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July 8, 2010

Mr. Joseph F. LeMay
Remedial Project Manager
US EPA – New England
5 Post Office Square, Suite 100
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Boston, MA 02109- 3912

**Subject: Industri-plex Operable Unit 2 Superfund Site
Woburn, Massachusetts
Quarterly Storm Flow Surface Water Monitoring Report**

Dear Mr. LeMay:

Pursuant to Paragraph 34 of the Consent Decree (CD)(Civil Action No.1:08-cv-10325) and Section V.A.5 of the Remedial Design / Remedial Action (RD/RA) Statement of Work (SOW) for the above referenced site, enclosed please find the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

This report covers the period from March 1, 2010 through May 31, 2010, and is submitted on behalf of the Settling Defendants. Also included is a CD containing the Flowlink® data covering the reporting period.

As discussed in the enclosed Surface Water Monitoring Report, the Settling Defendants recommend that, during future storm events, analysis for benzene be performed only on samples collected at stations SW-02-TT and SW-04-TT. Further, if the trends continue, then Settling Defendants may at some point also recommend that sampling for dissolved arsenic be discontinued at several locations and eliminate measuring surface water and groundwater elevations during future storm events.



Please contact me if you have any questions.

Sincerely,

Bruce Thompson

Enclosure

cc: Jen McWeeney - MassDEP
Settling Defendants
Larry McTiernan – Roux Associates

**Quarterly Storm Flow Surface Water
Monitoring Report No. 5
(March 2010 – May 2010)**

Industri-plex Superfund Site
Operable Unit 2
Woburn, Massachusetts

Disclaimer: This document is a DRAFT document prepared by the Settling Defendants under a government Consent Decree. This document has not undergone formal review by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP). The opinions, findings, and conclusions expressed are those of the author and not those of the EPA or the MassDEP.

In accordance with the Surface Water Monitoring Plan (SWMP), this Quarterly Storm Flow Surface Water Monitoring Report has been prepared to summarize the sampling activities performed and the data developed for one selected storm occurring during the reporting period (March 1, 2010 through May 31, 2010) and to provide a brief discussion of the data. Sampling locations are shown in **Figures 1 and 2**.

Storm Sampling and Related Activities Occurring During the Reporting Period

Storm sampling was conducted for one storm event that occurred during the reporting period. The dates and total precipitation for this storm are listed below.

Date(s)	Total Precipitation (inches)	
	HBHA Pond Stations ¹	Reading Station ²
March 13-16, 2010	6.81 - 8.38	8.18

To date, ten storms have been sampled during the SWMP, ranging in precipitation from 0.93” to 8.38” as shown in the table below.

Date(s)	Total Precipitation (inches)	
	HBHA Pond Stations	Reading Station
June 18-19, 2009	0.93 - 1.12	1.18
July 1-2, 2009	1.39 - 1.80	1.82
July 7-8, 2009	2.32 - 2.81	2.10
July 23-24, 2009	2.23 - 3.06	2.66
November 14-15, 2009	2.68 - 3.43	3.21
December 2-3, 2009	0.98 - 1.24	1.33
January 25-26, 2010	0.93 - 1.06	1.01
February 24-25, 2010	2.33 - 3.19	5.33
February 25-27, 2010 ³	1.57 - 2.04	
March 13-16, 2010	6.81 - 8.38	8.18 ⁴

¹ Range indicates precipitation totals for the entire storm event recorded by the rain gauges at the four stations proximal to the HBHA Pond (SW-2-IP, SW-3-IP, SW-01-TT, and SW-02-TT).

² Precipitation Data NOAA National Climatic Data Centers, from the NOAA Rainfall data station in Reading, MA (Station Index No. 19-6783-2).

³ The February 24-25 and 25-27 storm events are considered discrete storm events by the Settling Defendants because there was roughly a 12-hour interval between the two storms where there was no precipitation as measured on the site rain gauges.

⁴ The March 13-16, 2010 storm was the largest recorded storm (in terms of cumulative rainfall) at the Reading weather station since 1962 when records first became available.

Sampling for the storm event during this reporting period was conducted in substantial accordance with the SWMP and included automated collection of aliquots over the duration of the storm and associated runoff event. Aliquots were inspected after the end of the storm event and composited in equal volumes into a single “storm sample” for each station. Grab samples for benzene analysis were collected manually as soon as possible following the onset of the storm, and measurements of surface water and groundwater elevations using staff gauges and piezometers, respectively, were made when safe to do so. Station-specific storm statistics including “indicator” flows,⁵ flow at termination of sampling,⁶ flow-pacing intervals, the number of aliquots expected at sample termination based on the flow pacing interval used, the total number of sample aliquots collected, and the number of aliquots “successfully” collected⁷ are shown for the storm event in **Table 1**. Flows given in **Table 1** were calculated as follows:

- for Stations SW-2-IP, SW-01-TT, SW-02-TT, SW-04-TT, and SW-08-TT, using the rating curves presented in the Quarterly Storm Flow Surface Water Monitoring Report No. 2;
- for Station SW-03-TT, using the rating curve presented in this report;
- for Station SW-05-TT through SW-07-TT, using rating curves presented in the Multiple Source Groundwater Response Plan (MSGRP) Remedial Investigation Report;⁸ and
- for Station SW-3-IP, using stream level and velocity.

⁵ Indicator flows include pre-storm baseflow, peak flow, and flows at 50% and 75% down the falling limb of the storm hydrograph (i.e., the points at which flow has decreased 50% and 75% of the difference between peak flow and pre-storm baseflow).

⁶ In accordance with Quarterly Storm Flow Surface Water Monitoring Report No. 2, sampling is terminated when flow has reached levels between 50% and 75% down the falling limb, unless otherwise noted.

⁷ “Successful collection” of an aliquot is defined in Section 3.1 of the SWMP QAPP.

⁸ As discussed later in this report, sufficient data now exist to support the use of new rating curves for these stations, which were programmed into the respective primary Isco units between May 21-25, 2010.

- Charts are provided in **Appendix A** that show the rainfall and surface water velocity, level, and flow (i.e., hydrographs) recorded at each station for the storm event sampled during this reporting period. In each hydrograph, the aliquots collected are indicated by downward triangles.⁹ In addition, flows at 50% and 75% of the falling limb, where applicable, are noted on the hydrographs.

Modifications to SWMP Protocols during Reporting Period

Minor equipment malfunctions and logistical difficulties were experienced during the storm event sampled during the reporting period despite rigorous preparation. The “Storm Narrative” included in **Appendix A** lists minor variances from SWMP sampling protocols associated with these equipment malfunctions and logistical difficulties. In addition, one modification to the SWMP was made during the reporting period. Specifically, since compositing of samples is being conducted *en masse* at the OUI thermal oxidation unit (TOU) building, rather than individually at each monitoring station as envisioned in the SWMP, excess aliquots were returned to the drainage swale to the west of the TOU building following each storm, rather than to the stream at each station as specified in the SWMP.

Post-Storm Maintenance and Monitoring

Following the March 13-16, 2010 storm event, sample and pump-head tubing was replaced, suction volumes were recalibrated, and post-storm surveying was conducted at each station. In addition, due to the severity of the storm, a number of damaged or lost components of the sampling equipment and sampling stations (e.g., bent piezometers, bent sample intakes) were repaired during regularly scheduled O&M activities throughout the reporting period.

Post-storm surveying included surveying of the area-velocity sensors at eight of the ten stations to determine if any sensor elevations changed by more than 0.1 foot as a result of storm-related scouring.¹⁰ As shown in **Table 2**, sensor elevations at Station SW-06-TT (Montvale Avenue), Station SW-07-TT (Swanton Street), and Station SW-08-TT (USGS/Mystic Ave) changed by more than 0.1 foot during the storm event. Due to the

⁹ Not all of the triangles shown are necessarily aliquots included in the composite storm samples. Due to software limitations, triangles also identify times when grab samples were collected and times when pump-head tubing was calibrated.

¹⁰ Post-storm surveying was not performed at Stations SW-2-IP and SW-04-TT because the sensors at these stations are mounted to permanent structures.

significant elevation changes at Station SW-06-TT and SW-07-TT, the entire cross-sectional profile at these stations was surveyed as part of post-storm surveying.¹¹ Post-storm cross-sectional profiles for the Montvale Avenue and Swanton Street stations are shown in **Figure 3** and **Figure 4**, respectively. As shown in **Figure 3**, some deposition occurred in the middle of the channel at Station SW-06-TT, but otherwise the profile is consistent with the baseline (March 2009) profile. As shown in **Figure 4**, sediment deposited during the previous quarter at Station SW-07-TT (note the February 2010 profile) has since been scoured away and the current profile is now generally consistent with the baseline (March 2009) profile.

Due to the alternate scouring and deposition at Station SW-06-TT evidenced in **Figure 3**, the area-velocity sensor at that station was relocated from a concrete block set on the stream bed to a post driven into the stream bed. The sensor elevation is still referenced to the deepest part of the stream channel via an offset programmed into the associated Isco unit; therefore, the rating curve for this station is not affected by the relocation of the sensor. (Note: On August 20, 2009, the sensor at Station SW-08-TT had been similarly relocated from a concrete block to a post, such that the sensor would be at the same elevation as weir crest [to which the rating curve for this station is referenced]).

The area-velocity sensor at SW-04-TT, which had been dislodged during the March 13-16 storm event, was replaced but was subsequently found to be damaged. It was removed from the station on April 8, 2010 and is scheduled to be replaced by July 22, 2010. (Note: because the backup area-velocity sensor is currently deployed elsewhere, stage (and thus flow) as well as velocity data have not been recorded since the storm event.)

Data Generated During the Reporting Period

1. Storm hydrologic data (including precipitation, peak stage, peak velocity, peak flow, and runoff at 75% of the falling limb) for the storm event sampled during the reporting period are shown in **Tables 3a through 3j**, along with the storm hydrologic data recorded during all previous SWMP storm sampling events.

¹¹ Surveying of the stream cross-section was not performed at Station SW-08-TT because hydraulic control at that station is provided by the fixed weir.

2. The ranges of water quality parameters recorded for the storm event sampled during the reporting period are provided in **Tables 4a through 4j**, along with the water quality measurements recorded during all previous SWMP and, where applicable, “Early Action” storm sampling events
3. Validated analytical results for composite samples collected during the storm event sampled during the reporting period are provided in **Tables 5a through 5j**, along with validated analytical laboratory results for storm samples collected during the SWMP and, where applicable, Early Action sampling events and other previous sampling programs at the site (i.e., the Groundwater and Surface Water Investigation Plan [GSIP] and the MSGRP).
4. Groundwater and surface water elevation data collected during storm events are provided in **Table 6**.

Data Analysis

Data trends – Benzene, total arsenic, dissolved arsenic, and ammonia concentrations observed in samples collected during the SWMP and previous sampling programs (GSIP, MSGRP, and Early Action) are summarized in box-whisker plots in **Appendix B**. The “boxes” indicate the range within which the central 50% of the results fall (the box edges mark the first and third quartiles and the line dividing the box in two marks the median value), while the “whiskers” show the full range of values reported.¹² Since at least two values are required to construct a “box,” cases where an analyte was detected in only one sample during a particular sampling program are shown as diamonds.

Based on storm analytical data collected during the GSIP, MSGRP, Early Action, and the OU2 SWMP sampling programs (including rain events ranging from 0.93” to 8.38”), the following is noted:

- Based on total precipitation, the March 13-16, 2010 storm event ranged between a 10-year and 25-year storm event. The one-day total precipitation on March 14, 2010 was closer to a 10-year storm event and the two-day total from March 14-15, 2010 was closer to a 25-year storm event. The high cumulative rainfall and

¹² Any statistical outliers have not been determined or identified.

high flows of this historic storm event notwithstanding, analytical results indicate no exceedances of the Surface Water Performance Standards.

- Benzene has never been detected in any of the storm samples with the exception of some of the samples collected at Stations SW-02-TT and SW-04-TT. Moreover, the maximum concentrations of benzene detected in the storm samples collected at Stations SW-02-TT and SW-04-TT are 9.1 micrograms per liter ($\mu\text{g/L}$) (November 16, 2009) and 2.2 $\mu\text{g/L}$ (December 4, 2009), respectively. Both of these concentrations are well below the benzene Surface Water Performance Standard of 46 $\mu\text{g/L}$.
- Dissolved arsenic has never been detected in any of the storm samples collected at Station SW-01-TT, and with the exception of one sample collected at Station SW-02-TT (May 15, 2002), dissolved arsenic concentrations detected in storm samples from all other stations have consistently been more than an order of magnitude below the applicable Surface Water Performance Standard of 150 $\mu\text{g/L}$.

These observations are consistent with those noted in previous reports.

Based on the groundwater and surface water elevations measured during the MSGRP and SWMP, the following is noted:

- At five of the nine stations gauged (SW-2-IP, SW-01-TT, SW-05-TT, SW-07-TT, and SW-08-TT), surface water elevations were predominantly higher than groundwater elevations during storm events. At two of the stations (SW-3-IP and SW-02-TT), surface water elevations were always lower than groundwater elevations.
- The remaining stations (SW-03-TT and SW-06-TT) exhibited variable trends.

These observations are also consistent with those noted in previous reports.

Rating curves – Pursuant to the SWMP, the Settling Defendants have developed stage-versus-flow data for baseflow conditions based on manual measurements of flow made during the past year. In addition, the Settling Defendants have also developed stage-versus-flow data for storm conditions. These data were developed in an effort to determine if the MSGRP rating curves warrant refinement or replacement. As discussed in Quarterly Storm Report No. 2, sufficient data existed at the time (i.e., Fall 2009) to support the use of new rating curves for monitoring Stations SW-01-TT, SW-02-TT, SW-04-TT and SW-08-TT. A rating curve was also developed for Station SW-2-IP at that time. Sufficient data now exist to support the use of new rating curves for the remaining stations (Stations SW-03-TT and SW-05-TT through SW-07-TT). The new rating curve for Station SW-03-TT was programmed into the primary Isco unit on March 12, 2010 (i.e., just prior to the storm event reported herein), while new rating curves for Stations SW-05-TT through SW-07-TT were programmed into the respective primary Isco units on May 21-25, 2010.

As also mentioned in Quarterly Storm Report No. 2, the new rating curves programmed in Fall 2009 were subject to refinement as additional data were developed. Sufficient data now also exist to refine the existing rating curves for Stations SW-2-IP, SW-01-TT, and SW-02-TT. The refined rating curves for these stations were programmed into the respective primary Isco units between May 21-25, 2010.

Plots of the manual flow measurements and concurrent staff gauge readings made by Roux Associates and Geosyntec Consultants for all stations with new or refined rating curves are shown in **Appendix C**, along with the new/refined rating curves. The rating curves developed during the MSGRP are also shown on these plots, where applicable.¹³ The data points describing the new rating curves are also provided.

The rating curves for all stations may continue to be refined as additional data are developed.

¹³ The TTNUM rating curves have been adjusted where needed to be relative to the deepest point in the channel.

TABLES

(Note: the data presented in Tables 3, 4, 5 and 6 are cumulative;
values shown supersede previously reported data.)

Table 1
Storm Statistics - March 13-16, 2010
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station	Pre-Storm Baseflow (cfs)	Peak Flow (cfs)	50% Falling Limb		75% Falling Limb		Flow at Termination of Sampling (cfs)	Total Runoff at Termination of Sampling (cf)	Flow Pacing ¹ (cf)	Expected Number of Aliquots ²	Total Aliquots Collected	Aliquots Successfully Collected ³	Notes
			Flow (cfs)	Total Runoff (cf)	Flow (cfs)	Total Runoff (cf)							
SW-2-IP	8.41	47.73	28.07	6,858,151	18.24	8,035,112	22.32	7,437,794	40,000	172 - 202	167	167	a, b
SW-3-IP	1.83	22.84	12.33	2,024,234	7.08	2,024,234	6.12	2,024,234	2,500	811 - 811	285	284	b, c
SW-01-TT	1.13	80.61	40.87	13,831,200	21.00	15,948,880	39.61	13,831,200	75,000	185 - 214	178	178	a, b
SW-02-TT	3.28	209.62	106.45	29,148,230	54.86	31,703,470	59.13	31,361,160	75,000	390 - 424	287	287	a, b
SW-04-TT	4.69	162.16	83.42	18,070,230	44.05	18,979,040	83.90	18,070,230	75,000	242 - 254	221	221	b, d
SW-03-TT	0.67	276.75	138.71	39,320,290	69.69	41,261,750	108.97	40,166,150	90,000	438 - 459	327	327	a, b
SW-05-TT	54.71	195.83	125.27	48,549,830	89.99	58,039,680	114.93	51,046,070	180,469	270 - 323	256	252	b, e
SW-06-TT	21.79	130.77	76.28	31,030,440	49.04	37,783,890	63.11	33,845,400	279,392	112 - 136	101	101	b, e
SW-07-TT	42.49	713.66	378.07	158,693,400	210.28	164,555,800	176.79	164,926,000	350,243	454 - 471	261	261	b, c, f
SW-08-TT	103.70	1879.80	991.75	344,806,700	547.72	395,188,500	585.54	389,676,500	799,410	432 - 495	312	308	b, d, e

Notes:

- For Stations SW-01-TT, SW-2-IP, SW-02-TT, SW-04-TT, SW-03-TT and SW-08-TT, flows shown are based on the rating curves reported in both the Quarterly Storm Flow Surface Water Monitoring Report No. 2 and No. 5.
- For Stations SW-05-TT through SW-07-TT, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.
- Flows shown for station SW-3-IP were estimated based on level and velocity.

in = inches
cfs = cubic feet per second

- 1 Flow Pacing for stations SW-01-TT, SW-02-TT, SW-03-TT, SW-05-TT, SW-06-TT, and SW-07-TT is adapted from the flowing pacing reported by TTNUS in the MSGRP RI Report
- 2 Expected Number of Aliquots = [(flow at 50% falling limb / flow pacing)+1] to [(flow at 75% falling limb / flow pacing)+1]
- 3 Aliquots Successfully Collected represent aliquots collected as defined in the SWMP QAPP (Sec. 3.1)

- a. Flow estimates shown are based on the programming (i.e., rating curves, level adjustment) of the Isco at the time of sampling. Following the storm event, flow estimates were updated using the May 2010 rating curves (Appendix C) along with applicable level adjustments relative to a datum at the deepest part of the channel; these updated flow estimates are provided in Table 3.
- b. Number of aliquots collected is lower than expected due to rosette change out activities.
- c. Due to current recording interval (i.e., every 5 minutes) and low flow pacing interval at this station, multiple aliquots were missed by the Isco sampling program.
- d. A/V sensor dislodged, flows are not representative.
- e. Total aliquots low due to power failures.
- f. Total aliquots low due to a failure with the 750 Module; flows are not representative.

Table 2
Post-Storm Survey Results for the Area-Velocity Sensors
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station Number	Station Location ¹	4/5/2010		
		Pre-Storm Sensor Elevation ²	Post-Storm Sensor Elevation	Δ from Pre-Storm Elevation
SW-3-IP	BECO Right-of-Way	93.66	93.66	0.00
SW-01-TT	Halls Brook	93.25	93.27	0.02
SW-02-TT	HBHA Pond Outlet	97.84	97.84	0.00
SW-03-TT	Aberjona River @ Mishawum Rd.	93.22	93.22	0.00
SW-05-TT	Aberjona River @ Salem Street	94.17	94.16	-0.01
SW-06-TT	Aberjona River @ Montvale Avenue	92.84	93.51	0.67
SW-07-TT	Aberjona River @ Swanton Street	89.98	89.86	-0.12
SW-08-TT	Aberjona River @ USGS Gaging Station ³	91.32	92.28	0.96

- Notes: 1. Stations SW-2-IP and SW-04-TT are not shown because sensors are fixed to permanent structures.
 2. Except where indicated, pre-storm elevation is post-storm sensor elevation from previous storm event.
 3. Sensor elevation is always maintained equivalent to the elevation of the adjacent weir crest.

**Table 3a
Storm Hydrologic Data for SW-2-IP (AAD)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-2-IP	06/18/09 - 06/19/10	0.93	0.67	1.85	9.05	379,752
	07/01/09 - 07/02/09	1.40	1.12	3.25	26.32	1,129,314
	07/07/09 - 07/08/09	2.32	1.62	3.59	41.07	626,764
	07/23/09 - 07/24/09	2.23	1.05	3.30	24.94	1,145,352
	11/14/09 - 11/15/09	2.68	0.73	3.39	13.41	561,036
	12/02/09 - 12/03/09	0.98	0.68	3.32	12.14	117,380
	01/25/10 - 01/26/10	0.93	1.03	3.46	23.29	206,424
	02/24/10 - 02/25/10	2.33	0.72	3.45	13.08	865,202
	02/25/10 - 02/27/10	1.55	0.97	3.62	21.13	892,338
03/13/10 - 03/15/10	6.81	1.24	4.31	31.23	4,397,245	

Notes:

- Prior to the 11/14/09-11/15/09 storm event, stage is relative to sensor elevation; subsequent stage measurements are relative to the stream bottom.
- Prior to the 11/14/09-11/15/09 storm event, flows shown are based on stage and velocity measurement; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

AAD = Atlantic Avenue Drainway

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Table 3b
Storm Hydrologic Data for SW-3-IP (BECO ROW)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-3-IP	06/18/09 - 06/19/10	0.94	0.77	1.30	4.63	104,821
	07/01/09 - 07/02/09	1.46	1.39	1.75	14.97	170,540
	07/07/09 - 07/08/09	2.35	2.07	2.30	35.13	111,560
	07/23/09 - 07/24/09	2.37	2.19	1.82	12.14	193,146
	11/14/09 - 11/15/09	2.69	2.31	1.94	17.77	70,258
	12/02/09 - 12/03/09	1.09	1.55	1.67	15.60	115,886
	01/25/10 - 01/26/10	0.99	2.26	1.41	13.38	220,112
	02/24/10 - 02/25/10	2.46	2.47	1.06	6.79	182,862
	02/25/10 - 02/27/10	1.76	2.98	0.49	13.85	309,043
03/13/10 - 03/15/10	7.86	5.01	1.08	22.84	2,024,234	

Notes:

- Stage is relative to sensor elevation.
- Flows shown are estimated based on stage and velocity.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

BECO ROW = Boston Edison Company Right-of-Way

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Shaded values indicate readings where runoff was above maximum height of the culvert.

**Table 3c
Storm Hydrologic Data for SW-01-TT (Halls Brook)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-01-TT	06/18/09 - 06/19/10	1.07	1.59	2.27	13.92	974,772
	07/01/09 - 07/02/09	1.80	2.09	3.76	21.67	1,665,930
	07/07/09 - 07/08/09	2.87	2.25	4.36	25.42	2,251,596
	07/23/09 - 07/24/09	3.06	2.69	3.27	33.08	3,940,374
	11/14/09 - 11/15/09	3.43	2.84	3.88	107.18	2,320,731
	12/02/09 - 12/03/09	1.41	2.71	3.53	87.04	2,947,106
	01/25/10 - 01/26/10	1.05	2.85	3.93	107.50	4,838,601
	02/24/10 - 02/25/10	2.90	3.15	4.00	169.00	10,436,540
	02/25/10 - 02/27/10	2.04	3.20	2.21	181.97	3,659,139
03/13/10 - 03/15/10	8.38	3.08	7.48	153.24	32,133,750	

Notes:

- Prior to the 11/14/09-11/15/09 storm event, stage is relative to sensor elevation; subsequent stage measurements are relative to the stream bottom.
- Prior to the 11/14/09-11/15/09 storm event, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Shaded values indicate readings where the A/V sensor became dislodged. Values shown for peak velocity represent the highest reading recorded prior to A/V sensor dislodgement. In addition, Peak Stage and therefore subsequent Peak Flow and Total Runoff at 75% Falling Limb may not represent actual conditions.

**Table 3d
Storm Hydrologic Data for SW-02-TT (HBHA Pond Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-02-TT	06/18/09 - 06/19/10	1.12	1.87	0.78	17.67	1,743,147
	07/01/09 - 07/02/09	ERR	2.42	1.43	26.85	3,248,161
	07/07/09 - 07/08/09	ERR	2.78	1.84	32.84	4,415,681
	07/23/09 - 07/24/09	2.54	3.27	1.55	40.94	3,948,374
	11/14/09 - 11/15/09	2.94	3.71	ERR	79.99	5,920,126
	12/02/09 - 12/03/09	1.24	2.96	ERR	41.92	3,394,551
	01/25/10 - 01/26/10	0.98	3.61	1.50	74.06	5,251,652
	02/24/10 - 02/25/10	3.19	3.84	1.34	88.54	6,647,138
	02/25/10 - 02/27/10	1.97	4.20	1.42	114.25	6,842,911
03/13/10 - 03/15/10	8.31	5.49	1.43	237.12	37,113,610	

Notes:

- Prior to the 11/14/09-11/15/09 storm event, stage is relative to sensor elevation; subsequent stage measurements are relative to the stream bottom.
- Prior to the 11/14/09-11/15/09 storm event, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

HBHA = Halls Brook Holding Area

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

ERR = Equipment malfunction

Table 3e
Storm Hydrologic Data for SW-04-TT (HBHA Wetland Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-04-TT	06/18/09 - 06/19/10	0.95	1.43	3.92	10.42	1,550,883
	07/01/09 - 07/02/09	1.60	1.78	5.12	13.23	2,281,206
	07/07/09 - 07/08/09	2.48	2.20	5.55	17.60	2,441,779
	07/23/09 - 07/24/09	2.40	2.57	6.84	21.02	2,370,051
	11/14/09 - 11/15/09	2.94	2.58	6.97	50.51	3,459,359
	12/02/09 - 12/03/09	1.35	1.87	5.25	21.76	1,869,111
	01/25/10 - 01/26/10	0.95	2.71	6.66	57.46	3,939,638
	02/24/10 - 02/25/10	2.98	2.96	6.92	72.48	5,284,940
	02/25/10 - 02/27/10	1.85	3.27	8.16	92.78	5,751,879
03/13/10 - 03/16/10	7.70	3.11	8.04	162.16	18,979,040	

Notes:

- Prior to the 11/14/09-11/15/09 storm event, stage is relative to sensor elevation; subsequent stage measurements are relative to the stream bottom.
- Prior to the 11/14/09-11/15/09 storm event, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Shaded values indicate readings where the A/V sensor became dislodged. Values shown for peak velocity represent the highest reading recorded prior to A/V sensor dislodgement. Furthermore, runoff was above the maximum height of the culvert. In addition, Peak Stage and therefore subsequent Peak Flow and Total Runoff at 75% Falling Limb may not represent actual conditions.

**Table 3f
Storm Hydrologic Data for SW-03-TT (Aberjona)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-03-TT	06/18/09 - 06/19/10	0.91	1.58	1.78	14.37	1,239,944
	07/01/09 - 07/02/09	1.64	2.44	2.55	27.96	2,294,982
	07/07/09 - 07/08/09	2.53	3.10	3.03	38.39	2,499,196
	07/23/09 - 07/24/09	2.53	3.43	2.76	43.52	4,066,986
	11/14/09 - 11/15/09	2.80	3.64	2.74	46.86	4,274,335
	12/02/09 - 12/03/09	ERR	3.08	2.98	37.94	2,400,252
	01/25/10 - 01/26/10	0.96	3.53	3.07	45.05	3,783,233
	02/24/10 - 02/25/10	2.92	3.80 ⁴	2.93	55.79	5,938,676
	02/25/10 - 02/27/10	1.76	4.80	3.06	71.68	3,903,065
03/13/10 - 03/16/10	7.12	5.55	3.15	382.71	61,346,400	

Notes:

- Prior to the 02/25/10-02/27/10 storm event, stage is relative to sensor elevation; subsequent stage measurements are relative to the stream bottom.
- Prior to the 02/25/10-02/27/10 storm event, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 5.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

4 Peak value is estimated due to inaccurate stage readings (and therefore flow) prior to A/V sensor re-calibration.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

ERR = Equipment malfunction (e.g., obstructed rain gauge)

Shaded values indicate readings where the A/V sensor became dislodged. Values shown for peak velocity represent the highest reading recorded prior to A/V sensor dislodgement. In addition, Peak Stage and therefore subsequent Peak Flow and Total Runoff at 75% Falling Limb may not represent actual conditions.

**Table 3g
Storm Hydrologic Data for SW-05-TT (Salem Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)	
SW-05-TT	06/18/09 - 06/19/10	Data Loss due to Isco Failure					
	07/01/09 - 07/02/09	1.87	2.45	2.24	72.72	9,737,499	
	07/07/09 - 07/08/09	1.35	2.83	2.76	92.22	11,053,420	
	07/23/09 - 07/24/09	3.28	3.05	3.23	102.98	11,611,000	
	11/14/09 - 11/15/09	3.04	3.26	2.84	113.84	15,373,510	
	12/02/09 - 12/03/09	1.18	2.67	1.92	83.63	9,801,157	
	01/25/10 - 01/26/10	0.77	3.12	2.90	106.88	12,692,700	
	02/24/10 - 02/27/10	5.43	3.79	3.88	164.51	45,198,860	
	03/13/10 - 03/15/10	9.46	4.41	6.64	195.83	58,039,680	

Notes:

- Stage is relative to sensor elevation.
- Flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Shaded values indicate readings where runoff and flow were restricted by height of adjacent bridge.

**Table 3h
Storm Hydrologic Data for SW-06-TT (Montvale Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-06-TT	06/18/09 - 06/19/10	0.94	2.78	1.40	30.67	4,222,181
	07/01/09 - 07/02/09	ERR	3.86	2.10	52.56	5,950,627
	07/07/09 - 07/08/09	ERR	3.99	2.19	55.19	6,953,697
	07/23/09 - 07/24/09	1.73	4.52	2.47	65.74	8,013,981
	11/14/09 - 11/15/09	ERR	4.86	2.62	72.64	11,251,110
	12/02/09 - 12/03/09	0.63	3.83	2.08	52.00	6,724,578
	01/25/10 - 01/26/10	0.66	4.65	2.52	68.34	9,435,577
	02/24/10 - 02/27/10	4.55	5.77	2.76	94.72	37,094,130
03/13/10 - 03/15/10	6.39	7.58	2.60 ⁴	130.77	37,783,890	

Notes:

- Stage is relative to sensor elevation.
- Flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

4 Due to sand blocking sensor, Peak Velocity is inaccurate.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

ERR = Equipment malfunction (e.g., obstructed rain gauge)

Table 3i
Storm Hydrologic Data for SW-07-TT (Swanton Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)	
SW-07-TT	06/18/09 - 06/19/10	1.04	2.15	4.11	82.67	7,087,030	
	07/01/09 - 07/02/09	1.70	3.83	5.40	200.44	16,890,270	
	07/07/09 - 07/08/09	0.77	3.32	4.49	164.87	26,349,860	
	07/23/09 - 07/24/09	Data Loss due to Isco Failure					
	11/14/09 - 11/15/09	2.64	3.78	5.04	197.26	22,935,700	
	12/02/09 - 12/03/09	1.10	3.38	4.25	168.71	34,081,250	
	01/25/10 - 01/26/10	0.96	4.48	4.75	245.97	27,218,250	
	02/24/10 - 02/27/10	4.85	6.13	6.49	378.86	91,809,740	
	03/13/10 - 03/16/10	9.44	10.86	7.81	713.66	166586400 ⁴	

Notes:

- Stage is relative to sensor elevation.
- Flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. New rating curves are being developed which may change the flow estimates for these stations.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

4 Due to 750 Module malfunction, total runoff is inaccurate.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

Shaded values indicate readings where the A/V sensor became dislodged. Values shown for peak velocity represent the highest reading recorded prior to A/V sensor dislodgement. In addition, Peak Stage and therefore subsequent Peak Flow and Total Runoff at 75% Falling Limb may not represent actual conditions.

Table 3j
Storm Hydrologic Data for SW-08-TT (USGS / Mystic Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station	Date ¹	Precipitation ² (in)	Peak Stage (ft)	Peak Velocity ³ (ft/s)	Peak Flow (cfs)	Total Runoff at 75% Falling Limb (cf)
SW-08-TT	06/18/09 - 06/19/10	0.55	3.08	1.05	202.28	39,070,400
	07/01/09 - 07/02/09	ERR	4.12	2.12	315.40	104,879,300
	07/07/09 - 07/08/09	ERR	3.62	1.96	261.03	75,114,590
	07/23/09 - 07/24/09	2.22	4.05	2.65	306.76	41,933,140
	11/14/09 - 11/15/09	2.20	12.43	ERR	293.00	43,714,260
	12/02/09 - 12/03/09	0.99	2.04	1.69	198.42	23,195,820
	01/25/10 - 01/26/10	0.92	2.69	2.35	369.63	57,302,170
	02/24/10 - 02/27/10	4.11	3.75	2.59	723.42	286,944,800
03/13/10 - 03/16/10	6.05	7.00	3.34	1879.80	395,188,500	

Notes:

- Prior to the 11/14/09-11/15/09 storm event, stage is relative to sensor elevation. For the 11/14/09-11/15/09 storm event, stage is Mean Sea Level (there is a 10.02 foot offset); subsequent stage measurements are relative to the stream bottom.
- Prior to the 11/14/09-11/15/09 storm event, flows shown are based on the rating curves reported by TTNUS in the MSGRP RI Report. For the 11/14/09-11/15/09 storm event, flow estimates are obtained from USGS station 01102500 - Aberjona River at Winchester, MA; subsequent flows are based on the station specific rating curve reported in the Quarterly Storm Flow Surface Water Monitoring Report No. 2.

1 Dates shown indicate time period over which precipitation was observed.

2 Precipitation total shown may not match precipitation total shown in hydrograph because hydrograph totals may include contributions from subsequent rain events during the falling limb.

3 Due to "noise," Peak Velocity value is approximated.

in = inches

ft = feet

ft/s = feet per second

cfs = cubic feet per second

cf = cubic feet

ERR = Equipment malfunction (e.g., obstructed rain gauge, AV sensor dislodged)

Shaded values indicate readings where the A/V sensor became dislodged. Values shown for peak velocity represent the highest reading recorded prior to A/V sensor dislodgement. In addition, Peak Stage and therefore subsequent Peak Flow and Total Runoff at 75% Falling Limb may not represent actual conditions.

Table 4a
Ranges of Storm Flow Water Quality Parameters for SW-2-IP (AAD)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-2-IP	12/14/08 - 12/14/08	0.4 - 1.3	10.7 - 11.5	6.5 - 6.5	470.3 - 480.1	240 - 242	3.6 - 4.4
Surface Water Monitoring Plan							
SW-2-IP	06/18/09 - 06/20/09	17.6 - 21.8	4.3 - 6.8	6.8 - 7.1	395.1 - 470.1	174 - 536	3.7 - 19.2
	07/01/09 - 07/03/09	16.8 - 18.8	4.0 - 7.9	6.7 - 6.9	379.0 - 489.0	74 - 546	2.1 - 19.2
	07/07/09 - 07/09/09	17.3 - 19.8	4.1 - 9.0	6.7 - 7.2	371.3 - 476.1	60 - 518	2.1 - 75.9
	07/23/09 - 07/25/09	17.8 - 24.9	4.6 - 9.1	6.6 - 7.0	366.8 - 428.3	46 - 430	2.7 - 17.2
	11/14/09 - 11/15/09	9.1 - 11.0	8.0 - 11.0	6.8 - 7.1	387.4 - 424.5	74 - 600	4.1 - 29.1
	12/03/09 - 12/03/09	7.2 - 11.0	10.0 - 11.0	6.9 - 7.1	481.5 - 512.9	66 - 336	4.1 - 24.0
	01/25/10 - 01/26/10	0.0 - 3.1	9.5 - 11.4	6.8 - 6.9	476.0 - 616.6	584 - 2,162	5.7 - 65.6
	02/24/10 - 02/25/10	0.5 - 2.9	9.8 - 13.1	7.0 - 7.3	7.2 - 121.0	314 - 586	3.7 - 76.2
	02/25/10 - 02/26/10	2.0 - 4.5	10.5 - 11.6	7.0 - 7.2	100.1 - 138.2	248 - 518	8.1 - 56.3
	03/13/10 - 03/16/10	4.0 - 5.7	9.6 - 11.7	7.0 - 7.5	84.9 - 382.4	184 - 1,464	4.5 - 35.2

Notes:

AAD = Atlantic Avenue Drainway

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = milliVolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1. Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4b
Ranges of Storm Flow Water Quality Parameters for SW-3-IP (BECO ROW)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-3-IP	12/11/08 - 12/13/08	-1.6 - 6.5	NM - 12.5	NM - 4.3	-323.1 - 507.8	-20 - 586	NM - 19.6
Surface Water Monitoring Plan							
SW-3-IP	06/18/09 - 06/19/09	16.4 - 20.4	2.1 - 3.9	6.4 - 6.7	441.2 - 522.3	22 - 86	5.9 - 31.6
	07/01/09 - 07/03/09						
	07/07/09 - 07/09/09	Data rejected					
	07/24/09 - 07/24/09	Data rejected					
	11/14/09 - 11/14/09	10.6 - 10.7	9.8 - 10.4	6.3 - 6.7	86.0 - 112.1	16 - 128	10.6 - 60.2
	12/03/09 - 12/03/09	10.0 - 14.4	6.8 - 8.5	6.3 - 6.8	298.6 - 332.5	12 - 84	43.3 - 102.3
	01/25/10 - 01/25/10	Data rejected	9.3 - 11.0	Data rejected	61.7 - 128.0	Data rejected	38.3 - 183.2
	02/24/10 - 02/24/10	0.9 - 5.0	7.5 - 13.3	6.4 - 7.2	-41.9 - 99.5	84 - 1,050	28.1 - 126.2
	02/25/10 - 02/25/10	4.5 - 5.0	4.1 - 12.3	6.2 - 6.7	49.4 - 93.6	64 - 1,086	4.2 - 38.7
	03/13/10 - 03/15/10	3.5 - 7.1	8.7 - 11.3	6.5 - 7.3	16.9 - 160.6	36 - 602	12.7 - 39.8

Notes:

BECO ROW = Boston Edison Company right-of-way

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = milliVolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

NM = Not measured (e.g., insufficient flow and/or due to equipment limitations)

Water quality parameter data for 7/1-2/09, 7/7-8/09 and 7/23-24/09 storms were reviewed and rejected due to problems associated with the dry conditions that existed prior to the storms.

Temperature, pH and Specific Conductance data for 1/25/10 storm were reviewed and rejected due to suspected icing of the sensors.

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1 Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4c
Ranges of Storm Flow Water Quality Parameters for SW-01-TT (Halls Brook)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-01-TT	12/11/08 - 12/14/08	1.2 - 4.6	9.8 - 12.2	6.4 - 6.7	503.4 - 556.6	784 - 1,854	22.6 - 2874.0
Surface Water Monitoring Plan							
SW-01-TT	06/18/09 - 06/19/09	15.4 - 17.3	5.6 - 8.5	6.7 - 6.9	190.1 - 225.9	276 - 650	Data unrecoverable
	07/01/09 - 07/03/09	15.3 - 17.0	Data unrecoverable	6.6 - 6.9	403.5 - 564.0	170 - 660	20.7 - 364.6
	07/07/09 - 07/09/09	15.1 - 17.8	Data unrecoverable	6.6 - 7.1	382.4 - 535.8	94 - 516	7.6 - 113.0
	07/24/09 - 07/26/09	16.8 - 20.5	Data unrecoverable	6.3 - 6.9	392.5 - 471.7	158 - 548	5.3 - 147.3
	11/14/09 - 11/16/09	9.7 - 10.0	7.9 - 9.2	6.5 - 6.8	449.8 - 476.0	154 - 268	33.2 - 372.8
	12/03/09 - 12/04/09	8.1 - 11.7	6.6 - 8.7	6.7 - 6.9	481.3 - 498.3	150 - 396	58.4 - 430.1
	01/25/10 - 01/26/10	0.7 - 3.3	10.7 - 11.2	6.8 - 7.0	Data unrecoverable	190 - 552	17.4 - 265.1
	02/24/10 - 02/25/10	1.0 - 1.9	9.5 - 10.9	6.6 - 7.0	598.6 - 650.4	278 - 1,032	31.0 - 383.9
	02/25/10 - 02/26/10	1.8 - 3.9	9.3 - 10.2	6.6 - 6.8	614.0 - 726.4	190 - 368	23.4 - 375.3
	03/13/10 - 03/16/10	3.1 - 6.6	9.1 - 10.8	6.6 - 7.1	407.9 - 511.8	134 - 390	6.2 - 551.0

Notes:

HBHA = Halls Brook Holding Area

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Turbidity data for 7/1-2/09 and dissolved oxygen data for 7/1-2/09, 7/7-8/09 and 7/23-24/09 storms unrecoverable due to Isco 6712 transmission errors.

ORP data for 1/25-1/26/10 storm unrecoverable due to communication errors between the In-Situ troll and the Isco 6712.

Water quality data for temperature, dissolved oxygen and specific conductance collected prior to 3/14/10 3:25 am rejected due to equipment malfunction (i.e., apparent In-Situ troll sensor damage).

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1. Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4d
Ranges of Storm Flow Water Quality Parameters for SW-02-TT (HBHA Pond Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Remedial Design "Early Action"							
SW-02-TT	12/14/08 - 12/14/08	1.5 - 2.3	10.0 - 10.2	6.3 - 6.4	524.3 - 527.3	416 - 470	22.6 - 23.3
Surface Water Monitoring Plan							
SW-02-TT	06/18/09 - 06/20/09	16.2 - 21.0	5.4 - 6.8	6.1 - 6.3	360.7 - 423.3	474 - 750	6.8 - 18.5
	07/01/09 - 07/03/09	16.0 - 17.7	3.4 - 5.7	6.3 - 6.5	248.1 - 532.9	484 - 890	7.2 - 55.1
	07/07/09 - 07/09/09	15.8 - 17.4	1.2 - 6.2	6.0 - 6.1	190.8 - 499.4	282 - 902	10.4 - 33.8
	07/24/09 - 07/26/09	17.2 - 20.1	2.6 - 7.5	6.3 - 6.6	182.3 - 471.8	234 - 964	4.4 - 65.6
	11/14/09 - 11/15/09	9.3 - 11.2	5.8 - 7.6	6.3 - 6.6	270.0 - 481.3	248 - 880	13.4 - 63.3
	12/03/09 - 12/04/09	6.4 - 10.8	7.7 - 8.8	6.4 - 6.5	412.2 - 495.2	402 - 788	14.3 - 42.3
	01/25/10 - 01/26/10	1.3 - 3.8	5.9 - 9.8	6.4 - 6.5	Data unrecoverable	552 - 1,700	15.9 - 70.9
	02/24/10 - 02/25/10	1.5 - 4.4	6.0 - 10.5	6.2 - 6.5	186.3 - 283.9	346 - 1,548	17.1 - 61.0
	02/25/10 - 02/27/10	2.1 - 3.8	9.9 - 10.4	6.1 - 6.3	257.5 - 291.2	242 - 390	12.5 - 29.3
	03/13/10 - 03/16/10	3.6 - 6.2	8.5 - 10.0	6.1 - 6.7	237.9 - 310.3	168 - 882	7.5 - 24.0

Notes:

HBHA = Halls Brook Holding Area

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

ORP data for 1/25-1/26/10 storm unrecoverable due to communication errors between the In-Situ troll and the Isco 6712.

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1 Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4e
Ranges of Storm Flow Water Quality Parameters for SW-04-TT (HBHA Wetland Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)	
Remedial Design "Early Action"								
SW-04-TT	12/14/08 - 12/14/08	1.8 - 2.2	9.7 - 9.8	5.9 - 5.9	373.6 - 374.1	390 - 428	0.0 - 0.0	
Surface Water Monitoring Plan								
SW-04-TT	06/18/09 - 06/19/09	16.7 - 21.9	5.1 - 7.9	6.5 - 6.7	218.0 - 317.2	358 - 754	13.0 - 131.6	
	07/01/09 - 07/03/09	16.1 - 18.2	4.6 - 7.8	6.4 - 6.8	237.0 - 347.6	242 - 802	6.8 - 752.3	
	07/07/09 - 07/09/09	15.7 - 19.3	4.9 - 9.4	6.1 - 6.9	231.7 - 418.4	38 - 728	7.4 - 93.5	
	07/24/09 - 07/26/09	Data rejected						
	11/14/09 - 11/15/09	10.5 - 11.6	6.5 - 9.9	6.5 - 6.8	177.8 - 331.6	72 - 424	7.4 - 29.7	
	12/03/09 - 12/04/09	9.7 - 10.7	6.7 - 7.7	6.9 - 6.9	251.7 - 321.8	416 - 612	9.0 - 17.6	
	01/25/10 - 01/26/10	1.7 - 5.5	8.1 - 10.7	6.6 - 6.7	117.2 - 273.5	620 - 1,232	19.9 - 114.2	
	02/24/10 - 02/25/10	2.1 - 3.9	9.3 - 11.7	6.6 - 6.8	126.2 - 284.4	364 - 1,278	9.6 - 63.8	
	02/25/10 - 02/27/10	3.2 - 4.4	10.4 - 11.3	6.5 - 6.6	293.0 - 319.5	250 - 352	6.0 - 17.1	
03/13/10 - 03/16/10	4.4 - 6.9	9.8 - 12.5	6.5 - 7.0	284.2 - 406.1	150 - 1,014	6.0 - 25.1		

Notes:

HBHA = Halls Brook Holding Area

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Water quality data from 7/24-7/26/09 storm rejected due to communication errors between the In-Situ troll and the Isco 6712.

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1 Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4f
Ranges of Storm Flow Water Quality Parameters for SW-03-TT (Aberjona)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-03-TT	06/19/09 - 06/20/09	16.9 - 19.6	4.1 - 5.4	6.1 - 6.3	315.0 - 410.3	256 - 688	9.3 - 20.8
	07/01/09 - 07/03/09	16.3 - 18.1	5.4 - 8.3	6.5 - 6.7	391.4 - 549.0	226 - 824	5.0 - 208.9
	07/07/09 - 07/09/09	15.5 - 18.1	5.4 - 9.5	5.8 - 6.5	412.5 - 550.0	46 - 582	5.8 - 175.0
	07/24/09 - 07/26/09	17.9 - 21.4	4.1 - 8.6	6.6 - 6.8	425.9 - 509.3	148 - 782	1.3 - 32.4
	11/14/09 - 11/15/09	10.2 - 11.4	6.4 - 9.3	6.1 - 6.7	469.6 - 512.6	88 - 494	3.0 - 319.8
	12/03/09 - 12/04/09	8.8 - 11.6	3.5 - 4.0	6.5 - 6.8	233.0 - 286.0	192 - 666	6.7 - 391.0
	01/24/10 - 01/26/10	0.8 - 5.4	11.1 - 12.4	6.6 - 6.8	Data unrecoverable	448 - 1,088	9.9 - 184.2
	02/24/10 - 02/25/10	1.2 - 2.8	9.0 - 9.6	6.5 - 6.7	246.7 - 325.4	490 - 956	17.3 - 198.9
	02/25/10 - 02/26/10	2.4 - 4.2	8.4 - 8.9	6.5 - 6.5	313.8 - 345.9	290 - 438	14.7 - 82.9
03/13/10 - 03/16/10	4.0 - 6.2	10.8 - 12.1	6.8 - 7.0	280.7 - 339.6	226 - 992	8.3 - 46.3	

Notes:

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

ORP data for 1/25-1/26/10 storm unrecoverable due to communication errors between the In-Situ troll and the Isco 6712.

Note: the pending software revision to Flowlink 5TM referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5TM are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1. Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4g
Ranges of Storm Flow Water Quality Parameters for SW-05-TT (Salem Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)	
Surface Water Monitoring Plan								
SW-05-TT	06/18/09 - 06/18/09	Data lost due to Isco 6712 malfunction						
	07/01/09 - 07/02/09	16.5 - 17.9	3.3 - 6.7	6.3 - 6.7	441.6 - 530.5	402 - 1,072	7.7 - 63.3	
	07/07/09 - 07/09/09	16.5 - 17.6	4.0 - 6.5	6.1 - 6.4	507.5 - 544.2	292 - 670	12.3 - 45.7	
	07/24/09 - 07/26/09	17.6 - 24.0	2.5 - 7.3	6.2 - 6.6	441.1 - 496.7	264 - 1,022	3.9 - 52.4	
	11/14/09 - 11/16/09	Data rejected						
	12/03/09 - 12/04/09	Data rejected						
	01/25/10 - 01/26/10	0.5 - 3.1	9.2 - 11.0	6.7 - 6.9	209.7 - 305.1	586 - 1,150	5.2 - 491.8	
	02/24/10 - 02/27/10	0.9 - 4.2	8.9 - 12.3	6.4 - 6.8	339.6 - 494.7	320 - 2,056	7.7 - 488.2	
	03/13/10 - 03/17/10	4.0 - 6.2	8.6 - 10.7	6.4 - 7.0	306.2 - 438.4	218 - 1,160	5.5 - 33.5	

Notes:

HBHA = Halls Brook Holding Area

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Water quality data from 11/14-11/16/09 and 12/3-12/4/09 storms rejected due to communication errors between the In-Situ troll and the Isco 6712.

Note: the pending software revision to Flowlink 5TM referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5TM are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1. Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4h
Ranges of Storm Flow Water Quality Parameters for SW-06-TT (Montvale Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-06-TT	06/19/09 - 06/20/09	16.5 - 18.3	7.0 - 7.3	6.7 - 6.8	429.8 - 454.7	Data unrecoverable	58.0 - 129.9
	07/01/09 - 07/03/09	16.1 - 17.7	5.8 - 7.5	6.4 - 6.8	401.0 - 525.8	338 - 772	14.6 - 374.0
	07/07/09 - 07/09/09	16.0 - 18.5	6.7 - 8.4	6.5 - 7.0	374.5 - 523.4	178 - 654	8.2 - 111.2
	07/24/09 - 07/26/09	17.4 - 21.5	5.7 - 7.7	6.5 - 6.8	456.6 - 514.1	174 - 418	0.2 - 399.0
	11/14/09 - 11/17/09	8.3 - 11.9	5.7 - 6.7	6.6 - 6.8	453.7 - 487.7	346 - 548	5.9 - 730.9
	12/03/09 - 12/04/09	8.4 - 12.0	8.0 - 10.6	6.7 - 6.9	467.3 - 483.2	246 - 476	5.5 - 64.0
	01/25/10 - 01/27/10	Data unrecoverable	1.0 - 3.8	6.8 - 7.0	369.1 - 429.1	512 - 1,788	Data unrecoverable
	02/24/10 - 02/28/10	1.4 - 4.4	9.8 - 11.6	6.8 - 7.0	59.1 - 138.9	200 - 954	6.1 - 238.9
	03/13/10 - 03/17/10	4.5 - 7.7	9.7 - 17.1 ²	6.5 - 7.2	54.9 - 213.3	96 - 962	2.4 - 349.4

Notes:

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = milliVolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Specific conductance data for 6/18-19/09 storm unrecoverable due Isco 6712 transmission errors.

Temperature data for 1/25-1/27/10 storm unrecoverable to apparent In-Situ troll sensor damage.

Note: the pending software revision to Flowlink 5TM referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5TM are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1 Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

2 Recorded values are suspect (possible sensor drift).

Table 4i
Ranges of Storm Flow Water Quality Parameters for SW-07-TT (Swanton Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-07-TT	06/19/09 - 06/19/09	16.5 - 17.9	6.6 - 7.9	6.5 - 6.8	458.5 - 489.9	432 - 1,402	4.6 - 17.3
	07/01/09 - 07/02/09	16.4 - 17.7	6.3 - 7.8	5.6 - 5.9	449.1 - 494.8	58 - 928	4.4 - 63.9
	07/07/09 - 07/09/09	16.2 - 18.0	6.3 - 7.7	6.4 - 6.9	389.6 - 503.9	258 - 1,056	1.5 - 28.2
	07/24/09 - 07/26/09	17.9 - 20.9	6.0 - 6.7	6.5 - 6.8	482.7 - 506.6	496 - 726	1.4 - 17.4
	11/14/09 - 11/16/09	9.8 - 10.8	6.9 - 8.4	7.2 - 7.3	63.6 - 95.3	718 - 1,120	3.6 - 49.2
	12/03/09 - 12/04/09	Data rejected					
	01/25/10 - 01/27/10	2.1 - 4.8	8.8 - 9.8	6.7 - 7.0	Data unrecoverable	366 - 1,470	15.8 - 262.3
	02/24/10 - 02/27/10	2.7 - 5.1	9.6 - 11.6	6.5 - 7.1	349.4 - 586.2	282 - 1,658	7.0 - 217.7
03/13/10 - 03/17/10	4.8 - 7.2	9.5 - 11.3	6.5 - 7.1	437.9 - 551.2	136 - 1,026	11.4 - 66.2	

Notes:

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = milliVolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Water quality data from 12/3-12/4/09 storm reviewed and rejected due to communication errors between the In-Situ troll and the Isco 6712.

ORP data for 1/25-1/26/10 storm unrecoverable due to communication errors between the In-Situ troll and the Isco 6712.

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1. Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

Table 4j
Ranges of Storm Flow Water Quality Parameters for SW-08-TT (USGS / Mystic Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Temperature (°C)	Dissolved Oxygen (mg/l)	pH (s.u.)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
Surface Water Monitoring Plan							
SW-08-TT	06/18/09 - 06/20/09	16.9 - 18.7	5.7 - 7.1	6.4 - 6.6	470.9 - 525.3	490 - 976	14.6 - 38.3
	07/01/09 - 07/03/09	16.8 - 18.3	4.4 - 8.7	6.8 - 7.1	443.1 - 509.7	358 - 938	33.1 - 128.3
	07/07/09 - 07/11/09	17.7 - 20.9	5.3 - 8.0	7.0 - 7.3	361.4 - 508.1	506 - 1,002	4.4 - 39.7
	07/24/09 - 07/26/09	18.2 - 22.6	1.8 - 8.1	7.0 - 7.8	360.3 - 488.8	352 - 1,044	3.3 - 155.4
	11/14/09 - 11/16/09	9.3 - 11.5	2.7 - 10.5	6.9 - 7.2	387.3 - 463.5	184 - 942	4.3 - 329.2
	12/03/09 - 12/05/09	8.3 - 11.7	9.6 - 11.5	7.0 - 7.3	454.3 - 462.7	190 - 534	18.2 - 30.6
	01/25/10 - 01/27/10	1.5 - 3.9	11.0 - 11.8	6.9 - 7.2	169.8 - 284.1	398 - 1,040	7.8 - 178.7
	02/24/10 - 02/28/10	2.3 - 4.4	10.1 - 14.3	6.9 - 7.2	60.4 - 500.7	310 - 1,132	11.0 - 352.0
03/13/10 - 03/17/10	4.5 - 7.6	9.5 - 11.5	6.8 - 7.2	601.7 - 999.0 ²	84 - 1,016	9.9 - 513.1	

Notes:

USGS = United States Geological Survey

°C = Degrees Celsius

mg/l = milligrams per liter

s.u. = standard units

mV = milliVolts

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

Note: the pending software revision to Flowlink 5™ referenced in past storm reports has been implemented, but did not result in the reporting of correct turbidity values. However, according to representatives at Isco, the turbidity values reported in Flowlink 5™ are being magnified by a factor of one thousand. Therefore, the values reported have been corrected accordingly.

1 Dates shown indicate time period over which sample aliquots used in composite storm samples were collected; ranges of parameters reported are for same time period.

2 Highest value recorded prior to ORP sensor malfunction due to Isco 6712 power failure.

Table 5a
Storm Flow Laboratory Analytical Results for SW-2-IP (Atlantic Avenue Drainway)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan												
SW-2	09/04/00	--	0.002U	0.002U	--	--	5U	--	--	--	--	--
	09/18/00	--	0.0025U	0.0025U	--	--	5U	--	--	--	--	--
	10/09/00	--	0.0025U	0.0025U	--	--	5U	--	--	--	--	--
	10/19/00	--	0.0036B	0.0025U	--	--	12	--	--	--	--	--
	12/18/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/23/01	--	0.0035U	0.0035U	--	--	21.6	--	--	--	--	--
	03/29/01	--	0.0025B	0.0042U	--	--	14	--	--	--	--	--
Remedial Design "Early Action"												
SW-2-IP	12/15/08	--	0.003U	0.003U	--	--	5U	0.229	0.05U	0.22U	0.54	0.31
Surface Water Monitoring Plan												
SW-2-IP	06/20/09	0.5U	0.003	0.003	1.3	0.06	6.3	0.086	0.08	0.27	0.76	0.67
	07/03/06	0.5U	0.003U	0.003U	1.8	0.34	14	0.187	0.05U	0.28	0.68	0.49
	07/09/09	0.5U	0.003U	0.003U	1.7	0.28	7.9	0.123	0.06	0.43	0.5	0.38
	07/26/09	0.5U	0.0028J	0.003U	1.2	0.38	12	0.613	0.028J	0.34	1.2	0.59
	11/16/09	0.5U	0.003U	0.003U	0.94	0.11	5.1	0.072J	0.05U	0.36	0.42	0.42
	12/04/09	0.5U	0.0025J	0.003U	1.2	0.12	10	0.136	0.05U	0.2	0.55	0.41
	01/27/10	0.5U	0.003U	0.003U	1	0.031J	12	0.182	0.05U	0.3	0.44	0.3U
	02/25/10	0.5U	0.003U	0.003U	0.8	0.13	5.8	0.213	0.05U	0.16	0.52	0.31
	03/01/10	0.5U	0.0022J	0.003U	0.64	0.12	6.5	0.181	0.025J	0.15	0.43	0.25J
	03/17/10	0.5U	0.003U	0.003U	0.4	0.12	5U	0.174	0.05U	0.2	0.46	0.3U

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown.

* Not yet validated

AAD = Atlantic Avenue Drainway

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

B = For organic analytes, compound detected in laboratory blank; for inorganic analytes, analyte below reporting limit, but greater than or equal to 1/2 the laboratory detection limit (value is estimated)

NS = Not Sampled

Table 5b
Storm Flow Laboratory Analytical Results for SW-3-IP (Boston Edison Co. ROW)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan												
SW-3	09/04/00	--	0.0058B	0.0057B	--	--	5U	--	--	--	--	--
	09/18/00	--	0.0102	0.0037B	--	--	5U	--	--	--	--	--
	10/09/00	--	0.0084B	0.0025U	--	--	5U	--	--	--	--	--
	10/19/00	--	0.0122	0.0093B	--	--	5	--	--	--	--	--
	12/18/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/23/01	--	0.022	0.0106	--	--	35.6	--	--	--	--	--
	03/29/01	--	0.0763	--	--	--	55.6	--	--	--	--	--
Remedial Design "Early Action"												
SW-3-IP	12/15/08	--	0.0024J	0.003U	--	--	15	0.246	0.05U	0.16U	0.59	0.34
Surface Water Monitoring Plan												
SW-3-IP	06/20/09	0.5U	0.024	0.004	1.8	0.06	29	0.759	0.1	0.46	1.2	0.44
	07/03/09	0.5U	0.036	0.004	3.6	0.16	58	1.27	0.05U	0.39	1.8	0.53
	07/09/09	0.5U	0.045	0.003U	5.8	0.046J	60	0.22	0.05U	0.32	0.59	0.37
	07/26/09	0.5U	0.004	0.0028J	0.35	0.05	5U	0.231	0.05U	0.1U	0.34	0.3U
	11/16/09	0.5U	0.05	0.0029J	5.3	0.04J	300	0.412	0.05U	0.19	1.3	0.89
	12/04/09	0.5U	0.042	0.003	3.8	0.042J	30	0.494	0.05U	0.16	0.79	0.3
	01/27/10	0.5U	0.046	0.003U	7.5	0.038J	120	0.27	0.05U	0.11	0.69	0.42
	02/25/10	0.5U	0.014	0.003U	2	0.11	26	1.87	0.05U	0.22	2.1	0.3U
	03/01/10	0.5U	0.007	0.003U	0.95	0.18	9	1.49	0.05U	0.13	1.7	0.21J
03/17/10	0.5U	0.005	0.003	0.63	0.27	5.1	0.73	0.05U	0.24	0.9	0.3U	

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown.

* Not yet validated

BECO ROW = Boston Edison Company Right-of-Way

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

B = For organic analytes, compound detected in laboratory blank; for inorganic analytes, analyte below reporting limit, but greater than or equal to 1/2 the laboratory detection limit (value is estimated)

**Table 5c
Storm Flow Laboratory Analytical Results for SW-01-TT (Halls Brook)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan												
SW-1	09/04/00	--	0.0028B	0.002U	--	--	5U	--	--	--	--	--
	09/18/00	--	0.0044B	0.0025U	--	--	5U	--	--	--	--	--
	10/09/00	--	0.0025U	0.0025U	--	--	5U	--	--	--	--	--
	10/19/00	--	0.0062B	0.005U	--	--	25.5	--	--	--	--	--
	12/18/00	--	0.0063B	0.0035U	--	--	13.6	--	--	--	--	--
	03/23/01	--	0.0036J	0.0035U	--	--	62.8	--	--	--	--	--
	03/29/01	--	0.0024U	0.0042U	--	--	5.2	--	--	--	--	--
Multiple Source Groundwater Response Plan												
SW-01-TT	04/26/02	--	0.0051	0.002U	2.76	0.327	31.2J	--	--	--	--	--
	05/15/02	--	0.0018J	0.002U	1.23	0.447	25.8J	--	--	--	--	--
	07/25/02	--	0.0036	0.0013U	1.94	0.226J	22.1J	--	--	--	--	--
	08/31/02	--	0.0057U	0.0039UJ	1.65	0.0573U	15.8J	--	--	--	--	--
	09/25/02	--	0.0022J	0.0025U	1.68	0.203	21.4J	--	--	--	--	--
	10/18/02	--	0.0042J	0.003U	2.06	0.0818U	20.4	--	--	--	--	--
Remedial Design "Early Action"												
SW-01-TT	12/15/08	--	0.005	0.003U	--	--	30	0.61	0.05U	0.71	1.8	1.2
Surface Water Monitoring Plan												
SW-01-TT	06/20/09	0.5U	0.003U	0.003U	1.5	0.34	6.9	0.992	0.12	0.96	1.7	0.71
	06/20/09A	--	0.0028J	0.003U	1.6	0.29	20	1.24	0.11	0.54	2	0.76
	07/03/09	0.5U	0.0027J	0.003U	3.1	0.6	16	1.01	0.05	0.49	0.98	0.3U
	07/09/09	0.5U	0.003U	0.003U	1.4	0.51	23	0.667	0.08	0.53	1.5	0.83
	07/26/09	0.5U	0.0027J	0.003U	1.3	0.31	7.3	0.0654J	0.05U	0.1	0.55	0.55
	11/16/09	0.5U	0.008	0.003U	5.6	0.3	130	0.474	0.05U	0.31	1.9	1.4
	12/04/09	0.5U	0.0023J	0.003U	1.7	0.26	21	0.63	0.05U	0.42	1.3	0.67
	01/27/10 [†]	0.5U	0.005	0.003U	3.8	0.18	58	0.486	0.05U	0.38	1.3	0.81
	02/25/10	0.5U	0.0026J	0.003U	1.6	0.2	11	0.459	0.05U	0.32	1	0.54
	03/01/10	0.5U	0.004	0.003U	1.3	0.18	11	0.414	0.05U	0.36	1	0.59
	03/17/10	0.5U	0.003U	0.003U	0.37	0.13	7.8	0.29	0.05U	0.43	0.67	0.38

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown.

* Not yet validated

†The samples collected from Stations SW-01-TT and SW-02-TT during the January 25-26, 2010 storm event do not reflect the laboratory-reported results. Specifically, based on historical analytical results for these stations and the results of a duplicate sample collected from Station SW-01-TT during the January 25-26, 2010 storm event, Roux Associates 1) believes that the sample designated as SW02TT_20100127 is actually the sample collected from Station SW-01-TT and the sample designated as SW01TT_20100127 is actually the sample collected from Station SW-02-TT and 2) has reported the results accordingly.

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.

B = For organic analytes, compound detected in laboratory blank; for inorganic analytes, analyte below reporting limit, but greater than or equal to 1/2 the laboratory detection limit (value is estimated)

**Table 5d
Storm Flow Laboratory Analytical Results for SW-02-TT (HBHA Pond Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan												
SW-4A	09/18/00	--	0.055	0.0034J	5.66	--	20	--	--	--	--	--
SW-4B	09/18/00	--	0.0452	0.0025U	5.01	--	18.5	--	--	--	--	--
SW-4A	10/09/00	--	0.01	0.0025U	0.8	--	5U	--	--	--	--	--
SW-4	10/19/00	--	0.0305	0.0108	2.52	--	7.5	--	--	--	--	--
	12/18/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/29/01	--	0.006J	0.0071J	0.881UJ	--	7.2	--	--	--	--	--
Multiple Source Groundwater Response Plan												
SW-02-TT	04/26/02	--	0.0217	0.008	2.24	0.56	8.8J	--	--	--	--	--
	05/15/02	--	0.0815	0.0274	5.28	1.28	15.5J	--	--	--	--	--
	07/25/02	--	0.0205	0.0037	2.06	0.138U	6J	--	--	--	--	--
	08/31/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/25/02	--	0.037	0.0038J	3.47	0.0391	7.6J	--	--	--	--	--
	10/18/02	--	0.0774	0.0083	6.52	0.297	23.6	--	--	--	--	--
Remedial Design "Early Action"												
SW-02-TT	12/15/08	--	0.012	0.008	--	--	5U	2.95	0.05U	0.58	3.7	0.75
Surface Water Monitoring Plan												
SW-02-TT	06/20/09	0.66	--	--	--	--	--	--	--	--	--	--
	07/03/09	0.5U	0.027	0.011	3.2	1.3	9.2	8.47	0.07	0.51	9.2	0.73
	07/09/09	4.7	0.019	0.009	2.8	1.3	9.5	4.43	0.1	0.68	5	0.57
	07/26/09	1.7	0.015	0.009	1.6	0.67	5U	3.15	0.037J	0.3	4	0.85
	11/16/09	9.1	0.008	0.009	1.3J	1.3J	11J	5.91	0.05U	0.38	6.9	0.99
	12/04/09*	3.8	0.021	0.013	2	0.82	5U	5.7	0.05U	0.47	6.1	0.4
	01/27/10 [†]	4.1	0.024	0.007	3.8	0.64	22	7.49	0.05U	0.4	8.5	1
	02/25/10	7.3	0.016	0.006	2.5	0.69	14	6.69	0.05U	0.34	7.2	0.51
	03/01/10	0.28J	0.005	0.004	0.72	0.36	10	1.15	0.025J	0.34	1.7	0.55
	03/17/10	0.37J	0.0026J	0.003U	0.5	0.19	5U	0.912	0.05U	0.42	1.3	0.39

Notes:

¹ Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown.

* Not yet validated

[†]The samples collected from Stations SW-01-TT and SW-02-TT during the January 25-26, 2010 storm event do not reflect the laboratory-reported results. Specifically, based on historical analytical results for these stations and the results of a duplicate sample collected from Station SW-01-TT during the January 25-26, 2010 storm event, Roux Associates 1) believes that the sample designated as SW02TT_20100127 is actually the sample collected from Station SW-01-TT and the sample designated as SW01TT_20100127 is actually the sample collected from Station SW-02-TT and 2) has reported the results accordingly.

HBHA = Halls Brook Holding Area

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

NS = Not Sampled

**Table 5e
Storm Flow Laboratory Analytical Results for SW-04-TT (HBHA Wetland Outlet)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Groundwater & Surface Water Investigation Plan												
SW-9	09/18/00	--	0.0215	0.0028J	1.73	--	7	--	--	--	--	--
	10/09/00	--	0.0093	0.0025U	1.14	--	5	--	--	--	--	--
	10/19/00	--	0.0194	0.0108	1.9	--	5U	--	--	--	--	--
	12/18/00	--	0.009	0.0039J	1.5	--	5U	--	--	--	--	--
	03/23/01	--	0.0142	0.0086	1.49	--	7.2	--	--	--	--	--
	03/29/01	--	0.0072	0.0042U	1.18UJ	--	14.4	--	--	--	--	--
SW-9A	03/23/01	--	0.0035U	--	--	--	5	--	--	--	--	--
Multiple Source Groundwater Response Plan												
SW-04-TT	04/26/02	--	0.0117	0.0059	1.49	0.419	6	--	--	--	--	--
	05/16/02	--	0.0115	0.0049	2.28	0.694	7J	--	--	--	--	--
	07/25/02	--	0.0268	0.0059	2.59	--	20.8J	--	--	--	--	--
	08/06/02	--	0.0368	0.009	3.8	0.0791U	13.6J	--	--	--	--	--
	08/31/02	--	0.029	0.0044UJ	3	0.0276U	15.2J	--	--	--	--	--
	09/25/02	--	0.0253	0.0074	3.06	0.569	10.8J	--	--	--	--	--
	10/18/02	--	0.0478	0.0141	4.6	1.14	15.6	--	--	--	--	--
Remedial Design "Early Action"												
SW-04-TT	12/15/08	--	0.011	0.005	--	--	5.5	2.46	0.05U	0.48	3.1	0.64
Surface Water Monitoring Plan												
SW-04-TT	06/20/09	0.36J	0.016	0.003	--	--	5.5	3.95	0.12	0.58	4.5	0.55
	06/20/09A	--	0.014	0.007	1.9	0.72	14	2.74	0.12	0.53	3.3	0.56
	07/03/09	0.5U	0.02	0.008	--	--	9.5	5.84	0.1	0.71	6.9	1.1
	07/09/09	0.5U	0.016	0.008	--	--	7.3	3.55	0.14	0.55	4.2	0.65
	07/26/09	0.5U	0.011	0.005	--	--	5U	2.38	0.06	0.41	3	0.62
	11/16/09	1.9	0.017	0.008	--	--	5.9	5.79	0.05U	0.4	6.4	0.61
	12/04/09	2.2	0.015	0.007	--	--	5U	5.13	0.028J	0.68	5.4	0.27J
	01/27/10	0.5U	0.015	0.008	--	--	13	7.12	0.032J	0.46	7.7	0.58
	02/25/10	0.5	0.012	0.006	--	--	6.3	6.06	0.05U	0.36	6.4	0.34
	03/01/10	0.5U	0.004	0.0022J	--	--	5U	0.953	0.05U	0.33	1.3	0.35
	03/17/10	0.5U	0.0022J	0.0022J	--	--	5U	0.683	0.05U	0.43	0.95	0.3U

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown.

* Not yet validated

HBHA = Halls Brook Holding Area

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated.

Table 5f
Storm Flow Laboratory Analytical Results for SW-03-TT (Aberjona)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan												
SW-03-TT	04/26/02	--	0.0121	0.002U	1.93	0.307	--	--	--	--	--	--
	05/15/02	--	0.0075	0.002U	1.44	0.404	5UJ	--	--	--	--	--
	07/25/02	--	0.0117	0.0041	1.32	0.143	7J	--	--	--	--	--
	08/31/02	--	0.0195	0.0037UJ	1.73	0.14U	8.8J	--	--	--	--	--
	09/25/02	--	0.0122	0.004J	1.44	0.335	5.2J	--	--	--	--	--
	10/18/02	--	0.0284	0.003U	3.14	0.0721U	17.2	--	--	--	--	--
Surface Water Monitoring Plan												
SW-03-TT	06/20/09	0.5U	0.006	0.005	--	--	6.6	0.312	0.12	0.57	0.83	0.52
	07/03/09	0.5U	0.005	0.003U	--	--	18	0.249	0.08	0.58	1	0.75
	07/09/09	0.5U	0.004	0.003U	--	--	22	0.241	0.09	0.6	0.93	0.69
	07/26/09	0.5U	0.004	0.0029J	--	--	5U	0.256	0.07	0.75	0.75	0.49
	11/16/09	0.5U	0.009	0.003U	--	--	16	0.134	0.05U	0.36	0.69	0.56
	12/04/09	0.5U	0.003U	0.003	--	--	5U	0.248	0.028J	0.55	0.72	0.47
	01/27/10	0.5U	0.009	0.003U	--	--	28	0.315	0.05U	0.48	0.93	0.62
	02/25/10	0.5U	0.013	0.003U	--	--	42	0.292	0.05U	0.4	1	0.71
	03/01/10	0.5U	0.003U	0.003U	--	--	6.7	0.201	0.05U	0.45	0.57	0.37
03/17/10	0.5U	0.003U	0.003U	--	--	5U	0.105	0.05U	0.47	0.48	0.38	

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown

* Not yet validated

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

Table 5g
Storm Flow Laboratory Analytical Results for SW-05-TT (Salem Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan												
SW-05-TT	04/26/02	--	0.015	0.0022J	2.09	0.356	15.7	--	--	--	--	--
	05/15/02	--	0.0233	0.0126	2.21	0.968	8J	--	--	--	--	--
	07/25/02	--	0.0175	0.0023J	1.85	0.129	4.4J	--	--	--	--	--
	08/31/02	--	0.0126	0.0025U	1.16	0.0884U	3J	--	--	--	--	--
	09/25/02	--	0.0115	0.0025U	1.15	0.0607	3.6J	--	--	--	--	--
	10/18/02	--	0.012	0.003U	1.46	0.244	6.8	--	--	--	--	--
Surface Water Monitoring Plan												
SW-05-TT	06/20/09	0.5U	0.01	0.004	--	--	8	0.801	0.13	0.67	1.6	0.8
	07/03/09	0.5U	0.008	0.004	--	--	10	1.13	0.11	0.65	1.8	0.67
	07/09/09	0.5U	0.008	0.007	--	--	5U	1.65	0.18	0.76	2.3	0.65
	07/26/09	0.5U	0.006	0.005	--	--	5U	0.423	0.07	0.7	0.93	0.51
	11/16/09	0.5U	0.01	0.006	--	--	5U	1.94	0.028J	0.56	2.6	0.66
	12/04/09	0.5U	0.007	0.003	--	--	5U	1.67	0.032J	0.7	2	0.33
	01/27/10	0.5U	0.024	0.0021J	--	--	35	2.67	0.05U	0.51	3.5	0.83
	03/01/10	0.5U	0.004	0.0027J	--	--	5.9	1.36	0.05U	0.41	1.8	0.44
03/17/10	0.5U	0.0022J	0.003	--	--	5U	0.461	0.05U	1.3	0.79	0.33	

Notes:

¹ Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown

* Not yet validated

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

Table 5h
Storm Flow Laboratory Analytical Results for SW-06-TT (Montvale Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan												
SW-06-TT	04/26/02	--	0.0168	0.0034J	3.01	0.595	30.4	--	--	--	--	--
	05/15/02	--	0.0212	0.0118	2.15	0.79	11.5J	--	--	--	--	--
	07/25/02	--	0.0152	0.0025J	1.92	0.116U	8J	--	--	--	--	--
	08/31/02	--	0.0152	0.0025U	1.54	0.0919U	9.2J	--	--	--	--	--
	09/25/02	--	0.0255	0.0038J	2.77	0.211	18.6J	--	--	--	--	--
	10/18/02	--	0.0255	0.0026J	3.4	0.378	27.8	--	--	--	--	--
Surface Water Monitoring Plan												
SW-06-TT	06/20/09	0.5U	0.011	0.004	--	--	9.4	0.993	0.16	0.74	1.5	0.51
	07/03/09	0.5U	0.009	0.0022J	--	--	54	1.2	0.09	1	1.9	0.7
	07/09/09	0.5U	0.009	0.004	--	--	7.5	1.15	0.14	0.82	1.8	0.65
	07/26/09	0.5U	0.007	0.004	--	--	5U	0.695	0.06	0.62	1.2	0.5
	11/16/09	0.5U	0.014	0.003	--	--	18	1.57	0.027J	0.62	2.2	0.63
	12/04/09	0.5U	0.009	0.005	--	--	9.1	1.4	0.039J	1.6	1.9	0.5
	01/27/10	0.5U	0.014	0.0024J	--	--	33	2.34	0.029J	0.6	2.9	0.56
	03/01/10	0.5U	0.0028J	0.003U	--	--	5U	1.11	0.05U	0.51	1.6	0.49
03/17/10	0.5U	0.007	0.003U	--	--	24	0.243	0.05U	0.81	0.81	0.57	

Notes:

¹ Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown

* Not yet validated

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

Table 5i
Storm Flow Laboratory Analytical Results for SW-07-TT (Swanton Street)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan												
SW-07-TT	04/26/02	--	0.0117	0.002U	2.52	0.165	33.2	--	--	--	--	--
	05/15/02	--	0.0181	0.0077	1.93J	0.722	9J	--	--	--	--	--
	07/25/02	--	0.0053	0.0014J	0.91	0.0742J	6.1J	--	--	--	--	--
	08/31/02	--	0.0048J	0.0025U	0.777	0.0495U	6J	--	--	--	--	--
	09/25/02	--	0.0072	0.0032	0.88	0.206	4J	--	--	--	--	--
	10/18/02	--	0.0112	0.0036J	1.66	0.224	5.4	--	--	--	--	--
Surface Water Monitoring Plan												
SW-07-TT	06/20/09	0.5U	0.009	0.004	--	--	23	0.573	0.15	0.8	1.2	0.63
	07/03/09	0.5U	0.012	0.003U	--	--	130	0.419	0.08	0.83	1.4	0.98
	07/09/09	0.5U	0.009	0.004	--	--	15	0.949	0.13	0.88	1.75	0.75
	07/24/09	0.5U	0.007	0.0026J	--	--	9.5	0.539	0.07	0.71	1.1	0.56
	11/16/09	0.5U	0.008	0.003	--	--	13	1.13	0.05U	0.62	1.8	0.67
	12/04/09	0.5U	0.006	0.003U	--	--	5	1.08	0.039J	0.85	1.4	0.32
	01/27/10	0.5U	0.012	0.0023J	--	--	44	1.67	0.05U	0.61	2.4	0.73
	03/01/10	0.5U	0.0023J	0.0024J	--	--	5U	1.12	0.05U	0.58	1.4	0.28J
03/17/10	0.5U	0.003U	0.003U	--	--	8.5	0.265	0.05U	0.8	0.69	0.42	

Notes:

¹ Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown

* Not yet validated

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

Table 5j
Storm Flow Laboratory Analytical Results for SW-08-TT (USGS / Mystic Avenue)
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

DRAFT

Sample ID	Date ¹	Benzene (µg/l)	Total Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Total Iron (mg/l)	Dissolved Iron (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	TKN (mg/l)	Total Organic Nitrogen (mg/l)
Multiple Source Groundwater Response Plan												
SW-08-TT	04/26/02	--	0.0095	0.002U	1.17	0.24	17.3	--	--	--	--	--
	05/16/02	--	0.0073	0.0031J	6.94	0.364	143J	--	--	--	--	--
	07/25/02	--	0.0046	0.0013U	0.512	0.0087U	15.9J	--	--	--	--	--
	08/31/02	--	0.0055	0.0025U	1.54	0.0655U	16.2J	--	--	--	--	--
	09/25/02	--	0.008	0.0026	4.59	0.226	12.5J	--	--	--	--	--
	10/18/02	--	0.003U	0.003U	1.52	0.469	179	--	--	--	--	--
Surface Water Monitoring Plan												
SW-08-TT	06/20/09	0.5U	0.008	0.004	--	--	18	0.413	0.11	0.79	1	0.59
	07/03/09	0.5U	0.006	0.003U	--	--	29	0.462	0.09	0.82	1.5	1
	07/11/09	0.5U	0.003	0.004	--	--	13	0.229	0.07	0.78	0.98	0.75
	07/26/09	0.5U	0.005	0.0025J	--	--	9.4	0.288	0.05	0.65	1.2	0.91
	11/16/09	0.5U	0.006	0.003	--	--	15	0.548	0.026J	0.55	1.4	0.85
	12/04/09	0.5U	0.004	0.0021J	--	--	5U	0.95	0.031J	0.77J	1.1	0.15J
	01/27/10	0.5U	0.009	0.0026J	--	--	33	1.4	0.03J	0.64	2	0.6
	03/01/10	0.5U	0.003	0.003U	--	--	8.9	0.599	0.05U	0.66	1.1	0.5
03/17/10	0.5U	0.0022J	0.003U	--	--	17	0.236	0.05U	1.6	0.59	0.35	

Notes:

1 Dates shown are dates on which composite storm samples were prepared; benzene samples are typically collected one or more days before the date shown

* Not yet validated

µg/l = micrograms per liter

mg/l = milligrams per liter

TSS = Total Suspended Solids

TKN = Total Kjeldahl Nitrogen

-- = Sample not analyzed for this compound

U = Compound or sample not detected; value shown is reporting limit

J = Analyte concentration is below quantitation limit, but greater than or equal to 1/2 the laboratory detection limit. Value is estimated

**Table 6
Relative Surface Water and Groundwater Elevations at Time of Storm Sampling
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts**

Station ID	Station Description	Date ¹	Surface Water			Groundwater			Gradient
			Measuring Point ² (ft)	Staff Gage Reading (ft)	Surface Water Elevation ³ (ft)	Measuring Point ⁴ (ft)	Depth to Water (ft)	Groundwater Elevation ³ (ft)	
SW-2-IP	AAD	06/19/09	92.34	0.62	92.96	95.16	3.16	92.00	Down
		07/01/09	92.34	NM	NA	95.16	NM	NA	NA
		07/07/09	92.34	1.44	93.78	95.16	NM	NA	NA
		07/24/09	92.34	1.05	93.39	95.16	2.42	92.74	Down
		11/14/09	92.34	1.20	93.54	95.16	2.35	92.81	Down
		12/03/09	92.34	0.92	93.26	95.16	2.54	92.62	Down
		01/25/10	92.34	1.28	93.62	95.16	2.41	92.75	Down
		02/24/10	92.34	0.95	93.29	95.16	2.76	92.40	Down
		02/25/10	92.34	1.00	93.34	95.16	2.21	92.95	Down
03/13/10	92.34	0.82	93.16	95.16	2.75	92.41	Down		
SW-3-IP	BECO ROW	06/19/09	93.74	0.40	94.14	97.76	2.47	95.29	Up
		07/01/09	93.66	NM	NA	97.76	NM	NA	NA
		07/07/09	93.66	1.68	95.34	97.76	NM	NA	NA
		07/24/09	93.66	1.70	95.36	97.76	1.53	96.23	Up
		11/14/09	93.66	2.00	95.66	97.76	1.05	96.71	Up
		12/03/09	93.66	1.48	95.14	97.76	1.50	96.26	Up
		01/25/10	93.66	1.70	95.36	97.76	1.50	96.26	Up
		02/24/10	93.66	1.79	95.45	97.76	1.20	96.56	Up
		02/25/10	93.66	1.82	95.48	97.76	0.93	96.83	Up
03/13/10	93.66	0.88	94.54	97.76	2.05	95.71	Up		
SW-01-TT	Halls Brook	06/19/09	92.98	1.58	94.56	96.87	5.28	91.59	Down
		07/01/09	92.98	NM	NA	96.87	NM	NA	NA
		07/07/09	92.98	2.48	95.46	96.87	NM	NA	NA
		07/24/09	92.98	2.42	95.40	96.87	4.72	92.15	Down
		11/14/09	92.98	2.45	95.43	96.87	5.07	91.80	Down
		12/03/09	92.98	2.26	95.24	96.87	4.89	91.98	Down
		01/25/10	92.98	2.58	95.56	96.87	5.14	91.73	Down
		02/24/10	92.98	2.48	95.46	96.87	4.95	91.92	Down
		02/25/10	92.98	2.40	95.38	96.87	3.92	92.95	Down
03/13/10	92.98	1.98	94.96	96.87	5.04	91.83	Down		
SW-02-TT	HBHA Pond Outlet	06/19/09	97.77	1.58	99.35	103.88	4.47	99.41	Up
		07/01/09	97.77	NM	NA	103.88	NM	NA	NA
		07/07/09	97.77	2.74	100.51	103.88	3.21	100.67	Up
		07/24/09	97.77	2.65	100.42	103.88	3.24	100.64	Up
		11/14/09	97.77	2.88	100.65	103.88	3.15	100.73	Up
		12/03/09	97.77	2.70	100.47	103.88	3.38	100.50	Up
		01/25/10	97.77	1.52	99.29	103.88	3.52	100.36	Up
		02/24/10	97.77	2.62	100.39	103.88	3.38	100.50	Up
		02/25/10	97.77	2.95	100.72	103.88	3.05	100.83	Up
03/13/10	97.77	1.96	99.73	103.88	4.03	99.85	Up		
SW-03-TT	Aberjona	06/19/09	93.46	1.28	94.74	97.41	2.59	94.82	Up
		07/01/09	93.46	NM	NA	97.41	NM	NA	NA
		07/07/09	93.46	NM	NA	97.41	NM	NA	NA
		07/24/09	93.46	2.30	95.76	97.41	1.75	95.66	Down
		11/14/09	93.46	2.80	96.26	97.41	1.46	95.95	Down
		12/03/09	93.46	2.02	95.48	97.41	1.91	95.50	Up
		01/25/10	93.46	2.58	96.04	97.41	1.50	95.91	Down
		02/24/10	93.32	2.10	95.42	97.41	2.16	95.25	Down
		02/25/10	93.32	2.60	95.92	97.41	1.36	96.05	Up
03/13/10	93.32	1.70	95.02	97.41	2.28	95.13	Up		
SW-05-TT	Salem Street	06/19/09	90.89	5.06	95.95	98.23	2.46	95.77	Down
		07/01/09	90.89	NM	NA	98.23	NM	NA	NA
		07/07/09	90.89	NM	NA	98.23	NM	NA	NA
		07/24/09	94.16	NM	NA	98.23	2.21	96.02	NA
		11/14/09	93.98	3.19	97.17	98.23	1.37	96.86	Down
		12/03/09	93.98	NM	NA	98.23	1.66	96.57	NA
		01/25/10	93.96	2.40	96.36	98.23	1.97	96.26	Down
		02/24/10	93.96	2.38	96.34	98.23	2.05	96.18	Down
		03/13/10	94.58	1.40	95.98	98.23	2.29	95.94	Down
SW-06-TT	Montvale Avenue	06/19/09	92.76	2.36	95.12	98.48	3.30	95.18	Up
		07/01/09	92.76	NM	NA	98.48	NM	NA	NA
		07/07/09	92.76	NM	NA	98.48	NM	NA	NA
		07/24/09	92.76	NM	NA	98.48	2.84	95.64	NA
		11/14/09	92.76	4.05	96.81	98.48	NM	NA	NA
		12/03/09	92.27	3.78	96.05	98.48	NM	NA	NA
		01/25/10	92.27	4.14	96.41	98.48	2.30	96.18	Down
		02/24/10	92.32	3.70	96.02	98.48	NM	NA	NA
		03/13/10	92.48	3.26	95.74	98.48	NM	NA	NA

Table 6
Relative Surface Water and Groundwater Elevations at Time of Storm Sampling
Industri-Plex Superfund Site Operable Unit 2
Woburn, Massachusetts

Station ID	Station Description	Date ¹	Surface Water			Groundwater			Gradient
			Measuring Point ² (ft)	Staff Gage Reading (ft)	Surface Water Elevation ³ (ft)	Measuring Point ⁴ (ft)	Depth to Water (ft)	Groundwater Elevation ³ (ft)	
SW-07-TT	Swanton Street	06/19/09	90.03	1.55	91.58	93.87	2.11	91.76	Up
		07/01/09	90.03	NM	NA	93.87	NM	NA	NA
		07/07/09	90.03	NM	NA	93.87	NM	NA	NA
		07/24/09	90.11	NM	NA	93.87	1.89	91.98	NA
		11/14/09	90.11	3.10	93.21	93.87	0.87	93.00	Down
		12/03/09	90.11	2.66	92.77	93.87	1.25	92.62	Down
		01/25/10	90.11	2.58	92.69	93.87	1.58	92.29	Down
		02/24/10	90.11	2.30	92.41	93.87	1.85	92.02	Down
SW-08-TT	USGS / Mystic Avenue	06/19/09	89.49	3.30	92.79	95.28	3.05	92.23	Down
		07/01/09	89.49	NM	NA	95.28	NM	NA	NA
		07/07/09	Unk.	NM	NA	95.28	NM	NA	NA
		07/24/09	89.44	11.65	101.09	95.28	2.43	92.85	Down
		11/14/09	81.29	12.30	93.59	95.28	1.97	93.31	Down
		12/03/09	81.29	12.00	93.29	95.28	2.29	92.99	Down
		01/25/10	81.29	11.82	93.11	95.28	2.57	92.71	Down
		02/24/10	81.29	11.70	92.99	95.28	2.72	92.56	Down
	03/13/10	81.29	10.90	92.19	95.28	2.85	92.43	Up	

Notes:

- 1 Relative surface water and groundwater elevations were recorded during benzene grab sampling following the onset of the storm.
- 2 Reference point is base of gauge (0.00 feet)
- 3 All elevations are relative to station-specific benchmarks and, therefore, are not comparable between stations.
- 4 Reference point is top of casing

AAAD = Atlantic Avenue Drainway

BECO ROW = Boston Edison Company right-of-way

HBHA = Halls Brook Holding Area

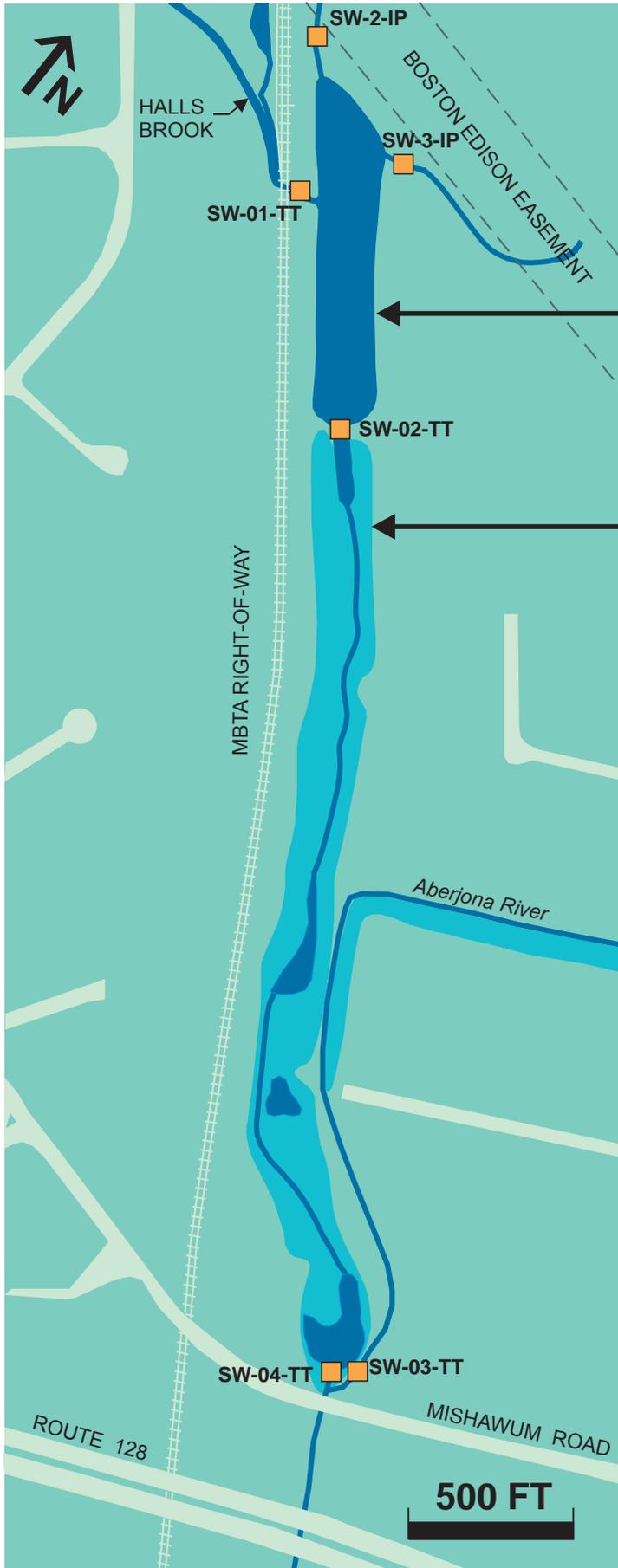
USGS = United States Geological Survey

NA = Not Applicable

NM = Not Measured (e.g., unable to access due to high stage, water frozen in piezometer, staff gauge knocked over). During the July 2009 storm events, staff gauges that were knocked over were unable to be reset prior to the subsequent storm, and therefore measurements were not obtained.

Unk. = Unknown Value

FIGURES



HBHA POND

HBHA WETLAND

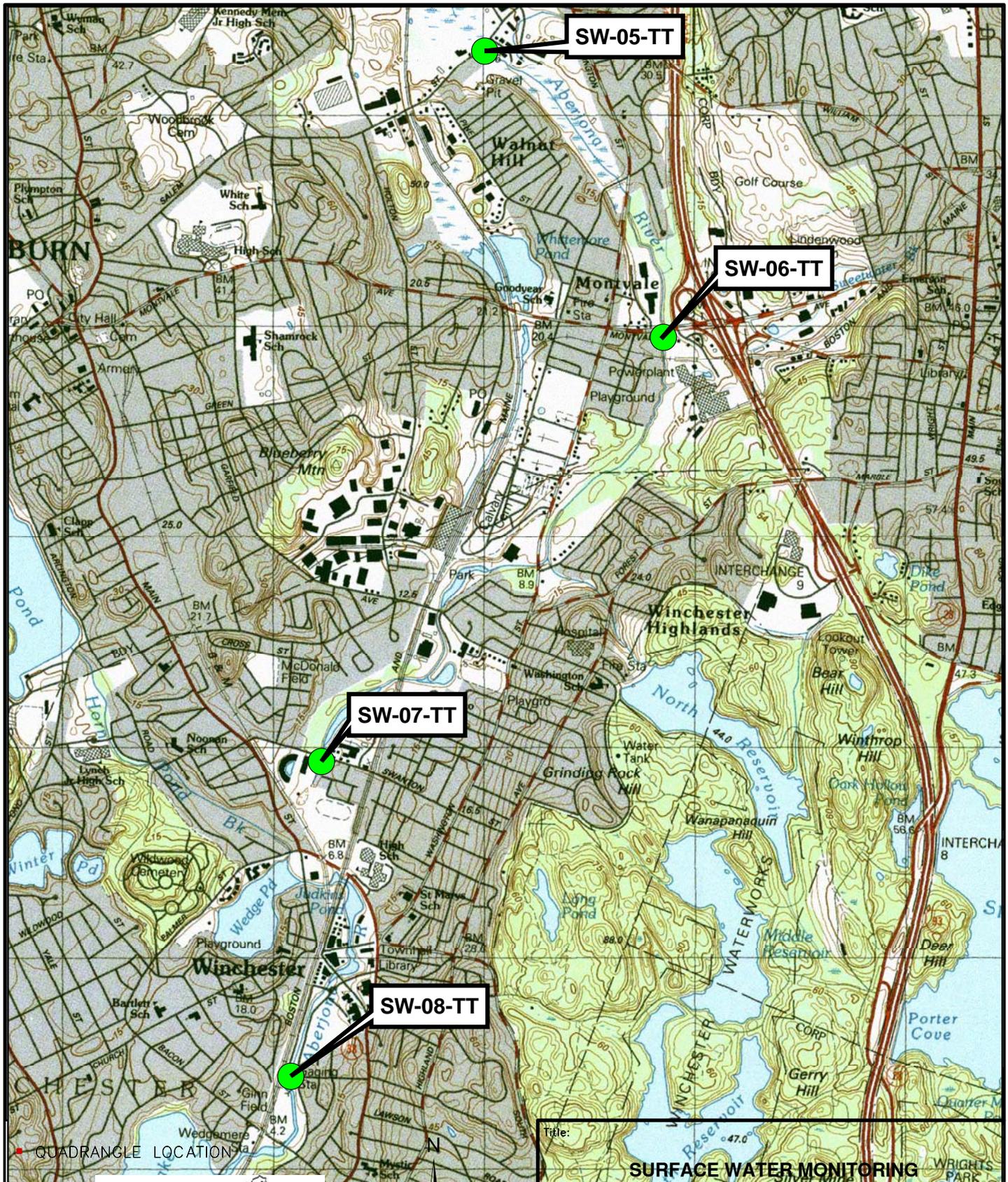
LEGEND

SW-01-TT  APPROXIMATE LOCATION AND DESIGNATION OF SURFACE WATER MONITORING STATION

DRAFT

Title:			SURFACE WATER MONITORING STATIONS NORTH OF ROUTE 128
Prepared for:			
INDUSTRI-PLEX OU 2 SETTLING DEFENDANTS			FIGURE 1
	Compiled by: LM	Date: 7/10/09	
ROUX ASSOCIATES INC. <i>Environmental consulting & Management</i>	Prepared by: CRS	Scale: AS SHOWN	
	Project Mgr.: LM	Office: MA	
	File No.: IPS0114202	Project No.: 119407M07	

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DRAFT

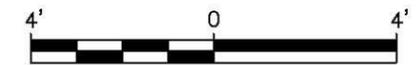
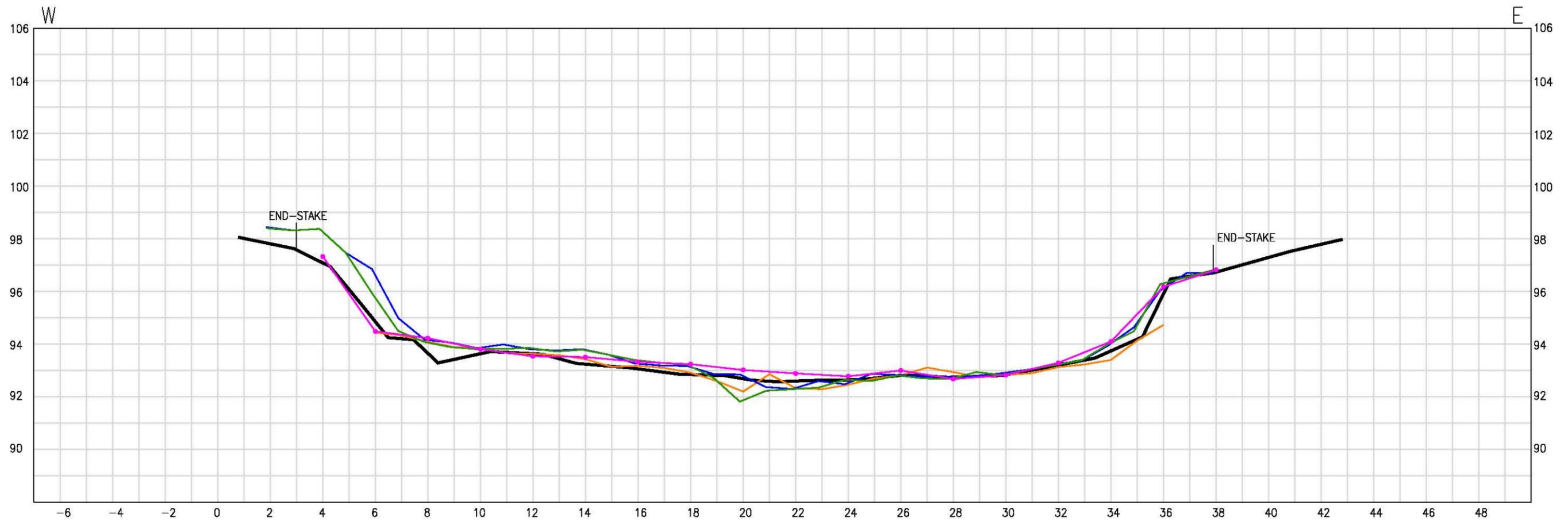
0 1,000 2,000
 Feet

SOURCE:
 USGS, 1987.
 Reading (Massachusetts) Quadrangle
 1:25,000—scale Topographic Map

Title:
SURFACE WATER MONITORING STATIONS SOUTH OF ROUTE 128

Prepared For:
 INDUSTRI-PLEX OU 2 SETTLING DEFENDANTS

 ROUX ASSOCIATES, INC. <i>Environmental Consulting & Management</i>	Compiled By: LM	Date: 7/10/09	FIGURE 2
	Prepared By: CRS	Scale: AS SHOWN	
	Project Mgr.: LM	Office: MA	
	File No.: IPS0114201	Project: 119401M	



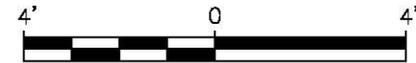
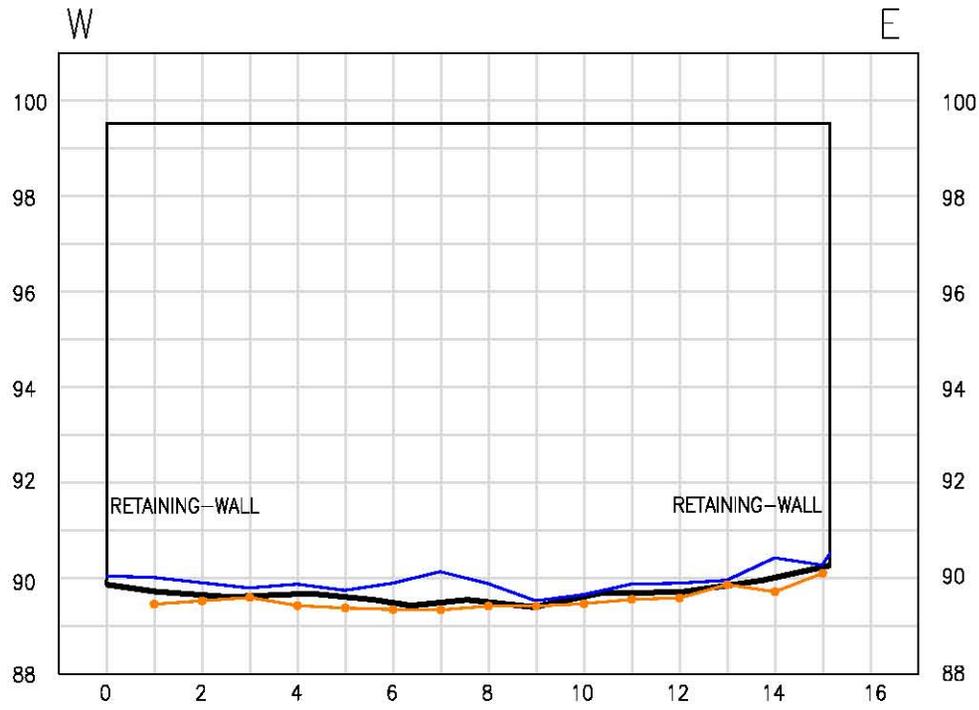
DRAFT

- Notes:
1. Profile is drawn looking upstream.
 2. Elevations are referenced to an arbitrary benchmark (=100 ft) at the southeast corner of concrete pad.
 3. Cross-sections shown are for the current and last reporting periods.

- BASELINE (MARCH 2009) CROSS-SECTION
- 12-08-09 POST-STORM CROSS-SECTION
- 02-01-10 POST-STORM CROSS-SECTION
- 03-03-10 POST-STORM CROSS-SECTION
- 04-13-10 POST-STORM CROSS-SECTION

Title: POST-STORM STREAM CROSS-SECTION STATION SW-06-TT (MONTVALE AVENUE)			
Prepared For: INDUSTRI-PLEX U2 SETTLING DEFENDANTS			
 ROUX ASSOCIATES, INC. <i>Environmental Consulting & Management</i>	Compiled by: LM	Date: 4/16/10	FIGURE 3
	Prepared by: CC	Scale: AS SHOWN	
	Project Mgr: LM	Office: MA	
	File No: IPS0116502	Project: 119401M07	

N:\PROJECTS\I-PLEX\119401M07\165\IPS0115802.dwg



DRAFT

Notes:

1. Profile is drawn looking upstream.
2. Elevations are referenced to an arbitrary benchmark (=100 ft) at the southeast corner of concrete pad.
3. Cross-sections shown are for the current and last reporting periods.

- BASELINE (MARCH 2009) CROSS-SECTION
- 02-01-10 POST-STORM CROSS-SECTION
- 04-13-10 POST-STORM CROSS-SECTION

Title:			
POST-STORM STREAM CROSS-SECTION STATION SW-07-TT (SWANTON STREET)			
Prepared For:			
INDUSTRI-PLEX OU2 SETTLING DEFENDANTS			
 ROUX ASSOCIATES, INC. <i>Environmental Consulting & Management</i>	Compiled by: LM	Date: 4/16/10	FIGURE 4
	Prepared by: CC	Scale: AS SHOWN	
	Project Mgr: LM	Office: MA	
	File No: IPS0116504	Project: 119401M07	

APPENDICES

APPENDIX A

Storm Hydrographs including Narrative

March 13-16, 2010

DRAFT

March 13-16, 2010

Note: Access difficulties were experienced due to flooding and closed roads, resulting in some extended delays in changing out rosettes. Flow estimates shown on the hydrographs are based on the programming (i.e., rating curves, level adjustment) of the Isco at the time of sampling. Following the storm event, flow estimates for 4 stations were updated using the May 2010 rating curves (Appendix C) along with applicable level adjustments relative to a datum at the deepest part of the channel; these updated flow estimates are provided in Table 3. Both the original and revised hydrographs for these monitoring stations (SW-2-IP, SW-01-TT, SW-02-TT, and SW-03-TT) are also included in this Appendix.

- **SW-2-IP:**
 - Aliquots not collected between approximately 10:06 am and 10:49 am on 3/14, 11:13 pm and 11:46 pm on 3/14, and 1:13 pm and 5:57 pm on 3/15 due to delays in changing out rosettes
- **SW-3-IP:**
 - Aliquots not collected between approximately 1:24 am and 1:49 am on 3/14, 6:49 am and 7:45 am on 3/14, 3:10 pm and 3:38 pm on 3/14, 8:37 pm and 10:26 pm on 3/14, 2:05 am and 10:51 am on 3/15, and 2:25 pm and 8:16 pm on 3/15 due to delays in changing out rosettes
 - One aliquot was collected after 75% of the falling limb was reached and was included in the composite
 - One aliquot (#237) was not collected due to obstructed intake / kinked tubing
 - Pond backup began at approximately 7:40 pm on 3/15
- **SW-01-TT:**
 - Aliquots not collected between approximately 9:53 am and 10:24 am on 3/14, and 2:52 pm and 5:29 pm on 3/15 due to delays in changing out rosettes
- **SW-02-TT:**
 - Aliquots not collected between approximately 11:17 am and 11:48 am on 3/14, 6:14 pm and 10:57 pm on 3/14, 3:41 am and 9:36 am on 3/15, and 2:54 pm and 6:38 pm on 3/15 due to delays in changing out rosettes
- **SW-04-TT:**
 - A/V sensor became dislodged at approximately 7:35 am on 3/14; therefore, subsequent velocity and stage (and hence flow) data do not represent actual conditions
 - Aliquots not collected between approximately 10:17 am and 12:10 am on 3/14, 12:39 am and 12:51 am on 3/15, 7:40 am and 9:56 am on 3/15, and 6:05 pm and 6:52 pm on 3/15 due to delays in changing out rosettes
- **SW-03-TT:**
 - Aliquots not collected between approximately 10:36 am and 11:02 am on 3/14, 4:44 pm and 6:52 pm on 3/14, 11:22 pm on 3/14 and 12:08 am on 3/15, 4:29 am and 8:47 am on 3/15, 1:38 pm and 6:46 pm on 3/15, and 12:07 am and 12:25 am on 3/16 due to delays in changing out rosettes
- **SW-05-TT:**
 - Aliquots not collected between approximately 9:35 pm and 9:47 pm on 3/14, 10:16 am and 12:07 pm on 3/15, 7:01 pm and 9:34 pm on 3/15, and 10:49 am and 1:11 pm on 3/16 due to delays in changing out rosettes
 - One aliquot (#160) was not collected due to power failure
- **SW-06-TT:**
 - A/V sensor became partially buried by sand at approximately 4:45 pm on 3/14; therefore, subsequent velocity data do not represent actual conditions
 - Aliquots not collected between approximately 4:28 pm and 7:17 pm on 3/14 and 9:47 am and 11:01 am on 3/16 due to delays in changing out rosettes
 - Two aliquots (#24 and #90) were not collected due to power failure
- **SW-07-TT:**
 - Aliquots not collected between approximately 8:26 am and 8:56 am on 3/14, 8:54 pm and 9:27 pm on 3/14, 10:31 am and 1:34 pm on 3/15, 5:38 pm and 5:56 pm on 3/16 due to delays in changing out rosettes
 - Equipment malfunction (Isco Model 750 area-velocity module) at approximately 3:25 am on 3/16; therefore, subsequent velocity and stage (and hence flow) data do not represent actual conditions

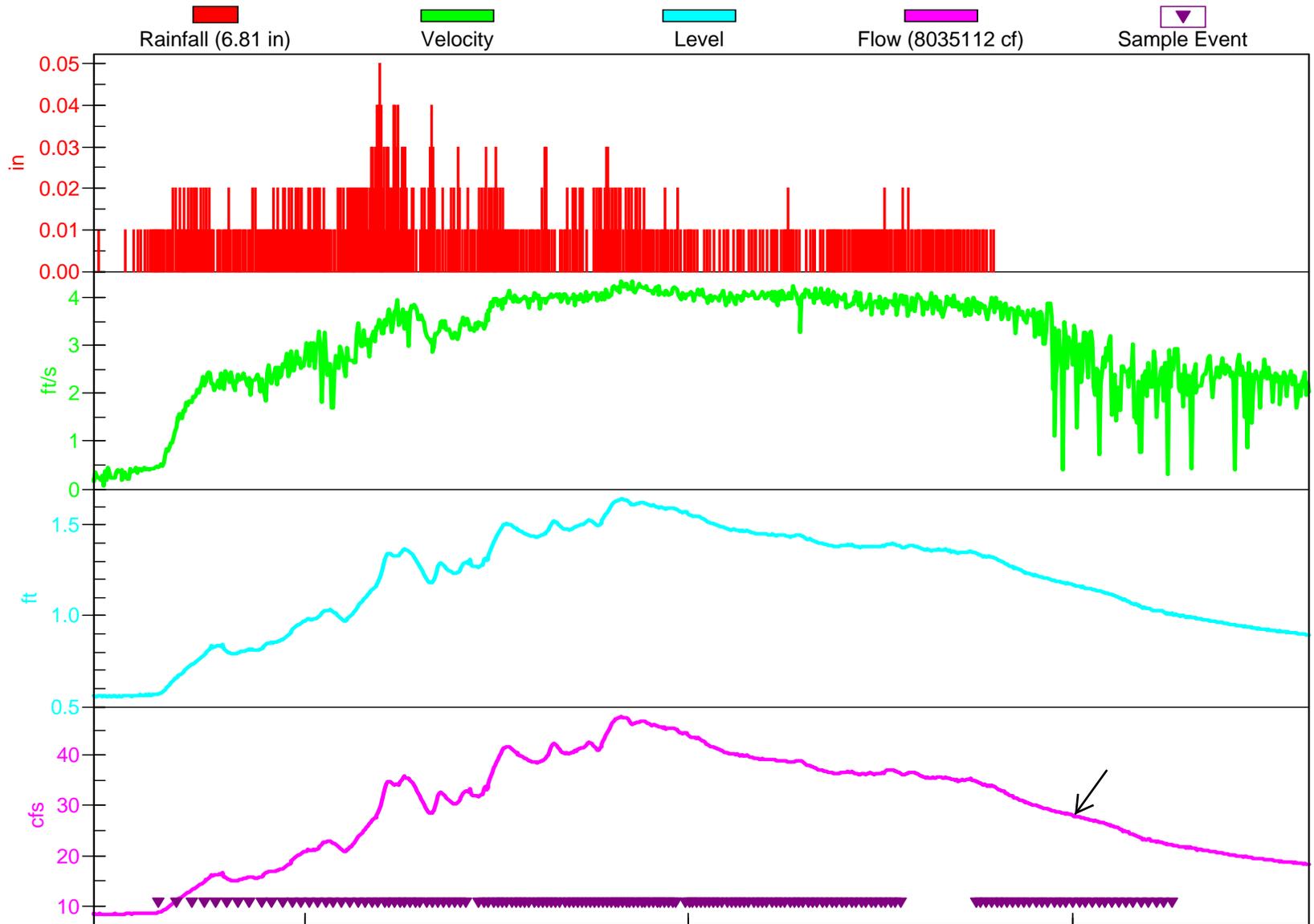
(continued)

DRAFT

- SW-08-TT:
 - A/V sensor became partially knocked over at approximately 8:05 am on 3/14
 - Aliquots not collected between approximately 10:43 am and 11:24 am on 3/14, 8:23 pm and 9:21 pm on 3/14, 3:47 am and 2:40 pm on 3/15, 7:06 pm and 7:23 pm on 3/16, 10:43 pm on 3/16 and 12:23 am on 3/17 due to delays in changing out rosettes
 - Aliquots were collected between approximately 8:40 pm on 3/15 and 11:44 am on 3/16 but are not shown on the hydrograph due to power failures on the Isco 6712
 - Flow data lost during the falling limb between approximately 9:10 pm on 3/15 and 11:45 am on 3/16 due to power failures; only one Isco 6712 unit remained in operation
 - One aliquot (#241) was not collected due to a damaged bottle

SW-2-IP

Flowlink 5



Mar 2010

14 Sun

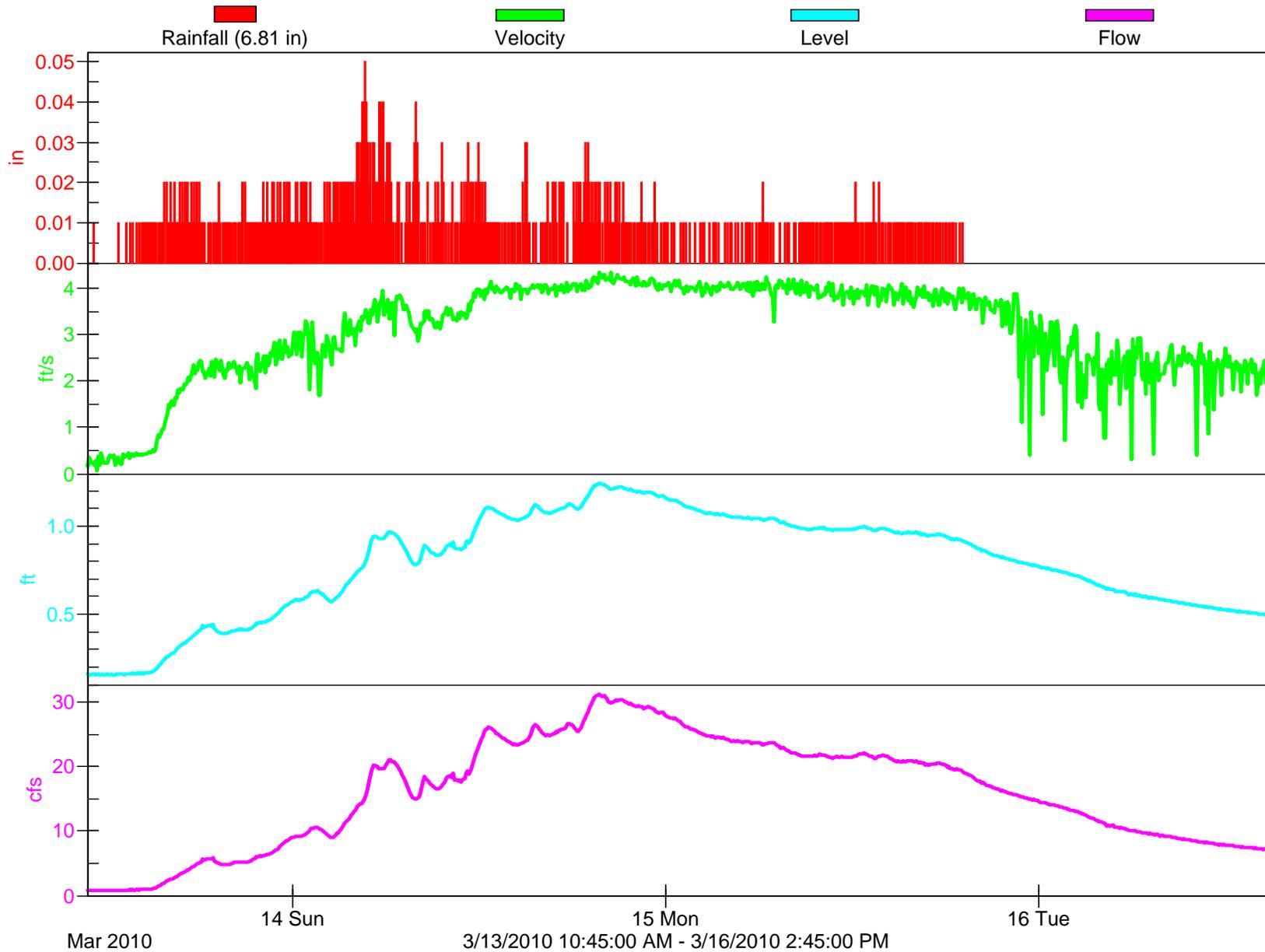
15 Mon

16 Tue

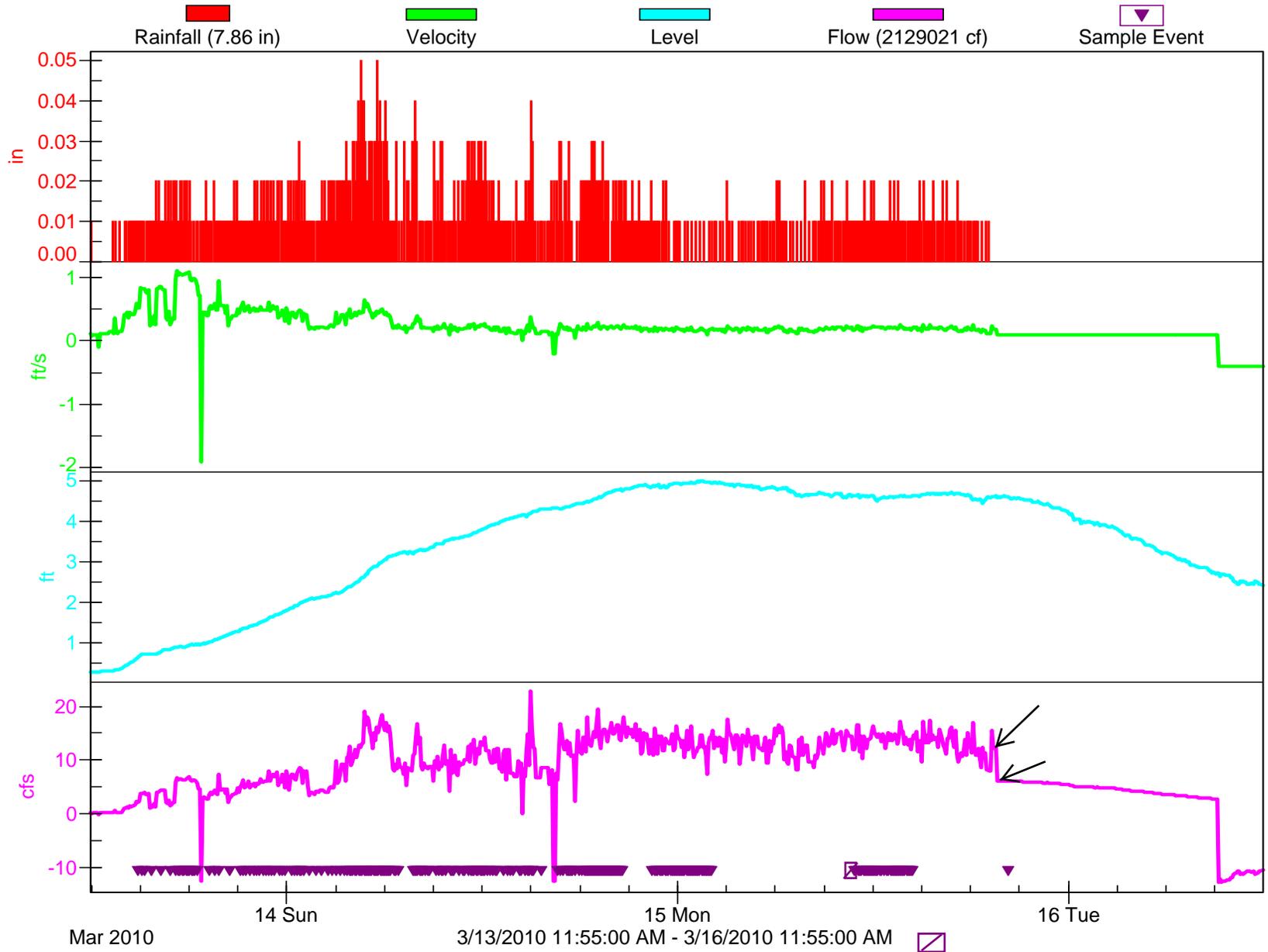
3/13/2010 10:45:00 AM - 3/16/2010 2:45:00 PM

SW-2-IP (Level Adjusted)

Flowlink 5

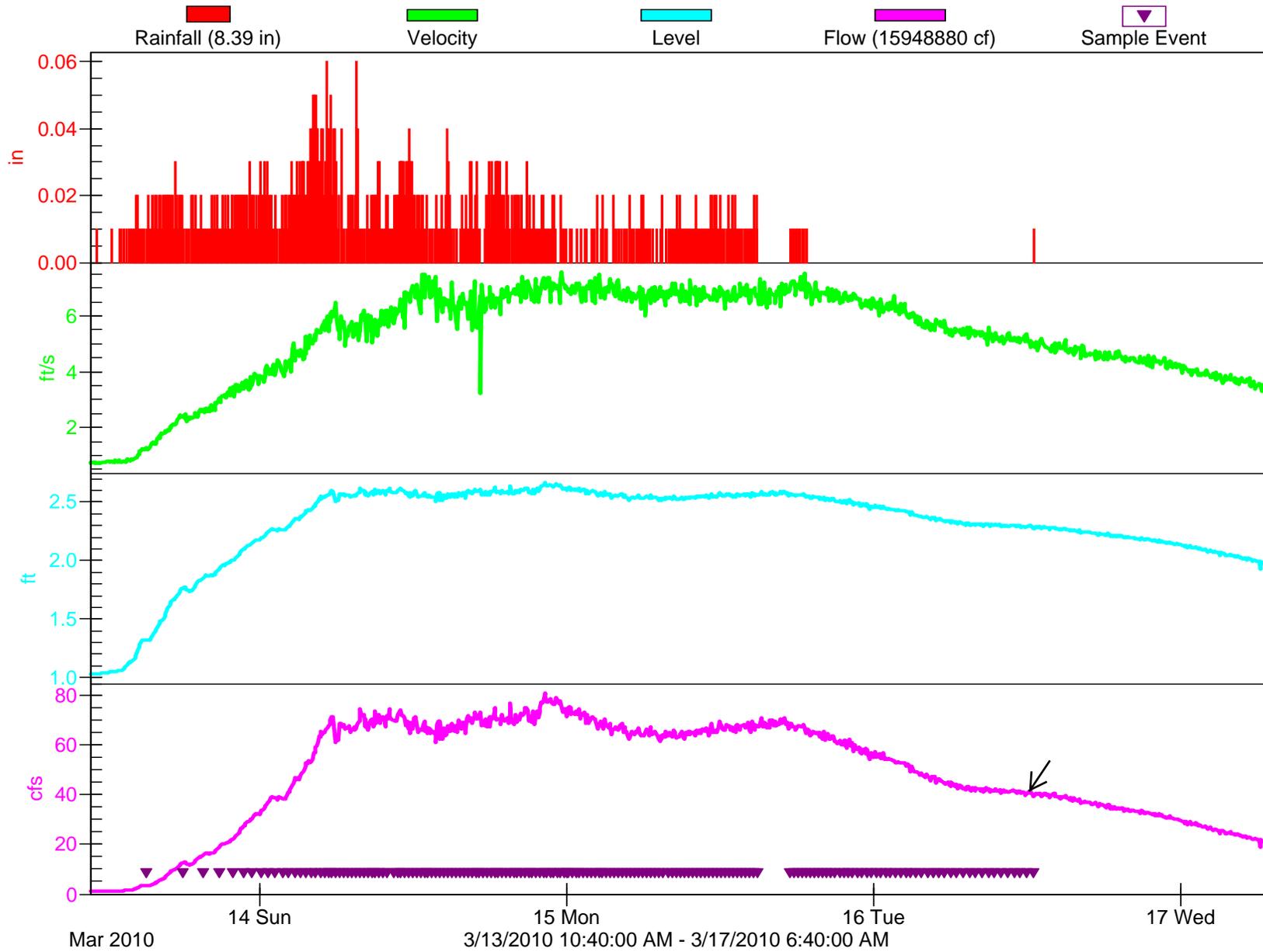


SW-3-IP Flowlink 5



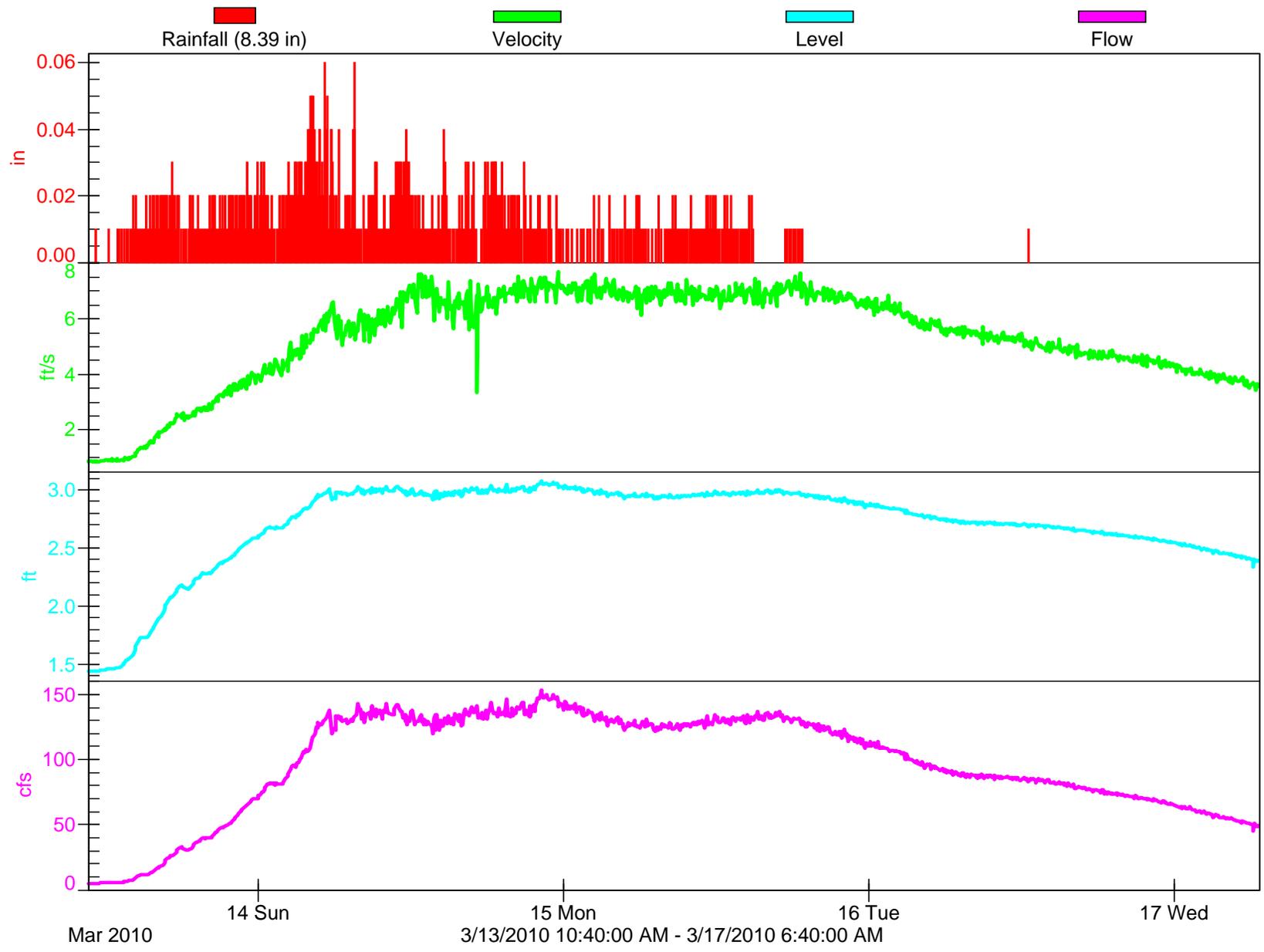
SW-01-TT

Flowlink 5



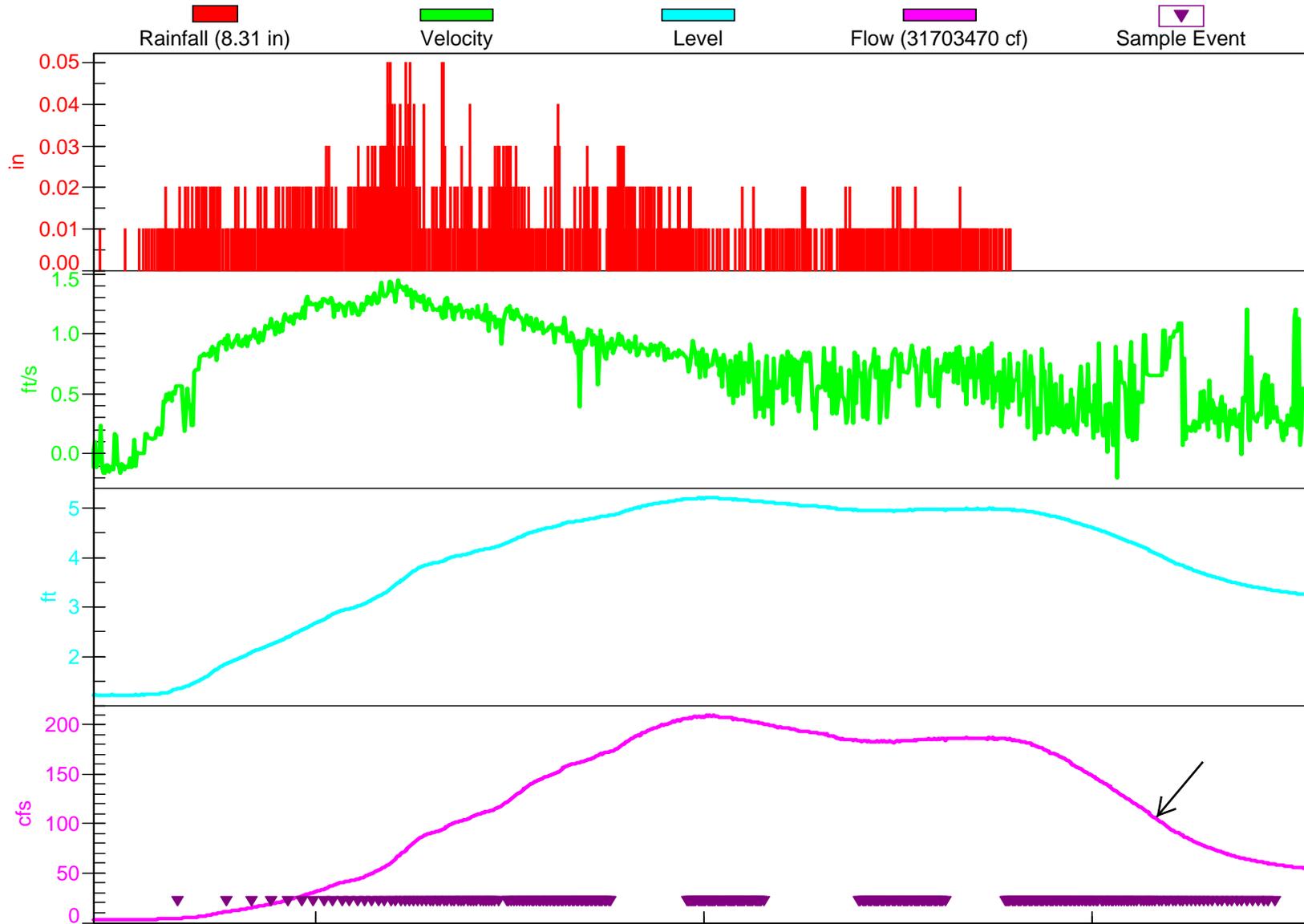
SW-01-TT (Level Adjusted)

Flowlink 5



SW-02-TT

Flowlink 5

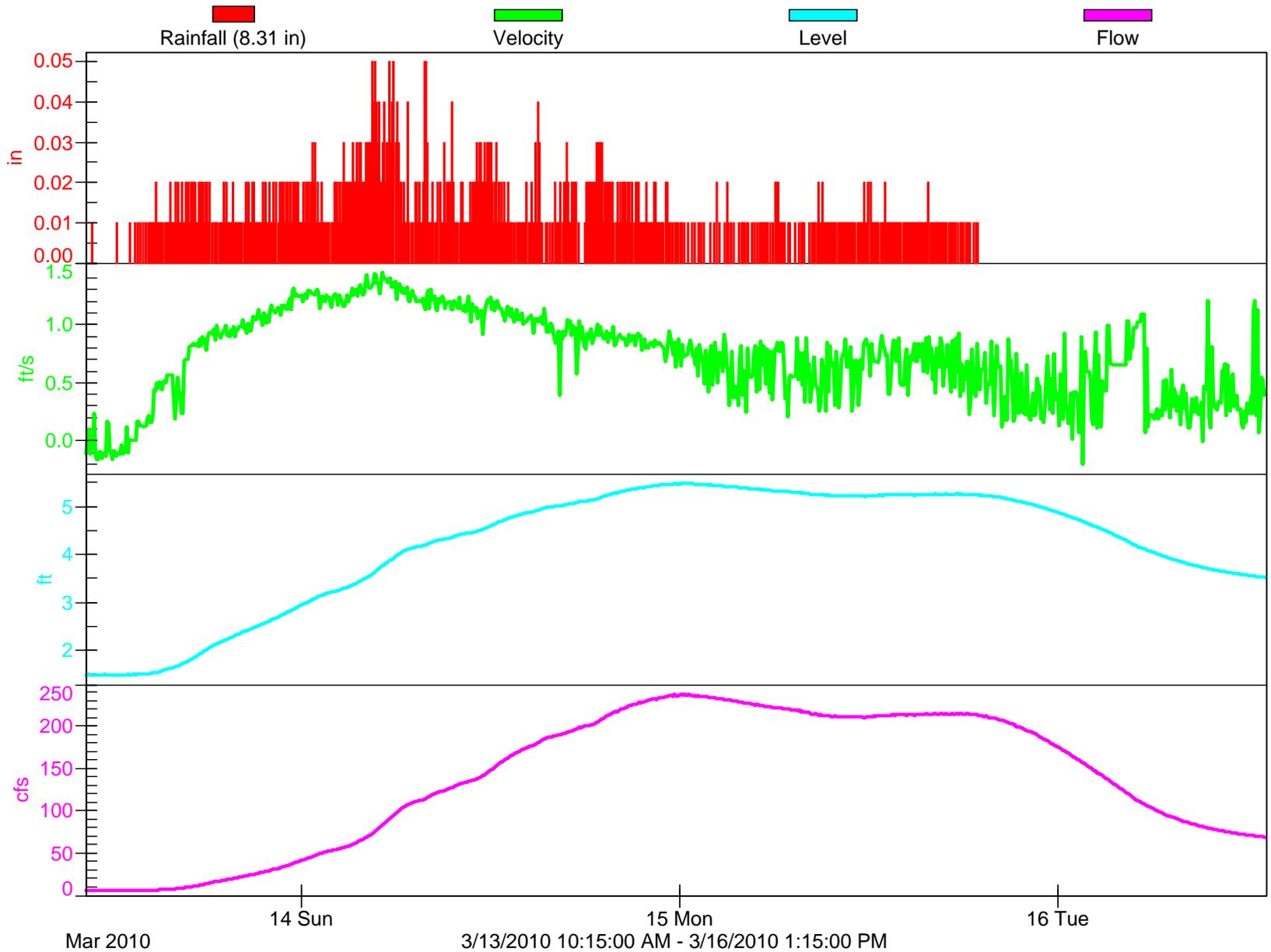


Mar 2010

3/13/2010 10:15:00 AM - 3/16/2010 1:15:00 PM

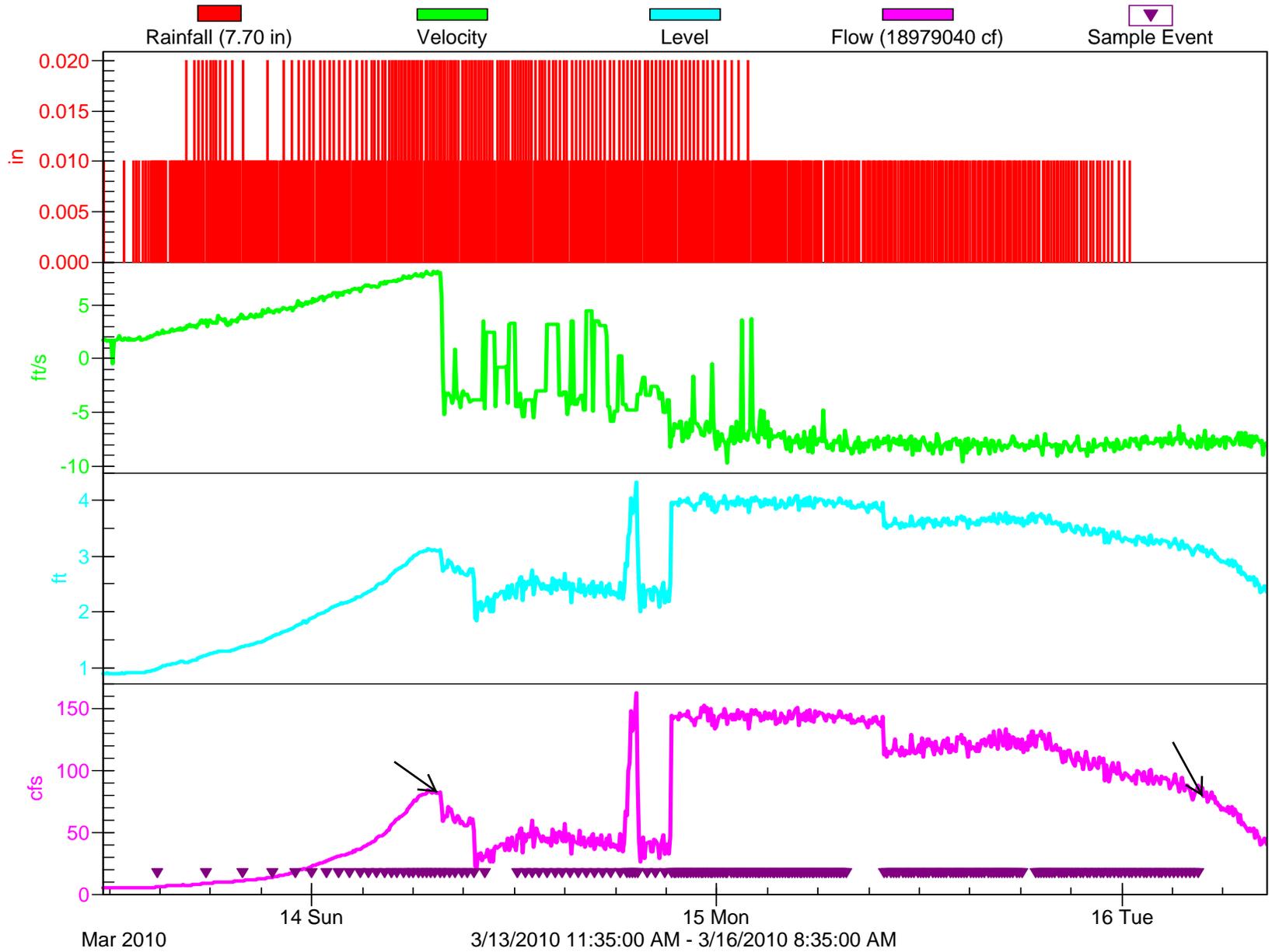
SW-02-TT (Level Adjusted)

Flowlink 5



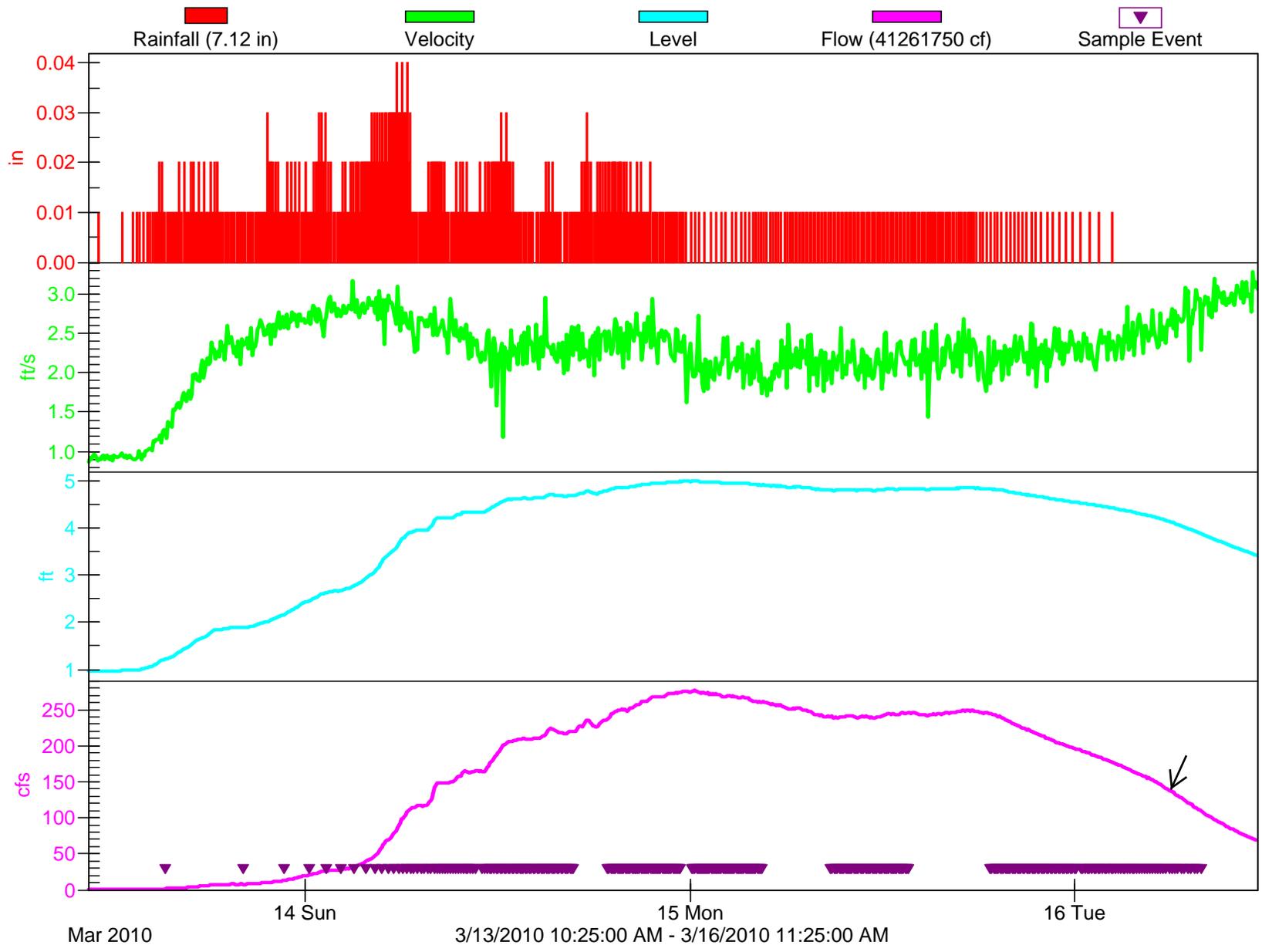
SW-04-TT

Flowlink 5



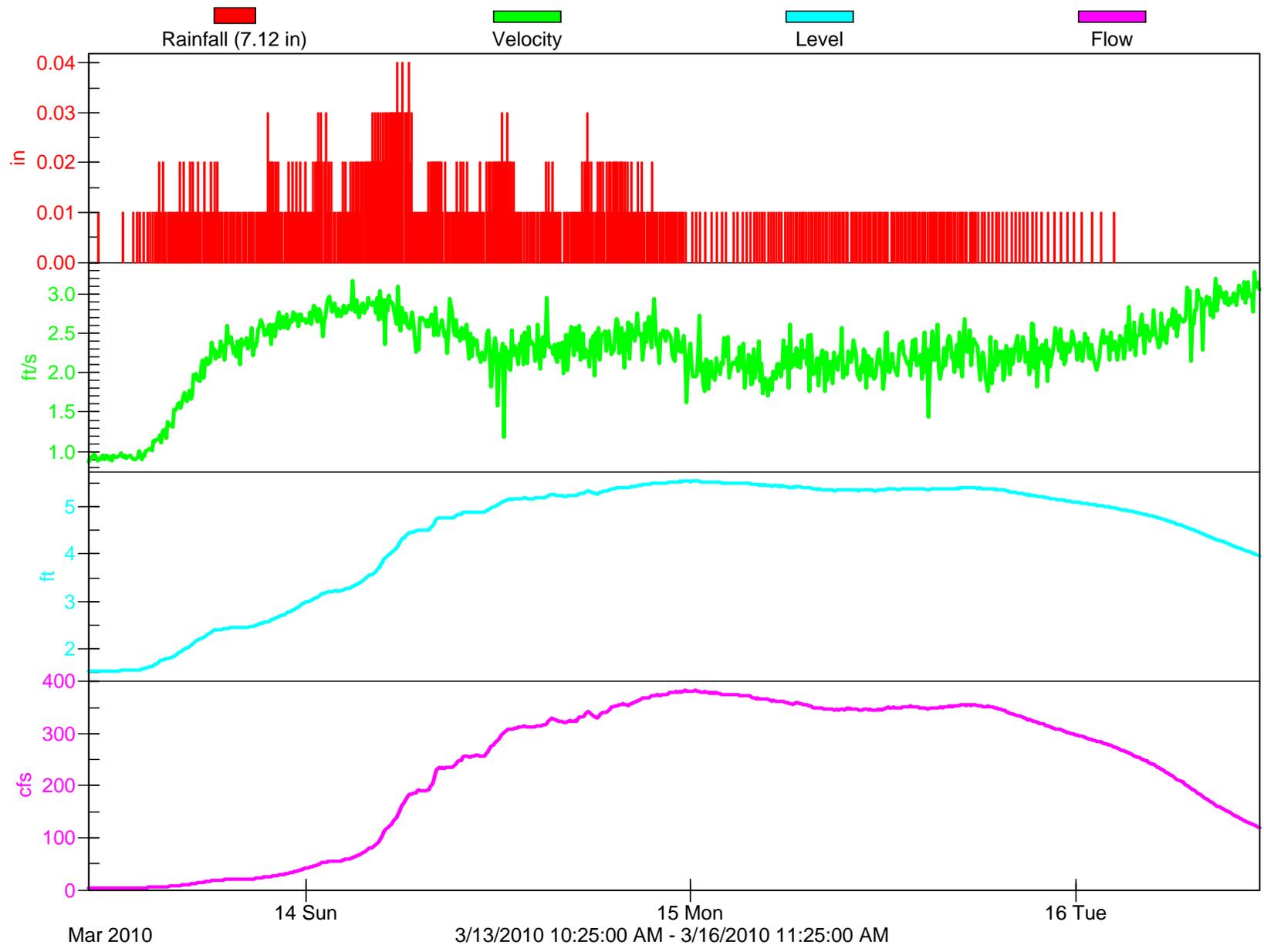
SW-03-TT

Flowlink 5



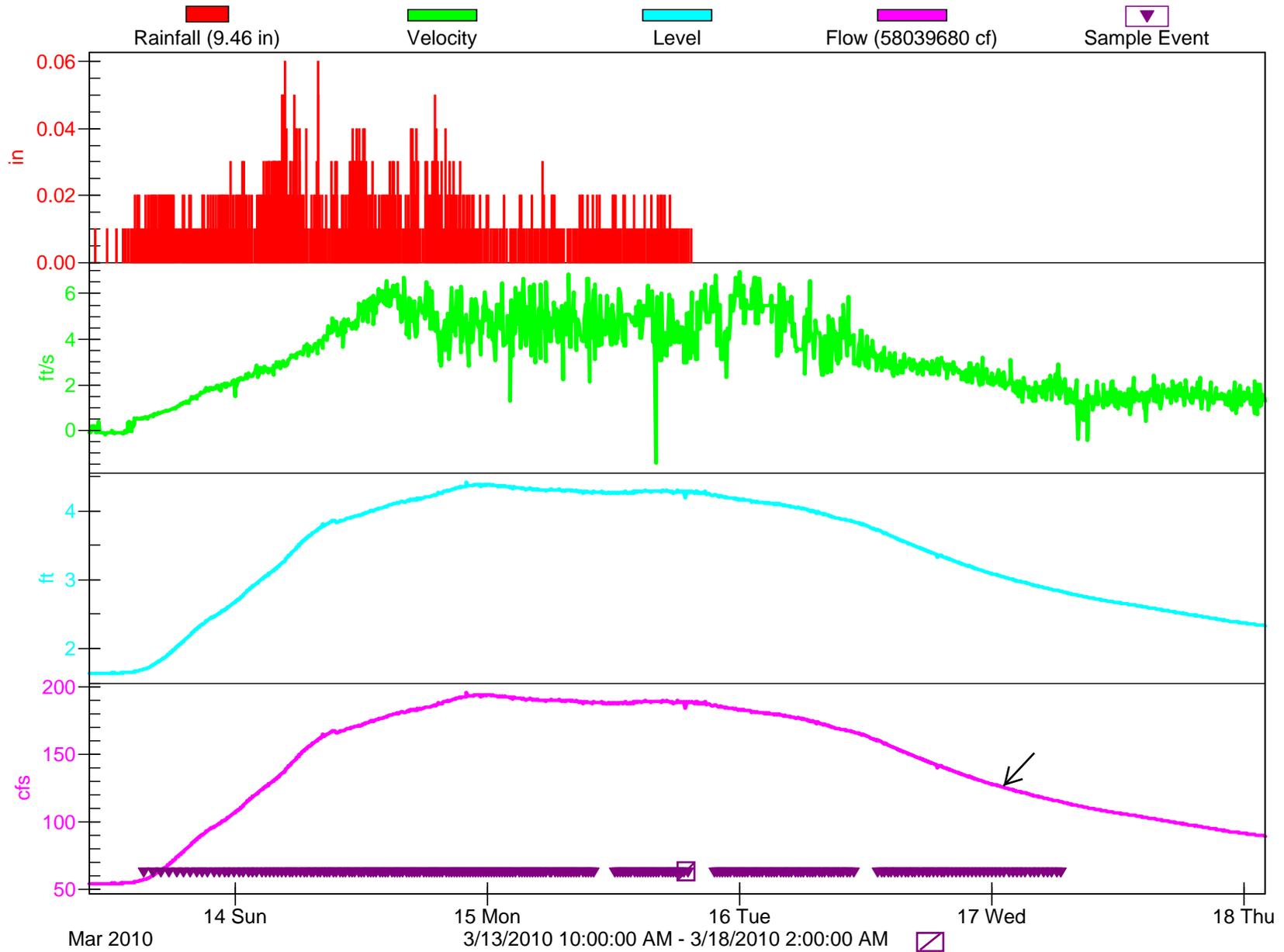
SW-03-TT (Level Adjusted)

Flowlink 5



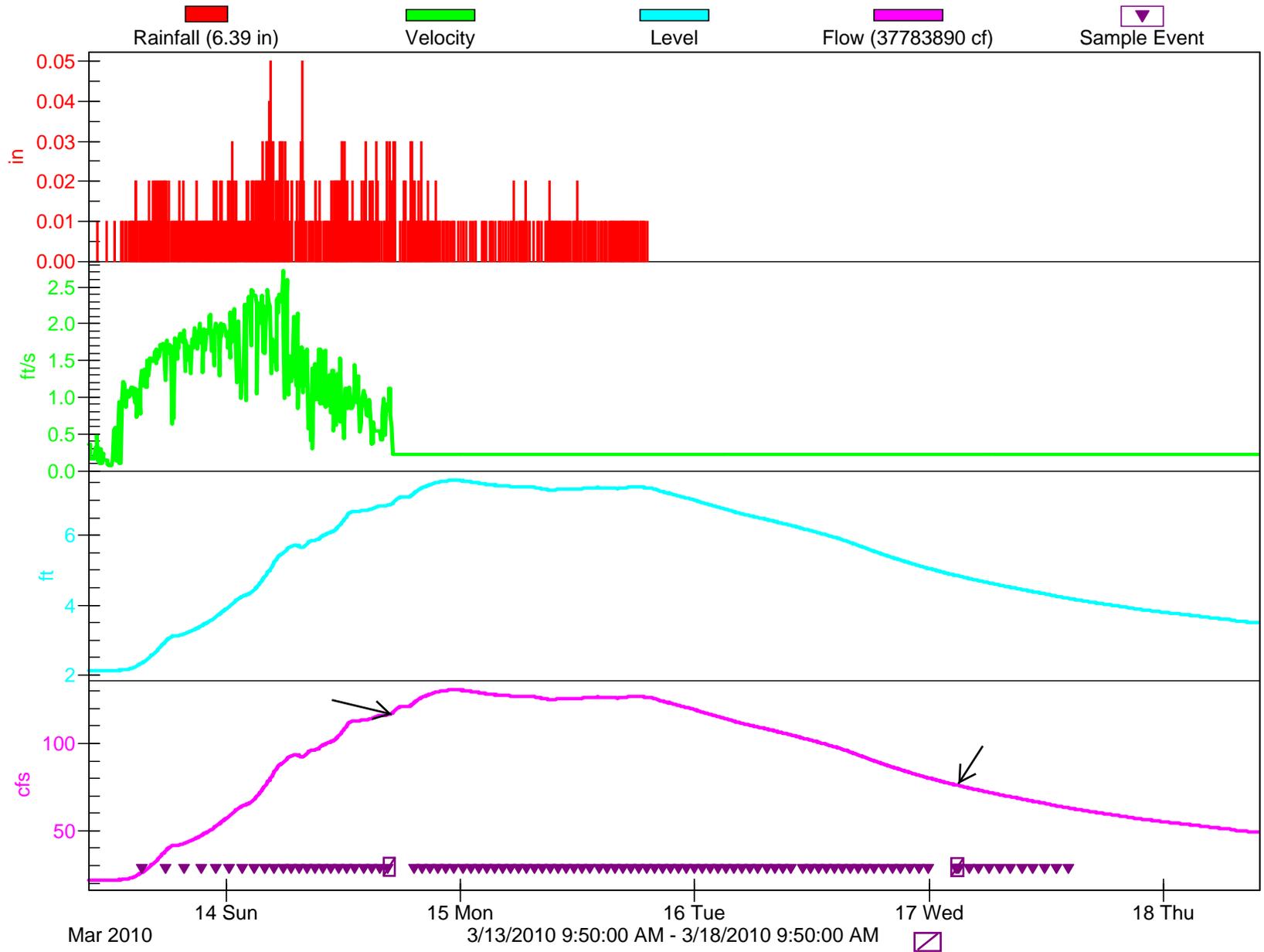
SW-05-TT

Flowlink 5



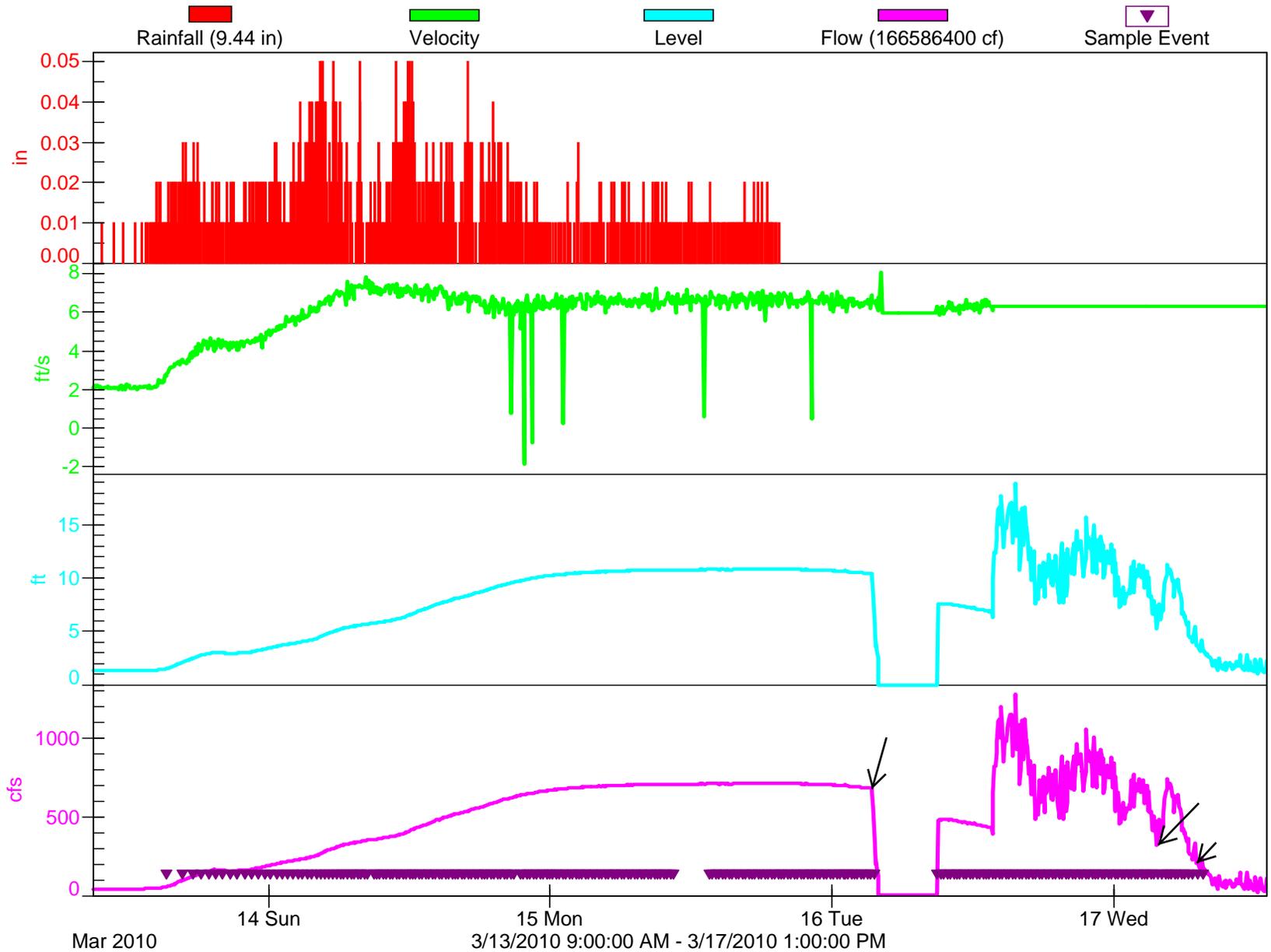
SW-06-TT

Flowlink 5



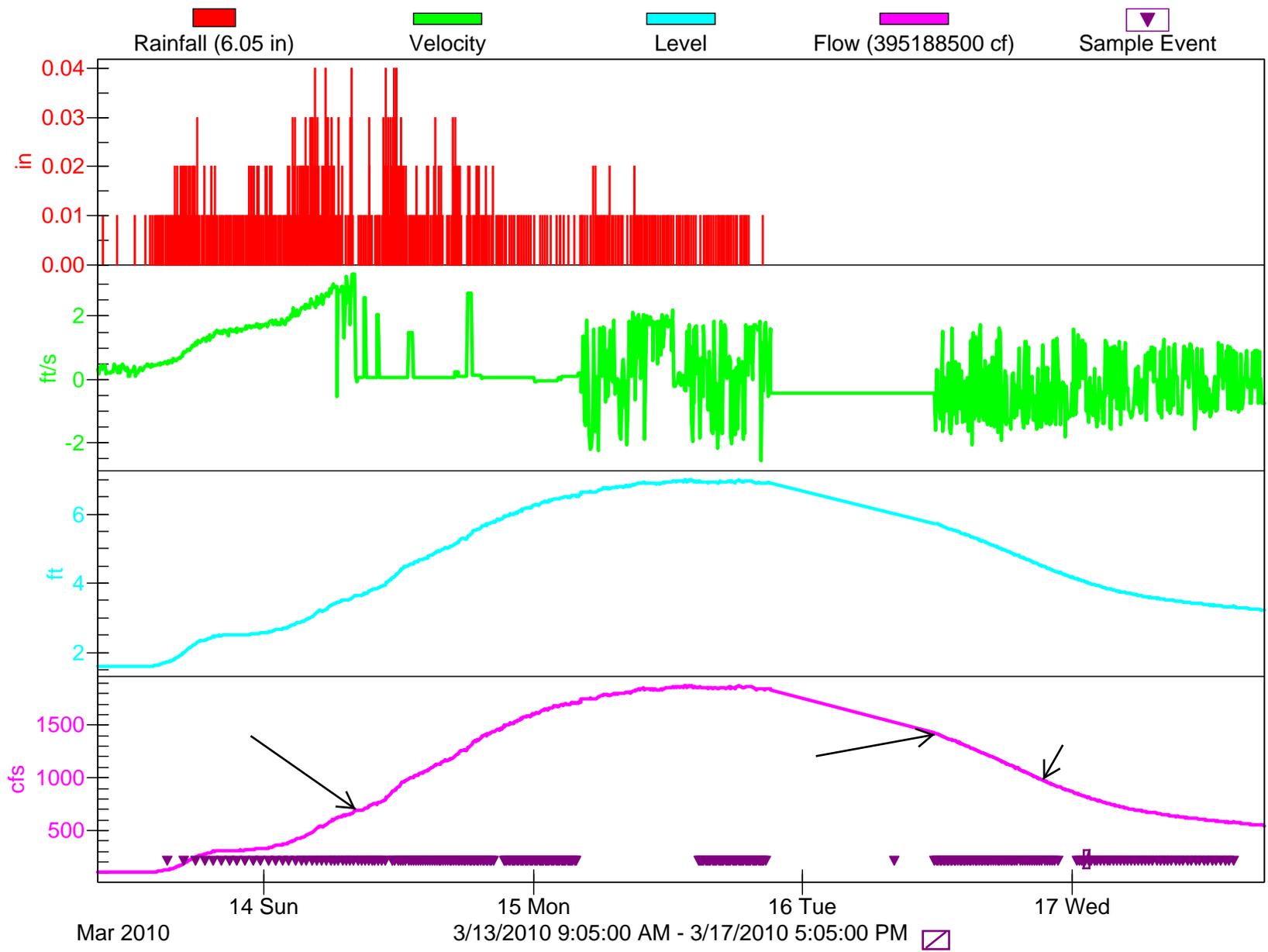
SW-07-TT

Flowlink 5



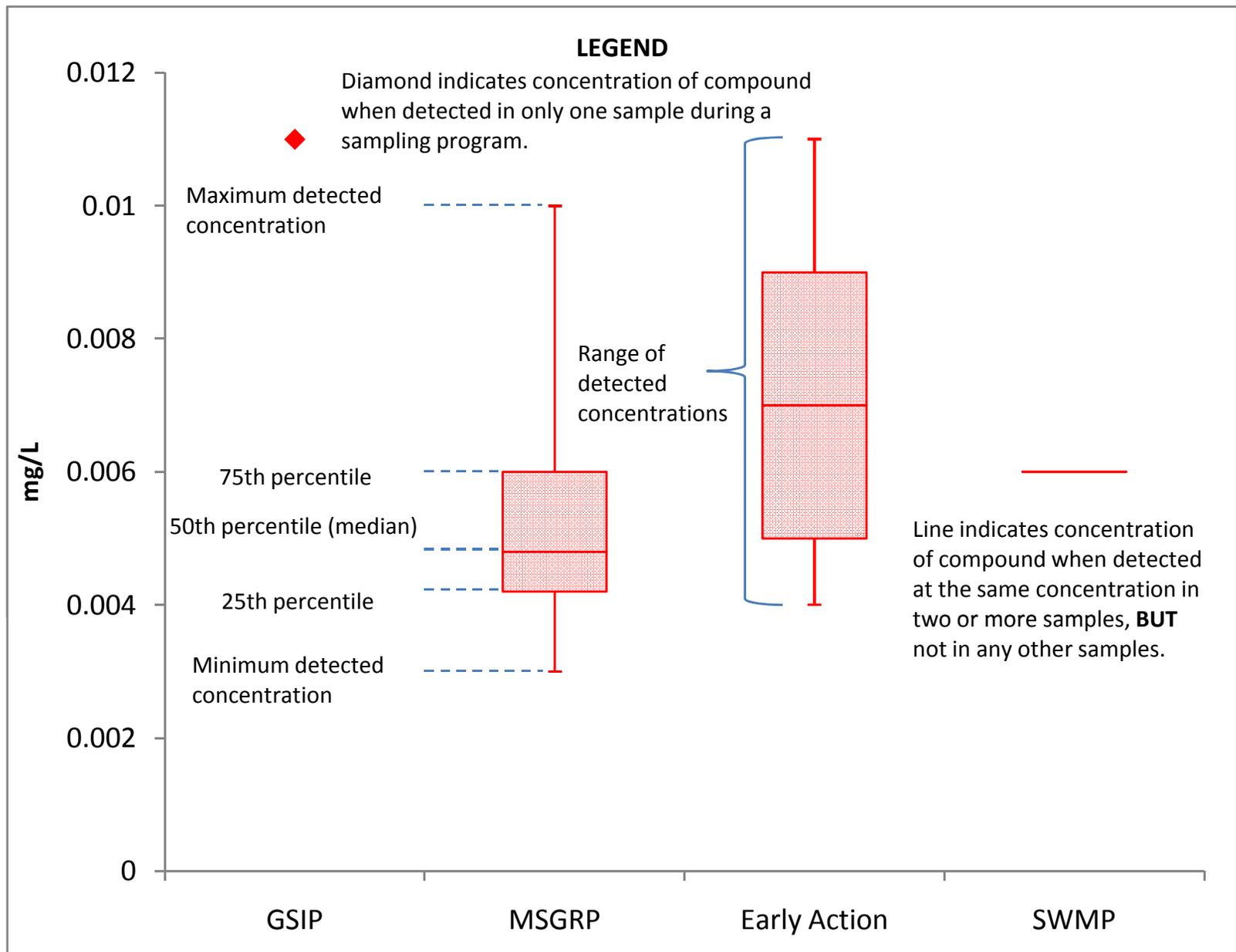
SW-08-TT

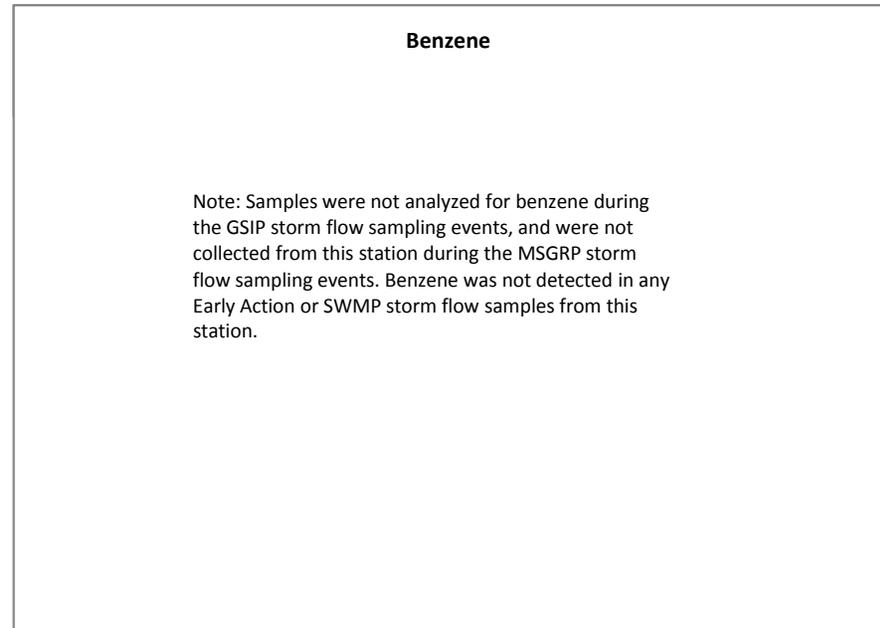
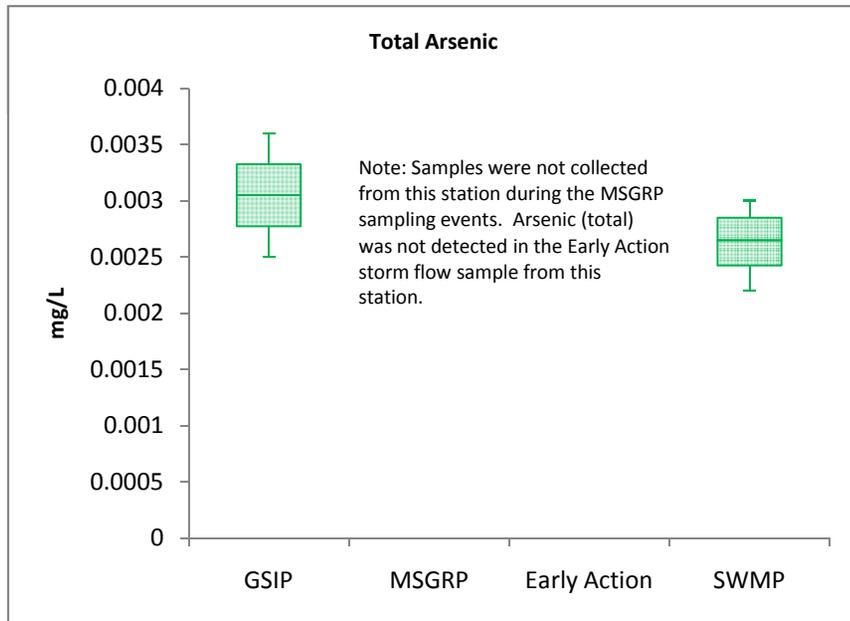
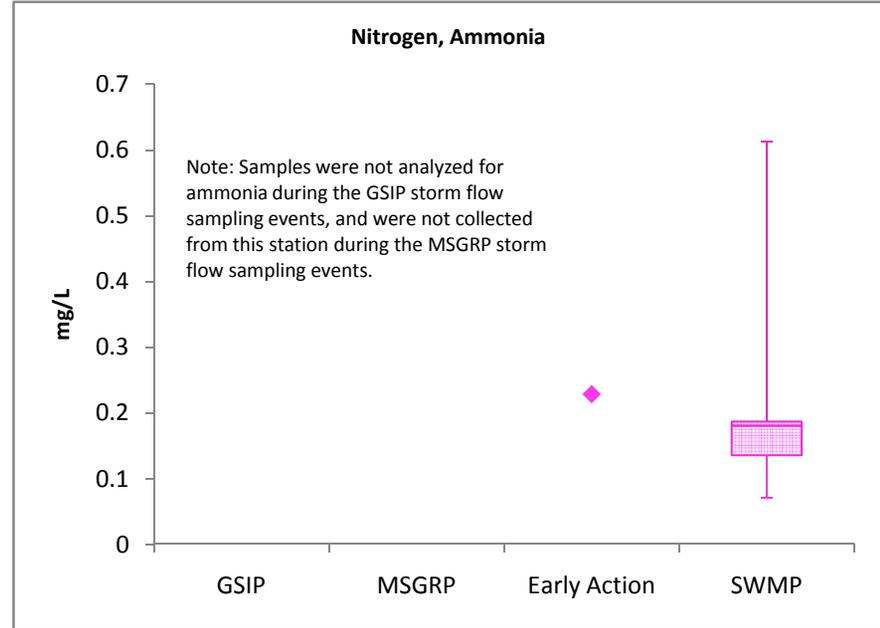
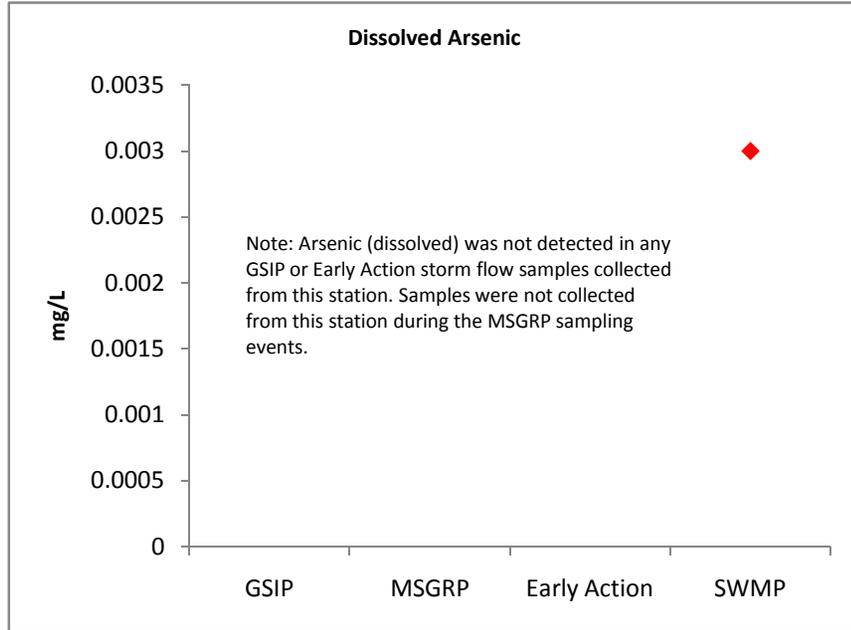
Flowlink 5

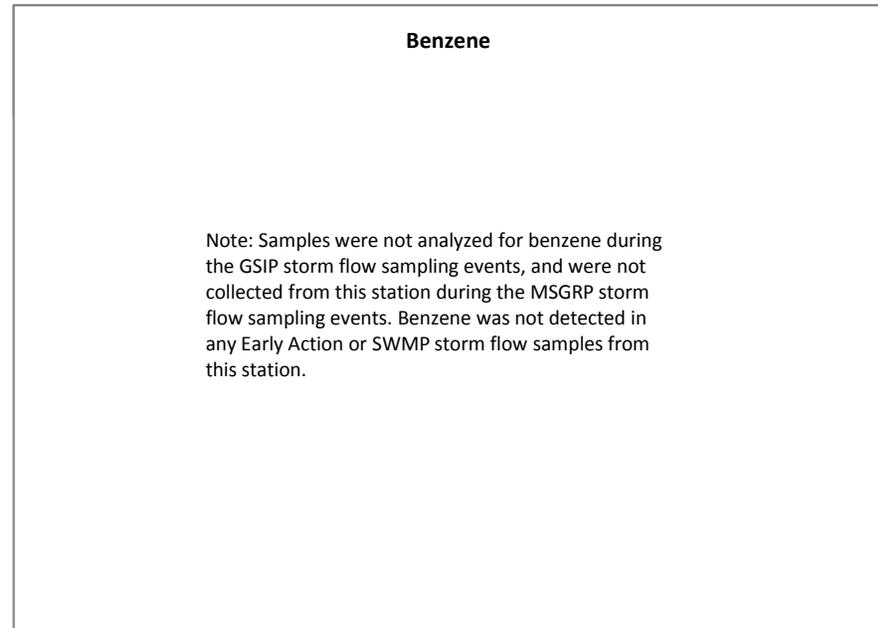
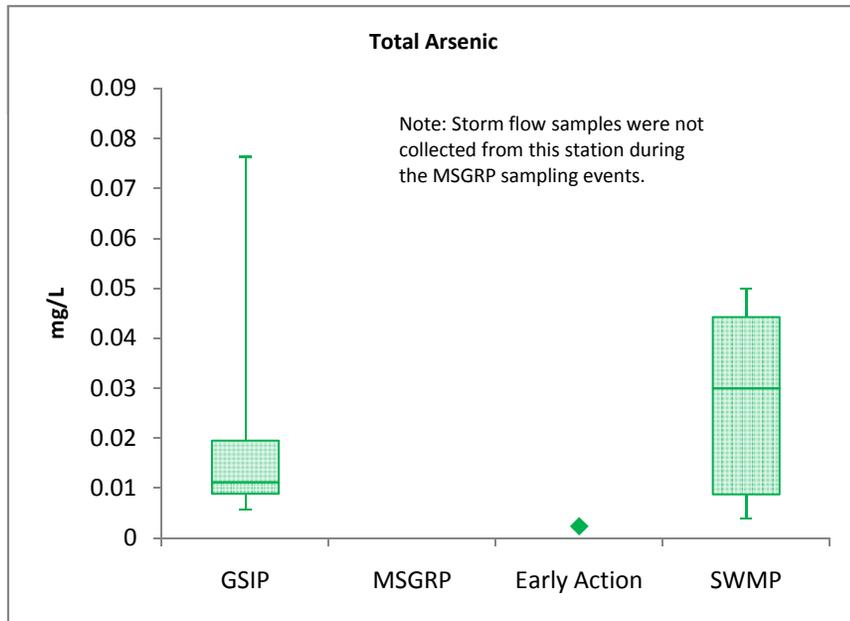
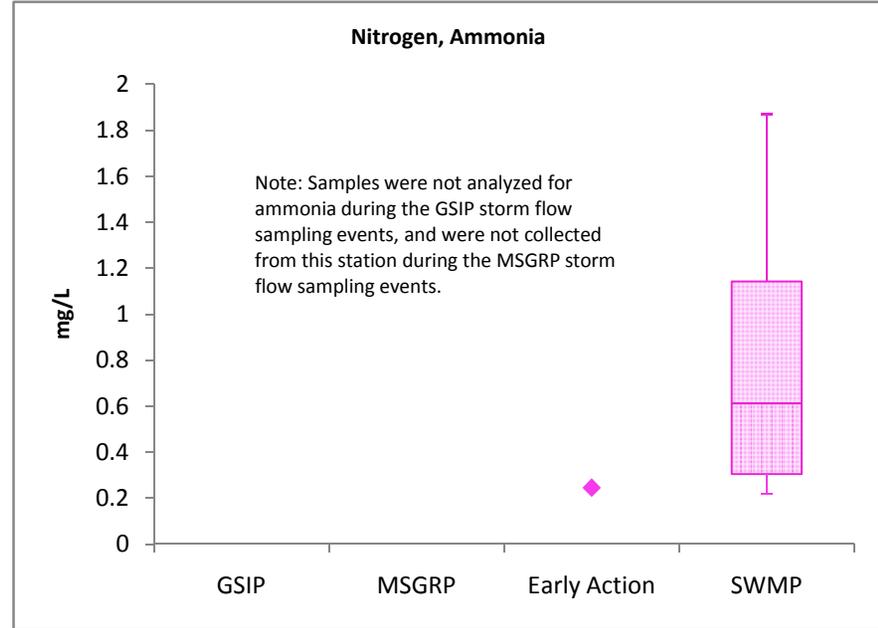
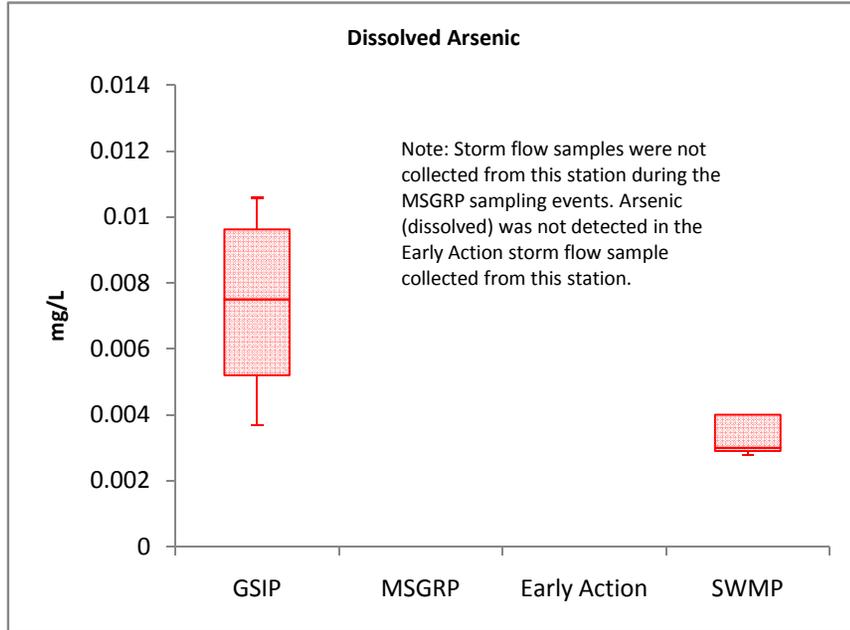


APPENDIX B

Storm Sampling Box-Whisker Plots





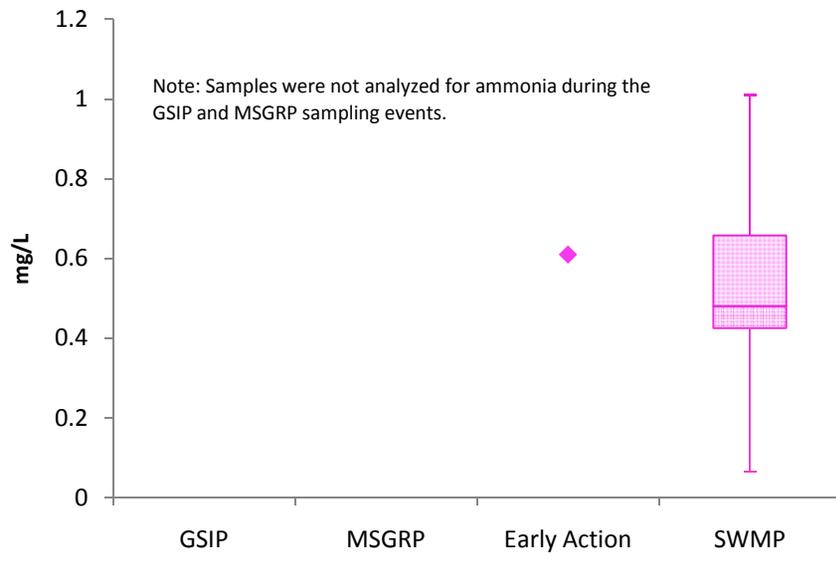


Dissolved Arsenic

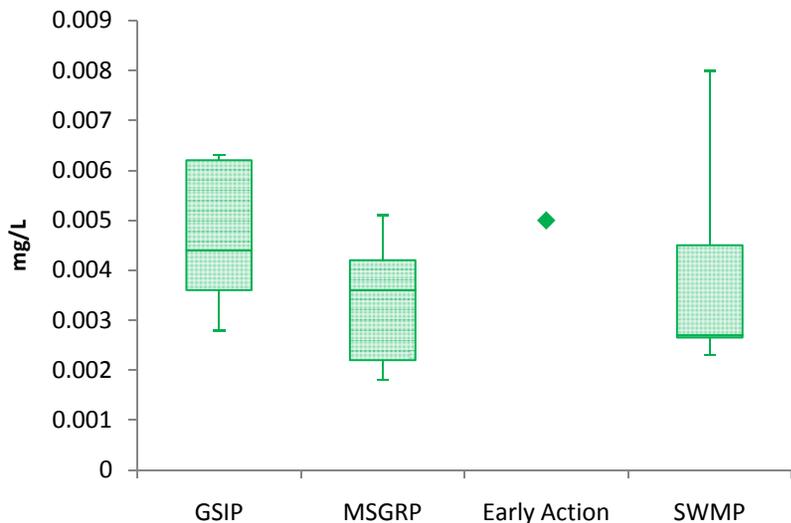
Note: Arsenic (dissolved) was not detected in any GSIP, MSGRP, Early Action or SWMP storm flow samples from this station.

Nitrogen, Ammonia

Note: Samples were not analyzed for ammonia during the GSIP and MSGRP sampling events.

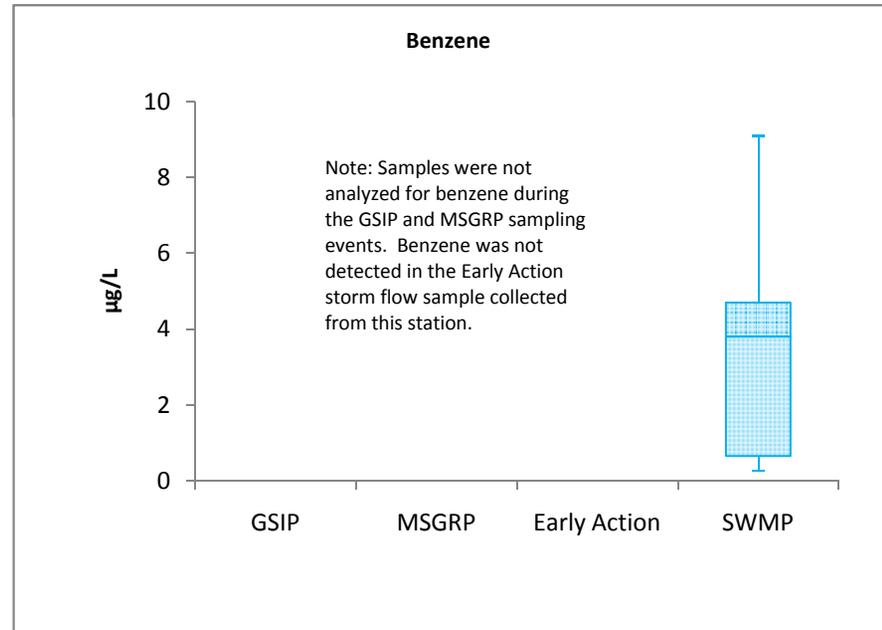
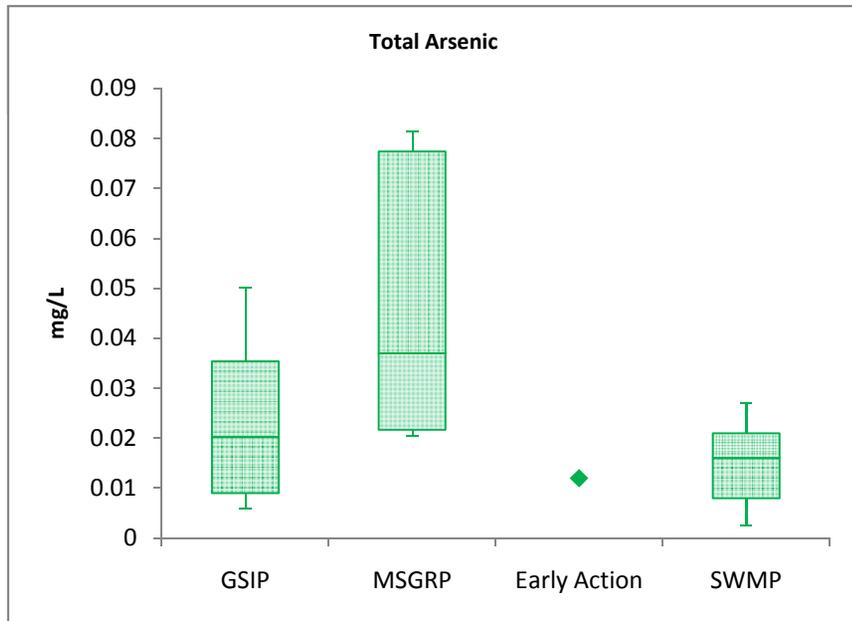
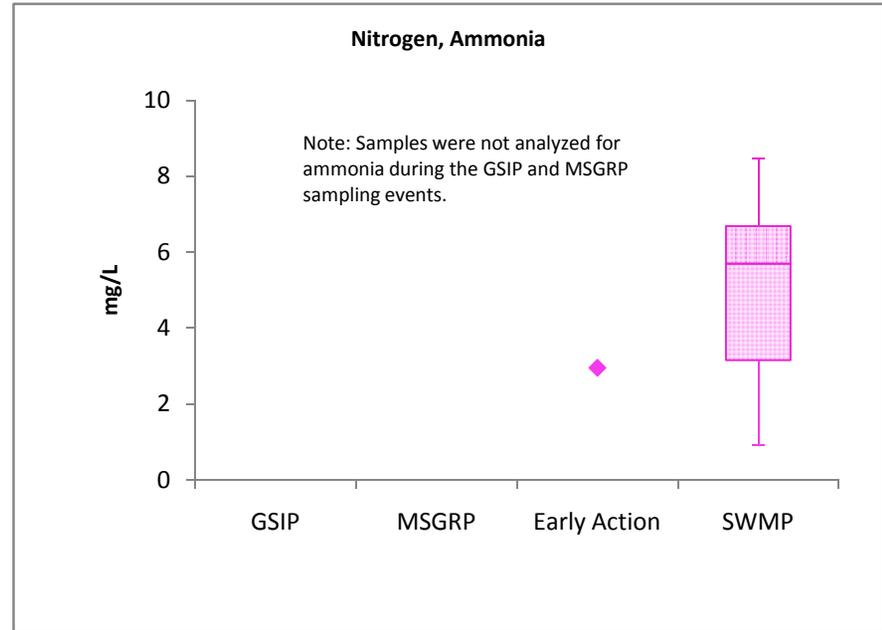
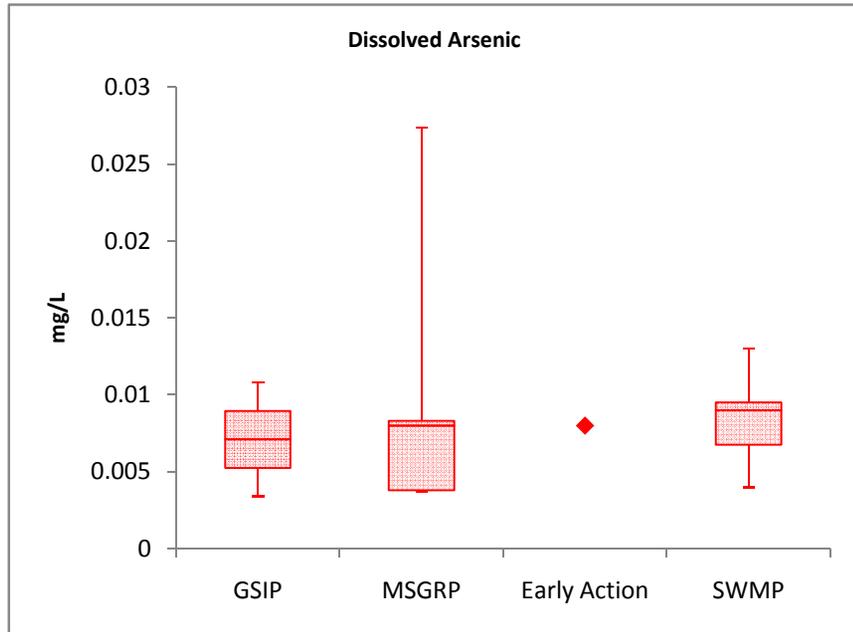


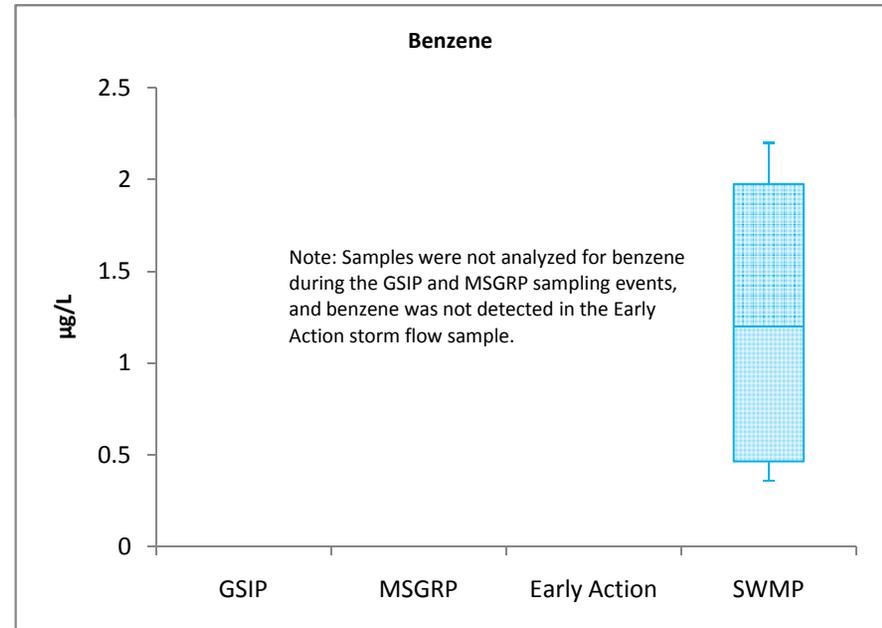
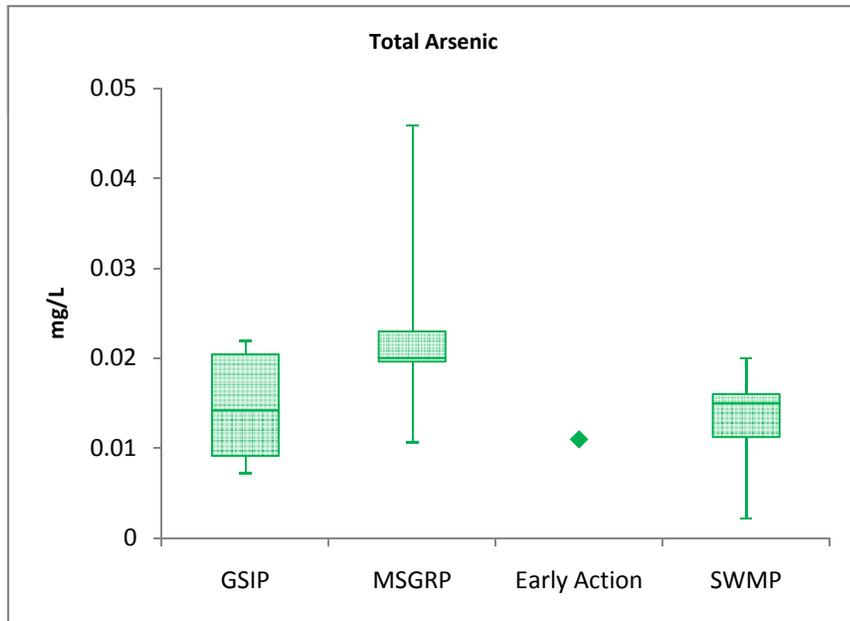
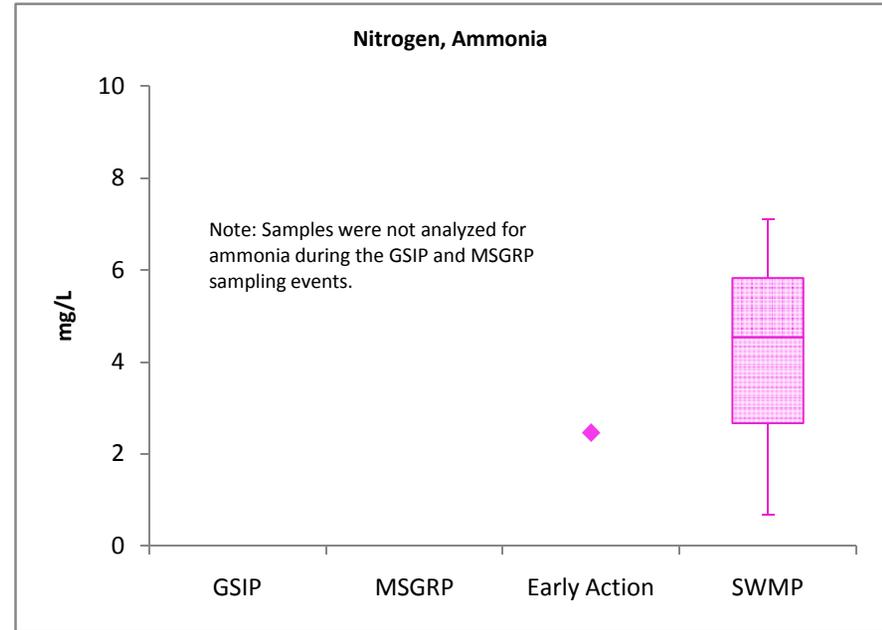
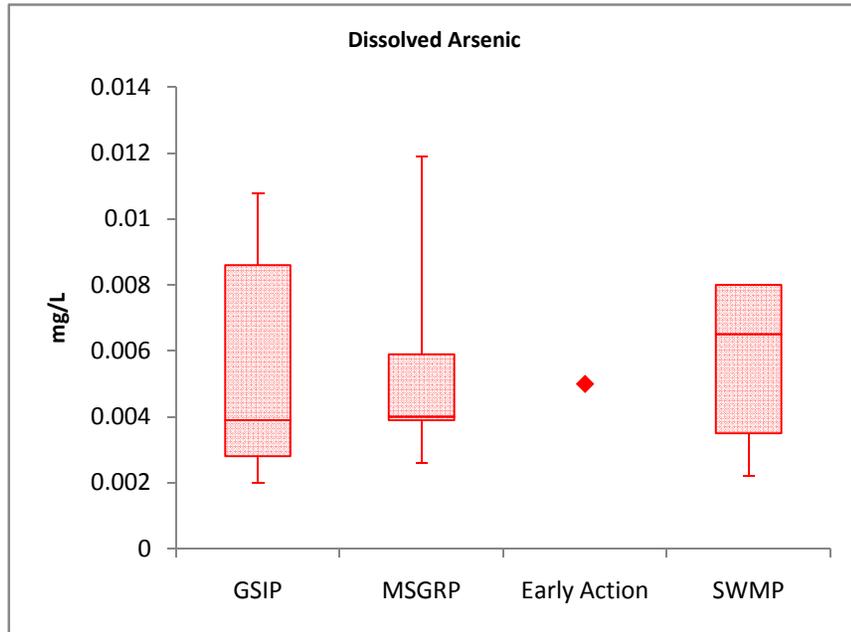
Total Arsenic

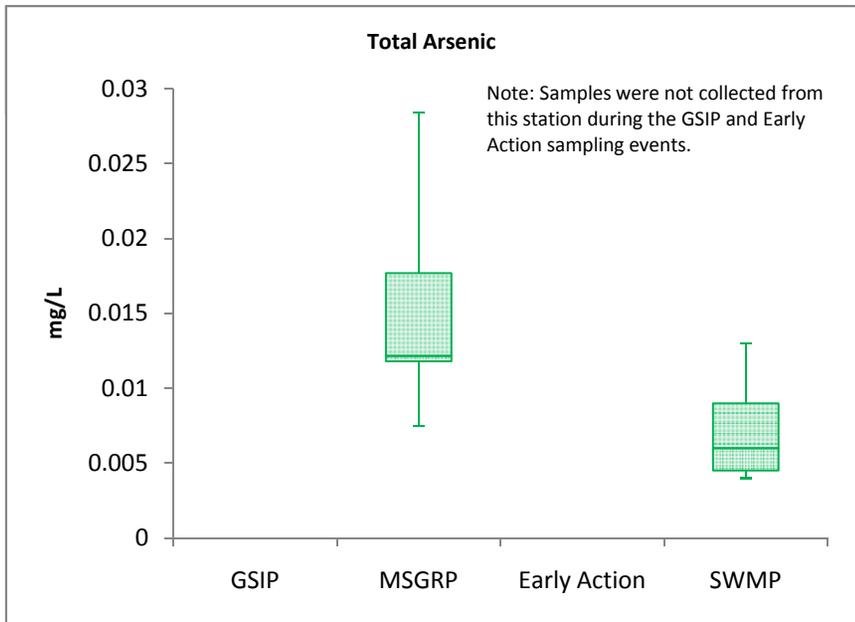
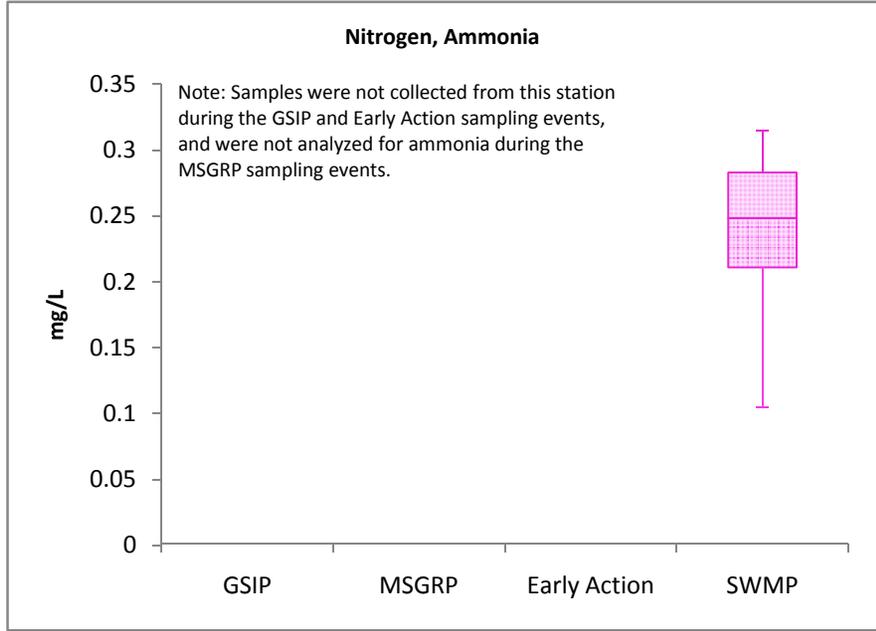
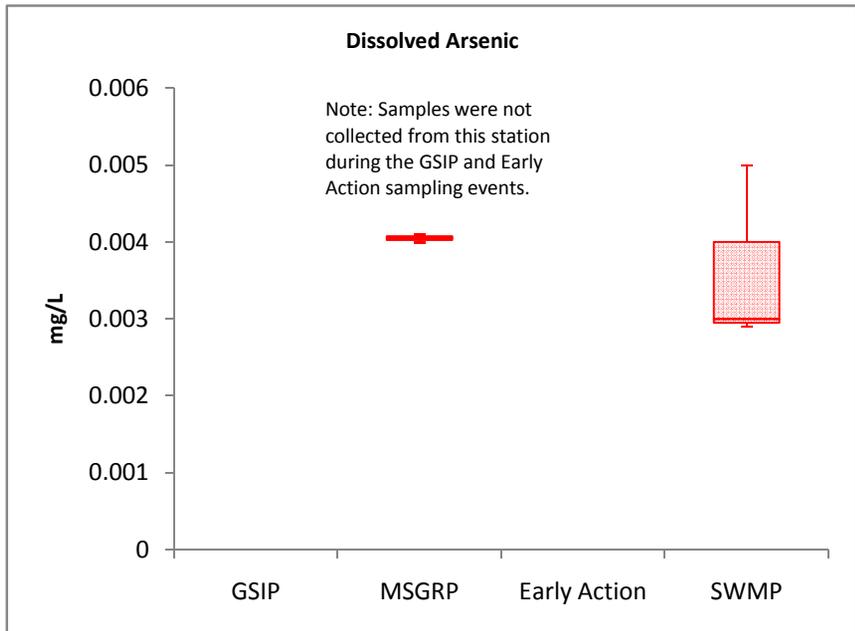


Benzene

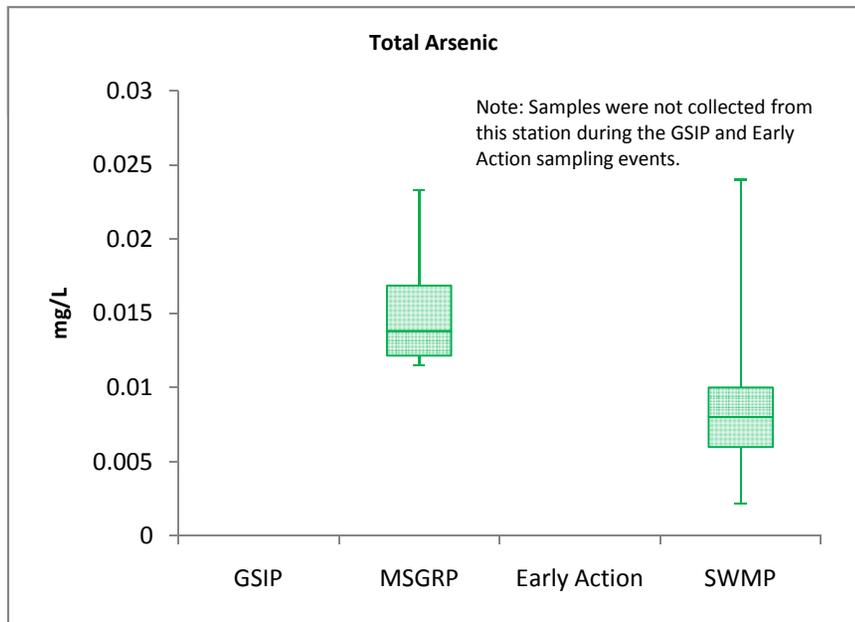
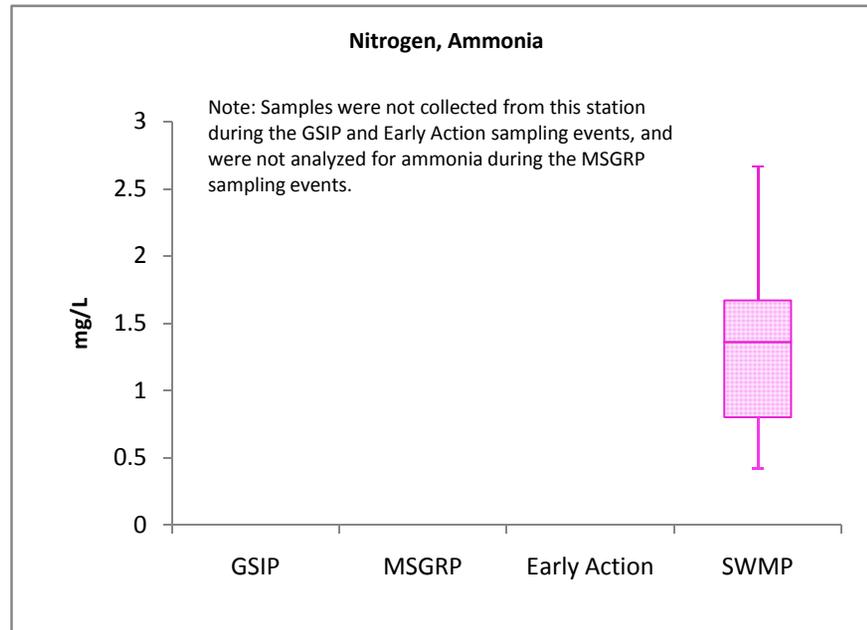
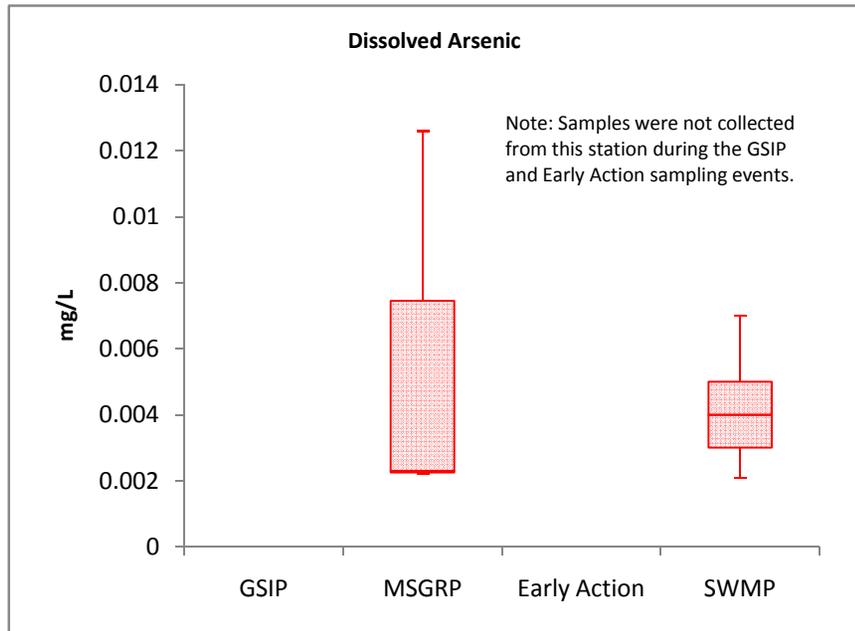
Note: Samples were not analyzed for benzene during the GSIP and MSGRP sampling events, and benzene was not detected in any Early Action or SWMP storm flow samples from this station.



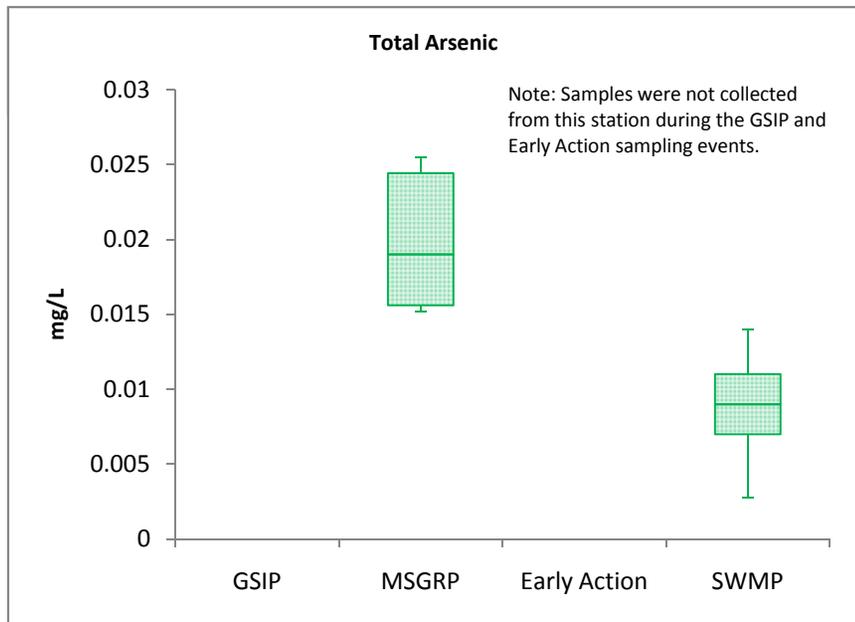
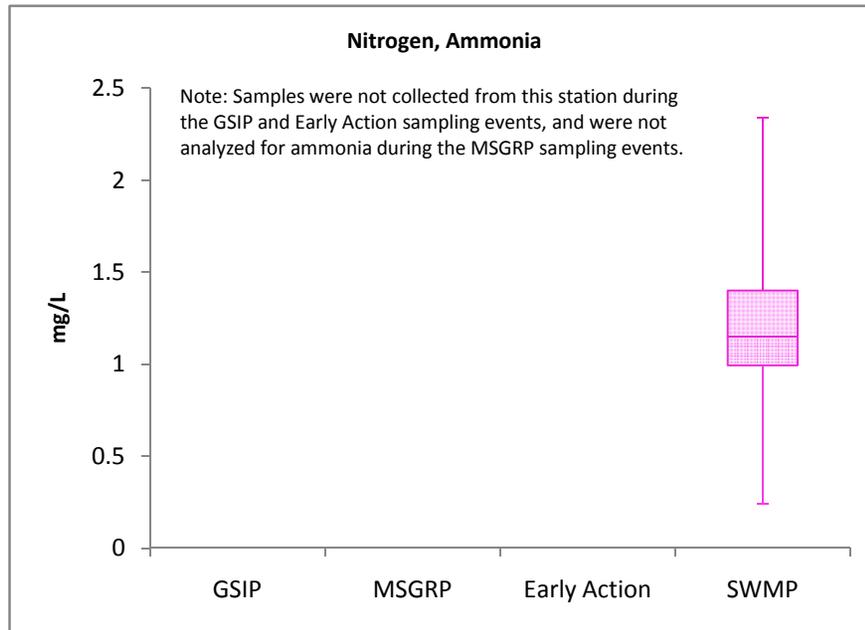
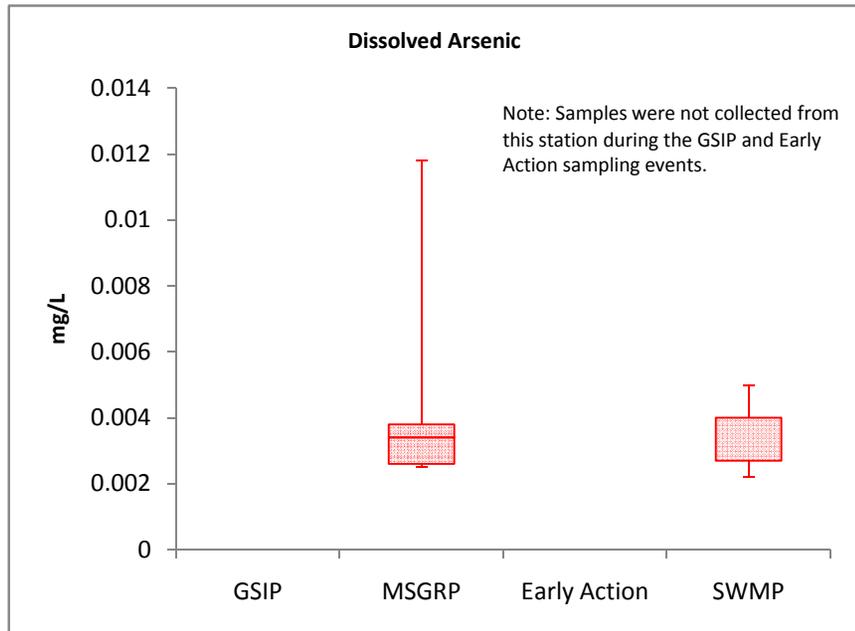




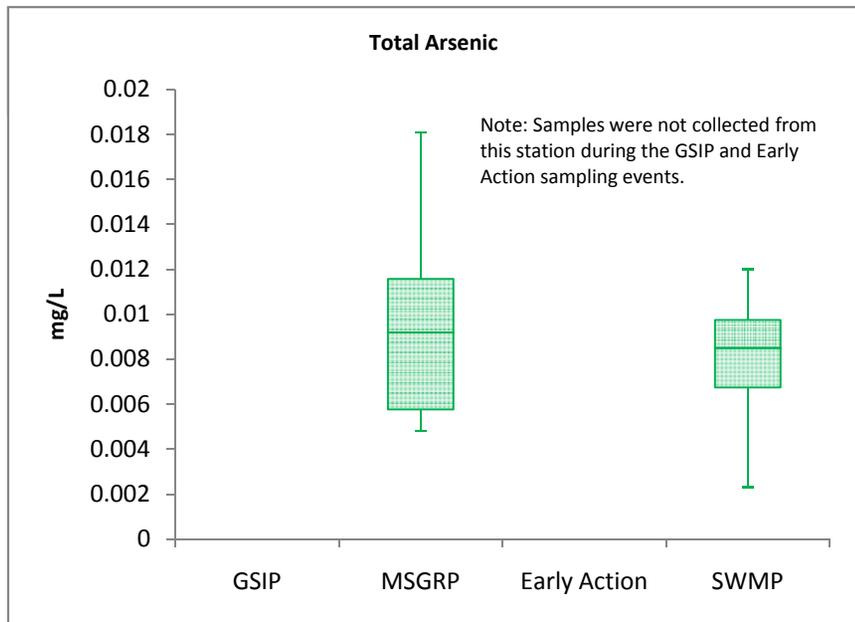
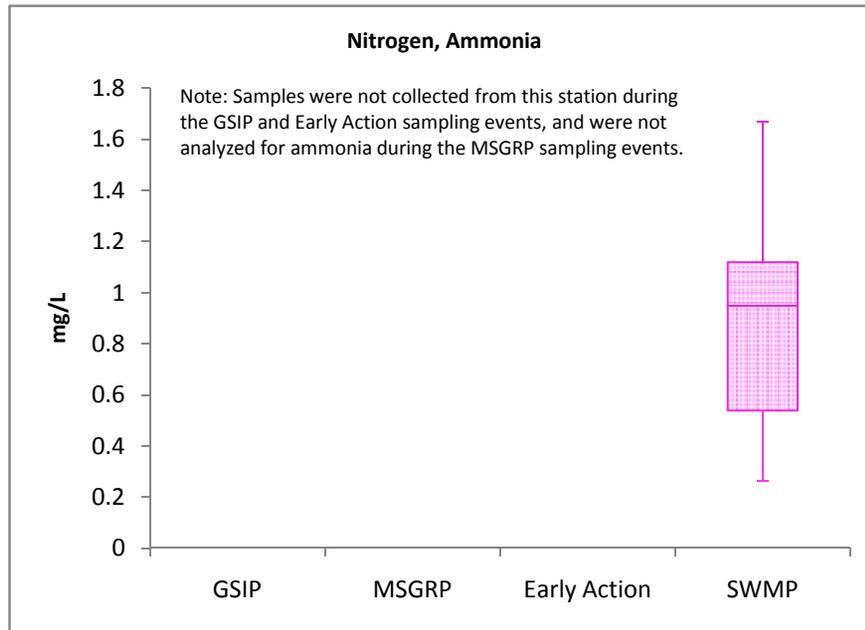
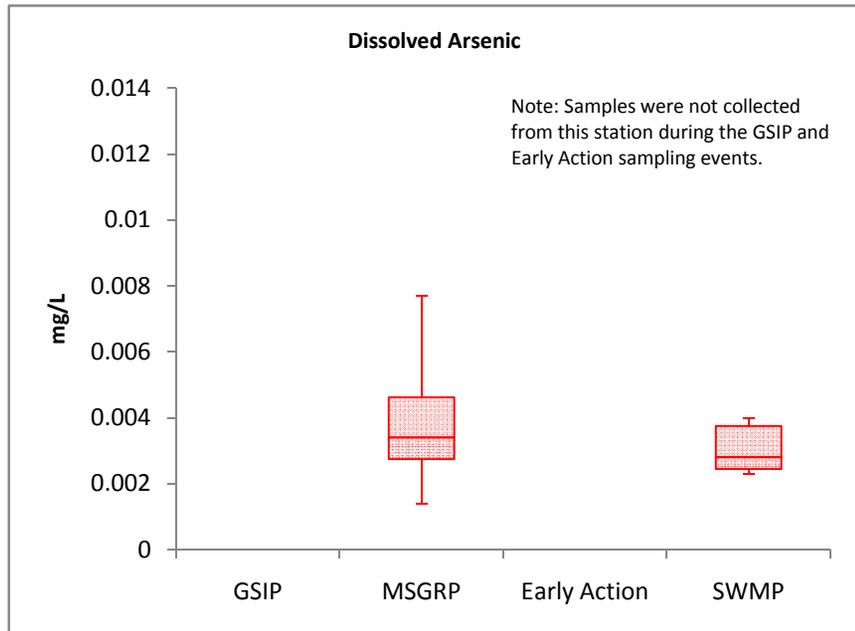
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP storm flow samples collected from this station.



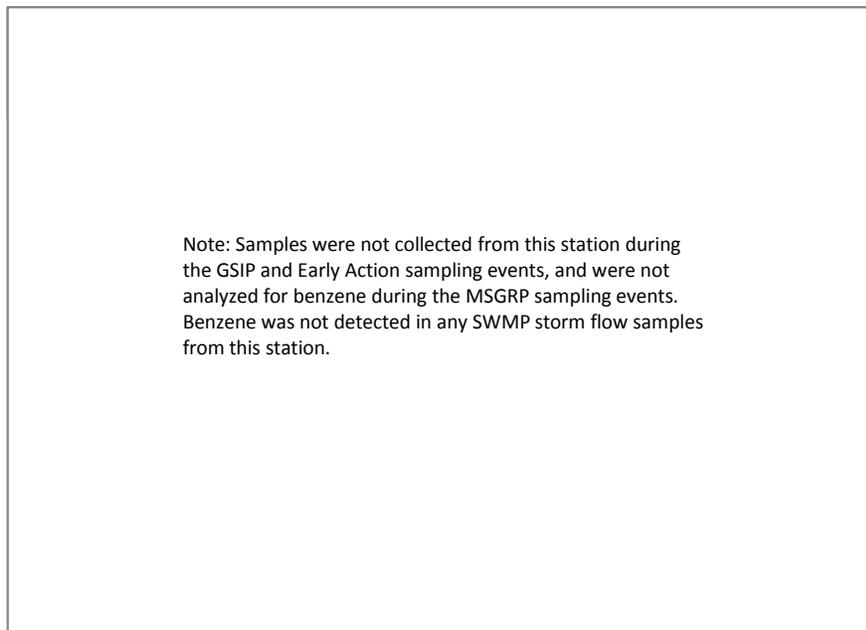
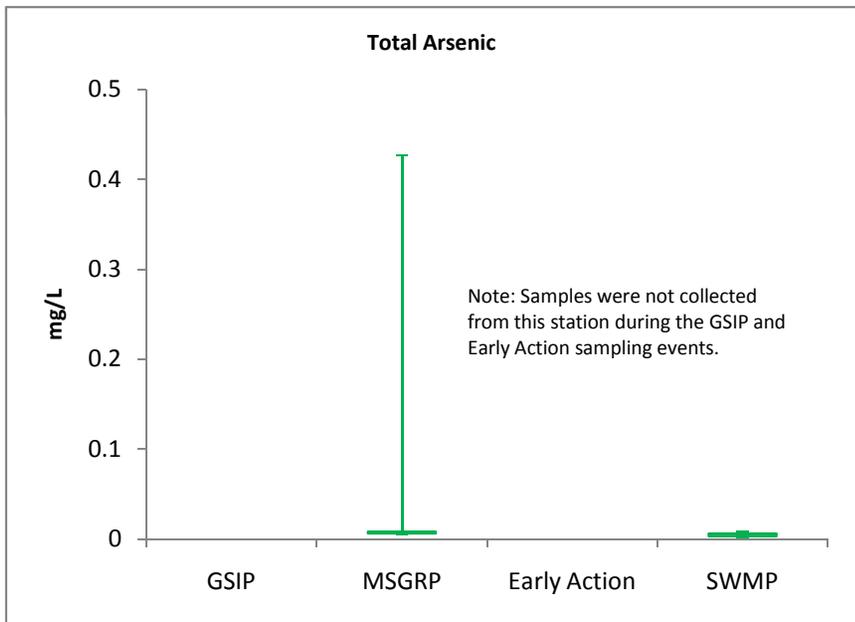
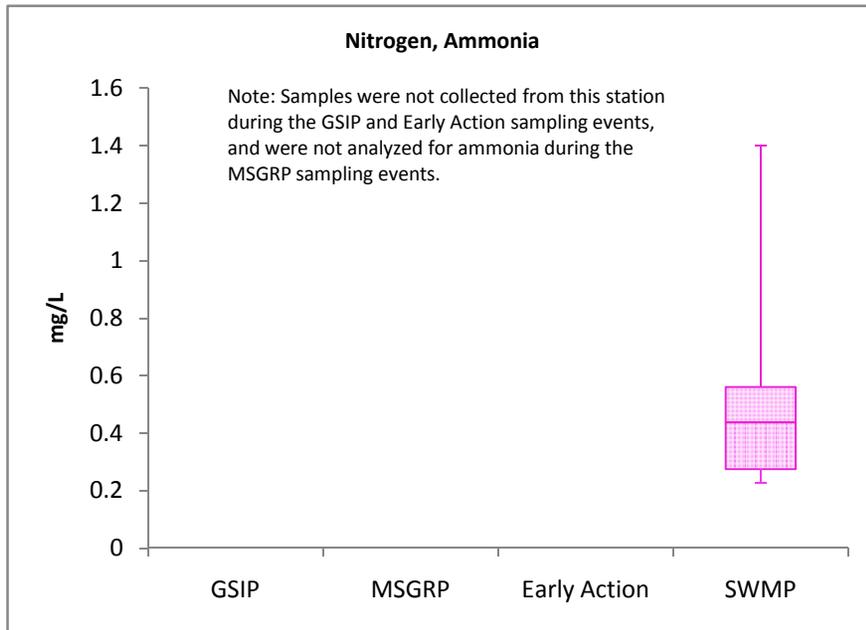
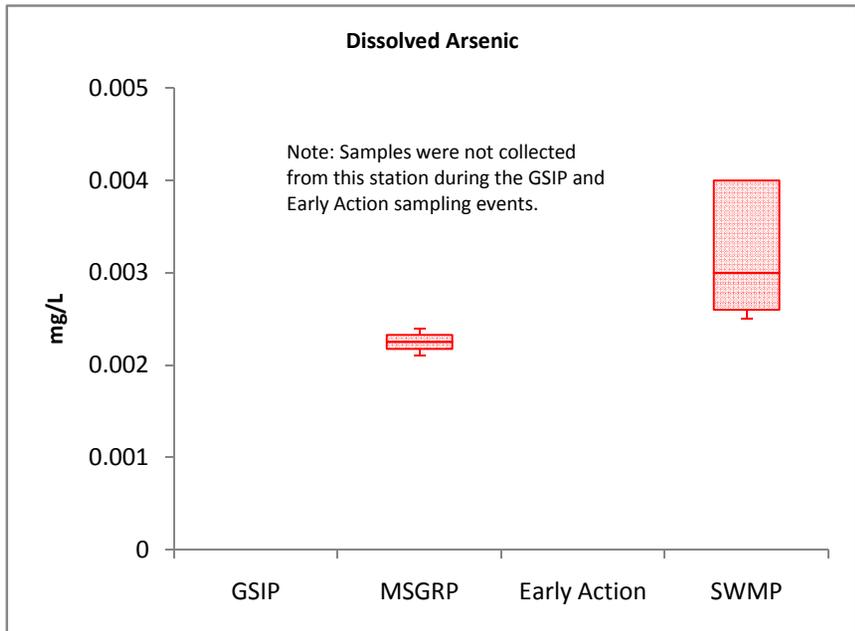
Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP storm flow samples from this station.



Note: Samples were not collected from this station during the GSIP and Early Action sampling events, and were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP storm flow samples from this station.



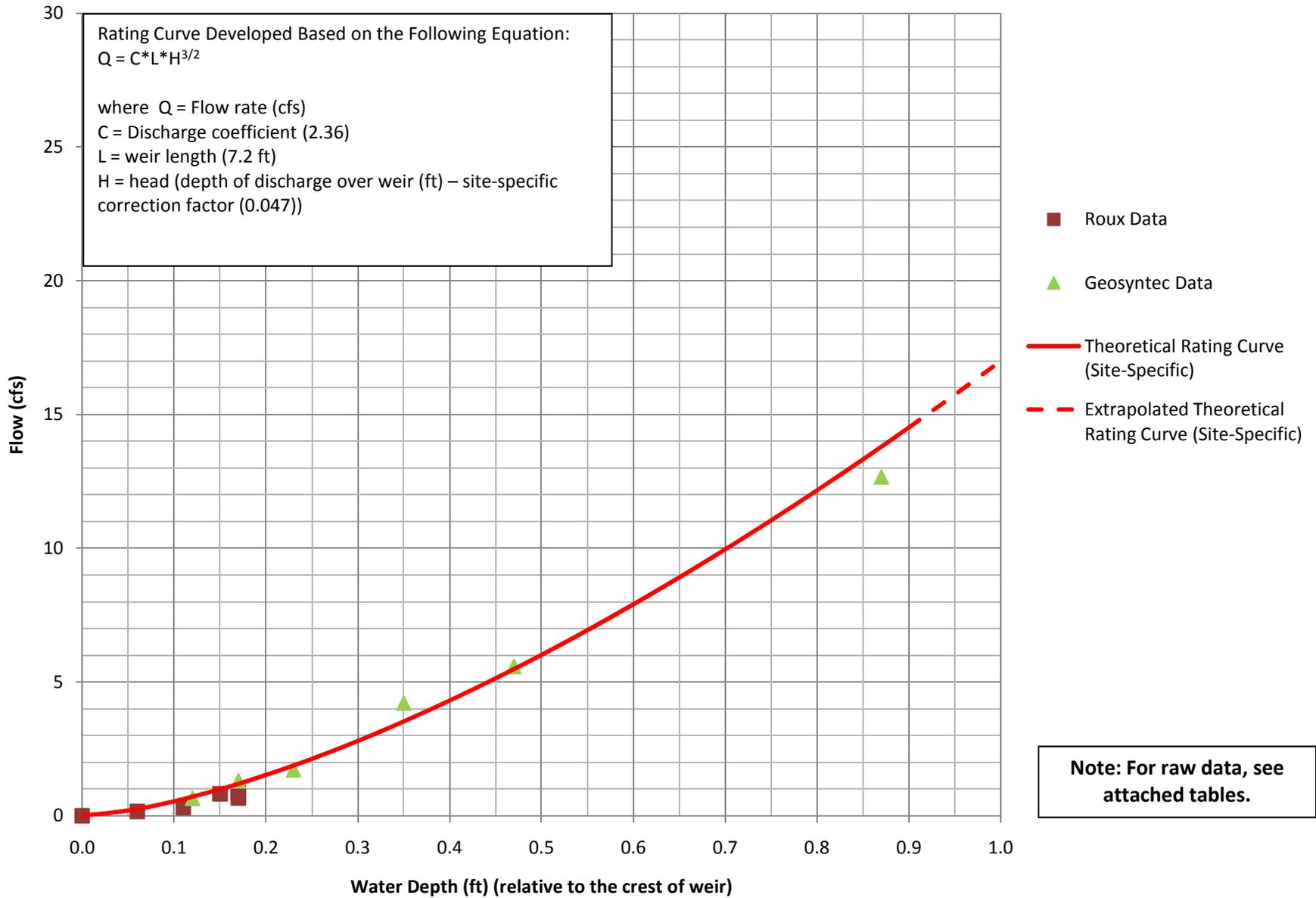
Note: Samples were not collected from this station during the GSIP and Early Action sampling events. Samples were not analyzed for benzene during the MSGRP sampling events. Benzene was not detected in any SWMP storm flow samples from this station.



APPENDIX C

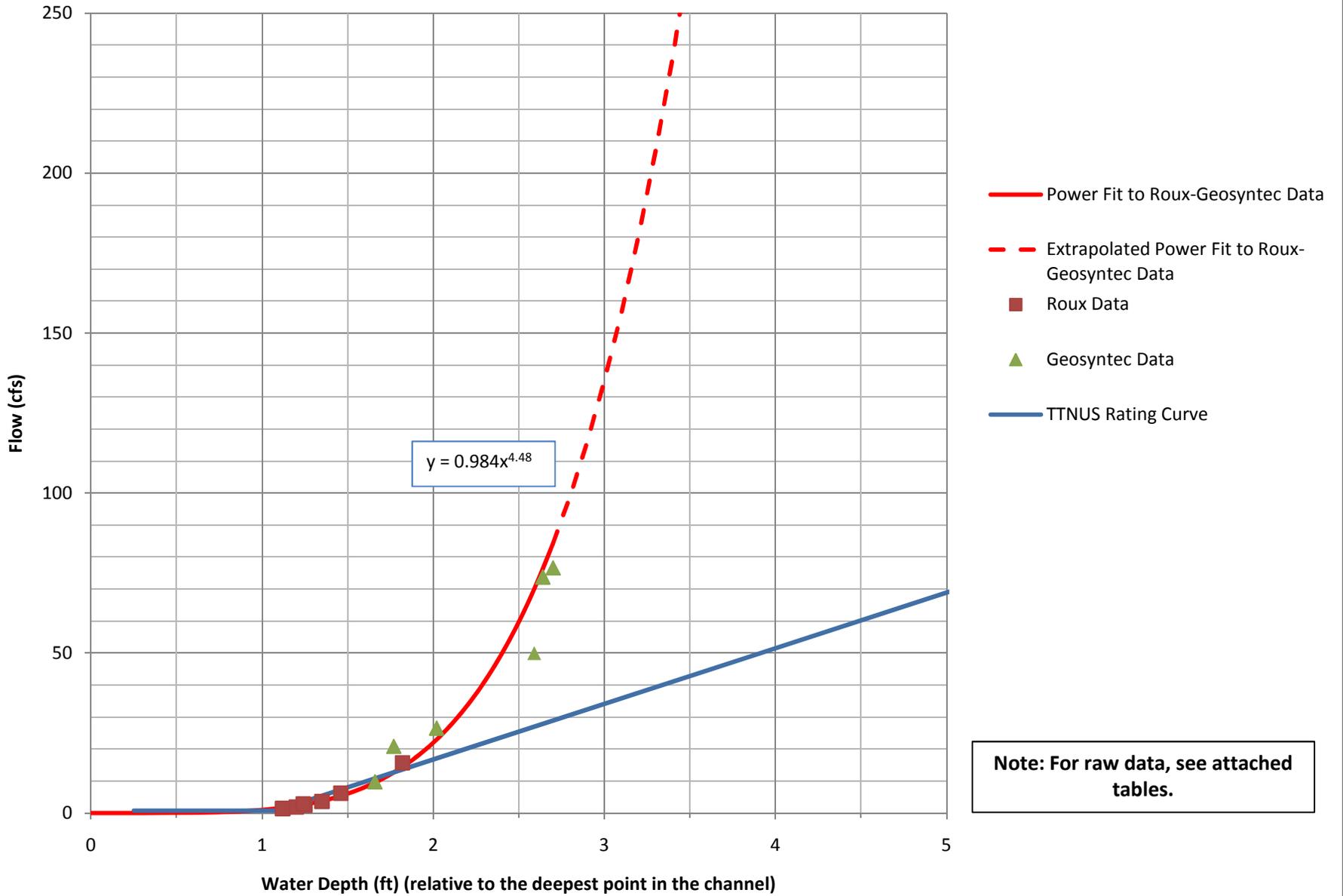
Rating Curves

SW-2-IP - Atlantic Avenue Drainage (AAD)



SW-2-IP	
Depth of Water Above Weir (ft)	Flow (cfs)
0	0.00
0.05	0.19
0.1	0.54
0.15	0.99
0.2	1.52
0.25	2.13
0.3	2.79
0.35	3.52
0.4	4.30
0.45	5.13
0.5	6.01
0.55	6.93
0.6	7.90
0.65	8.91
0.7	9.96
0.75	11.04
0.8	12.16
0.85	13.32
0.9	14.51
0.95	15.74
1	17.00
1.05	18.29
1.1	19.61
1.15	20.97
1.2	22.35
1.25	23.76
1.3	25.20
1.35	26.67
1.4	28.16
1.45	29.68
1.5	31.23
1.55	32.81
1.6	34.41
1.65	36.03
1.7	37.68
1.75	39.36
1.8	41.05
1.85	42.78
1.9	44.52
1.95	46.29
2	48.08
2.05	49.90
2.1	51.73
2.15	53.59
2.2	55.47
2.25	57.38
2.3	59.30
2.35	61.24
2.4	63.21
2.45	65.19

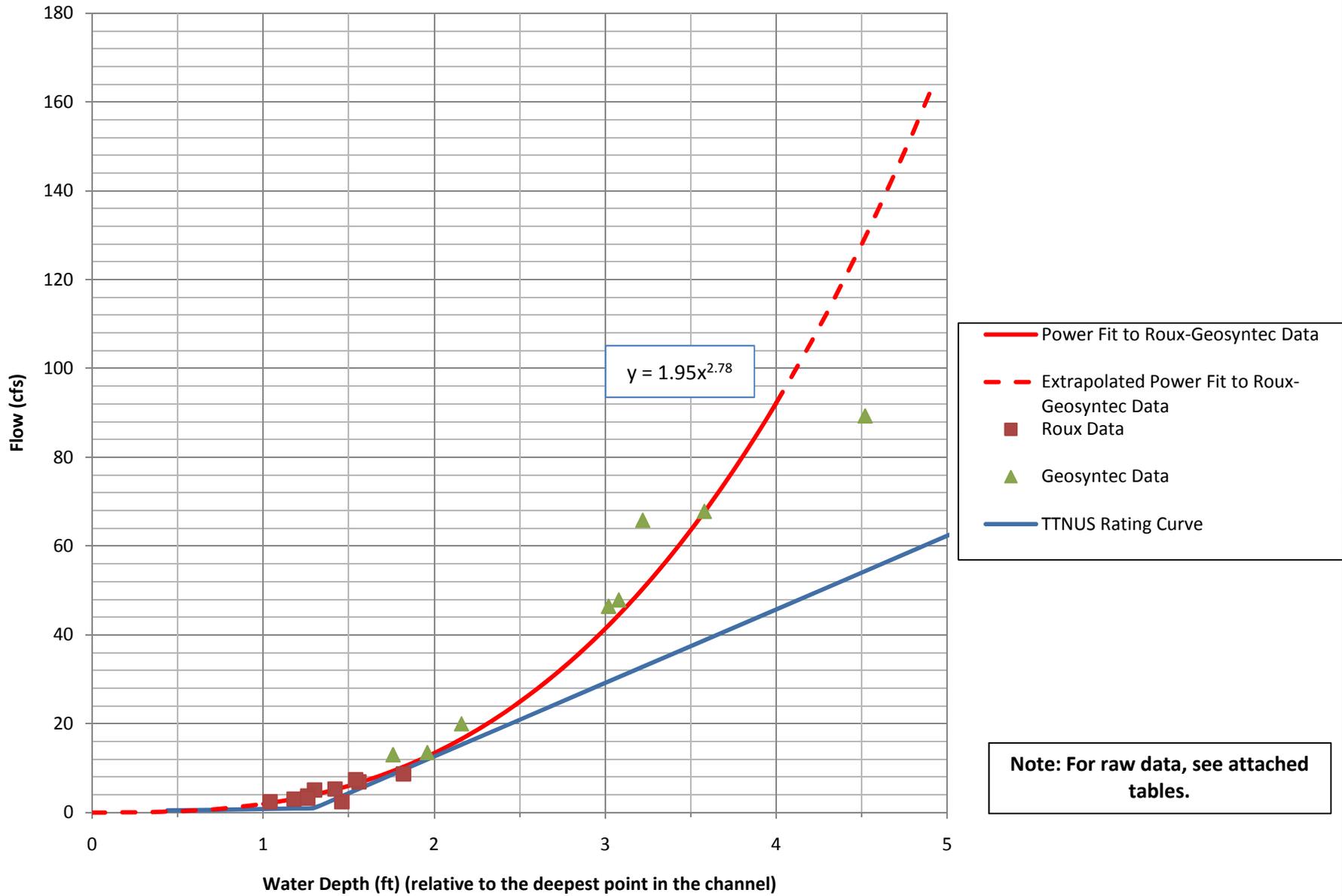
SW-01-TT - Halls Brook



Note: For raw data, see attached tables.

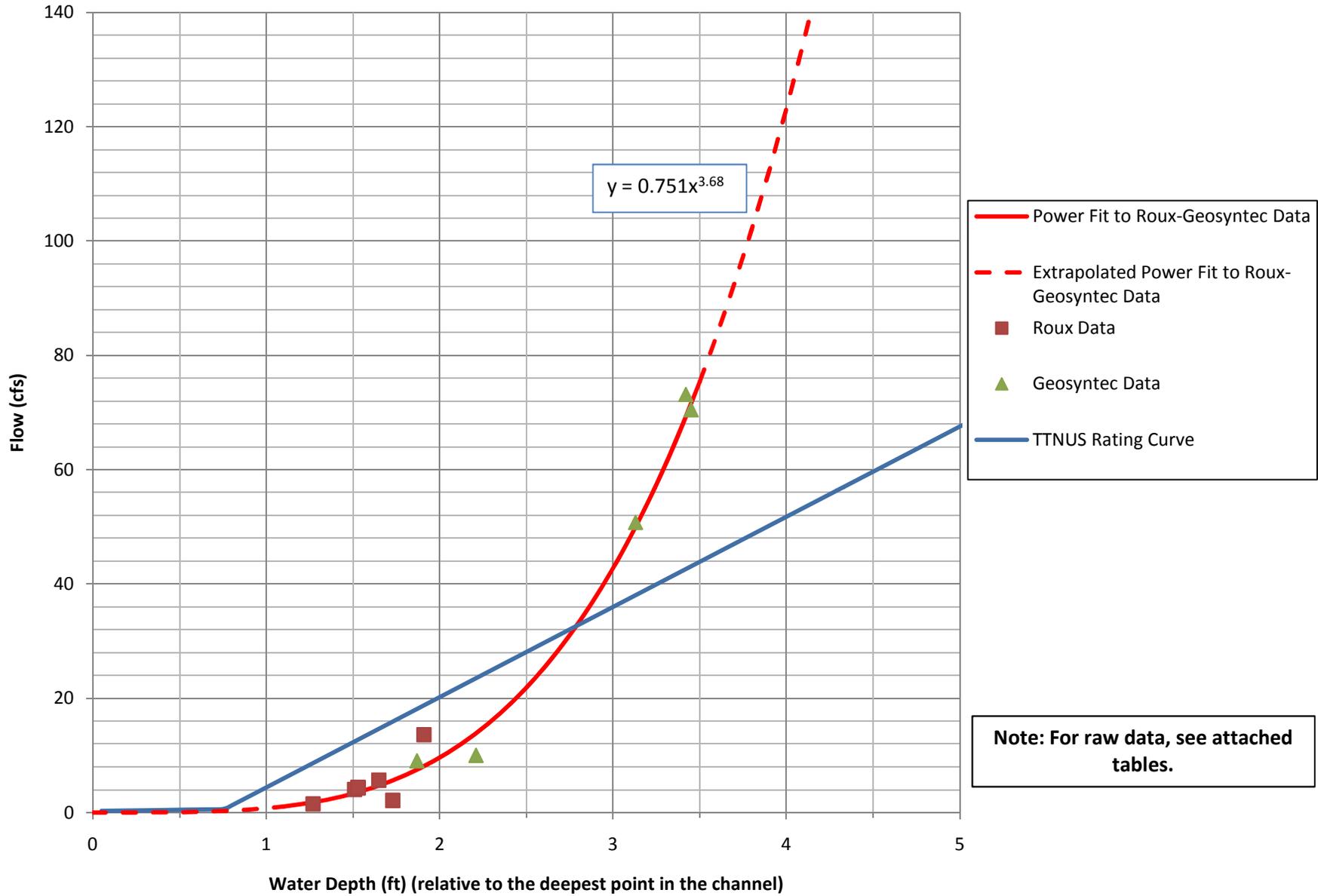
SW-01-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.000
0.1	0.000
0.2	0.001
0.3	0.004
0.4	0.016
0.5	0.044
0.6	0.100
0.7	0.199
0.8	0.362
0.9	0.614
1	0.984
1.1	1.508
1.2	2.227
1.3	3.188
1.4	4.443
1.5	6.052
1.6	8.081
1.7	10.602
1.8	13.697
1.9	17.451
2	21.959
2.1	27.324
2.2	33.655
2.3	41.071
2.4	49.698
2.5	59.671
2.6	71.134
2.7	84.237
2.8	99.143
2.9	116.021
3	135.051
3.1	156.421
3.2	180.330
3.3	206.984
3.4	236.603
3.5	269.414
3.6	305.654
3.7	345.572
3.8	389.427
3.9	437.486
4	490.031
4.1	547.352
4.2	609.750
4.3	677.538
4.4	751.040
4.5	830.591
4.6	916.537
4.7	1009.238
4.8	1109.062
4.9	1216.392

SW-02-TT - HBHA Pond Outlet



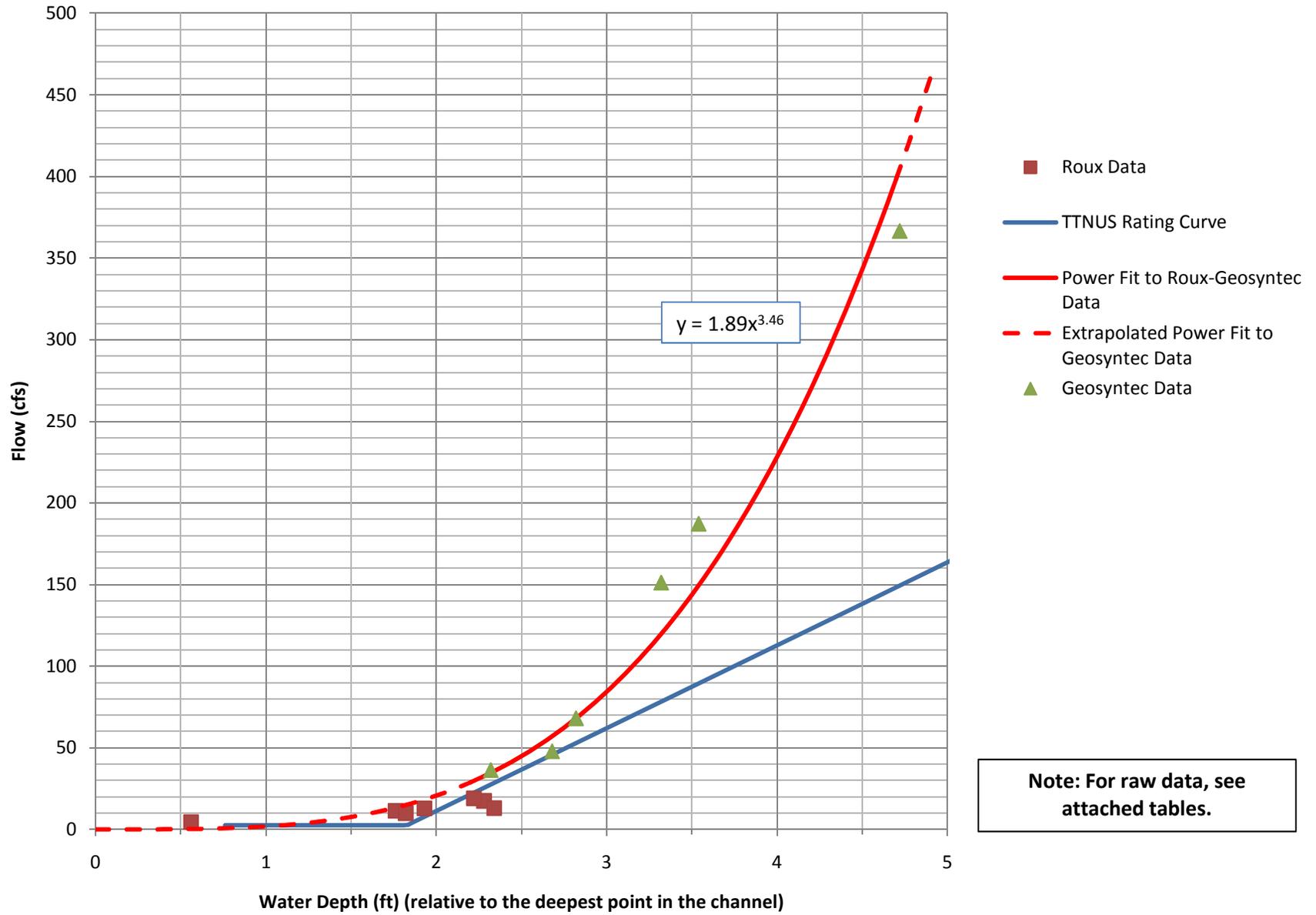
SW-02-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.000
0.1	0.003
0.2	0.022
0.3	0.068
0.4	0.152
0.5	0.283
0.6	0.470
0.7	0.721
0.8	1.046
0.9	1.452
1	1.946
1.1	2.537
1.2	3.233
1.3	4.039
1.4	4.964
1.5	6.015
1.6	7.199
1.7	8.522
1.8	9.991
1.9	11.613
2	13.395
2.1	15.343
2.2	17.464
2.3	19.764
2.4	22.249
2.5	24.926
2.6	27.801
2.7	30.880
2.8	34.169
2.9	37.674
3	41.401
3.1	45.357
3.2	49.547
3.3	53.977
3.4	58.653
3.5	63.581
3.6	68.767
3.7	74.215
3.8	79.933
3.9	85.925
4	92.198
4.1	98.756
4.2	105.606
4.3	112.754
4.4	120.203
4.5	127.961
4.6	136.032
4.7	144.423
4.8	153.138
4.9	162.182

SW-03-TT - Aberjona River @ Mishawum Rd.



SW-03-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.000
0.1	0.000
0.2	0.002
0.3	0.009
0.4	0.026
0.5	0.059
0.6	0.115
0.7	0.202
0.8	0.330
0.9	0.510
1	0.751
1.1	1.066
1.2	1.469
1.3	1.972
1.4	2.590
1.5	3.338
1.6	4.233
1.7	5.290
1.8	6.528
1.9	7.965
2	9.619
2.1	11.510
2.2	13.659
2.3	16.086
2.4	18.812
2.5	21.861
2.6	25.254
2.7	29.015
2.8	33.169
2.9	37.740
3	42.753
3.1	48.235
3.2	54.211
3.3	60.709
3.4	67.756
3.5	75.382
3.6	83.614
3.7	92.481
3.8	102.015
3.9	112.245
4	123.202
4.1	134.919
4.2	147.426
4.3	160.757
4.4	174.945
4.5	190.024
4.6	206.028
4.7	222.991
4.8	240.950
4.9	259.939

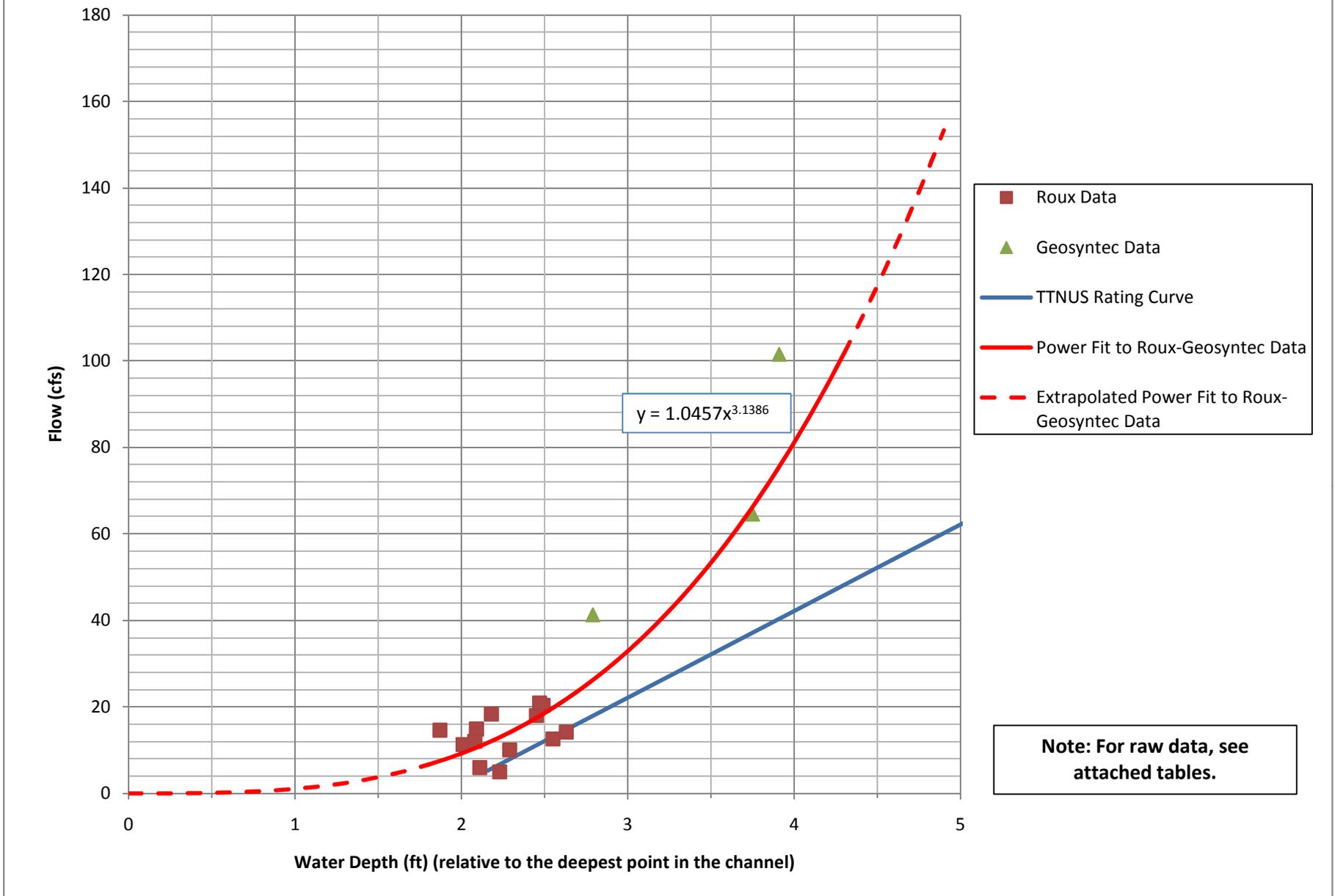
SW-05-TT - Aberjona River @ Salem St.



Note: For raw data, see attached tables.

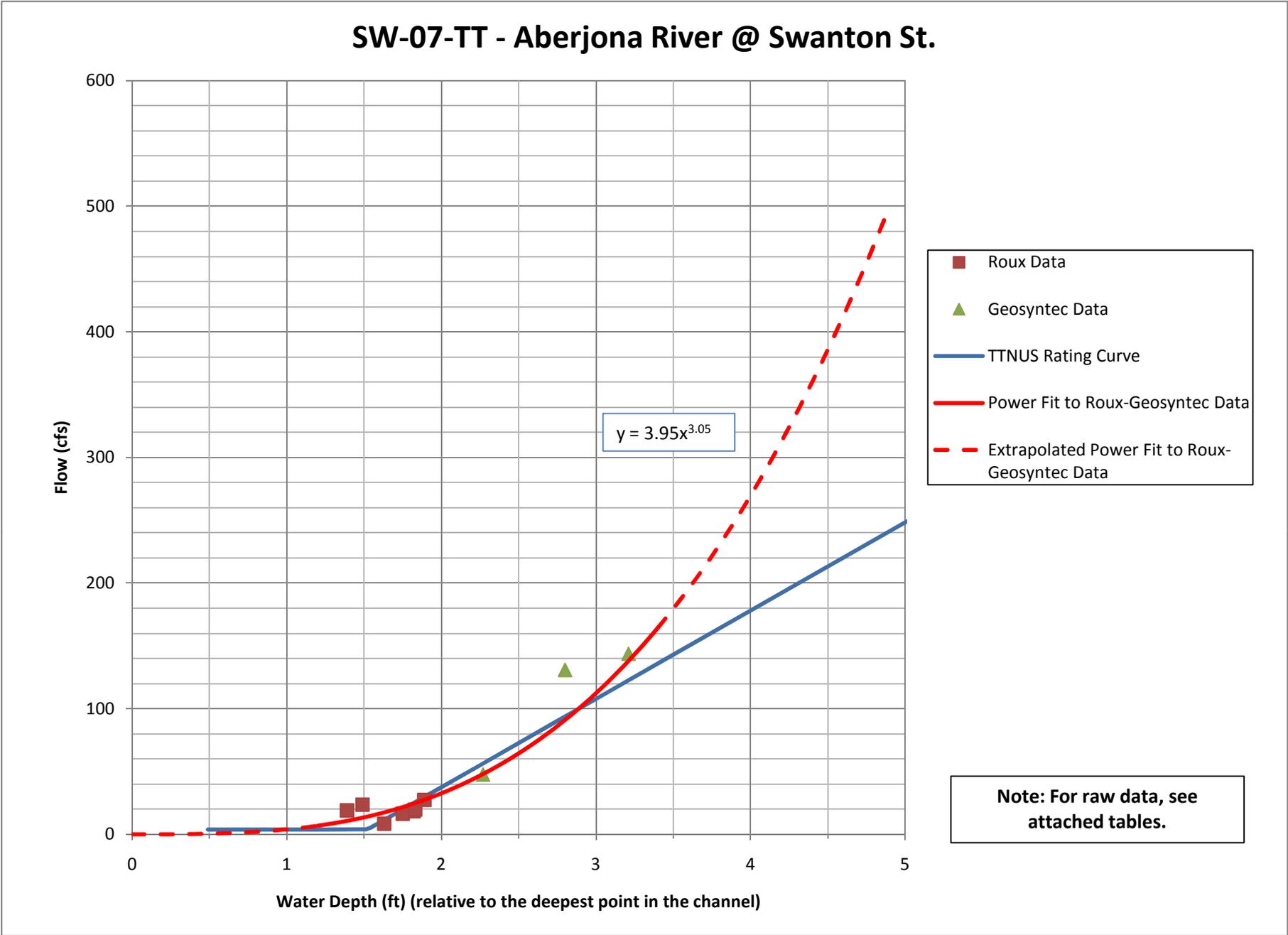
SW-05-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.00
0.1	0.00
0.2	0.01
0.3	0.03
0.4	0.08
0.5	0.17
0.6	0.32
0.7	0.55
0.8	0.87
0.9	1.31
1	1.89
1.1	2.63
1.2	3.55
1.3	4.68
1.4	6.05
1.5	7.68
1.6	9.60
1.7	11.83
1.8	14.42
1.9	17.39
2	20.76
2.1	24.58
2.2	28.87
2.3	33.66
2.4	39.00
2.5	44.91
2.6	51.44
2.7	58.61
2.8	66.46
2.9	75.04
3	84.37
3.1	94.50
3.2	105.47
3.3	117.31
3.4	130.07
3.5	143.78
3.6	158.49
3.7	174.25
3.8	191.08
3.9	209.04
4	228.17
4.1	248.51
4.2	270.10
4.3	293.00
4.4	317.25
4.5	342.88
4.6	369.96
4.7	398.53
4.8	428.62
4.9	460.30

SW-06-TT - Aberjona River @ Montvale Ave.



Note: For raw data, see attached tables.

SW-06-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.00
0.1	0.00
0.2	0.01
0.3	0.02
0.4	0.06
0.5	0.12
0.6	0.21
0.7	0.34
0.8	0.52
0.9	0.75
1	1.05
1.1	1.41
1.2	1.85
1.3	2.38
1.4	3.01
1.5	3.73
1.6	4.57
1.7	5.53
1.8	6.62
1.9	7.84
2	9.21
2.1	10.73
2.2	12.42
2.3	14.28
2.4	16.32
2.5	18.55
2.6	20.98
2.7	23.62
2.8	26.48
2.9	29.56
3	32.88
3.1	36.44
3.2	40.26
3.3	44.34
3.4	48.70
3.5	53.34
3.6	58.27
3.7	63.50
3.8	69.04
3.9	74.91
4	81.10
4.1	87.64
4.2	94.52
4.3	101.77
4.4	109.38
4.5	117.38
4.6	125.76
4.7	134.54
4.8	143.73
4.9	153.34



SW-07-TT	
Water Depth from Deepest Point in Channel (ft)	Flow (cfs)
0	0.00
0.1	0.00
0.2	0.03
0.3	0.10
0.4	0.24
0.5	0.48
0.6	0.83
0.7	1.33
0.8	2.00
0.9	2.87
1	3.95
1.1	5.29
1.2	6.89
1.3	8.79
1.4	11.02
1.5	13.59
1.6	16.55
1.7	19.90
1.8	23.68
1.9	27.92
2	32.64
2.1	37.87
2.2	43.64
2.3	49.97
2.4	56.88
2.5	64.41
2.6	72.58
2.7	81.42
2.8	90.96
2.9	101.22
3	112.23
3.1	124.01
3.2	136.60
3.3	150.02
3.4	164.30
3.5	179.47
3.6	195.54
3.7	212.56
3.8	230.55
3.9	249.52
4	269.53
4.1	290.58
4.2	312.70
4.3	335.93
4.4	360.30
4.5	385.82
4.6	412.53
4.7	440.45
4.8	469.62
4.9	500.06

Industri-Plex Site Woburn, Massachusetts Rating Curve Data Roux and Geosyntec Points											
Station	Reference Datum	Height of Staff Gauge Base (i.e., 0') above Reference Datum (ft)	Height of sensor above Reference Datum (ft)	Date Sampled	Time Sampled	Staff Gauge Reading (ft)	Sensor Reading (ft)	Calculated Water Depth Above Reference Datum Based on Staff Gauge (ft)	Measured Flow (cfs)	Recorded By	Notes
SW-01-TT	Deepest Point in Channel	0.14	0.39	4/3/2009		1.68	1.86	1.82	15.71	Roux	Sensor moved on 6/25/2009 (elevation changed, see column D)
SW-01-TT	Deepest Point in Channel	0.14	0.39	5/8/2009		1.32	1.09	1.46	6.22	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.39	6/1/2009		0.98	1.06	1.12	1.46	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.39	6/1/2009		0.98	1.00	1.12	1.41	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.36	6/30/2009	11:10	1.11	0.71	1.25	2.65	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.36	6/30/2009	12:15	1.11	0.71	1.25	2.42	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.36	7/17/2009	14:30	1.06	0.74	1.20	1.90	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.32	8/3/2009	13:25	1.21	0.95	1.35	3.62	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.32	8/31/2009	8:51	1.10	0.85	1.24	2.90	Roux	
SW-01-TT	Deepest Point in Channel	0.14	0.32	7/1/2009	17:04	1.63		1.77	20.89	Geosyntec	
SW-01-TT	Deepest Point in Channel	0.14	0.32	7/2/2009	9:26	1.88		2.02	26.56	Geosyntec	
SW-01-TT	Deepest Point in Channel	0.14	0.32	7/7/2009	18:10	2.45		2.59	50.01	Geosyntec	
SW-01-TT	Deepest Point in Channel	0.14	0.32	7/9/2009	7:25	1.52		1.66	9.82	Geosyntec	
SW-01-TT	Deepest Point in Channel	0.14	0.32	7/24/2009	11:52	2.56		2.70	76.60	Geosyntec	
SW-01-TT	Deepest Point in Channel	0.14	0.41	3/23/2010	10:15	2.50		2.64	73.73	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	3/30/2009		0.58	0.54	0.15	0.82	Roux	Staff gauge elevations adjusted based on information provided by Roux on 3/3/2010 and 3/31/2010
SW-2-IP	Crest of Weir	-0.43	-0.39	5/8/2009		0.58	0.54	0.15	0.82	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	6/1/2009		0.10	0.02	0.00	0.00	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	6/30/2009	11:45	0.54	0.46	0.11	0.31	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	7/17/2009	15:15	0.49	0.41	0.06	0.16	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	8/3/2009	13:37	0.60	0.54	0.17	0.66	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	8/31/2009	9:10	0.60	0.53	0.17	0.88	Roux	
SW-2-IP	Crest of Weir	-0.43	-0.39	7/1/2009	15:23	0.55		0.12	0.65	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	7/2/2009	9:14	0.60		0.17	1.31	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	7/9/2009	8:05	0.66		0.23	1.72	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	7/24/2009	11:38	0.78		0.35	4.21	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	3/14/2010	12:00	1.30		0.87	12.66	Geosyntec	
SW-2-IP	Crest of Weir	-0.43	-0.39	3/23/2010	10:05	0.90		0.47	5.58	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	3/30/2009		1.60	1.58	1.82	8.70	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	5/8/2009		1.34	1.26	1.56	6.91	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	5/8/2009		1.32	1.27	1.54	7.41	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	5/11/2009		1.08	1.11	1.30	5.08	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	6/1/2009		0.82	0.78	1.04	2.41	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	6/29/2009	13:30	1.24	1.10	1.46	2.41	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/17/2009	13:15	0.96	0.89	1.18	3.02	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	8/3/2009	13:37	1.20	1.05	1.42	5.28	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	9/1/2009	9:22	1.04	0.87	1.26	3.74	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	9/1/2009	9:46	1.04	0.87	1.26	3.22	Roux	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/1/2009	17:56	1.54		1.76	13.02	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/2/2009	11:33	1.94		2.16	19.97	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/7/2009	18:50	2.86		3.08	47.86	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/9/2009	9:15	1.74		1.96	13.48	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	7/24/2009	10:53	3.36		3.58	67.81	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	2/25/2010	10:49	2.80		3.02	46.42	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	3/14/2010	11:06	4.30		4.52	89.29	Geosyntec	
SW-02-TT	Deepest Point in Channel	0.22	0.27	3/23/2010	10:30	3.00		3.22	65.80	Geosyntec	
SW-03-TT	Deepest Point in Channel	0.77	0.56	3/30/2009		1.14	1.70	1.91	13.60	Roux	Staff gauge moved on 02/01/2010 (elevation changed, see column C)
SW-03-TT	Deepest Point in Channel	0.77	0.56	5/8/2009		0.88	1.00	1.65	5.65	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	6/1/2009		0.50	0.80	1.27	1.52	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	6/29/2009	13:00	0.74	0.82	1.51	4.02	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	7/17/2009	14:10	0.96	0.89	1.73	2.12	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	8/3/2009	12:59	0.76	0.90	1.53	4.27	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	8/31/2009	8:14	0.76	0.92	1.53	4.42	Roux	
SW-03-TT	Deepest Point in Channel	0.77	0.56	7/2/2009	12:25	1.44		2.21	10.04	Geosyntec	
SW-03-TT	Deepest Point in Channel	0.77	0.56	7/9/2009	10:05	1.10		1.87	9.06	Geosyntec	
SW-03-TT	Deepest Point in Channel	0.77	0.56	7/24/2009	10:06	2.68		3.45	70.48	Geosyntec	
SW-03-TT	Deepest Point in Channel	0.77	0.56	1/25/2010	17:00	2.65		3.42	73.16	Geosyntec	
SW-03-TT	Deepest Point in Channel	0.63	0.56	2/25/2010	11:28	2.50		3.13	50.79	Geosyntec	

Industri-Plex Site Woburn, Massachusetts Rating Curve Data Roux and Geosyntec Points											
Station	Reference Datum	Height of Staff Gauge Base (i.e., 0') above Reference Datum (ft)	Height of sensor above Reference Datum (ft)	Date Sampled	Time Sampled	Staff Gauge Reading (ft)	Sensor Reading (ft)	Calculated Water Depth Above Reference Datum Based on Staff Gauge (ft)	Measured Flow (cfs)	Recorded By	Notes
SW-05-TT	Deepest Point in Channel	0.56	0.49	4/3/2009		1.72	2.08	2.28	17.50	Roux	No staff gage reading recorded Staff gauge moved on 7/6/2009 (elevation changed, see column C) NOTE: STAFF GAUGE RE-LOCATED AGAIN ON 9/3/2009, NEW HEIGHT 0.32 ft above reference datum Staff gauge elevations adjusted based on information provided by Roux on 3/3/2010 and 3/31/2010
SW-05-TT	Deepest Point in Channel	0.56	0.49	5/8/2009		1.66	1.60	2.22	19.11	Roux	
SW-05-TT	Deepest Point in Channel	0.56	0.49	6/2/2009		1.60	1.60	0.56	4.53	Roux	
SW-05-TT	Deepest Point in Channel	0.56	0.49	6/29/2009	12:00	1.78	1.36	2.34	13.12	Roux	
SW-05-TT	Deepest Point in Channel	0.50	0.49	7/7/2009	14:40	1.26	1.29	1.76	11.40	Roux	
SW-05-TT	Deepest Point in Channel	0.50	0.49	8/4/2009	10:30	1.32	1.32	1.82	10.03	Roux	
SW-05-TT	Deepest Point in Channel	0.50	0.49	8/31/2009	9:35	1.43	1.42	1.93	12.94	Roux	
SW-05-TT	Deepest Point in Channel	0.56	0.49	7/2/2009	13:02	2.12		2.68	47.97	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.50	0.49	7/9/2009	11:10	1.82		2.32	36.40	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.50	0.49	7/24/2009	9:29	3.04		3.54	187.24	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.32	0.49	1/25/2010	16:30	2.50		2.82	68.11	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.3	0.49	2/27/2010	9:00	Washed Out	2.05	2.54	97.94	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.92	0.49	3/15/2010	15:20	3.80		4.72	366.59	Geosyntec	
SW-05-TT	Deepest Point in Channel	0.92	0.49	3/23/2010	11:15	2.40		3.32	151.21	Geosyntec	
SW-06-TT	Deepest Point in Channel	0.65	0.48	4/3/2009		1.80	2.02	2.45	17.98	Roux	Staff Gauge Moved on 6/18/2009 (elevation changed, see column C) Staff gauge elevations adjusted based on information provided by Roux on 3/3/2010 and 3/31/2010
SW-06-TT	Deepest Point in Channel	0.65	0.48	5/11/2009		1.98	1.73	2.63	14.17	Roux	
SW-06-TT	Deepest Point in Channel	0.65	0.48	6/2/2009		1.58	1.26	2.23	4.95	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	6/29/2009	9:30	1.99	1.71	2.18	18.30	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	7/7/2009	13:30	1.68	1.41	1.87	14.60	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	8/4/2009	9:53	1.82	1.47	2.01	11.28	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	8/31/2009	9:57	1.90	1.56	2.09	14.88	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	10/15/2009		1.92	1.38	2.11	5.96	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	11/3/2009		2.10	1.44	2.29	10.03	Roux	
SW-06-TT	Deepest Point in Channel	-0.30	0.27	12/2/2009		2.38	2.35	2.08	12.03	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.27	1/6/2010		2.30	1.79	2.49	20.38	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.27	2/3/2010		2.36	1.83	2.55	12.60	Roux	
SW-06-TT	Deepest Point in Channel	-0.31	0.27	3/8/2010		2.78	2.35	2.47	20.91	Roux	
SW-06-TT	Deepest Point in Channel	0.19	0.48	7/2/2009	13:33	Submerged		N/A	64.87	Geosyntec	
SW-06-TT	Deepest Point in Channel	0.19	0.48	7/9/2009	11:45	2.60		2.79	41.28	Geosyntec	
SW-06-TT	Deepest Point in Channel	-0.30	0.27	1/25/2010	15:45	4.05		3.75	64.57	Geosyntec	
SW-06-TT	Deepest Point in Channel	-0.30	0.27	2/27/2010	9:27	Washed out	3.64	3.91	101.53	Geosyntec	
SW-06-TT	Deepest Point in Channel	-0.09	0.27	3/23/2010	11:42	Washed out		0.27	140.45	Geosyntec	
SW-07-TT	Deepest Point in Channel	0.63	0.44	4/3/2009		1.26	1.79	1.89	27.39	Roux	Staff Gauge Moved on 7/23/2009 (elevation changed, see column C) Staff gauge elevations adjusted based on information provided by Roux on 3/3/2010 and 3/31/2010
SW-07-TT	Deepest Point in Channel	0.63	0.44	5/11/2009		1.19	1.25	1.82	18.44	Roux	
SW-07-TT	Deepest Point in Channel	0.63	0.44	6/2/2009		1.00	1.48	1.63	8.47	Roux	
SW-07-TT	Deepest Point in Channel	0.63	0.44	6/29/2009	10:30	0.86	1.23	1.49	23.62	Roux	
SW-07-TT	Deepest Point in Channel	0.63	0.44	7/7/2009	12:45	0.76	1.05	1.39	19.00	Roux	
SW-07-TT	Deepest Point in Channel	0.71	0.44	8/4/2009	9:09	1.12	1.42	1.83	19.61	Roux	
SW-07-TT	Deepest Point in Channel	0.71	0.44	9/1/2009	8:26	1.04	1.35	1.75	16.38	Roux	
SW-07-TT	Deepest Point in Channel	0.63	0.44	7/9/2009	12:25	1.64		2.27	47.63	Geosyntec	
SW-07-TT	Deepest Point in Channel	0.71	0.55	1/25/2010	15:15	2.09		2.80	130.78	Geosyntec	
SW-07-TT	Deepest Point in Channel	0.71	0.54	2/27/2010	11:07	2.50		3.21	143.62	Geosyntec	

**NOTE: Water elevations for these times are based on Sensor measurements obtained from Roux. Raw data readings were adjusted as follows to account for offsets: (1) Offsets programmed into the sensor were subtracted from raw data readings (Offsets: 0.47 for SW-05 and 0.19 for SW-06) (2) The result of (1) is the water level above the sensor elevation. This result is entered in the table above in Column H.