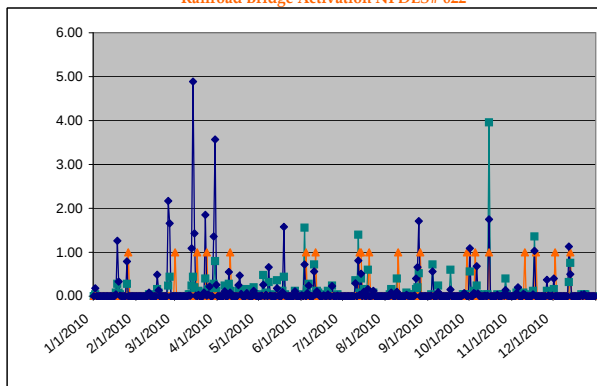
Rainfall (in./day)
Railroad Bridge Activation NPDES# 022



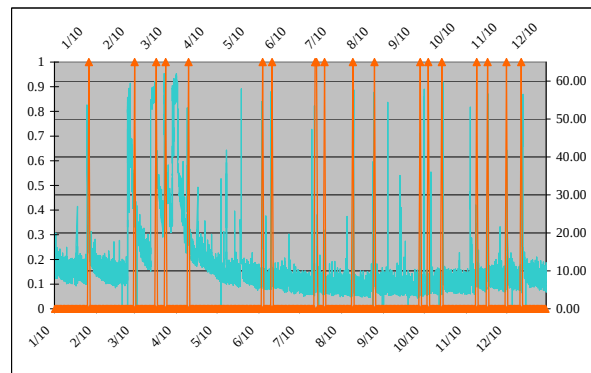
Peak Intensity/hr.
Railroad Bridge Activation NPDES# 022



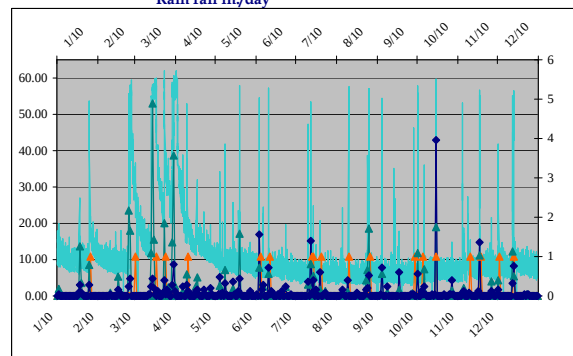
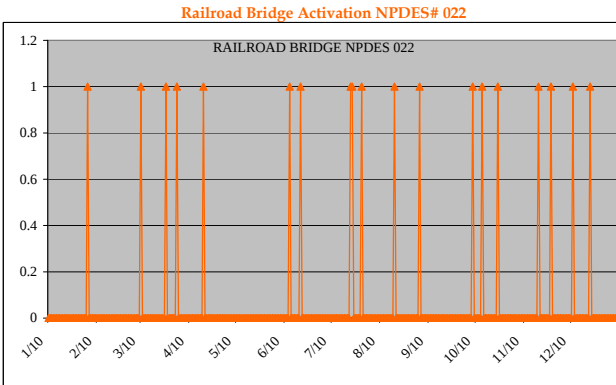
Rainfall (in./day)
Peak Intensity/hr.
Railroad Bridge Activation NPDES# 022



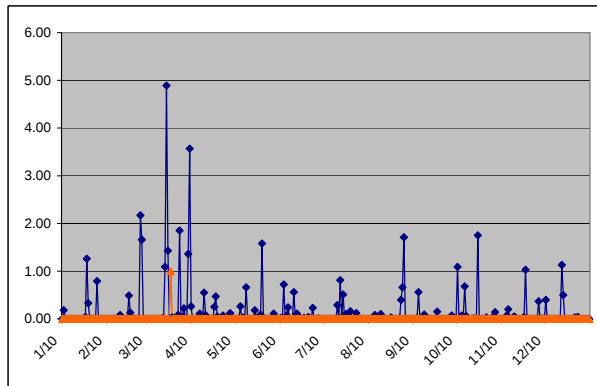
Influent MGD
Railroad Bridge Activation NPDES# 022



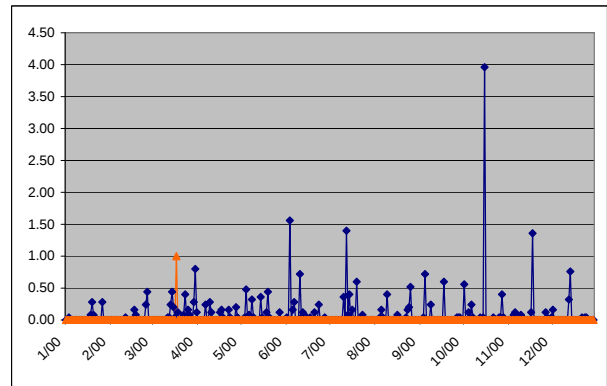
Influent MGD
Railroad Bridge Activation NPDES# 022
Rain fall in./day



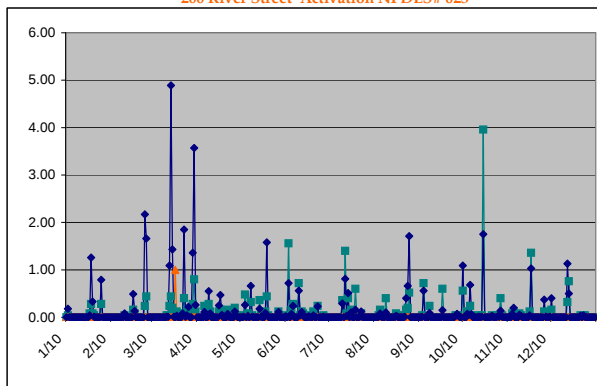
Rainfall (in./day)
266 River Street Activation NPDES# 023



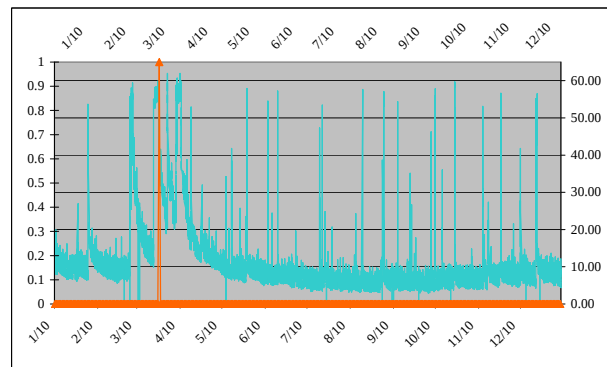
Peak Intensity/hr.
266 River Street Activation NPDES# 023



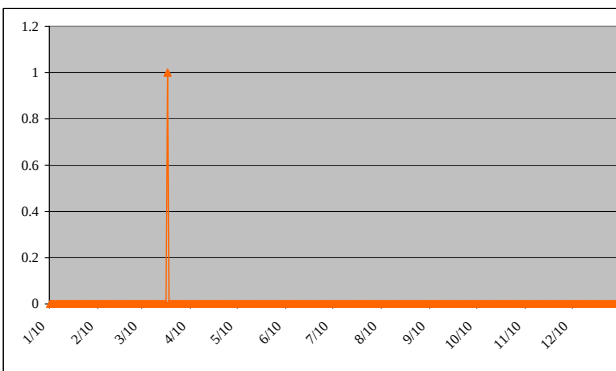
Rainfall (in./day)
Peak Intensity/hr.
266 River Street Activation NPDES# 023



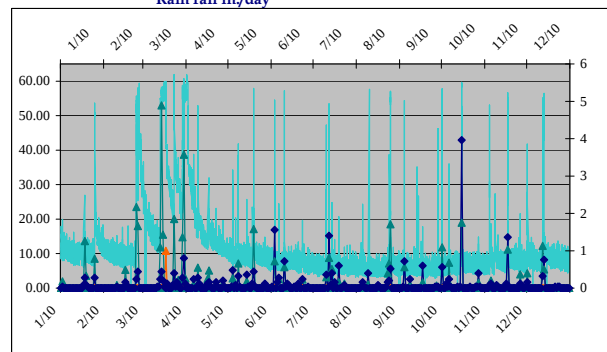
Influent MGD
266 River Street Activation NPDES# 023



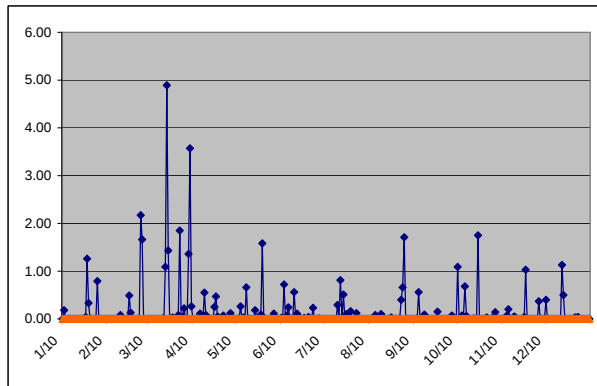
266 River Street Activation NPDES# 023



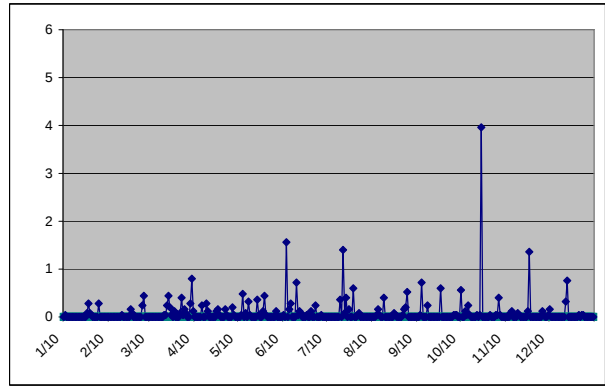
Influent MGD
Peak Intensity/hr.
Rain fall in./day
266 River Street Activation NPDES# 023



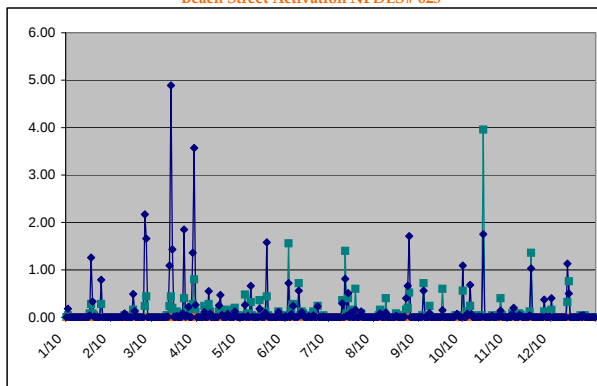
Rainfall (in./day)
Beach Street Activation NPDES# 025



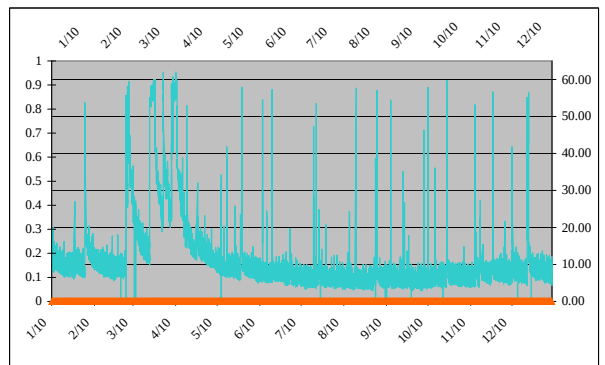
Peak Intensity/hr.
Beach Street Activation NPDES# 025



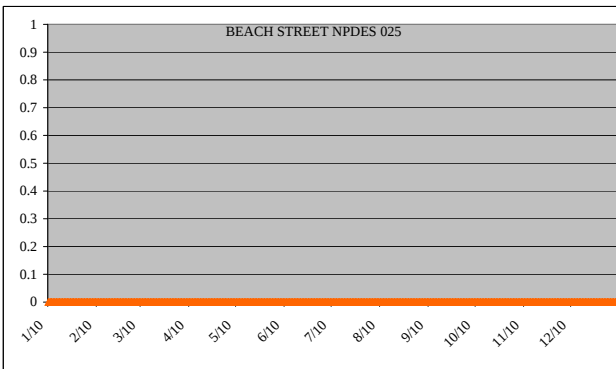
Rainfall (in./day)
Peak Intensity/hr.
Beach Street Activation NPDES# 025



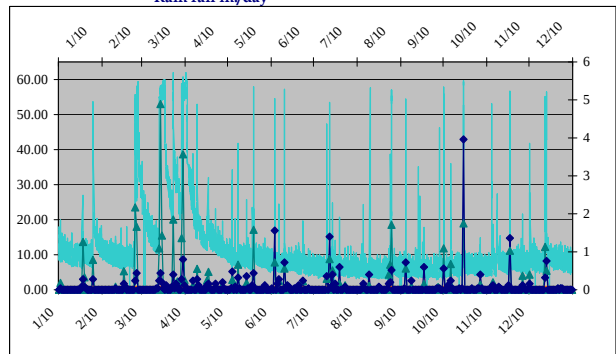
Influent MGD
Beach Street Activation NPDES# 025



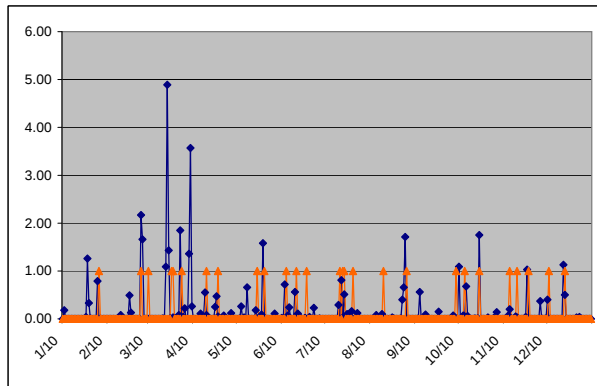
Beach Street Activation NPDES# 025



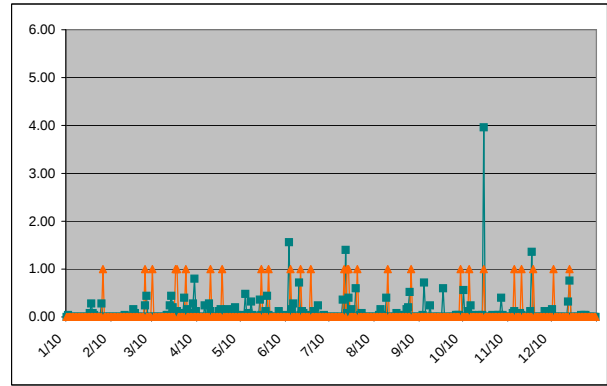
Influent MGD
Beach Street Activation NPDES# 025
Rain fall in./day



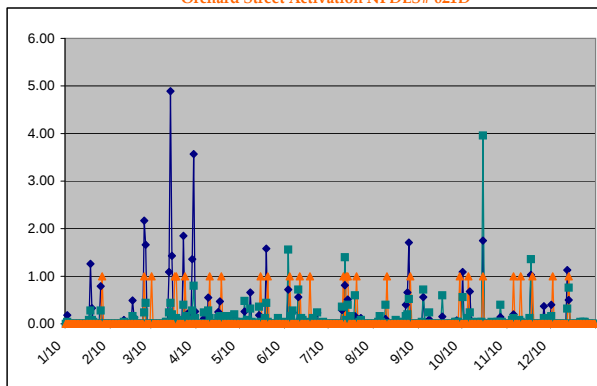
Rainfall (in./day)
Orchard Street Activation NPDES# 021D



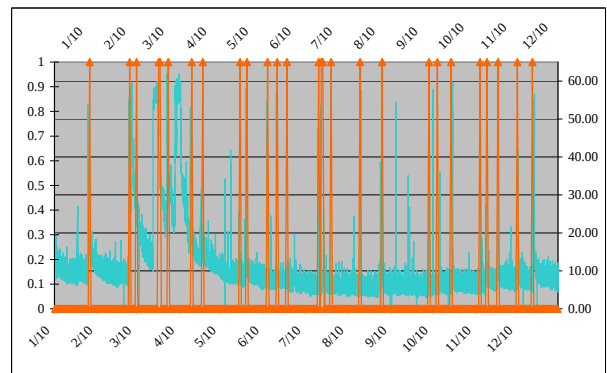
Peak Intensity/hr.
Orchard Street Activation NPDES# 021D



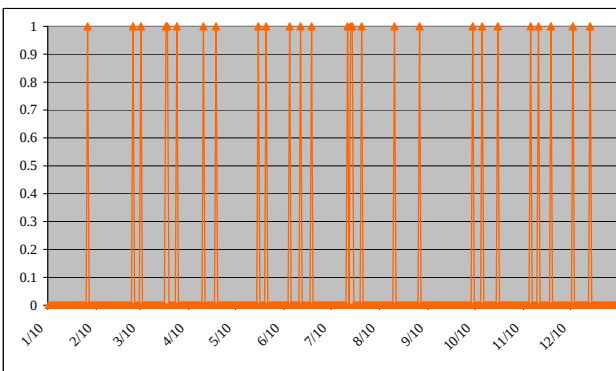
Rainfall (in./day)
Peak Intensity/hr.
Orchard Street Activation NPDES# 021D



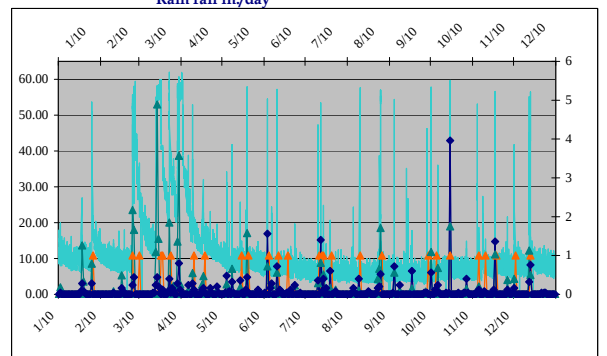
Influent MGD
Orchard Street Activation NPDES# 021D



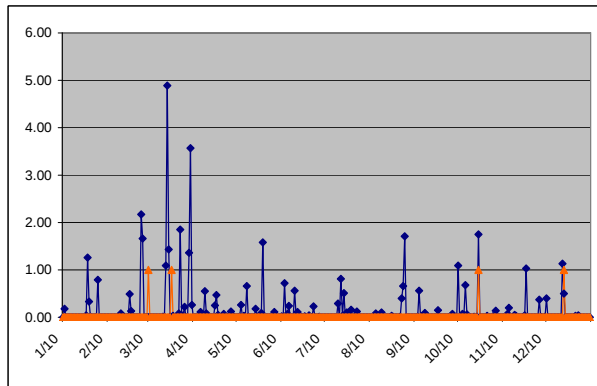
Orchard Street Activation NPDES# 021D



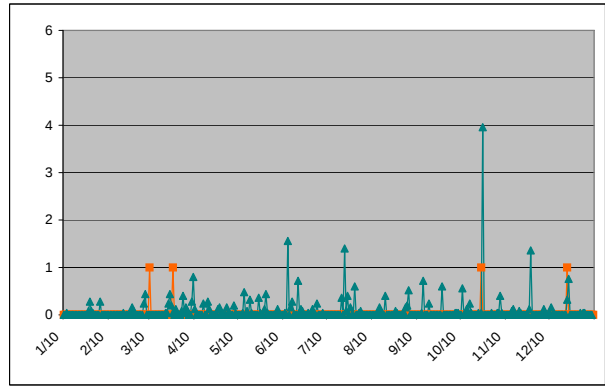
Influent MGD
Orchard Street Activation NPDES# 021D
Rain fall in./day



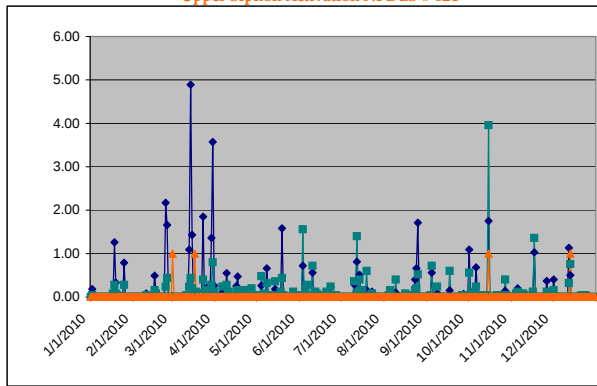
Rainfall (in./day)
Upper Siphon Activation NPDES # 024



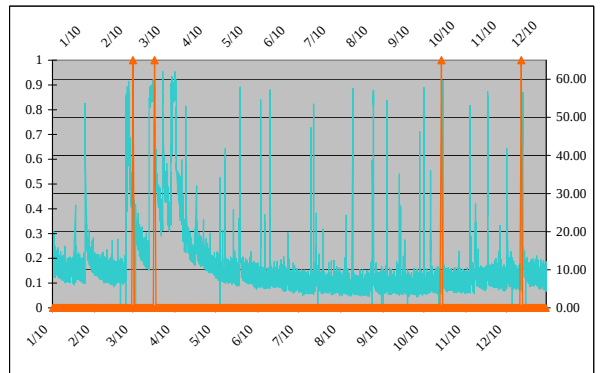
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024



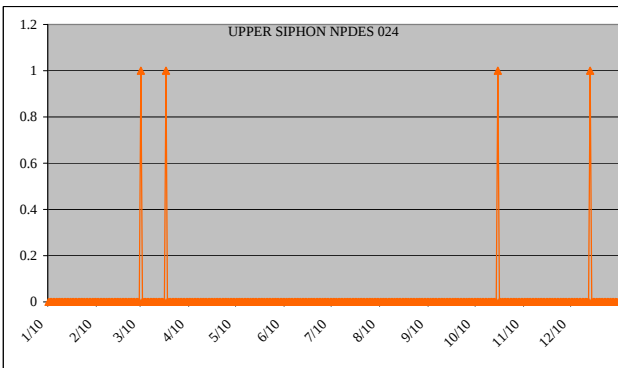
Rainfall (in./day)
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024



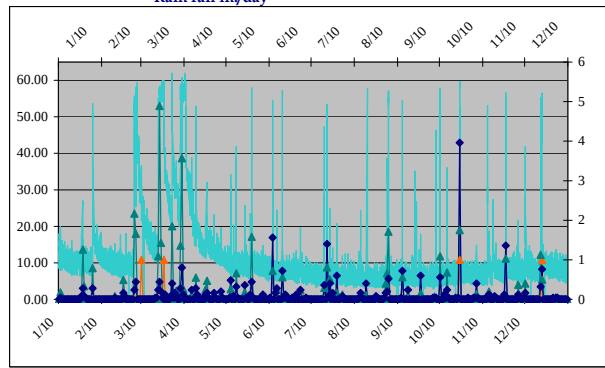
Influent MGD
Upper Siphon Activation NPDES # 024



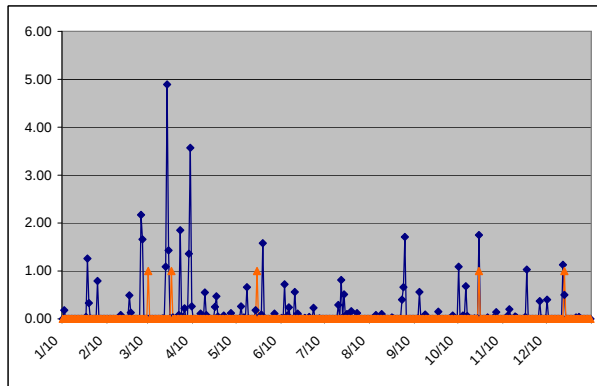
Upper Siphon Activation NPDES # 024



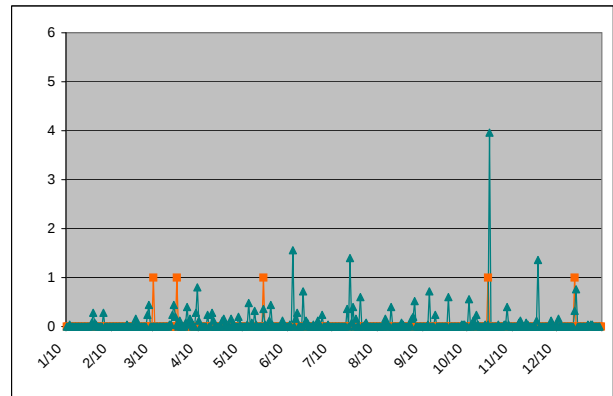
Influent MGD
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024
Rain fall in./day



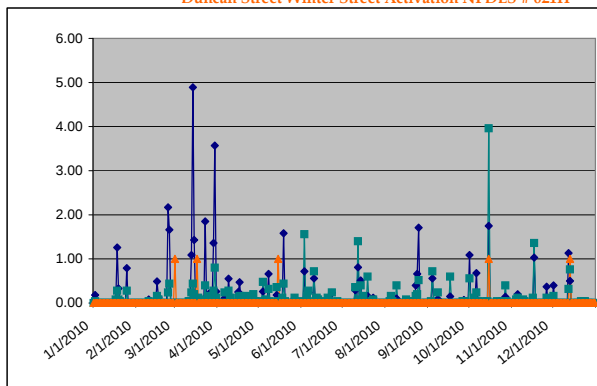
Rainfall (in./day)
Duncan Street Winter Street Activation NPDES # 021H



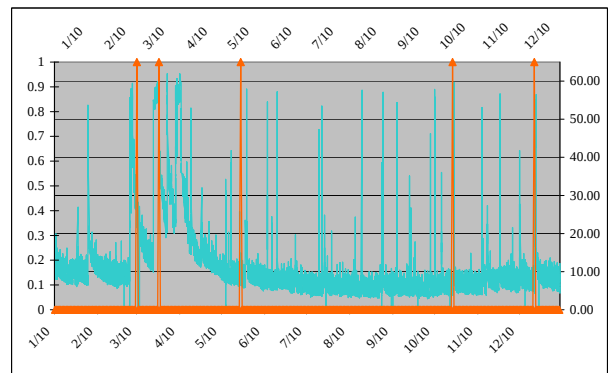
Peak Intensity/hr.
Duncan Street Winter Street Activation NPDES # 021H



Rainfall (in./day)
Peak Intensity/hr.
Duncan Street Winter Street Activation NPDES # 021H

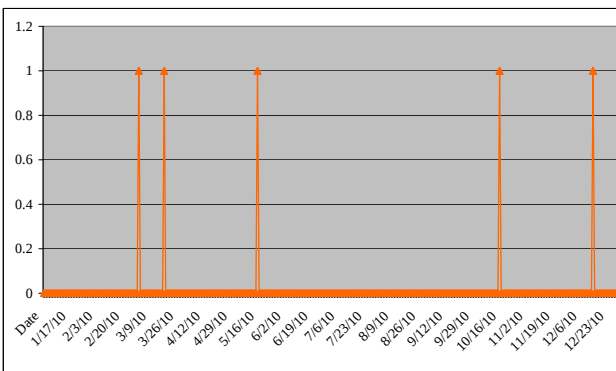
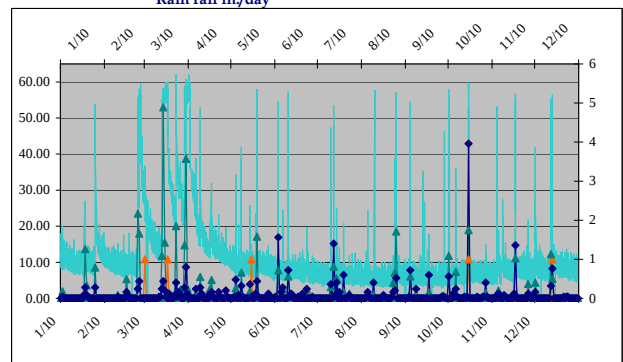


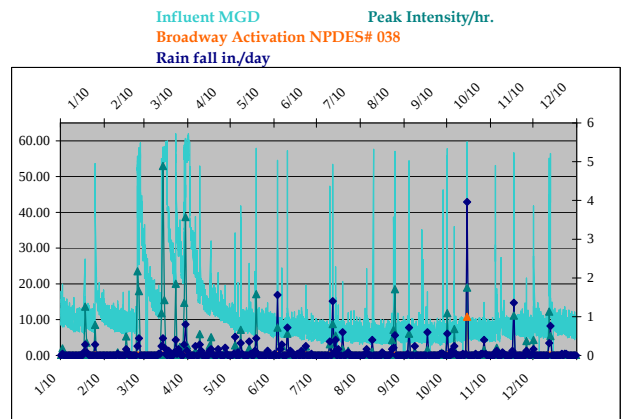
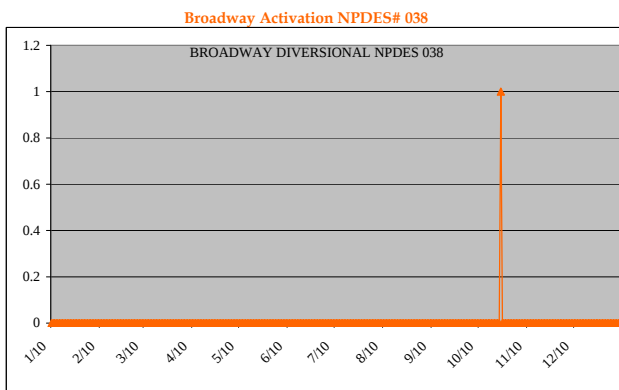
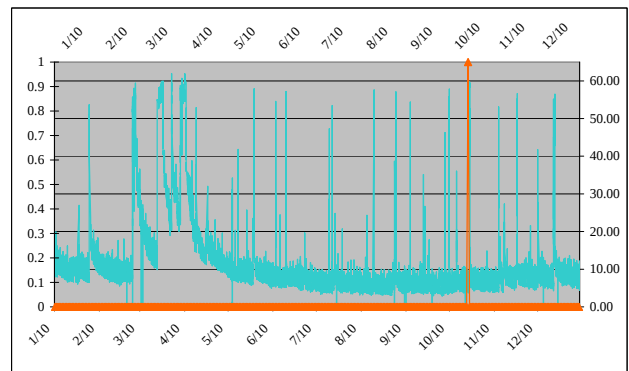
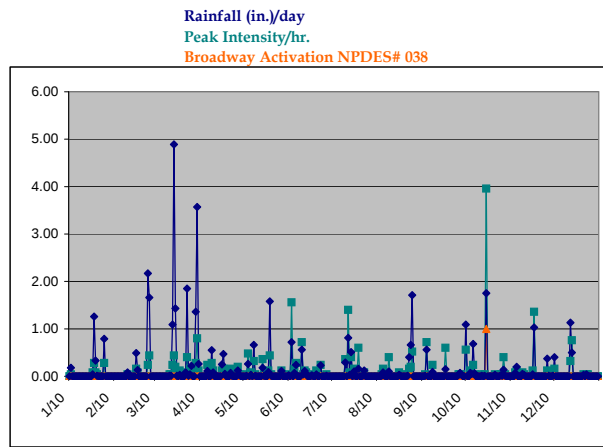
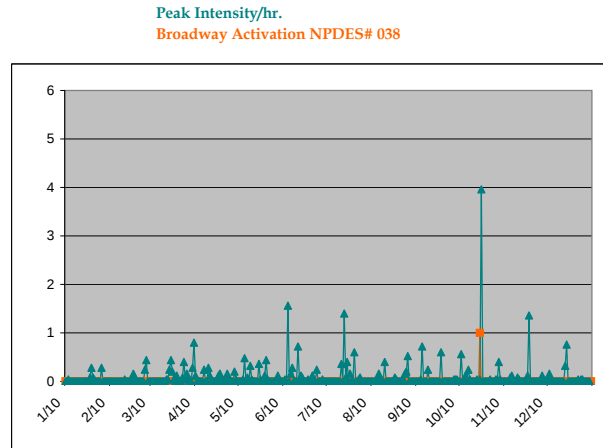
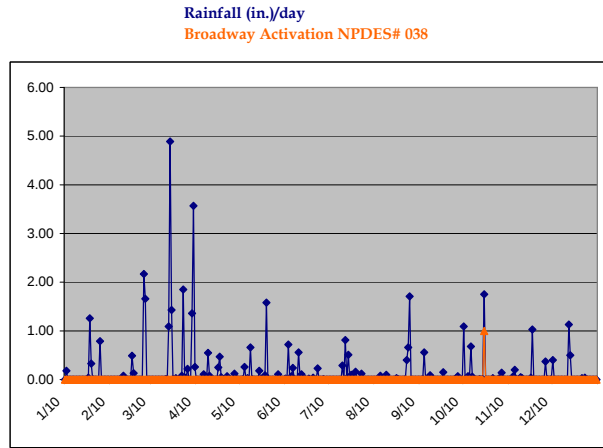
Influent MGD
Duncan Street Winter Street Activation NPDES # 021H



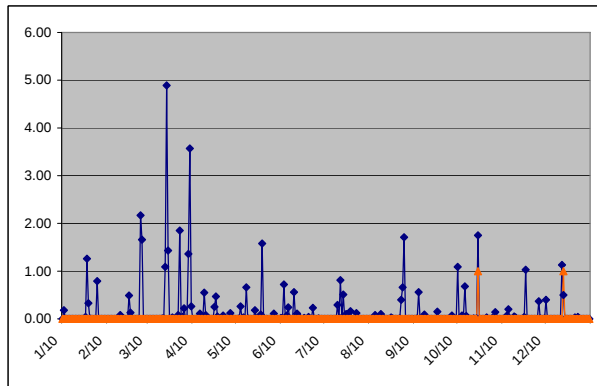
Duncan Street Winter Street Activation NPDES # 021H

Influent MGD
Peak Intensity/hr.
Duncan Street Winter Street Activation NPDES # 021H

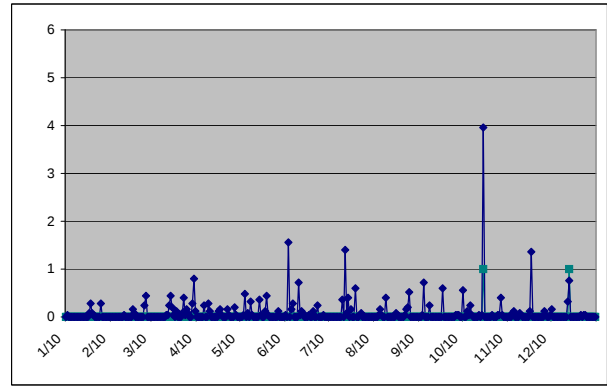




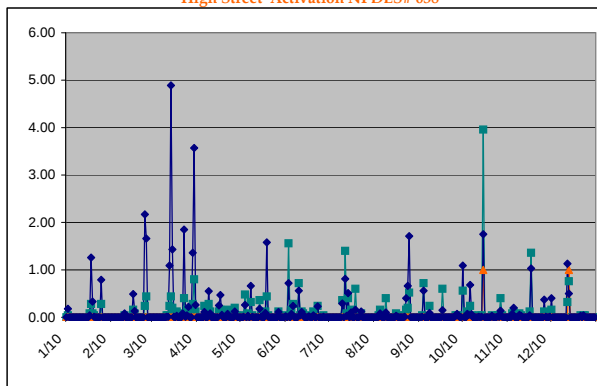
Rainfall (in./day)
High Street Activation NPDES# 038



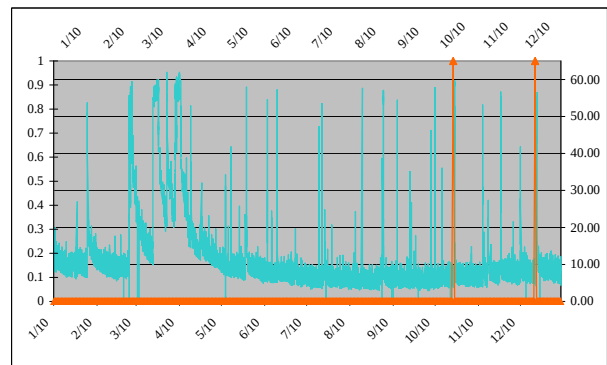
Peak Intensity/hr.
High Street Activation NPDES# 038



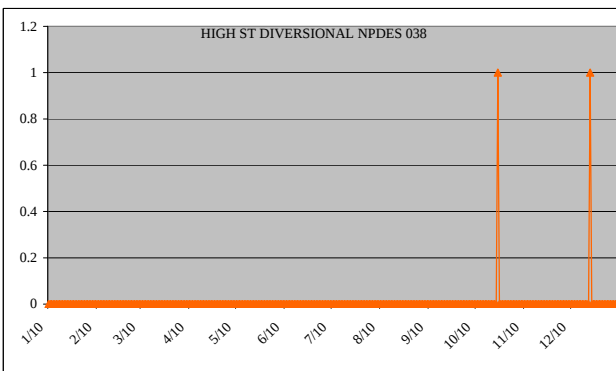
Rainfall (in./day)
Peak Intensity/hr.
High Street Activation NPDES# 038



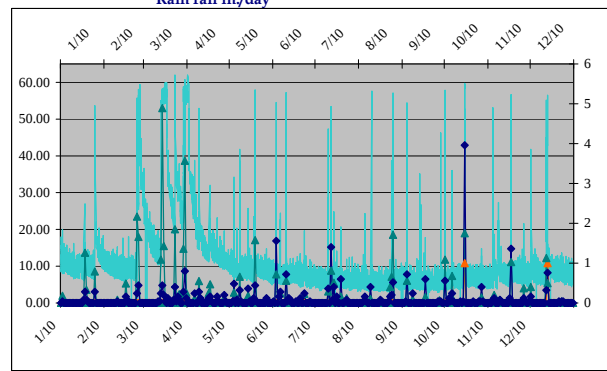
Influent MGD
High Street Activation NPDES# 038



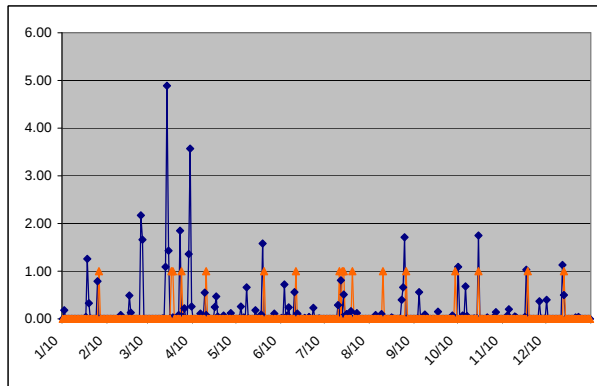
High Street Activation NPDES# 038



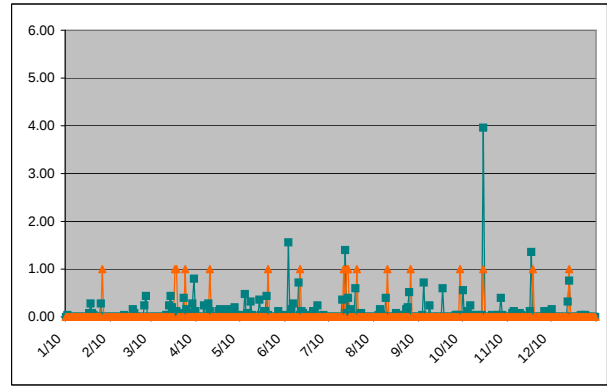
Influent MGD
High Street Activation NPDES# 038
Rain fall in./day



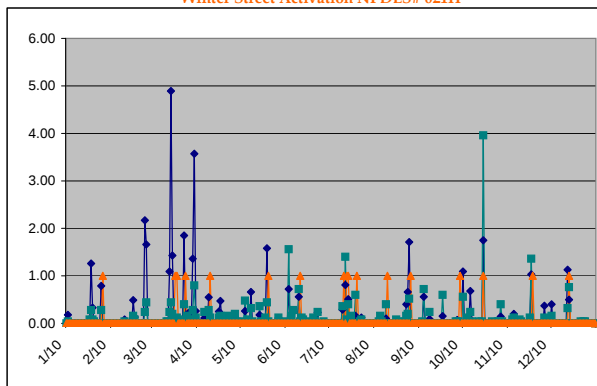
Rainfall (in./day)
Winter Street Activation NPDES# 021H



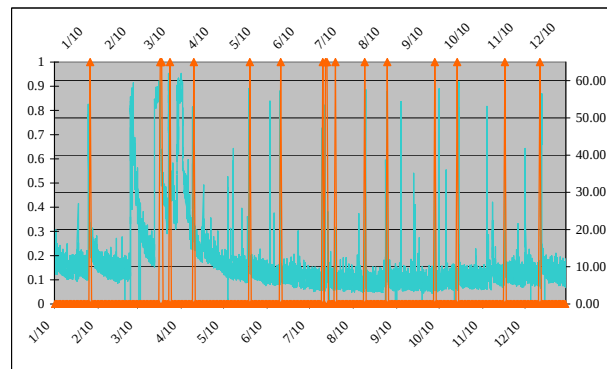
Peak Intensity/hr.
Winter Street Activation NPDES# 021H



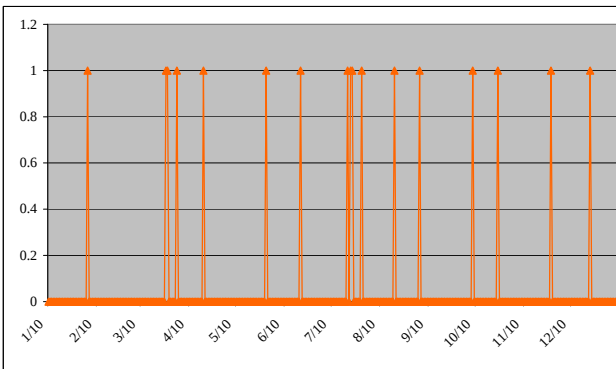
Rainfall (in./day)
Peak Intensity/hr.
Winter Street Activation NPDES# 021H



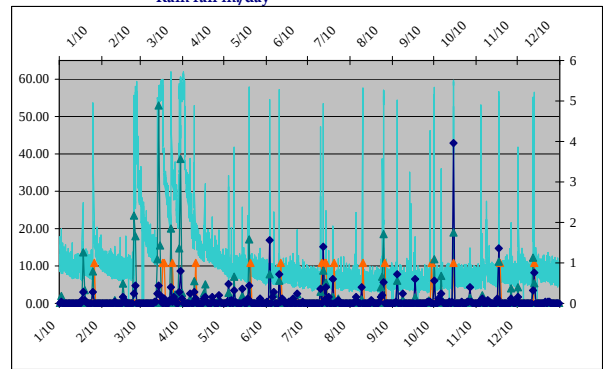
Influent MGD
Winter Street Activation NPDES# 021H



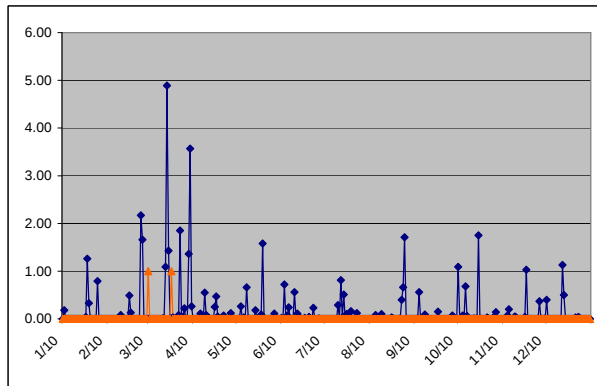
Winter Street Activation NPDES# 021H



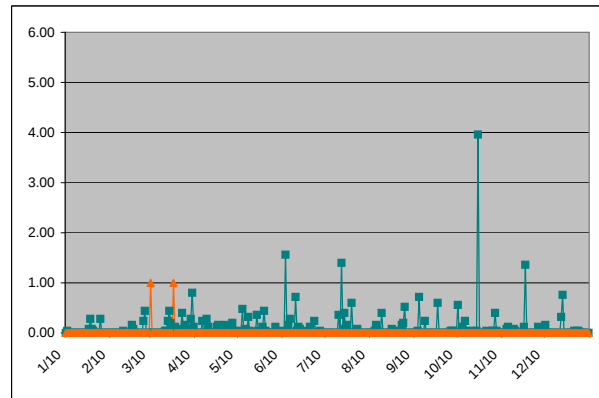
Influent MGD
Peak Intensity/hr.
Rain fall in./day
Winter Street Activation NPDES# 021H



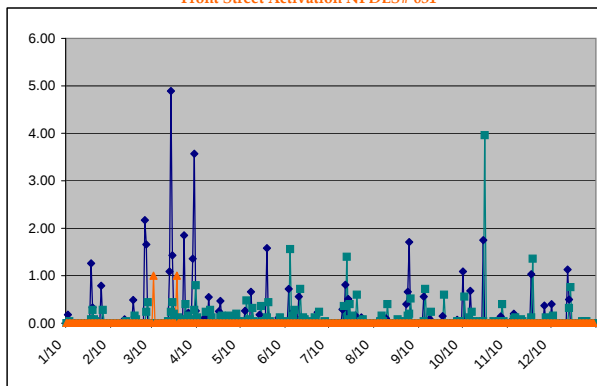
Rainfall (in./day)
Front Street Activation NPDES# 031



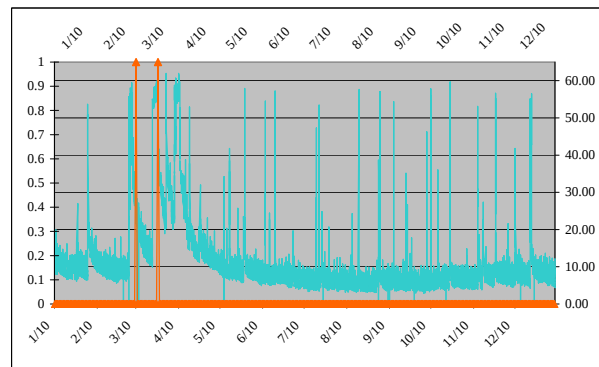
Peak Intensity/hr.
Front Street Activation NPDES# 031



Rainfall (in./day)
Peak Intensity/hr.
Front Street Activation NPDES# 031

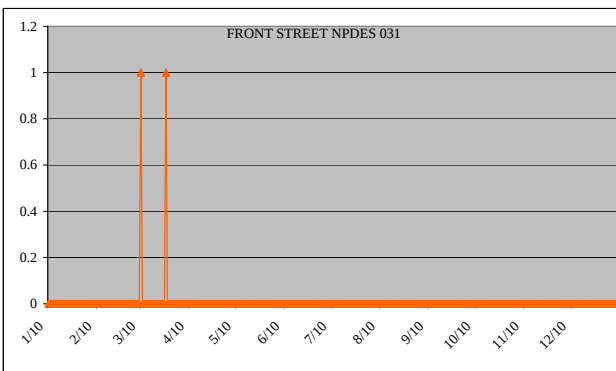
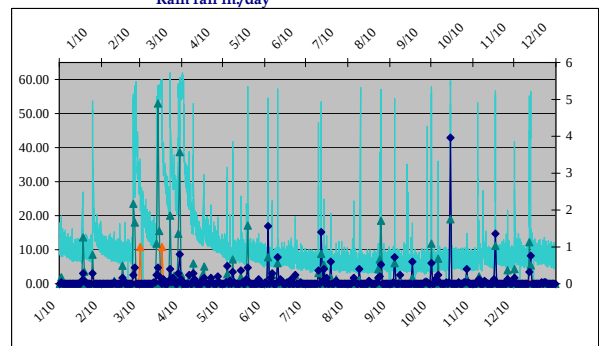


Influent MGD
Front Street Activation NPDES# 031

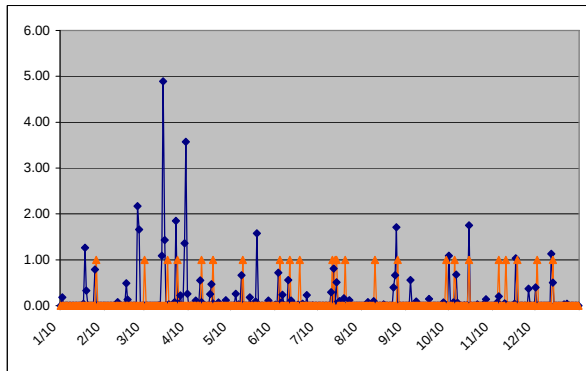


Front Street Activation NPDES# 031

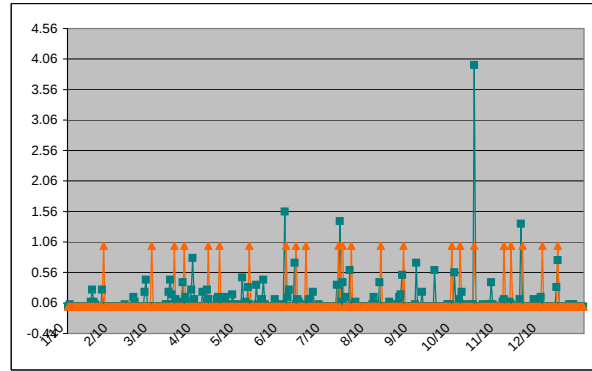
Influent MGD
Front Street Activation NPDES# 031
Rain fall in./day



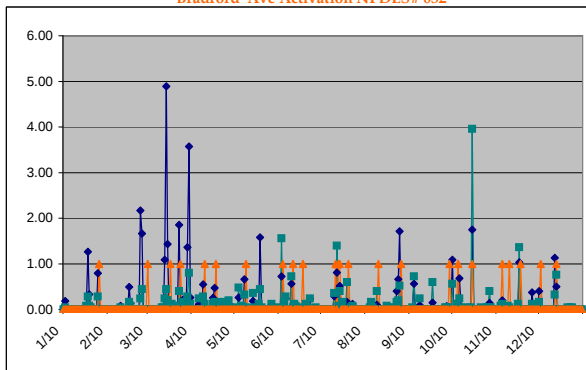
Rainfall (in./day)
Bradford Ave Activation NPDES# 032



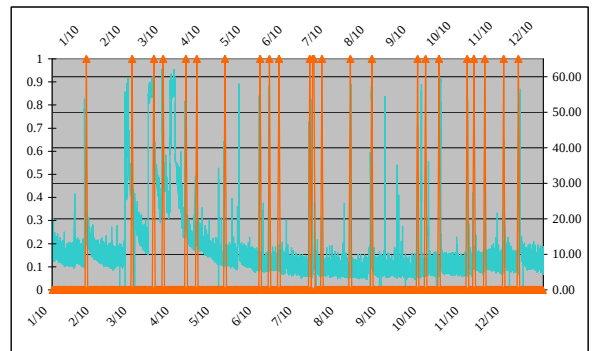
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



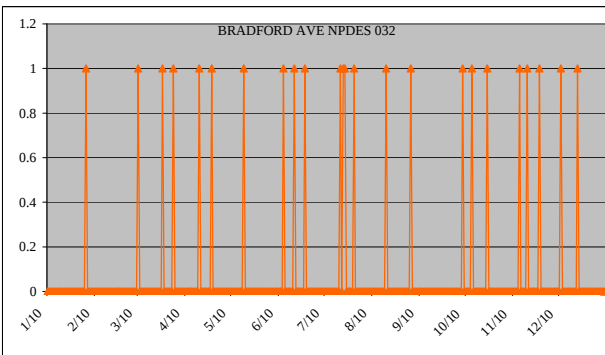
Rainfall (in./day)
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



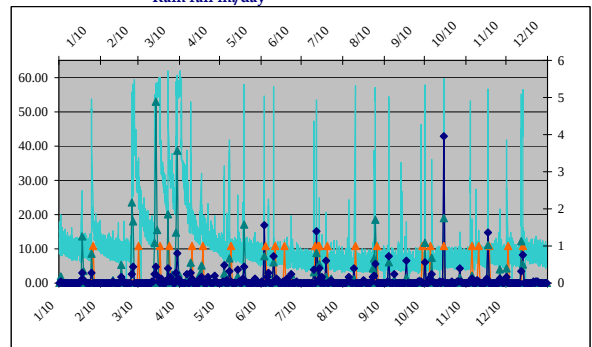
Influent MGD
Bradford Ave Activation NPDES# 032

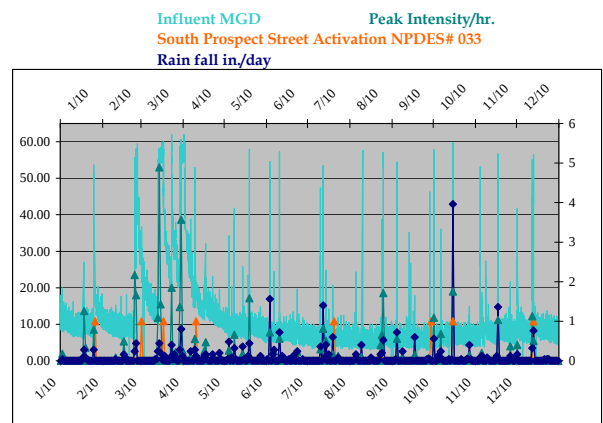
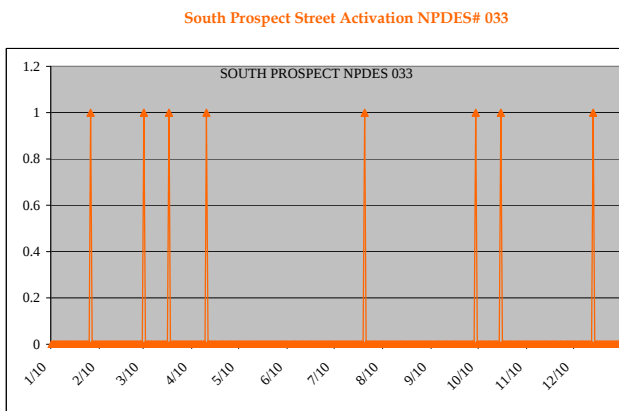
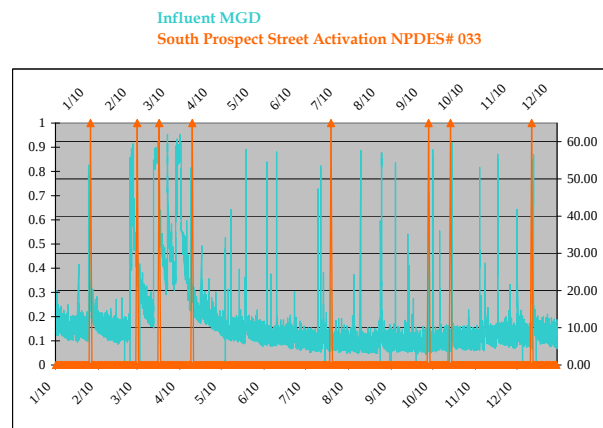
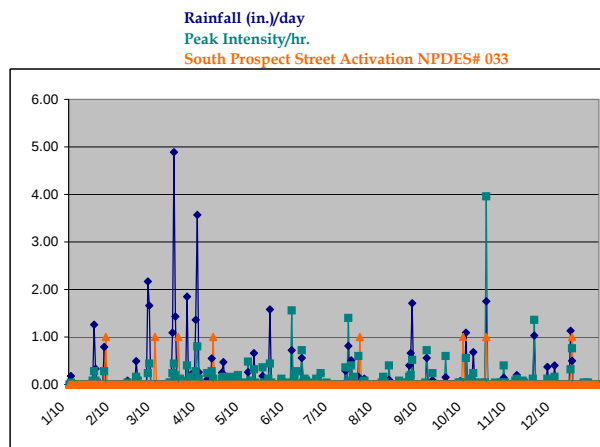
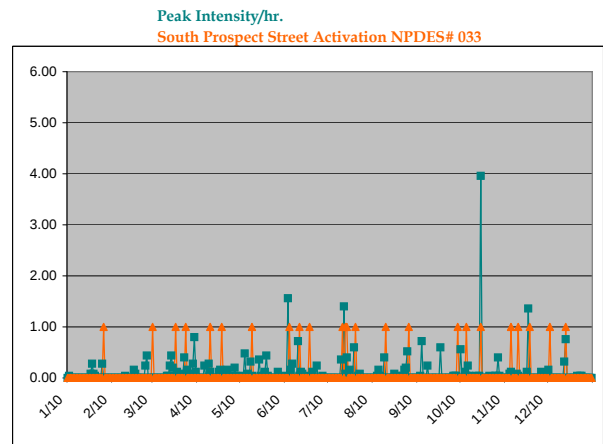
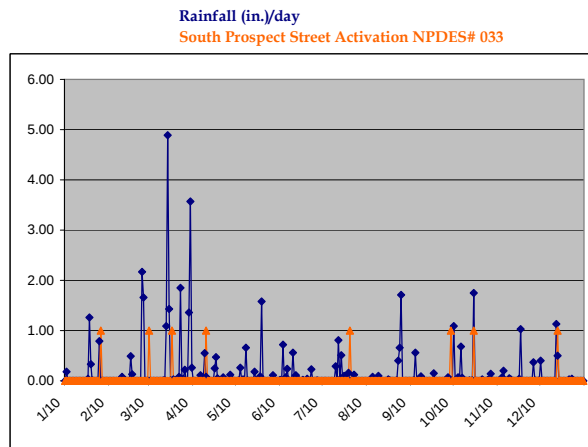


Bradford Ave Activation NPDES# 032

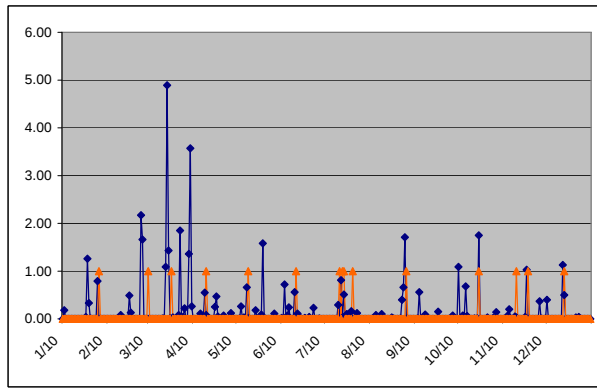


Influent MGD
Bradford Ave Activation NPDES# 032
Rain fall in./day

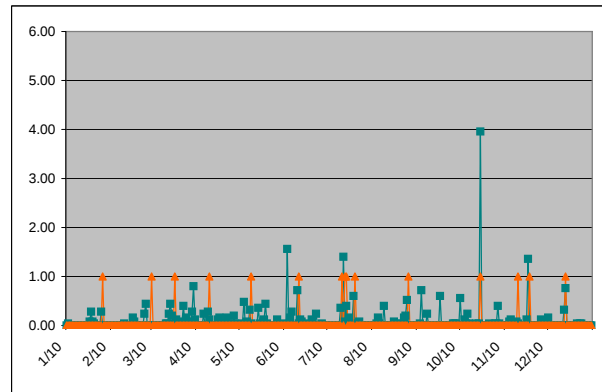




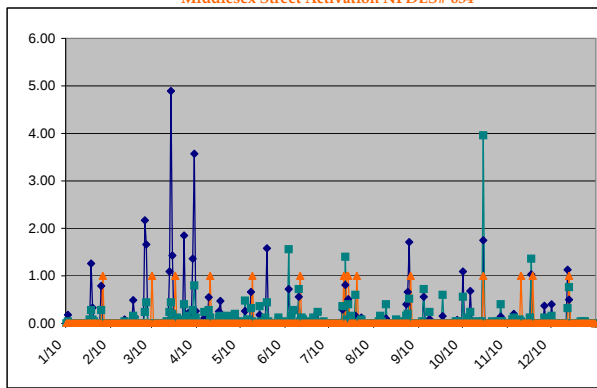
Rainfall (in./day)
Middlesex Street Activation NPDES# 034



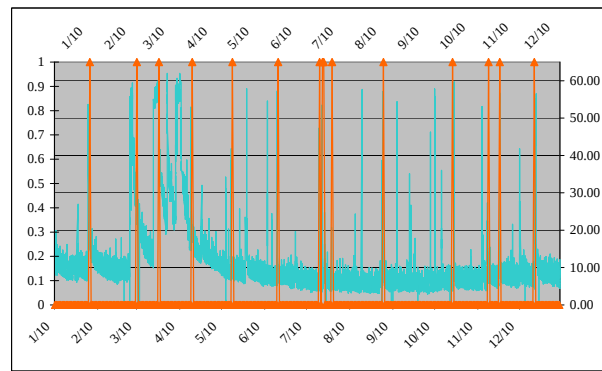
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034



Rainfall (in./day)
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034

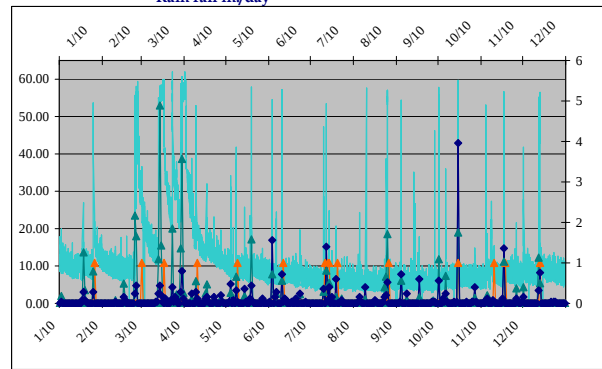
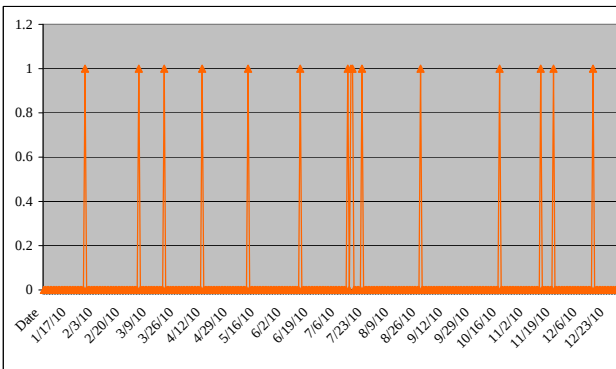


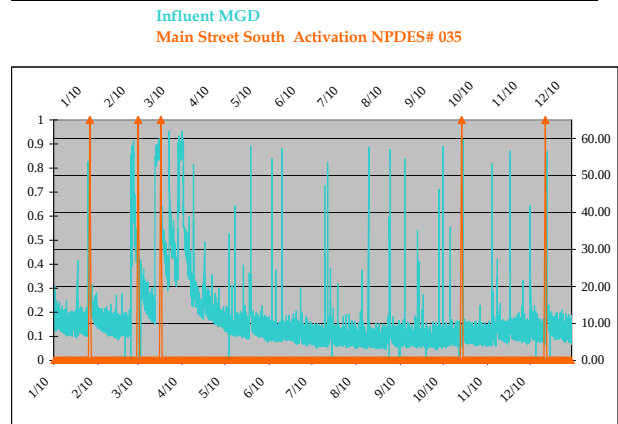
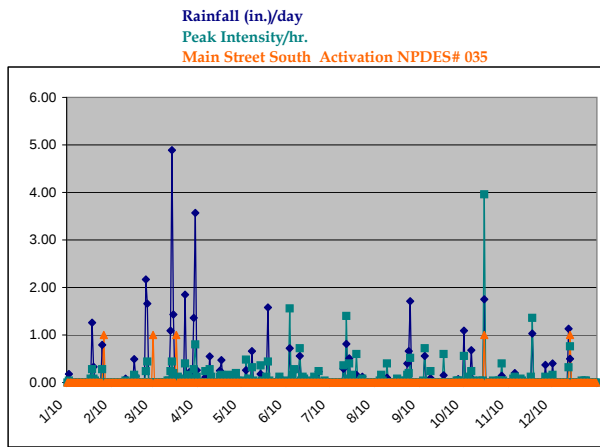
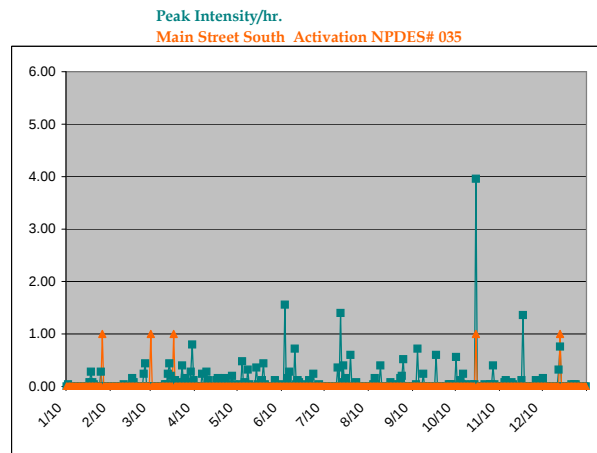
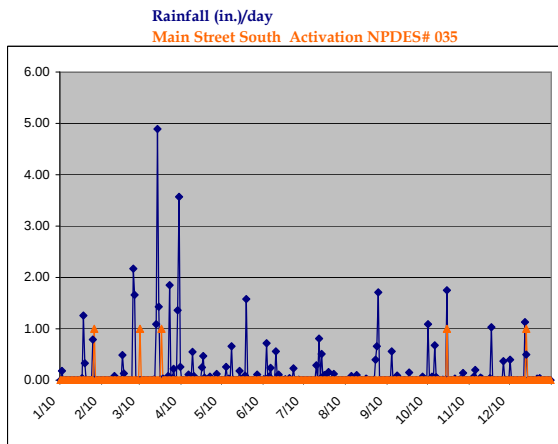
Influent MGD
Middlesex Street Activation NPDES# 034



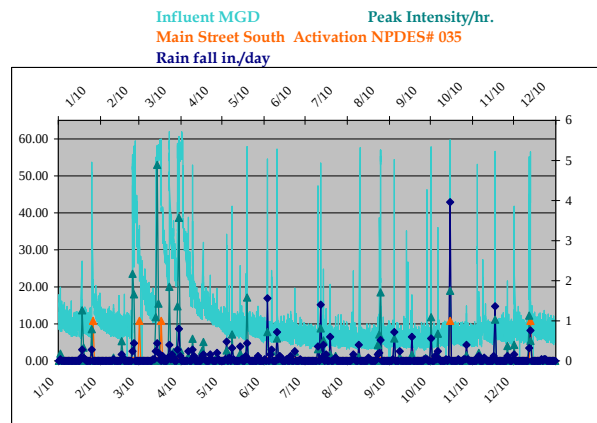
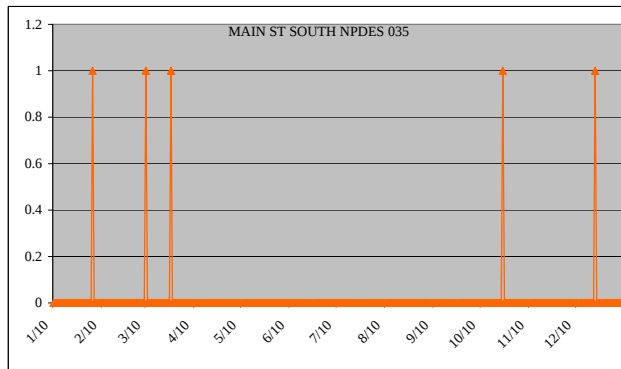
Middlesex Street Activation NPDES# 034

Influent MGD
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034
Rain fall in./day

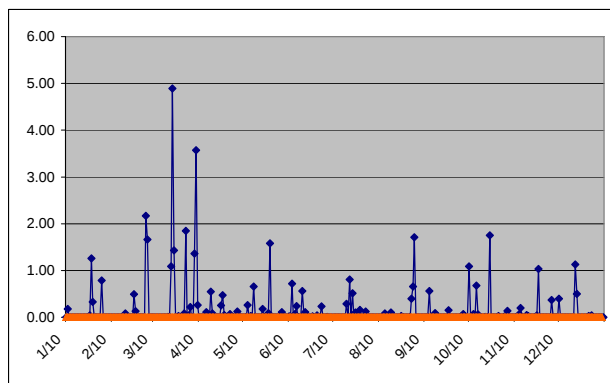




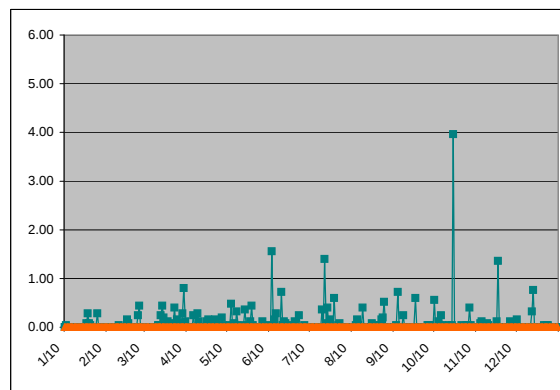
Main Street South Activation NPDES# 035



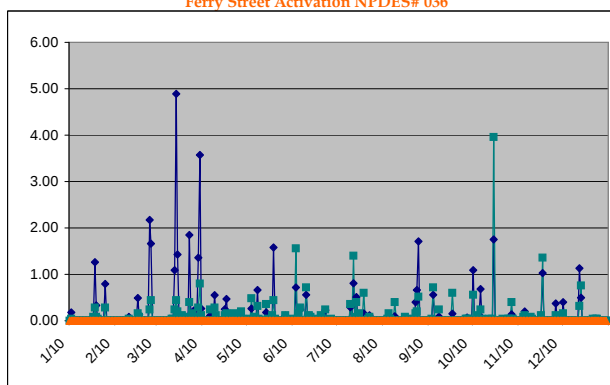
Rainfall (in./day)
Ferry Street Activation NPDES# 036



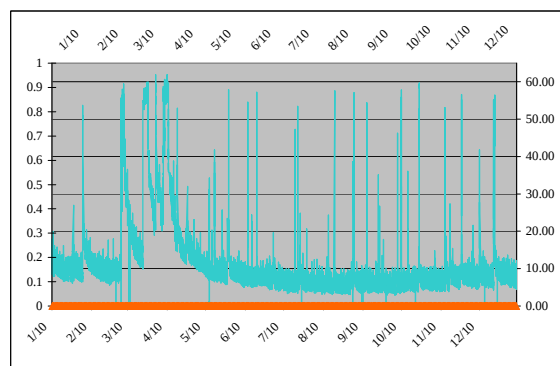
Peak Intensity/hr.
Ferry Street Activation NPDES# 036



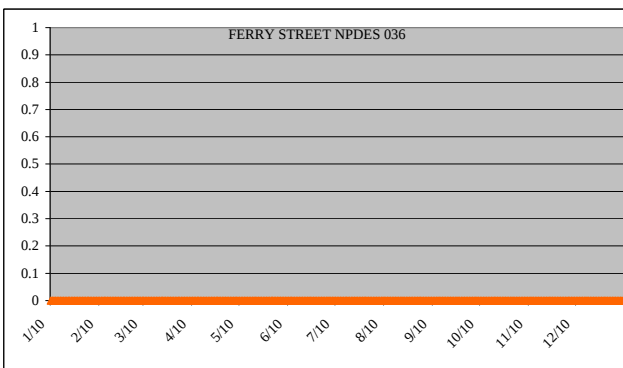
Rainfall (in./day)
Peak Intensity/hr.
Ferry Street Activation NPDES# 036



Influent MGD
Ferry Street Activation NPDES# 036



Ferry Street Activation NPDES# 036



Influent MGD
Ferry Street Activation NPDES# 036
Rain fall in./day

