Haverhill

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Water/Wastewater Division
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April 11, 2012

Environmental Protection Agency
Water Technical Unit (OES04-3)
U.S. EPA - New England, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912
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 2011

Dear Ms. Hilton and Mr. Mohanty:

We respectfully submit in accordance with the City of Haverhill's NPDES Permit, our status report for the 2011 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.

The City, by Administrative Order 08-012 and approve scope of work, submitted August 2, 2011, Phase II Long-Term CSO Control Plan (LTCP). Part of this study was to update the SWMM Model. Please refer to Section 3 Appendices E through J and Appendix P for further details.

APPENDIX A: CSO SUMMARY CALANDER YEAR 2011 was prepared based on output from SWMM5 model and includes estimates of CSO activations (including number of events, duration and volume discharge) during the 2011 calendar year. Note there were no predicted discharges from many of the CSOs listed in Appendix A.

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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.

SWMM 5.0.022 (newest version) tracks rainfall in sequential time and days. Please be advise that the City's rain gage had numerous errors, which was corrected by CDM Smith and recorded lower than the manual gage at wastewater treatment.

The City purchased a new rain gage and shall place this gage close to the existing daily manual gage. This gage will be connected into SCADA system so that we can monitor the gage accuracy. The wastewater treatment plant recorded 53.86-inches of rainfall for 2011 compared 47.21 for the 15 min gage reading see **APPENDIX B: CALENDAR YEAR 2011 RAINFALL DATA**

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 2011 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 plan is planned 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.*

Within 24-hours of a CSO occurrence an email notification is sent to downstream communities see **APPENDIX D: 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 38791** 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. The City compared the rainfall quantity with CSO block check to arrive at approximately 0.10-inches of rain could create a CSO occurrence. The City has determined that when the influent flow reaches 25 MGD the Collection Division is notified and CSO block checks are initiated and results logged into a spreedsheet.

Appendix F: CSO Graphs 2011enclosed with this report are the CSO regulators graphs with the following data points:

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

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 2011 are shown on the City web page on the following link:

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

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.*

The City has contacted downstream communities for each CSO activation. When other interested individuals are identified, they will be added to this contact list and these notifications will be sent to them.

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.*

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 2011

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 Manage

APPENDIX A: CSO SUMMARY CALENDER YEAR 2011

CSO Report to EPA

Outfall	VolMG	Hours	Events
01 Bates			
10 Boardman			
013 Lower Siphon	3.19	3.75	3
016 Fire Station			
019 Main Street North			
021A Middle Siphon	14.10	384.75	29
021D Little River North	5.79	114.50	36
021E Little River South	1.11	31.75	19
021H Winter and Hale	0.09	1.25	1
022 Railroad Bridge	0.00	0.25	1
023 266 River Street			
024 Upper Siphon	1.57	3.00	1
025 Beach Street			
031 Front Street			
032 Bradford Avenue	8.89	80.50	38
033 South Prospect Street	0.16	1.25	2
034 Middlesex Street	1.28	2.75	2
035 South Main Street	0.19	2.25	2
036 Ferry Street(Gate Closed)			
038 High Street	0.01	0.50	1

Total: 36.36

Appendix B: Rainfall Data for Calendar Year 2011

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
1/1/2011				
1/2/2011	0.01	0.04	0.25	0.01
1/3/2011				
1/4/2011				
1/5/2011				
1/6/2011				
1/7/2011				
1/8/2011				
1/9/2011				
1/10/2011				
1/11/2011				
1/12/2011				
1/13/2011	0.05	0.08	1.00	0.01
1/14/2011				
1/15/2011	0.03	0.04	0.75	0.01
1/16/2011	0.08	0.08	1.50	0.01
1/17/2011				
1/18/2011	0.03	0.08	0.50	0.02
1/19/2011	0.84	0.12	13.00	0.02
1/20/2011	0.13	0.08	2.25	0.01
1/21/2011				
1/22/2011	0.08	0.08	1.50	0.01
1/23/2011				
1/24/2011				
1/25/2011				
1/26/2011				
1/27/2011				
1/28/2011				
1/29/2011	0.15	0.08	3.00	0.01
1/30/2011	0.03	0.04	0.75	0.01
1/31/2011				
2/1/2011				
2/2/2011				
2/3/2011				
2/4/2011	0.01	0.04	0.25	0.01
2/5/2011	0.44	0.40	4.75	0.02
2/6/2011	0.26	0.08	5.50	0.01
2/7/2011	0.07	0.04	1.75	0.01
2/8/2011	0.31	0.08	6.75	0.01
2/9/2011	0.01	0.04	0.25	0.01
2/10/2011				
2/11/2011				
2/12/2011	0.01	0.04	0.25	0.01
2/13/2011				
2/14/2011				
2/15/2011				
2/16/2011				
2/17/2011				
2/18/2011				
2/19/2011				
2/20/2011				
2/21/2011	0.01	0.04	0.25	0.01
2/22/2011				
2/23/2011				
2/24/2011				
2/25/2011	0.84	0.28	8.50	0.02
2/26/2011	1.01	0.36	4.75	0.05

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
2/27/2011				
2/28/2011	0.28	0.20	3.75	0.02
3/1/2011	0.66	0.24	6.50	0.03
3/2/2011	0.10	0.12	1.25	0.02
3/3/2011				
3/4/2011				
3/5/2011				
3/6/2011	0.17	0.12	3.00	0.01
3/7/2011	0.71	0.28	7.25	0.02
3/8/2011				
3/9/2011				
3/10/2011	0.04	0.04	1.00	0.01
3/11/2011	0.62	0.24	8.25	0.02
3/12/2011	0.01	0.04	0.25	0.01
3/13/2011				
3/14/2011				
3/15/2011				
3/16/2011	0.62	0.24	5.50	0.03
3/17/2011	0.01	0.04	0.25	0.01
3/18/2011				
3/19/2011				
3/20/2011				
3/21/2011	0.35	0.08	7.75	0.01
3/22/2011	0.04	0.04	1.00	0.01
3/23/2011				
3/24/2011				
3/25/2011	0.03	0.04	0.75	0.01
3/26/2011				
3/27/2011				
3/28/2011				
3/29/2011				
3/30/2011				
3/31/2011	0.05	0.04	1.25	0.01
4/1/2011	0.90	0.24	6.00	0.04
4/2/2011				
4/3/2011				
4/4/2011	0.28	0.20	3.25	0.02
4/5/2011	0.04	0.08	0.75	0.01
4/6/2011				
4/7/2011				
4/8/2011				
4/9/2011				
4/10/2011	0.02	0.04	0.50	0.01
4/11/2011	0.10	0.12	1.50	0.02
4/12/2011				
4/13/2011	1.09	0.24	10.50	0.03
4/14/2011	0.01	0.04	0.25	0.01
4/15/2011				
4/16/2011	0.08	0.12	0.75	0.02
4/17/2011	0.83	0.32	7.00	0.03
4/18/2011				
4/19/2011	0.15	0.08	3.50	0.01
4/20/2011	0.02	0.04	0.50	0.01
4/21/2011				
4/22/2011				
4/23/2011	0.52	0.16	9.25	0.01
4/24/2011	0.02	0.04	0.50	0.01

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
4/25/2011	0.01	0.04	0.25	0.01
4/26/2011	0.02	0.04	0.50	0.01
4/27/2011				
4/28/2011	0.02	0.04	0.50	0.01
4/29/2011				
4/30/2011				
5/1/2011				
5/2/2011				
5/3/2011				
5/4/2011	0.33	0.52	3.75	0.02
5/5/2011	0.07	0.04	1.75	0.01
5/6/2011				
5/7/2011	0.17	0.32	1.75	0.02
5/8/2011				
5/9/2011	0.06	0.24	0.25	0.06
5/10/2011	0.01	0.04	0.25	0.01
5/11/2011	0.08	0.04	2.00	0.01
5/12/2011				
5/13/2011				
5/14/2011	0.02	0.04	0.50	0.01
5/15/2011	0.64	0.32	6.75	0.02
5/16/2011	0.12	0.08	2.25	0.01
5/17/2011	0.05	0.04	1.25	0.01
5/18/2011	0.47	0.44	5.25	0.02
5/19/2011	0.31	0.64	2.50	0.03
5/20/2011	0.01	0.04	0.25	0.01
5/21/2011				
5/22/2011				
5/23/2011	0.25	0.20	3.00	0.02
5/24/2011	0.46	0.76	2.00	0.06
5/25/2011	0.01	0.04	0.25	0.01
5/26/2011				
5/27/2011				
5/28/2011				
5/29/2011				
5/30/2011				
5/31/2011				
6/1/2011	0.15	0.48	0.50	0.08
6/2/2011				
6/3/2011				
6/4/2011				
6/5/2011				
6/6/2011				
6/7/2011				
6/8/2011				
6/9/2011	0.40	0.40	2.50	0.04
6/10/2011	0.01	0.04	0.25	0.01
6/11/2011	0.62	0.24	6.50	0.02
6/12/2011	0.45	0.40	5.50	0.02
6/13/2011				
6/14/2011				
6/15/2011				
6/16/2011				
6/17/2011				
6/18/2011				
6/19/2011				
6/20/2011				

Appendix B: Rainfall Data for Calendar Year 2011

Date	Rain Total (In.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
6/21/2011				
6/22/2011	1.36	0.64	7.50	0.05
6/23/2011	0.61	0.44	8.25	0.02
6/24/2011	0.10	0.04	2.50	0.01
6/25/2011	0.37	0.36	4.75	0.02
6/26/2011	0.01	0.04	0.25	0.01
6/27/2011				
6/28/2011				
6/29/2011	0.07	0.20	0.75	0.02
6/30/2011				
7/1/2011				
7/2/2011				
7/3/2011				
7/4/2011	0.02	0.08	0.25	0.02
7/5/2011				
7/6/2011	0.01	0.04	0.25	0.01
7/7/2011				
7/8/2011	0.01	0.04	0.25	0.01
7/9/2011	0.14	0.12	2.25	0.02
7/10/2011				
7/11/2011				
7/12/2011				
7/13/2011	0.02	0.08	0.25	0.02
7/14/2011	0.17	0.44	1.25	0.03
7/15/2011	0.01	0.04	0.25	0.01
7/16/2011				
7/17/2011				
7/18/2011	0.33	0.88	1.00	0.08
7/19/2011				
7/20/2011				
7/21/2011				
7/22/2011				
7/23/2011				
7/24/2011				
7/25/2011	0.59	0.48	3.00	0.05
7/26/2011	0.04	0.16	0.25	0.04
7/27/2011				
7/28/2011				
7/29/2011	0.04	0.08	0.75	0.01
7/30/2011				
7/31/2011				
8/1/2011				
8/2/2011	0.07	0.24	0.50	0.04
8/3/2011				
8/4/2011				
8/5/2011				
8/6/2011				
8/7/2011	0.51	0.20	7.00	0.02
8/8/2011	0.24	0.20	2.75	0.02
8/9/2011	0.16	0.12	2.25	0.02
8/10/2011	0.98	1.16	3.25	0.08
8/11/2011				
8/12/2011				
8/13/2011				
8/14/2011	0.01	0.04	0.25	0.01
8/15/2011	1.65	0.40	16.50	0.03
8/16/2011	0.03	0.04	0.75	0.01

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
8/17/2011				
8/18/2011				
8/19/2011				
8/20/2011				
8/21/2011				
8/22/2011	0.16	0.28	1.25	0.03
8/23/2011				
8/24/2011				
8/25/2011	0.27	0.24	2.75	0.02
8/26/2011	0.04	0.04	1.00	0.01
8/27/2011	0.45	0.64	4.00	0.03
8/28/2011	1.66	0.72	9.00	0.05
8/29/2011				
8/30/2011				
8/31/2011				
9/1/2011				
9/2/2011				
9/3/2011				
9/4/2011				
9/5/2011				
9/6/2011	0.46	0.16	7.25	0.02
9/7/2011	1.09	0.36	10.25	0.03
9/8/2011	0.67	0.24	5.00	0.03
9/9/2011	0.01	0.04	0.25	0.01
9/10/2011				
9/11/2011				
9/12/2011				
9/13/2011				
9/14/2011				
9/15/2011	0.08	0.24	0.50	0.04
9/16/2011				
9/17/2011				
9/18/2011				
9/19/2011				
9/20/2011	0.10	0.08	2.25	0.01
9/21/2011				
9/22/2011	0.43	0.44	5.00	0.02
9/23/2011	0.39	0.48	3.50	0.03
9/24/2011	0.41	0.32	4.50	0.02
9/25/2011				
9/26/2011				
9/27/2011				
9/28/2011				
9/29/2011	0.68	0.88	5.00	0.03
9/30/2011				
10/1/2011	0.07	0.04	1.75	0.01
10/2/2011	0.06	0.04	1.50	0.01
10/3/2011	0.06	0.04	1.50	0.01
10/4/2011	3.08	2.72	13.00	0.06
10/5/2011	0.03	0.04	0.75	0.01
10/6/2011				
10/7/2011				
10/8/2011				
10/9/2011				
10/10/2011				
10/11/2011				
10/12/2011	0.01	0.04	0.25	0.01

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
10/13/2011	0.88	0.44	7.00	0.03
10/14/2011	0.65	0.48	6.00	0.03
10/15/2011	0.01	0.04	0.25	0.01
10/16/2011				
10/17/2011	0.02	0.04	0.50	0.01
10/18/2011				
10/19/2011	1.26	0.24	11.00	0.03
10/20/2011	0.71	0.68	4.25	0.04
10/21/2011				
10/22/2011				
10/23/2011				
10/24/2011				
10/25/2011				
10/26/2011	0.01	0.04	0.25	0.01
10/27/2011	0.98	0.24	14.75	0.02
10/28/2011	0.13	0.08	2.75	0.01
10/29/2011	0.19	0.12	2.25	0.02
10/30/2011	1.07	0.32	10.00	0.03
10/31/2011				
11/1/2011				
11/2/2011				
11/3/2011				
11/4/2011				
11/5/2011				
11/6/2011				
11/7/2011				
11/8/2011				
11/9/2011				
11/10/2011	0.72	0.28	6.50	0.03
11/11/2011				
11/12/2011				
11/13/2011				
11/14/2011				
11/15/2011				
11/16/2011	0.26	0.08	5.25	0.01
11/17/2011	0.06	0.04	1.50	0.01
11/18/2011	0.01	0.04	0.25	0.01
11/19/2011				
11/20/2011				
11/21/2011				
11/22/2011				
11/23/2011	1.17	0.20	10.00	0.03
11/24/2011				
11/25/2011				
11/26/2011				
11/27/2011				
11/28/2011				
11/29/2011	0.04	0.12	0.50	0.02
11/30/2011	0.79	0.80	4.25	0.05
12/1/2011				
12/2/2011				
12/3/2011				
12/4/2011				
12/5/2011				
12/6/2011	0.05	0.04	1.25	0.01
12/7/2011	1.01	0.20	13.50	0.02
12/8/2011	0.87	0.48	6.50	0.03

Date	Rain Total (in.)	Peak Hour Depth Intensity (in./hr.)	Duration (hours)	Daily Avg. Intensity (in./in.)
12/9/2011				
12/10/2011	0.01	0.04	0.25	0.01
12/11/2011				
12/12/2011				
12/13/2011				
12/14/2011				
12/15/2011	0.10	0.08	2.25	0.01
12/16/2011	0.05	0.16	0.50	0.03
12/17/2011				
12/18/2011				
12/19/2011				
12/20/2011				
12/21/2011	0.10	0.08	2.00	0.01
12/22/2011	0.41	0.36	2.75	0.04
12/23/2011	0.80	0.20	7.75	0.03
12/24/2011				
12/25/2011				
12/26/2011				
12/27/2011	0.09	0.08	2.00	0.01
12/28/2011	0.05	0.08	1.00	0.01
12/29/2011				
12/30/2011				
12/31/2011	0.06	0.04	1.50	0.01

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES 0
1/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/2/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
1/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/10/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/13/2011	0.05	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/15/2011	0.03	0	0.04	0	0	0	0	0	0	0	0	0	0	
1/16/2011	0.08	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/18/2011	0.03	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/19/2011	0.84	0	0.12	0	0	0	0	0	0	0	0	0	0	
1/20/2011	0.13	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/22/2011	0.08	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/25/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
1/29/2011	0.15	0	0.08	0	0	0	0	0	0	0	0	0	0	
1/30/2011	0.03	0	0.04	0	0	0	0	0	0	0	0	0	0	
1/31/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/4/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
2/5/2011	0.44	0	0.40	0	0	0	0	0	0	0	0	0	0	
2/6/2011	0.26	0	0.08	0	0	0	0	0	0	0	0	0	0	
2/7/2011	0.07	0	0.04	0	0	0	0	0	0	0	0	0	0	
2/8/2011	0.31	0	0.08	0	0	0	0	0	0	0	0	0	0	
2/9/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
2/10/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/12/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
2/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/15/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/16/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/21/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
2/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/25/2011	0.84	0	0.28	0	0	0	0	0	0	0	0	0	0	
2/26/2011	1.01	1	0.36	0	0	0	0	0	1	1	1	1	0	
2/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
2/28/2011	0.28	0	0.20	0	0	0	0	0	0	0	0	0	0	

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES 0
3/1/2011	0.66	0	0.24	0	0	0	0	0	0	0	0	0	0	
3/2/2011	0.10	0	0.12	0	0	0	0	0	0	0	0	0	0	
3/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/6/2011	0.17	0	0.12	0	0	0	0	0	0	0	0	0	0	
3/7/2011	0.71	0	0.28	0	0	0	0	0	0	0	0	0	0	
3/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/10/2011	0.04	0	0.04	0	0	0	0	0	0	0	0	0	0	
3/11/2011	0.62	0	0.24	0	0	0	0	0	0	0	0	0	0	
3/12/2011	0.01	1	0.04	0	0	0	0	0	1	1	1	1	0	
3/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/15/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/16/2011	0.62	0	0.24	0	0	0	0	0	0	0	0	0	0	
3/17/2011	0.01	1	0.04	0	0	1	0	0	1	1	1	1	0	
3/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/21/2011	0.35	0	0.08	0	0	0	0	0	0	0	0	0	0	
3/22/2011	0.04	0	0.04	0	0	0	0	0	0	0	0	0	0	
3/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/25/2011	0.03	0	0.04	0	0	0	0	0	0	0	0	0	0	
3/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/29/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
3/31/2011	0.05	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/1/2011	0.90	0	0.24	0	0	0	0	0	0	0	0	0	0	
4/2/2011	0.00	1	0.00	0	0	1	0	0	1	1	1	1	0	
4/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/4/2011	0.28	0	0.20	0	0	0	0	0	0	0	0	0	0	
4/5/2011	0.04	0	0.08	0	0	0	0	0	0	0	0	0	0	
4/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/10/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/11/2011	0.10	0	0.12	0	0	0	0	0	0	0	0	0	0	
4/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/13/2011	1.09	0	0.24	0	0	0	0	0	0	0	0	0	0	
4/14/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/15/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/16/2011	0.08	0	0.12	0	0	0	0	0	0	0	0	0	0	
4/17/2011	0.83	1	0.32	0	0	0	0	0	1	1	1	0	0	
4/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/19/2011	0.15	0	0.08	0	0	0	0	0	0	0	0	0	0	
4/20/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/23/2011	0.52	0	0.16	0	0	0	0	0	0	0	0	0	0	
4/24/2011	0.02	1	0.04	0	0	0	0	0	1	1	1	1	0	
4/25/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/26/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/28/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
4/29/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
4/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES 0
5/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/4/2011	0.33	0	0.52	0	0	0	0	0	0	0	0	0	0	
5/5/2011	0.07	1	0.04	0	0	0	0	0	1	1	1	1	0	
5/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/7/2011	0.17	0	0.32	0	0	0	0	0	0	0	0	0	0	
5/8/2011	0.00	0	0.00	0	0	0	0	0	1	1	1	1	0	
5/9/2011	0.06	0	0.24	0	0	0	0	0	0	0	0	0	0	
5/10/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
5/11/2011	0.08	0	0.04	0	0	0	0	0	0	0	0	0	0	
5/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/14/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
5/15/2011	0.64	0	0.32	0	0	0	0	0	1	1	1	1	0	
5/16/2011	0.12	0	0.08	0	0	0	0	0	0	0	0	0	0	
5/17/2011	0.05	0	0.04	0	0	0	0	0	0	0	0	0	0	
5/18/2011	0.47	0	0.44	0	0	0	0	0	0	0	0	0	0	
5/19/2011	0.31	1	0.64	0	0	1	0	0	1	1	1	1	0	
5/20/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
5/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/23/2011	0.25	0	0.20	0	0	0	0	0	0	0	0	0	0	
5/24/2011	0.46	0	0.76	0	0	0	0	0	1	1	1	1	0	
5/25/2011	0.01	1	0.04	0	0	1	0	0	1	1	1	1	0	
5/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/29/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
5/31/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/1/2011	0.15	0	0.48	0	0	0	0	0	0	0	0	0	0	
6/2/2011	0.00	1	0.00	0	0	0	0	0	1	1	1	0	0	
6/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/9/2011	0.40	0	0.40	0	0	0	0	0	0	0	0	0	0	
6/10/2011	0.01	1	0.04	0	0	0	0	0	1	1	1	0	0	
6/11/2011	0.62	0	0.24	0	0	0	0	0	0	0	0	0	0	
6/12/2011	0.45	1	0.40	0	0	0	0	0	1	1	1	0	0	
6/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/15/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/16/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/22/2011	1.36	0	0.64	0	0	0	0	0	0	0	0	0	0	
6/23/2011	0.61	1	0.44	0	0	0	0	0	1	1	1	1	0	
6/24/2011	0.10	0	0.04	0	0	0	0	0	0	0	0	0	0	
6/25/2011	0.37	1	0.36	0	0	0	0	0	1	1	1	1	0	
6/26/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
6/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
6/29/2011	0.07	1	0.20	0	0	0	0	0	1	1	1	1	0	
6/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES
7/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/4/2011	0.02	0	0.08	0	0	0	0	0	0	0	0	0	0	
7/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/6/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
7/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/8/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
7/9/2011	0.14	0	0.12	0	0	0	0	0	0	0	0	0	0	
7/10/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/13/2011	0.02	0	0.08	0	0	0	0	0	0	0	0	0	0	
7/14/2011	0.17	0	0.44	0	0	0	0	0	0	0	0	0	0	
7/15/2011	0.01	1	0.04	0	0	0	0	0	1	1	1	1	0	
7/16/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/18/2011	0.33	0	0.88	0	0	0	0	0	0	0	0	0	0	
7/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/25/2011	0.59	0	0.48	0	0	0	0	0	0	0	0	0	0	
7/26/2011	0.04	1	0.16	0	0	0	0	0	1	1	1	1	0	
7/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/29/2011	0.04	0	0.08	0	0	0	0	0	0	0	0	0	0	
7/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
7/31/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/2/2011	0.07	0	0.24	0	0	0	0	0	0	0	0	0	0	
8/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/6/2011	0.00	1	0.00	0	0	0	0	0	1	1	1	1	0	
8/7/2011	0.51	0	0.20	0	0	0	0	0	0	0	0	0	0	
8/8/2011	0.24	1	0.20	0	0	0	0	0	1	1	1	1	0	
8/9/2011	0.16	0	0.12	0	0	0	0	0	0	0	0	0	0	
8/10/2011	0.98	1	1.16	0	0	1	0	0	1	1	1	1	0	
8/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/14/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
8/15/2011	1.65	1	0.40	0	0	0	0	0	1	1	1	1	0	
8/16/2011	0.03	0	0.04	0	0	0	0	0	0	0	0	0	0	
8/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/22/2011	0.16	1	0.28	0	0	0	0	0	1	1	1	1	0	
8/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/25/2011	0.27	0	0.24	0	0	0	0	0	0	0	0	0	0	
8/26/2011	0.04	0	0.04	0	0	0	0	0	0	0	0	0	0	
8/27/2011	0.45	0	0.64	0	0	0	0	0	0	0	0	0	0	
8/28/2011	1.66	0	0.72	0	0	0	0	0	0	0	0	0	0	
8/29/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
8/31/2011	0.00	1	0.00	0	0	0	1	0	1	1	1	1	0	
9/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES 0
9/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/6/2011	0.46	0	0.16	0	0	0	0	0	0	0	0	0	0	
9/7/2011	1.09	1	0.36	0	0	0	0	0	1	1	1	0	0	
9/8/2011	0.67	1	0.24	0	0	1	0	0	1	1	1	0	0	
9/9/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
9/10/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/15/2011	0.08	0	0.24	0	0	0	0	0	0	0	0	0	0	
9/16/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/20/2011	0.10	0	0.08	0	0	0	0	0	0	0	0	0	0	
9/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/22/2011	0.43	0	0.44	0	0	0	0	0	0	0	1	0	0	
9/23/2011	0.39	0	0.48	0	0	0	0	0	0	0	0	0	0	
9/24/2011	0.41	1	0.32	0	0	0	0	0	1	1	1	0	0	
9/25/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
9/29/2011	0.68	0	0.88	0	0	0	0	0	0	0	0	0	0	
9/30/2011	0.00	1	0.00	0	0	0	0	0	1	1	1	1	0	
10/1/2011	0.07	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/2/2011	0.06	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/3/2011	0.06	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/4/2011	3.08	0	2.72	0	0	0	0	0	0	0	0	0	0	
10/5/2011	0.03	1	0.04	1	0	1	0	0	1	1	1	1	0	
10/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/10/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/12/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/13/2011	0.88	0	0.44	0	0	0	0	0	0	0	0	0	0	
10/14/2011	0.65	1	0.48	0	0	1	0	0	1	1	1	1	0	
10/15/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/16/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/17/2011	0.02	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/19/2011	1.26	0	0.24	0	0	0	0	0	0	0	0	0	0	
10/20/2011	0.71	1	0.68	0	0	0	0	0	1	1	1	1	0	
10/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/23/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/25/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
10/26/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
10/27/2011	0.98	0	0.24	0	0	0	0	0	0	0	0	0	0	
10/28/2011	0.13	1	0.08	0	0	0	0	0	1	1	1	0	0	
10/29/2011	0.19	0	0.12	0	0	0	0	0	0	0	0	0	0	
10/30/2011	1.07	1	0.32	0	0	1	0	0	1	1	1	1	0	

Date	Rainfall (in.)/day	MIDDLE SIPHON NPDES 21-A	Peak Intensity (hr.)	BATES NPDES 001	BOARDMAN NPDES 010	LOWER SIPHON NPDES 013	FIRE STATION NPDES 016	MAIN ST NORTH NPDES 019	LITTLE RIVER NORTH 12-INCH NPDES 21-D	LITTLE RIVER SOUTH 18-INCH NPDES 21-E	ORCHARD STREET NPDES 21-D	RAILROAD BRIDGE NPDES 022	266 RIVER STREET NPDES 023	BEACH STREET NPDES
10/31/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/6/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/7/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/8/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/10/2011	0.72	0	0.28	0	0	0	0	0	0	0	0	0	0	
11/11/2011	0.00	1	0.00	0	0	1	0	0	1	1	1	1	0	
11/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/15/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/16/2011	0.26	0	0.08	0	0	0	0	0	0	0	0	0	0	
11/17/2011	0.06	1	0.04	0	0	0	0	0	1	1	1	1	0	
11/18/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
11/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/21/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/22/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/23/2011	1.17	1	0.20	1	0	1	0	0	1	1	1	1	0	
11/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/25/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/27/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/28/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
11/29/2011	0.04	0	0.12	0	0	0	0	0	0	0	0	0	0	
11/30/2011	0.79	0	0.80	0	0	0	0	0	0	0	0	0	0	
12/1/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/2/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/3/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/4/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/5/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/6/2011	0.05	0	0.04	0	0	0	0	0	0	0	0	0	0	
12/7/2011	1.01	0	0.20	0	0	0	0	0	0	0	0	0	0	
12/8/2011	0.87	0	0.48	0	0	0	0	0	0	0	0	0	0	
12/9/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/10/2011	0.01	0	0.04	0	0	0	0	0	0	0	0	0	0	
12/11/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/12/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/13/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/14/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/15/2011	0.10	0	0.08	0	0	0	0	0	0	0	0	0	0	
12/16/2011	0.05	0	0.16	0	0	0	0	0	0	0	0	0	0	
12/17/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/18/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/19/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/20/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/21/2011	0.10	0	0.08	0	0	0	0	0	0	0	0	0	0	
12/22/2011	0.41	1	0.36	0	0	0	0	0	1	1	1	1	0	
12/23/2011	0.80	1	0.20	0	0	0	0	0	1	1	1	1	0	
12/24/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/25/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/26/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/27/2011	0.09	0	0.08	0	0	0	0	0	0	0	0	0	0	
12/28/2011	0.05	0	0.08	0	0	0	0	0	0	0	0	0	0	
12/29/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/30/2011	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	
12/31/2011	0.06	0	0.04	0	0	0	0	0	0	0	0	0	0	
Total:	47.21	37		2	0	11	1	0	40	40	41	32	0	

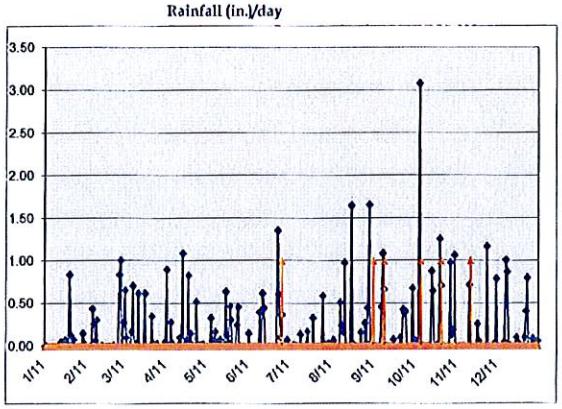
Appendix D: Downstream Notification[1]

First Name	Last Name	Address	City	State	PostalCode	Tele #	DEPT	E-mail	
Robert	Desmaris	62 Friend Street	Amesbury	MA	01913	1-978-388-8127	DPW Director	rob@amesburyma.gov	
Jeff	Mason		Amesbury	MA	01913	978-388-0853	Water System Manager	masonj@amesburyma.gov	
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	
Mr.	Richard	Spinale	Merrimac	MA	01860		DPW Director	dpw@townofmerrimac.com	Changed
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	
Robert	Bracey	60 Pleasant Street	Newburyport	MA	01950	(978) 465-4410	Director Board of Health	bbracey@cityofnewburyport.com	
Paul	Hogg	PO Box 550	Newburyport	MA	01950	(978) 462-3746	Harbor Master	phogg@cityofnewburyport.com	Changed
Jamie	Tuccolo	16A Perry Way	Newburyport	MA	01950	1-978-417-1223	Collection System Manager	jtuccolo@cityof newburyport.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	Ievesque	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	

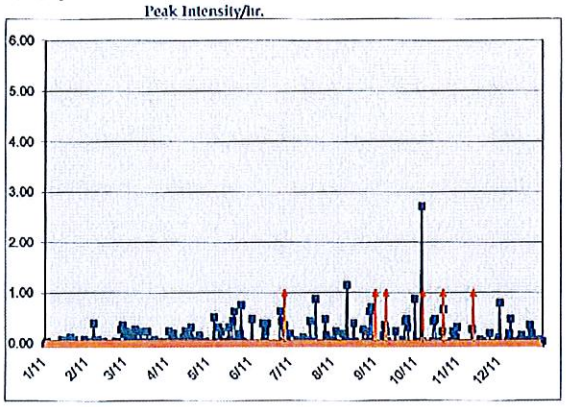
1. Updated April 18, 2011
2. Updated November 2011
3. Updated March 15, 2012

NPDES # 033 South Prospect Street

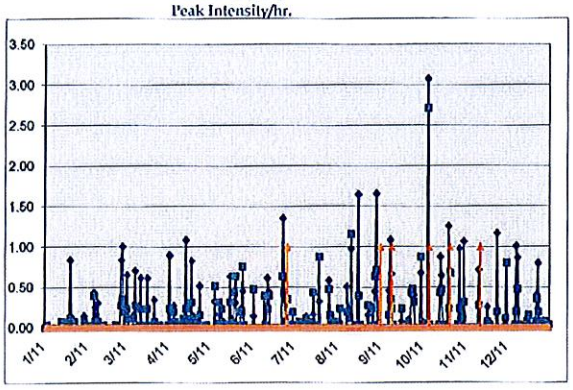
Rainfall (in.)/day



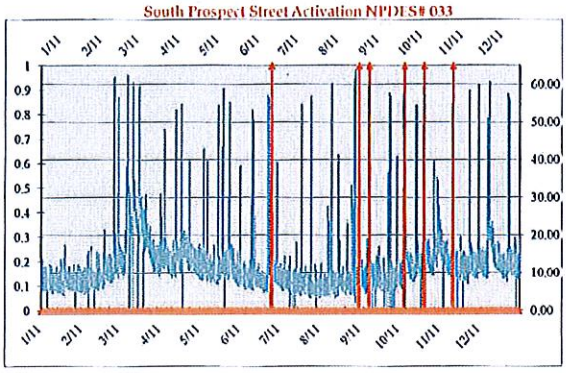
Peak Intensity/hr.



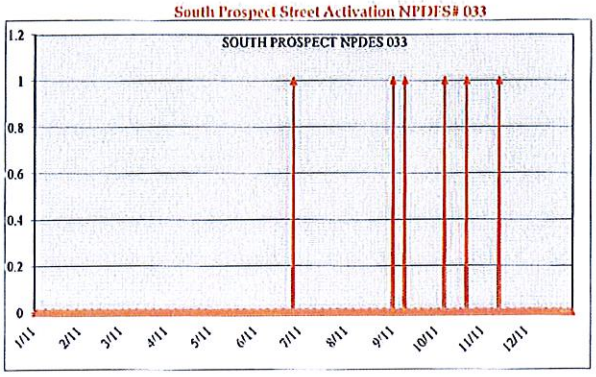
Rainfall (in.)/day
Peak Intensity/hr.



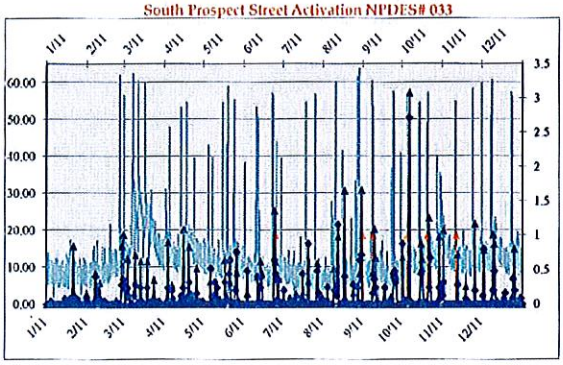
Influent MGD
South Prospect Street Activation NPDES# 033



South Prospect Street Activation NPDES# 033

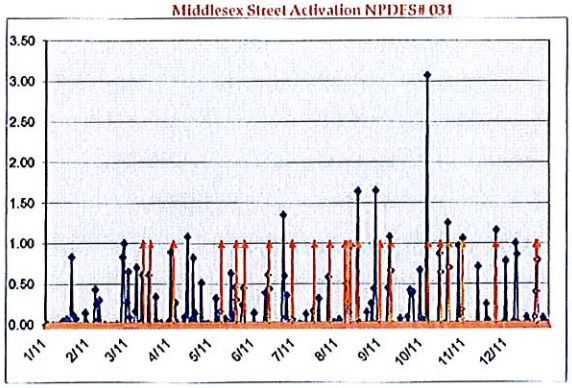


Influent MGD Peak Intensity/hr.
South Prospect Street Activation NPDES# 033

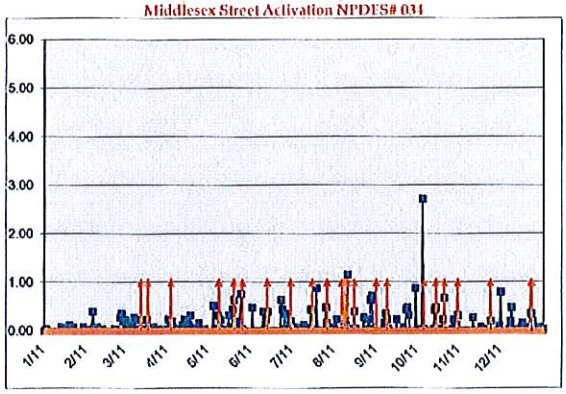


NPDES # 034 Middlesex Street

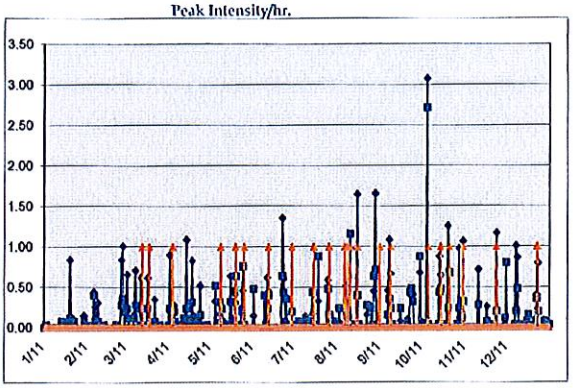
Rainfall (in.)/day
Middlesex Street Activation NPDES# 031



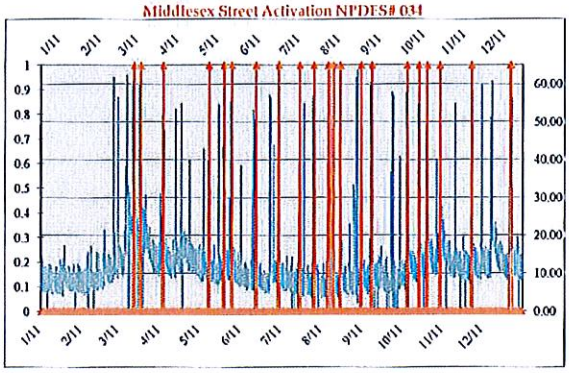
Peak Intensity/hr.
Middlesex Street Activation NPDES# 034



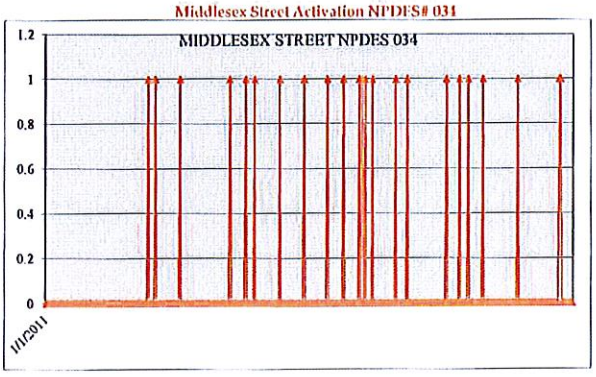
Rainfall (in.)/day
Peak Intensity/hr.



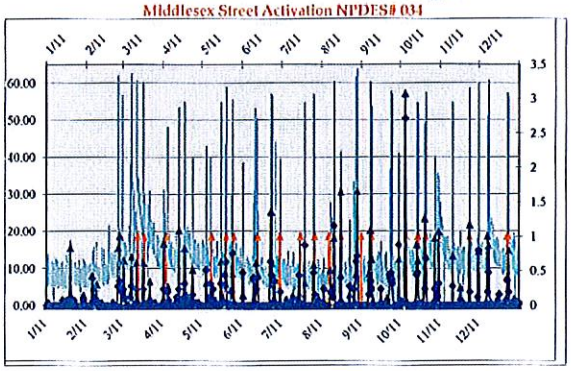
Influent MGD
Middlesex Street Activation NPDES# 034



Middlesex Street Activation NPDES# 031

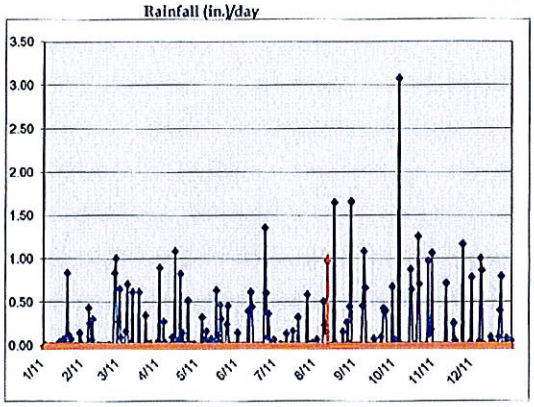


Influent MGD Peak Intensity/hr.
Middlesex Street Activation NPDES# 034

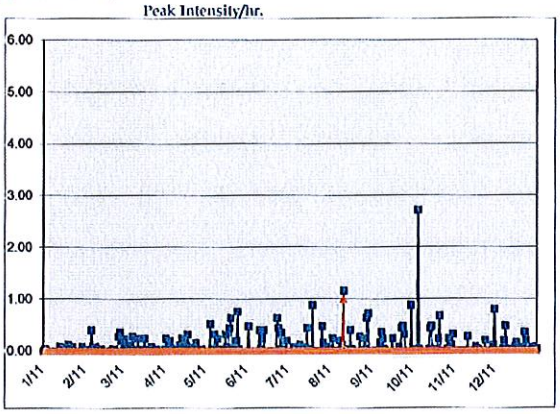


NPDES # 035 Main Street South

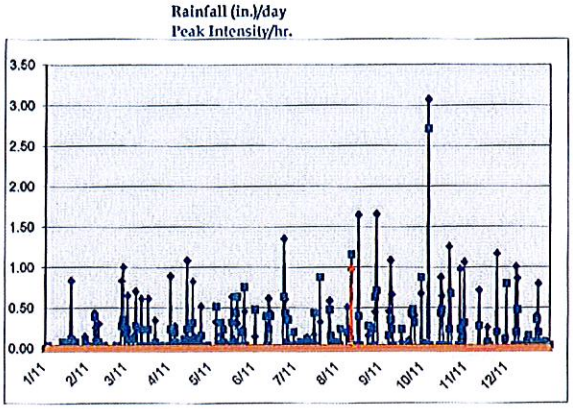
Rainfall (in.)/day



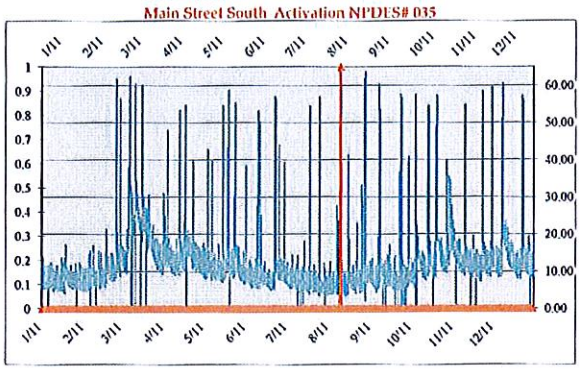
Peak Intensity/hr.



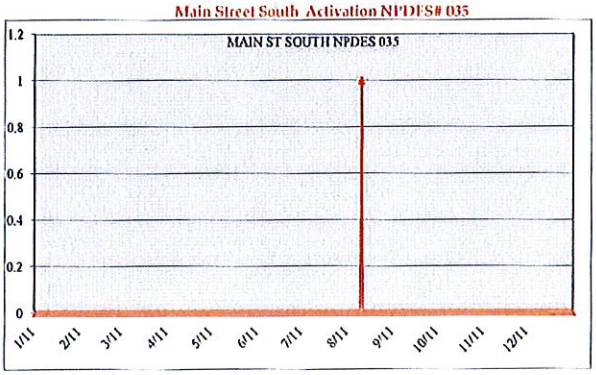
Rainfall (in.)/day
Peak Intensity/hr.



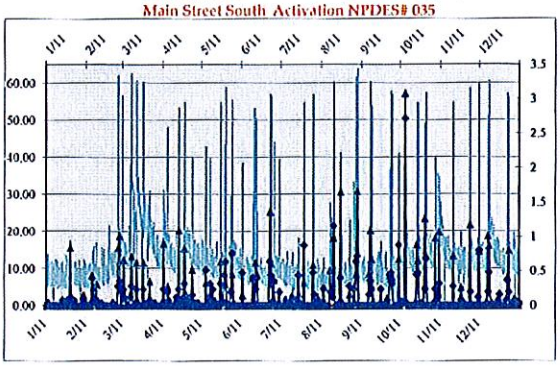
Influent MGD
Main Street South Activation NPDES# 035



Main Street South Activation NPDES# 035

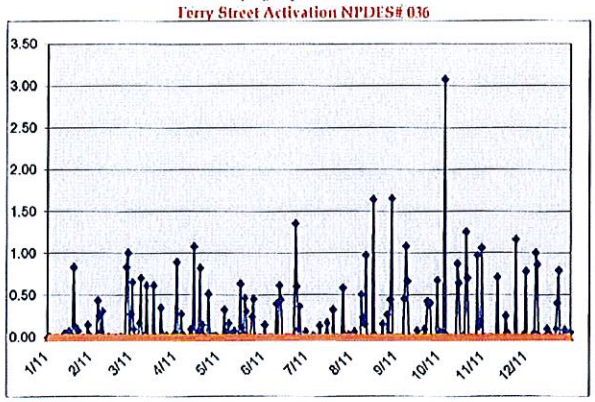


Influent MGD Peak Intensity/hr.
Main Street South Activation NPDES# 035

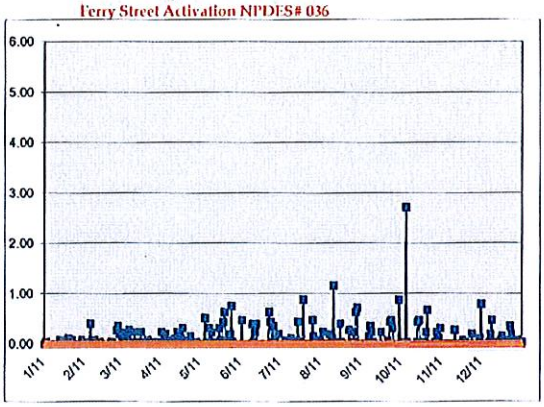


NPDES # 036 Ferry South

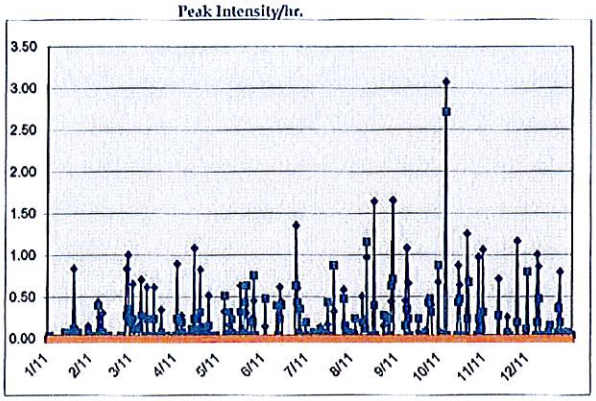
Rainfall (in.)/day
Ferry Street Activation NPDES# 036



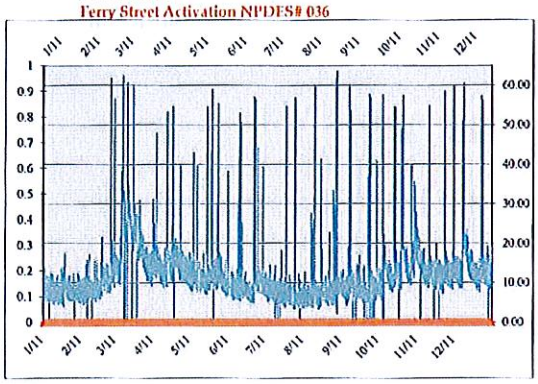
Peak Intensity/hr.
Ferry Street Activation NPDES# 036



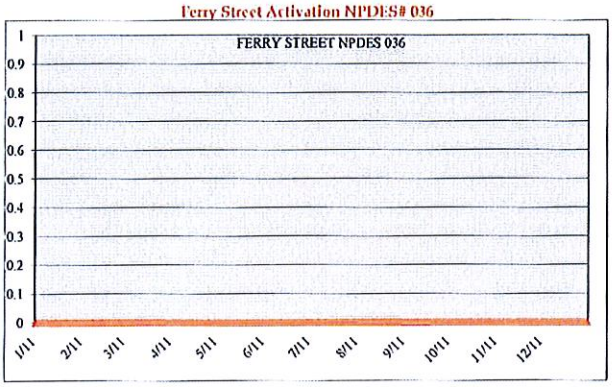
Rainfall (in.)/day
Peak Intensity/hr.



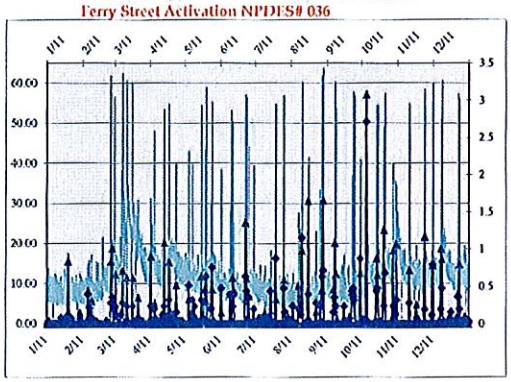
Influent MGD
Ferry Street Activation NPDES# 036



Ferry Street Activation NPDES# 036

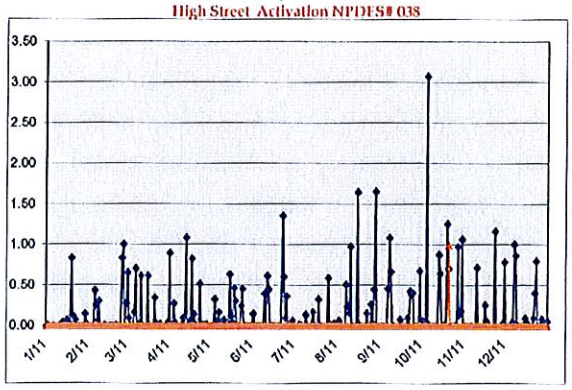


Influent MGD Peak Intensity/hr.
Ferry Street Activation NPDES# 036

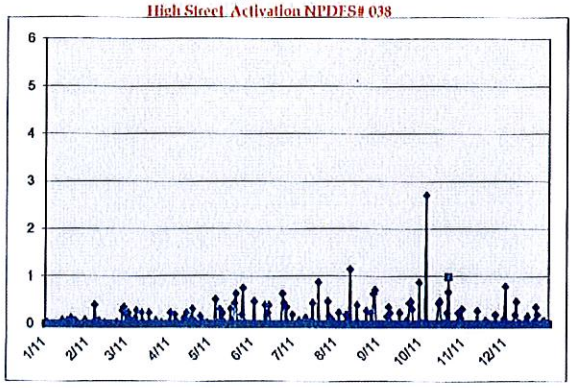


NPDES # 038 High Street

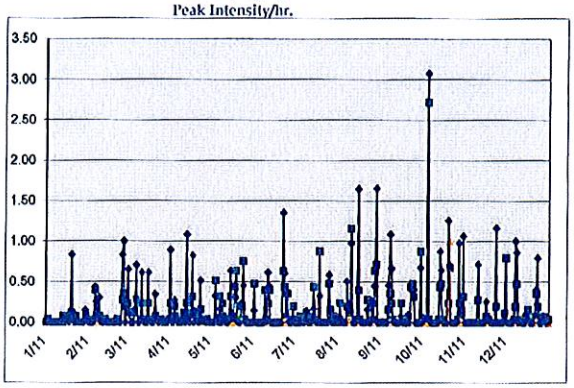
Rainfall (in.)/day
High Street Activation NPDES# 038



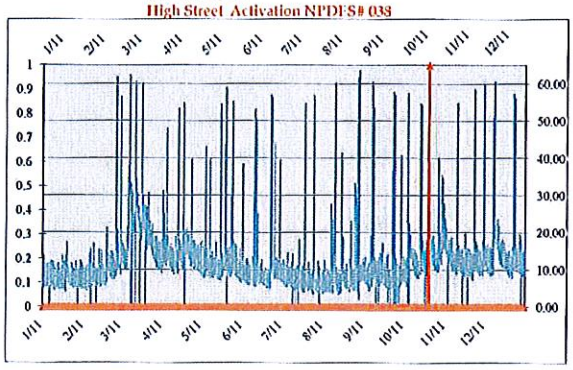
Peak Intensity/hr.
High Street Activation NPDES# 038



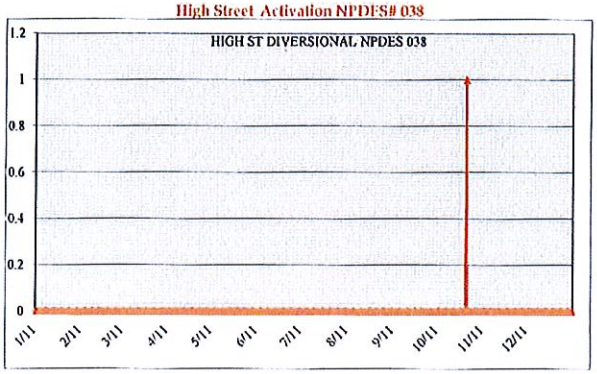
Rainfall (in.)/day
Peak Intensity/hr.



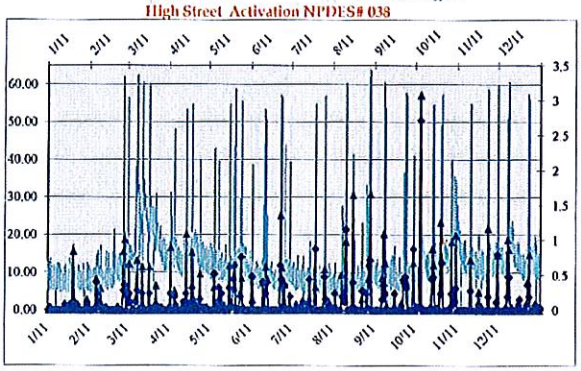
Influent MGD
High Street Activation NPDES# 038



High Street Activation NPDES# 038

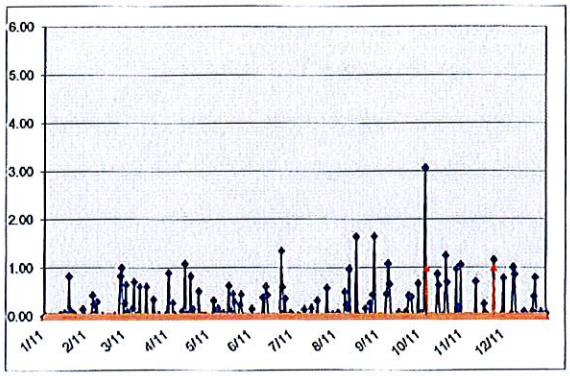


Influent MGD Peak Intensity/hr.
High Street Activation NPDES# 038

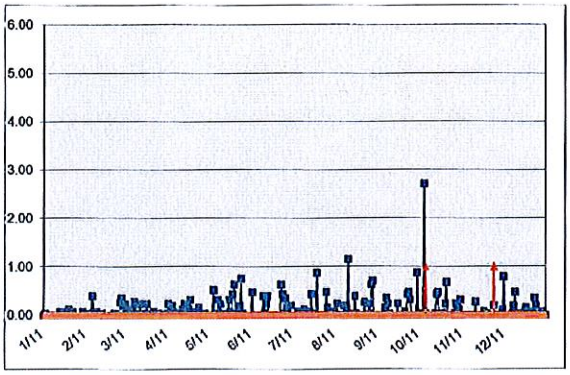


NPDES # 001 Bates Bridge

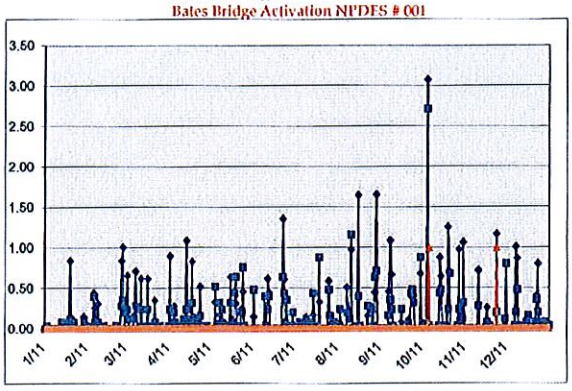
Rainfall (in.)/day
Bates Bridge Activation NPDES # 001



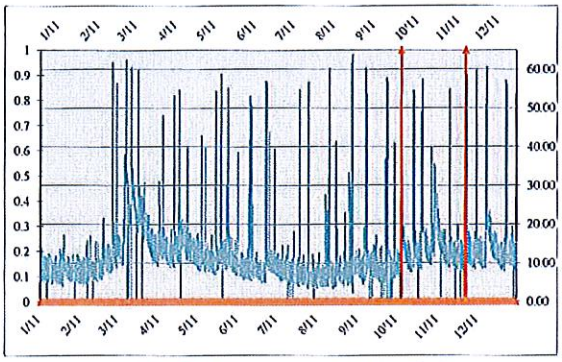
Peak Intensity/hr.
Bates Bridge Activation NPDES # 001



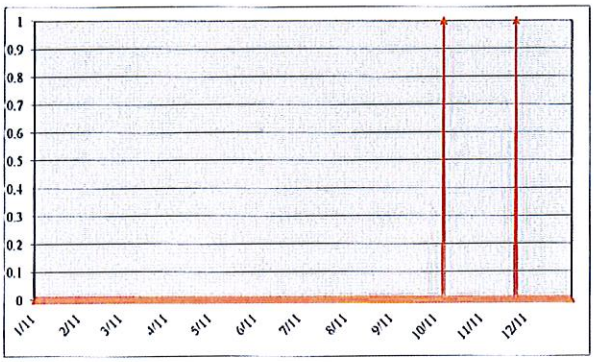
Rainfall (in.)/day
Peak Intensity/hr.
Bates Bridge Activation NPDES # 001



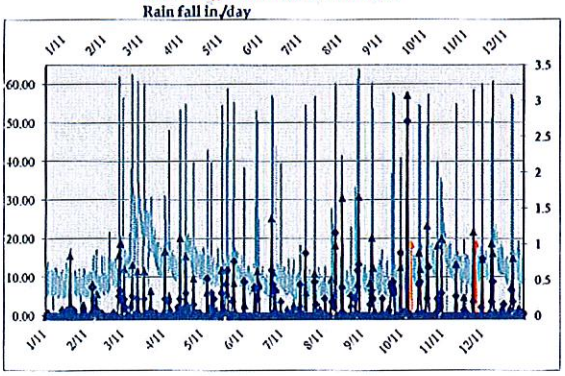
Influent MGD
Bates Bridge Activation NPDES # 001



Bates Bridge Activation NPDES # 001

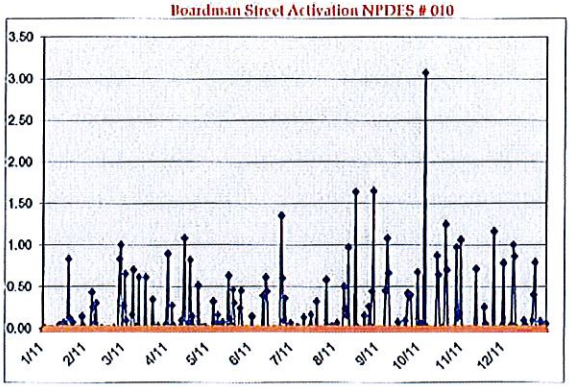


Influent MGD Peak Intensity/hr.
Bates Bridge Activation NPDES # 001
Rain fall in./day

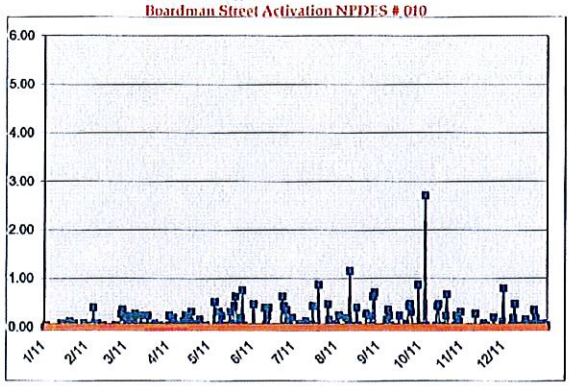


NPDES # 010 Boardman Street

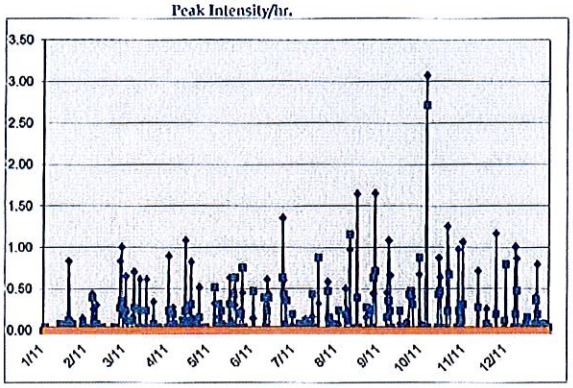
Rainfall (in.)/day
Boardman Street Activation NPDES # 010



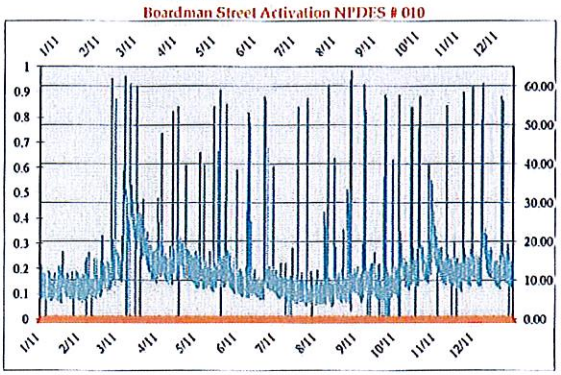
Peak Intensity/hr.
Boardman Street Activation NPDES # 010



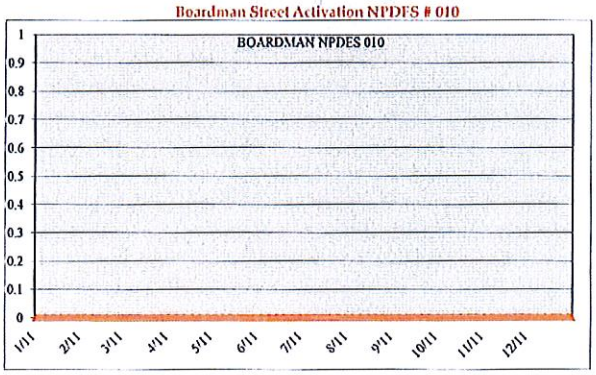
Rainfall (in.)/day
Peak Intensity/hr.



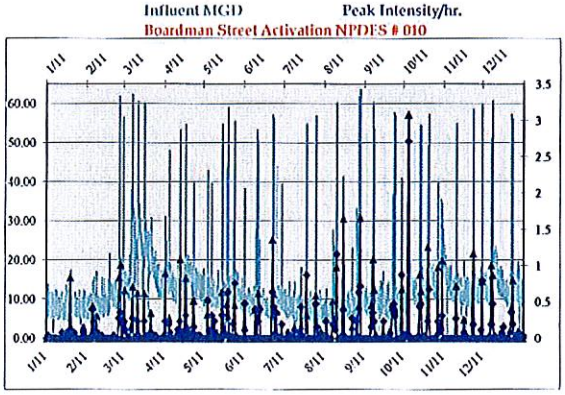
Influent MGD
Boardman Street Activation NPDES # 010



Boardman Street Activation NPDES # 010

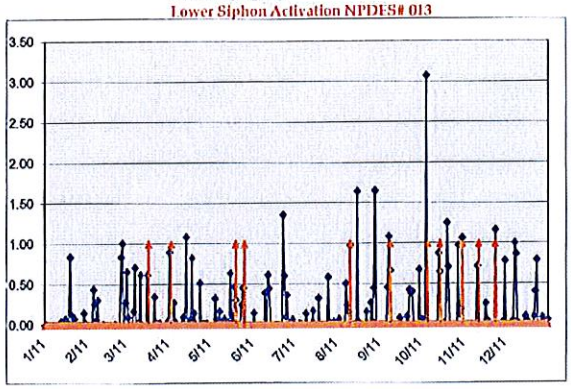


Influent MGD Peak Intensity/hr.
Boardman Street Activation NPDES # 010

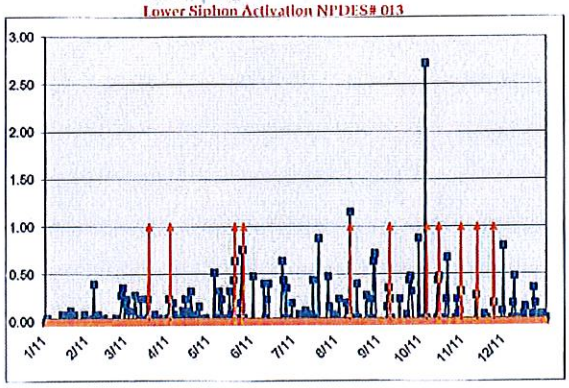


NPDES # 013 Lower Siphon

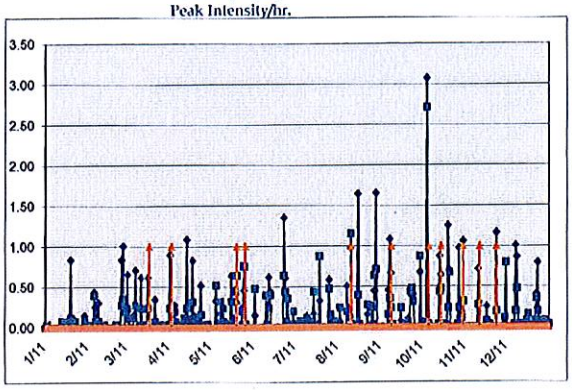
Rainfall (in.)/day
Lower Siphon Activation NPDES# 013



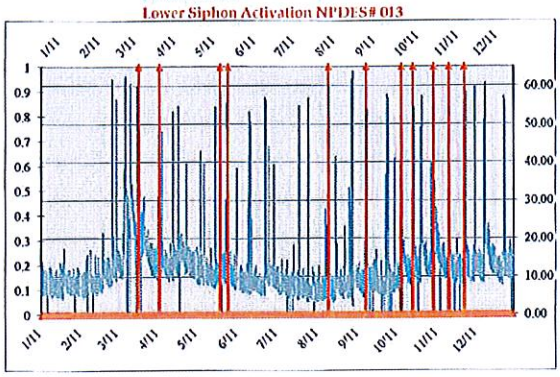
Peak Intensity/hr.
Lower Siphon Activation NPDES# 013



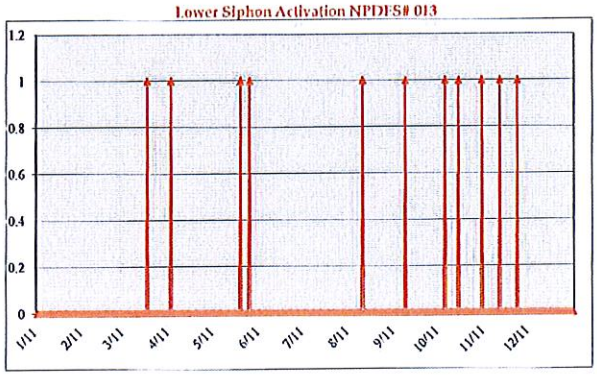
Rainfall (in.)/day
Peak Intensity/hr.



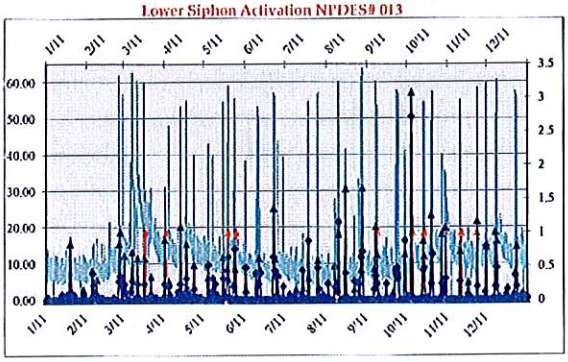
Influent MGD
Lower Siphon Activation NPDES# 013



Lower Siphon Activation NPDES# 013

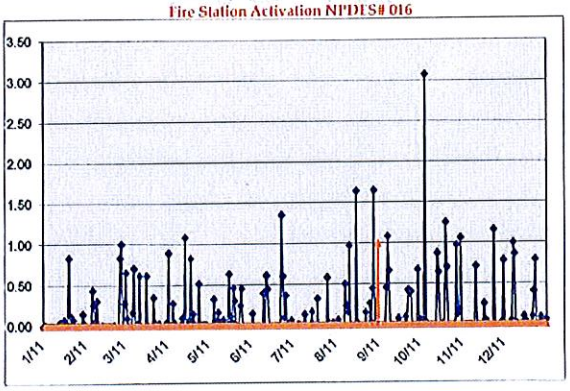


Influent MGD Peak Intensity/hr.
Lower Siphon Activation NPDES# 013

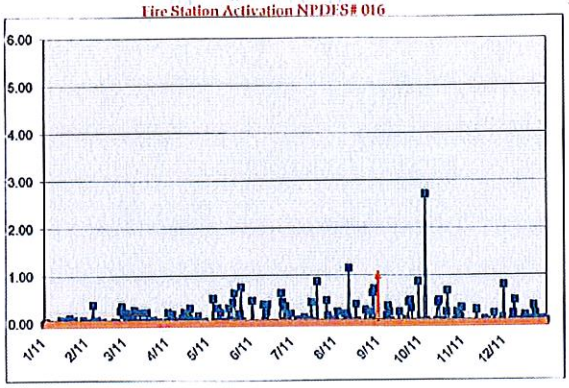


NPDES # 016 Fire Station

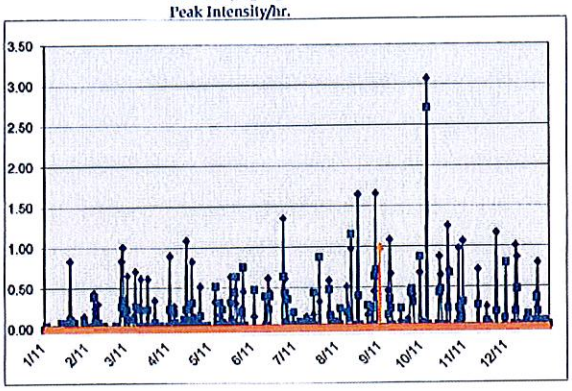
Rainfall (in.)/day
Fire Station Activation NPDES# 016



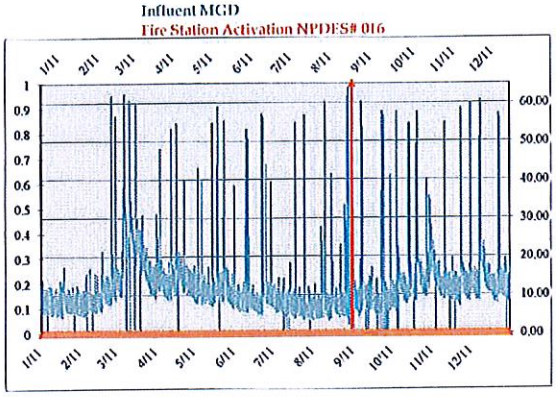
Peak Intensity/hr.
Fire Station Activation NPDES# 016



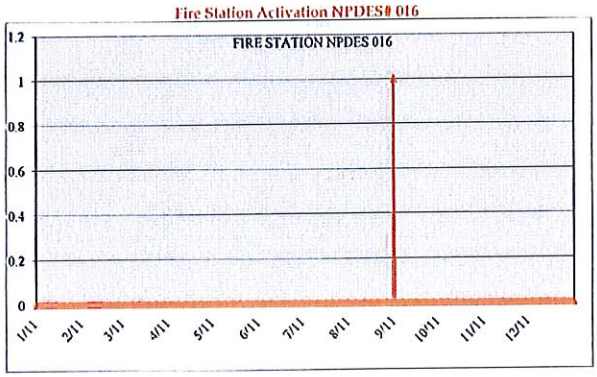
Rainfall (in.)/day
Peak Intensity/hr.



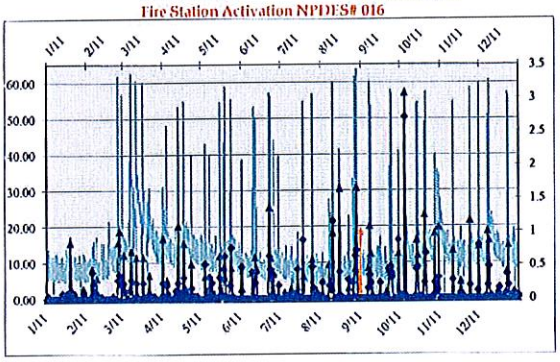
Influent MGD
Fire Station Activation NPDES# 016



Fire Station Activation NPDES# 016

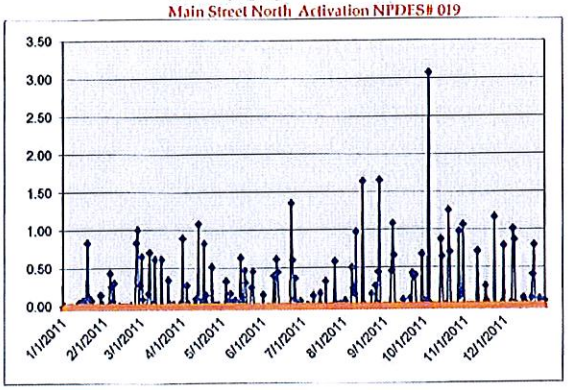


Influent MGD Peak Intensity/hr.
Fire Station Activation NPDES# 016

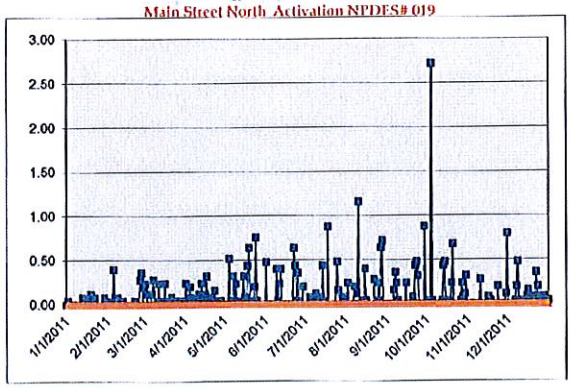


NPDES # 019 Main Street North

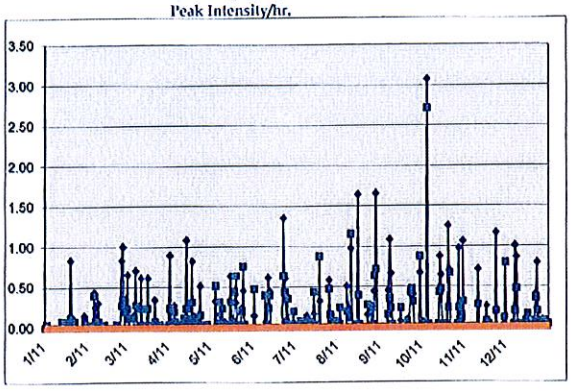
Rainfall (in.)/day
Main Street North Activation NPDES# 019



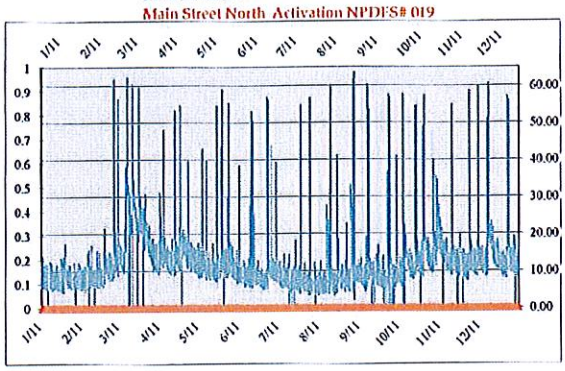
Peak Intensity/hr.
Main Street North Activation NPDES# 019



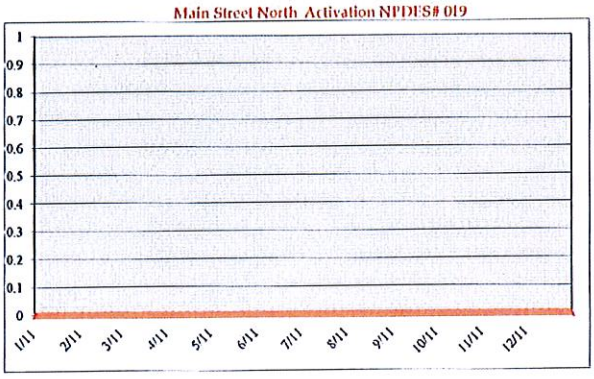
Rainfall (in.)/day
Peak Intensity/hr.



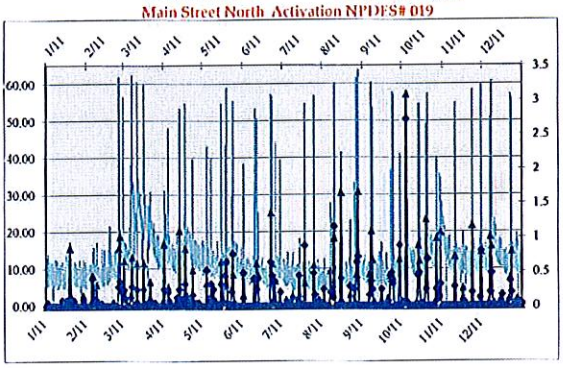
Influent MGD
Main Street North Activation NPDES# 019



Main Street North Activation NPDES# 019

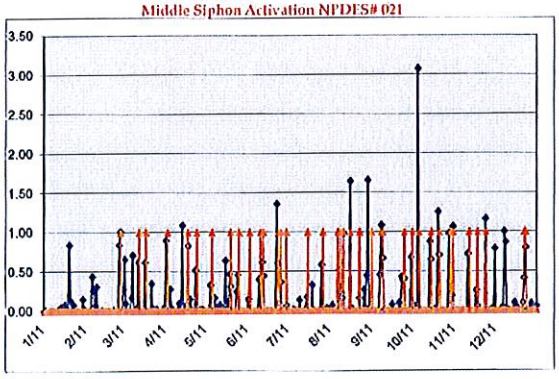


Influent MGD Peak Intensity/hr.
Main Street North Activation NPDES# 019

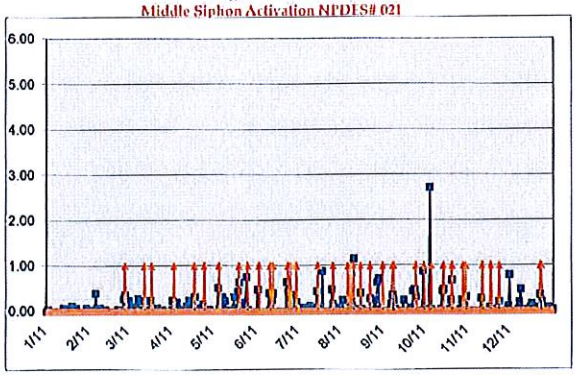


NPDES # 0121A Middle Siphon

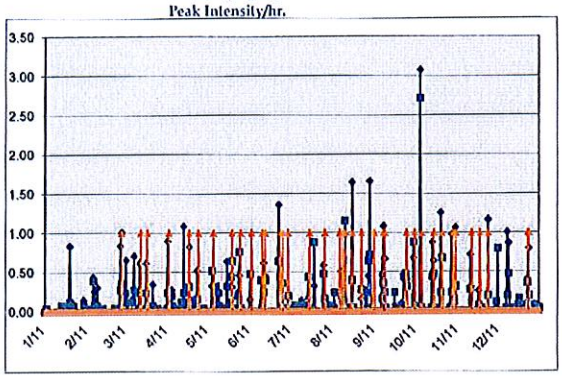
Rainfall (in.)/day
Middle Siphon Activation NPDES# 021



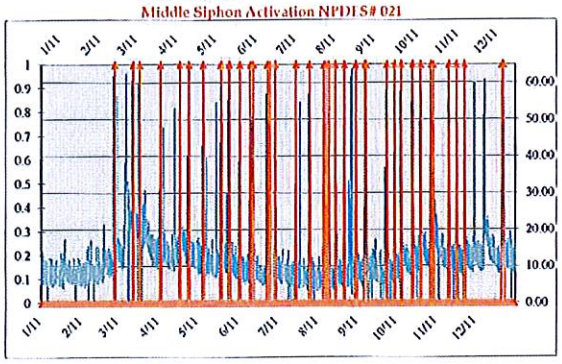
Peak Intensity/hr.
Middle Siphon Activation NPDES# 021



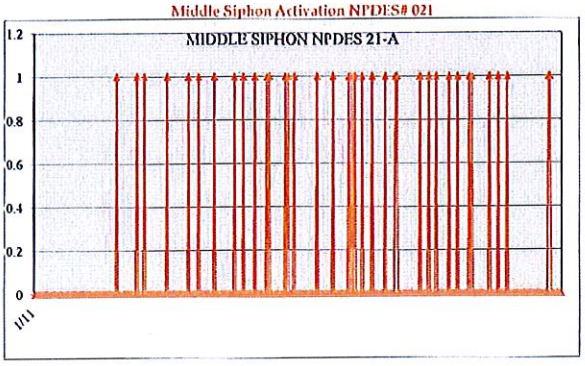
Rainfall (in.)/day
Peak Intensity/hr.



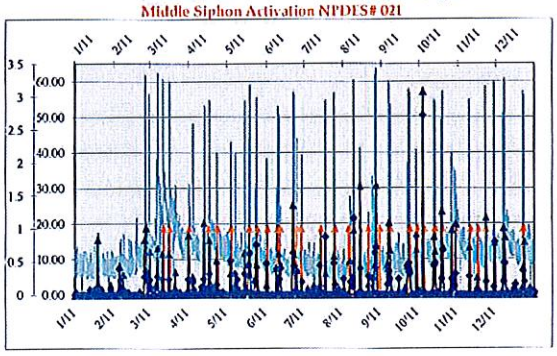
Influent MGD
Middle Siphon Activation NPDES# 021



Middle Siphon Activation NPDES# 021

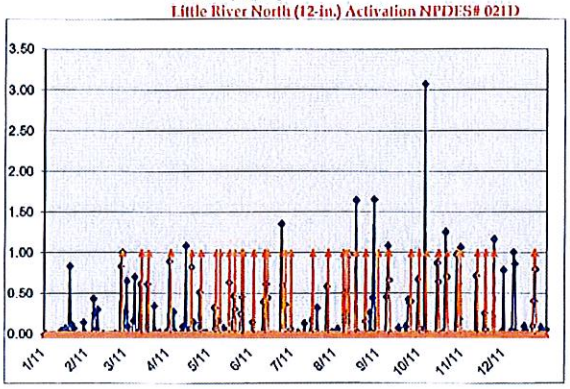


Influent MGD Peak Intensity/hr.
Middle Siphon Activation NPDES# 021

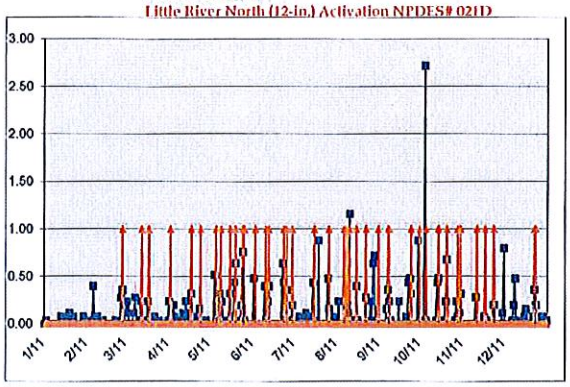


NPDES # 021D Little River North

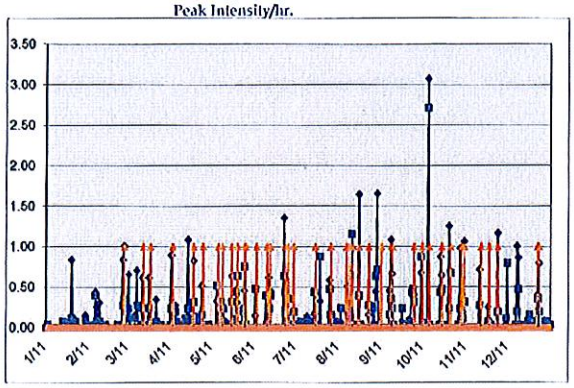
Rainfall (in.)/day
Little River North (12-in.) Activation NPDES# 021D



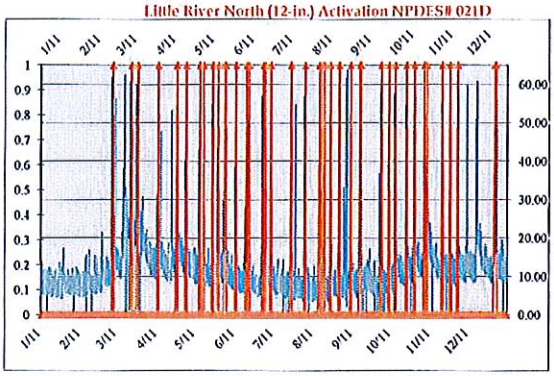
Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D



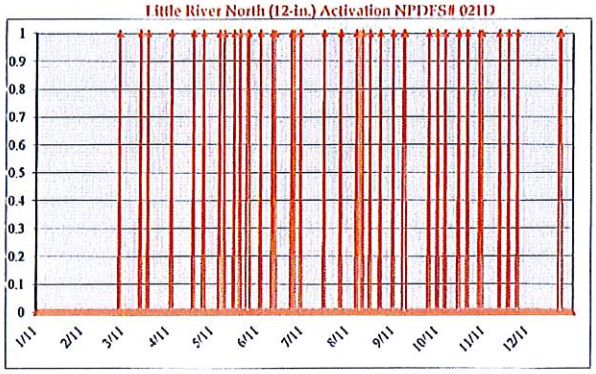
Rainfall (in.)/day
Peak Intensity/hr.



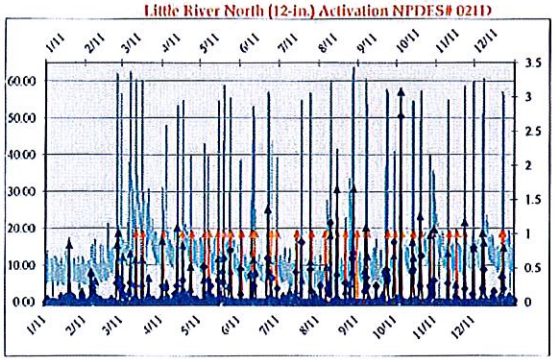
Influent MGD
Little River North (12-in.) Activation NPDES# 021D



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

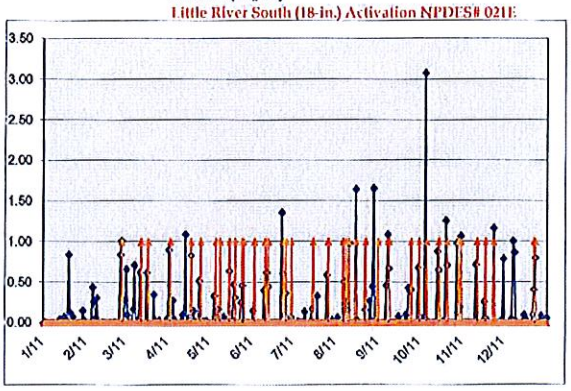


Influent MGD Peak Intensity/hr.
Little River North (12-in.) Activation NPDES# 021D

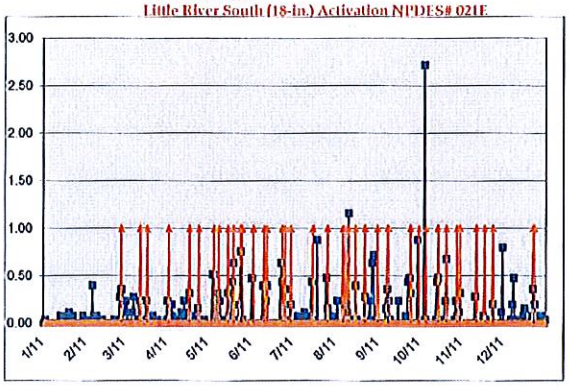


NPDES # 021E Little River South

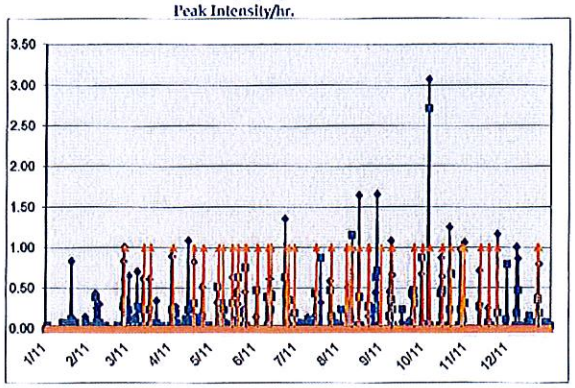
Rainfall (in.)/day
Little River South (18-in.) Activation NPDES# 021E



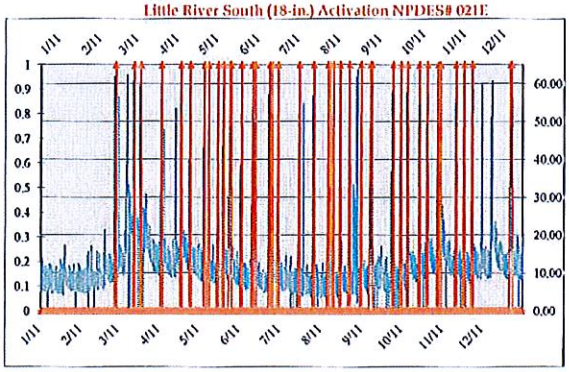
Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E



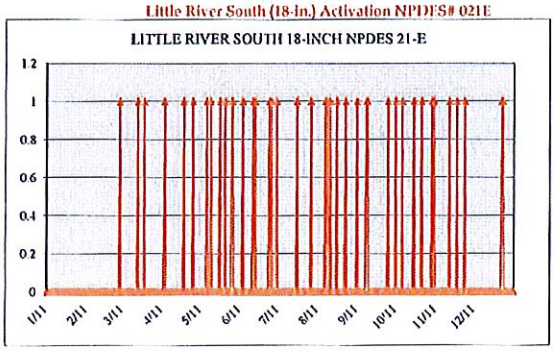
Rainfall (in.)/day
Peak Intensity/hr.



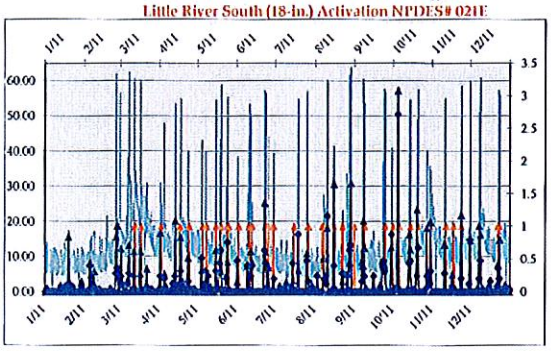
Influent MGD
Little River South (18-in.) Activation NPDES# 021E



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

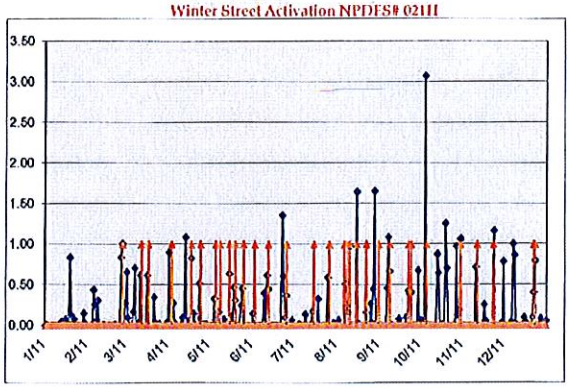


Influent MGD Peak Intensity/hr.
Little River South (18-in.) Activation NPDES# 021E

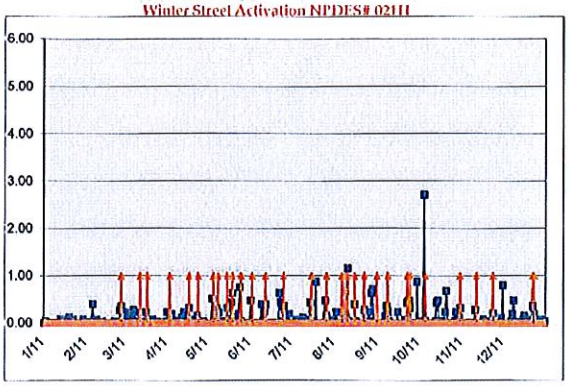


NPDES # 021H Winter & Hale

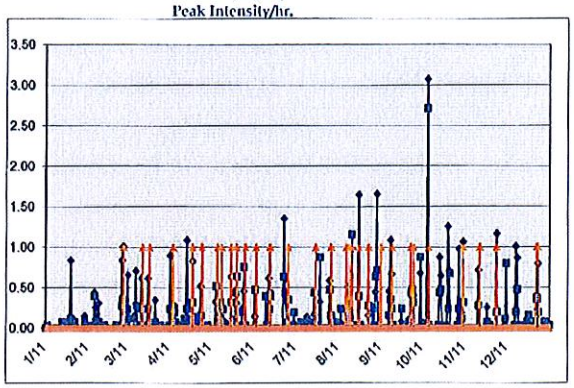
Rainfall (in.)/day
Winter Street Activation NPDES# 021H



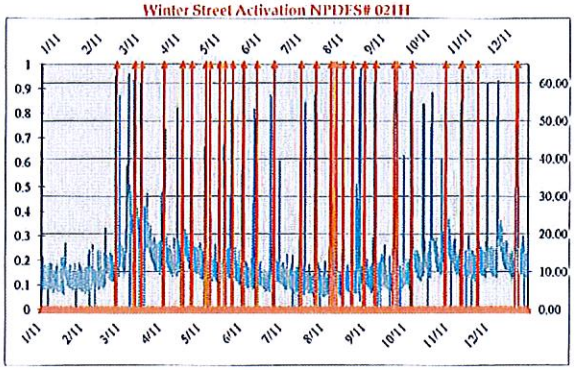
Peak Intensity/hr.
Winter Street Activation NPDES# 021H



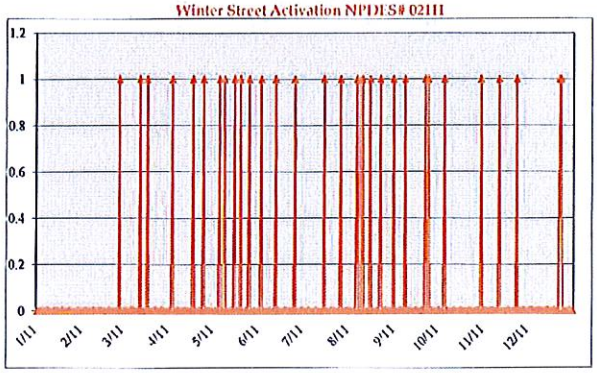
Rainfall (in.)/day
Peak Intensity/hr.



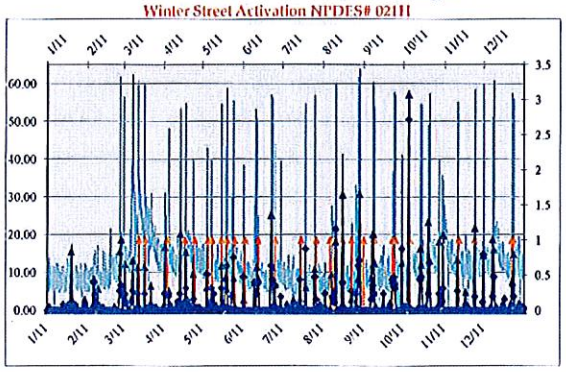
Influent MGD
Winter Street Activation NPDES# 021H



Winter Street Activation NPDES# 021H

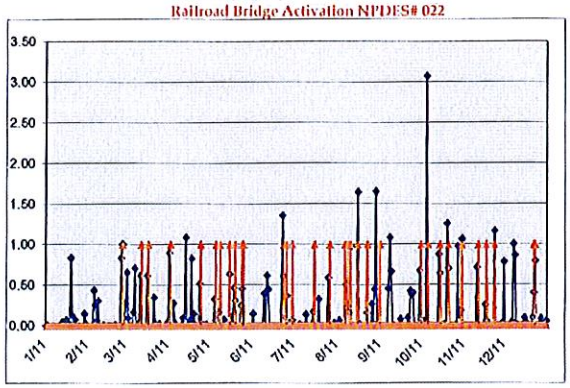


Influent MGD Peak Intensity/hr.
Winter Street Activation NPDES# 021H

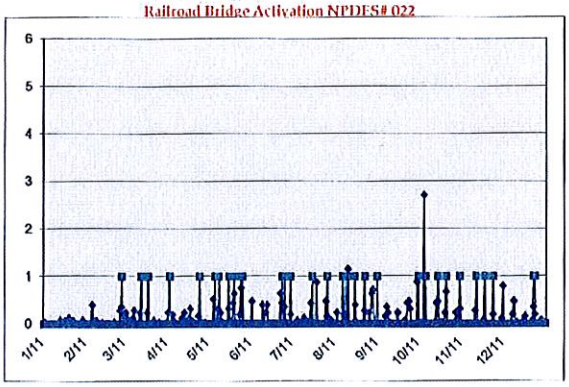


NPDES # 022 Railroad Bridge

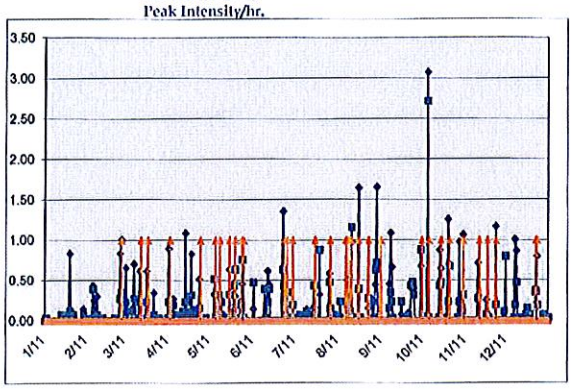
Rainfall (in.)/day
Railroad Bridge Activation NPDES# 022



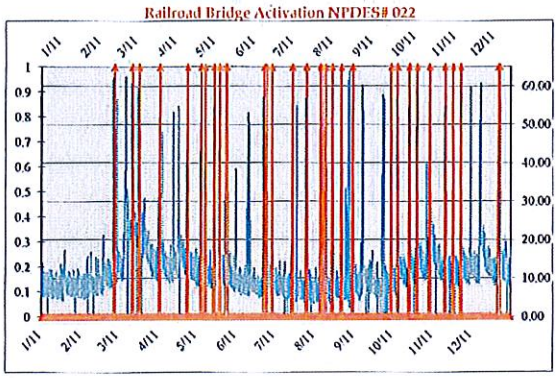
Peak Intensity/hr.
Railroad Bridge Activation NPDES# 022

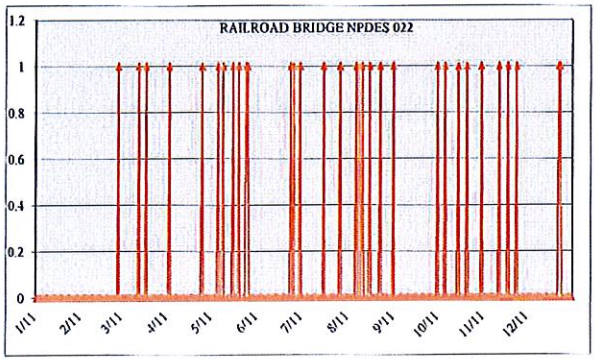


Rainfall (in.)/day
Peak Intensity/hr.

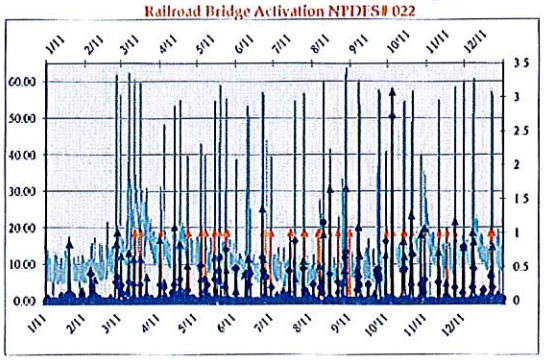


Influent MGD
Railroad Bridge Activation NPDES# 022



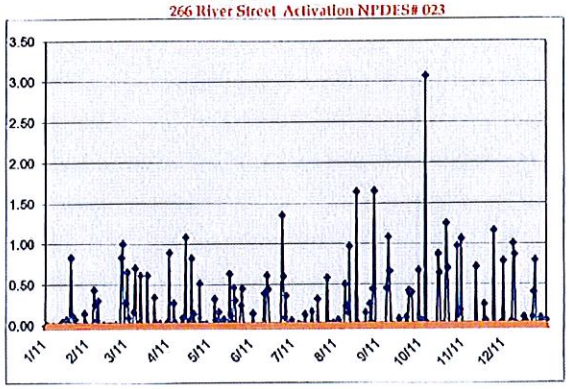


Influent MGD Peak Intensity/hr.
Railroad Bridge Activation NPDES# 022

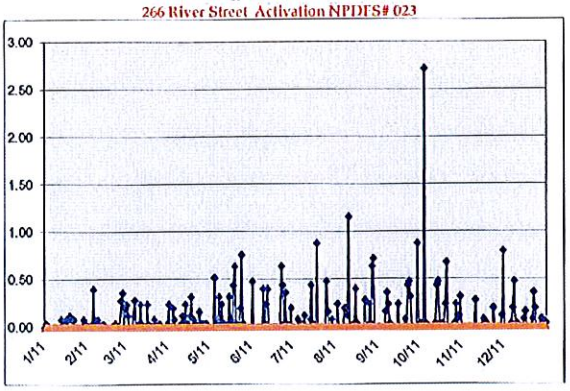


NPDES # 023 266 River Street

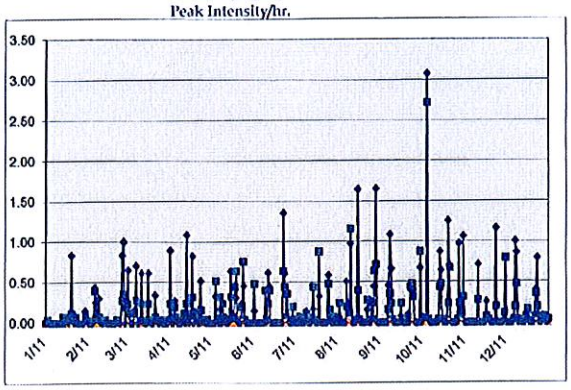
Rainfall (in.)/day
266 River Street Activation NPDES# 023



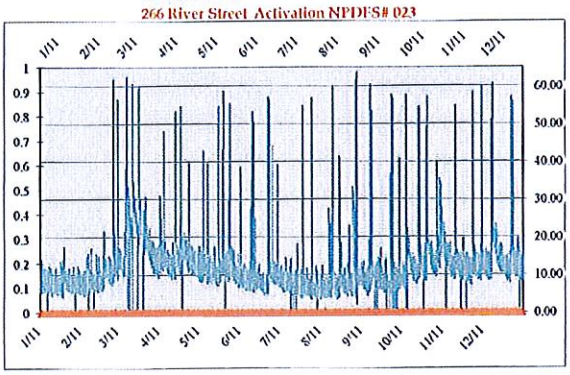
Peak Intensity/hr.
266 River Street Activation NPDES# 023



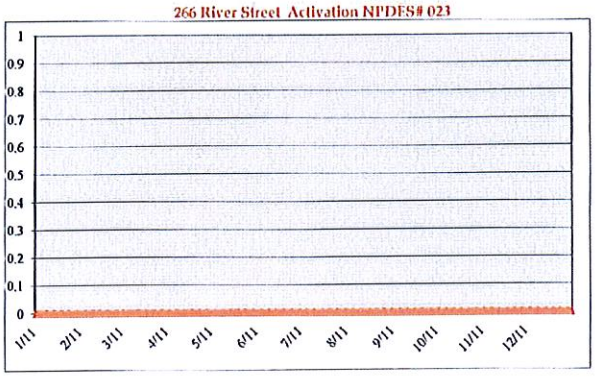
Rainfall (in.)/day
Peak Intensity/hr.



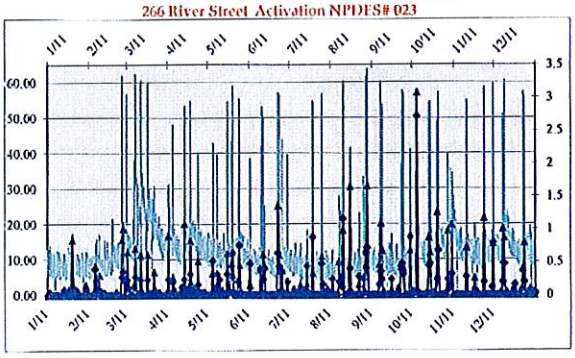
Influent MGD
266 River Street Activation NPDES# 023



266 River Street Activation NPDES# 023

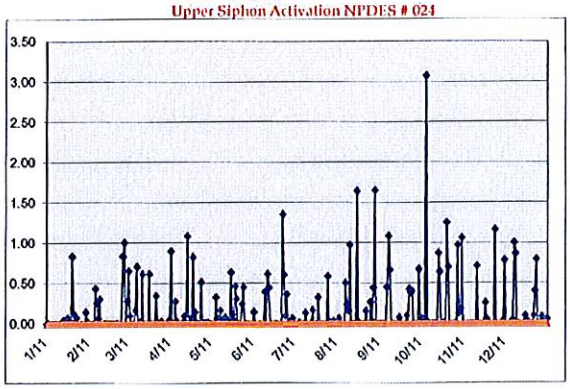


Influent MGD Peak Intensity/hr.
266 River Street Activation NPDES# 023

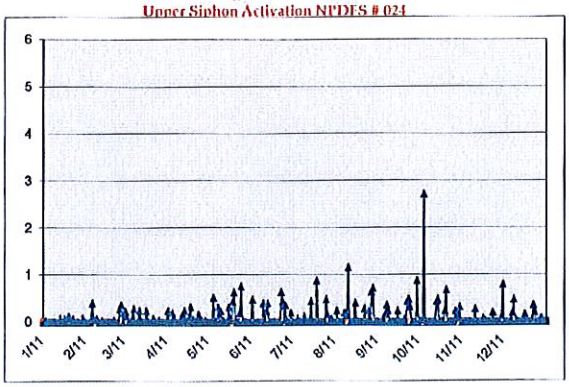


NPDES # 024 Upper Siphon

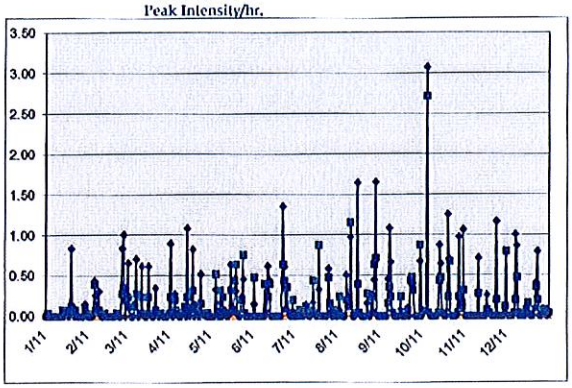
Rainfall (in.)/day
Upper Siphon Activation NPDES # 024



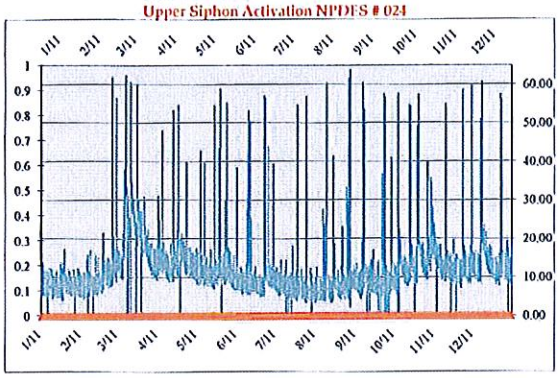
Peak Intensity/hr.
Upper Siphon Activation NPDES # 024



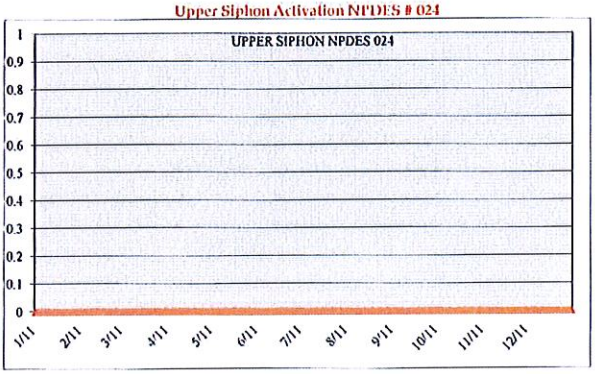
Rainfall (in.)/day
Peak Intensity/hr.



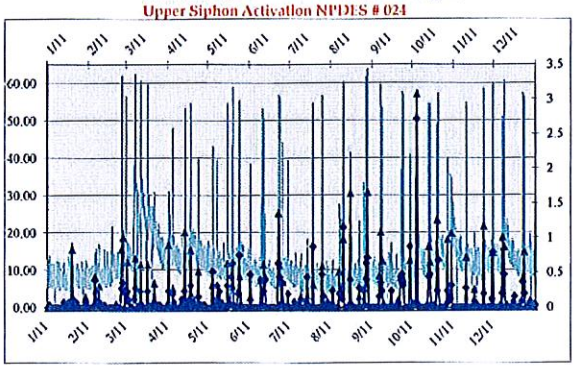
Influent MGD
Upper Siphon Activation NPDES # 024



Upper Siphon Activation NPDES # 024

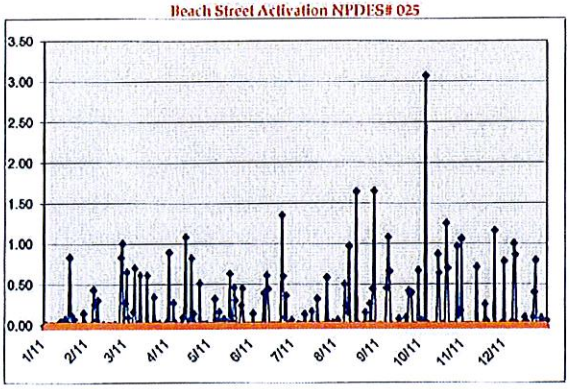


Influent MGD Peak Intensity/hr.
Upper Siphon Activation NPDES # 024

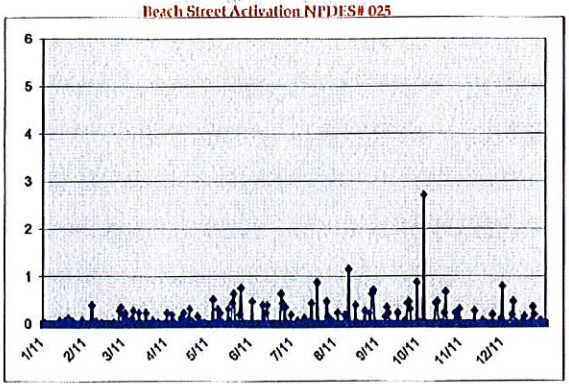


NPDES # 025 Beach Street

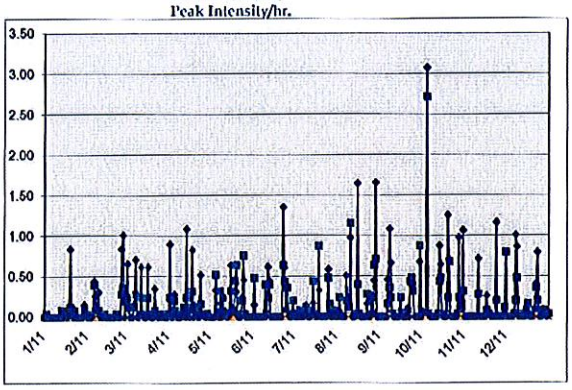
Rainfall (in.)/day
Beach Street Activation NPDES# 025



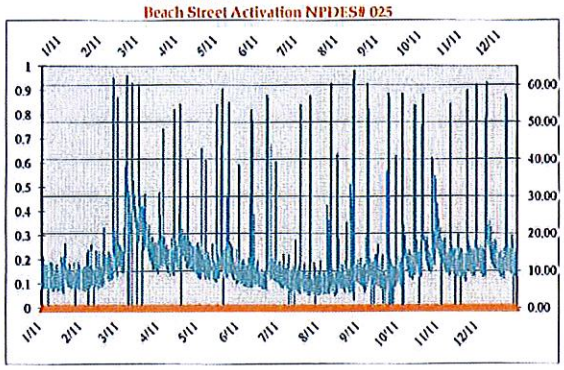
Peak Intensity/hr.
Beach Street Activation NPDES# 025



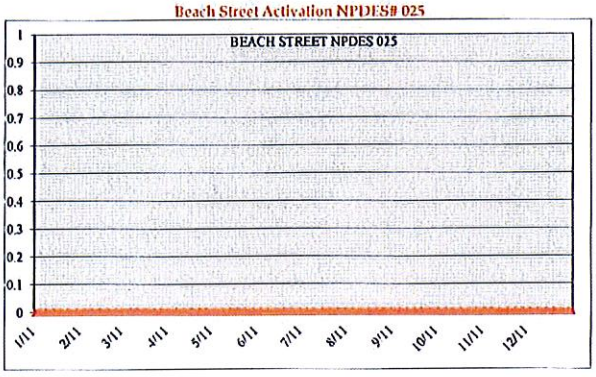
Rainfall (in.)/day
Peak Intensity/hr.



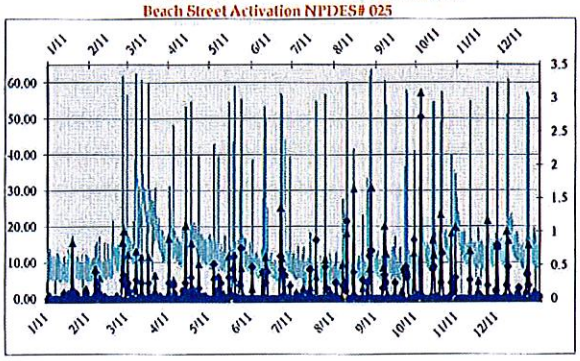
Influent MGD
Beach Street Activation NPDES# 025



Beach Street Activation NPDES# 025

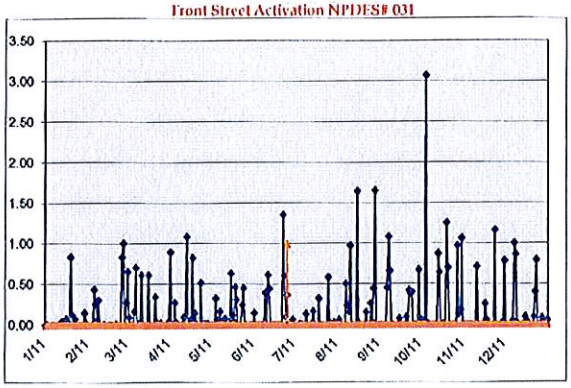


Influent MGD Peak Intensity/hr.
Beach Street Activation NPDES# 025

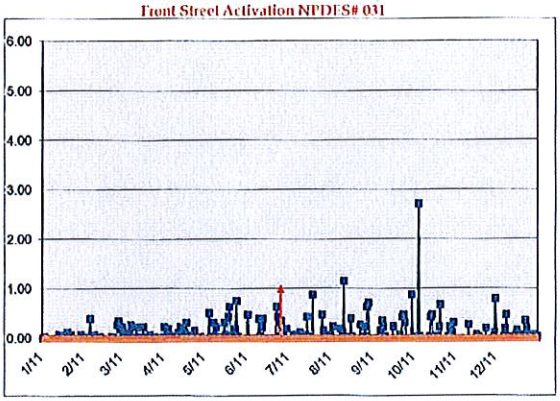


NPDES # 031 Front Street

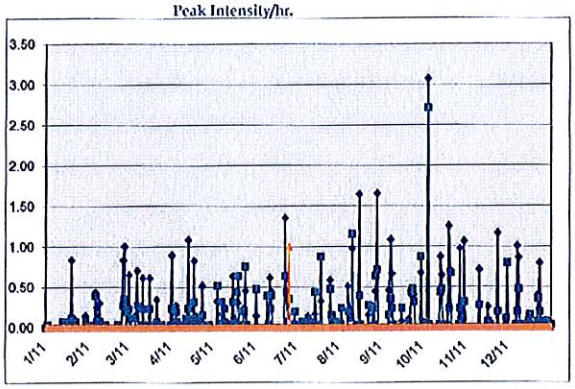
Rainfall (in.)/day
Front Street Activation NPDES# 031



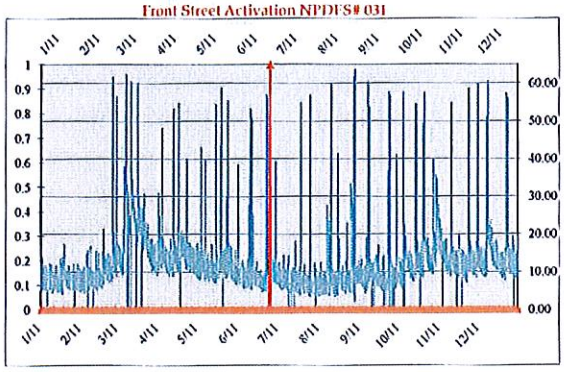
Peak Intensity/hr.
Front Street Activation NPDES# 031



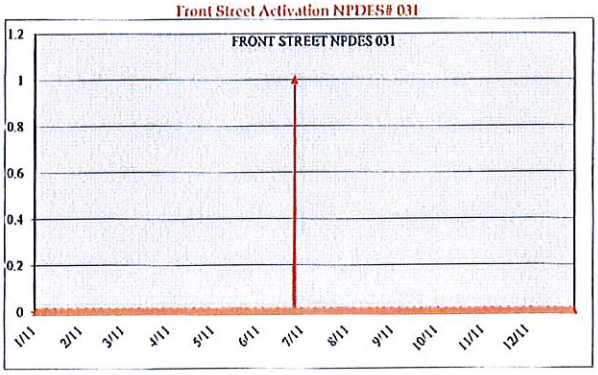
Rainfall (in.)/day
Peak Intensity/hr.



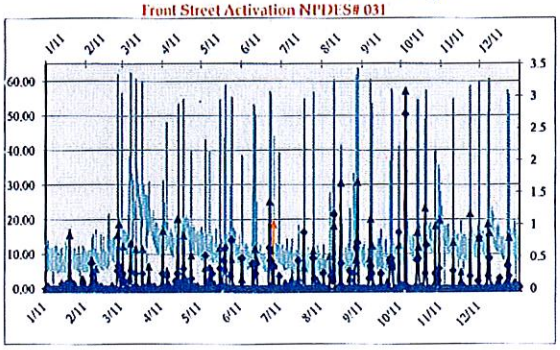
Influent MGD
Front Street Activation NPDES# 031



Front Street Activation NPDES# 031

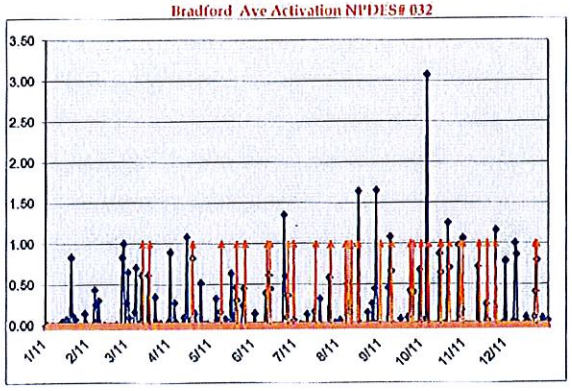


Influent MGD Peak Intensity/hr.
Front Street Activation NPDES# 031

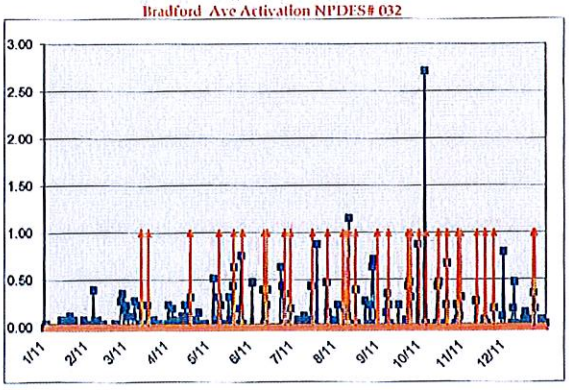


NPDES # 032 Bradford Avenue

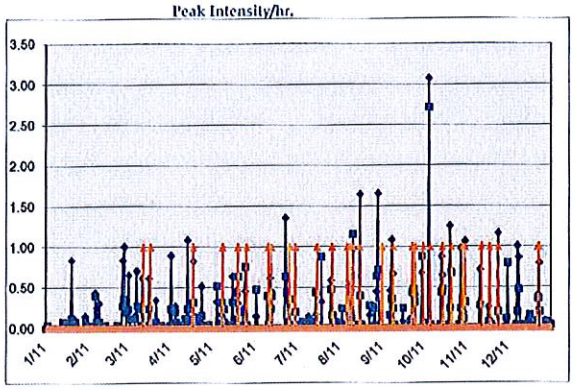
Rainfall (in.)/day
Bradford Ave Activation NPDES# 032



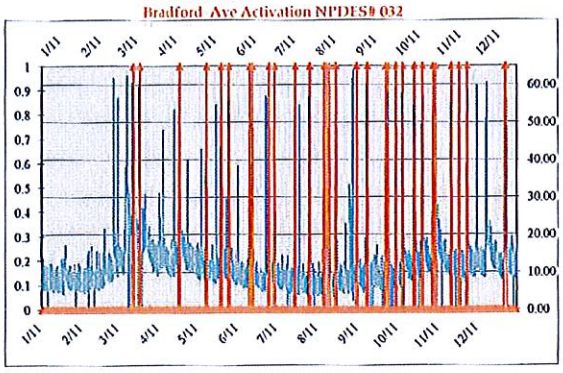
Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



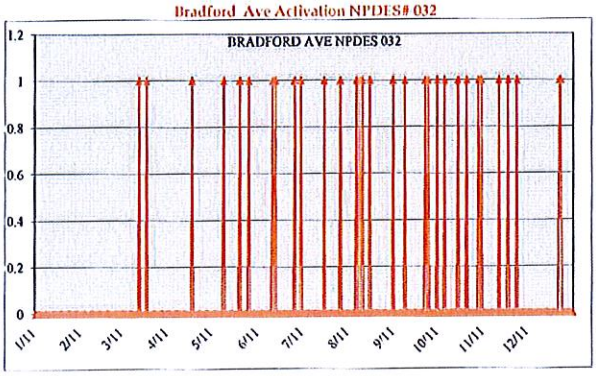
Rainfall (in.)/day
Peak Intensity/hr.



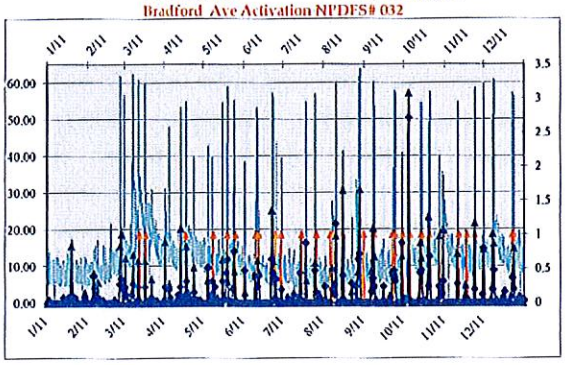
Influent MGD
Bradford Ave Activation NPDES# 032



Bradford Ave Activation NPDES# 032



Influent MGD Peak Intensity/hr.
Bradford Ave Activation NPDES# 032



38791

INSPECT CSO SIGNAGE

Task No.		Request Date	2/23/2012
Tenant		Request Time	07:00:02
Assigned By	PAR	Originator	
Assigned To	DWS	Telephone No.	
Scheduled Start Date	2/23/2012	Extension	
Scheduled Finish Date	2/23/2012	WO Type	PLANNED
Perform by Warranty	No	Completion Date	2/23/2012
Priority	2.00	Completion Time	08:38:12
Expense Class			

Craft	Crew Size	Estimated Labor Hours
COLL-REG	4.00	8.00

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

Safety Notes

Comments

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	-	2/23/2012	DAVID	SHAW	2.00	
ZEB	-	2/23/2012	ZEBULUN	DAY	2.00	
SAM	-	2/23/2012	SAMUEL	MARINEZ	2.00	
PR	-	2/23/2012	PEDRO	ROSARIO	2.00	