

# MSD

Metropolitan Sewer District

700 West Liberty Street  
Louisville Kentucky 40203-1911  
502-540-6000  
www.msdlouky.org

October 30, 2014

Chief, Water Programs Enforcement Branch  
Water Management Program  
US EPA Region 4  
Atlanta Federal Center  
61 Forsyth Street SW  
Atlanta, GA 30303

Chief, Environmental Enforcement Section  
Environmental and Natural Resources Division  
U.S. Department of Justice  
Post Office Box 7611  
Washington DC 20044-7611

Jeff Cummins, Director  
Division of Enforcement  
Department of Environmental Protection  
300 Fair Oaks Lane  
Frankfort, KY 40601

Subject: Quarterly Report 36  
Civil Action No. 3:08-cv-00608-CRS

Attention Chief:

Please find attached our Quarterly Report, prepared in accordance with Paragraph 29 of our Amended Consent Decree. This report is for the period July 1, 2014 – September 30, 2014, pertaining to Consent Decree compliance activities. Included are sections on Project WIN activities related to: NMC, SORP, Discharge Abatement Plans, Public Outreach, Education, Notification and Participation, CMOM and Performance Overview.

I certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have questions or need additional information, please contact me at (502) 540-6136.

Sincerely,



Angela Akridge, PE.  
Regulatory Services Director

cc: Greg Heitzman, PE

Paula Purifoy

Steve Emly



Beneficial Use of Louisville's Biosolids  
www.louisvillegreen.com

# Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #36



**Reporting Period:**

July 1, 2014 through September 30, 2014

**Submitted To:**

Kentucky Department of Environmental Protection  
United States Environmental Protection Agency  
United States Department of Justice

**Submitted By:**

Louisville and Jefferson County Metropolitan Sewer District  
700 W. Liberty Street  
Louisville, Kentucky 40203-1911

**Submittal Date:**

October 31, 2014

**TABLE OF CONTENTS**

**INTRODUCTION..... 4**

**SECTION 1: Program Activities for Nine Minimum Controls..... 6**

    1.1 Nine Minimum Controls Program Background ..... 6

    1.2 NMC 2: Maximization of Storage in the Collection System..... 6

    1.3 NMC 4: Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC) ..... 6

**SECTION 2: Program Activities for Sewer Overflow Response Protocol..... 19**

    2.1 SORP Program Background ..... 19

    2.2 Overflow Management and Field Documentation..... 19

    2.3 Staff Training and Communication..... 20

**SECTION 3: Program Activities for Discharge Abatement Plans..... 21**

    3.1 Integrated Overflow Abatement Plan (IOAP) ..... 21

    3.2 Sanitary Sewer Discharge Plan (SSDP) ..... 21

        3.2.1 Updated Sanitary Sewer Overflow Plan Implementation ..... 21

        3.2.2 Interim Sanitary Sewer Discharge Plan ..... 21

        3.2.3 Final Sanitary Sewer Discharge Plan ..... 22

    3.3 CSO Long Term Control Plan ..... 22

        3.3.1 Interim CSO Long Term Control Plan..... 23

        3.3.2 Final CSO Long Term Control Plan..... 23

        3.3.3 Green Program Update ..... 23

    3.4 Activity Progress Chart ..... 24

**SECTION 4: Program Activities for Public Outreach, Education, Notification and Participation..... 30**

    4.1 Public Notification Program ..... 30

    4.2 Public Education Programs ..... 30

    4.3 Public Outreach Programs..... 30

        4.3.1 IOAP Project and Program Meetings ..... 30

**SECTION 5: Capacity Management Operations and Maintenance Report ..... 31**

    5.1 Management Programs ..... 31

    5.2 Operations Programs ..... 32

    5.3 Comprehensive Performance Evaluations and Composite Correction Plans

---

<b>(CPE/CCP)</b> .....	<b>32</b>
5.3.1 Hite Creek Water Quality Treatment Center.....	32
5.3.2 Floyds Fork Water Quality Treatment Center.....	32
5.3.3 Derek R. Guthrie Water Quality Treatment Center.....	33
5.3.4 Cedar Creek Water Quality Treatment Center.....	33
5.3.5 Prospect Area Water Quality Treatment Center Updates.....	33
5.3.5.1 Timberlake Water Quality Treatment Center.....	33
5.3.5.2 Hunting Creek North Water Quality Treatment Center.....	33
5.3.5.3 Hunting Creek South Water Quality Treatment Center.....	33
5.3.5.4 Ken Carla Water Quality Treatment Center.....	33
5.3.5.5 Shadow Wood Water Quality Treatment Center.....	34
5.3.6 Jeffersontown Water Quality Treatment Center.....	34
5.3.7 Starview Water Quality Treatment Center.....	34
5.3.8 Berrytown Water Quality Treatment Center.....	34
5.3.9 Chenoweth Hills Water Quality Treatment Center.....	34
5.3.10 Other Water Quality Treatment Centers.....	34
<b>5.4 CMOM Activity Schedule</b> .....	<b>35</b>
<b>SECTION 6: Project WIN Performance Overview</b> .....	<b>38</b>
<b>6.1 Rainfall</b> .....	<b>38</b>
<b>6.2 Collection System Unauthorized Discharges</b> .....	<b>38</b>
6.2.1 Collection System Overflows to Waters of the United States (WUS).....	38
6.2.2 Overflows to Ground (EXT).....	39
6.2.3 Overflows to Interior (INT).....	39
6.2.4 Dry Weather CSOs.....	39
<b>6.3 CSO Reductions</b> .....	<b>40</b>
<b>6.4 SSO Reductions</b> .....	<b>40</b>
<b>6.5 Gravity Line Preventive Maintenance</b> .....	<b>41</b>
<b>6.6 Water Quality Treatment Center Bypasses</b> .....	<b>42</b>
6.6.1 Bypass Events.....	42
6.6.2 Bypass Corrective Actions.....	42
6.6.3 Jeffersontown Water Quality Treatment Center.....	45
<b>6.7 Phosphorus Monitoring at the Prospect WQTCs</b> .....	<b>47</b>

**ATTACHMENTS**

**APPENDIX A-1 DISCHARGE WORK ORDERS-DRY WEATHER CSOS**

**APPENDIX A-2 DISCHARGE WORK ORDERS-BYPASS**

**APPENDIX A-3 DISCHARGE WORK ORDERS-BLENDING**

**APPENDIX B - CSO FLOW MONITORING DATA**

**APPENDIX C - ACRONYMS**

**APPENDIX D - SCAP BALANCE**

**APPENDIX E - CSO STORM FREQUENCY TABLE**

**APPENDIX F – IOAP PROJECT CROSS WALK**

## INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) is currently under an Amended Consent Decree with the Kentucky Department of Environmental Protection (KDEP), the United States Environmental Protection Agency (EPA), and the United States Department of Justice. The Amended Consent Decree was signed by United States District Judge Simpson on April 10, 2009, and filed in United States District Court, Western Division of Kentucky, Louisville Division, on April 15, 2009.

### Quarterly Reporting Period

This is the thirty-fifth Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from July 1, 2014, through September 30, 2014. **The structure for this report is outlined as follows:**

**Section 1: Program Activities for Nine Minimum Controls (NMC)** - This section describes the data collected for NMC 2 – Maximization of Storage in the Collection System, and NMC 4 – Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC) that were active during the reporting period (July 1, 2014, through September 30, 2014).

**Section 2: Program Activities for Sewer Overflow Response Protocol (SORP)** - This section describes the training attendance records, overflow data, and overflow reconnaissance inspection routes related to SORP that were active during the reporting period (July 1, 2014, through September 30, 2014).

**Section 3: Program Activities for Discharge Abatement Plans (DAP)** - This section describes the schedule and status for projects related to the DAP by means of an updated Gantt chart for active DAP projects during the reporting period, and the anticipated projects and activities that are scheduled for continued compliance with the Amended Consent Decree.

**Section 4: Program Activities for Public Outreach, Education, Notification and Participation** - This section describes the activities related to public outreach that were active during the reporting period (July 1, 2014, through September 30, 2014).

**Section 5: Capacity Management, Operations and Maintenance Report** - The CMOM program activities and programmatic activities for WQTCs generating capital projects will be reported in a Gantt chart for the reporting period (July 1, 2014, through September 30, 2014), and include the schedule for activities planned for the next two reporting periods (October 1, 2014, through March 31, 2015), are included in this section for continued compliance with the Amended Consent Decree.

**Section 6: Performance Overview** - This section provides an accounting of unauthorized discharge occurrences from the separate sanitary sewer and combined sewer system and the estimated volumes of each. A discussion of the probable reductions in both unauthorized discharge points and the discharges from MSD's Combined Sewer Overflow (CSO) locations, identified in the Morris Forman Water Quality Treatment Center (WQTC) Kentucky Pollutant Discharge Elimination System (KPDES) permit, that are expected to result from MSD's projects and activities during the reporting period are also contained in this section.

---

Performance information on Jeffersontown WQTC blending events, bypasses at WQTCs, DMR information, and phosphorus monitoring at WQTCs is included in this section.

---

## SECTION 1: Program Activities for Nine Minimum Controls

### 1.1 Nine Minimum Controls Program Background

Per Paragraph 24.a. of the Amended Consent Decree, the Nine Minimum Controls (NMC) Compliance Report was initially submitted to EPA and KDEP on February 10, 2006. MSD received an approval letter, dated February 22, 2007, for the NMC Compliance Report. The approved NMC Compliance document can be viewed on the MSD Project WIN website <http://www.msprojectwin.org>. Highlights of the NMC program implementation over this reporting period are outlined below.

### 1.2 NMC 2: Maximization of Storage in the Collection System

MSD has continued operation of Phase 1 and Phase 2 of the Real Time Control system. During this reporting period, approximately 324.90 MG were stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See the figure at the end of this section for a detailed report.

The gates at SWOR2 have been placed in manual control due to what was diagnosed as a failure of the gate level sensors that are integral to the integration of this site in the RTC schema. The sensors were replaced in the last quarter of 2013, but the problem could not be resolved at that time due to the gate-closed proximity switches also being diagnosed as defective. A description of corrective action progress is included in the Section 1.3 activities associated with Morris Forman performance.

### 1.3 NMC 4: Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC)

The following charts illustrate performance in maximizing flow to the MFWQTC. The top of the chart shows rainfall inches per day. The middle part of the chart shows MFWQTC effluent flow and secondary treatment flow. The difference between these is the secondary bypass flow. The bottom of the chart shows days with a CSO activation at the five CSOs in the vicinity of the Morris Forman WQTC (CSOs 015, 016, 191, 210, and 211). Note that the flow meter downstream from CSO 211 is known to be affected by backwater effects of the Ohio River and the ultrasonic signal is sometimes blocked by mist and condensation when air and sewage temperatures are significantly different, so CSO activations at CSO 211 are keyed to water levels upstream and downstream of the inflatable dam in the Main Diversion Structure. The other CSO activations are tied to flow measurement downstream of the respective CSOs. At times, “blips” representing very small volumes of overflow are indicated by flow meters even though an overflow cannot be verified by level measurements or other indicators. These blips are not reported as overflows, but are noted in the CSO monitoring data reported on elsewhere. There are occasions in which a communications failure with telemetry has led to short-term gaps in the data. In addition, indications of rainfall and CSO activations are shown on the day they happened, but are not aligned with the exact time, so the effluent flow graph (which is tied to actual time) may show peaks that are offset from the indicated rain or CSO events by as much as 24 hours.

There were several outages in the Headworks and Primary Sedimentation that impacted plant

---

capacity during this quarter. During July, Primary Sedimentation Tank #1 and West Headworks Grit Chamber #2 were taken out of service for scheduled rehabilitation and preventive maintenance which reduced the plant capacity to 260 MGD. During this time period, West Headworks Grit Chamber #1 and West Headworks Grit Chamber #3 were taken out of service in shorter spans due to equipment failure, taking the capacity as low as 230 MGD. Rain events did occur in this span of low capacity, and overflows were likely impacted by the reduced plant capacity. By September, Primary Sedimentation Tank #1 was placed back in service. Sedimentation Basin #2 is scheduled to be taken out of service for similar rehabilitation and preventive maintenance during the next reporting period, followed by Basins #3 and #4. These scheduled outages are essential to maintain the reliability of Basins.

Beginning on July 26<sup>th</sup> 3.89 inches of rain fell on the Combined Sewer System. The MFWQTC was able to treat up to 310 MGD in the first wave of the storm. Later into July 27<sup>th</sup> the storm intensified again causing a sudden escalation of flow into the system concurrent with power outages due to the storm. Given these conditions CSO015 and CSO191 overflowed for a brief period until the flow was controlled.

During July, two clarifiers that were taken out of service for scheduled gearbox maintenance. One clarifier continued to be out of service for the majority of the quarter. Despite the reduced clarifier capacity, the MFWQTC was able to maintain flows of 120 MGD to 140 MGD through the secondary process during wet weather events.

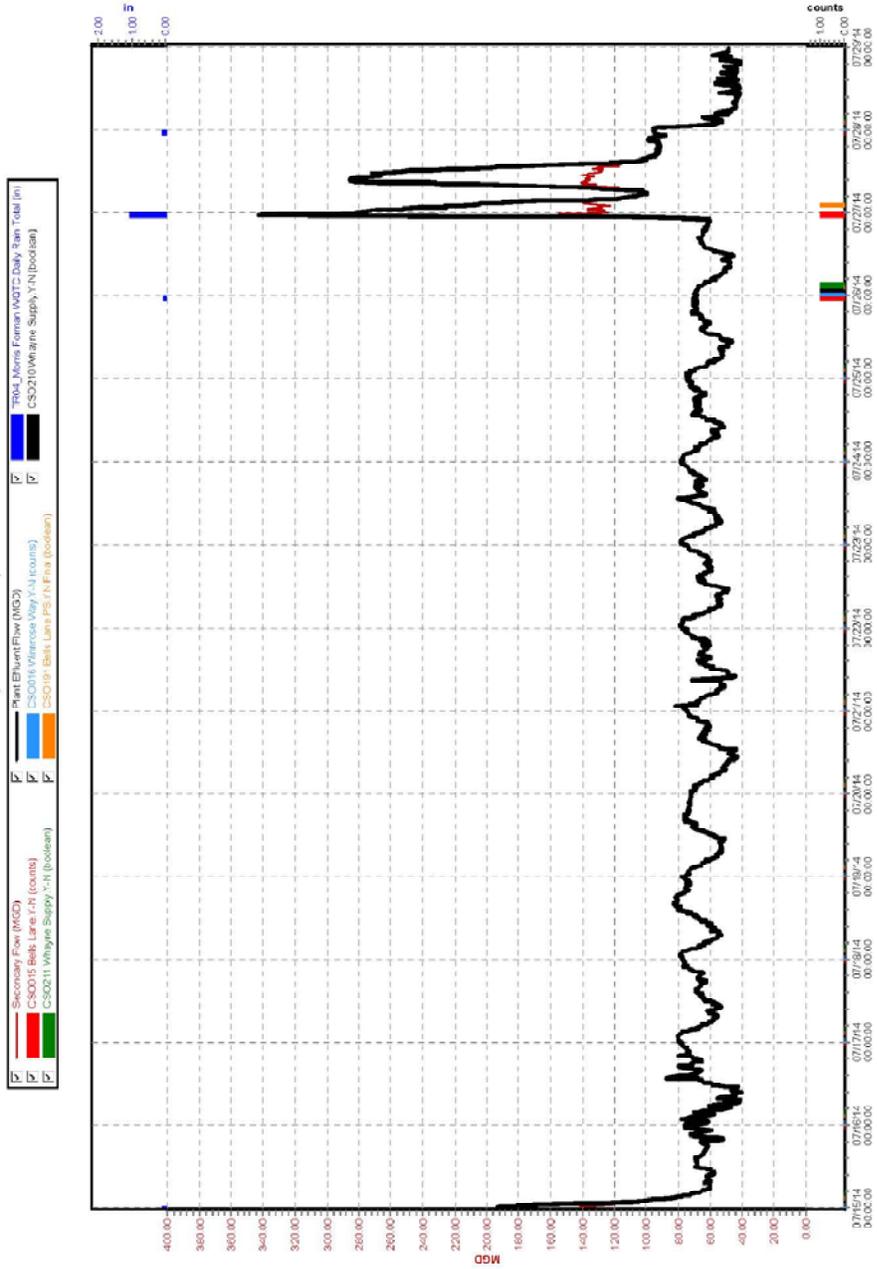
Design continued on the Headworks upgrade project, with a 60% review conducted during the reporting period. The 90% review is scheduled for the following reporting period, with project advertisement scheduled for early 2015.

Design is also underway for a replacement of equipment at the MFWQTC High-Yard Substation. While this project will not affect plant capacity, brief shutdowns will be required to make electrical connections during construction. This project is scheduled to advertise early in 2015.

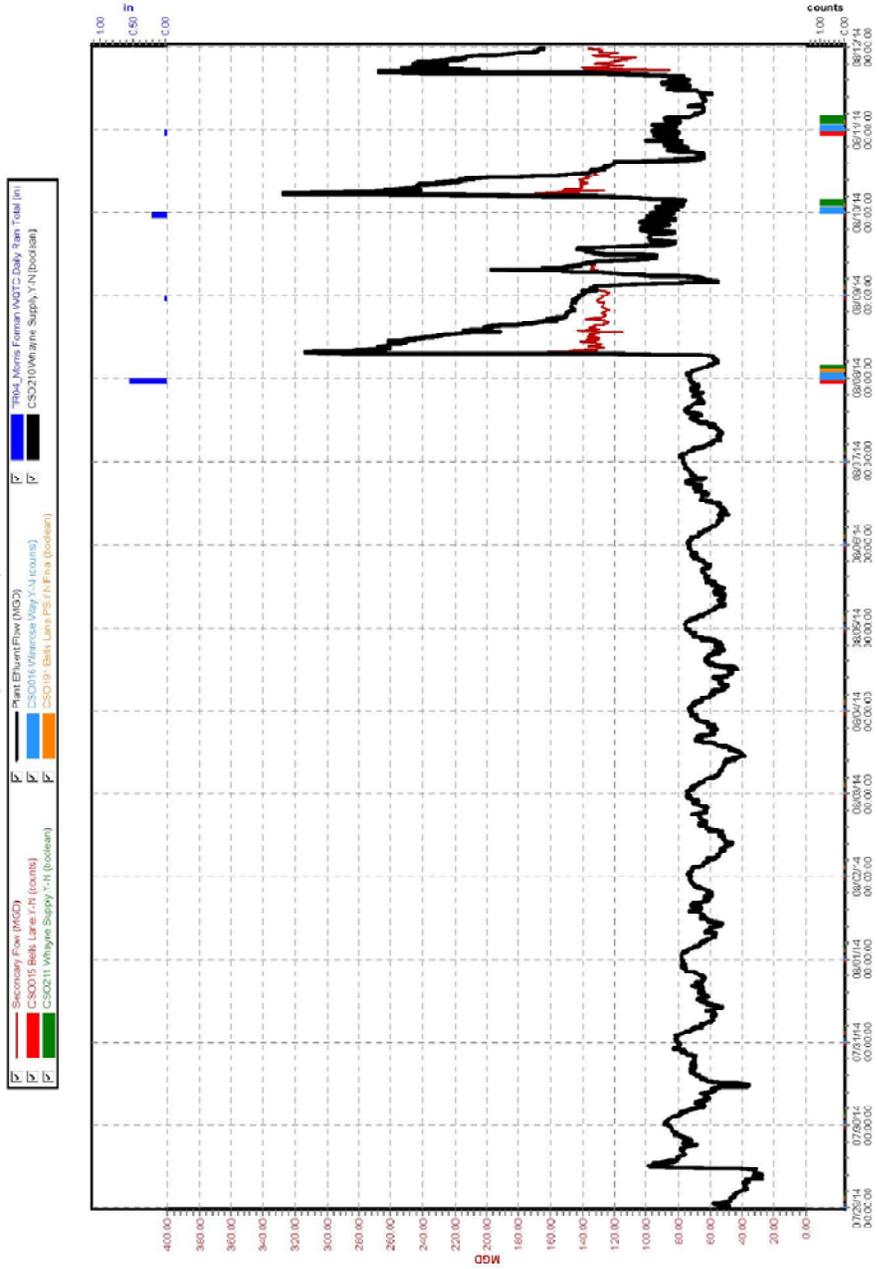
None of the other design or construction projects underway at MFWQTC will impact treatment capacity.



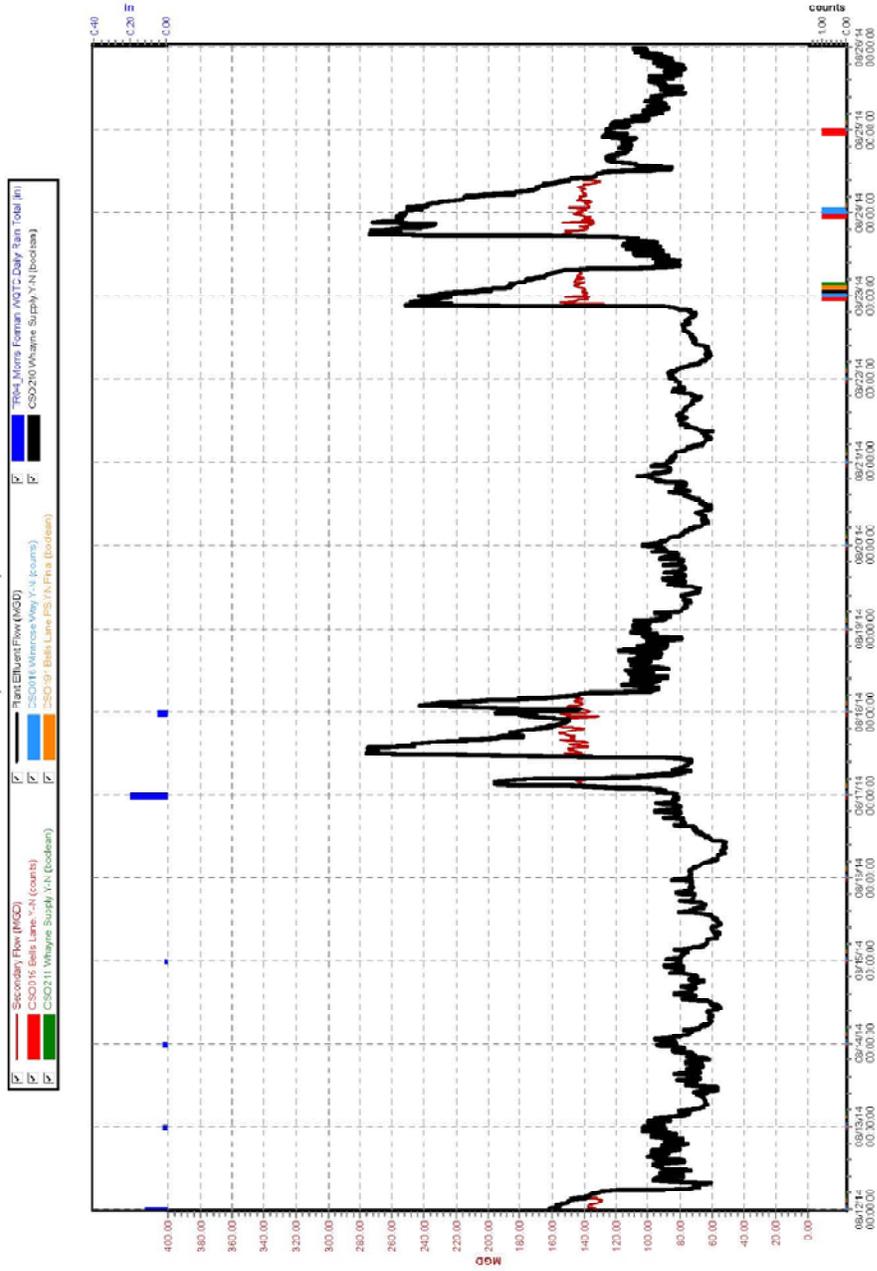
Morris Foman WQTC - Bypass vs. Large CSCs  
 (07/15/14 to 07/27/14)

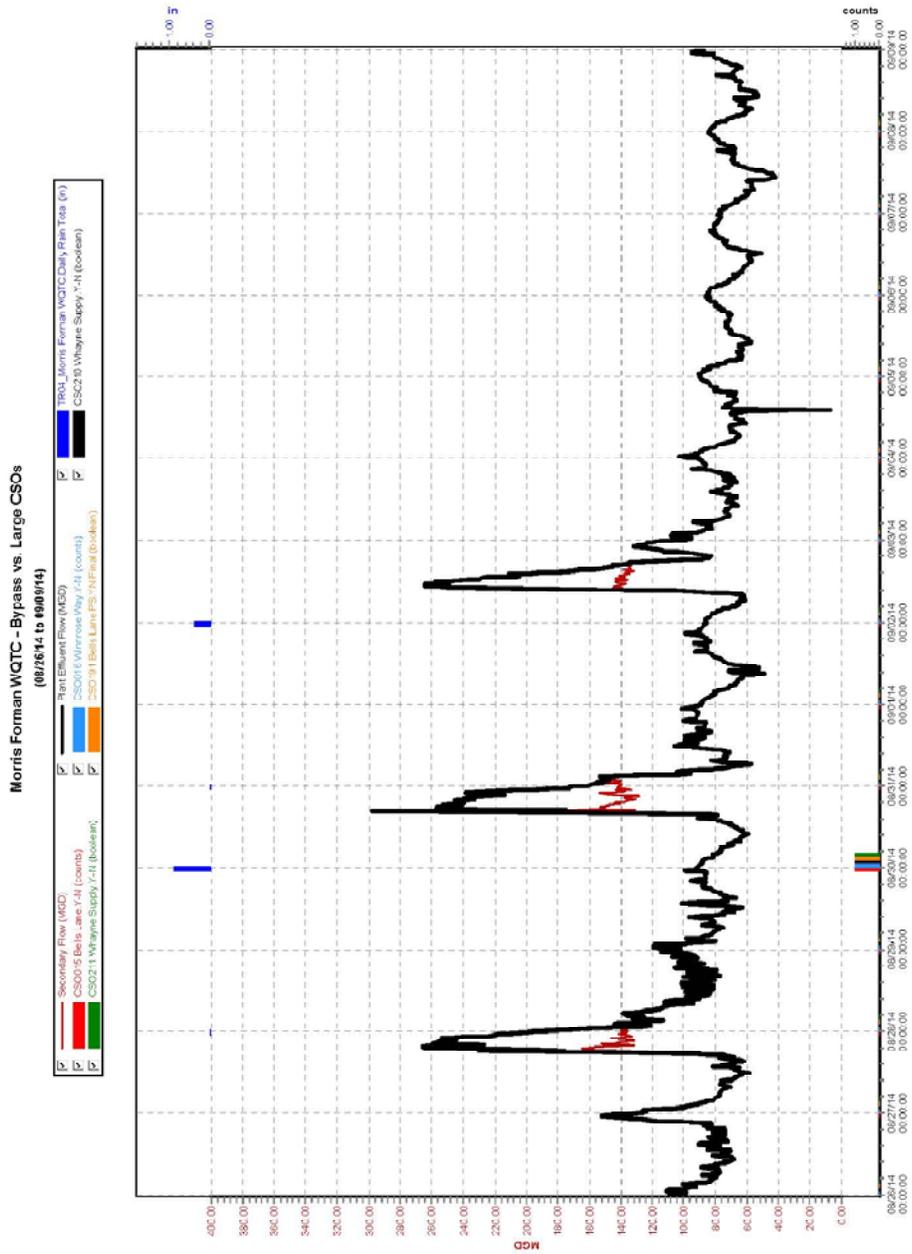


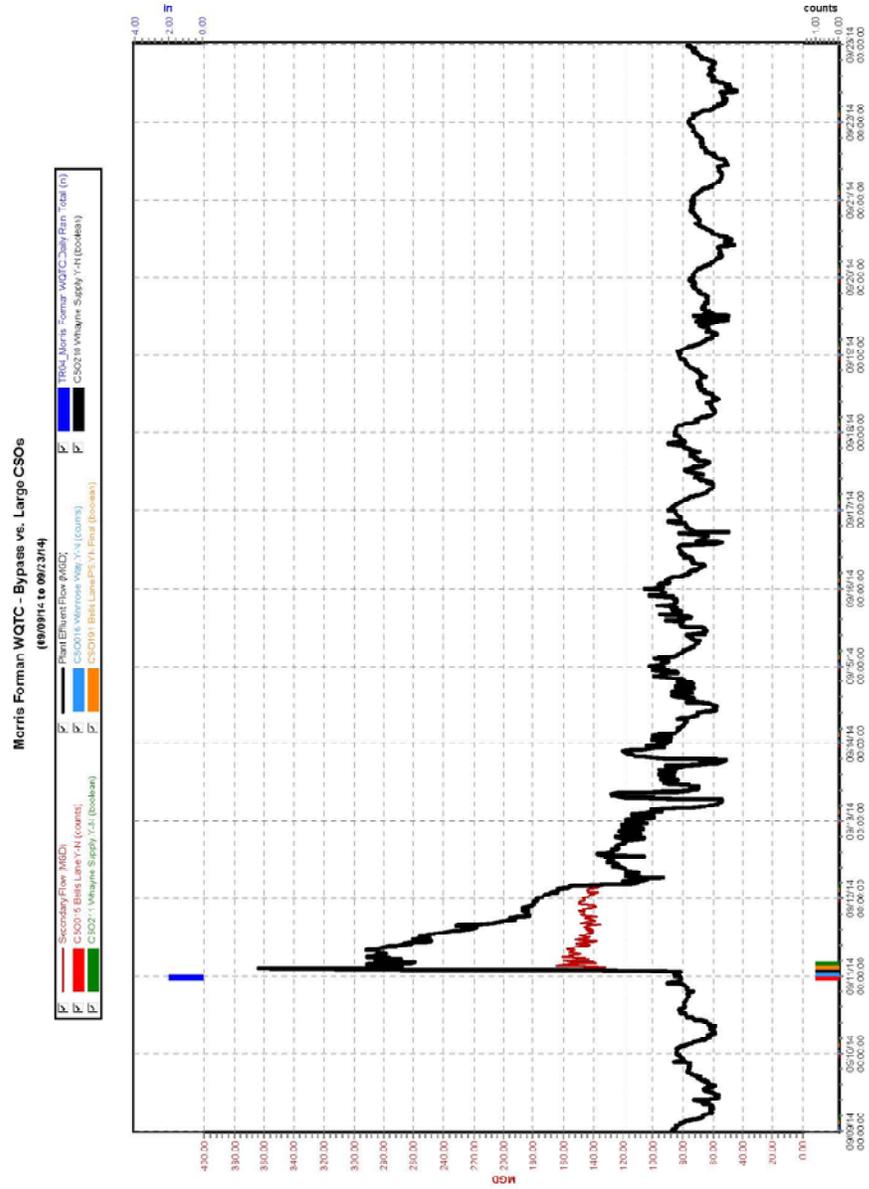
Morris Foman WQTC - Bypass vs. Large CSCs  
 (07/29/14 to 08/12/14)



Morris Foman WQTC - Bypass vs. Large CSOs  
 (08/12/14 to 09/26/14)

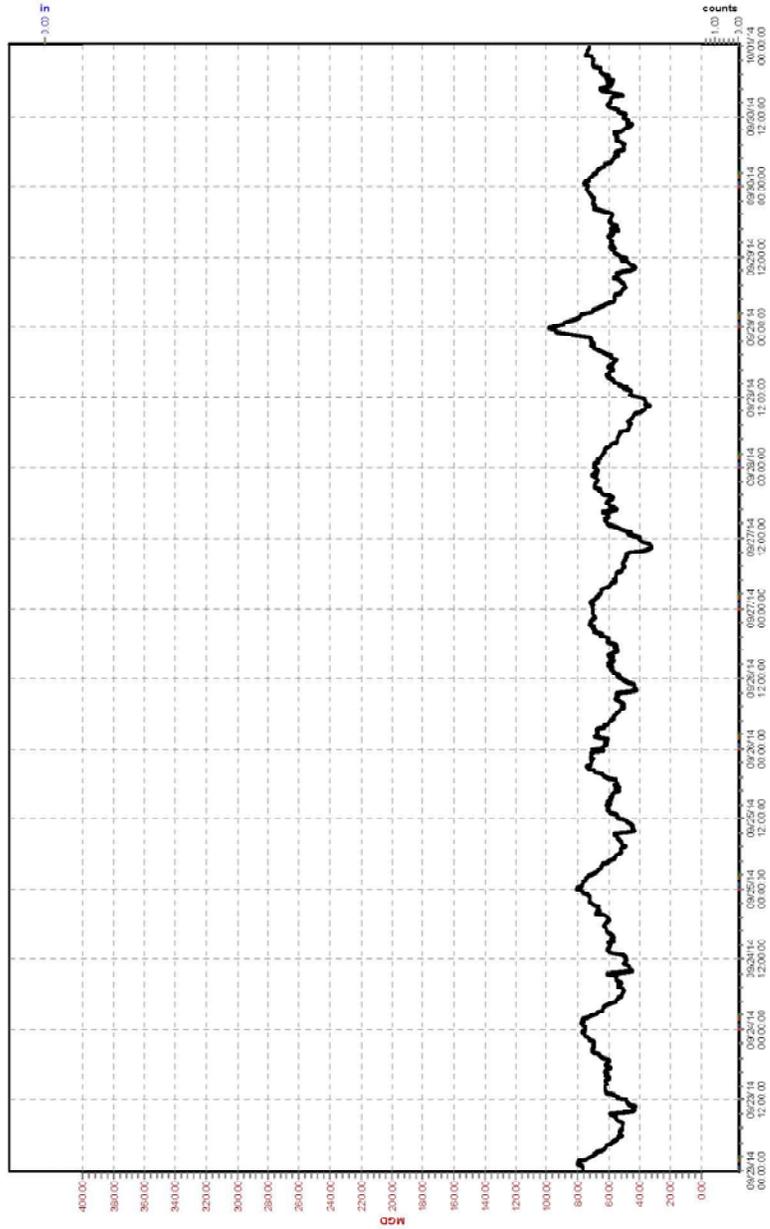






Morris Forman WQTC - Bypass vs. Large CSOs

(09/23/14 to 10/01/14)



---

There were no KPDES permit violations at Morris Forman WQTC during July, August or September 2014.

During this reporting period, the following activities were continued and/or completed:

- RTC Integration – Staff is working with the RTC consultant to review, revise and begin implementing the draft wet weather SOP for the system that also includes the Southeast Diversion Structure, Buechel Basin, Northern Ditch Diversion, and the Derek R Guthrie WQTC Wet Weather treatment facility. Full integration in an automated mode will not be achieved until the RTC software (CSOFT) is upgraded to the most current version and the hydraulic engine is converted to use MSD's InfoWorks ICM hydraulic model. While this work is being done, the SOP is being implemented incrementally, starting with a period of manual operation to validate the control assumptions, followed by increasing levels of system automation as the automated controls for individual components are implemented, validated, and then incorporated into the overall RTC system. During this reporting period, an RTC workshop was held to communicate roles between the RTC consultant and MSD's engineering and operations divisions to coordinate efforts and plan for the next phase of RTC. Additionally, MSD received hardware equipment recommendations and estimates for the ICM Exchange software and simulation license needed to interface with CSOFT. During next reporting period, MSD will continue to move forward with the hardware and software purchases and refine the CSOFT and InfoWorks ICM hydraulic model integration scope. Staff will continue implementing revised SOPs for the Southeast Diversion Structure, Buechel Basin, Northern Ditch Diversion, and the Derek R Guthrie WQTC Wet Weather treatment facilities.
- RTC Performance Assessment – The main objective of the RTC Performance Assessment is to determine whether the available flow and storage capacities within the system are being utilized to their full potential. A draft technical memorandum providing recommendations for improvements designed to optimize the utilization and performance of the existing RTC system was developed. The recommended improvements have been reviewed and prioritized for implementation by MSD staff. During the next reporting period, MSD staff and the RTC consultant will continue to work to implement the hardware, software and set-point changes as applicable on a site-by-site basis. Work on implementing these improvements will continue through the next reporting period.
- Headworks Replacement Project – Design efforts continued to replace the existing headworks to improve reliability and plant hydraulics. During the next reporting period, MSD staff will receive and review the 90% design submittal. It is anticipated that final design documents will be completed during the next reporting period. Construction is scheduled to start spring 2015.
- SWOR2 Modifications – The project was awarded for construction on August 25, 2014 and construction activities have begun. Construction will continue through the next reporting period.
- Ashland Avenue and Brady Lake Basins – During the reporting period, a project was

completed to clean the basins and repair erosion occurring in the basins.



WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM VIA REAL TIME CONTROL



Louisville/Jefferson County  
Metropolitan Sewer District

CSO VOLUME SAVED IN THE MORRIS FORMAN SEWER SYSTEM VIA THE RTC SYSTEM



Period	
From :	07/01/2014
To :	09/30/2014

Event Number	Wet Weather Event			Rainfall			CSO Saved Volume (MG)									High River Levels	Comments
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber (14.5)	SWOR2 (7.5)	Brady Lake and Executive Inn Storage (13.4)	Southern Outfall (3.5)	Ashland (1.0)	Ohio River Interceptor (4.1)	Sneads Branch (2.5)	Total			
				TRFD (in)	TRFD (in)	Rain Gauge											
2014-059	7/2/2014 16:45	7/3/2014 4:25	11:40:00	0.14	0.27	TR05	0.35	0.00	0.50	0.75	0.00	1.85	0.00	3.45	No	Small storm cells heterogeneously distributed over the service area. SWOR2 was manually controlled, with its gates in the open position and minimal available storage utilization. Brady Lake and Ashland were also manually operated.	
2014-060	7/7/2014 20:05	7/8/2014 16:55	20:50:00	0.37	1.56	TR05	0.00	0.00	0.00	3.20	0.00	2.15	0.00	5.35	No	Small storm cells heterogeneously distributed over the service area. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. Brady Lake was also manually operated. The SWSG (SWOR1), Brady Lake, and Executive Inn sites were not really used due to the geographical repartition of the rainfall (more on the North-West side of the service region (Southern Outfall Interceptor and Ohio River Interceptor).	
2014-061	7/13/2014 22:25	7/15/2014 21:40	47:15:00	1.17	1.74	TR11	12.20	4.40	4.20	4.00	0.20	4.20	2.00	31.20	No	Very large storm cells heterogeneously distributed over the service area with high intensity (up to 10-year return period). Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.	
2014-062	7/26/2014 21:40	7/28/2014 19:15	45:35:00	1.53	2.11	TR11	17.05	1.15	6.60	6.85	0.90	7.85	3.35	43.75	No	Very large storm cells homogeneously distributed over the service area (up to 2-year return period). Back-to-back storm cells with dewatering of storage sites between cells. SWOR2 was manually controlled, with its gates in the open position and minimal available storage utilization. However, storage occurred at SWOR2, either due to backflow at SWSG or inflows greater than its gate's capacity. Ashland was also manually controlled—some storage occurred due to maintenance operations (gate actuator partially repaired).	
2014-063	8/8/2014 4:55	8/10/2014 19:15	62:20:00	1.38	2.75	TR11	22.75	1.50	10.25	6.80	0.80	5.60	2.50	50.20	No	Very large storm cells homogeneously distributed over the service area (up to 2-year return period). Back-to-back storm cells with dewatering of storage sites between cells. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.	
2014-065	8/11/2014 15:50	8/12/2014 21:15	29:25:00	0.45	1.08	TR11	10.20	2.00	0.80	3.40	0.20	3.60	2.00	22.20	No	Large storm cells homogeneously distributed over the service area. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.	
2014-066	8/16/2014 22:30	8/18/2014 12:30	38:00:00	0.64	1.00	TR11	13.50	0.00	1.45	4.40	0.00	4.10	0.00	23.45	No	Large storm cells heterogeneously distributed over the service area. Back-to-back storm cells with dewatering of storage sites between cells (MDS). Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.	
2014-067	8/22/2014 18:50	8/23/2014 8:20	13:30:00	0.90	1.77	TR13	12.90	3.50	1.25	1.05	0.10	1.75	0.35	20.90	No	Large storm cells heterogeneously distributed over the service area with high intensity. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.	



CSO VOLUME SAVED IN THE MORRIS FORMAN SEWER SYSTEM VIA THE RTC SYSTEM



Period	
From :	07/01/2014
To :	09/30/2014

Event Number	Wet Weather Event			Rainfall			CSO Saved Volume (MG)								High River Levels	Comments
	Start Date	End Date	Duration	Average*	Max**	Rain Gauge	SWPS SG Chamber (14.5)	SWOR2 (7.5)	Brady Lake and Executive Inn Storage (13.4)	Southern Outfall (3.5)	Ashland (1.0)	Ohio River Interceptor (4.1)	Sneads Branch (2.5)	Total		
				TRFD (in)	TRFD (in)											
2014-068	8/23/2014 16:00	8/25/2014 8:15	40:15:00	0.66	0.95	TR11	12.50	0.00	5.60	3.75	0.00	2.75	1.95	26.55	No	Large storm cells heterogeneously distributed over the service area. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. SWSG was operated manually for two hours during this event.
2014-069	8/27/2014 15:25	8/28/2014 8:10	16:45:00	0.43	1.12	TR13	3.40	1.25	4.95	3.50	0.00	3.70	2.50	19.30	No	Large storm cells heterogeneously distributed over the service area. Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity.
2014-070	8/30/2014 15:35	8/31/2014 7:45	16:10:00	0.32	0.88	TR04	12.40	2.30	1.15	3.40	0.00	3.00	2.00	24.25	No	Large storm cells heterogeneously distributed over the service area. SWOR2 was manually controlled, with its gates in the open position and minimal utilization of the available storage. However, storage occurred at this site, either due to backflow at SWSG or inflows greater than its gate's capacity. Ashland was also manually operated. The hard connection between Verizon and Morris Forman was lost several times during the rainfall event, resulting in communication failures at several sites (Ashland, Brady Lake, Executive Inn, NPS, Sneads Branch, SED, SWOR2, and SWSG).
2014-072	9/2/2014 7:20	9/3/2014 1:25	18:05:00	0.30	0.39	TR13	7.75	2.00	1.20	2.50	0.00	1.80	0.30	15.55	No	Large storm cells heterogeneously distributed over the service area. SWOR2 was manually controlled, with its gates in the open position and minimal utilization of the available storage. However, storage occurred at this site either due to backflow at SWSG or inflows greater than its gate's capacity. Ashland was also manually operated.
2014-073	9/11/2014 0:45	9/12/2014 4:55	28:10:00	2.34	2.86	TR15	12.75	2.65	11.40	4.95	0.85	3.65	2.50	38.75	No	Large storm cells homogeneously distributed over the service area (up to a 5-year return period). Ashland and SWOR2 were manually controlled, with their gates in the open position and minimal available storage utilization. However, storage occurred at these sites, either due to backflow at SWSG or inflows greater than their gate's capacity. SWSG was manually operated. Brady Lake did not dewater correctly during this event. This was due to a problem with the SWOR2 gate positioning status. Also, there was an actuator malfunction at this site.
<b>TOTAL</b>							<b>137.75</b>	<b>20.75</b>	<b>49.35</b>	<b>48.55</b>	<b>3.05</b>	<b>46.00</b>	<b>19.45</b>	<b>324.90</b>		

## SECTION 2: Program Activities for Sewer Overflow Response Protocol

### 2.1 SORP Program Background

Per Paragraph 24.d. of the Amended Consent Decree, MSD initially submitted the Sewer Overflow Response Protocol (SORP) to EPA and KDEP on February 10, 2006, and received comments on March 13, 2006.

MSD completely revised the SORP documentation in 2011. The draft of this revised document was submitted for comment on August 22, 2011. Comments from the EPA and KDEP were received and addressed, and the document was resubmitted October 28, 2011. Final approval of the updated SORP document was received February 21, 2012. A hard copy of the approved document has been distributed to each division throughout MSD and a viewable, downloadable electronic version has been posted to the MSD Project WIN website [www.msprojectwin.org](http://www.msprojectwin.org).

The current approved SORP document is now dated February 21, 2012, and can be viewed on the MSD Project WIN website [www.msprojectwin.org](http://www.msprojectwin.org). Updates to the SORP document were submitted in August 2012, with confirmation of approvals on October 25, 2012. These updates are posted on the Project WIN website. The following activities were performed during this reporting period.

### 2.2 Overflow Management and Field Documentation

- Monitored approximately 157 sanitary sewer overflow (SSO) sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO. These routes are monitored during rain events depending on the magnitude and location of the storm. If an overflow is observed, a Discharge Work Order is created to document the event. During this quarter, Regulatory Services and Engineering staff documented 6 suspected or unauthorized discharges through route reconnaissance. Inspection routes were run during rain events as described in the following table:

Route Description	07/03/14	07/09/14	07/13/14	07/27/14	08/08/14	08/22/14	08/27/14	09/11/14
ENGINEERING RAIN EVENT SSO INSPECTION ROUTE		X		X			X	X
RS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	X		X	X	X	X	X	X
RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	X		X	X	X	X	X	X
RS HIKES POINT RAIN EVENT INSPECTION ROUTE	X		X	X	X	X	X	X
RS MIDDLE MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	X		X	X	X	X	X	X

- Due to Capacity related issues, during this reporting period, MSD Metro Operations staff hauled 169,200 gallons of sewage. MSD also hauled due to other issues as indicated in the following table:

MSD Hauled Volumes In Gallons (July 1, 2014 - September 30, 2014)				
Problem	July	August	September	Total
LACK OF SYSTEM CAPACITY	28,500	66,500	74,200	169,200
MECHANICAL FAILURE	-	-	5,000	5,000
POWER FAILURE	1	-	-	1
STRUCTURAL FAILURE	12,500	-	54,000	66,500
<b>Grand Total</b>	<b>41,001</b>	<b>66,500</b>	<b>133,200</b>	<b>240,701</b>

### 2.3 Staff Training and Communication

- Reviewed and updated the training documentation for the 2014 third quarter SORP training that included Public Notification and Overflow Cleanup.
- Commenced planning for the 2014 fourth quarter SORP training that will focus on Completing the Overflow Reporting Form, Reporting Requirements and Data Entry.
- Conducted the following SORP Quarterly training sessions which were attended by 261 employees.

Staff Training Participation - July 1, 2014 - September 30, 2014				
Date	Dept./Area	Location	Module	Attendees
9/3/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	14
9/3/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	42
9/3/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	9
9/4/2014	RMS/ENG Staff	CMF A & B	Public Notification and Overflow Cleanup	35
9/10/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	7
9/10/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	6
9/11/2014	RMS/ENG Staff	CMF A & B	Public Notification and Overflow Cleanup	52
9/12/2014	I&FP Staff	CMF A	Public Notification and Overflow Cleanup	17
9/17/2014	Central OPS	CCWQTC	Public Notification and Overflow Cleanup	22
9/17/2014	East OPS	FFWQTC	Public Notification and Overflow Cleanup	21
9/17/2014	West OPS	DRGWQTC	Public Notification and Overflow Cleanup	14
9/19/2014	I&FP Staff	CMF A	Public Notification and Overflow Cleanup	12
9/23/2014	Morris Foreman Staff	MFWQTC	Public Notification and Overflow Cleanup	10
<b>Total</b>				<b>261</b>

---

## **SECTION 3: Program Activities for Discharge Abatement Plans**

### **3.1 Integrated Overflow Abatement Plan (IOAP)**

As a requirement of the Amended Consent Decree, per Paragraph 25, MSD is to prepare and submit for review and approval discharge abatement plans for the elimination of unauthorized discharges from the separate sanitary sewer system and the combined sewer system, the reduction and control of discharges from the CSO locations identified in the Morris Forman WQTC KPDES permit, and the improvement of water quality in the receiving waters.

The Final Sanitary Sewer Discharge Plan and the Final CSO Long Term Control Plan were submitted concurrently and certified on December 19, 2008, under the title of the Integrated Overflow Abatement Plan (IOAP). The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, that was entered into public record February 15, 2010.

MSD submitted an IOAP modification request to EPA/KDEP on September 20, 2012, with partial approval granted via certified letter on October 25, 2012. The modified project package, including program descriptions, progress, and updated supporting text, was submitted to EPA/KDEP for approval on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The project and program modifications proposed within this submittal resulted from additional information gathered from ongoing system monitoring, hydraulic modeling, and best professional judgment. MSD's adaptive management approach to overflow abatement has justified modifications which will result in a higher level of overflow control to be completed faster than originally proposed for approximately the same overall budget.

### **3.2 Sanitary Sewer Discharge Plan (SSDP)**

The Sanitary Sewer Discharge Plan (SSDP) addresses the overflows and unauthorized discharges from the separate sanitary sewer system. Three separate plans have been submitted under this program as described below and outlined in Paragraph 25.a. of the Amended Consent Decree.

#### **3.2.1 Updated Sanitary Sewer Overflow Plan Implementation**

MSD prepared and submitted the Updated Sanitary Sewer Overflow Plan (SSOP) on February 10, 2006. This plan included an overview of the MSD sanitary sewer overflow abatement program and specific actions taken to reduce/eliminate overflows from the sanitary sewer system. This document included a list of the proposed improvements to be accomplished by December 31, 2008. Activities required under the Updated SSOP have been completed.

#### **3.2.2 Interim Sanitary Sewer Discharge Plan**

MSD submitted an Interim Sanitary Sewer Discharge Plan (ISSDP) for approval on September 30, 2007. Comments were received on January 8, 2008. MSD resubmitted the revised ISSDP on March 7, 2008, and received an approval letter for the ISSDP on July 24, 2008. The approved ISSDP document can be viewed on the MSD Project WIN website [www.msdprojectwin.org](http://www.msdprojectwin.org).

All projects required by the ISSDP have been completed and certified, with the exception of

the Derek R. Guthrie WQTC expansion. The Derek R. Guthrie WQTC was operational in accordance with information previously submitted. The project has achieved overflow reduction performance as planned and designed. No treatment capacity related sanitary sewer overflows have occurred with the exception of the discharges related to the bar screen failure previously reported in the February 20, 2013, DMR (January – March 2013 reporting period) for Derek R. Guthrie WQTC, and one discharge October 6, 2013 related to a grit system problem that reduced plant capacity to 150 MGD for a short time. MSD is currently working with KDEP to finalize this certification issue and a meeting is being scheduled for the week of November 3, 2014.

### **3.2.3 Final Sanitary Sewer Discharge Plan**

MSD submitted for approval a Final Sanitary Sewer Discharge Plan (SSDP) on December 19, 2008, as Volume 3 of the Integrated Overflow Abatement Plan (IOAP). The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, that was entered into public record February 15, 2010. A revised SSDP was included in the IOAP revision, submitted June 14, 2013, with a follow-up submittal scheduled during the next reporting period as described in Section 3.1.

- Prospect WQTC Elimination Projects Easement Status - A total of 54 easements have been identified, and all 54 easements have been acquired.
- Project Status Details:
  - River Road Interceptor – project complete.
  - River Road Interceptor Phase 1A – project complete
  - Harrods Creek Pump Station – project under construction.
  - Harrods Creek Interceptor and Force Main Phase 1 – project complete.
  - Harrods Creek Interceptor and Force Main Phase 2 – project complete.
  - Harrods Creek Force Main Phase 3A – project complete.
  - Harrods Creek Force Main Phase 3B – project complete.
  - Shadow Wood WQTC Elimination – project under construction
  - Hunting Creek North WQTC Elimination - 3 Easements acquired - project under construction.
  - Timberlake and Hunting Creek South WQTC Elimination – project under bid. Construction will start in January 2015.
  - Ken Carla WQTC Elimination – project under bid. Construction will start January 2015.

### **3.3 CSO Long Term Control Plan**

The CSO Long Term Control Plan (LTCP) addresses the overflows and unauthorized discharges from the CSS. Two separate plans have been submitted under this program as described below and outlined in Paragraph 25.b. of the Amended Consent Decree.

### **3.3.1 Interim CSO Long Term Control Plan**

The Interim CSO LTCP was initially submitted to EPA and KDEP on February 10, 2006. MSD received an approval letter dated February 22, 2007, for the Interim LTCP. The approved Interim LTCP can be viewed on the MSD Project WIN website [www.msdpowerwin.org](http://www.msdpowerwin.org).

This plan includes an overview of the MSD program, efforts taken to reduce/eliminate discharges from the CSS and the list of proposed improvements to be accomplished by December 31, 2008. All projects associated with this plan have been completed.

### **3.3.2 Final CSO Long Term Control Plan**

MSD submitted for approval the Final CSO LTCP on December 19, 2008, as Volume 2 of the Integrated Overflow Abatement Plan (IOAP). The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, that was entered into public record February 15, 2010. A revised LTCP was included in the IOAP revision, submitted June 14, 2013, with a follow-up submittal scheduled for the next reporting period, as described in Section 3.1.

### **3.3.3 Green Program Update**

MSD continued program activities to provide incentives to private property owners to reduce the amount of impervious surface that drains to the combined sewer system.

During the reporting period, MSD went live with a green infrastructure website - <http://www.msddgreen.org>. Through this website, information on high profile projects, program activities, forms and documents outlining participation in incentive programs (green infrastructure, downspout disconnection, urban reforestation) is provided in an accessible format.

The green program incentives are being applied to reflect the values of green projects in CSO areas or regions based on the latest modeling results. This change in application ties incentives directly to overflow reductions in various CSO regions to promote green projects in the areas that provide the most value. Project opportunities are now optimized to best use available funding.

Qualified Post Construction Inspector (QPCI) training for property owners with green infrastructure has been developed, was administered during the reporting period, and will continue to be administered in the next reporting period.

A Construction Field Day held by MSD on August 5, 2014, highlighted Industrial Programs, MS4 efforts, green infrastructure practices and tours, and erosion prevention and sediment control practices. Attendees included developers, contractors, engineers, and representatives from the Kentucky Division of Water.

MSD participated in the 2014 Homearama event at the Shakes Run development in Eastern Jefferson County. This two week event provided MSD with the opportunity to discuss green infrastructure, bioswales, rain gardens, rain barrels (including give-aways) to approximately 40,000 attendees.

Continued coordination with the green and MS4 program is on-going to optimize resources and regulations to improve water quality.

### **3.4 Activity Progress Chart**

A Gantt chart showing the previous and Proposed IOAP Modification schedules (Refer to IOAP, Volume 1 – Figure 6.3.1 for the previous) for the entire program is provided below.

### MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024 )

Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification	2009				2010				2011				2012				2013				2014				2015				2016				2017				2018				2019				2020				2021				2022				2023				2024			
				Q1	Q2	Q3	Q4																																																												
<b>MSD IOAP SCHEDULE</b>	31-Dec-24	31-Dec-24	31-Dec-24																																																																
<b>LONG TERM CONTROL PLAN</b>	01-Jan-21	31-Dec-20	31-Dec-20																																																																
<b>GREEN DEMONSTRATION PROJECTS</b>	31-Dec-20	31-Dec-20	31-Dec-20																																																																
GREEN INFRASTRUCTURE DEMONSTRATION PROJECTS	31-Dec-11 A	31-Dec-11	31-Dec-11																																																																
GREEN INFRASTRUCTURE DEMONSTRATION PROJECTS	31-Dec-11 A	31-Dec-11	31-Dec-11																																																																
GREEN INFRASTRUCTURE PROGRAM	31-Dec-20	31-Dec-20	31-Dec-20																																																																
GREEN INFRASTRUCTURE PROGRAM	31-Dec-20	31-Dec-20	31-Dec-20																																																																
<b>GRAY INFRASTRUCTURE PROJECTS</b>	01-Jan-21	31-Dec-20	31-Dec-20																																																																
CSO 123 DOWNSPOUT DISCONNECTION	31-Dec-12	31-Dec-12	31-Dec-12																																																																
CSO 123 DOWNSPOUT DISCONNECTION	31-Dec-12	31-Dec-12	31-Dec-12																																																																
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	31-Dec-20	21-Dec-14	31-Dec-20																																																																
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	31-Dec-20	21-Dec-14	31-Dec-20																																																																
CSO 140 INCREASE PIPE CONVEYANCE	31-Dec-15	31-Dec-15	31-Dec-15																																																																
CSO 140 INCREASE PIPE CONVEYANCE	31-Dec-15	31-Dec-15	31-Dec-15																																																																
CSO 206 SEWER SEPARATION	30-Dec-13	31-Dec-13	30-Dec-13																																																																
CSO 206 SEWER SEPARATION	30-Dec-13	31-Dec-13	30-Dec-13																																																																
CLIFTON HEIGHTS STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18																																																																
CLIFTON HEIGHTS STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18																																																																
PADDY'S RUN WET WEATHER TREATMENT FACILITY AND OFF LINE I	31-Dec-16	31-Dec-14	31-Dec-16																																																																
PADDY'S RUN WET WEATHER TREATMENT FACILITY	31-Dec-16	31-Dec-14	31-Dec-16																																																																
PORTLAND WHARF STORAGE BASIN	31-Dec-19	31-Dec-19	31-Dec-19																																																																
PORTLAND WHARF STORAGE BASIN	31-Dec-19	31-Dec-19	31-Dec-19																																																																
STORY AVENUE AND MAIN STREET STORAGE BASIN	31-Dec-20	31-Dec-13	31-Dec-20																																																																
STORY AVENUE AND MAIN STREET STORAGE BASIN	31-Dec-20	31-Dec-13	31-Dec-20																																																																
CSO 058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROL	31-Dec-14	31-Dec-14	31-Dec-14																																																																
CSO 058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-14	31-Dec-14	31-Dec-14																																																																
SOUTHWESTERN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18																																																																
SOUTHWESTERN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18																																																																
13TH STREET AND ROWAN STREET STORAGE BASIN	01-Jan-21	31-Dec-20	31-Dec-20																																																																
13TH STREET AND ROWAN STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20																																																																
13TH STREET AND ROWAN STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20																																																																
CENTRAL RELIEF DRAIN IN-LINE STORAGE, GREEN INFRASTRUCTURE AND DISTRIBUTED STORAGE	01-Jan-21	31-Dec-18	31-Dec-18																																																																
CENTRAL RELIEF DRAIN IN-LINE STORAGE, GREEN INFRASTRUCTURE AND DISTRIBUTED STORAGE	01-Jan-21	31-Dec-18	31-Dec-18																																																																
CSO 160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROL	31-Dec-15	31-Dec-15	31-Dec-15																																																																
CSO 160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15																																																																
ADAMS STREET SEWER SEPARATION	31-Dec-12	31-Dec-12	31-Dec-12																																																																
ADAMS STREET SEWER SEPARATION	31-Dec-12	31-Dec-12	31-Dec-12																																																																
18TH AND NORTHWESTERN PKY STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17																																																																
18TH AND NORTHWESTERN PKY STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17																																																																
ALGONQUIN PARKWAY STORAGE BASIN	01-Jan-19	31-Dec-18	31-Dec-18																																																																
ALGONQUIN PARKWAY STORAGE BASIN	31-Dec-18	31-Dec-18	31-Dec-18																																																																
SOUTHERN OUTFALL IN-LINE STORAGE (SOR 1)	31-Dec-18	31-Dec-18	31-Dec-18																																																																
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD ST.	31-Dec-18	31-Dec-18	31-Dec-18																																																																
SOUTHERN OUTFALL IN-LINE RETENTION (SOR 2)	01-Jan-19	31-Dec-18	31-Dec-18																																																																
SOUTHERN OUTFALL IN-LINE RETENTION AT 13TH AND WILSON AVE. (SOR 2)	01-Jan-19	31-Dec-18	31-Dec-18																																																																
NIGHTINGALE PUMP STATION REPLACEMENT AND STORAGE	31-Dec-15	31-Dec-16	31-Dec-15																																																																
NIGHTINGALE PUMP STATION REPLACEMENT AND STORAGE	31-Dec-15	31-Dec-16	31-Dec-15																																																																
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20																																																																
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	31-Dec-20	31-Dec-20	31-Dec-20																																																																
LOGAN STREET AND BRECKENRIDGE ST STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17																																																																
LOGAN STREET AND BRECKENRIDGE ST STORAGE BASIN	31-Dec-17	31-Dec-17	31-Dec-17																																																																
CSO 085 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15																																																																
CSO 093 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE CONTROLS	31-Dec-15	31-Dec-15	31-Dec-15																																																																
CSO 108 DAM MODIFICATIONS	31-Dec-10 A	31-Dec-10	31-Dec-10																																																																
CSO 108 DAM MODIFICATIONS	31-Dec-10 A	31-Dec-10	31-Dec-10																																																																
STORY AVENUE AND SPRING STREET GREEN INFRASTRUCTURE CONTROL	31-Dec-16	31-Dec-16	31-Dec-16																																																																
STORY AVENUE AND SPRING STREET GREEN INFRASTRUCTURE CONTROLS	31-Dec-16	31-Dec-16	31-Dec-16																																																																
<b>FLOOD PUMP STATION PROJECTS</b>	31-Dec-14	31-Dec-14	31-Dec-14																																																																
27TH STREET FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13																																																																
27TH STREET FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13																																																																

Approved 2009 IOAP   
  Remaining Work  
 Completed Work

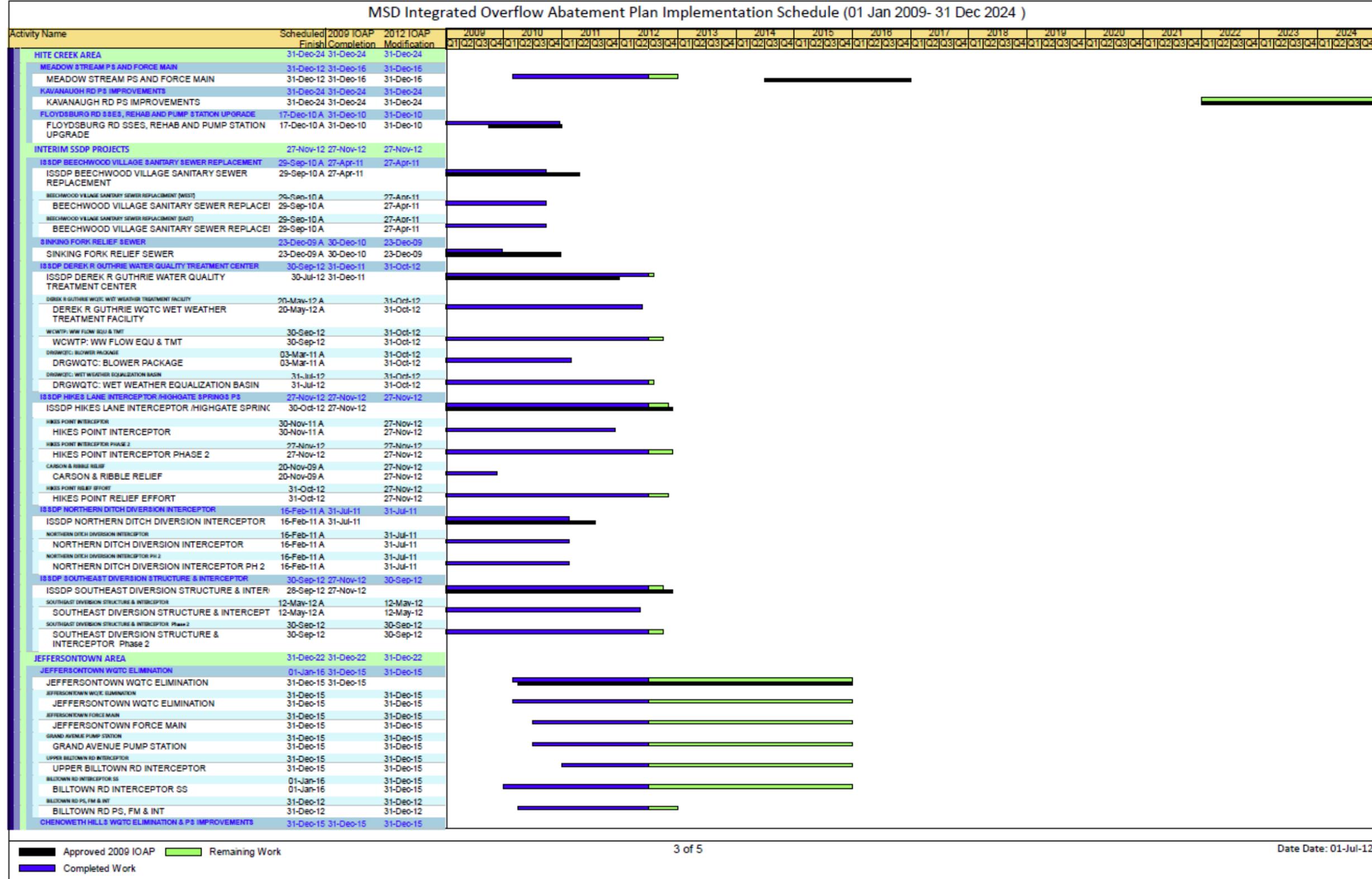
1 of 5

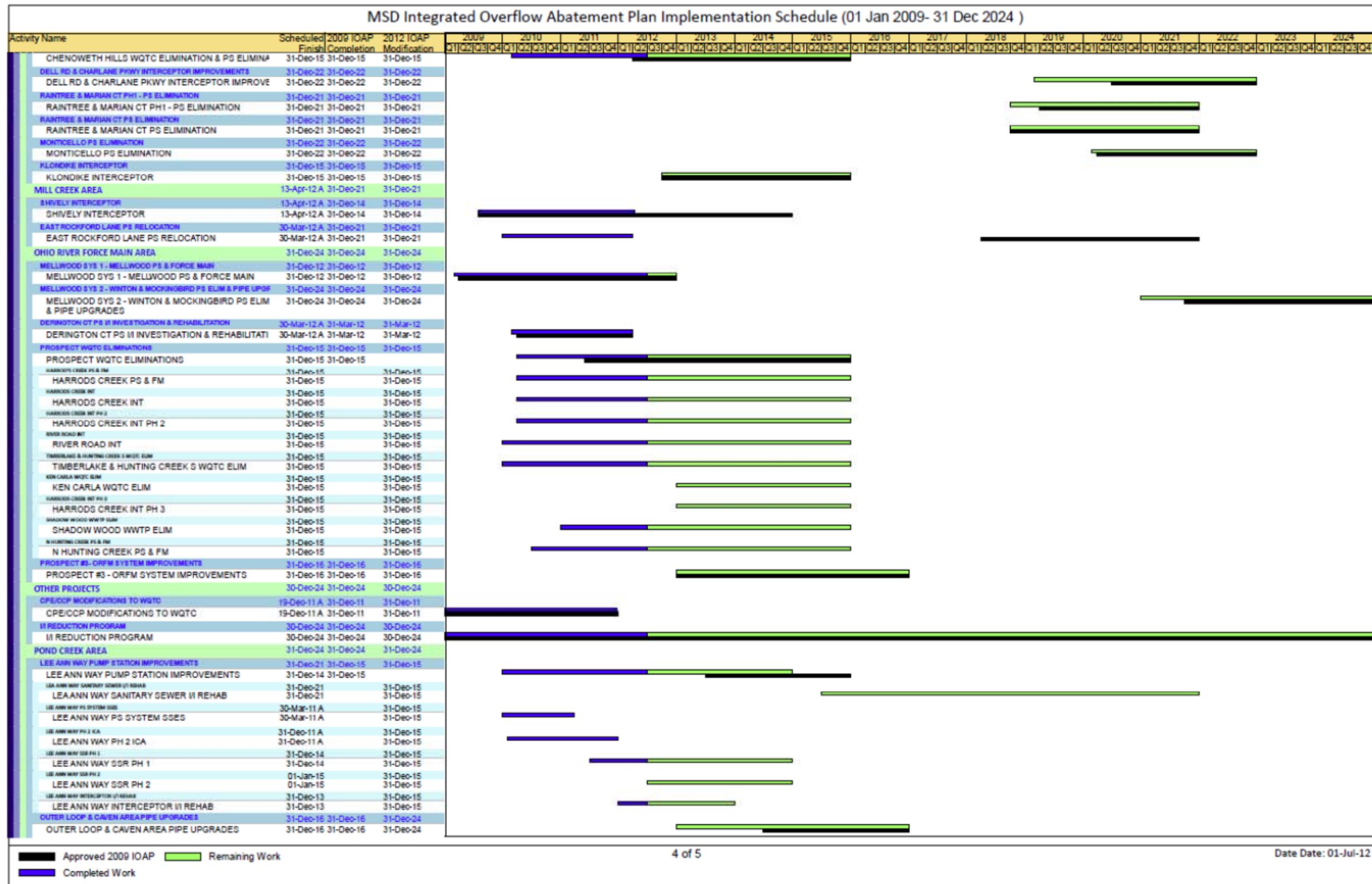
Date Date: 01-Jul-12

MSD Integrated Overflow Abatement Plan Implementation Schedule (01 Jan 2009- 31 Dec 2024 )																																			
Activity Name	Scheduled Finish	2009 IOAP Completion	2012 IOAP Modification	2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024	
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
34TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12	[Gantt bars for 2009-2012]																															
4TH STREET FLOOD PUMP STATION	31-Dec-12	31-Dec-12	31-Dec-12	[Gantt bars for 2009-2012]																															
8 HAWNEE FLOOD PUMP STATION	30-Jun-13	30-Jun-13	30-Jun-13	[Gantt bars for 2010-2013]																															
17TH STREET FLOOD PUMP STATION	31-Dec-14	31-Dec-14	31-Dec-14	[Gantt bars for 2011-2014]																															
SANITARY SEWER DISCHARGE PLAN	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
BEARGRASS CREEK MIDDLE FORK AREA	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
GOOSE CREEK PUMP STATION	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
GOOSE CREEK PS PH1 - DEVONDALE PS WW STORAGE	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
GOOSE CRK PS PH2 - PS & WET WEATHER STORAGE	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
ANCHOR ESTATES-ANCHOR ESTS PS 1 & 2 PS ELIMINATIONS	31-Dec-16	31-Dec-16	31-Dec-16	[Gantt bars for 2011-2016]																															
ANCHOR ESTATES- VANNAH PS ELIMINATION	15-Oct-11 A	31-Dec-13	31-Dec-13	[Gantt bars for 2011-2013]																															
HURSTBOURNE ISI INVESTIGATION & REHABILITATION	27-Dec-11 A	31-Dec-11	31-Dec-11	[Gantt bars for 2011]																															
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 1 - BUECHEL BASIN	31-Dec-13	31-Dec-13	31-Dec-13	[Gantt bars for 2011-2013]																															
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 2 PS & WET WEATHER STORAGE	31-Dec-23	31-Dec-23	31-Dec-23	[Gantt bars for 2017-2023]																															
LITTLE CEDAR CREEK INTRECEPTOR IMPROVEMENTS	31-Dec-24	31-Dec-24	31-Dec-24	[Gantt bars for 2019-2024]																															
FAIRMOUNT RD PS IMPROVEMENTS	31-Dec-14	31-Dec-23	31-Dec-23	[Gantt bars for 2011-2023]																															
FAIRMOUNT STORAGE BASIN	01-Jan-15	31-Dec-15	31-Dec-15	[Gantt bars for 2011-2015]																															
HAZELWOOD PS ISI INVESTIGATION & REHABILITATION	30-Jun-11 A	30-Jun-11	30-Jun-11	[Gantt bars for 2011]																															
CAMP TAYLOR #4-SEWER REHABILITATION & REPLACEMENT	31-Dec-23	31-Dec-23	31-Dec-23	[Gantt bars for 2017-2023]																															
ASHBURTON PS IMPROVEMENTS AND DIVERSION	22-Jan-10 A	31-Dec-21	22-Jan-10	[Gantt bars for 2010-2021]																															

Approved 2009 IOAP
  Remaining Work  
 Completed Work









## **SECTION 4: Program Activities for Public Outreach, Education, Notification and Participation**

### **4.1 Public Notification Program**

MSD has developed a program aimed at notifying the community of the objectives of Project WIN and how to lessen the risks associated with coming into contact with sewage overflows.

### **4.2 Public Education Programs**

MSD has developed a public education program aimed at disseminating information to the public on MSD's primary business functions with emphasis on wastewater, storm water and flood protection. Efforts continued to utilize various media outlets, including television, radio, magazines, and newspapers to serve as a conduit for circulating information to the public.

During the reporting period, MetroTV aired programs detailing the IOAP Public Input Meetings (with presentations on the IOAP revisions), and a rain barrel installation video.

### **4.3 Public Outreach Programs**

MSD has developed a public education program aimed at expanding the public's knowledge on MSD's primary business functions of wastewater, storm water and flood protection, with an emphasis on Project WIN Program elements.

#### **4.3.1 IOAP Project and Program Meetings**

MSD facilitates meetings for the Wet Weather Team (WWT), and the public to review regulatory commitments, update progress on projects and initiatives, and to gather public input on efforts. During the reporting period, MSD facilitated and planned for the following meetings:

- Facilitated an IOAP public meeting on September 16, 2014, at Collegiate School (3934 Poplar Level Road) to provide an overview of the IOAP and discuss the I-64 and Grinstead Basin project.
- Planning for the next Wet Weather Team Stakeholder meeting on December 9, 2014, at the Metropolitan Sewer District (700 West Liberty Street) to provide updates on MSD's IOAP progress and activities to date, planned activities for 2015, and a schedule of activities for the 20-year Comprehensive Facility Plan.

An additional effort that MSD will be coordinating during the next reporting period will refine our current outreach activities and public meetings to include Structured Public Involvement: a process meant to elicit qualitative and quantitative information and improve our engagement with customers. It will also facilitate relevant input on the design process as MSD prepares to construct many of the IOAP CSO basins. The Structured Public Involvement approach assures anonymity for each participant using transceivers to compile data which can then be correlated on a customer-specific basis.

---

## SECTION 5: Capacity Management Operations and Maintenance Report

Per Paragraph 24.c of the Amended Consent Decree, the Capacity Management Operations and Maintenance (CMOM) Self Assessment Report was submitted to EPA and KDEP on February 10, 2006. MSD received a letter of approval on August 22, 2006. The approved CMOM document can be viewed on the MSD Project WIN website [www.msdprojectwin.org](http://www.msdprojectwin.org).

The primary objectives of CMOM are as follows:

**Capacity** – Ensuring that adequate wet and dry weather capacity is maintained in existing and new infrastructure.

**Management** – Implementing programs in support of operations and maintenance activities required to ensure KPDES permit compliance and promote public health by remedying design, construction and operational deficiencies; training staff; and performing activities in a safe manner.

**Operations** – Implementing written standard operating procedures to operate system components as designed to meet permit requirements.

**Maintenance** – Implementing systematic, comprehensive asset maintenance and rehabilitation programs to prevent overflows, maximize system reliability and ensure system sustainability.

Although the program implementation deadlines from the CMOM Self Assessment Report were previously met, MSD continued to enhance the activities listed below during this reporting period. Highlights of the CMOM program implementation over this reporting period are outlined below.

### 5.1 Management Programs

#### M-E-9 Infrastructure Rehabilitation

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

#### M-E-10 System Capacity Assurance Program

Included in the goals of the CMOM Self-Assessment Report, The System Capacity Assurance Plan (SCAP) is the basis for applying capacity decision criteria to support watershed community values. It provides a programmatic approach for confirming available capacity within MSD's sanitary sewer system, creating capacity credits through system improvement and rehabilitation, identifying hydraulic constrictions, and proposing capacity improvements that support interim and long-term performance objectives. SCAP revisions, including credit and balance projections and discussion of approach for multi-family residential unit populations were discussed with EPA and KDEP and submitted electronically for review on July 21, 2014. Pending regulatory review and additional comments, the SCAP revisions will be submitted for approval in the next quarterly reporting period. A current copy of the SCAP Credit Balance is included as **Appendix D**.

---

## 5.2 Operations Programs

### **O-A-1 Pump Station Operations Programs (Routine Operating Programs)**

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

### **O-A-2 Pump Station Operations Programs (Emergency Operating Programs)**

Activity details are provided in the CMOM schedule provided as **Section 5.4 – CMOM Activity Schedule**.

## 5.3 Comprehensive Performance Evaluations and Composite Correction Plans (CPE/CCP)

Per requirements of MSD's 2009 Amended Consent Decree, MSD implemented a Comprehensive Performance Evaluation (CPE) and Composite Correction Plan (CCP) program for the District's water quality treatment centers (WQTCs). Although the IOAP CPE assessments defined specific WQTC improvements to be completed by December 31, 2011, MSD will continue to implement CPE/CCP activities as part of the District's CMOM Program. This section will list such activities per WQTC as they occur each reporting period and will be outlined below.

### 5.3.1 Hite Creek Water Quality Treatment Center

During this reporting period, MSD completed a review the final draft version of the Facilities Plan Update and held a public hearing. During the next reporting period, MSD will submit the Facilities Plan Update to the Kentucky Division of Water (KDOW) for review and approval.

In July 2014, MSD received the 60% design plans for the Hydraulic Improvements for the Hite Creek WQTC and met with KDOW staff to review the scope of work. By the end of September 2014, MSD had provided comments on the 60% design plans and were in receipt of the 90% design plans. In the next reporting period, MSD expects to be advertising for a construction contractor for the HCWQTC Hydraulic Improvements Project.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

### 5.3.2 Floyds Fork Water Quality Treatment Center

During this reporting period, the FFWQTC expansion was in full operation, able to accept the additional flow from upstream customers. MSD and the Contractor negotiated a final completion schedule and created a final change order that was approved and executed. During the next reporting period, MSD expects to officially close this project. The expansion project provides an average daily design capacity of 6.5 MGD.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

### 5.3.3 Derek R. Guthrie Water Quality Treatment Center

During this reporting period, MSD continued working on the Facilities Plan Update with the alternative analysis finalized and exhibits revised along with preparing an internal review of the document. There were substantial completion walk throughs for the Influent Pump Station Building along the continuing repairs on the Wet Weather Pump Station. During the next reporting period, the draft Facilities Plan document will be reviewed by MSD staff and project schedule will be updated. Progress is expected to be made on the repairs to the Wet Weather Pumps in order to continue pump testing.

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

### 5.3.4 Cedar Creek Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

### 5.3.5 Prospect Area Water Quality Treatment Center Updates

Submitted the elimination plan for the five WQTCs serving Prospect (Timberlake, Hunting Creek North, Hunting Creek South, Ken Carla, and Shadow Wood), to EPA and KDEP on March 31, 2009. Received approval of this plan on September 24, 2009, and work is proceeding on the projects defined in the IOAP. See **Section 3 – Program Activities for Discharge Abatement Plans** for an update on the design and construction of the projects that make up the elimination plan for the Prospect Area WQTCs.

#### 5.3.5.1 Timberlake Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.5.2 Hunting Creek North Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.5.3 Hunting Creek South Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.5.4 Ken Carla Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.5.5 Shadow Wood Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.6 Jeffersontown Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.7 Starview Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.8 Berrytown Water Quality Treatment Center

Schedules for CPE/CCP related capital projects are provided in **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.9 Chenoweth Hills Water Quality Treatment Center

CMOM related capital projects will be provided in the schedule provided as **Section 5.4 – CMOM Activity Schedule**.

#### 5.3.10 Other Water Quality Treatment Centers

CMOM related capital projects will be provided in the schedule provided as **Section 5.4 – CMOM Activity Schedule**.

- McNeely Lake WQTC – The McNeely Lake Sanitary Sewer and Force Main project is currently in construction phase and is scheduled for completion in January 2015. This gravity portion is approximately 75% of the total length of gravity line required to eliminate the McNeely Lake WQTC. A private developer is responsible for extending the remaining gravity sewer through a future residential development to within 600 feet of the McNeely Lake WQTC. The design of the interceptor that will serve to eliminate the McNeely Lake WQTC and the Brookbend Way PS is approximately 50% complete. During the next reporting period, MSD should complete the design of the interceptor. MSD anticipates eliminating McNeely Lake WQTC by December 31, 2015, but is dependent on the private developer portion being completed.
- Bancroft WQTC – The scope of this project has been modified from storage at Devondale PS to eliminating the Devondale PS as part of the IOAP and conveying flow to a 0.33 MGD Pump Station and a 0.25 MG Storage Basin at the Bancroft site. Design of this project is complete. During the next reporting period, it is anticipated that the project will be advertised for construction with construction beginning early 2015. The Bancroft WQTC and Devondale Pump Station are scheduled to be off-line by December 31, 2015.

- Glenview Bluff – Construction is in progress. During the next reporting period, it is anticipated that construction will continue and the Glenview Bluff WQTC will be off-line by December 31, 2014.

#### **5.4 CMOM Activity Schedule**

CMOM capital project milestones for the period of April 1, 2014, through June 30, 2014, as well as a look-ahead for the period of July 1, 2014, through December 31, 2014, are provided in the schedule below.

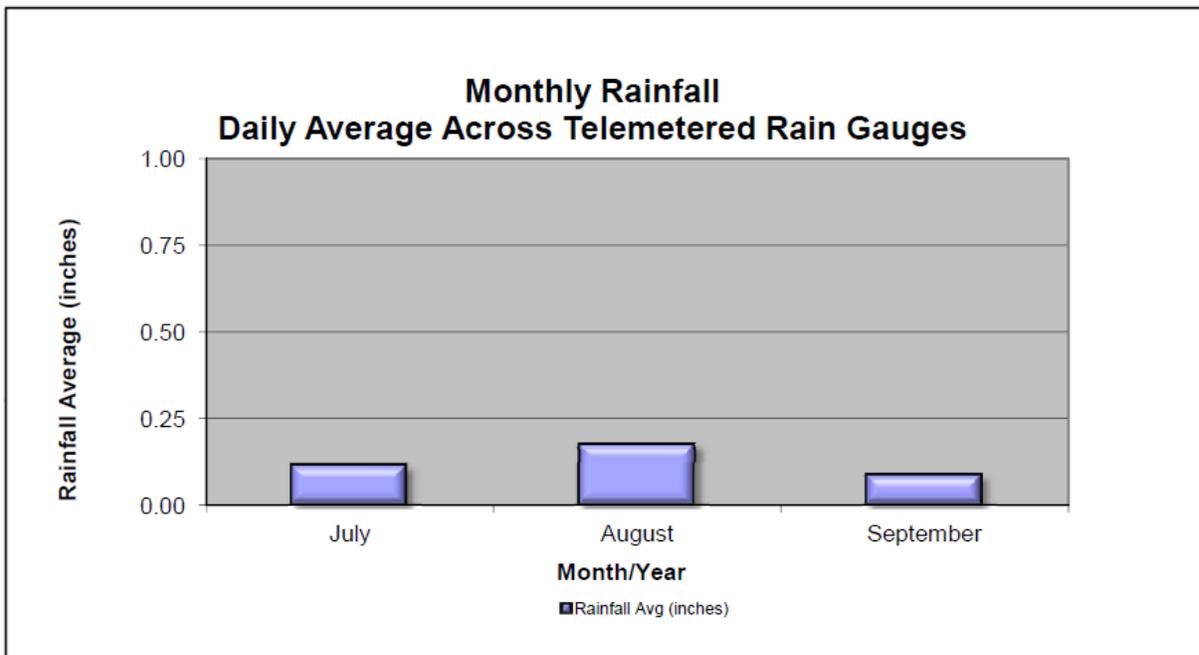
MSD CMOM FY14 Annual Commitments Schedule (01 Oct 2014 - 31 March 2015)					Date: 23-Oct-14								
Activity ID	Activity Name	Physical % Complete	Start	Finish	2014						2015		
					Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
<b>CMOM FY ANNUAL REPORT COMMITMENTS FINAL</b>													
<b>M-E-9 Infrastructure Rehabilitation</b>													
<b>Annual I/I FY13 Project (H09206)</b>													
A5090	Contract Administration	100%	19-Nov-12A	30-Jul-14A	[Progress bar]								
A5100	Warranty	50%	30-Mar-14A	30-Mar-15	[Progress bar]								
<b>Lea Ann Way East - Stonybrook Rehabilitation Project (C08433)</b>													
A4020	Warranty	90%	01-Nov-13A	01-Nov-14	[Progress bar]								
<b>Lake Forest Sanitary Sewer Rehabilitation Project (H11303)</b>													
A3370	Warranty	100%	31-Aug-13A	31-Aug-14A	[Progress bar]								
<b>Prospect Phase I Sanitary Sewer Rehabilitation Project (H11311)</b>													
A3240	Construction	90%	20-Sep-13A	20-Nov-14	[Progress bar]								
<b>Meadow Stream Sanitary Sewer Rehabilitation Project (H11305)</b>													
A4910	Construction	95%	21-Oct-13A	21-Oct-14	[Progress bar]								
<b>Lea Ann Way East - Fegenbush Rehabilitation Project (C08433)</b>													
A4010	Warranty	60%	28-Feb-14A	28-Feb-15	[Progress bar]								
<b>Lea Ann Way East - Fern Creek Rehabilitation Project (C08433)</b>													
A5690	Warranty	100%	01-Oct-13A	01-Oct-14A	[Progress bar]								
<b>Seven Avenue Rehab Project (H11304)</b>													
A5290	Construction	100%	03-Sep-13A	15-Sep-14A	[Progress bar]								
<b>Beargrass Interceptor Rehab Project (H09207)</b>													
A5370	Ad	0%	01-Nov-14*		[Milestone]								
A5380	Bid Open	0%	15-Dec-14*		[Milestone]								
A5390	Award	0%	15-Jan-15*		[Milestone]								
A5400	Construction	0%	15-Feb-15*	30-Jun-15	[Progress bar]								
<b>Berrytown Rehab Project (H11299)</b>													
A5500	Construction	100%	15-Mar-14A	30-Aug-14A	[Progress bar]								
<b>Starview Rehab Project (H11312)</b>													
A5550	Construction	100%	15-Mar-14A	30-Aug-14A	[Progress bar]								
<b>Camp Taylor Area 3 Rehab Project (H09218)</b>													
A5450	Construction	90%	01-Dec-13A	31-Dec-14	[Progress bar]								
<b>Annual I/I FY14 Project (H14184)</b>													
A5730	Construction	50%	28-Jan-14A	28-Jan-15	[Progress bar]								
A5740	Berrytown	100%	28-Jan-14A	30-Aug-14A	[Progress bar]								
A6140	Camp Taylor Tophats 4&5	100%	28-Jan-14A	01-Sep-14A	[Progress bar]								
A6150	Hillridge	60%	28-Jan-14A	30-Dec-14	[Progress bar]								
A6160	Rosa Terrace	90%	28-Jan-14A	30-Oct-14	[Progress bar]								
A6170	Starview	80%	28-Jan-14A	30-Oct-14	[Progress bar]								
A6180	Goose Creek	50%	28-Jan-14A	30-Dec-14	[Progress bar]								
A6190	LAW Quad3 Whispering Hills	90%	28-Jan-14A	30-Dec-14	[Progress bar]								
<b>FY13 ICA Project</b>													
A4410	Planning	100%	01-Jun-12A	31-Jul-14A	[Progress bar]								
<b>Goose Creek PS SSES (H11407)</b>													
A4950	Planning	95%	01-Apr-13A	31-Oct-14	[Progress bar]								
<b>Nightingale PS SSES (H11313)</b>													
A5110	Planning	95%	15-Jul-13A	31-Oct-14	[Progress bar]								
<b>Pump Station Operations Programs</b>													
<b>O-A-2 Emergency Operation Programs</b>													

MSD CMOM FY14 Annual Commitments Schedule (01 Oct 2014 - 31 March 2015)						Date: 23-Oct-14								
Activity ID	Activity Name	Physical % Complete	Start	Finish	2014						2015			
					Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
<b>Trinity Home's Pump Station Roof Hatch (H13154)</b>														
A5560	Warranty	100%	28-Aug-13A	28-Aug-14A										
<b>Royster Basin Generator Project (H12163)</b>														
A4840	Construction	15%	28-Aug-14A	18-Jan-15										
<b>St. Matthews #4 Pump Station Modification Project (H14211)</b>														
A5820	Construction	100%	29-May-14A	29-Aug-14A										
<b>Gunpowder Pump Station FM Modification Project (H14211)</b>														
A6050	Ad	0%	01-Nov-14*											
A6060	Bid Open	0%	01-Dec-14*											
A6070	Award	0%	02-Jan-15*											
A6080	Construction	0%	02-Jan-15*	15-Jul-15										
<b>Valley Village PS Header Piping Improvements Project (H09352)</b>														
A5060	Warranty	100%	03-Jul-13A	01-Jul-14A										
<b>4th Street FPS Gate and Switch Gear Replacement Project (F12095)</b>														
A5150	Design	70%	04-Jan-13A	28-Feb-15										
A5160	Ad	0%	28-Feb-15*											
A5170	Bid Open	0%	28-Mar-15*											
A5180	Award	0%	28-Apr-15*											
A5190	Construction	0%	28-Apr-15*	30-Dec-15										
<b>Shannon Run PS Elimination Project (B13132)</b>														
A5300	Warranty	100%	01-Jun-13A	01-Jul-14A										
<b>CPE/CPE Treatment Plant Activities</b>														
<b>MFWQTP Rubbertown Sampling Manholes (H09374)</b>														
A6100	Ad	100%	15-Aug-14A	31-Dec-14										
A6130	Bid Open	100%	15-Sep-14A											
A6110	Award	0%	01-Oct-14*											
A6120	Construction	0%	01-Oct-14*	31-Dec-14										
<b>West County Force Main Assessment (H09519)</b>														
A5340	Construction	50%	20-Jun-14A	28-Feb-15										
<b>Annual Sewer Rehabilitation (H09208)</b>														
A5470	Design	100%	01-Aug-14A	01-Sep-14A										
A5480	Ad	100%	15-Sep-14A											
A5490	Bid Open	0%	15-Oct-14*											
A5520	Award	0%	15-Nov-14*											
A5530	Construction	0%	01-Dec-14*	01-Dec-15										

## SECTION 6: Project WIN Performance Overview

### 6.1 Rainfall

The number and the volume of wet weather overflows are directly related to the amount of rain that has fallen during the reporting period. The following graph shows the Jefferson County average rainfall amounts for the last quarter. Data was pulled from MSD’s Rain Gauge Network.



A storm frequency analysis for CSOs is included as **Appendix E**.

### 6.2 Collection System Unauthorized Discharges

#### 6.2.1 Collection System Overflows to Waters of the United States (WUS)

MSD recorded information related to overflows reaching Waters of the United States (WUS) for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. Details of these overflows will be included in the Annual Report for the period of July 1, 2013, through June 30, 2014, and will be posted on the Project WIN website. During this quarter, 43 overflows to the Waters of the United States (WUS) have been reported.

Unauthorized Discharges (Waters of the United States)			
Problem	Dry Weather	Wet Weather	Total
Blending At Jtown WQTC	0	2	2
Electrical Problems At MSD	0	2	2
Grease Blockage	1	0	1
Lack of System Capacity	0	31	31
Mechanical Failure	1	0	1
Obstruction-Not Grease / Roots	2	0	2
Power Outage (LG&E)	0	1	1
Structural Failure	3	0	3
<b>Total</b>	<b>7</b>	<b>36</b>	<b>43</b>

### 6.2.2 Overflows to Ground (EXT)

MSD recorded information related to overflows to the ground that did not reach Waters of the United States for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows will be included in the Annual Report for the period of July 1, 2013, through June 30, 2014.

### 6.2.3 Overflows to Interior (INT)

MSD recorded information related to overflows to building interiors for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows, that are the result of an issue in the main line, will be included in the Annual Report for the period of July 1, 2013, through June 30, 2014.

### 6.2.4 Dry Weather CSOs

MSD recorded information related to dry weather overflows from permitted combined sewer overflow outfalls. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. A detailed report of these overflows will be included in the Annual Report for the period of July 1, 2013, through June 30, 2014. The table below summarizes dry weather CSOs that occurred during the quarter. **Appendix A-1** includes details on the dry weather overflows that occurred in the quarter.

Dry Weather CSO - July 1, 2014 - September 30, 2014					
CSO	Type of Discharge	Date/Time	Problem	Cause	Volume (GAL)
			THERE WERE NO DRY WEATHER CSOS FOR THE PERIOD JULY 1, 2014 - SEPTEMBER 30, 2014		

There were no dry weather overflows recorded at CSOs; however, On July 26, 2014, overflows totaling 120,000,000 gallons occurred at two CSO locations due to a unique combination of malfunctions and storm-related problems associated with Starkey PS. Since this incident, MSD has added redundant controls to the Starkey PS operations.

On Friday, July 25, 2014, at 3:39 PM, the SCADA PC installed at the Starkey PS unexpectedly stopped receiving data, causing the screen to freeze with the last image that was captured. During this time, remote communications were disabled, but the pumps continued to operate normally. Because the SCADA computer interface appeared to support the pump station activities, an issue was not detected. A thunderstorm starting Saturday, July 26, 2014, after 9:30 PM caused a significant amount of rain in the Louisville Metro area, and Starkey PS experienced a power failure at approximately 10:18 PM. It is likely that the generator at the station started up and subsequently shut down when utility power was restored. The variable frequency drive (VFD) pumps faulted but were unable to send the alarm remotely to advise that a reset was needed due to the SCADA communications problem.

As a result of the SCADA communication transmittal problem, power failure, and wet weather issues, overflows occurred at CSO082 and CSO020. Between 10:30 PM on July 26, 2014, and 10:00 AM on July 29, 2014, approximately 10,000,000 gallons of combined storm water and sewage overflowed from CSO082. During the same time frame, approximately 110,000,000 gallons of combined storm water and sewage overflowed from CSO020.

MSD personnel became aware of the pump malfunction on Tuesday, July 29, 2014, at 9:00 AM. Staff immediately worked to determine the cause of the problem and restore the station. This included resetting the VFD pumps and rebooting the PC for the SCADA system. By 10:00 AM on July 29, 2014, all issues were resolved. As a result of this problem, MSD has modified routine operating procedures for monitoring the Starkey PS. This includes visual inspections to the lower level of the station to confirm shaft and pump operations on a daily basis. Three redundant alarms have been installed and a text protocol to operations staff and management has been implemented in the event that pump operations at Starkey go down.

### **6.3 CSO Reductions**

Included in **Appendix B** is the CSO data for this quarter. A summary of any data anomalies and the CSO data for each monitored overflow has been graphed along with rainfall information from the nearest rain gauge to facilitate review of the overflows that occurred.

- No CSO reduction projects were completed during the reporting period.

### **6.4 SSO Reductions**

Estimation of SSO volume is not available in the same manner as it is for the CSO locations. The SSO volume reductions are estimates based on actual observations or from flow monitoring information.

- The Chenoweth Hills Water Quality Treatment Center Elimination and Pump Station Improvements Project – Completed September 22, 2014 – Eliminated the following SSOs: MS00263A-PS, MS00263

- The St. Rene Road Pump Station Inline Storage Project – Completed September 19, 2014 – Eliminated the following SSOs: 94187

### 6.5 Gravity Line Preventive Maintenance

Each quarter, data and statistics relating to the cleaning, inspection, and maintenance of sewer assets performed under the Gravity Line Preventive Maintenance (GLPM) are reported. The following data was compiled for the period of July 1, 2014, through September 30, 2014. The first table includes data and targets. The second table includes unplanned maintenance and other maintenance activities that are performed in response to inspection.

Rolling quarterly GLPM performance is related to unplanned maintenance; therefore no targets have been developed.

Rolling Quarterly GLPM Performance With Targets							
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Total	Target/ qtr	% of Annual Target
<b>Combined Sewer Area</b>							
Catch Basins Cleaned CSO Area - PM	6,581	3,953	3,327	<b>3,097</b>	16,958	4,460	17%
CSO Inspections	1,391	1,316	1,293	<b>1,288</b>	5,288	1,272	25%
<b>Sanitary Sewer Area</b>							
Catch Basins Cleaned SSO Area - PM	386	1,519	796	<b>685</b>	3,386	1,144	15%
<b>County Wide</b>							
Sewer Main Inspections MSD Crews (LF)	243,515	322,297	353,379	<b>334,927</b>	1,254,117	198,000	42%
Sewer Main Inspections Contractor (LF)	538,432	327,271	95,460	<b>124,237</b>	1,085,400	198,000	16%
Total Inspections (LF)	781,947	649,568	448,839	<b>459,164</b>	2,339,517	396,000	29%

Rolling Quarterly GLPM Performance					
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Total
<b>Combined Sewer Area</b>					
Catch Basins Cleaned CSO Area - UM	202	191	341	<b>256</b>	990
CSO Debris Removal WO	123	90	175	<b>168</b>	556
Chemical Root Treatment CSO Area (LF)	282	0	0	<b>0</b>	282
Root Cutting CSO Area (LF)	7,457	28,878	6,420	<b>15,758</b>	58,513
Flushing and Cleaning of Sewer Mains CSO Area (LF)	8,146	11,442	3,999	<b>457,624</b>	481,212
<b>Sanitary Sewer Area</b>					
Catch Basins Cleaned SSO Area - UM	120	79	796	<b>67</b>	1,062
Chemical Root Treatment SSO Area (LF)	0	0	407	<b>0</b>	407
Root Cutting SSO Area (LF)	17,796	23,325	23,721	<b>48,289</b>	113,131
Flushing and Cleaning of Sewer Mains SSO Area (LF)	30,245	16,004	37,728	<b>496,040</b>	580,017

## **6.6 Water Quality Treatment Center Bypasses**

### **6.6.1 Bypass Events**

There were no bypass events to summarize during this reporting period.

### **6.6.2 Bypass Corrective Actions**

Each quarter, an assessment of bypasses will occur to determine the root cause of the bypass, the failure category, corrective actions to be taken, possible programmatic solutions, and corrective action completion date. Refer to the table below for causes of bypasses and respective corrective actions that occurred July 1, 2014, through September 30, 2014.

Bypass Summary - July 1, 2014 to September 30, 2014						
DATE	WQTC	WORK ORDER	FAILURE CODE	BYPASS DESCRIPTION	FAILURE RESOLUTION	
<b>Capacity (CAP)</b>						
N/A	N/A	N/A	N/A	No bypasses of this category occurred during the reporting period.	N/A	
<b>Human Error (OPN)</b>						
N/A	N/A	N/A	N/A	No bypasses of this category occurred during the reporting period.	N/A	
<b>Facility Failure ( Mechanical - MCH, Electrical - ELE, Structural - SRT)</b>						
N/A	N/A	N/A	N/A	No bypasses of this category occurred during the reporting period.	N/A	

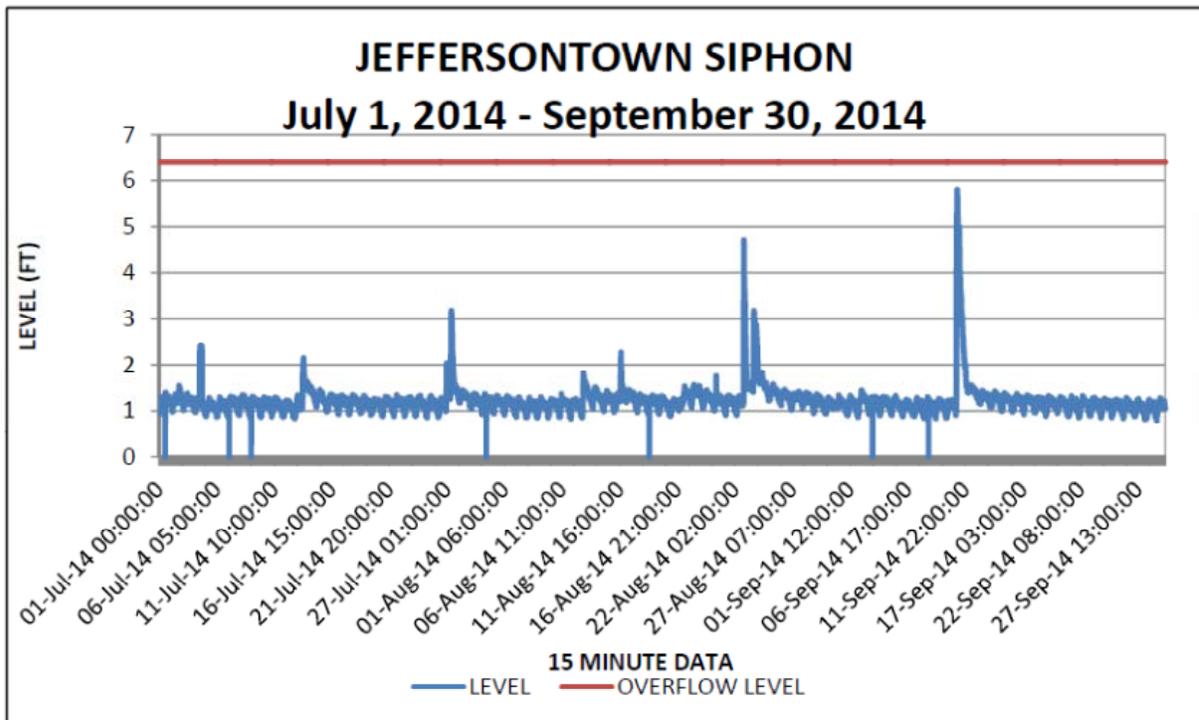
Bypass Summary - July 1, 2014 to September 30, 2014						
DATE	WQTC	WORK ORDER FAILURE CODE	BYPASS DESCRIPTION			FAILURE RESOLUTION
<b>External Power failures (LGE Related-PWR)</b>						
N/A	N/A	N/A	N/A	No bypasses of this category occurred during the reporting period.		N/A
<b>Utility Damage</b>						
N/A	N/A	N/A	N/A	No bypasses of this category occurred during the reporting period.		N/A

### 6.6.3 Jeffersontown Water Quality Treatment Center

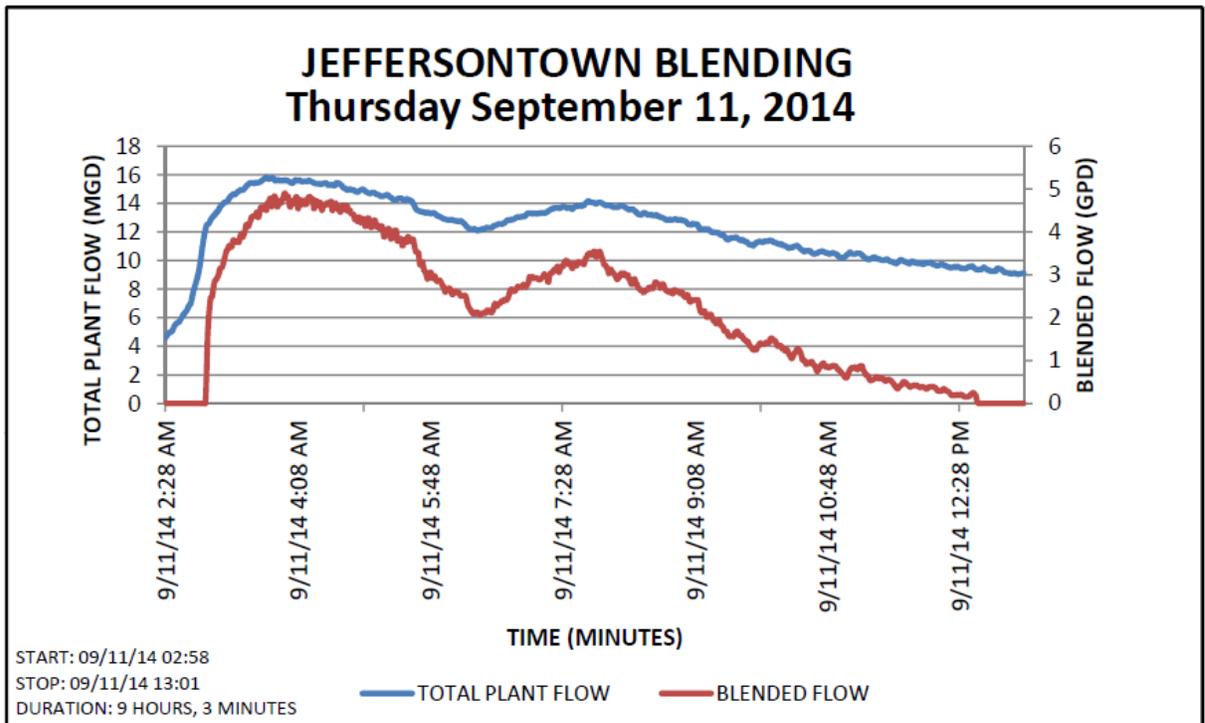
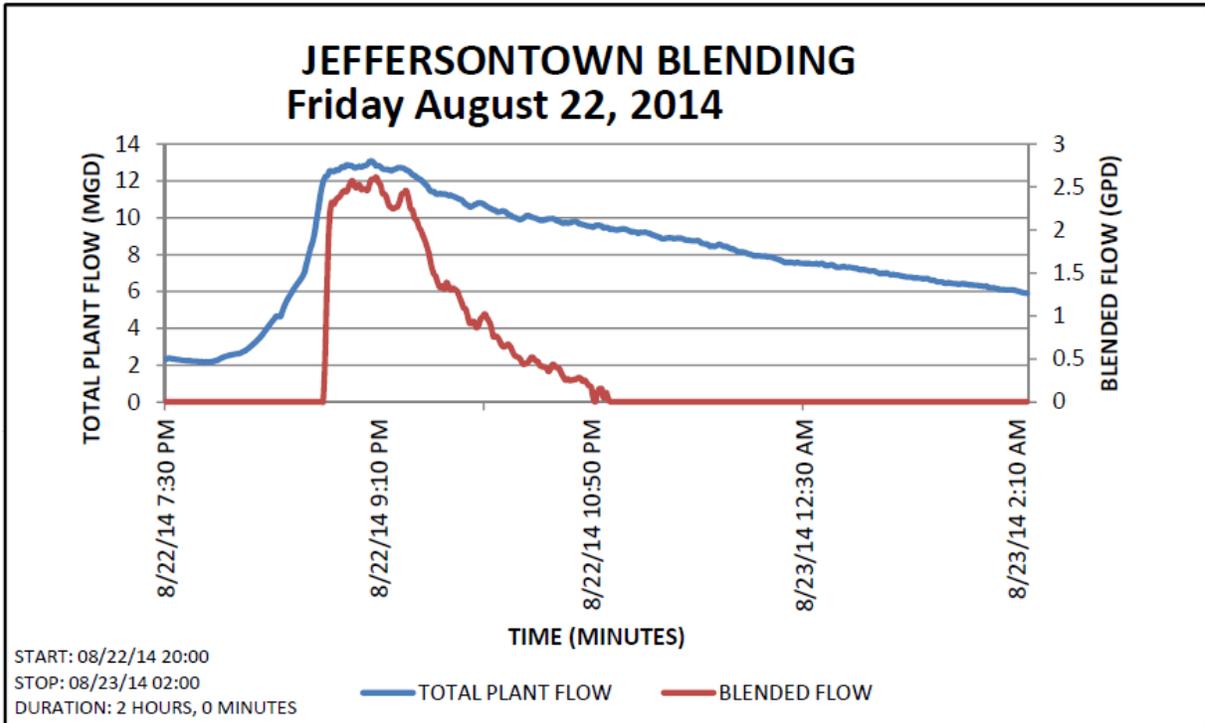
MSD submitted a Jeffersontown WQTC Process Control Plan on October 31, 2008, as required by paragraph 26.a of the Amended Consent Decree. MSD received comments on December 12, 2008, and resubmitted the plan January 16, 2009, and again on February 20, 2009. MSD received conditional approval of this document from EPA on April 1, 2009, pending finalization of the Amended Consent Decree that was under consideration by the Federal Court at the time the Process Control Plan was submitted. The Process Control Plan was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, that was entered into public record February 15, 2010.

The following activities occurred at the Jeffersontown WQTC during the reporting period:

- Inspections were conducted upstream of the Jeffersontown WQTC Headworks five times (Two in July, two in August and one in September). Refer to Section 2 for SSO Route information. One overflow was reported September 11, 2014, at manhole 28173 upstream of the Jeffersontown Siphon.

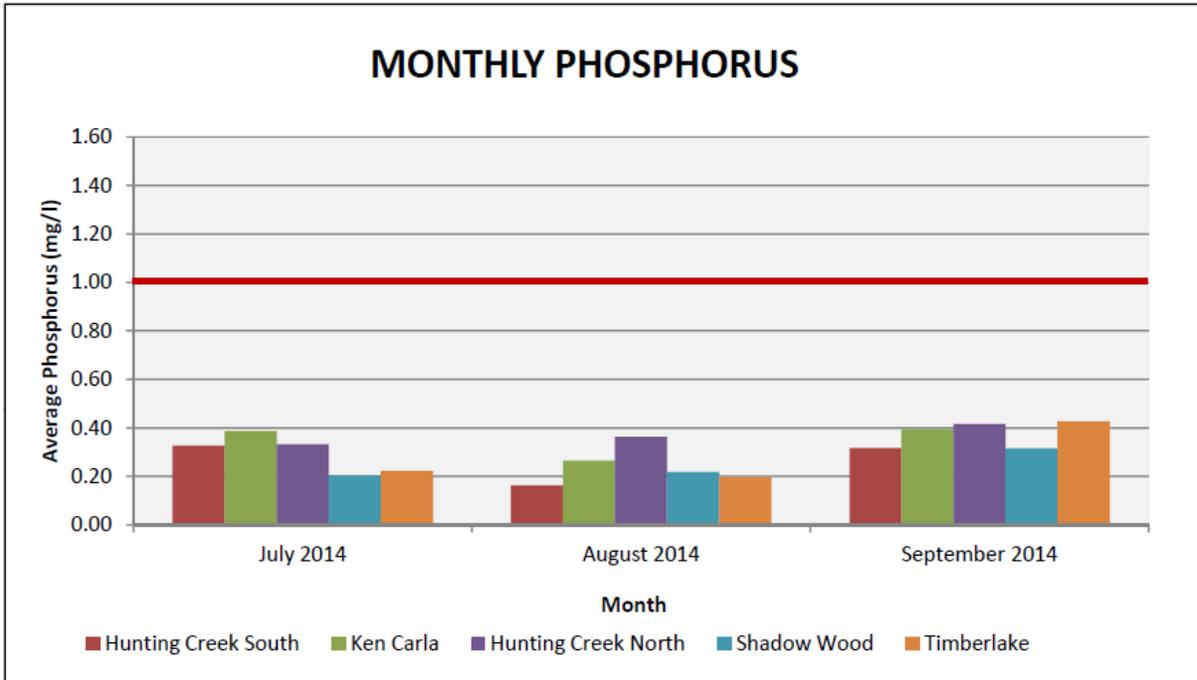


- There were two blending events during the reporting period. Below are charts for each blending event that show total plant flow during the blending event.



### 6.7 Phosphorus Monitoring at the Prospect WQTCs

As part of the Amended Consent Decree, MSD has agreed to submit phosphorus monitoring data including the calculations of monthly averages with the quarterly reports. MSD WQTCs were under the 1mg/l limit during the reporting period, per the Amended Consent Decree requirement. The following chart displays monthly average phosphorus results for the Prospect WQTCs.



Appendix A-1 - Discharge Work Orders – Dry Weather CSOs

APPENDIX A-1  
 UNAUTHORIZED DISCHARGES  
 TO WATERS OF UNITED STATES  
 JULY 1, 2014 THROUGH SEPTEMBER 30, 2014

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD

THERE WERE NO DRY WEATHER CSOS FOR THE  
 PERIOD JULY 1, 2014 - SEPTEMBER 30, 2014

Appendix A-2 - Discharge Work Orders – Bypass

APPENDIX A-2  
 UNAUTHORIZED DISCHARGES  
 TO WATERS OF UNITED STATES  
 JULY 1, 2014 THROUGH SEPTEMBER 30, 2014

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD

THERE WERE NO BYPASS EVENTS FOR THE  
 PERIOD JULY 1, 2014 - SEPTEMBER 30, 2014

Appendix A-3 - Discharge Work Orders – Blending

**APPENDIX A-3  
UNAUTHORIZED DISCHARGES  
TO WATERS OF UNITED STATES  
JULY 1, 2014 THROUGH SEPTEMBER 30, 2014**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	08/22/2014	08/23/14 01:52 PM	117106	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT IN THE AREA	BLENDING AT JTOWN WQTC	2219250	PIPE DISCHARGE SUBMERGED- NO CLEAN UP	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION
JEFFERSONTOWN	KY0025194	10725 OLD TAYLORSVILLE RD	09/11/2014	09/11/14 01:01 PM	1006453	Sewer Treatment Plant	MSD0255	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY DUE TO A RAIN EVENT	BLENDING AT JTOWN WQTC	2231197	PIPE DISCHARGE SUBMERGED- NO CLEANUP	NEGOTIATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION.

Appendix A-4 - Discharge Work Orders – Waters of the United States

**APPENDIX A-4  
UNAUTHORIZED DISCHARGES  
TO WATERS OF UNITED STATES  
JULY 1, 2014 THROUGH SEPTEMBER 30, 2014**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	08/27/2014	08/27/14 07:50 PM	2500	Sewer Manhole	08717	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2222160	DISCLN WO# 2222176	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	09/11/2014	09/11/14 06:17 AM	7500	Sewer Manhole	08717	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231224	DISCLN WO# 2232077	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	08/22/2014	08/22/14 11:42 PM	118282	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2219455	NO CLEAN UP PERFORMED - PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	09/11/2014	09/11/14 11:13 AM	633437	Sewer Manhole	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2231200	NO CLEAN UP PERFORMED - PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	4119 LEE AVE	09/11/2014	09/11/14 06:29 AM	7500	Sewer Manhole	104231	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231225	DISCLN WO# 2232083	LOCATION INCLUDED IN IOAP
HITE CREEK	KY0022420	7302 FLOYDSBURG RD	09/11/2014	09/11/14 09:15 AM	11250	Sewer Manhole	108956	STREAM	FLOYDS FORK	LACK OF SYSTEM CAPACITY DUE TO RAIN EVENT	LACK OF SYSTEM CAPACITY	2231205	MSD CLEANED & SANITIZED THE AREA	SITE FOUND DURING RAIN EVENT RECON- WILL MONITOR & EVALUATE FOR REPAIR. MSD HAULED STATION #2231342
MORRIS FORMAN	KY0022411	4119 LEE AVE	09/11/2014	09/10/14 06:30 AM	500	Sewer Manhole	13943	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231229	DISCLN WO# 2232085	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1600 BELMAR DR	08/27/2014	08/27/14 07:40 PM	4500	Sewer Manhole	13946	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2222140	DISCLN WO# 4349866	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1600 BELMAR DR	09/11/2014	09/11/14 06:23 AM	9000	Sewer Manhole	13946	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231238	DISCLN WO# 2232092	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	334 MOCKINGBIRD VALLEY RD	08/30/2014	08/30/14 07:20 PM	1500	Sewer Manhole	15518			TREE FELL ON POWER LINES KNOCKING POWER OUT TO THE STATION	POWER OUTAGE (LG&E)	2223558	MSD CLEANED & SANITIZED THE AREA	GENERATOR INSTALLED UNTIL POWER RESTORED WO#2223559
MORRIS FORMAN	KY0022411	1726 FRASER DR	08/22/2014	08/23/14 09:30 PM	4591	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2219579	DISCLN WO# 2219975	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	08/27/2014	08/27/14 07:30 PM	2221	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2220873	DISCLN WO# 2220873	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	09/11/2014	09/11/14 11:15 AM	9500	Sewer Manhole	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231206	DISCLN WO# 2232033	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3317 BROWNSBORO RD	08/22/2014	08/22/14 11:30 PM	1000	Sewer Manhole	26752	DITCH	MUDDY FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2219251	DISCLN WO# 2219379	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1013 ALTA CIR	09/11/2014	09/12/14 03:40 PM	600	Sewer Manhole	27007	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231216	WO# 2231959	LOCATION INCLUDED IN IOAP
DEREK R. GUTHRIE	KY0078956	10304 CAVEN AVE	07/27/2014	07/27/14 02:30 PM	12500	Sewer Manhole	27116	STREAM	MUD CREEK	RAIN EVENT LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	2201272	MSD PERSONNEL WILL CLEAN AREA UNDER WORK ORDER#2204779	LOCATION PART OF MSD IOAP
DEREK R. GUTHRIE	KY0078956	10304 CAVEN AVE	08/27/2014	08/27/14 11:30 PM	15000	Sewer Manhole	27116	STREAM	MUD CREEK	HEAVY RAIN EXCEEDED CAPACITY	LACK OF SYSTEM CAPACITY	2220870	MSD TO CLEAN AND SANITIZE AFFECTED AREA	A SOLUTION FOR THIS IS INCLUDED IN THE IOAP
CEDAR CREEK	KY0098540	9800 HOFELICH LN	07/12/2014	07/12/14 07:12 PM	200	Sewer Main	28009	GROUND	CEDAR CREEK	GREASE AND ROOTS OBSTRUCTION IN MAIN SEWER	GREASE BLOCKAGE	2193027	MSD PERSONNEL CLEANED THE IMPACTED AREA	WORK ORDER 2193450; ROOT CUT TO REMOVE GREASE AND ROOT OBSTRUCTION
JEFFERSONTOWN	KY0025194	3258 RUCKRIEGEL PKY	09/11/2014	09/12/14 10:50 AM	1400	Sewer Manhole	28173	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231210	WO# 2231965	LOCATION INCLUDED IN IOAP

**APPENDIX A-4**  
**UNAUTHORIZED DISCHARGES**  
**TO WATERS OF UNITED STATES**  
**JULY 1, 2014 THROUGH SEPTEMBER 30, 2014**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
JEFFERSONTOWN	KY0025194	11401 GRAND AVE	08/22/2014	08/22/14 11:45 PM	1000	Sewer Manhole	28551	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2219252	DISCLN WO# 2219380	LOCATION INCLUDED IN IOAP
JEFFERSONTOWN	KY0025194	11401 GRAND AVE	09/11/2014	09/12/14 11:03 AM	1600	Sewer Manhole	28551	STREAM	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2231214	WO# 2231967	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	09/11/2014	09/12/14 03:40 PM	600	Sewer Manhole	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231217	WO# 2231969	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	09/11/2014	09/11/14 03:31 PM	48500	Sewer Manhole	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACTIY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231215	WO# 2231958	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	201 BULLITT LN	09/11/2014	09/11/14 11:06 AM	6500	Sewer Manhole	47582	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231424	DISCLN WO# 2232032	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	202 OXMOOR LN	09/11/2014	09/11/14 11:06 AM	6500	Sewer Manhole	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2231418	DISCLN WO# 2232030	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	07/13/2014	07/14/14 01:15 AM	1500	Sewer Manhole	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2193300	DISCLN WO# 2193665	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	08/08/2014	08/09/14 12:00 PM	22500	Sewer Manhole	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2211880	DISCLN # 2212180	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	08/27/2014	08/27/14 07:10 PM	3000	Sewer Manhole	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2222148	DISCLN WO# 2222152	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	09/11/2014	09/11/14 05:29 AM	2500	Sewer Manhole	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231428	DISCLN WO# 2232095	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	4640 BARBOUR LN	09/22/2014	09/22/14 05:20 PM	240600	Sewer Main	62412E-AG	GROUND	LITTLE GOOSE CREEK	FORCE MAIN BREAK	STRUCTURAL FAILURE	2234689	CONTRACTOR CLEANED & SANITIZED THE AREA	CONTRACTOR REPAIRED FORCE MAIN
MORRIS FORMAN	KY0022411	4640 BARBOUR LN	09/22/2014	09/22/14 10:40 PM	33200	Sewer Manhole	65633	STREAM	LITTLE GOOSE CREEK	BROKEN FORCE MAIN	STRUCTURAL FAILURE	2234908	CONTRACTOR CLEANED & SANITIZED THE AREA	CONTRACTOR REPAIRED FORCE MAIN
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	09/11/2014	09/11/14 06:18 AM	1500	Sewer Manhole	66349	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231220	DISCLN WO# 2232075	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	7001 U S HIGHWAY 42	09/18/2014	09/18/14 04:30 PM	200	Sewer Main	69070B-AG	GROUND	LITTLE GOOSE CREEK	suspected failure of forcemain	STRUCTURAL FAILURE	2233800	contractor to clean affected area	contractor fixing pipe
DEREK R. GUTHRIE	KY0078956	4805 MID DR	09/18/2014	09/18/14 11:50 AM	100	Sewer Service Line	70388	GROUND	PONDER CREEK	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	2233827	MSD PERSONNEL CLEANED THE IMPACTED AREA	WORK ORDER 2233817; FLUSHED MAIN SEWER
MORRIS FORMAN	KY0022411	201 W RIVER RD	09/17/2014	09/17/14 11:54 AM	100	Sewer Node	72620-ST	STREAM	OHIO RIVER	CLEAN OUT CAP FAILED. RIVER WATER PUMPED	MECHANICAL FAILURE	2233517	NO DEBRIS	REPLACED CLEAN OUT PLUG
MORRIS FORMAN	KY0022411	4108 LEE AVE	08/27/2014	08/27/14 07:45 PM	200	Sewer Service Line	KK14815019	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN	LACK OF SYSTEM CAPACITY	2222138	DISCLN WO# 2222143	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	4108 LEE AVE	09/11/2014	09/11/14 06:32 AM	200	Sewer Service Line	KK14815019	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	2231237	DISCLN WO# 2232089	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	806 PINE WAY	09/11/2014	09/11/14 08:45 AM	1625	Sewer Lift Station	MSD0057-LS	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF CAPACITY DUE TO RAIN EVENT	LACK OF SYSTEM CAPACITY	2231234	NO DEBRIS	SITE FOUND DURING RAIN EVENT RECON- WILL MONIITOR AND EVALUATE FOR REPAIR

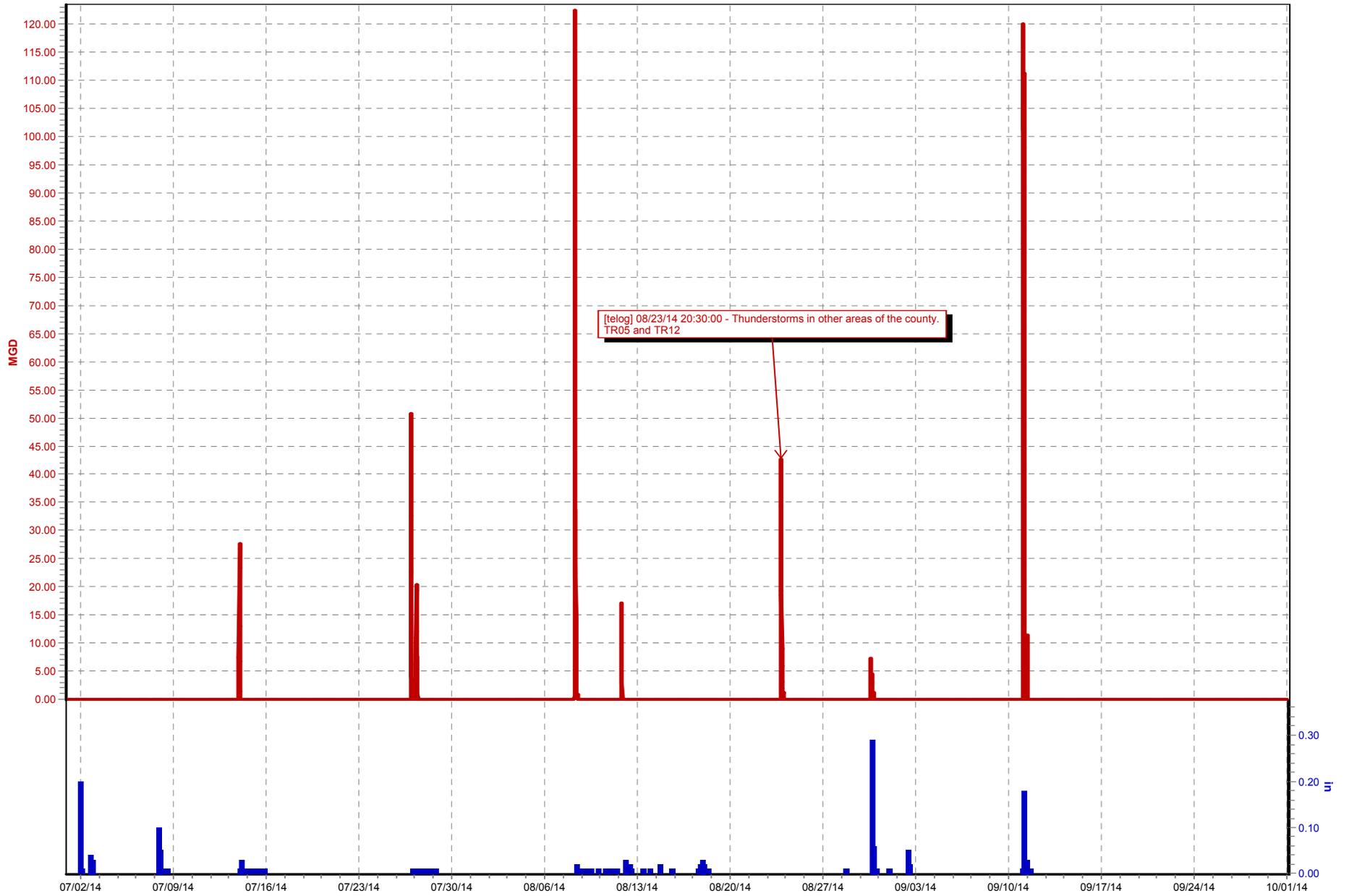
**APPENDIX A-4  
UNAUTHORIZED DISCHARGES  
TO WATERS OF UNITED STATES  
JULY 1, 2014 THROUGH SEPTEMBER 30, 2014**

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	322 E KENWOOD DR	09/23/2014	09/23/14 02:32 PM	2	Sewer Service Line	Y12211019	GROUND	NORTHERN DITCH	FURTHER INVESTIGATION REQUIRED	OBSTRUCTION-NOT GREASE / ROOTS	2236361	MSD PERSONNEL CLEANED THE IMPACTED AREA	WORK ORDER 2236356

Appendix B – CSO Flow Monitoring Data

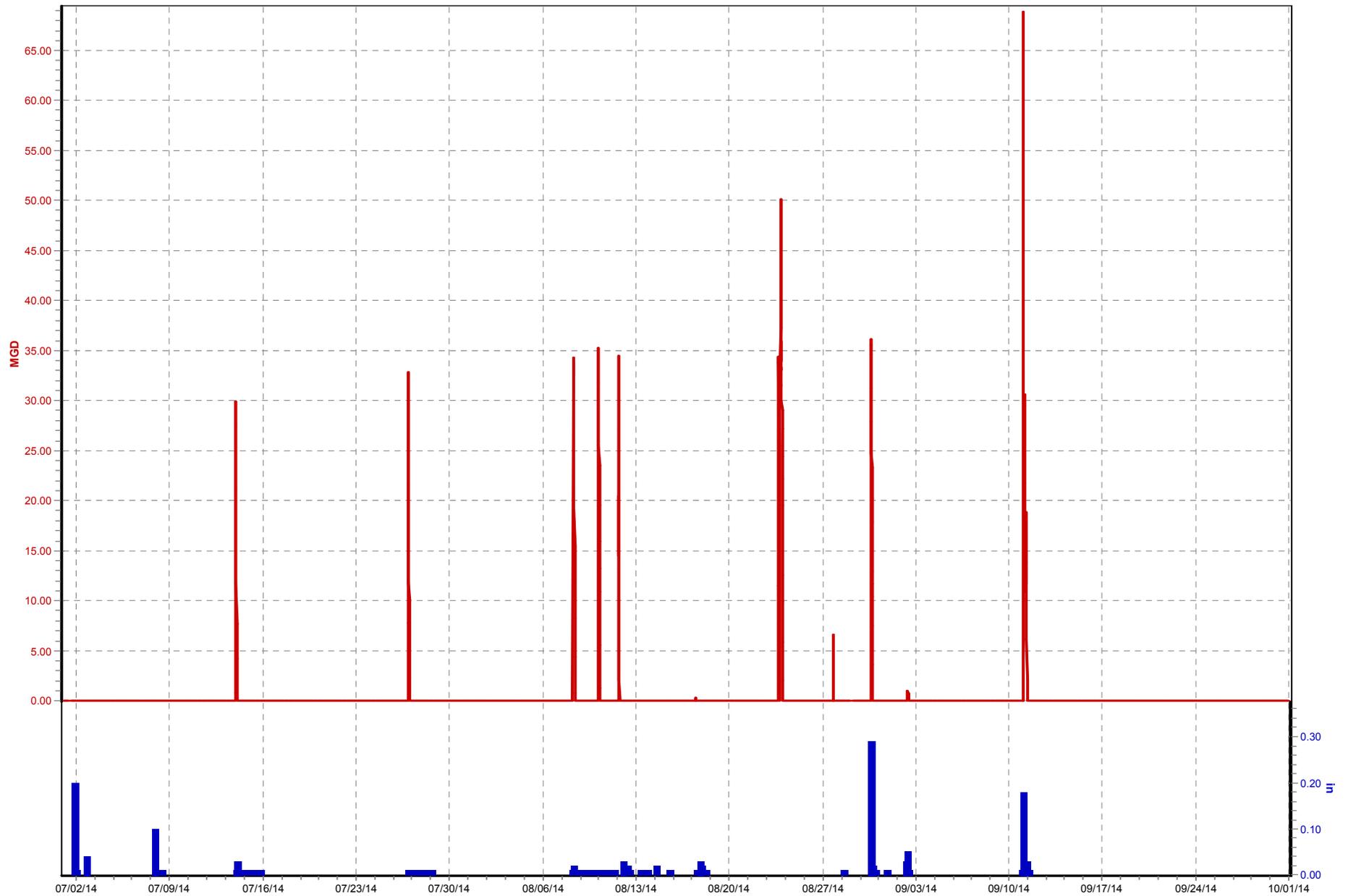
### CSO015 Bells Lane (07/01/14 to 10/01/14)

Raw Flow (MGD)       TR04\_Morris Forman WQTC.Rain (in)



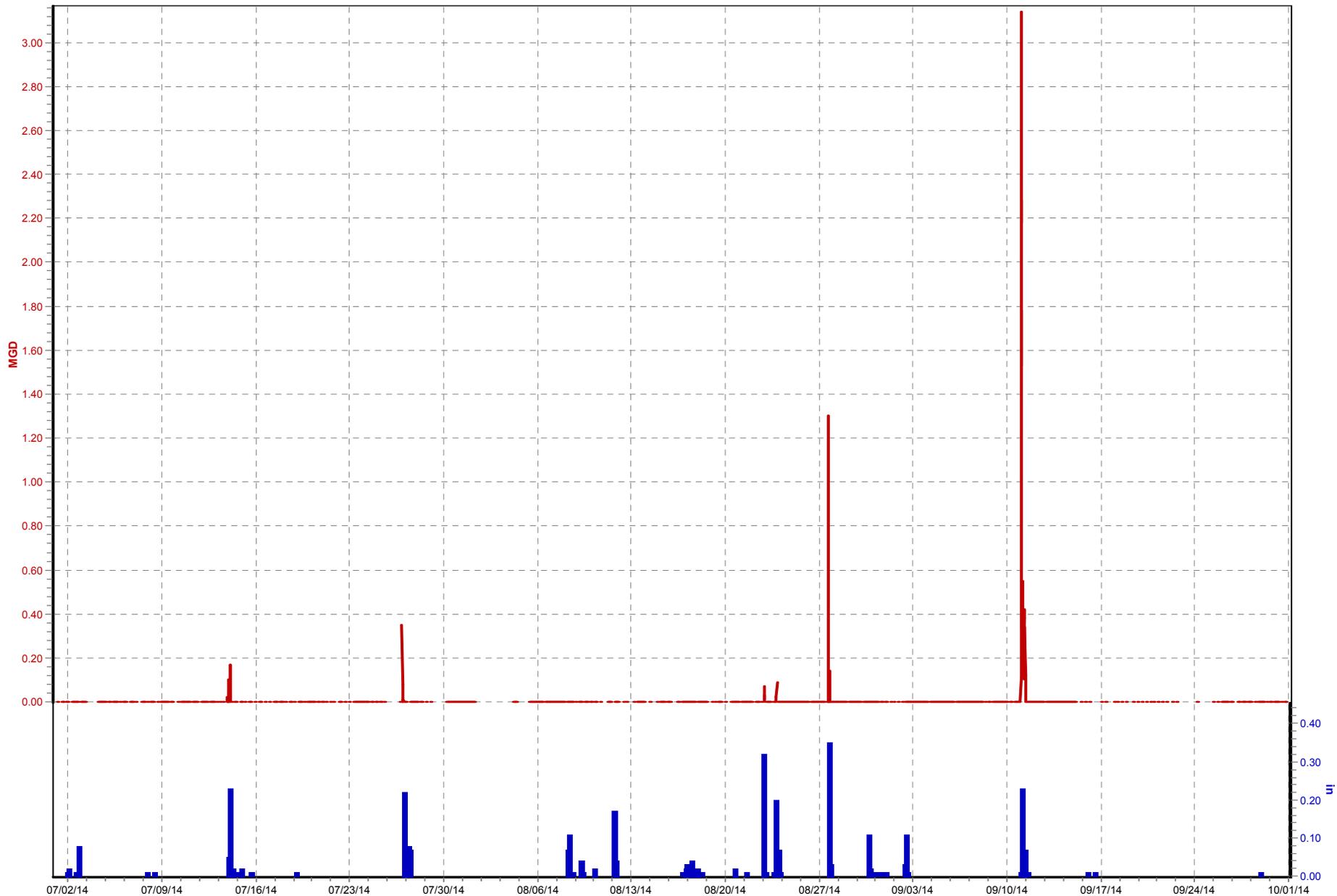
### CSO016 Winnrose Way (07/01/14 to 10/01/14)

Final Flow (MGD)  TR04\_Morris Forman WQTC.Rain (in)



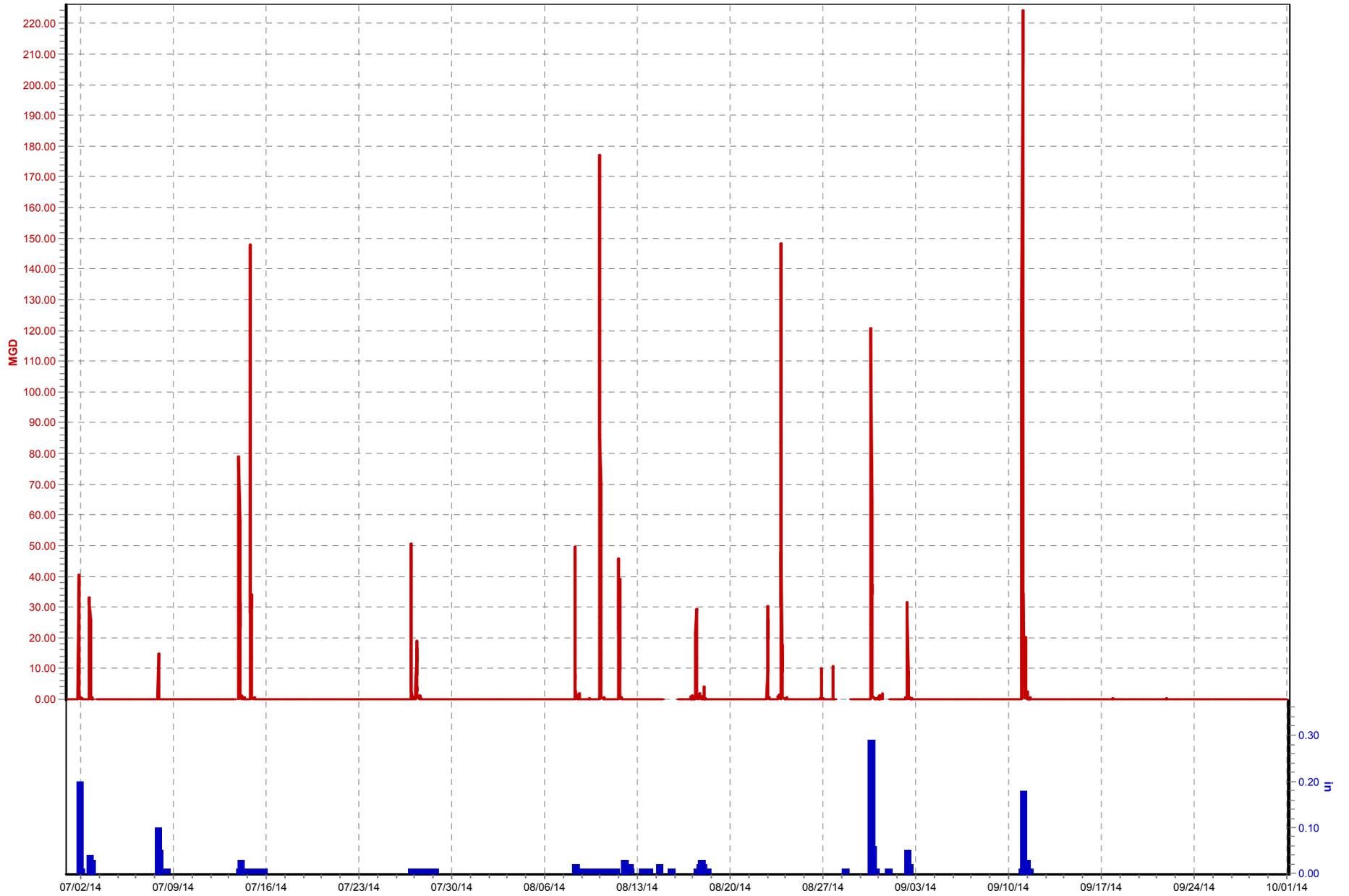
CSO018\_Nightingale Rd (07/01/14 to 10/01/14)

Nightingale PS.CSO018 Flow (MGD)  TR12\_Nightingale PS.Rain (in)



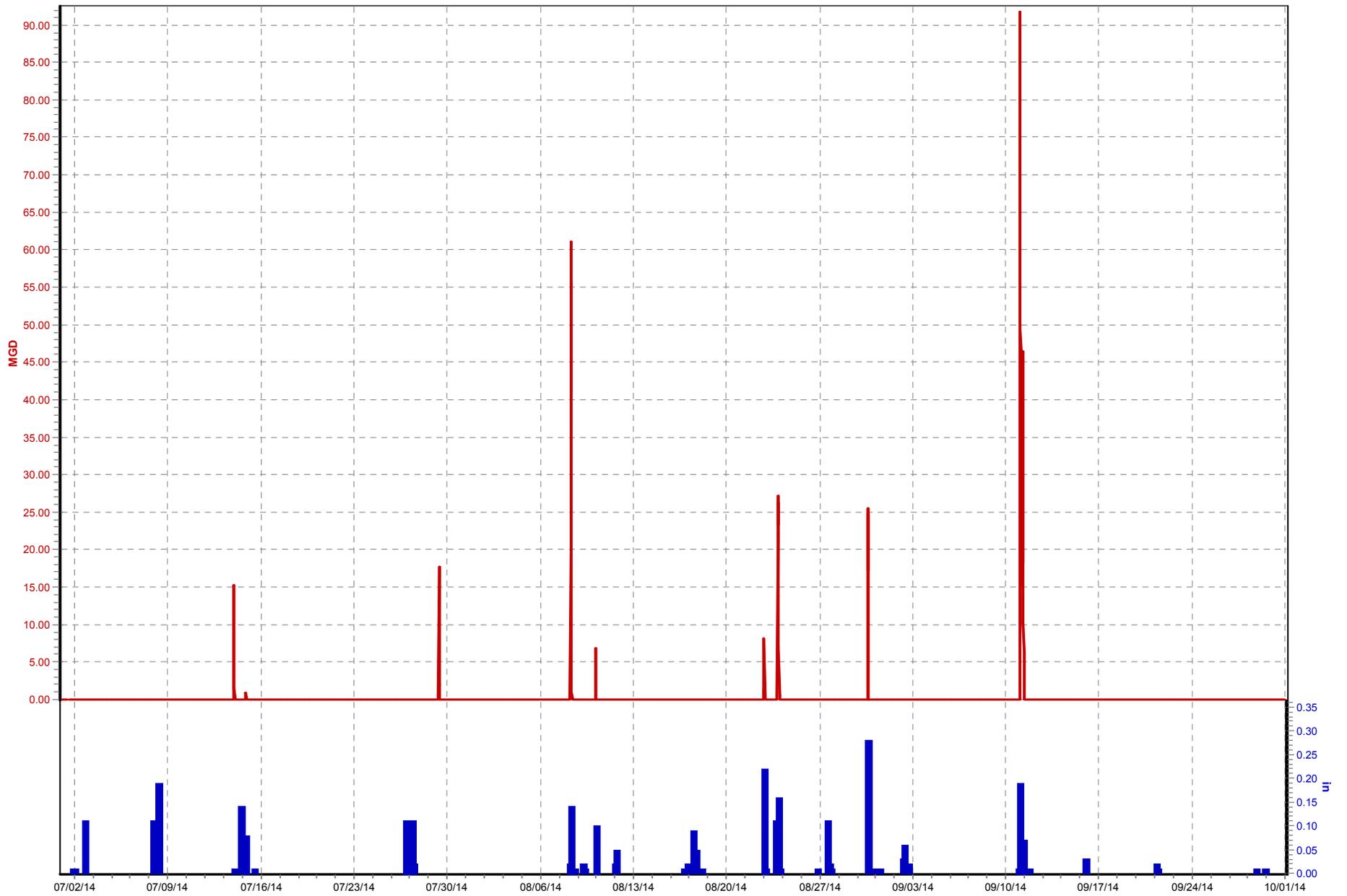
### CSO019 34th and Rudd (07/01/14 to 10/01/14)

Final Flow (MGD)  TR04\_Morris Forman WQTC.Rain (in)



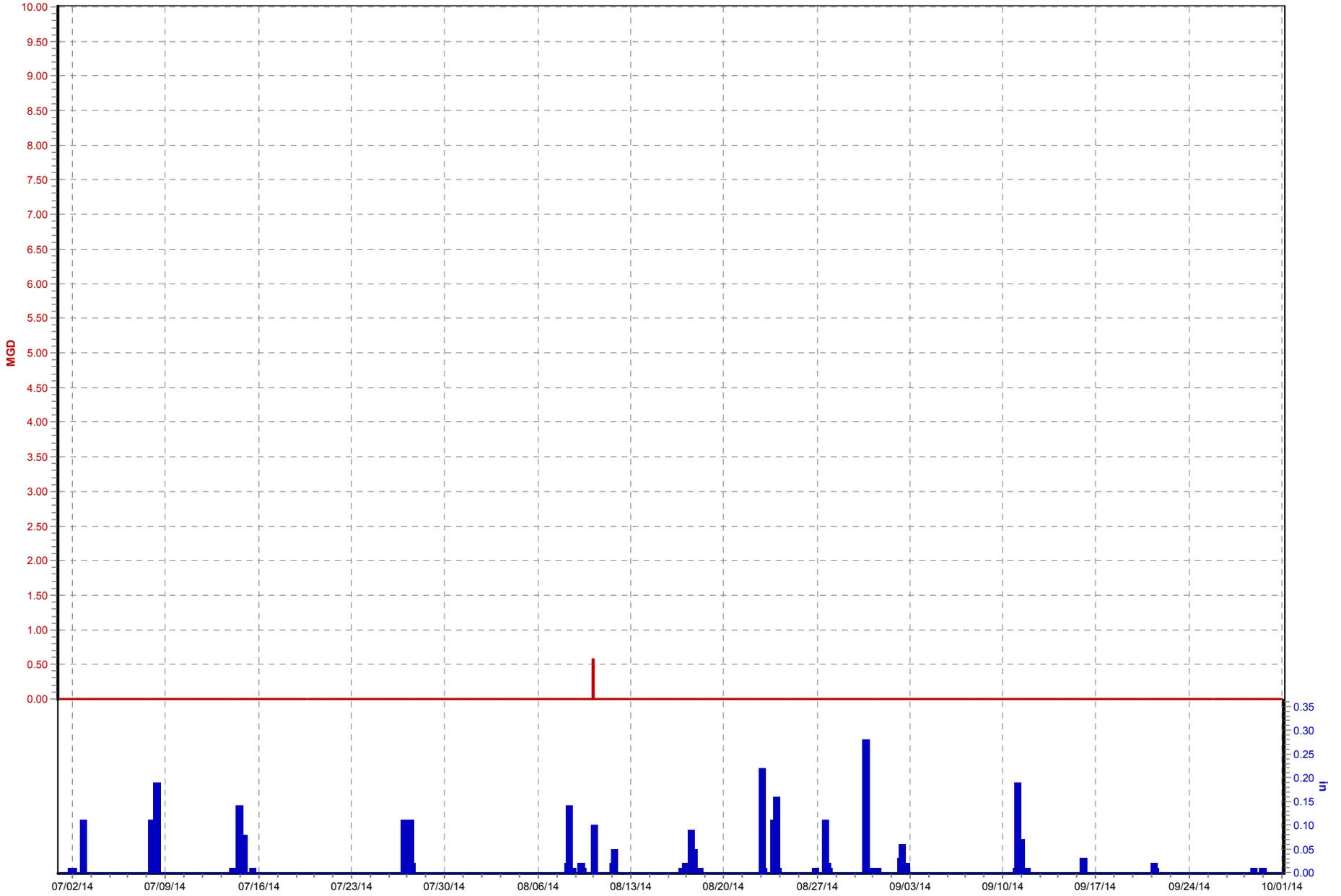
CSO020 Buchanan St by Stark PS (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



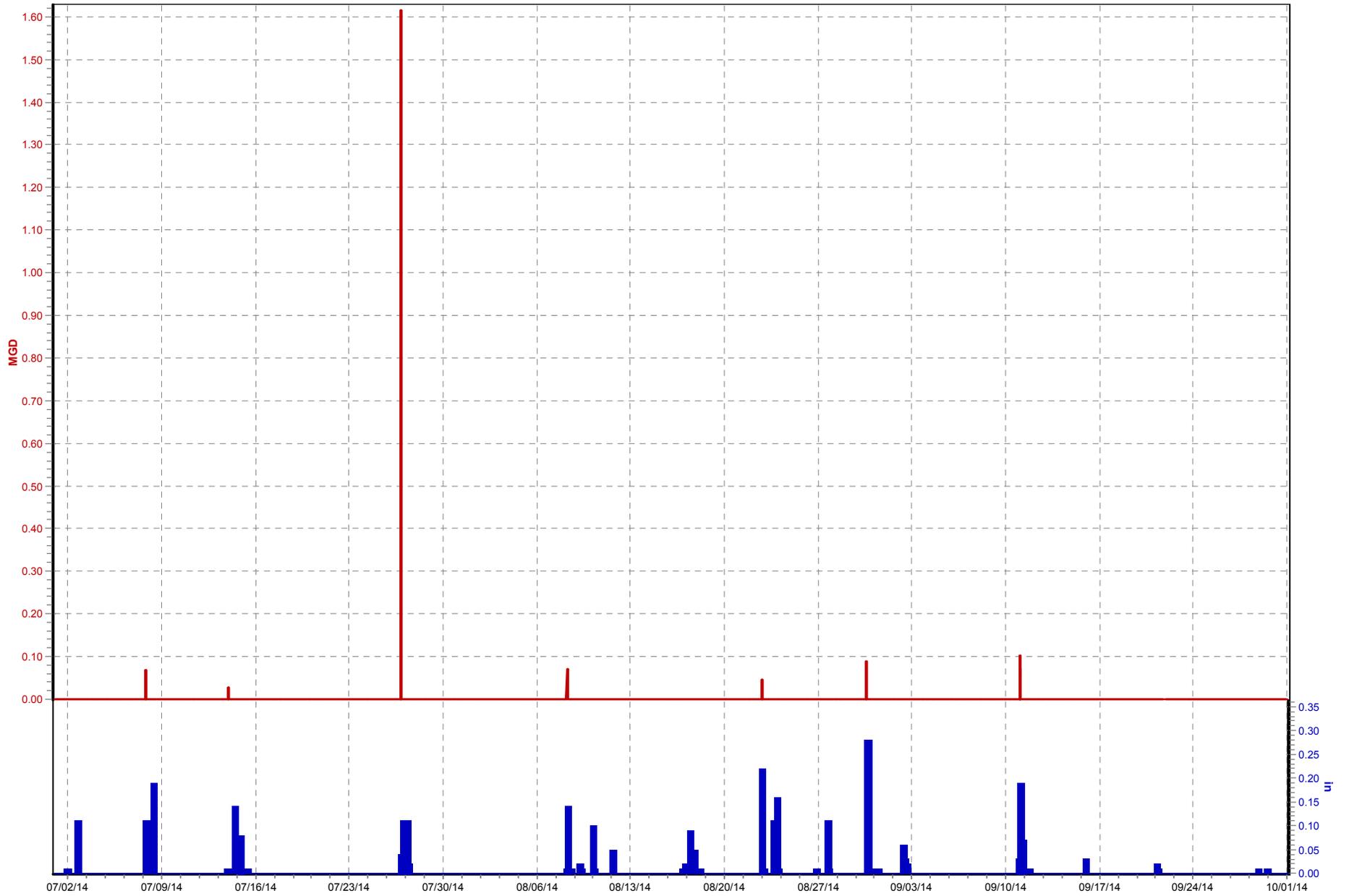
CSO027\_7th and Broadway (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



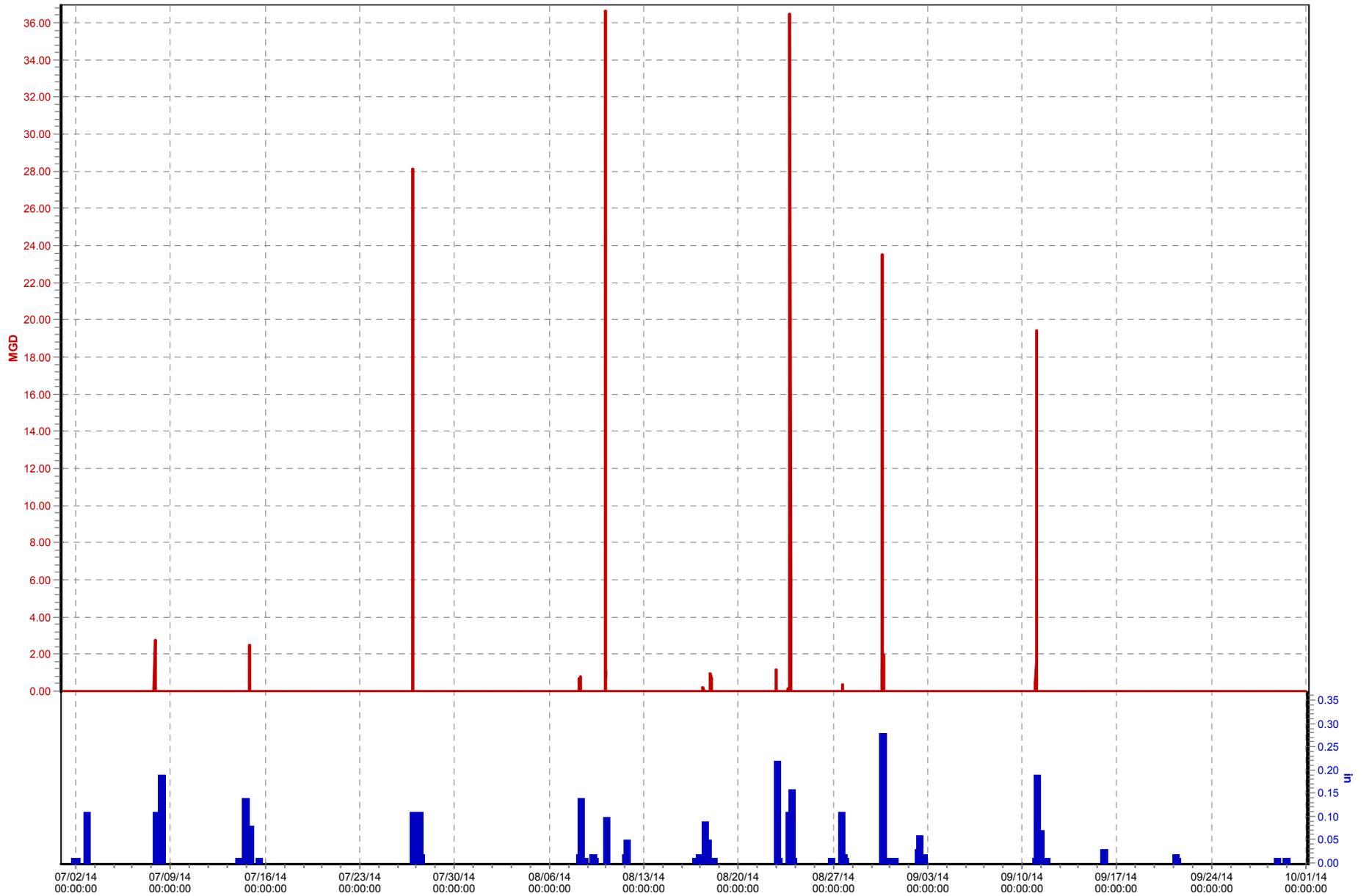
CSO028\_6th and York St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



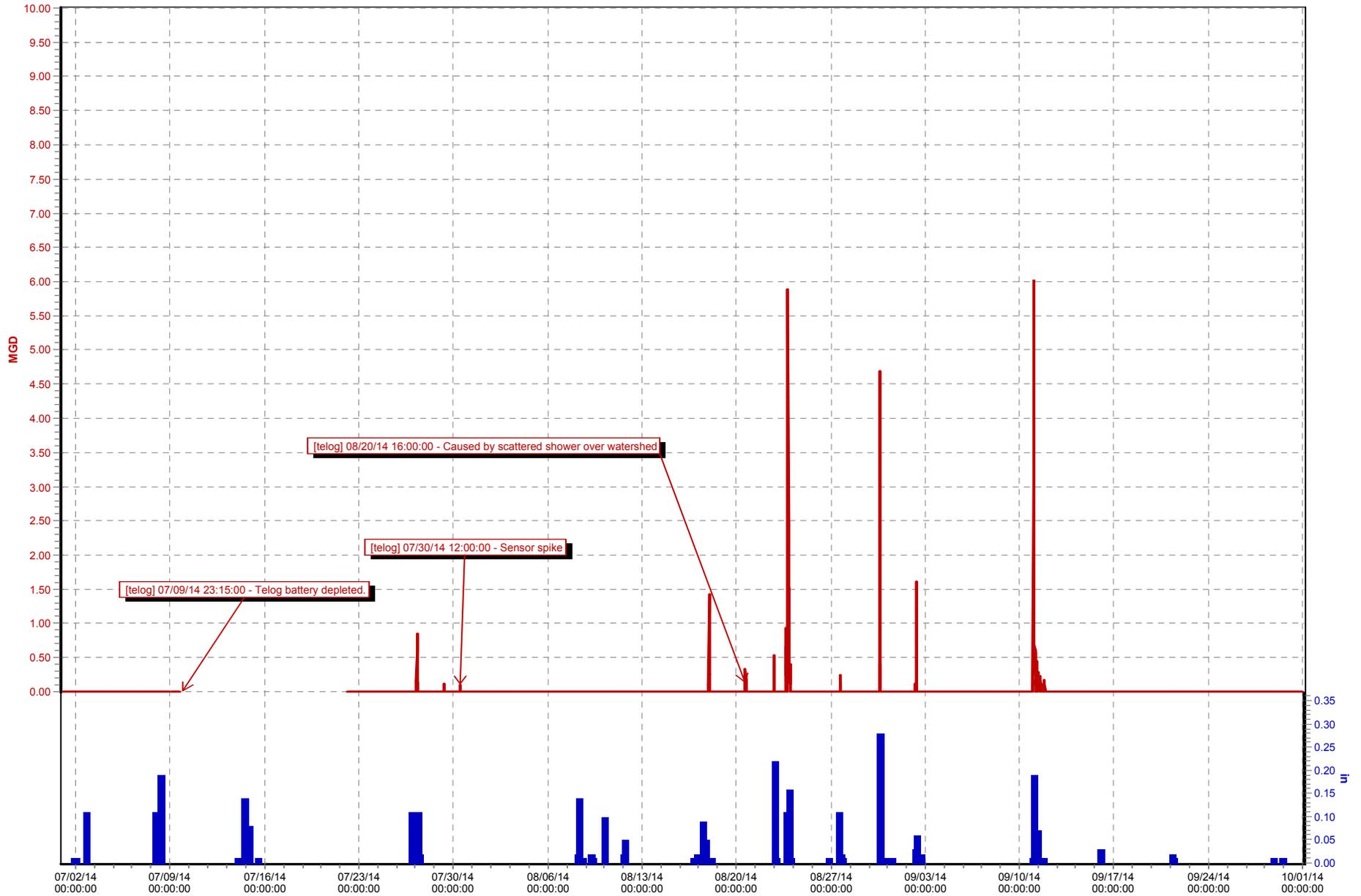
### CSO029 Overflow LGE Lot (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



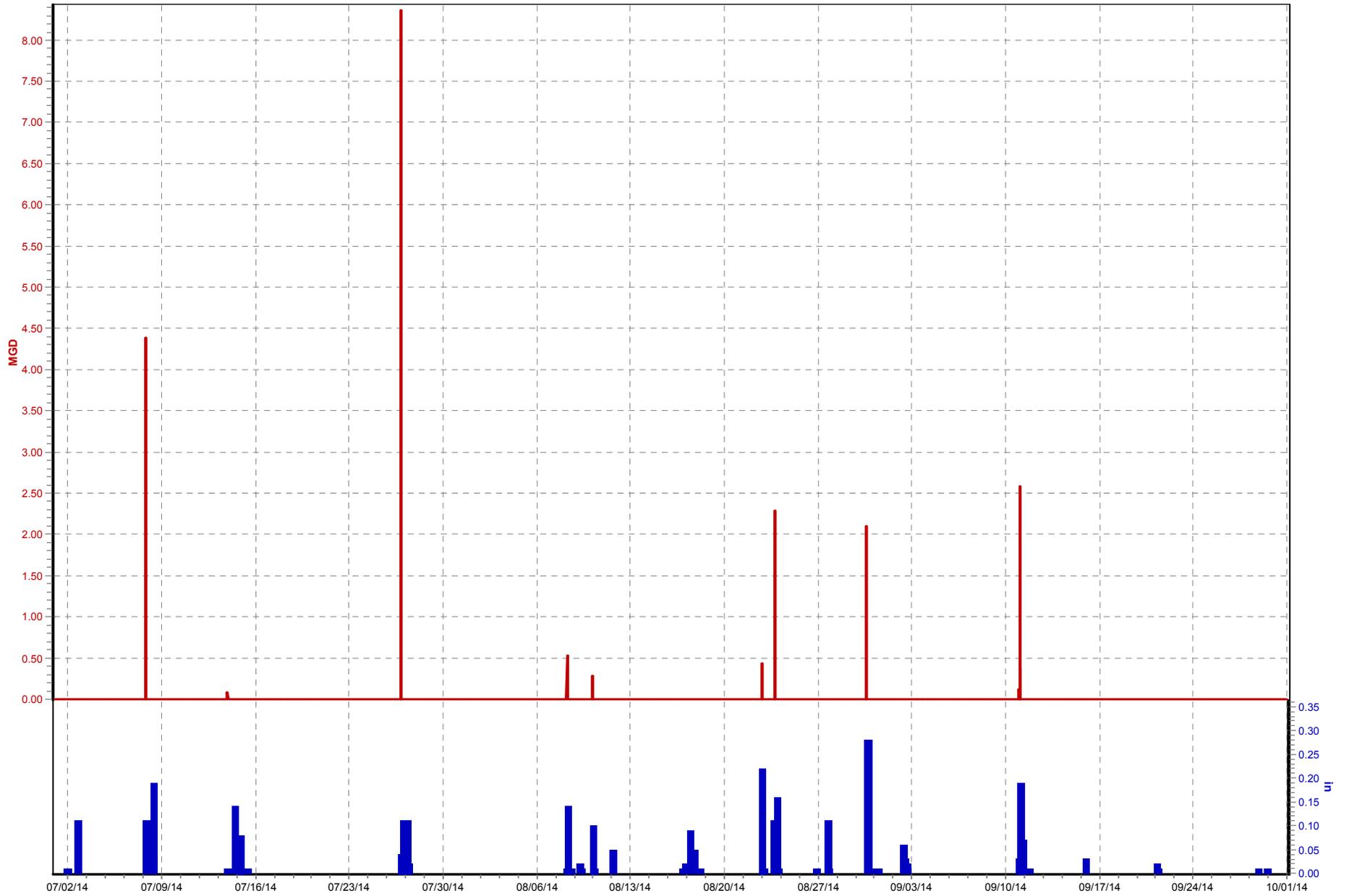
### CSO31 - 6th Breckinridge (07/01/14 to 10/01/14)

Raw Flow (MGD)     Gap Flow (MGD)     TR05\_Beargrass PS.Rain (in)



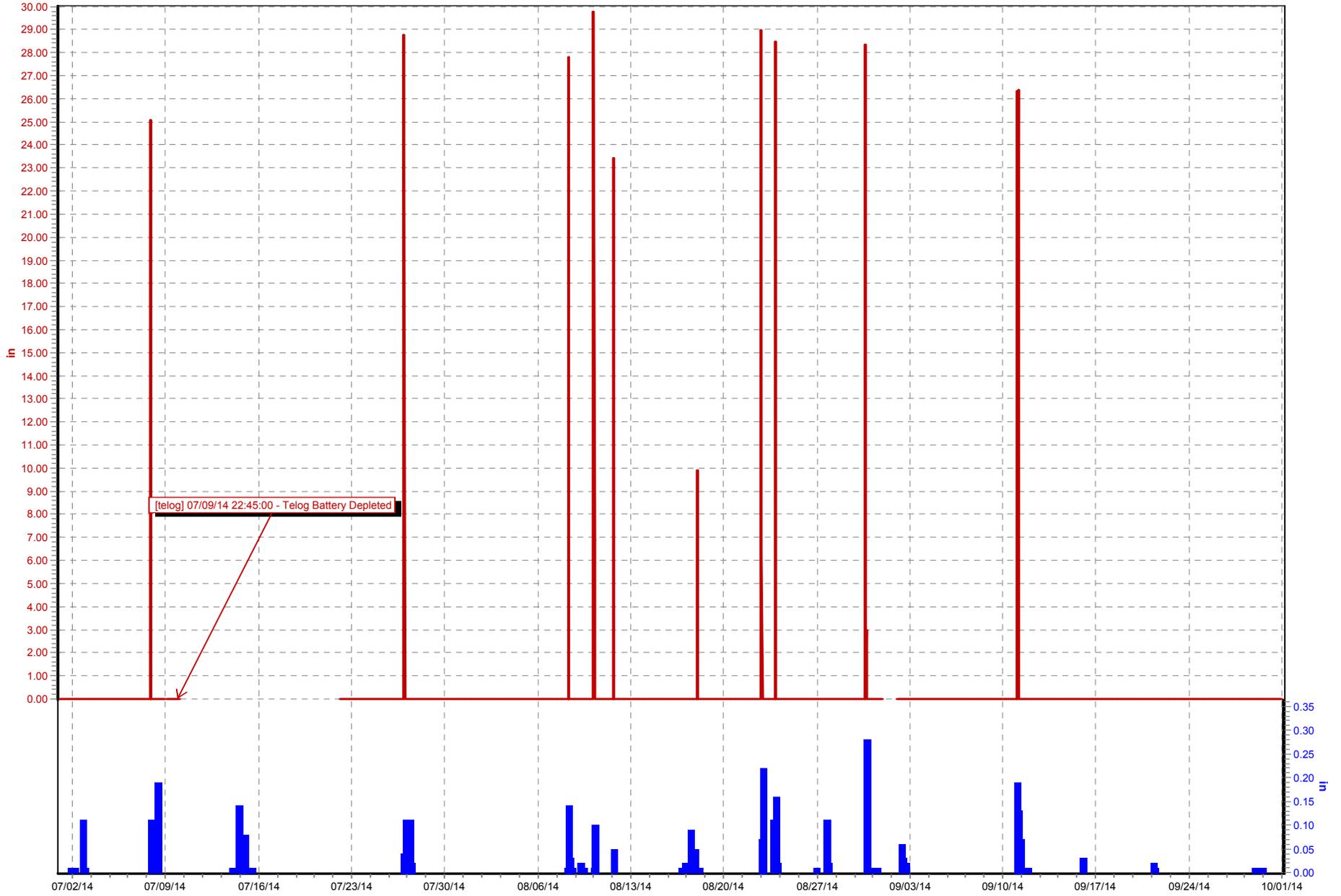
CSO034 4th and York (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



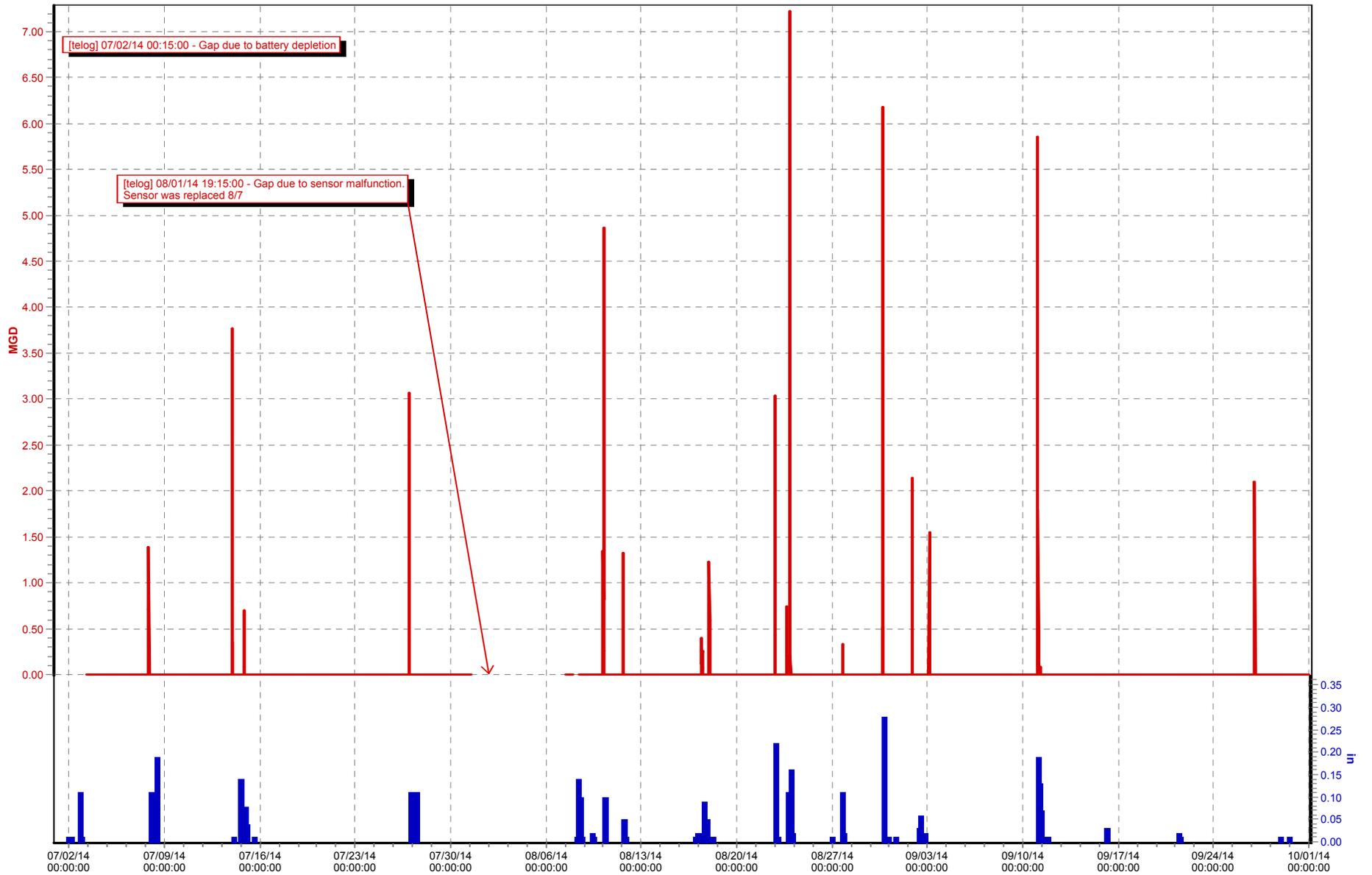
### CSO035\_Upstream of Dam (07/01/14 to 10/01/14)

CSO 035 Overflow Level (in)  CSO035\_2nd Broadway.Overflow Level (in)  TR05\_Beargrass PS.Rain (in)



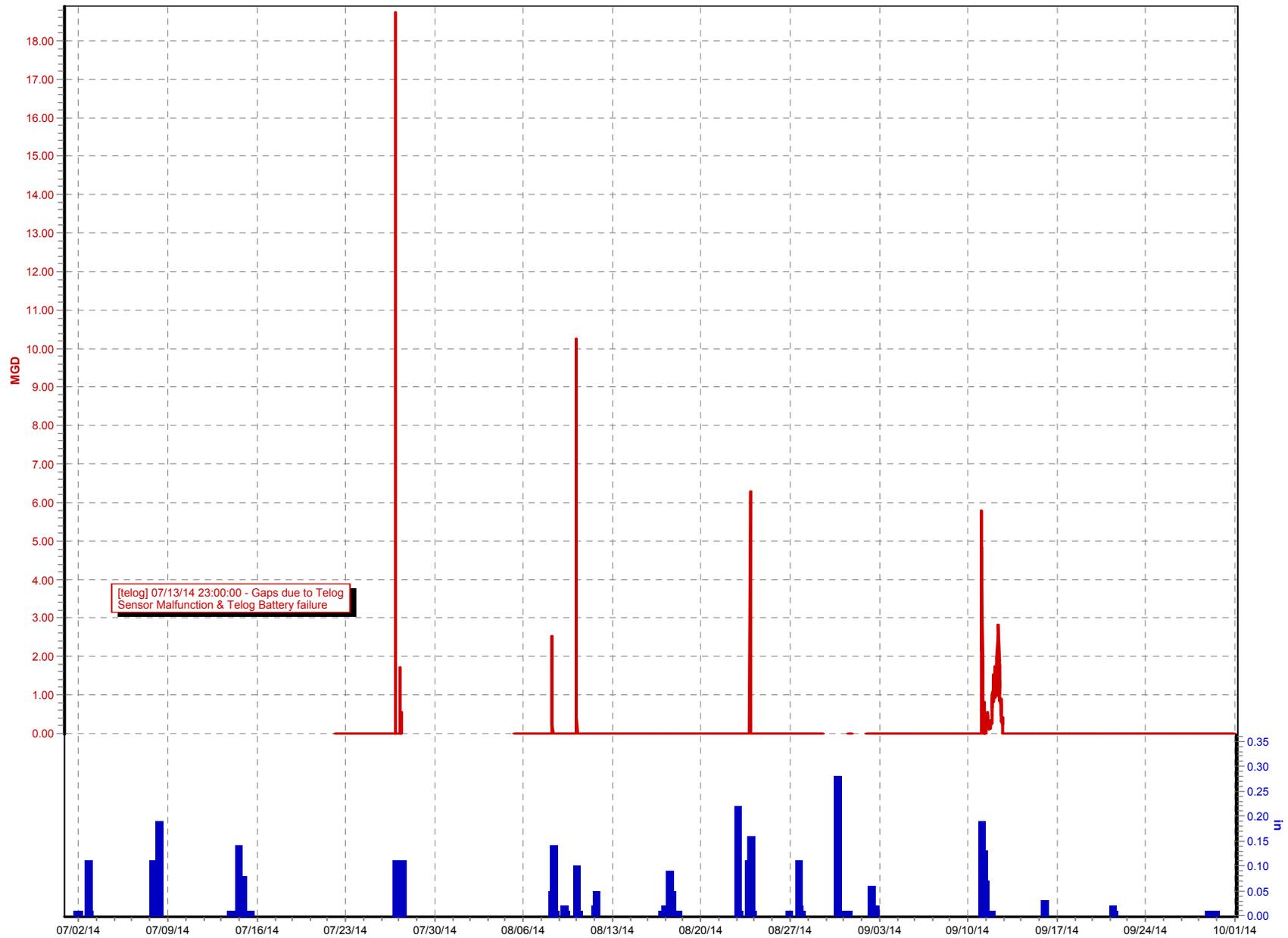
### CSO36\_3rd Broadway Overflow (07/01/14 to 10/01/14)

Final Flow (MGD)     TR05\_Beargrass PS.Rain (in)



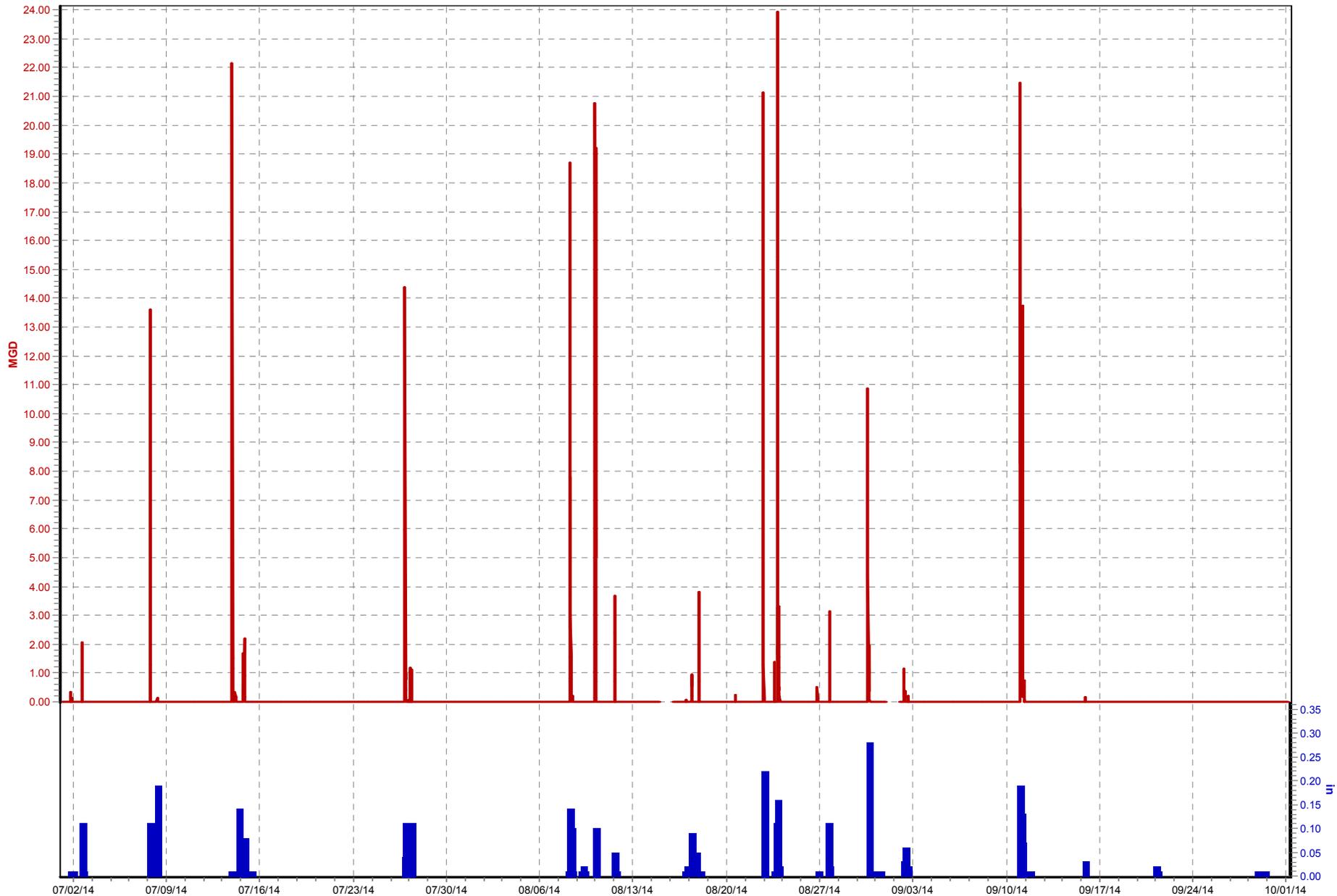
### CSO038 5th and Broadway (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



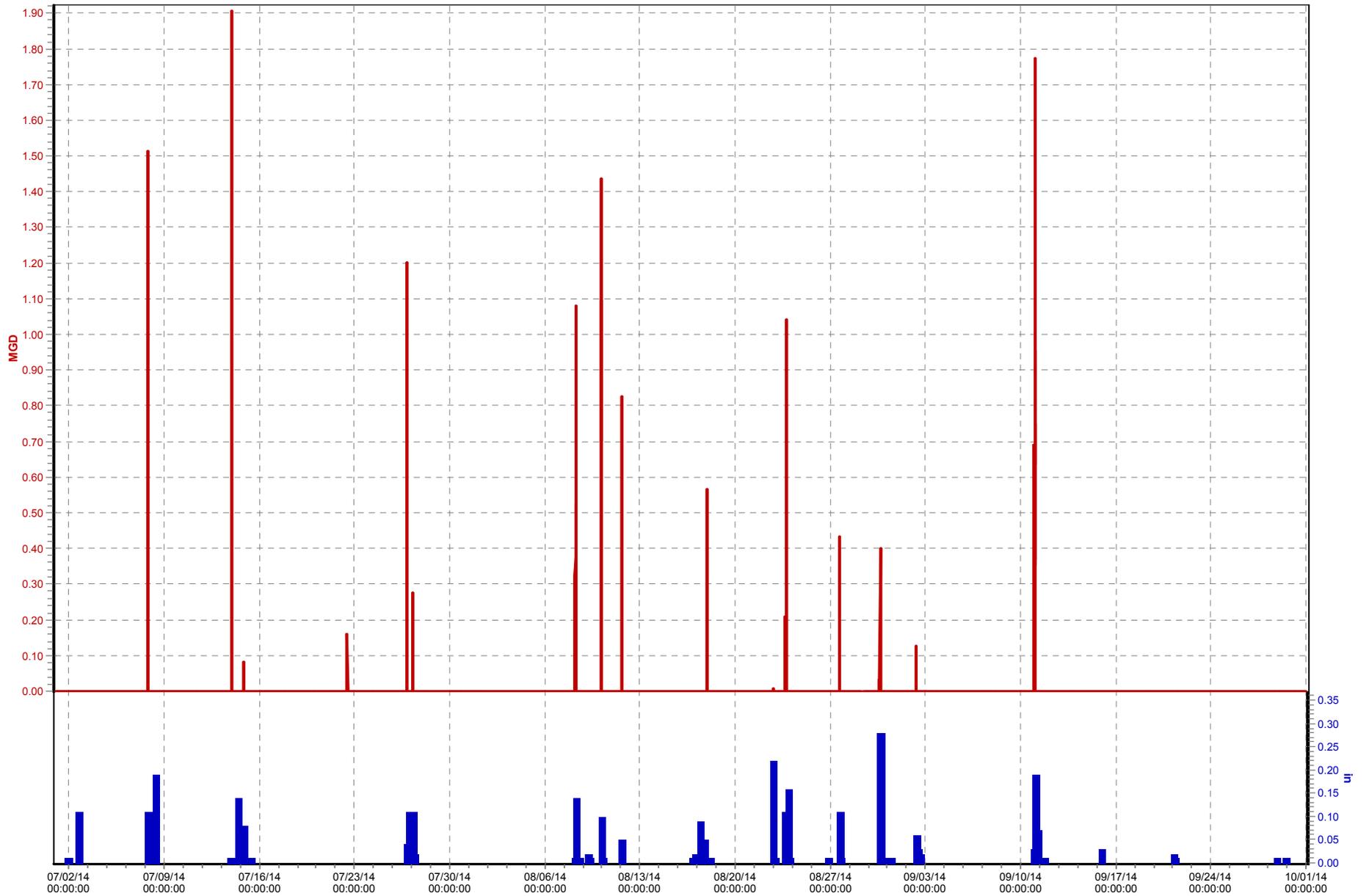
CSO050 12th and Rowan (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



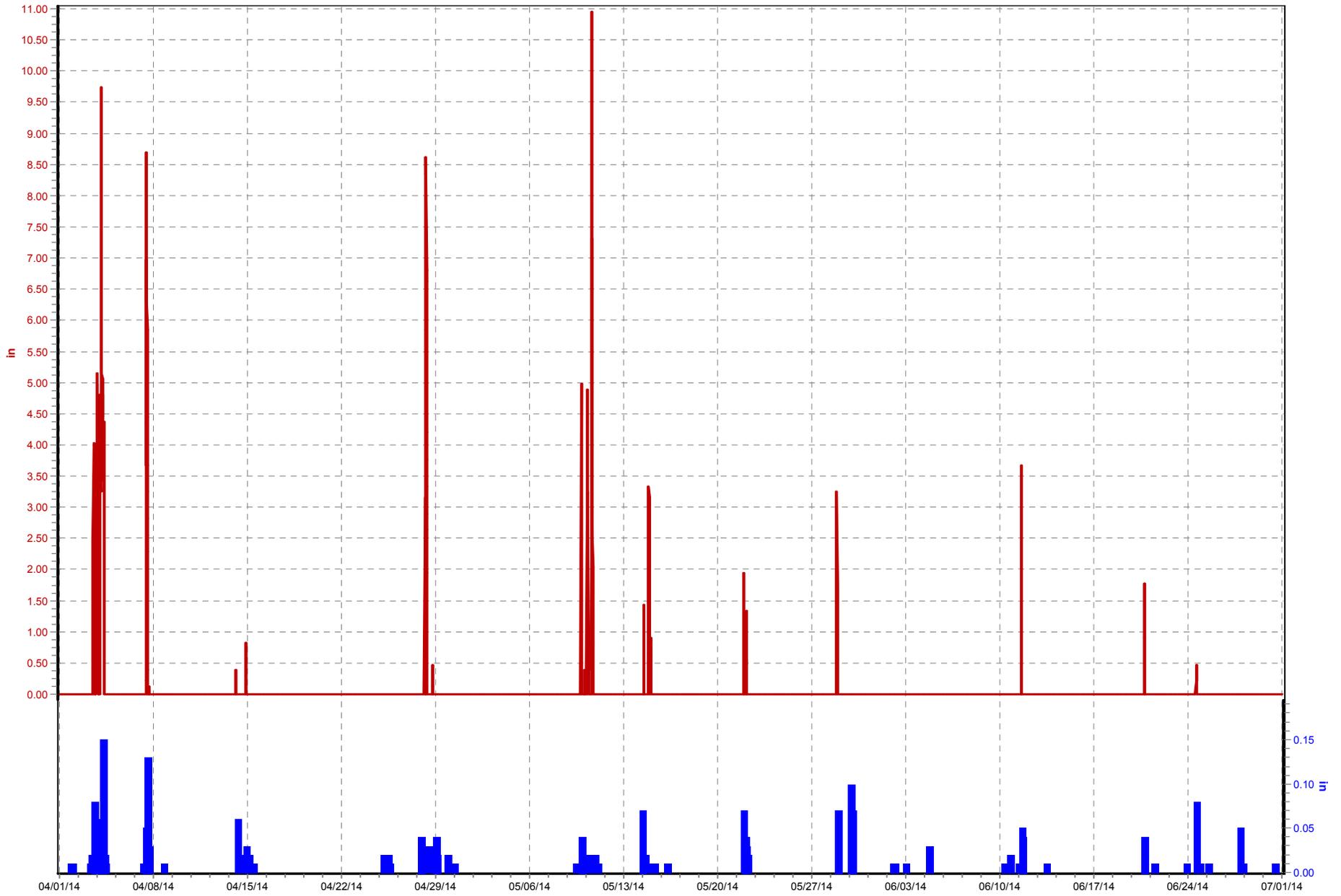
CSO051 11th St and Main St (07/01/14 to 10/01/14)

M1 Flow (MGD)  TR05\_Beargrass PS.Rain (in)



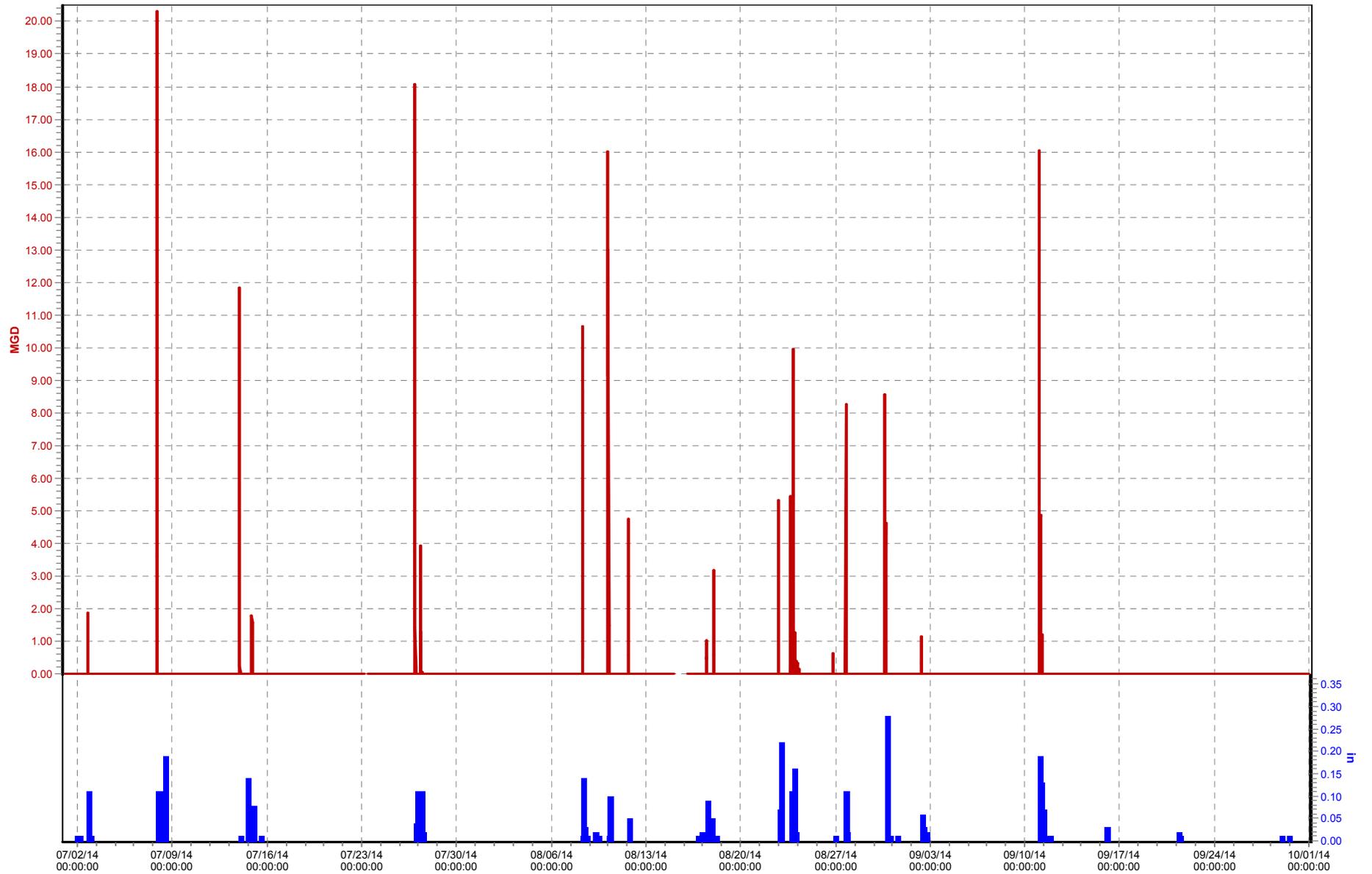
CSO52 10th St (04/01/14 to 07/01/14)

Overflow Level (in)  TR05\_Beargrass PS.Rain (in)



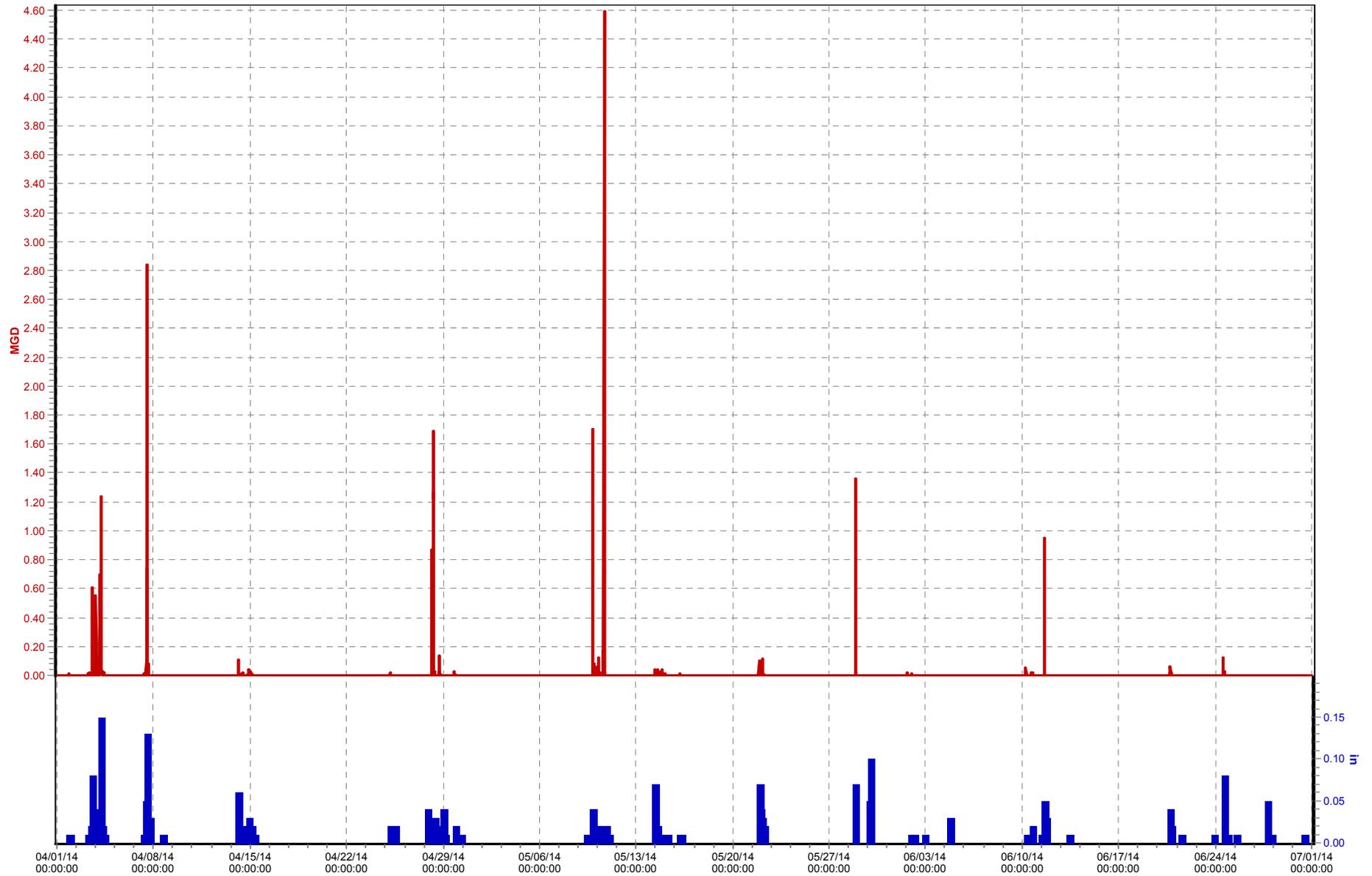
### CSO053 7th and Main St (07/01/14 to 10/01/14)

Final Flow (MGD)     Raw Flow (MGD)     TR05\_Beargrass PS.Rain (in)



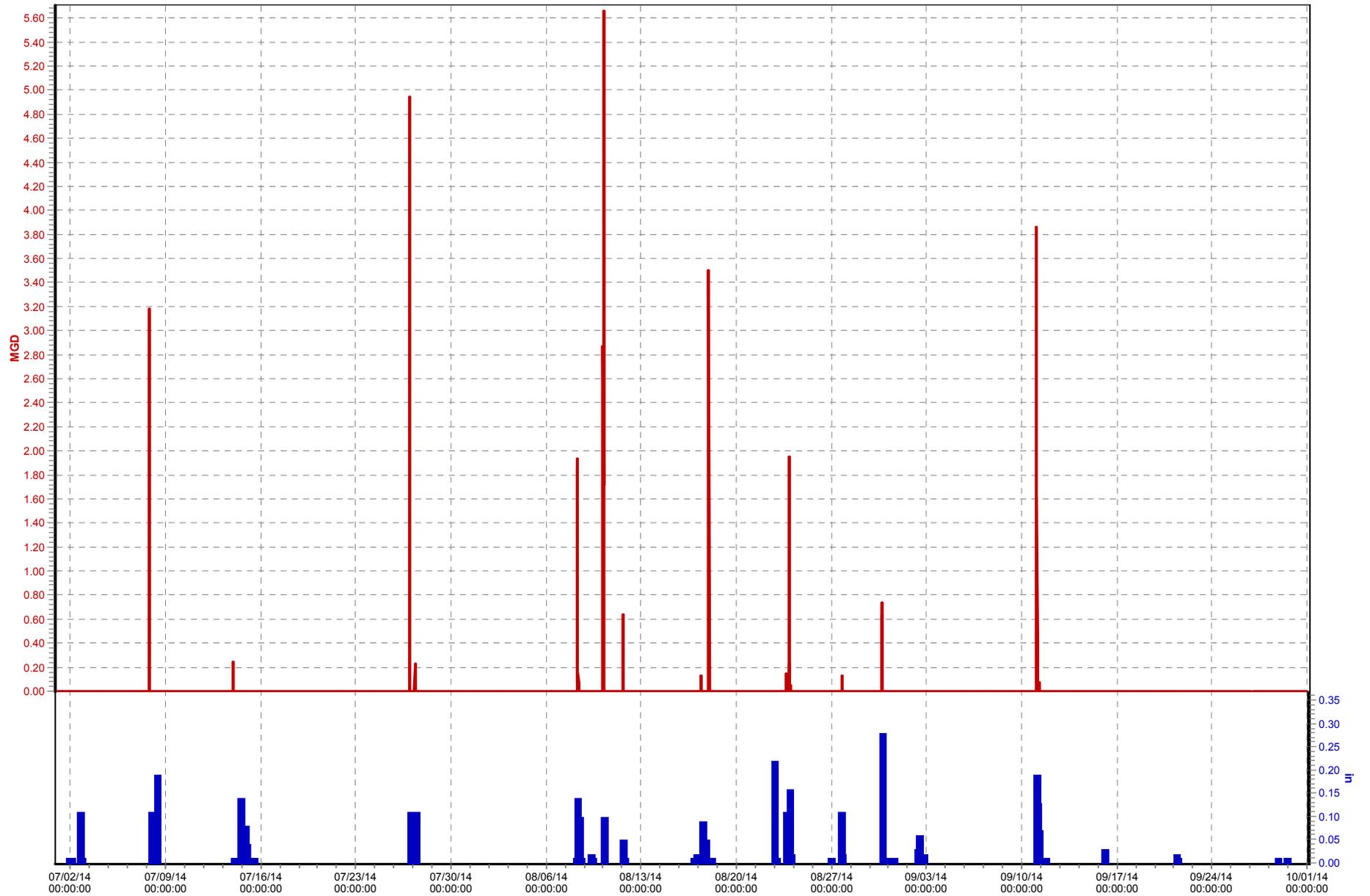
### CSO054 7th St (04/01/14 to 07/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



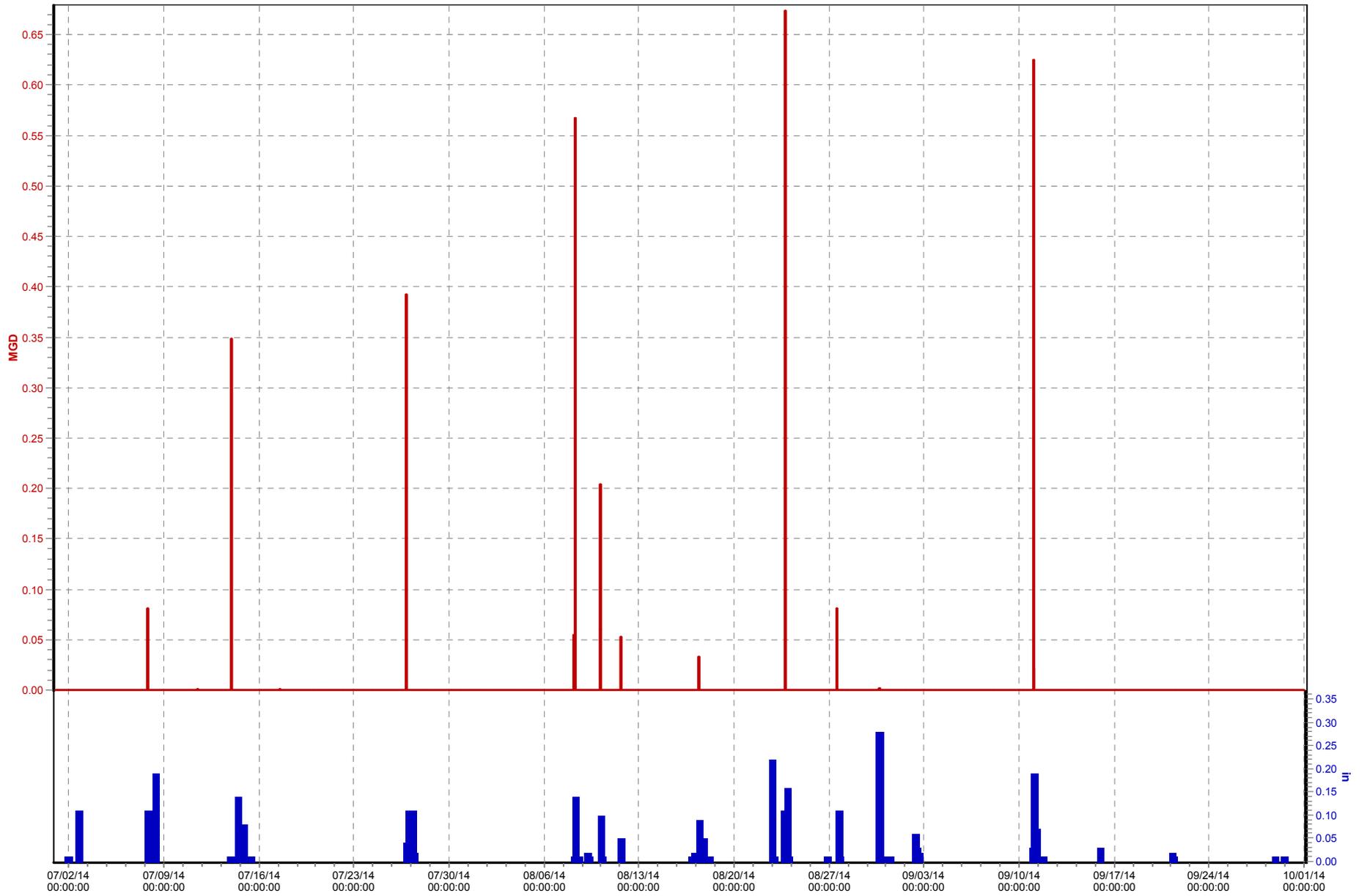
### CSO055 6th St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



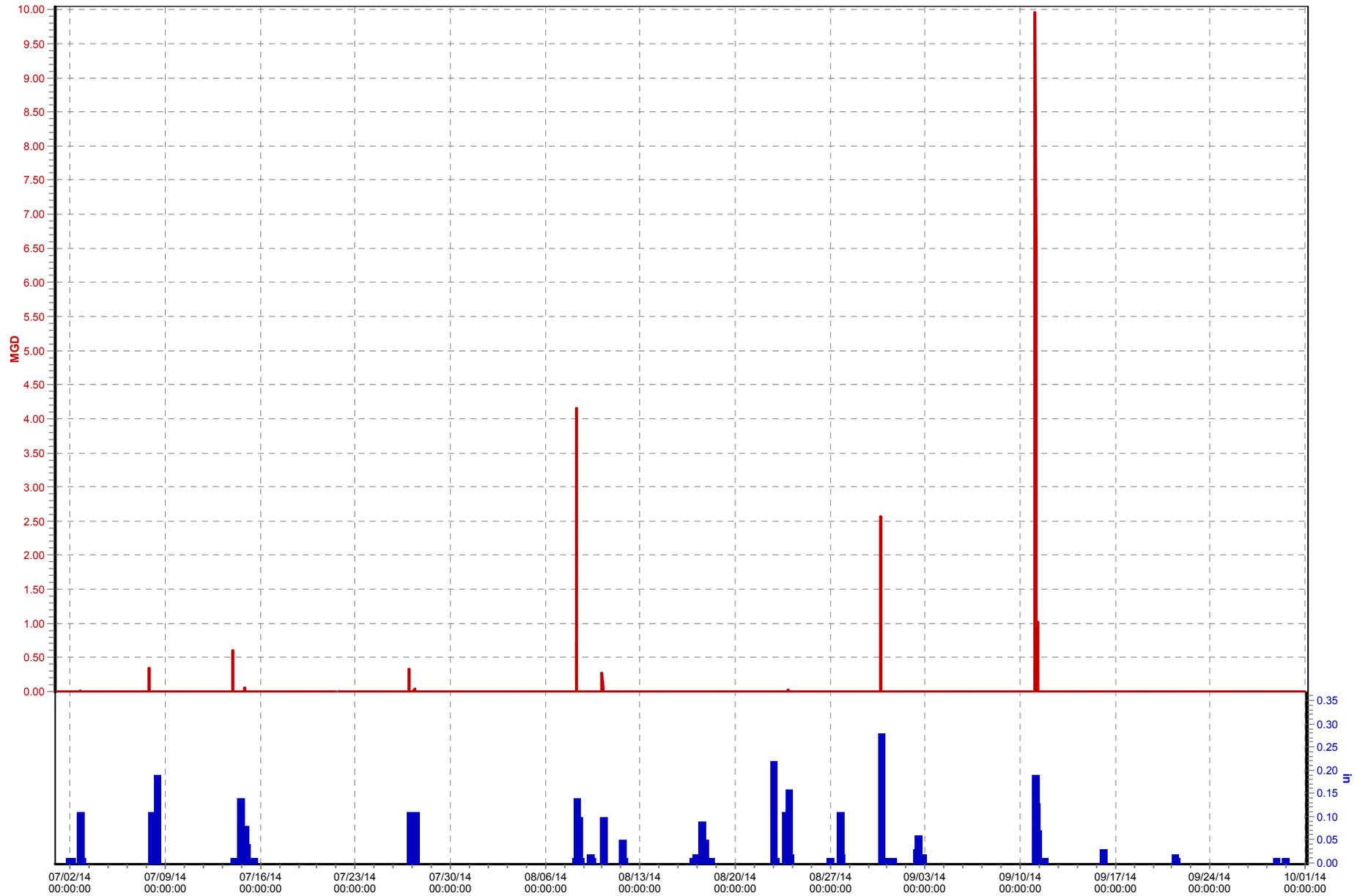
### CSO057 1st and Main (07/01/14 to 10/01/14)

M1 Flow (MGD)  TR05\_Beargrass PS.Rain (in)



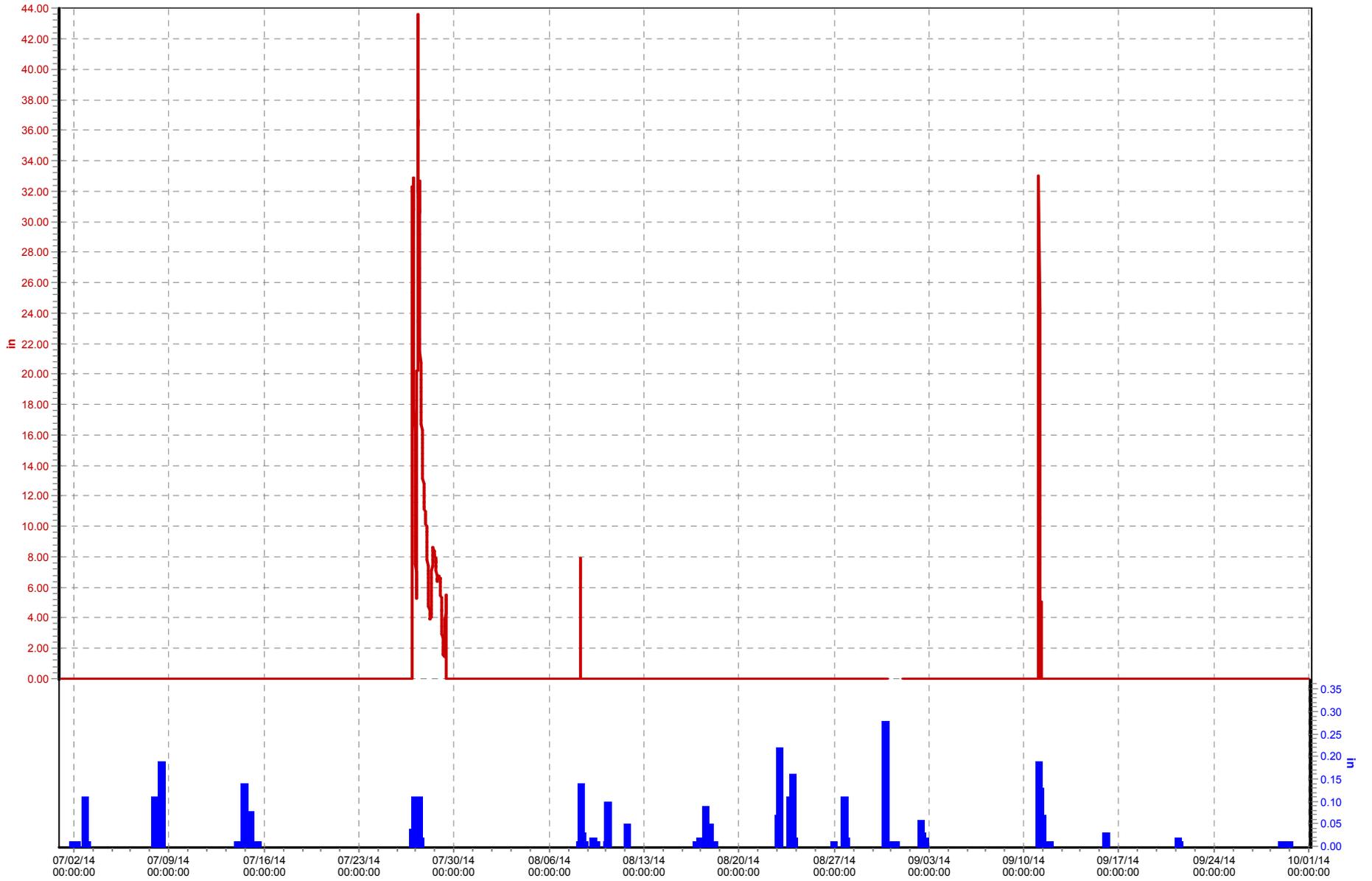
### CSO058 at Preston and Main (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



### CSO082 Lex Rd (07/01/14 to 10/01/14)

Overflow Level (in)     TR05\_Beargrass PS.Rain (in)



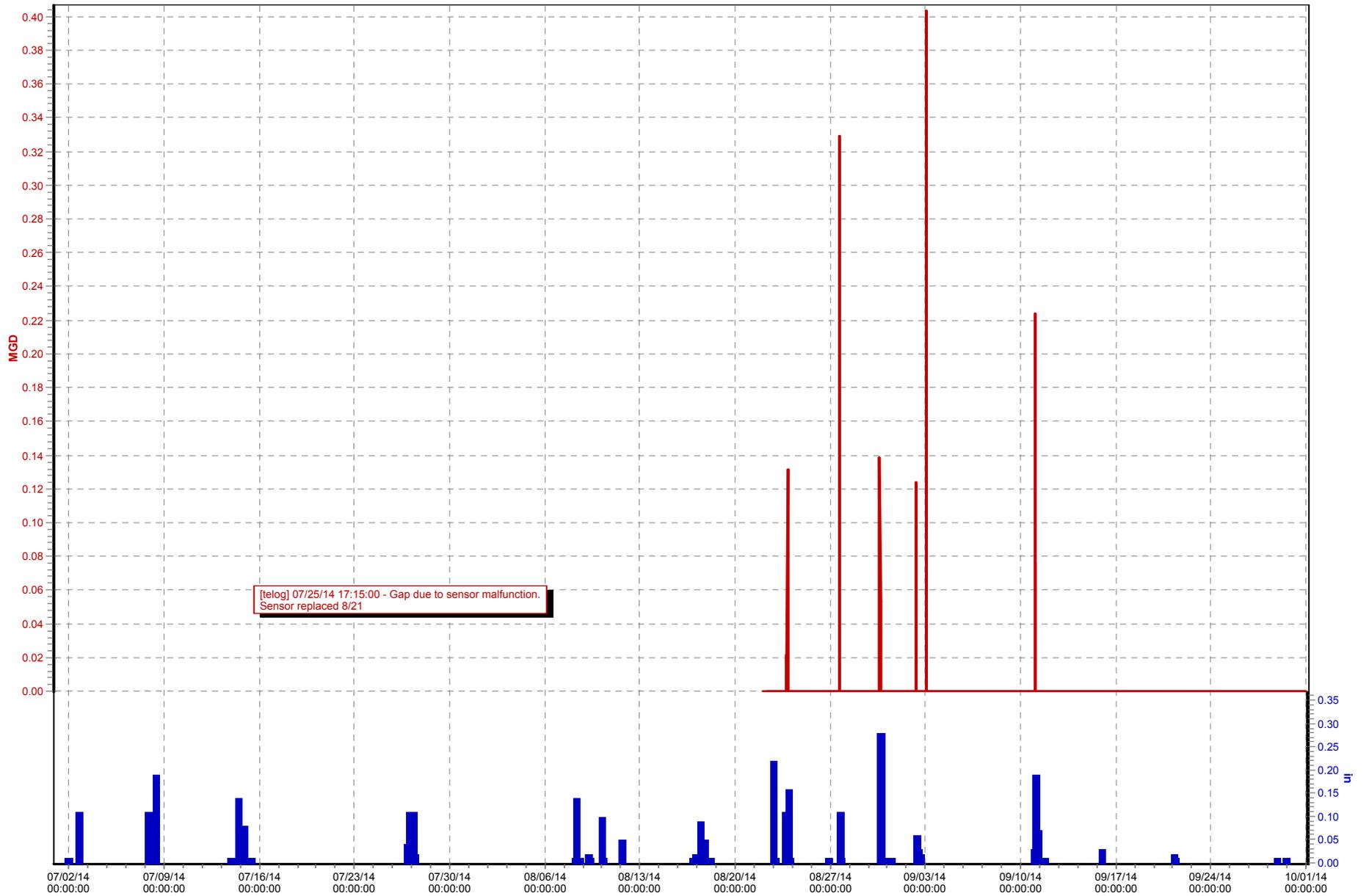
### CSO083 E Broadway (07/01/14 to 10/01/14)

M1 Flow (MGD)  TR05\_Beargrass PS.Rain (in)



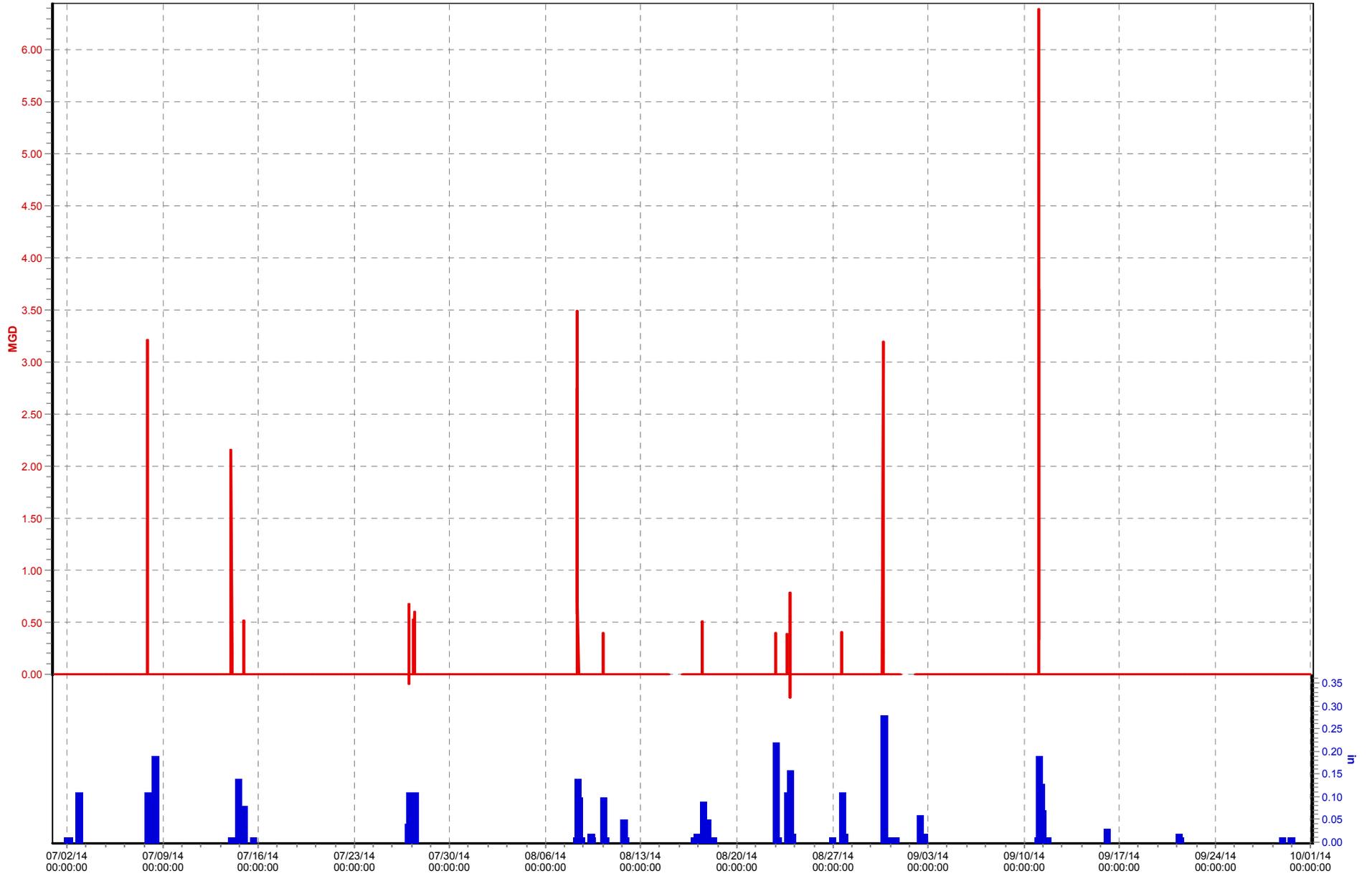
### CSO084 Brent St and BGC (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



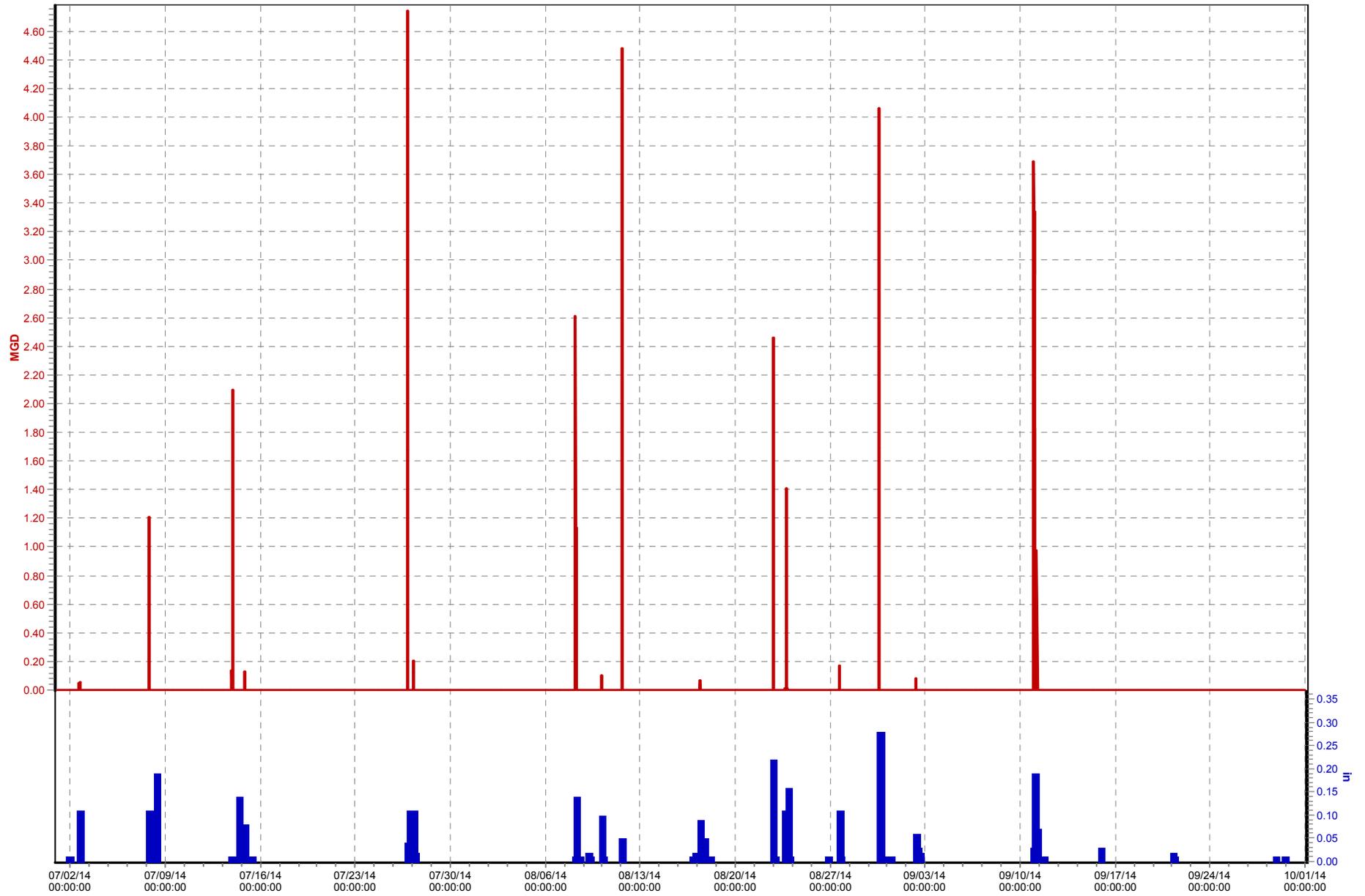
CSO08 Brownsboro BGC (07/01/14 to 10/01/14)

TR05\_Beargrass PS.Rain (in)  Final Flow (MGD)



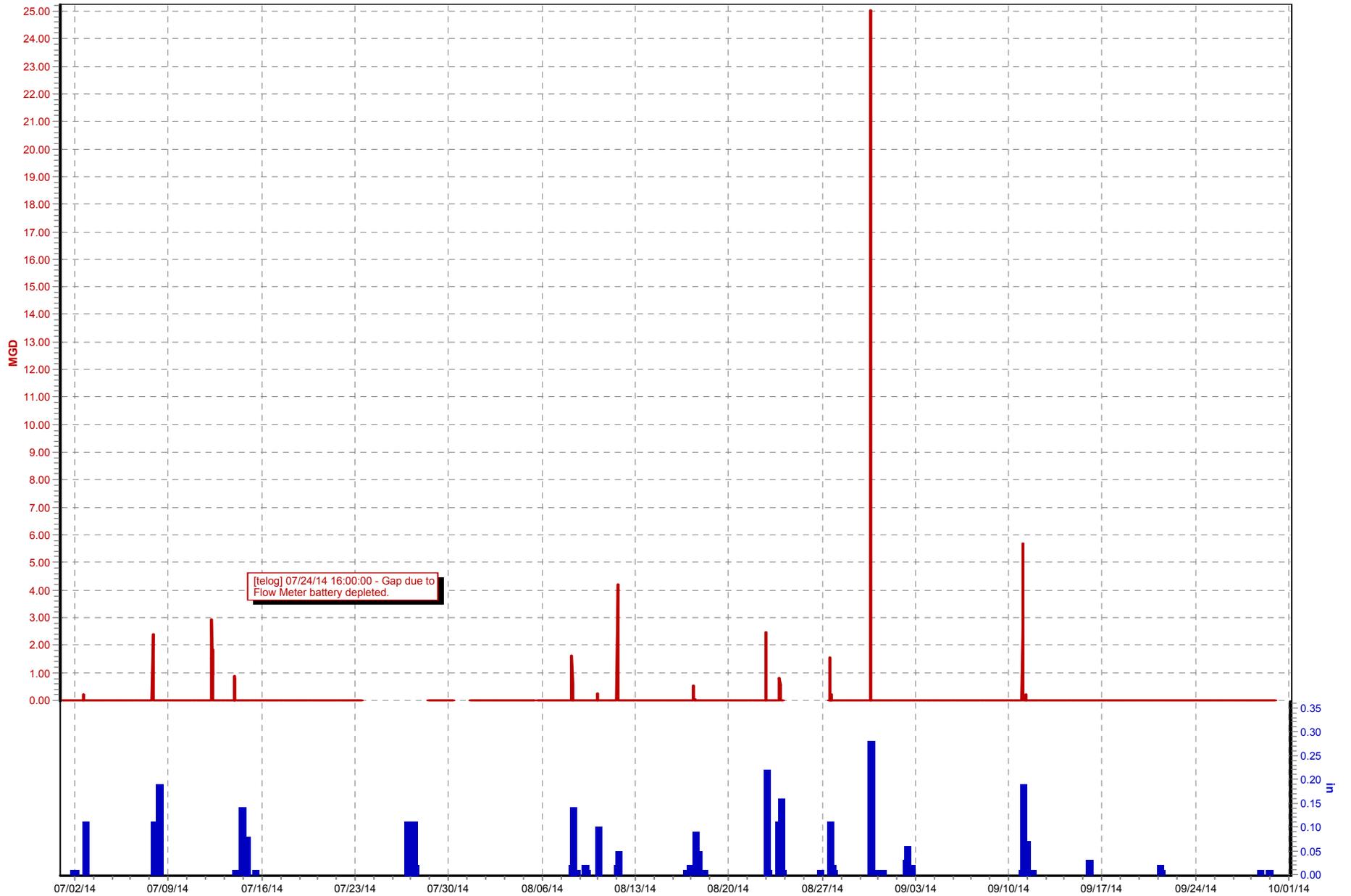
CSO091 Schiller Ave (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



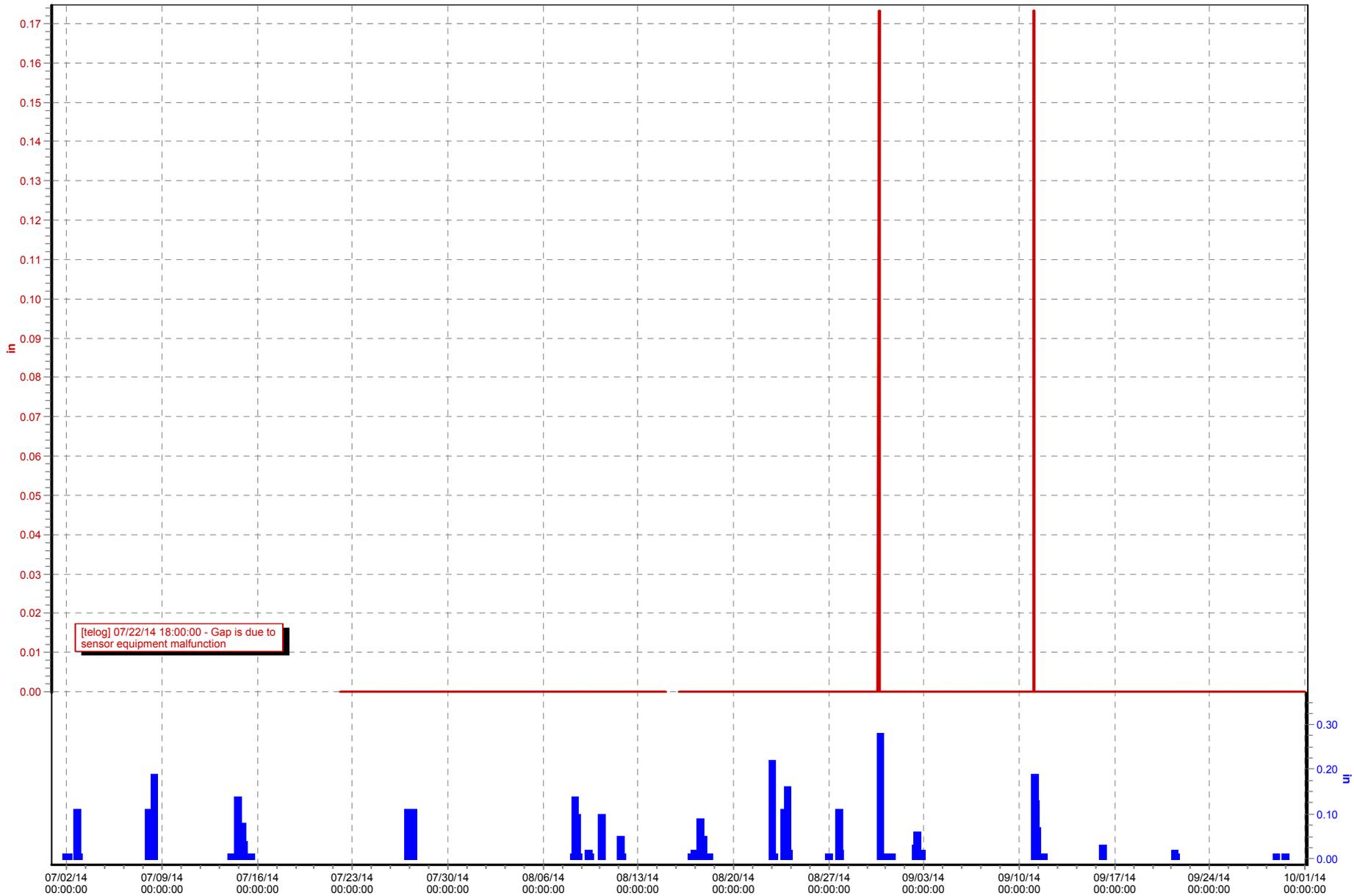
### CSO092 Schiller Ave (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



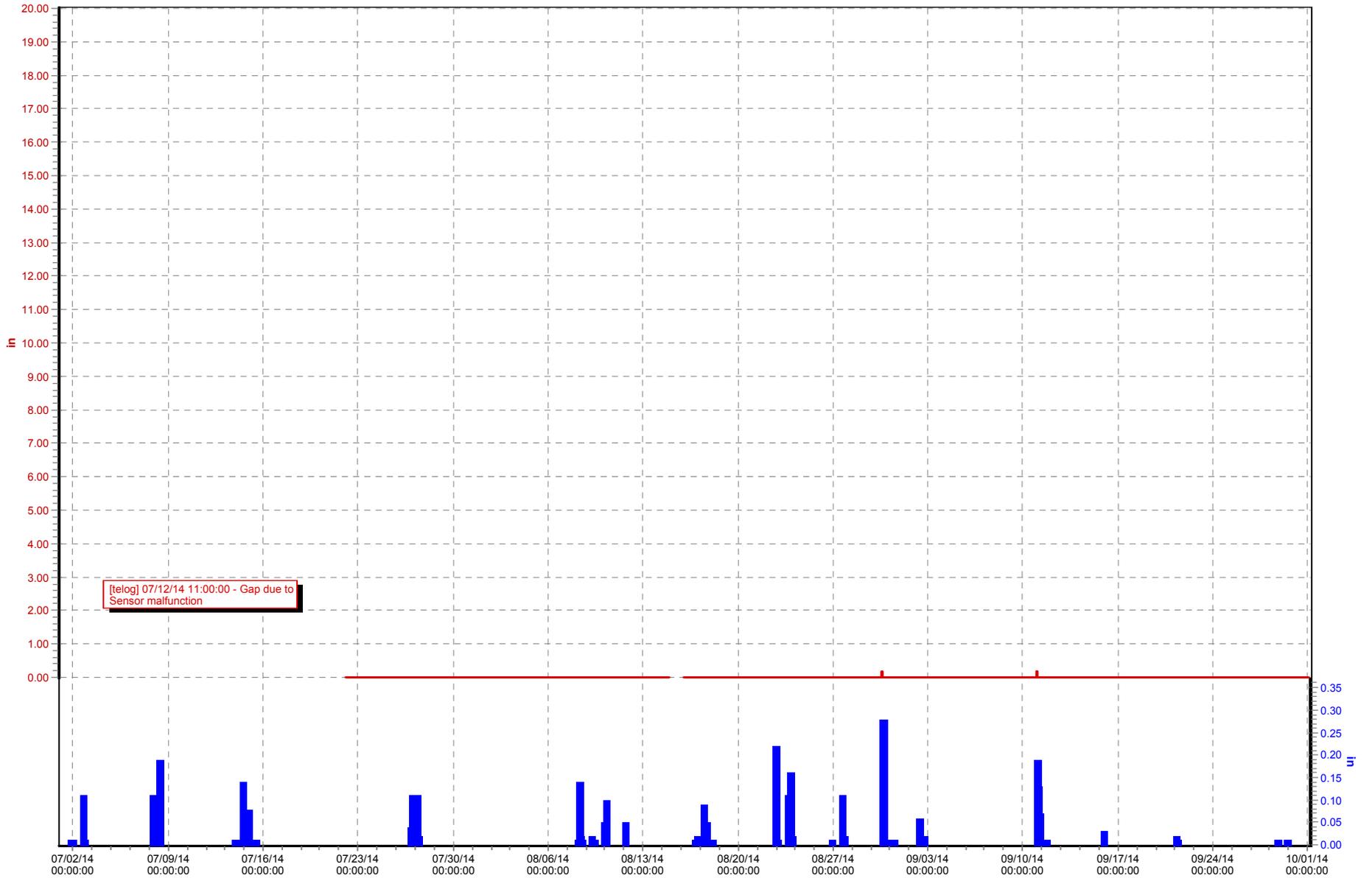
### CSO093 Level Sensor (07/01/14 to 10/01/14)

Final Level (in)     TR05\_Beargrass PS.Rain (in)



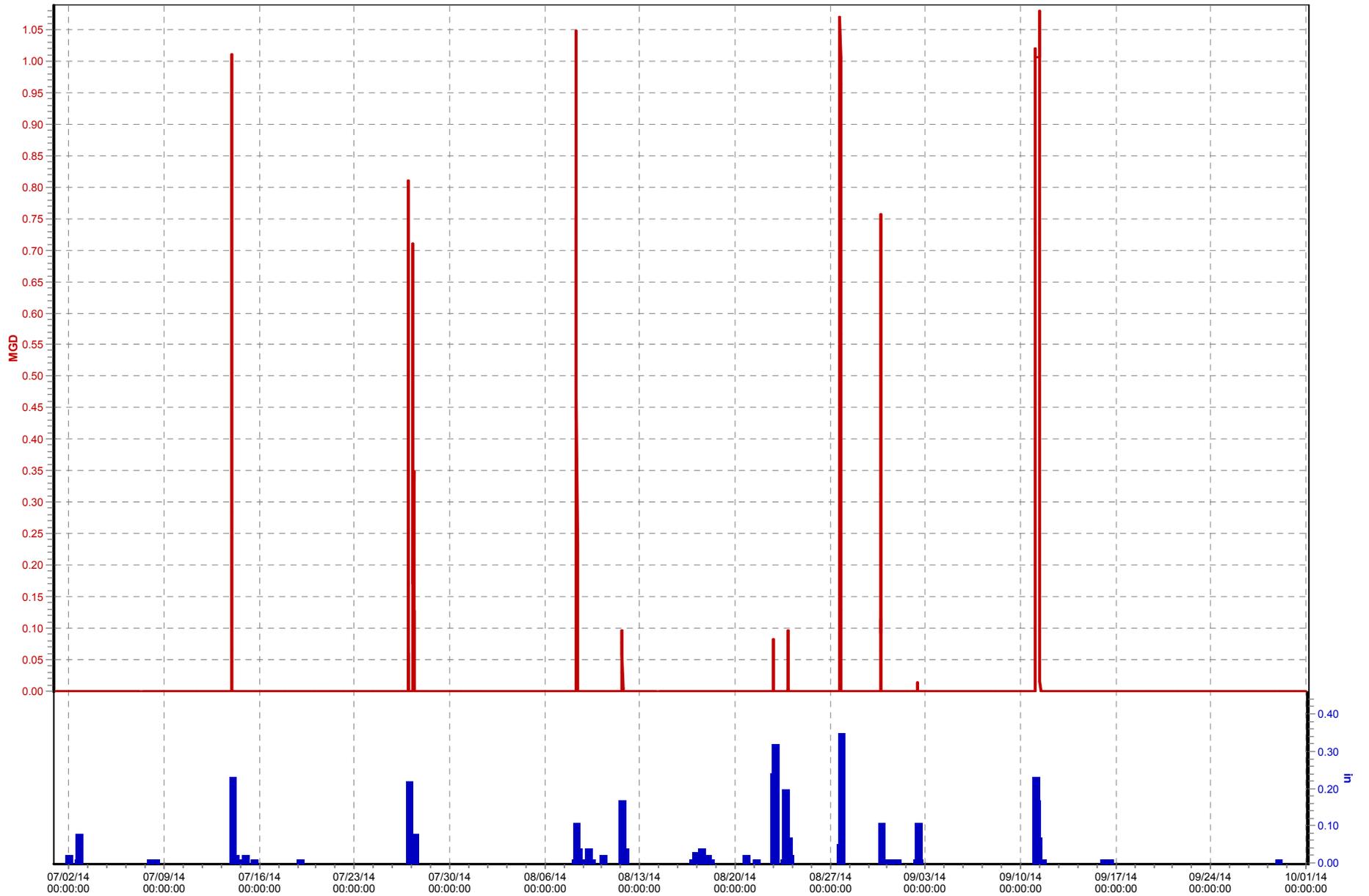
### CSO093 Upstream\_of\_Weir Plate (07/01/14 to 10/01/14)

CSO093 Level Sensor.Final Level (in)  TR05\_Beargrass PS.Rain (in)



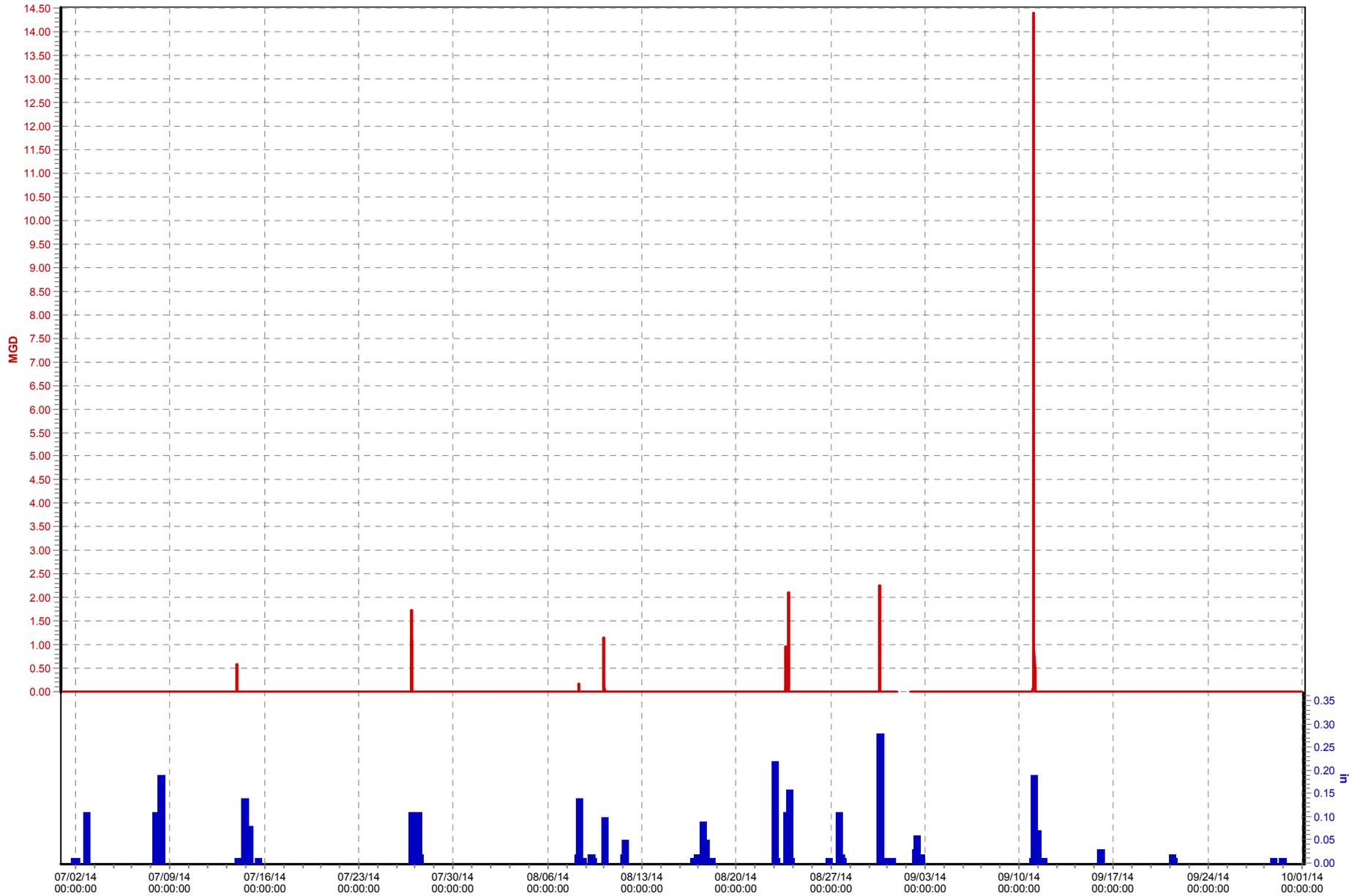
### CSO097 Castlevale Dr (07/01/14 to 10/01/14)

C097\_FLOW\_MGD (MGD)  TR12\_Nightingale PS.Rain (in)



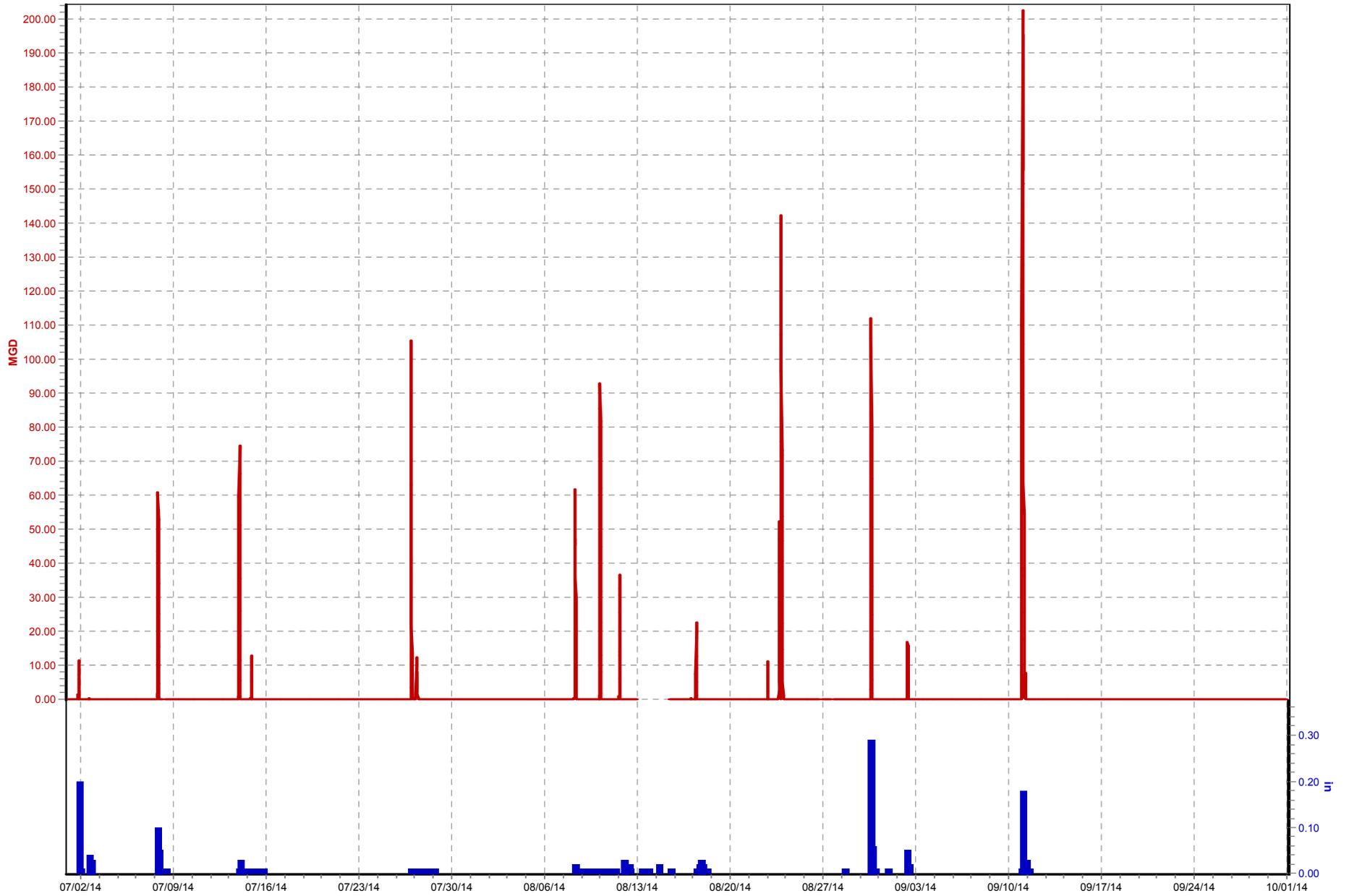
### CSO104 SWest Pkwy and Broadway (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



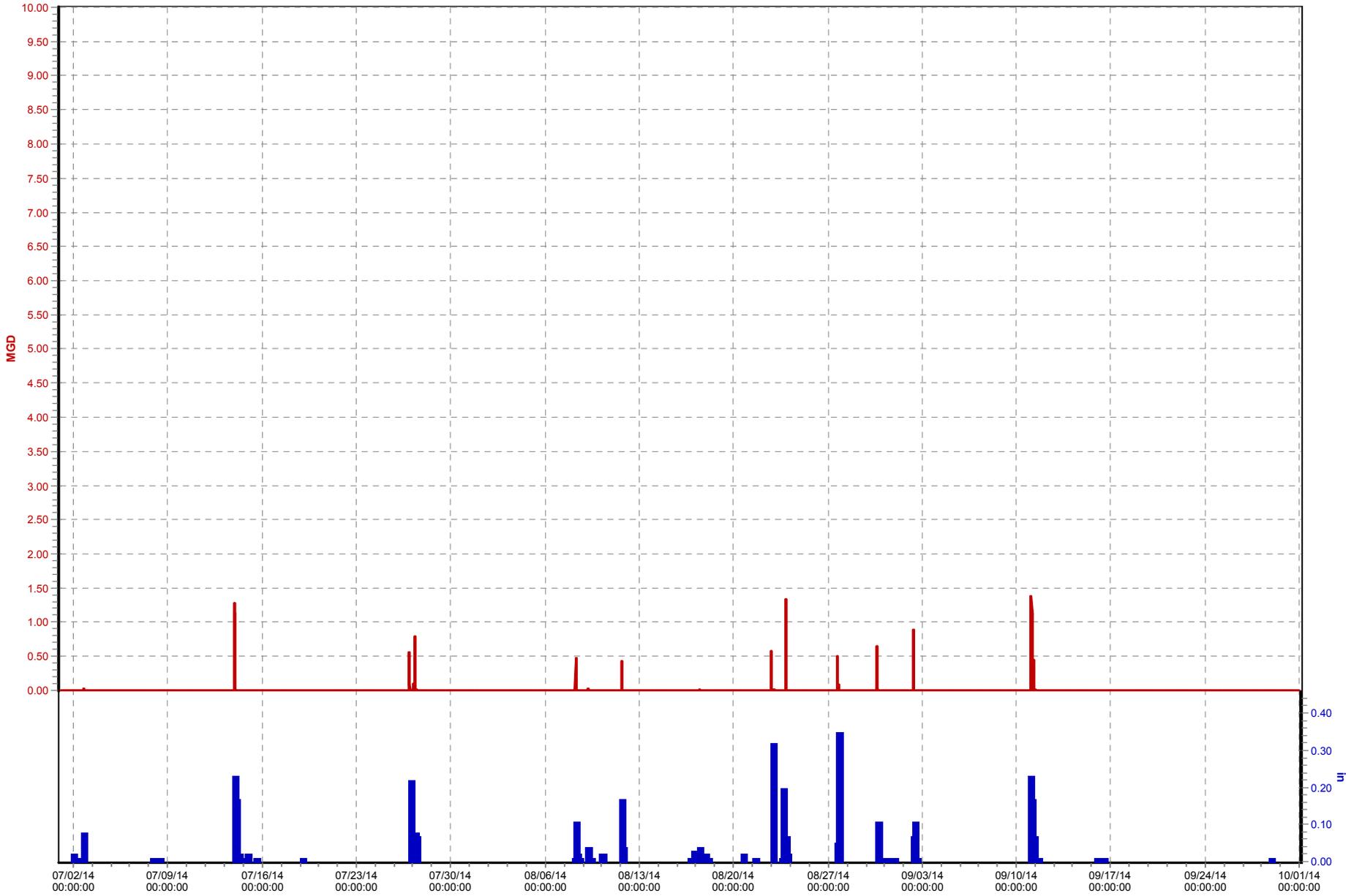
CSO105 Broadway and SWest Pkwy (07/01/14 to 10/01/14)

Final Flow (MGD)  TR04\_Morris Forman WQTC.Rain (in)



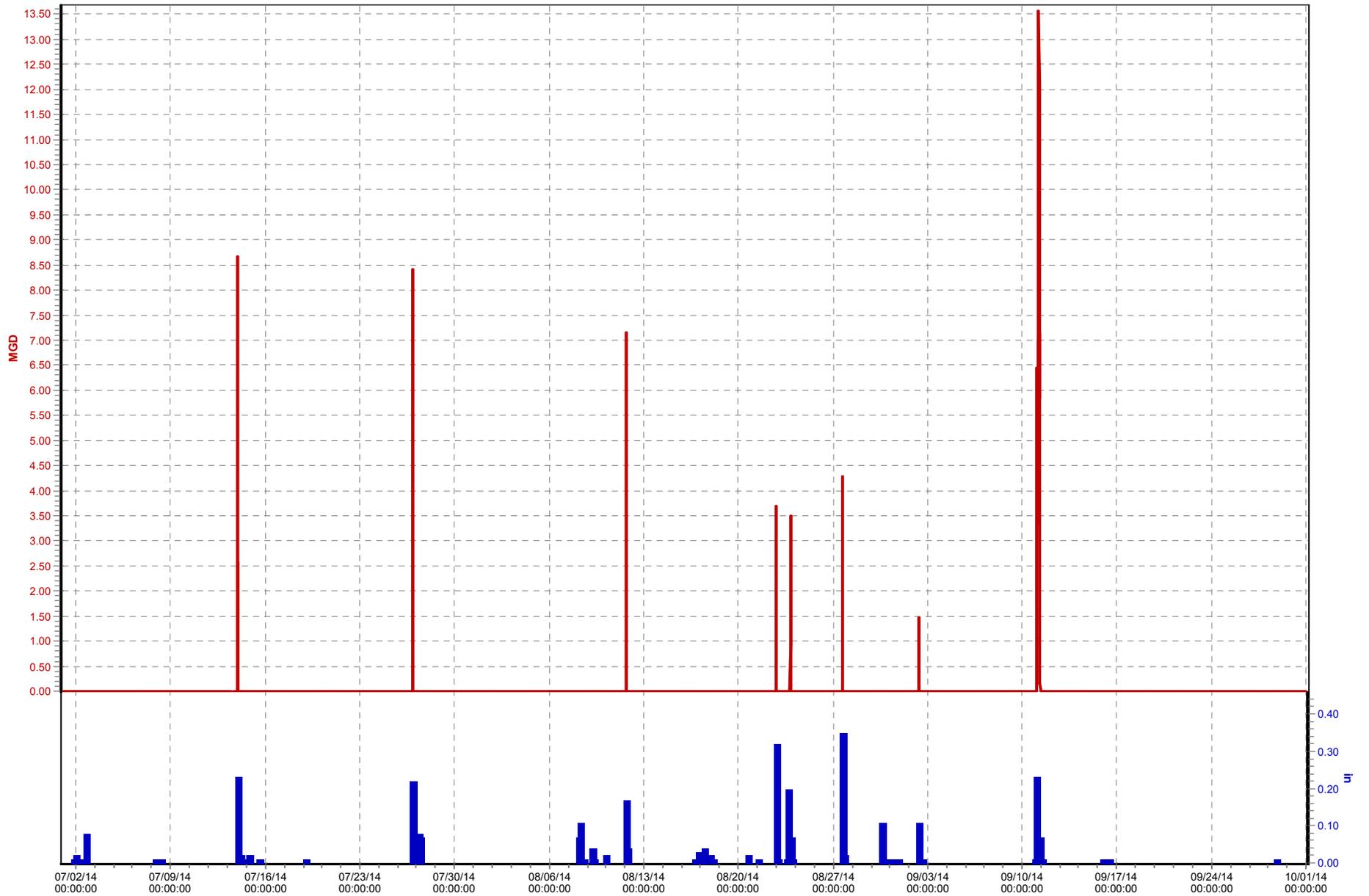
### CSO106 Castlevale Dr (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR12\_Nightingale PS.Rain (in)



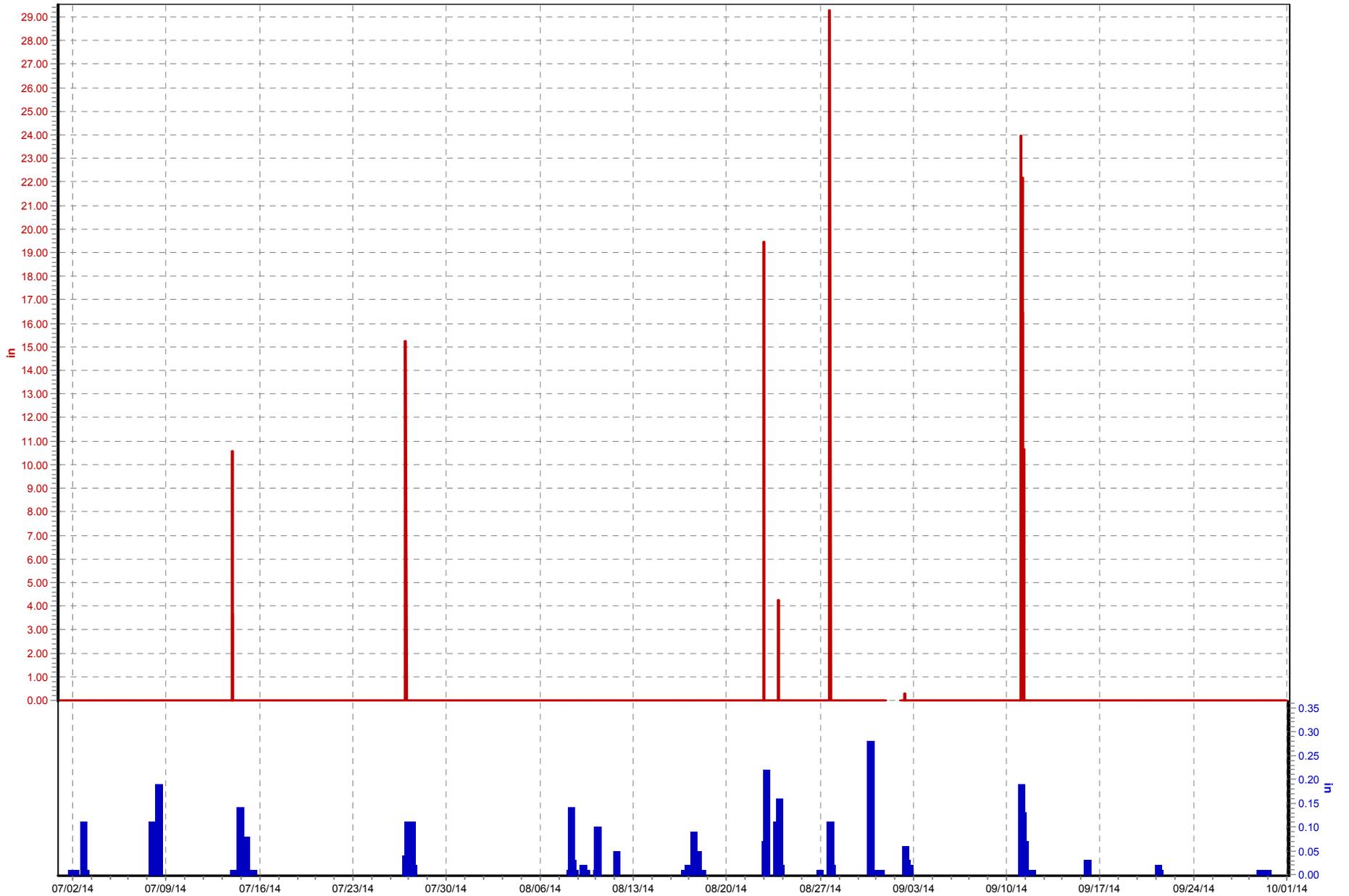
### CSO108 CDS Unit (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR12\_Nightingale PS.Rain (in)



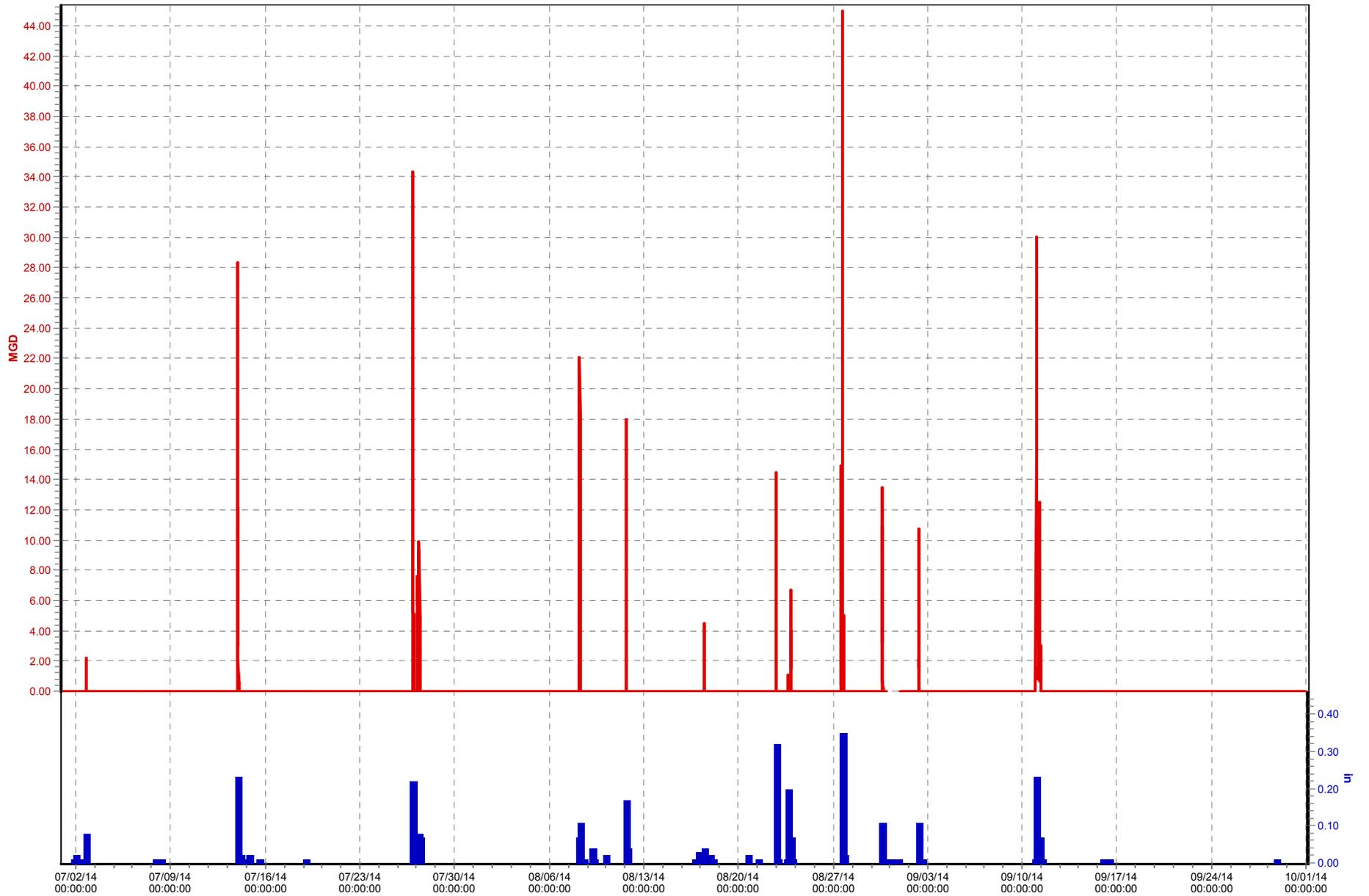
CSO109 Newburg Rd (07/01/14 to 10/01/14)

Potential Overflow (in)  TR05\_Beargrass PS.Rain (in)



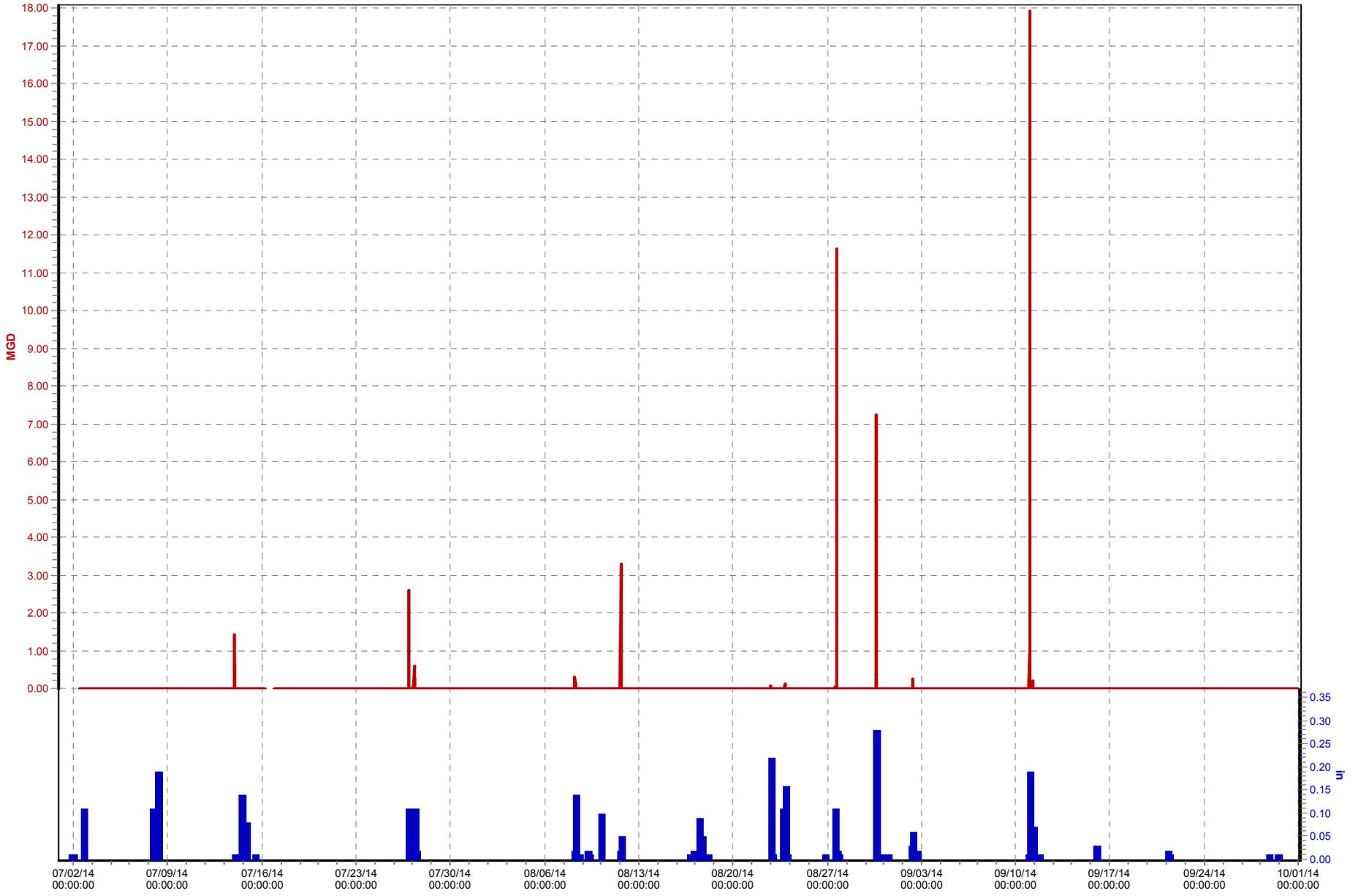
### CSO110 Eastern Parkway (07/01/14 to 10/01/14)

CSO Flow MGD (MGD)  TR12\_Nightingale PS.Rain (in)



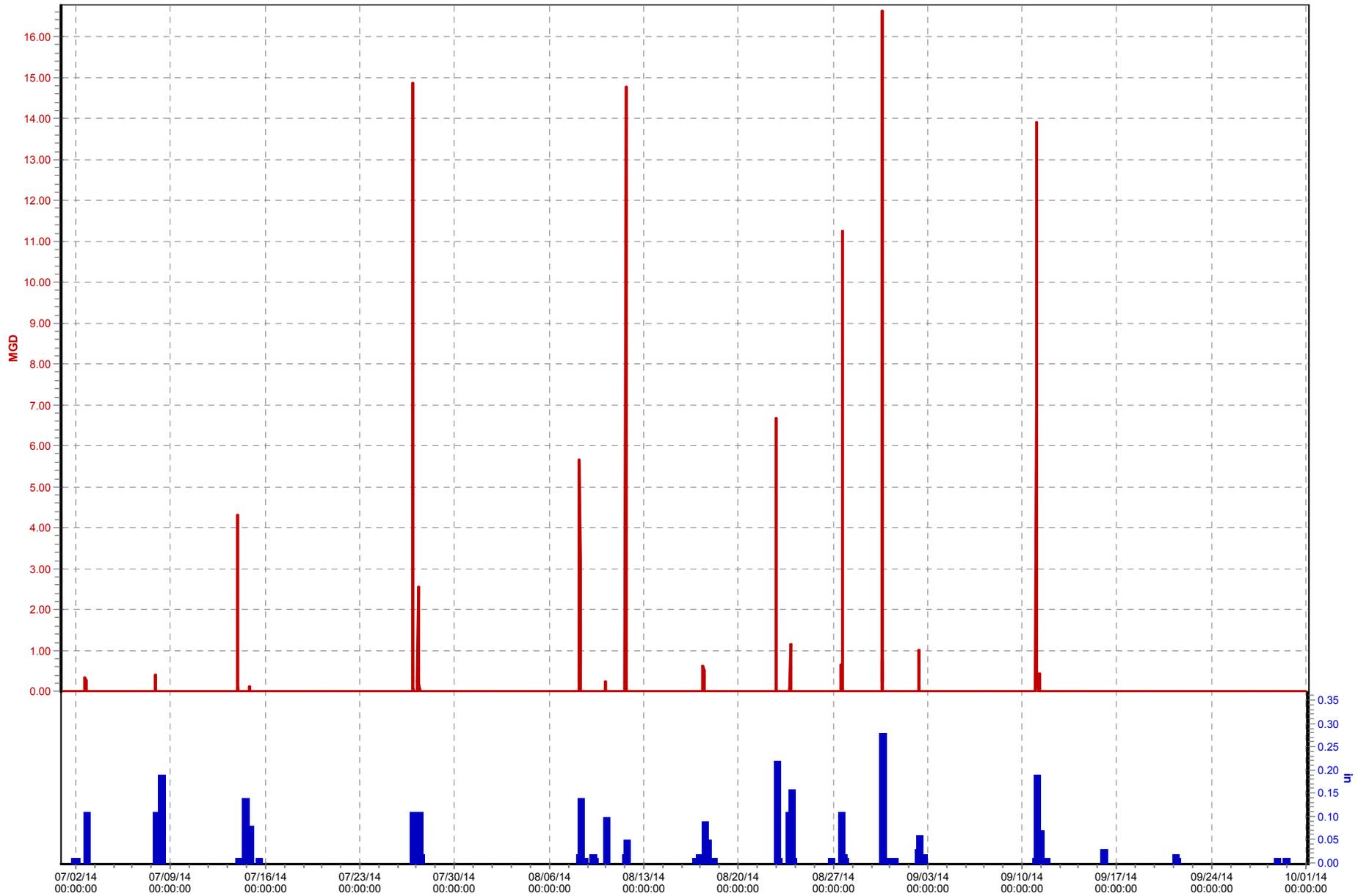
CSO111 Eastern Pkwy and BGC (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



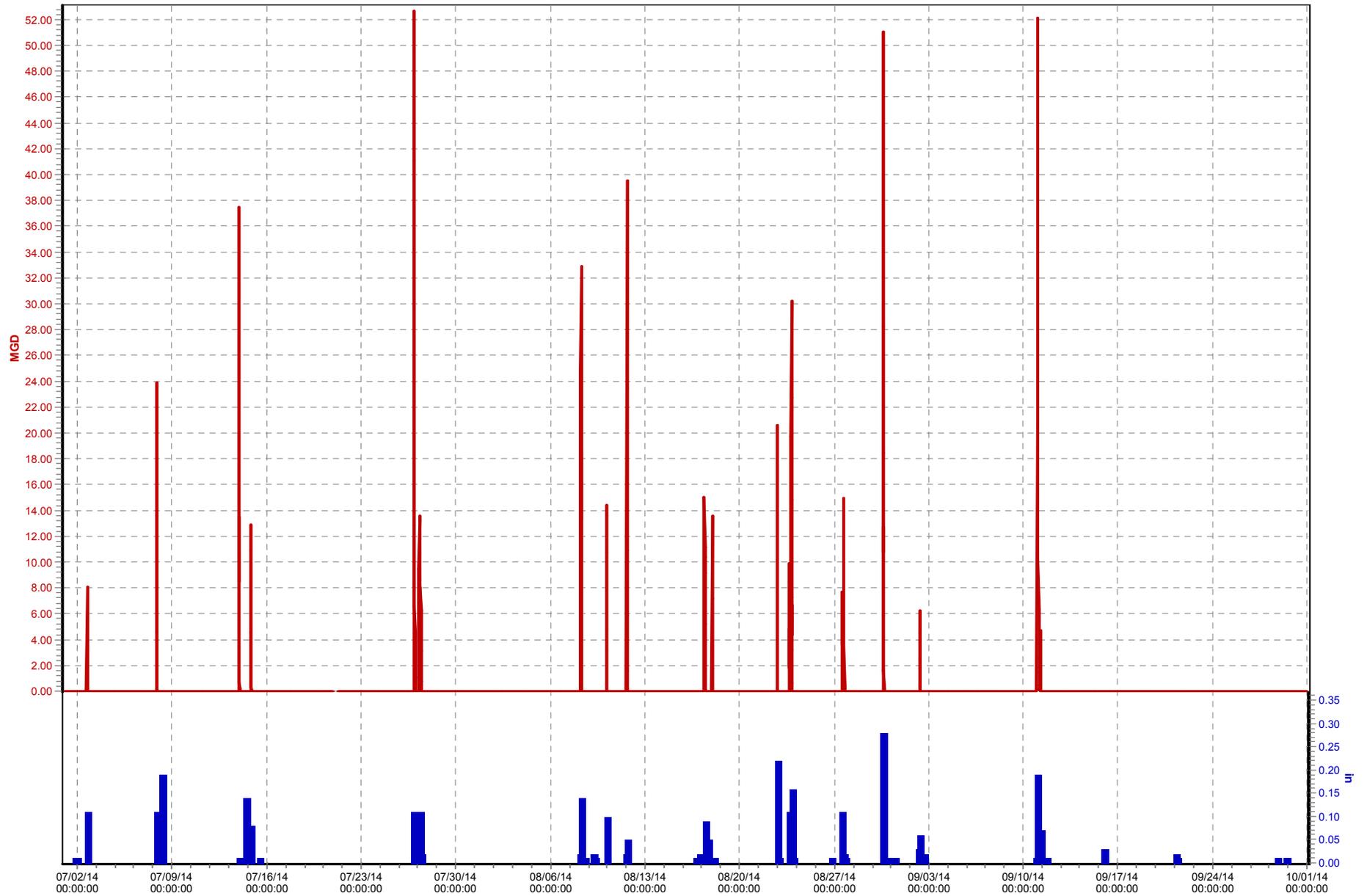
CSO113 (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



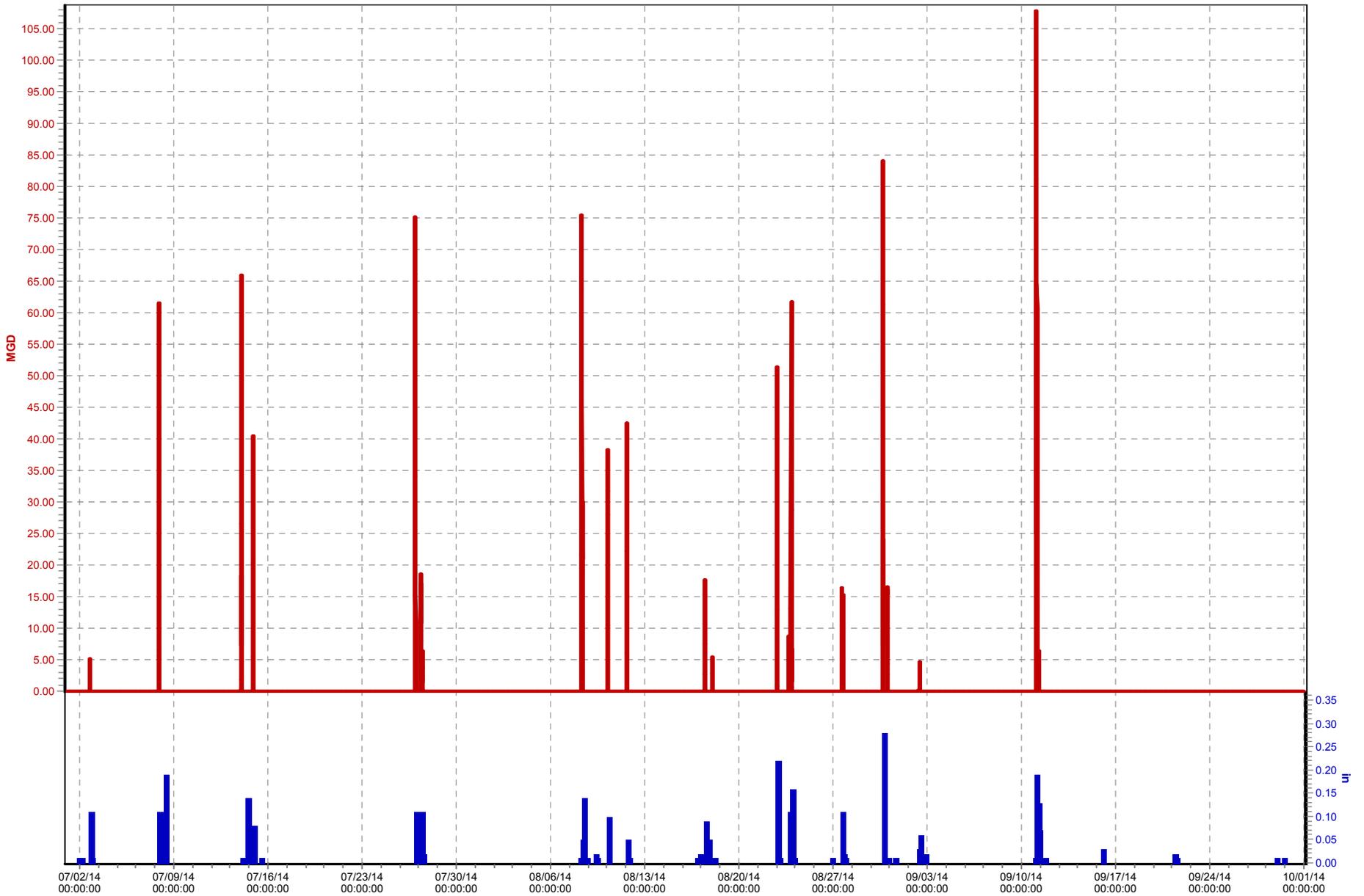
### CSO117 Dry Sewer and BGC Logan (07/01/14 to 10/01/14)

Raw Flow (MGD)
  TR05\_Beargrass PS.Rain (in)



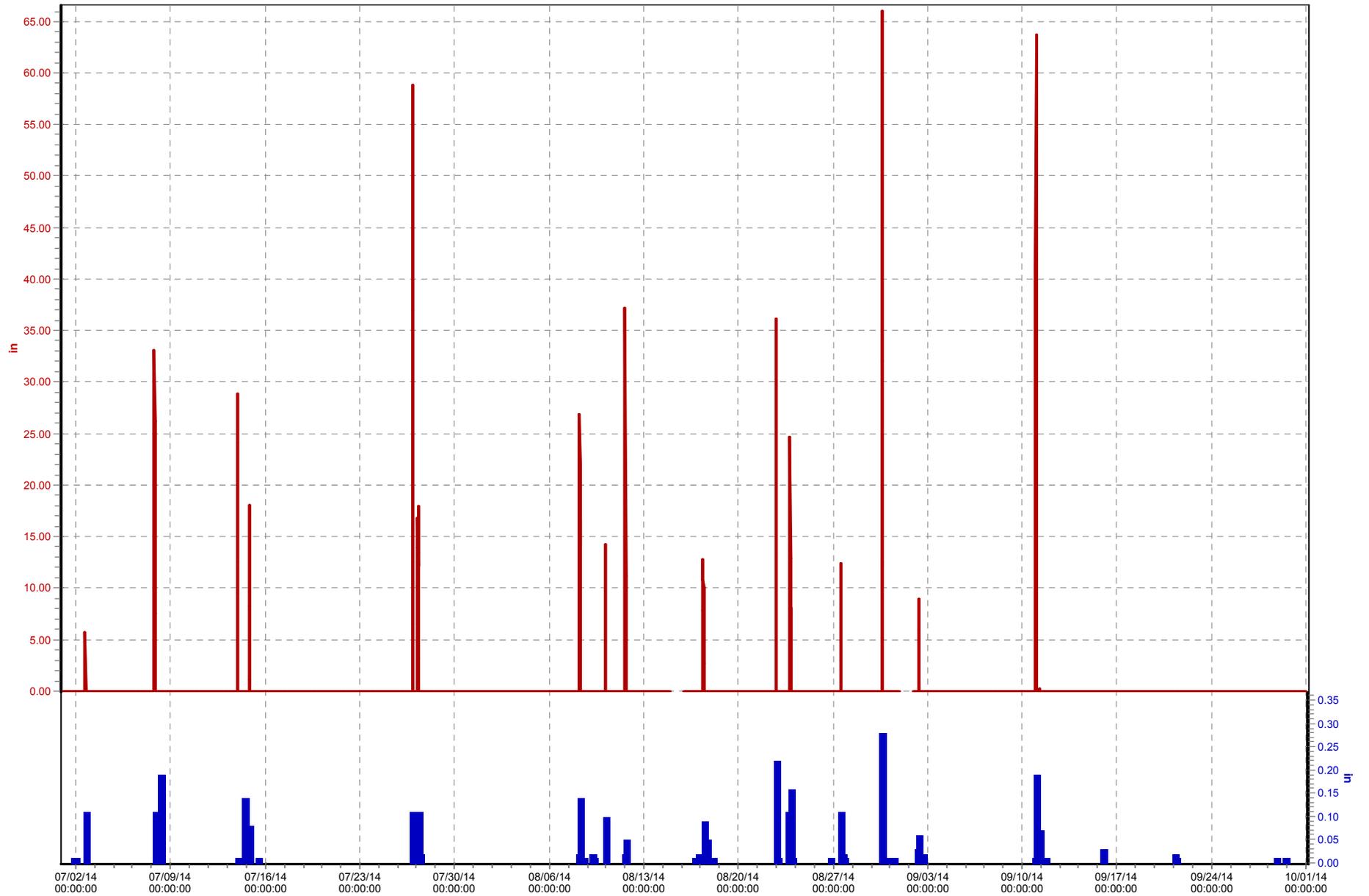
### CSO118 Broadway and BGC (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



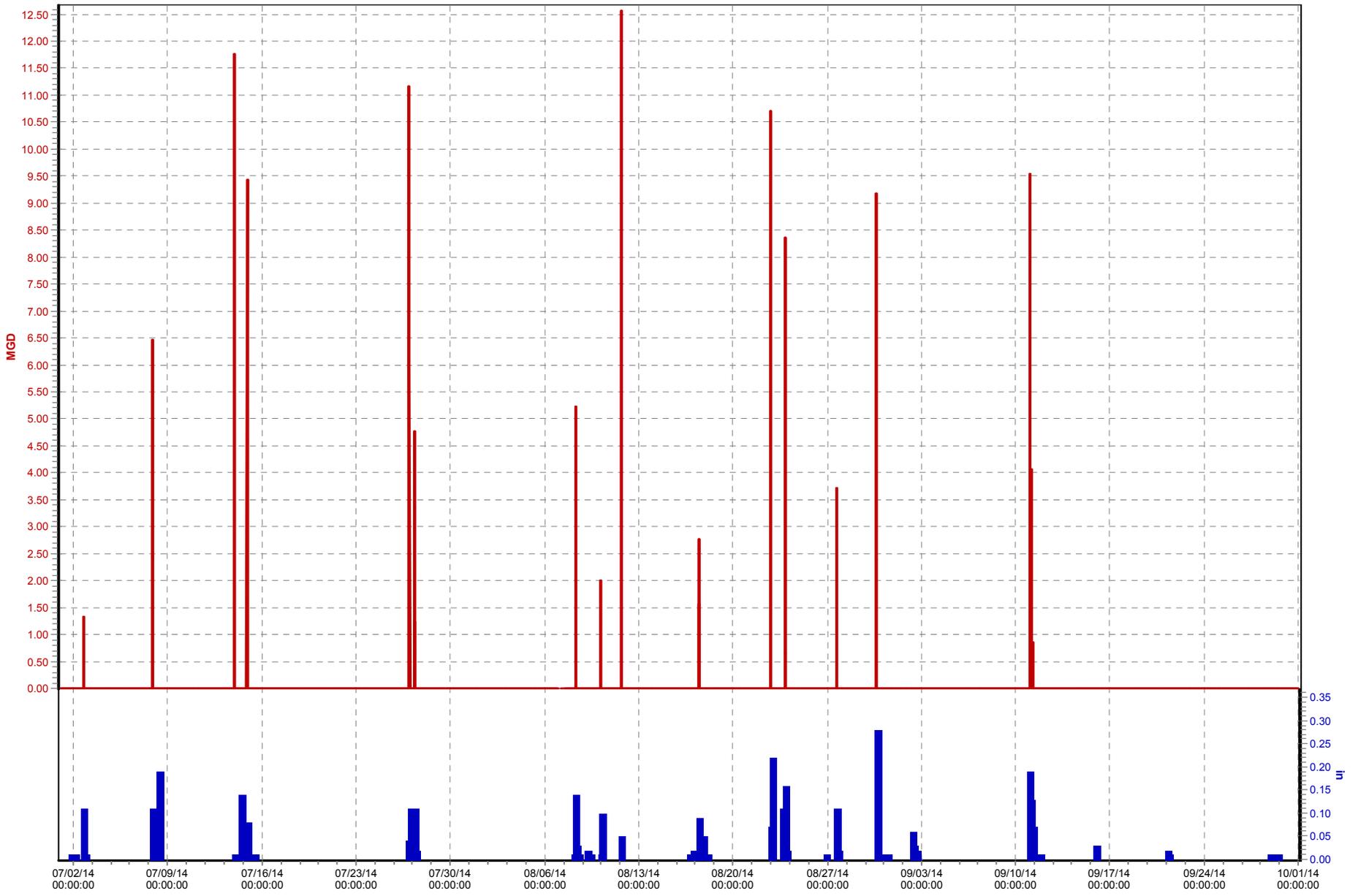
CSO119 (07/01/14 to 10/01/14)

Overflow Level (in)  TR05\_Beargrass PS.Rain (in)



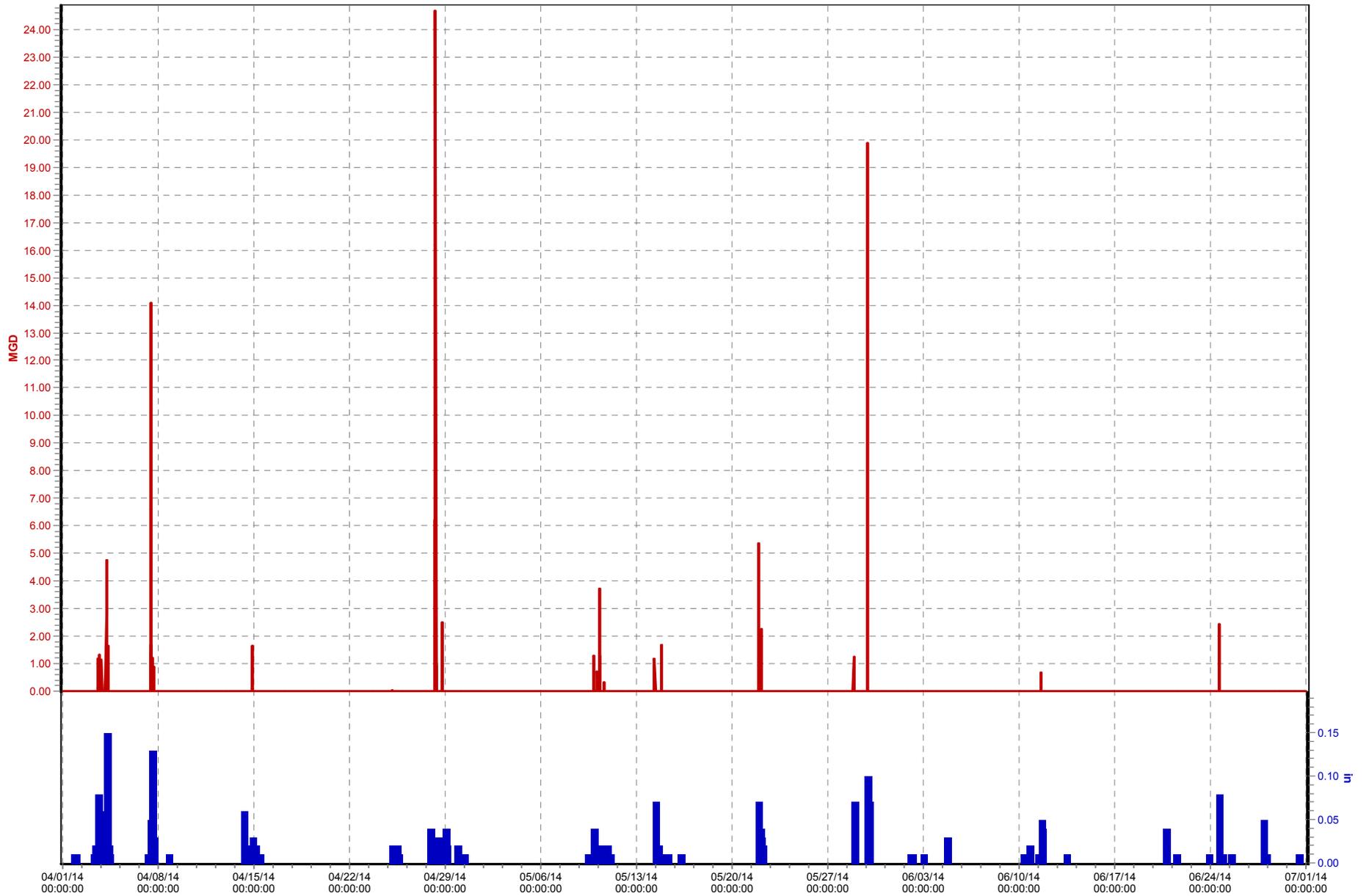
CSO120 - Hamilton Ave (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



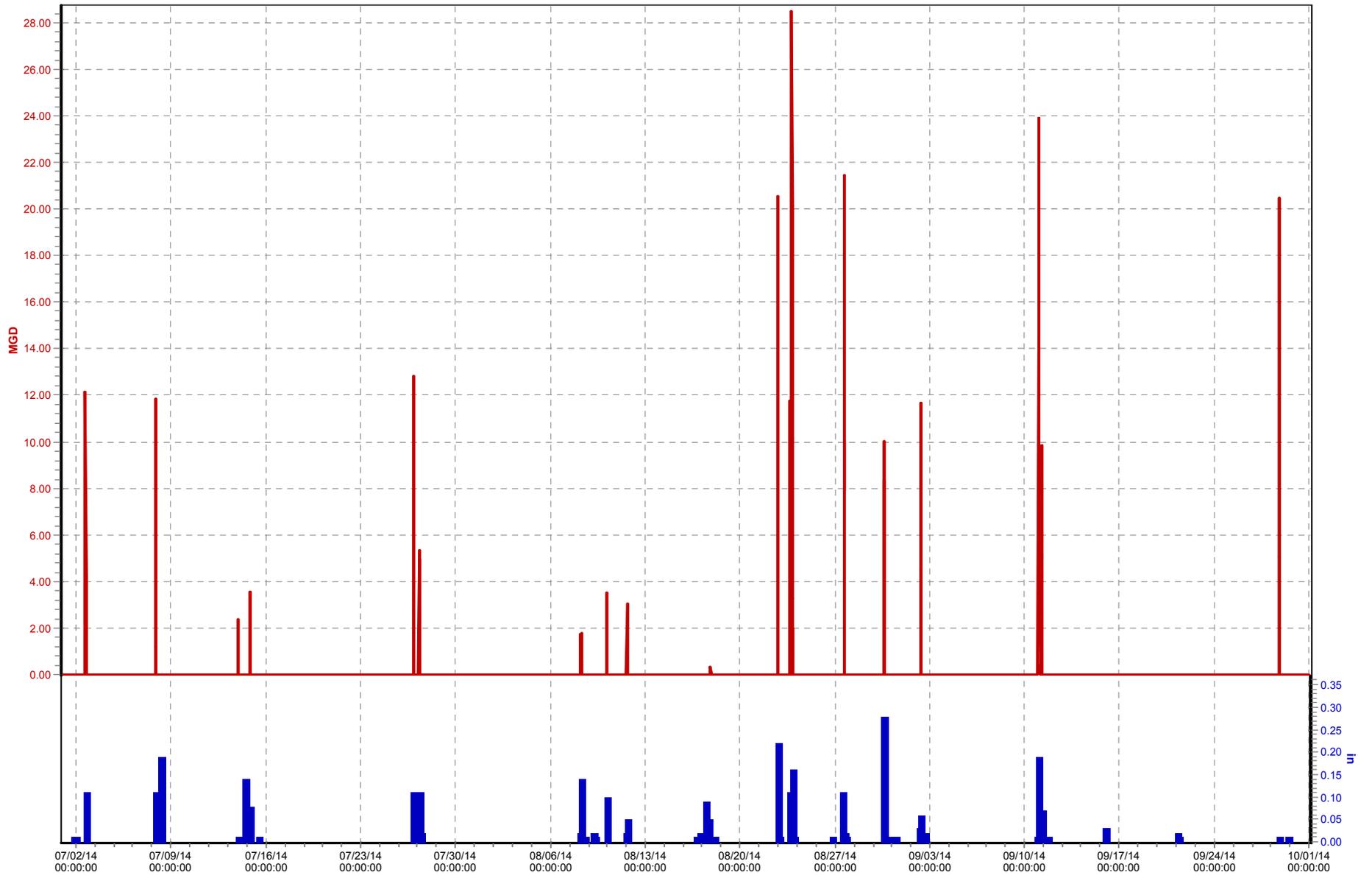
CSO121 Baxter and BGC (04/01/14 to 07/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



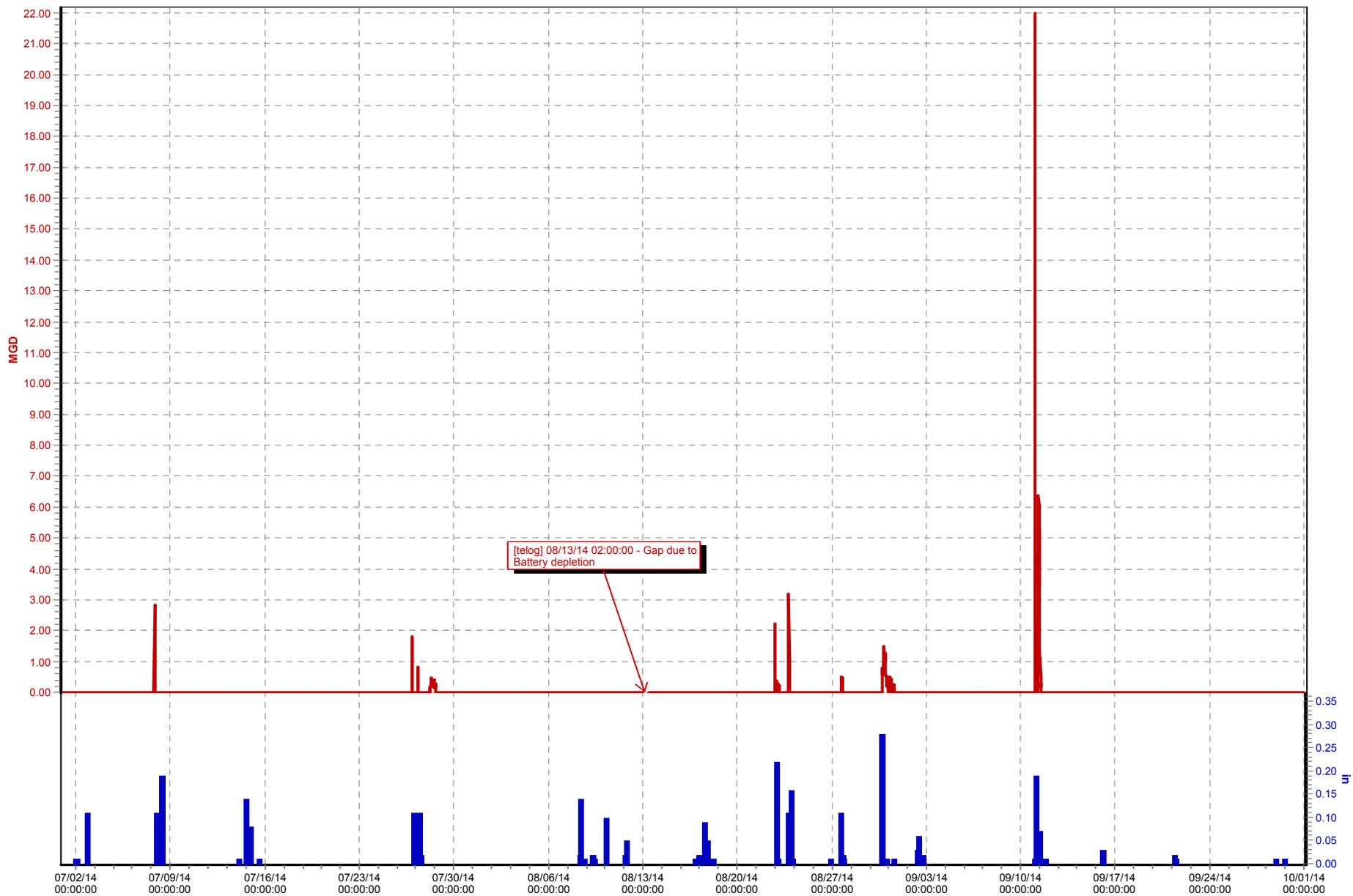
### CSO125\_Grinstead Dr I64W Ramp (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



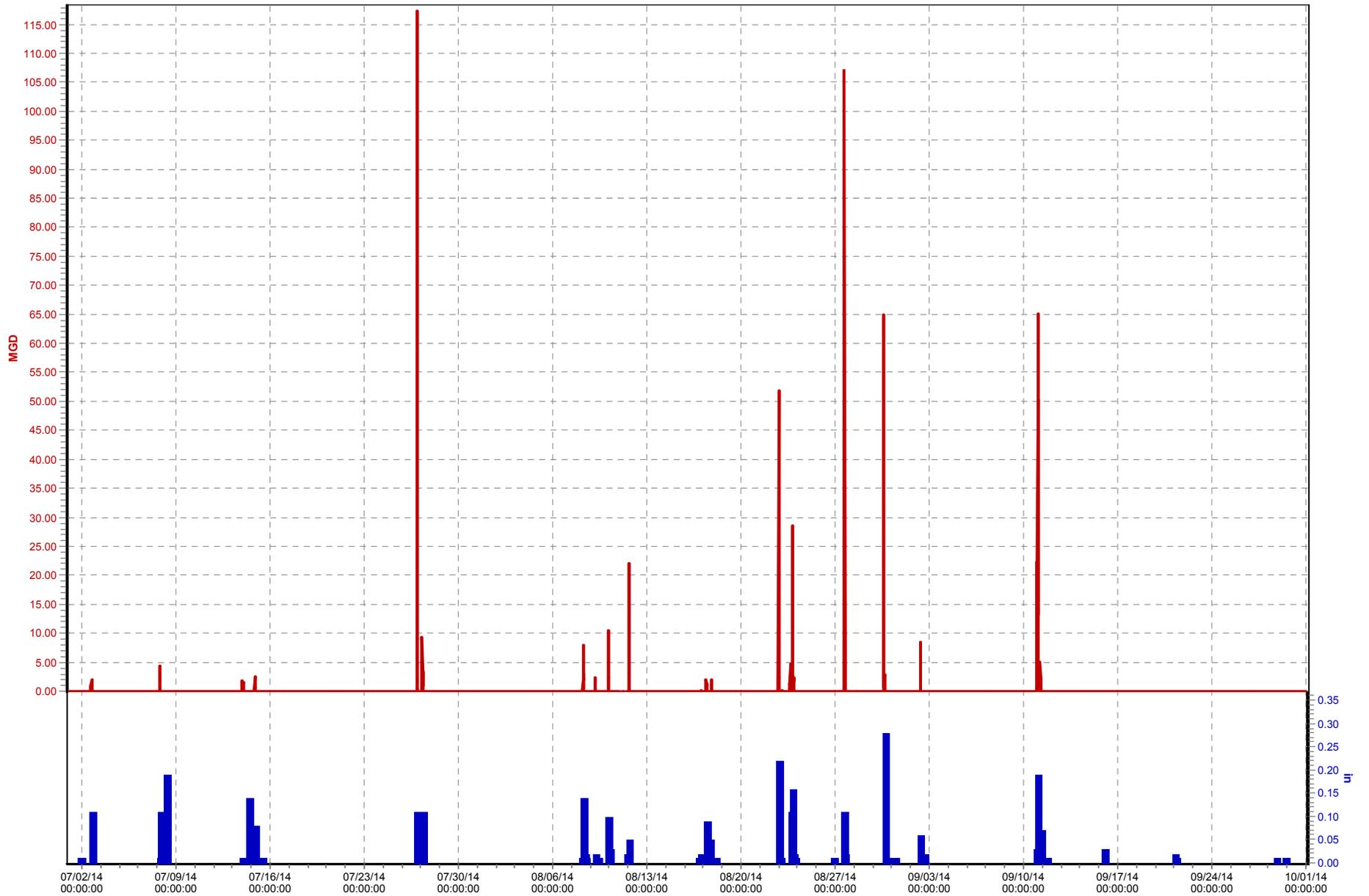
### CSO126 - Saunders (07/01/14 to 10/01/14)

Raw Flow (MGD)     Gap Flow (MGD)     TR05\_Beargrass PS.Rain (in)



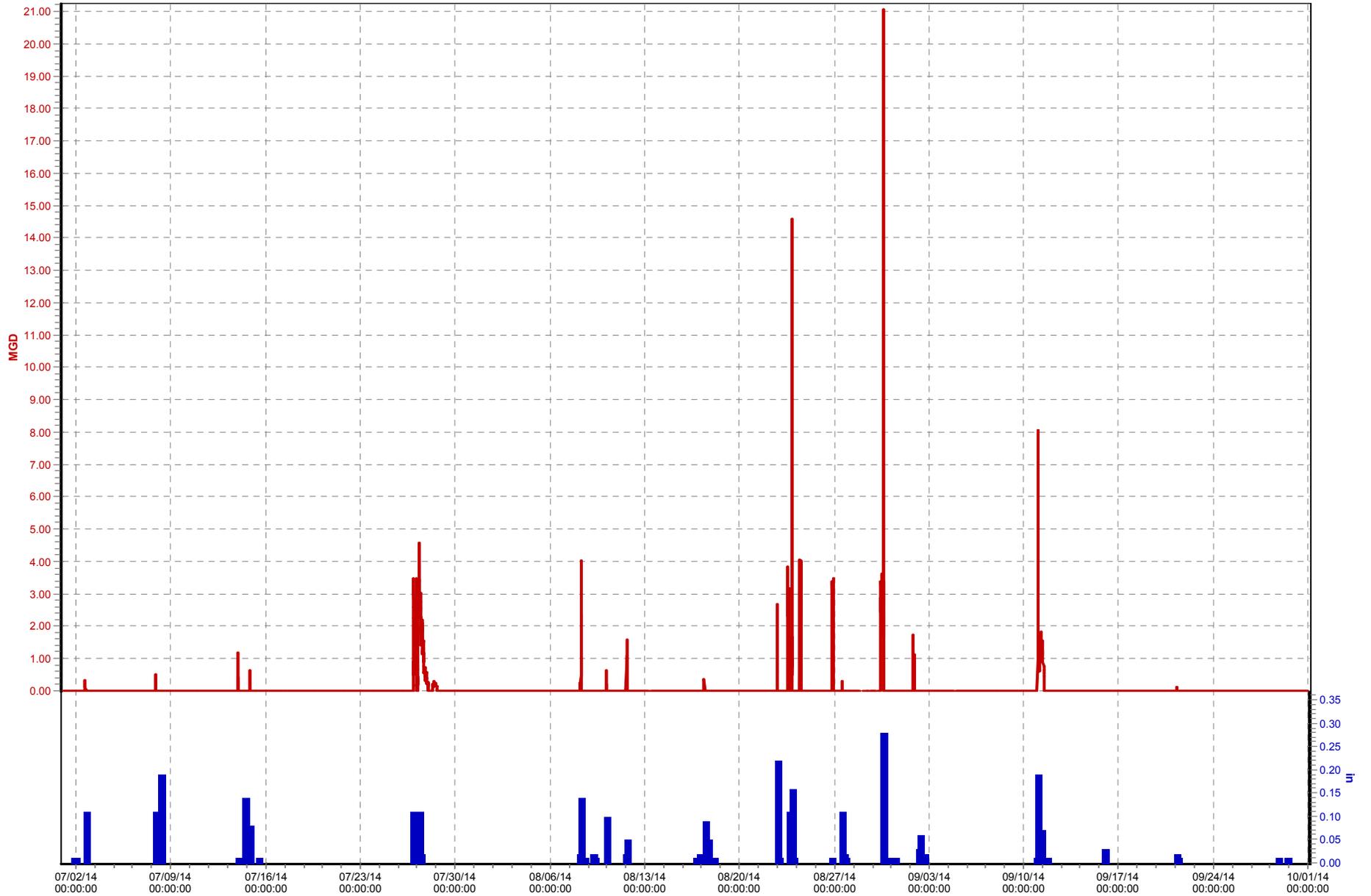
### CSO127\_Etley and Lexington (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR05\_Beargrass PS.Rain (in)



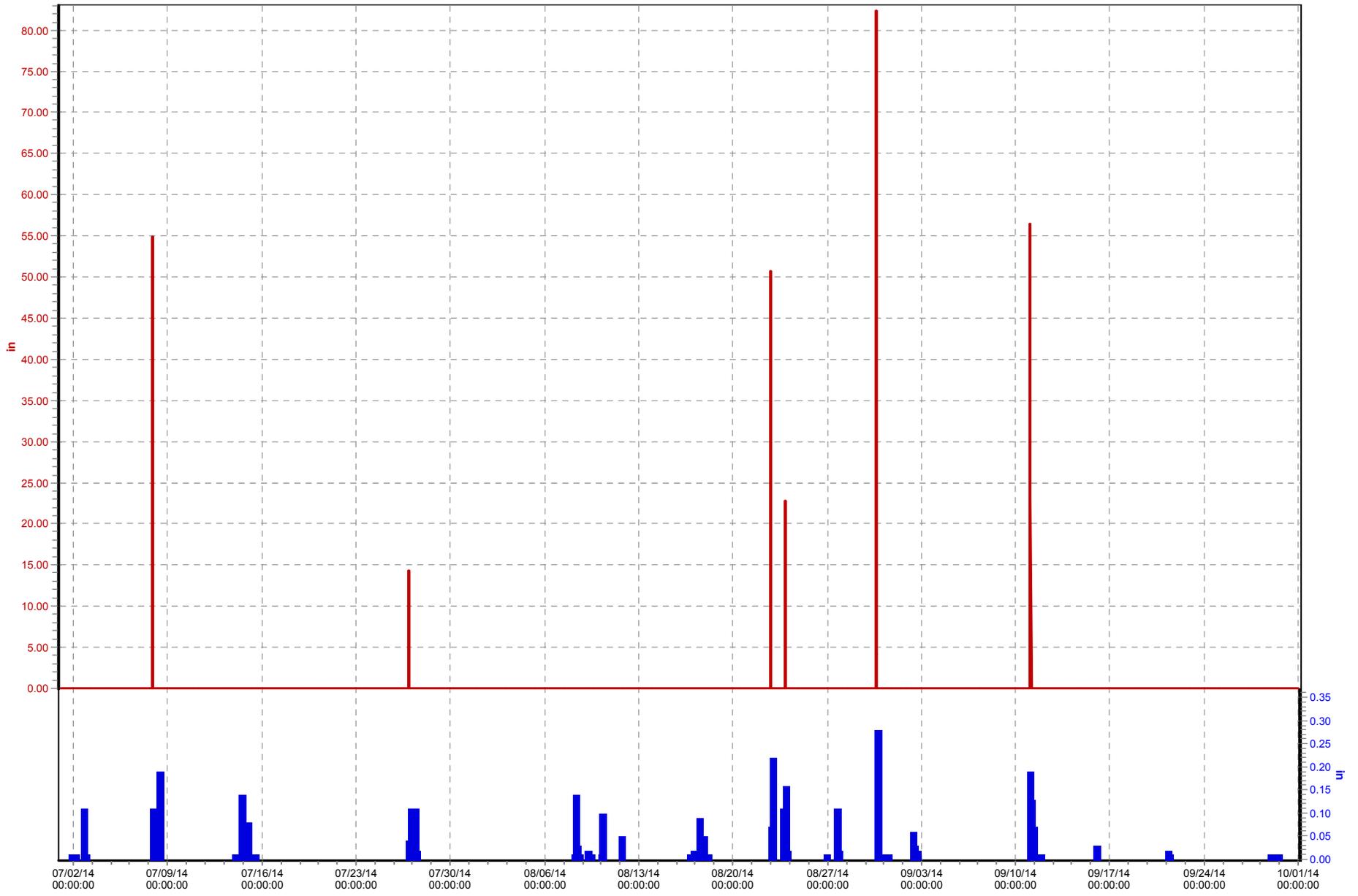
CSO130 Webster St n Story Ave (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



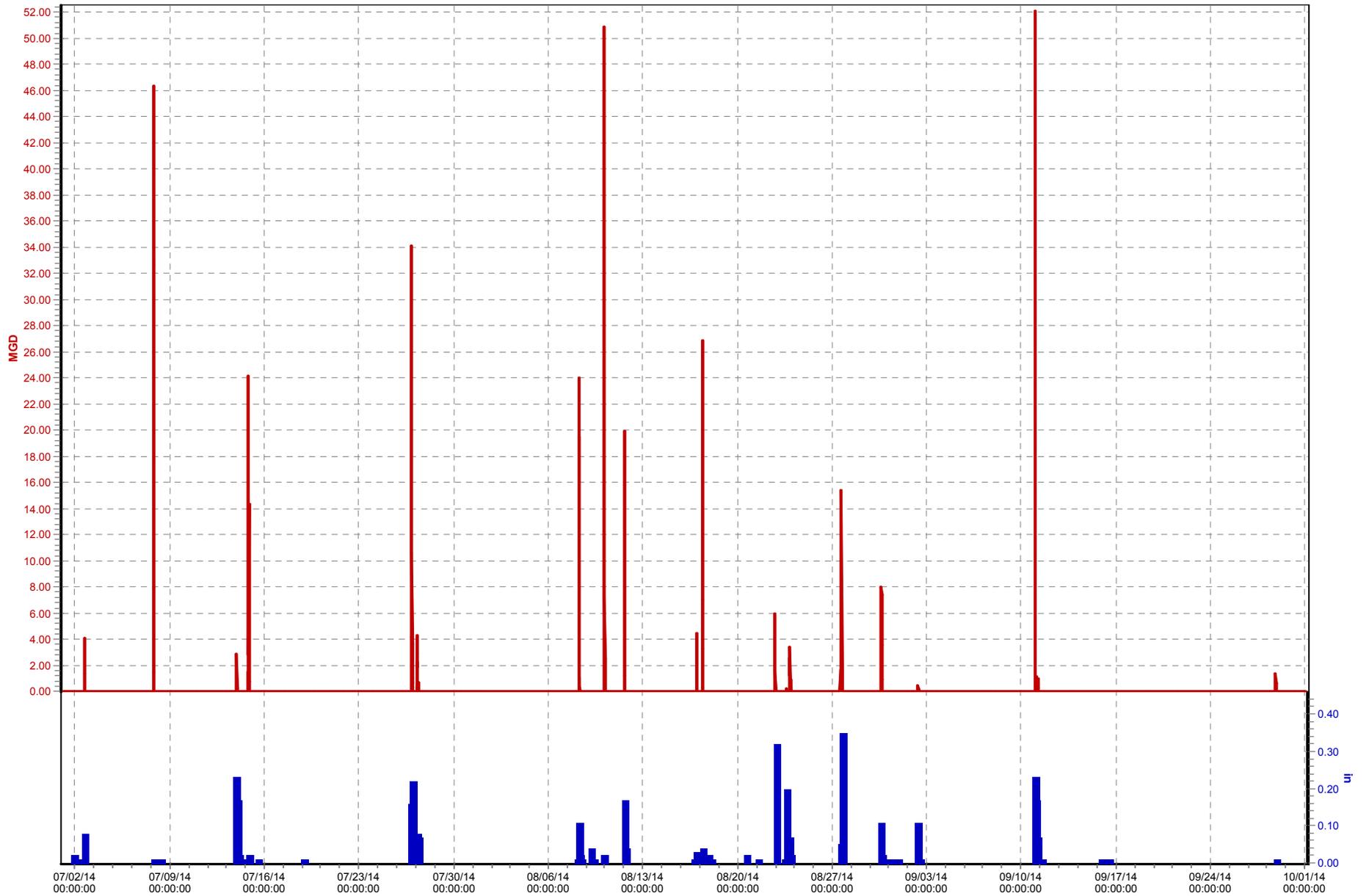
### CSO131 Frankfort Ave (07/01/14 to 10/01/14)

Overflow Level (in)     TR05\_Beargrass PS.Rain (in)



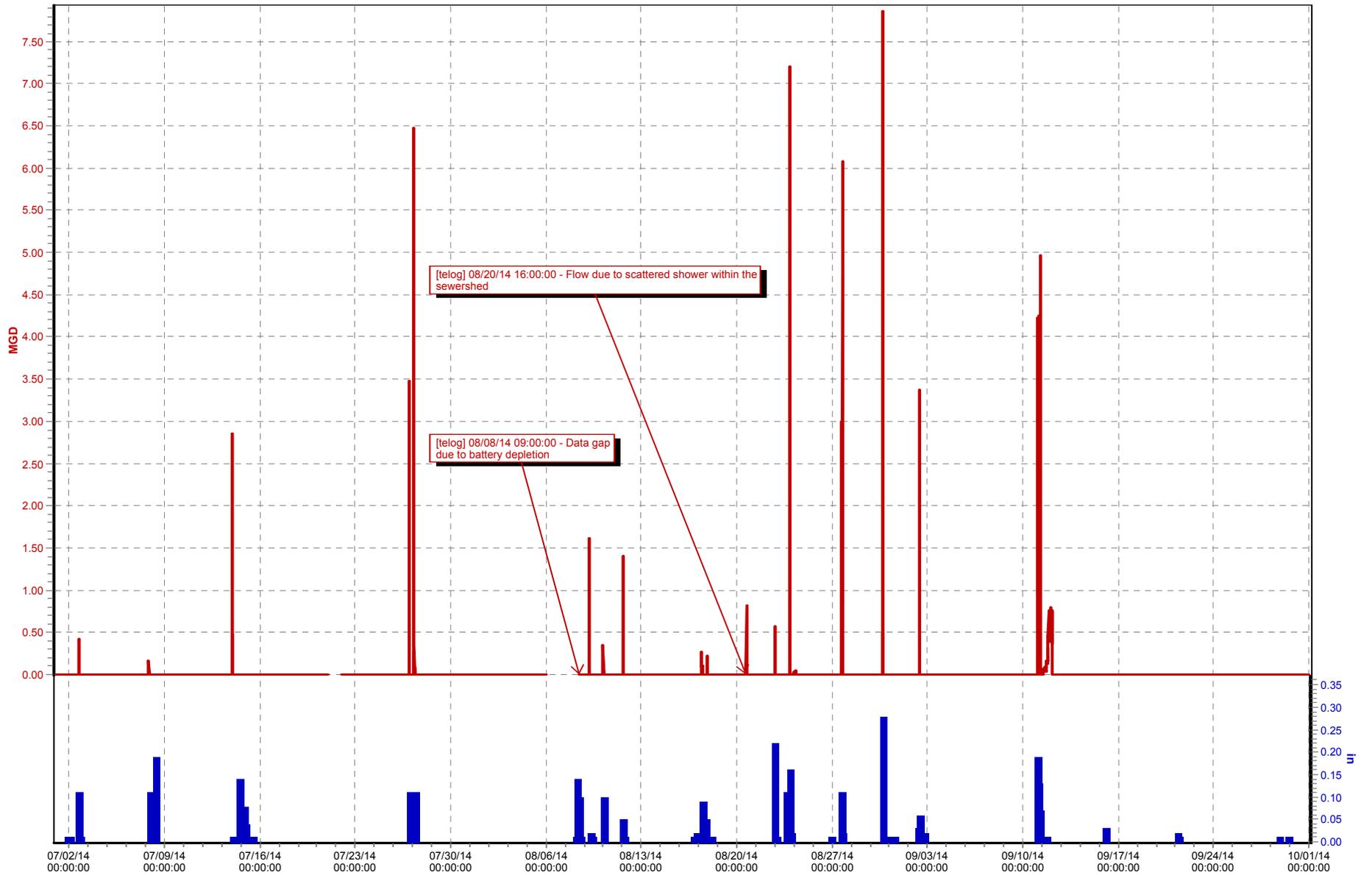
### CSO132 Brownsboro Rd (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR12\_Nightingale PS.Rain (in)



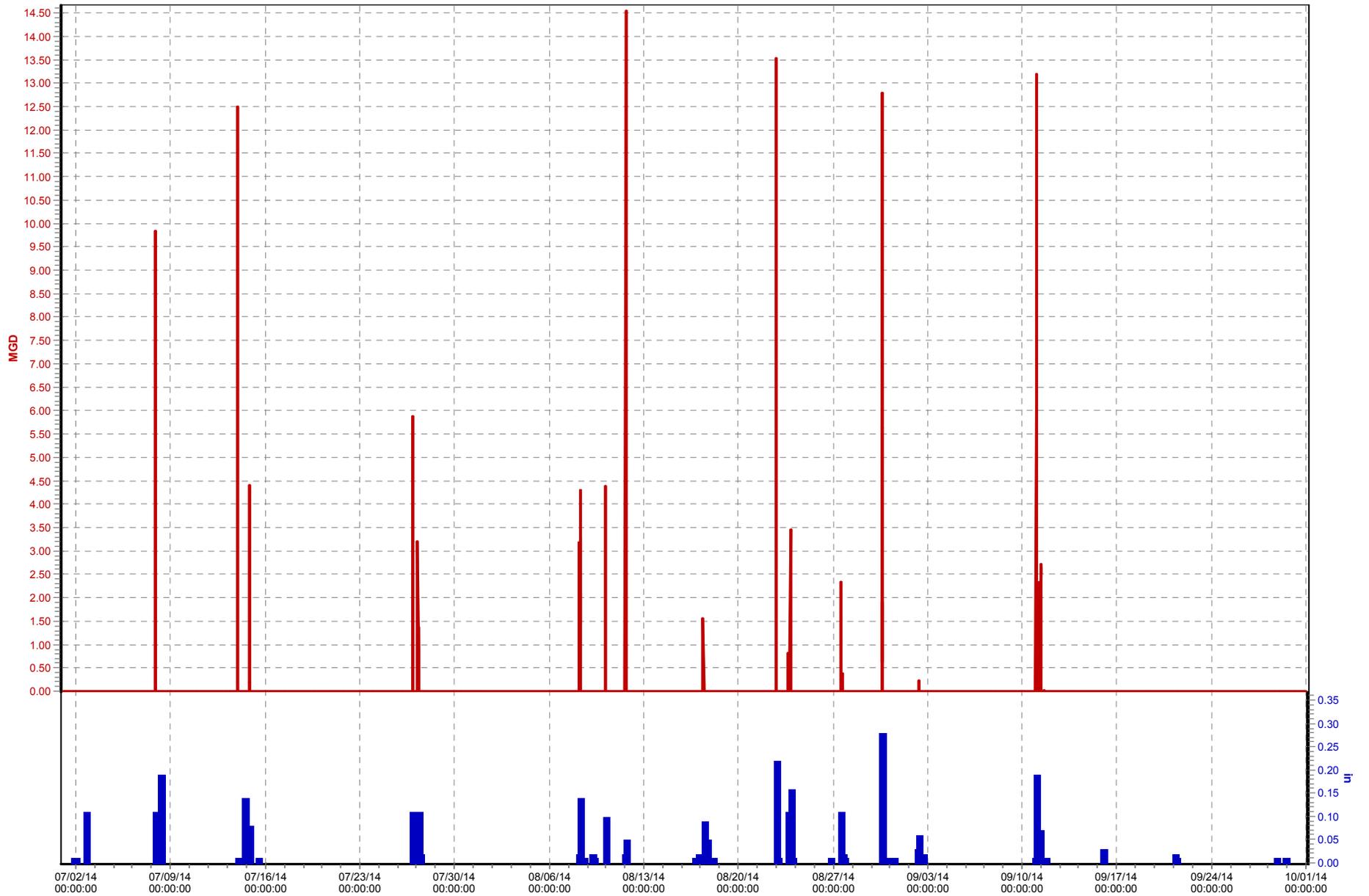
### CSO137 Cavalry Cemetery (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR05\_Beargrass PS.Rain (in)



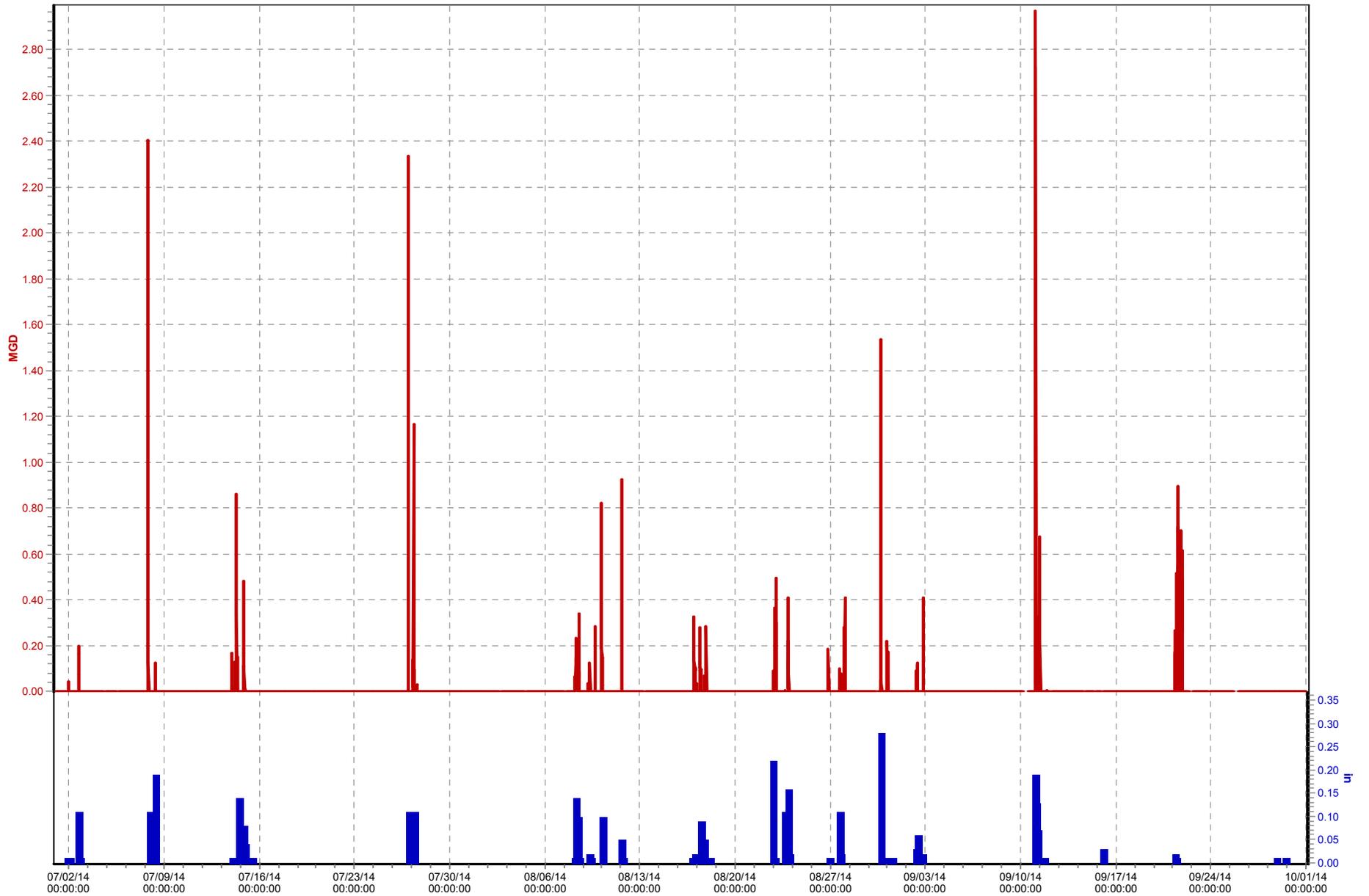
### CSO140 Locust St\_Lobdell Alley (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



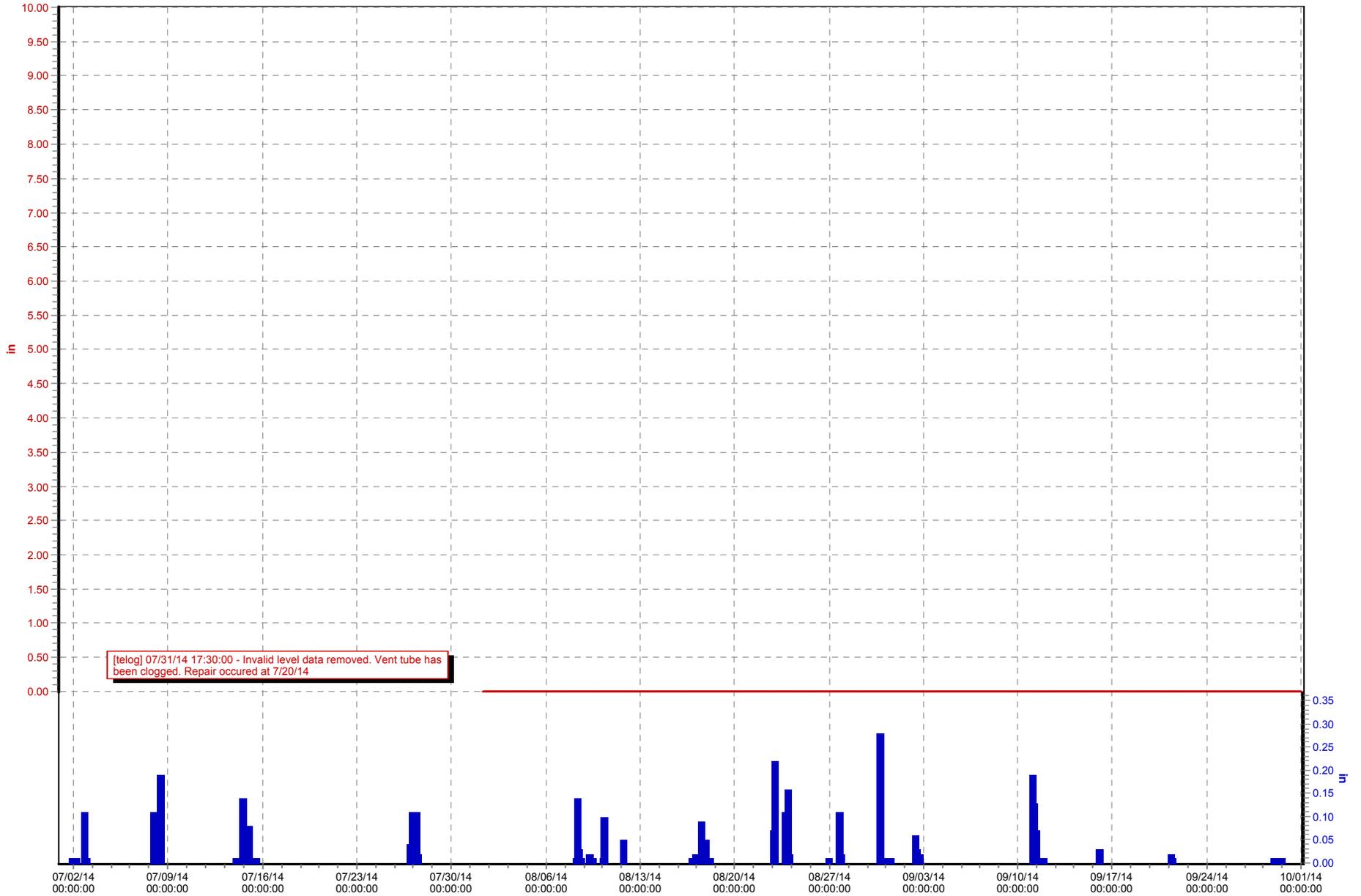
CSO141 Baxter\_SF BGC (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



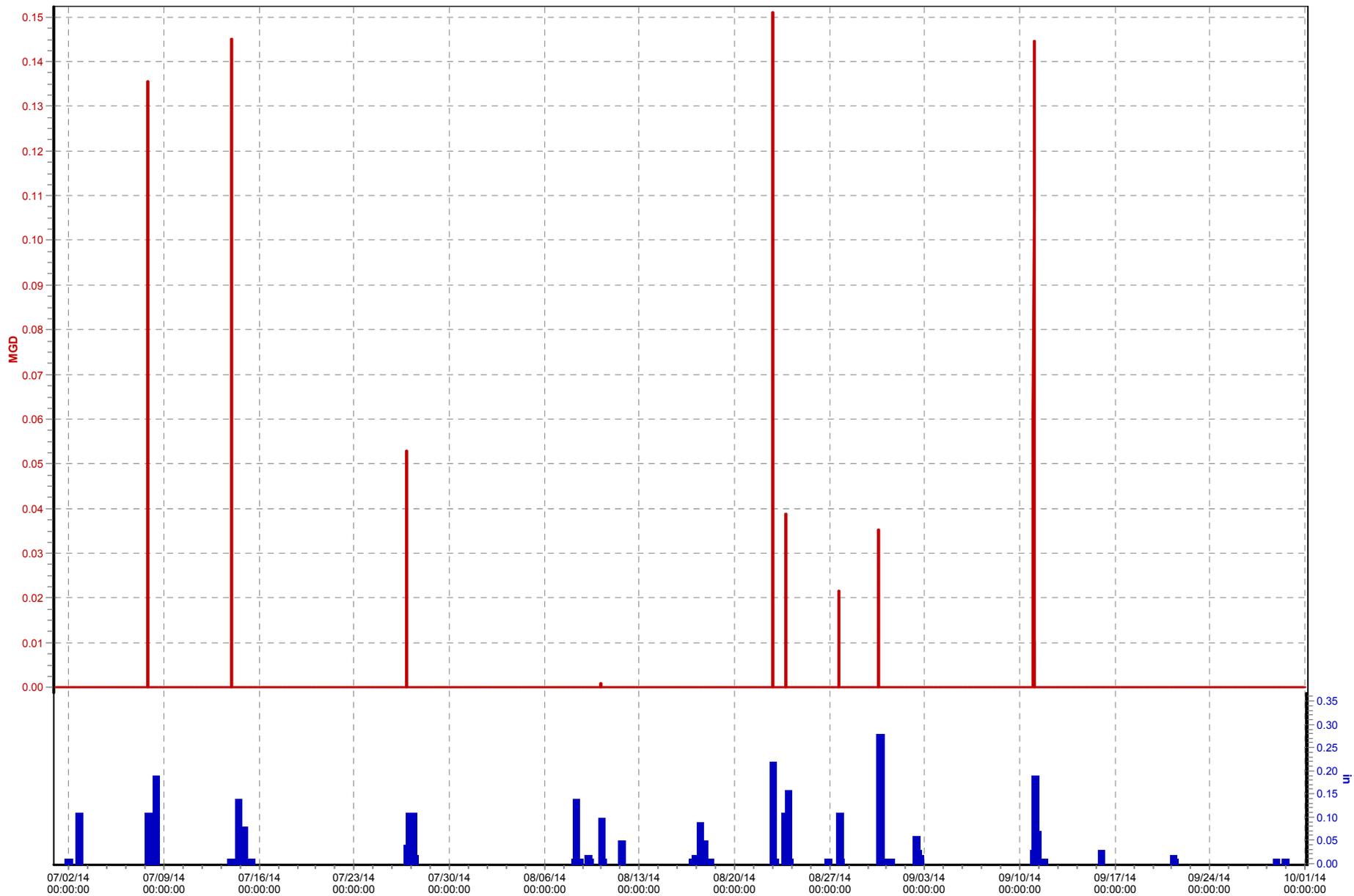
### CSO142 - Logan St Catherine (07/01/14 to 10/01/14)

Overflow Level (in)     TR05\_Beargrass PS.Rain (in)



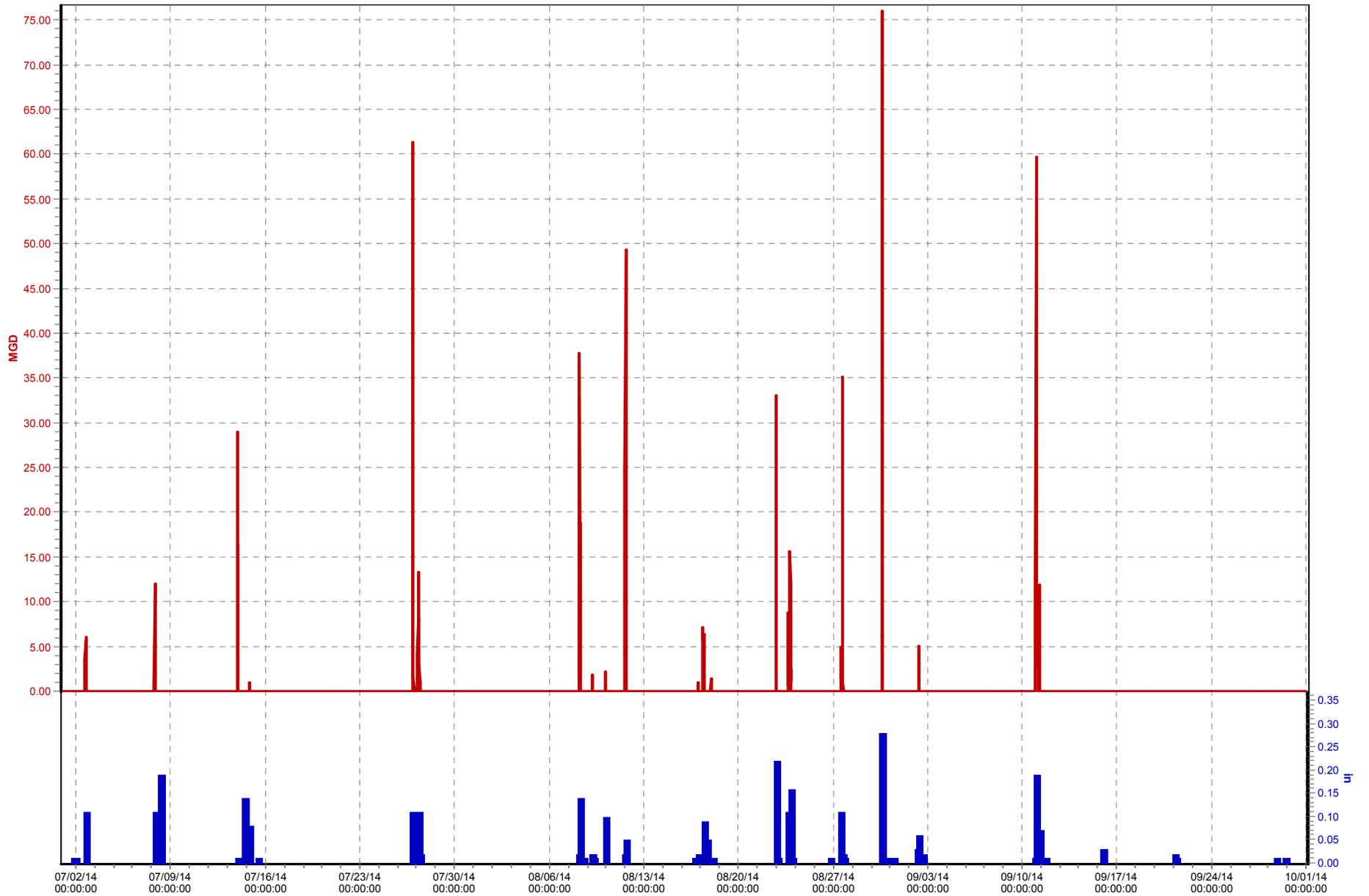
### CSO14 Brauner Way (07/01/14 to 10/01/14)

M1 Flow (MGD)  TR05\_Beargrass PS.Rain (in)



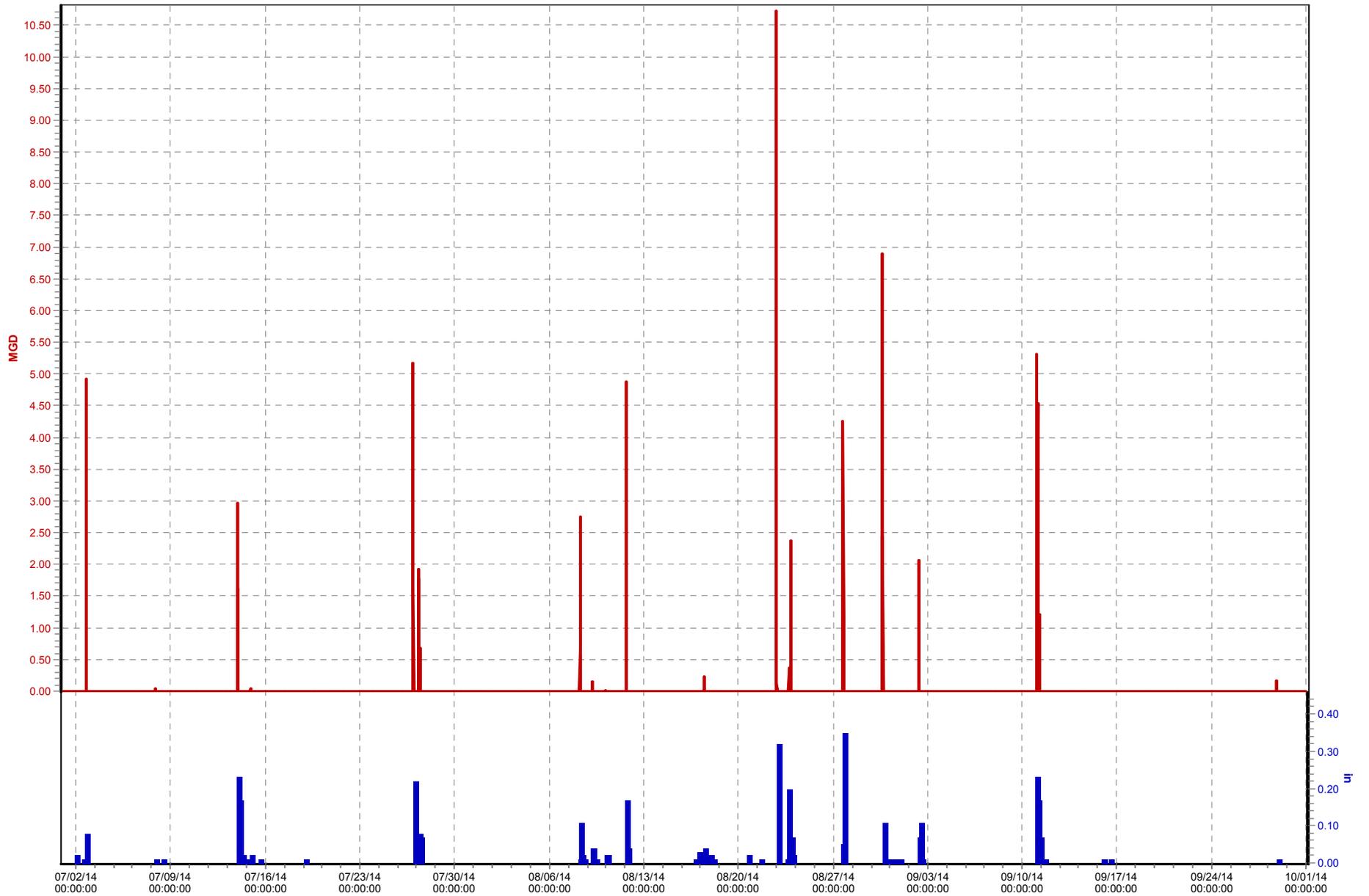
### CSO146 Swan St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



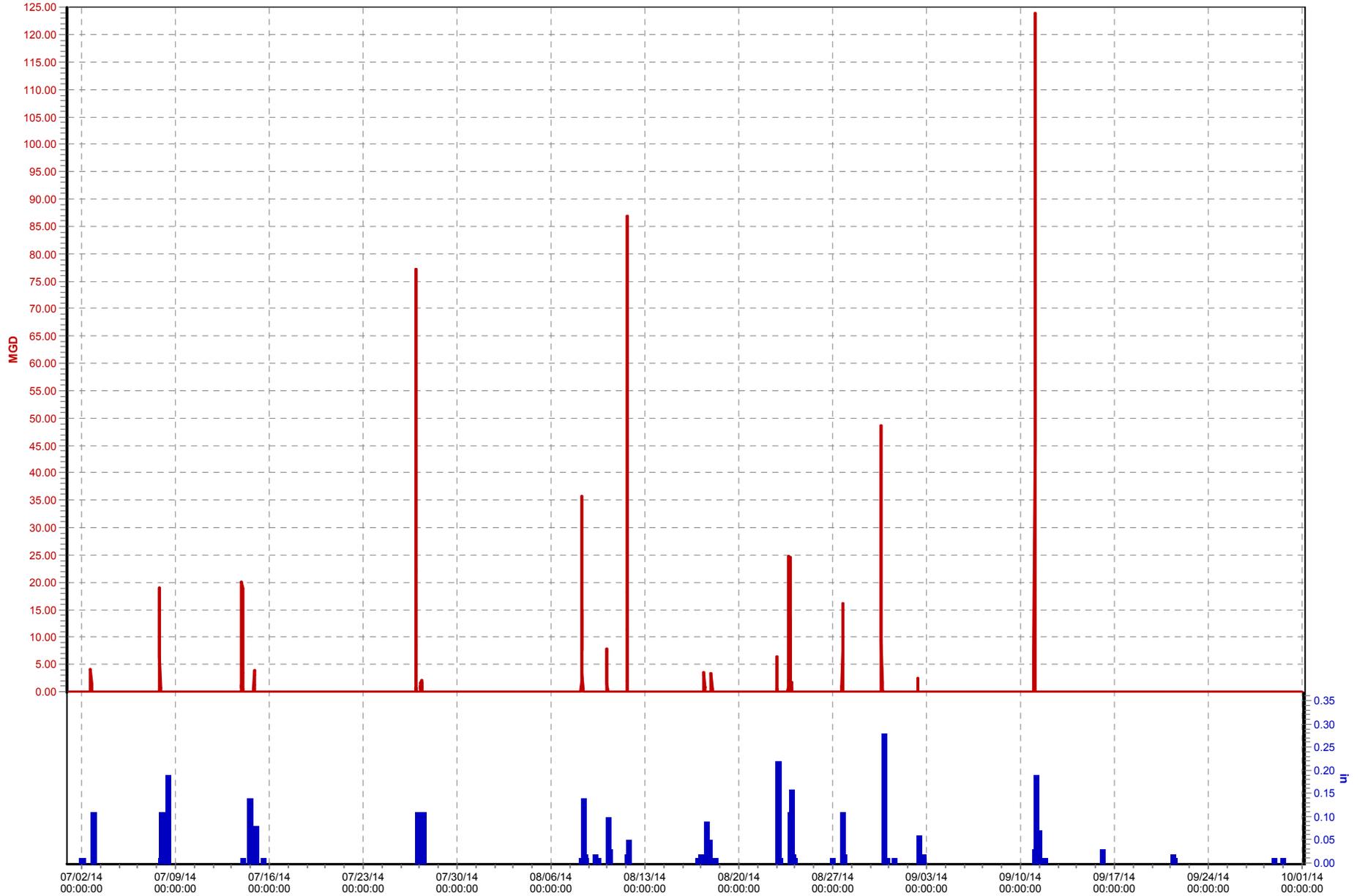
### CSO148\_Eastern Pkwy (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR12\_Nightingale PS.Rain (in)



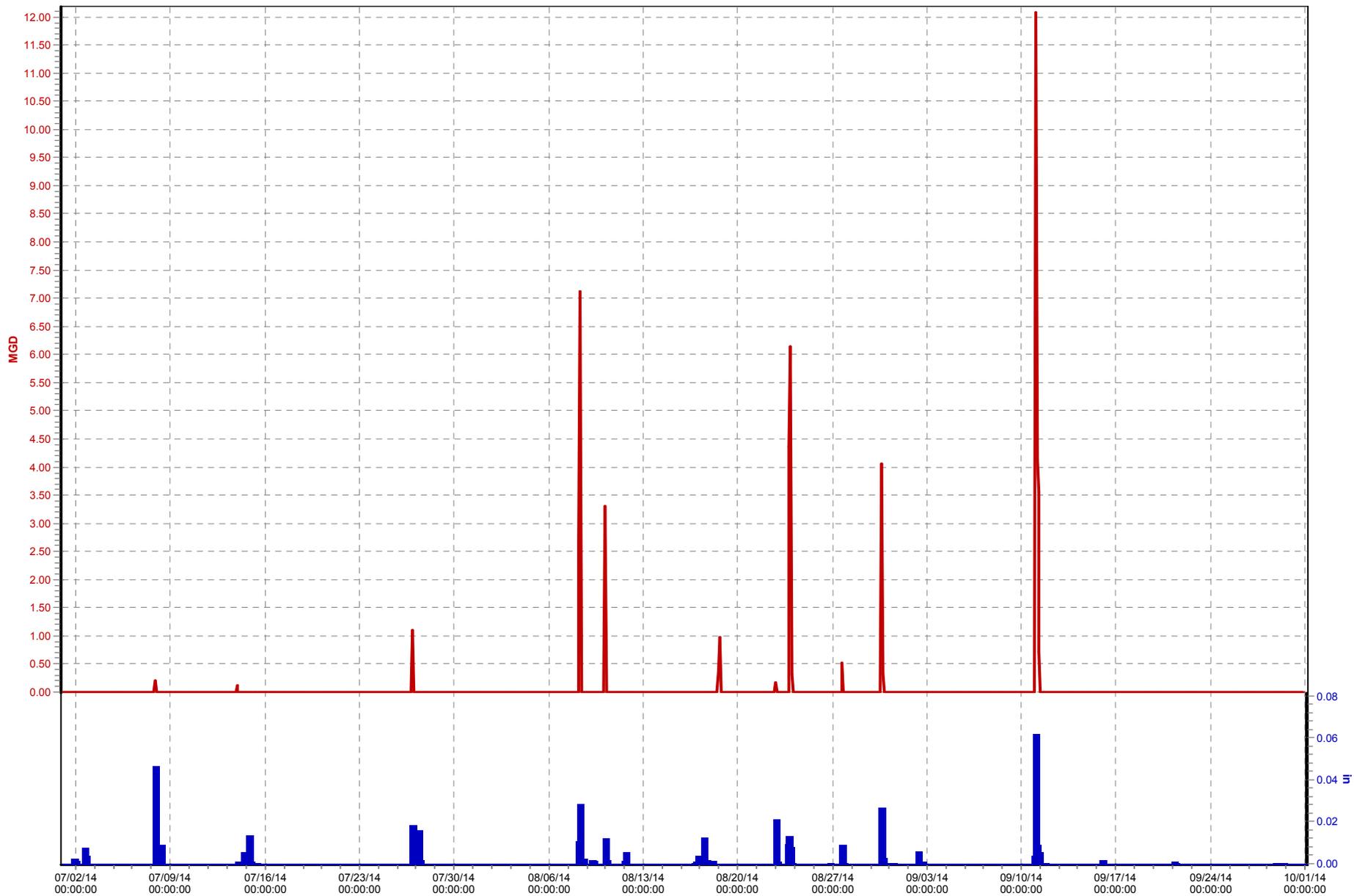
CSO149 KY St\_St Paul Ct (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



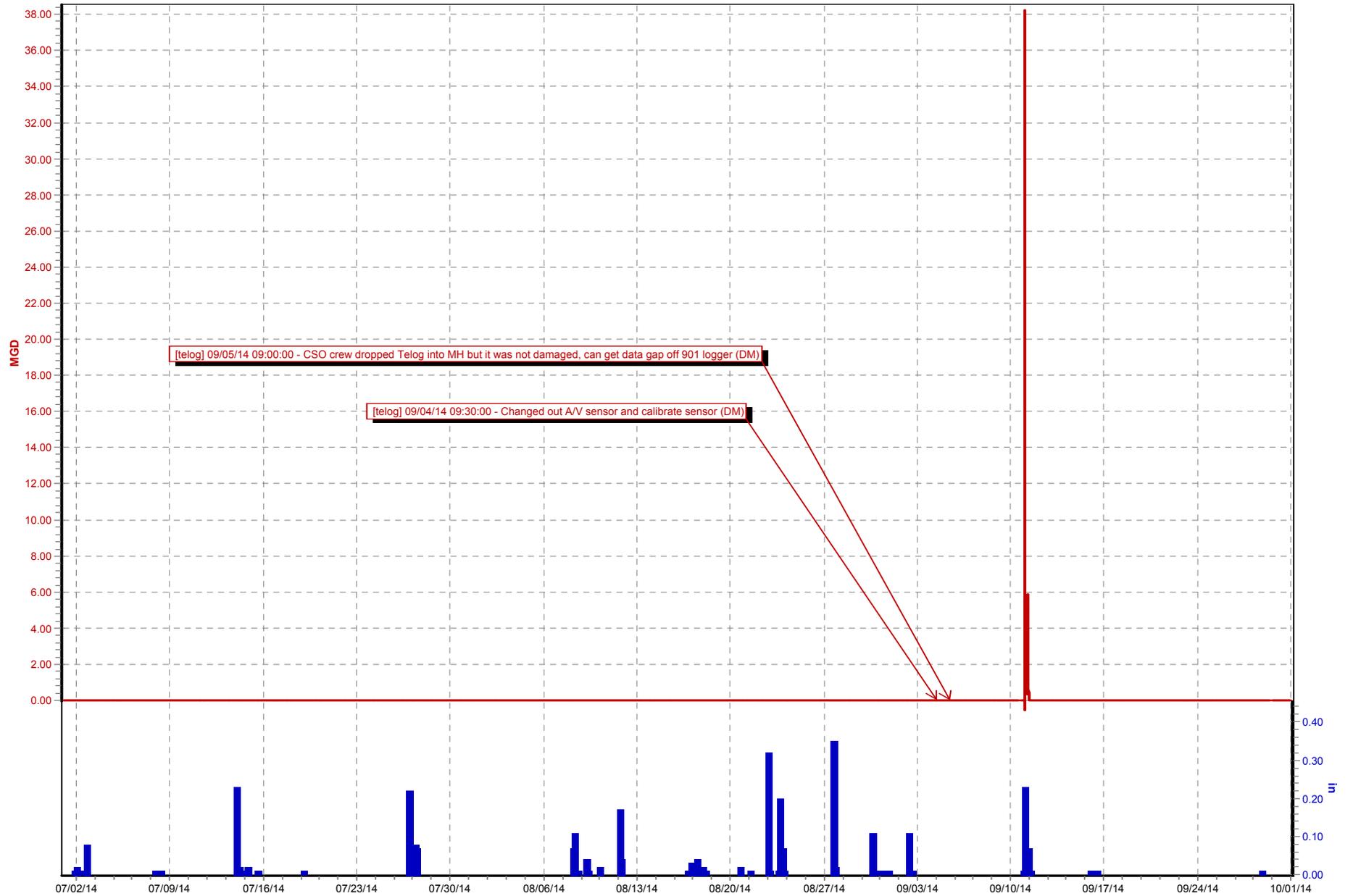
CSO150\_8th St Wash St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



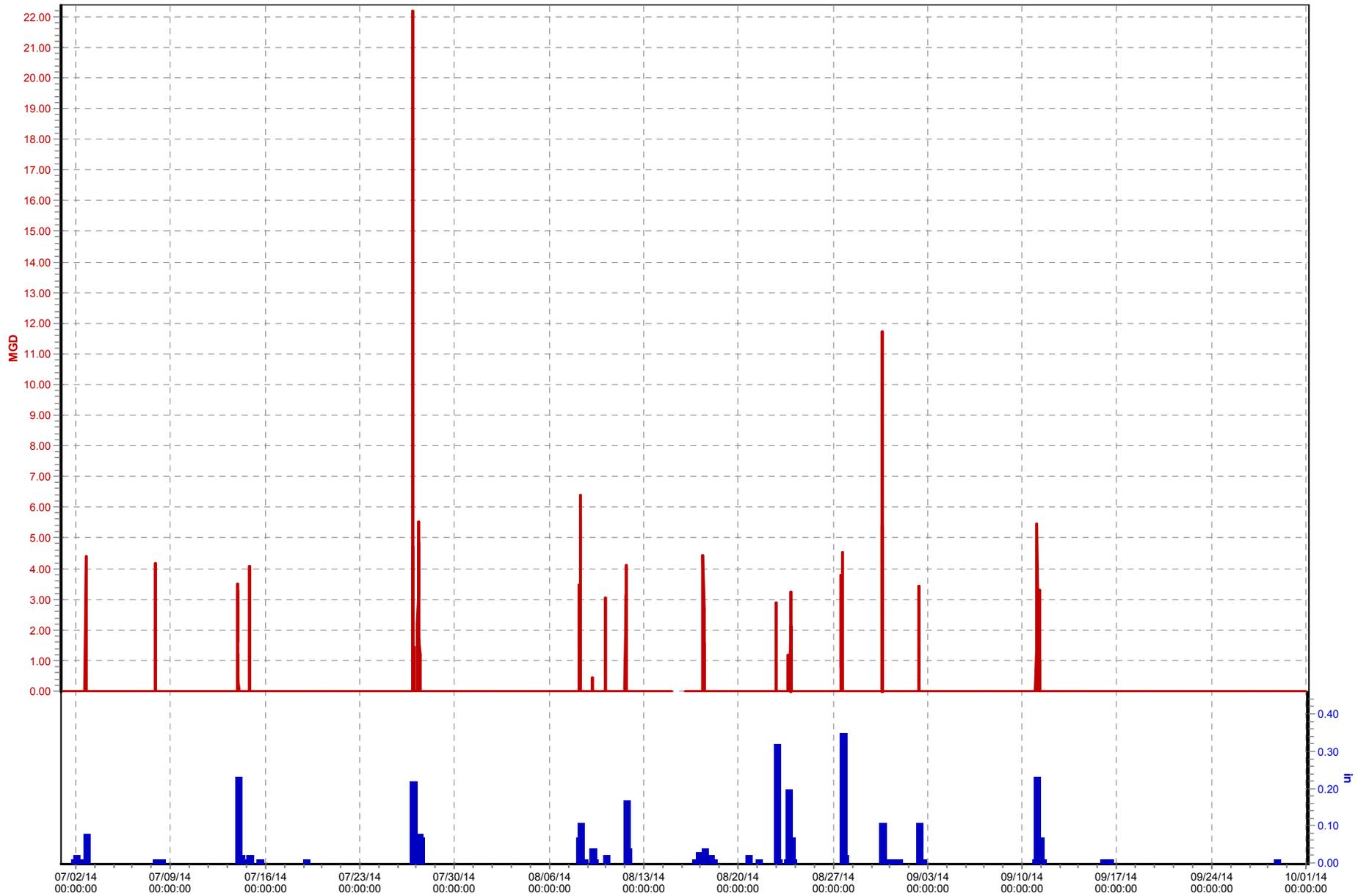
### CSO151 Overflow (07/01/14 to 10/01/14)

CSO Flow MGD (MGD)     TR12\_Nightingale PS.Rain (in)



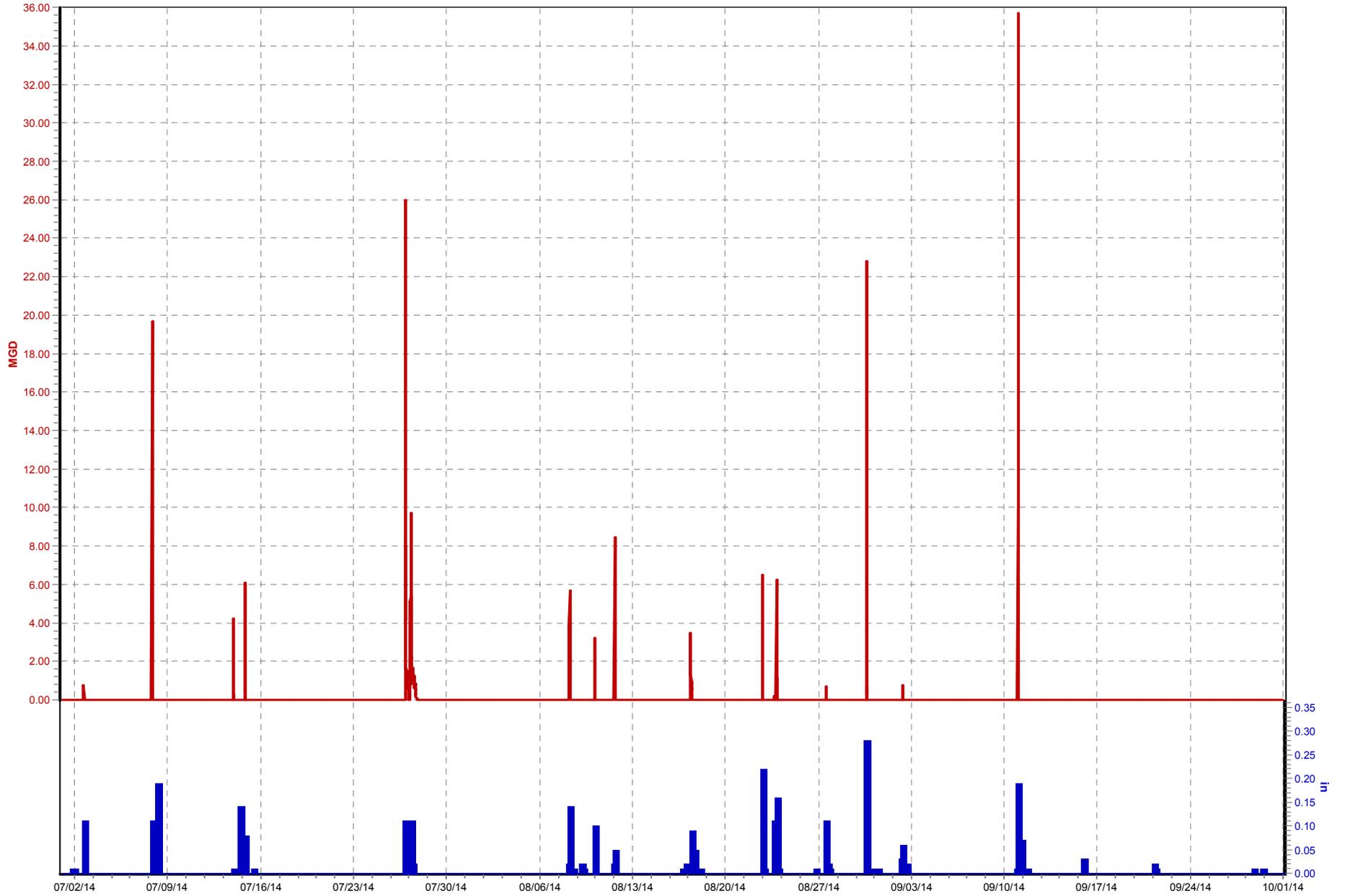
### CSO152\_Rufer Ave (07/01/14 to 10/01/14)

CSO Flow MGD (MGD)  TR12\_Nightingale PS.Rain (in)



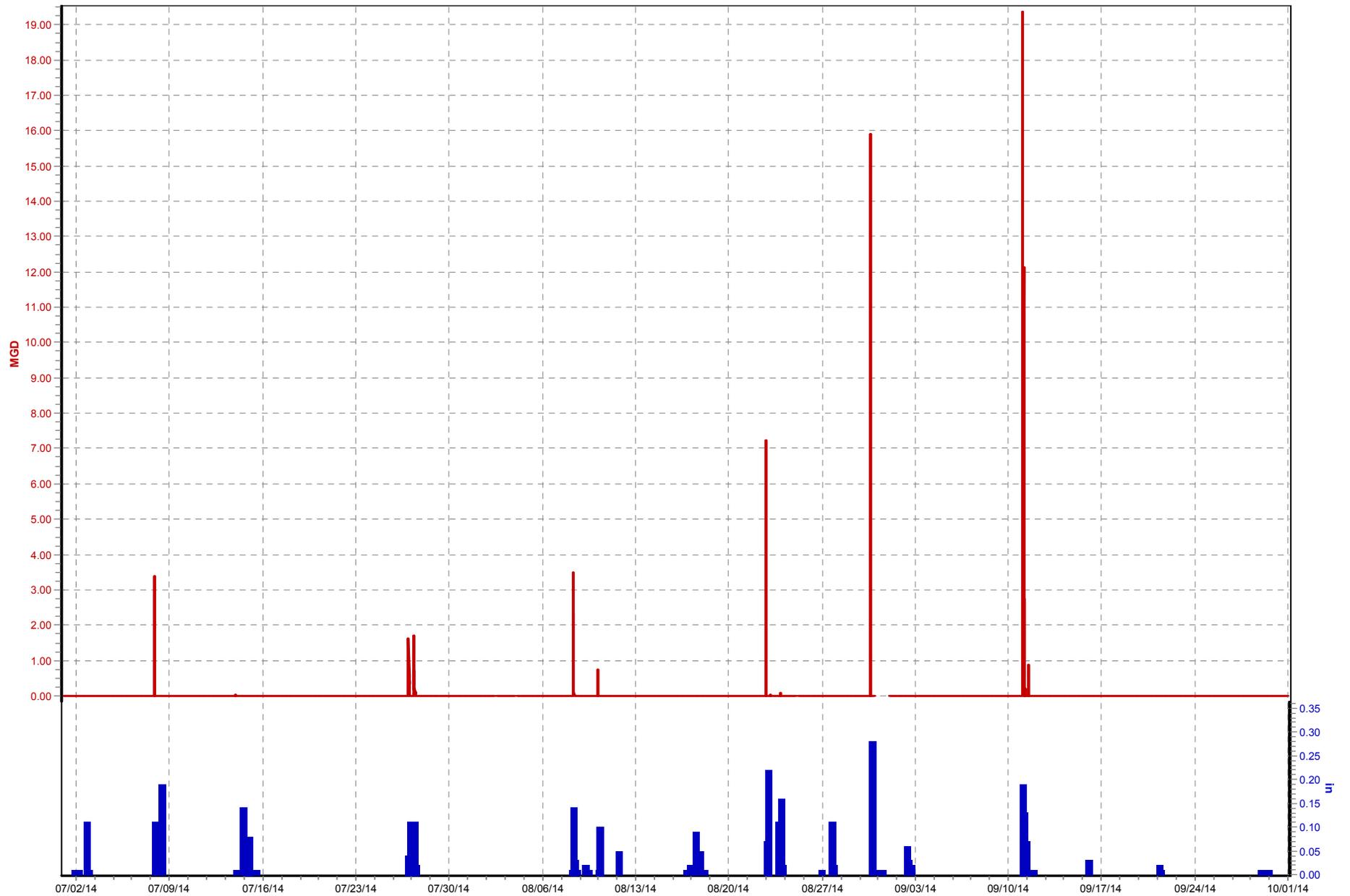
### CSO153\_Lexington Rd (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



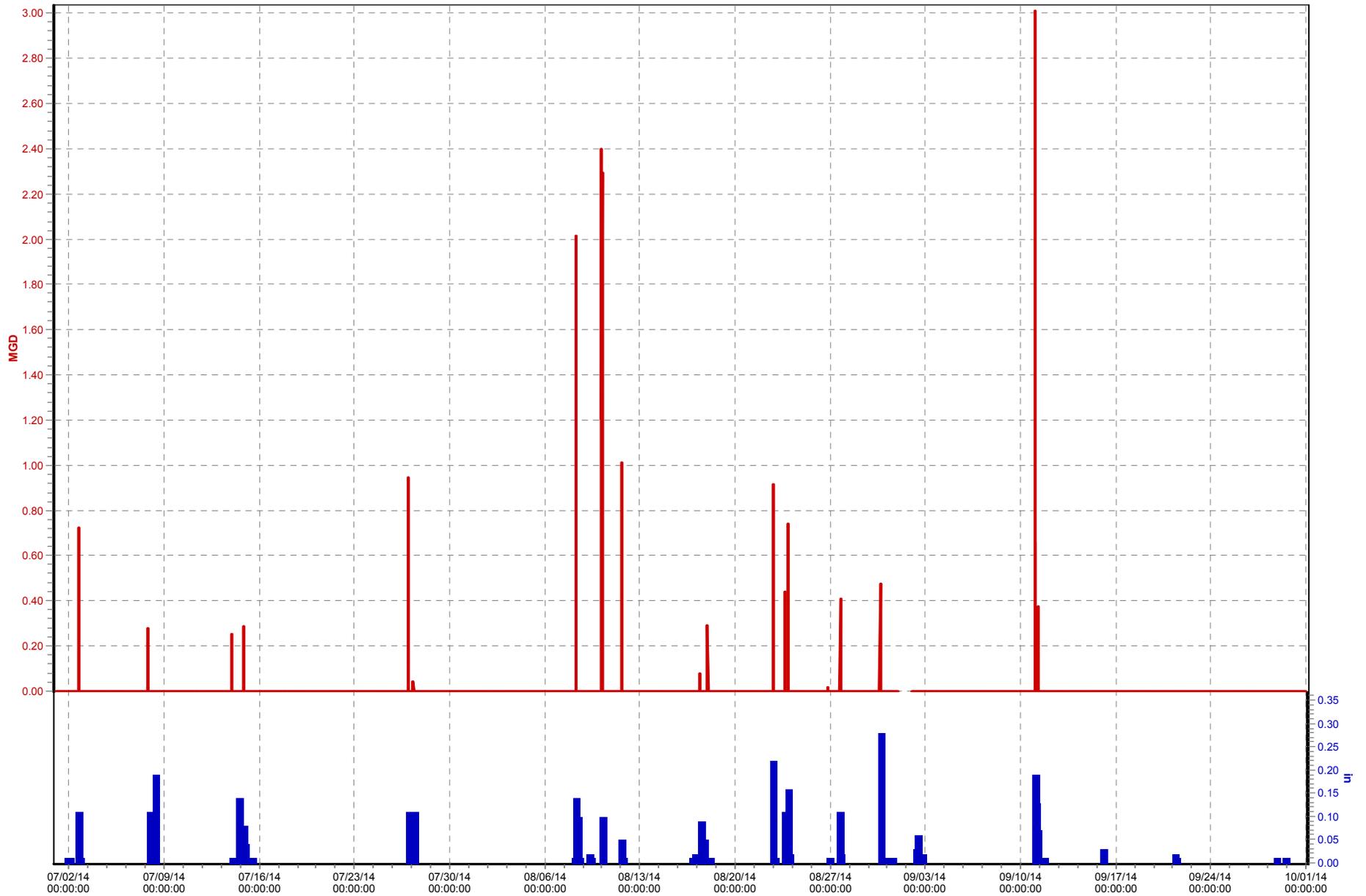
### CSO154 Mellwood Ave (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



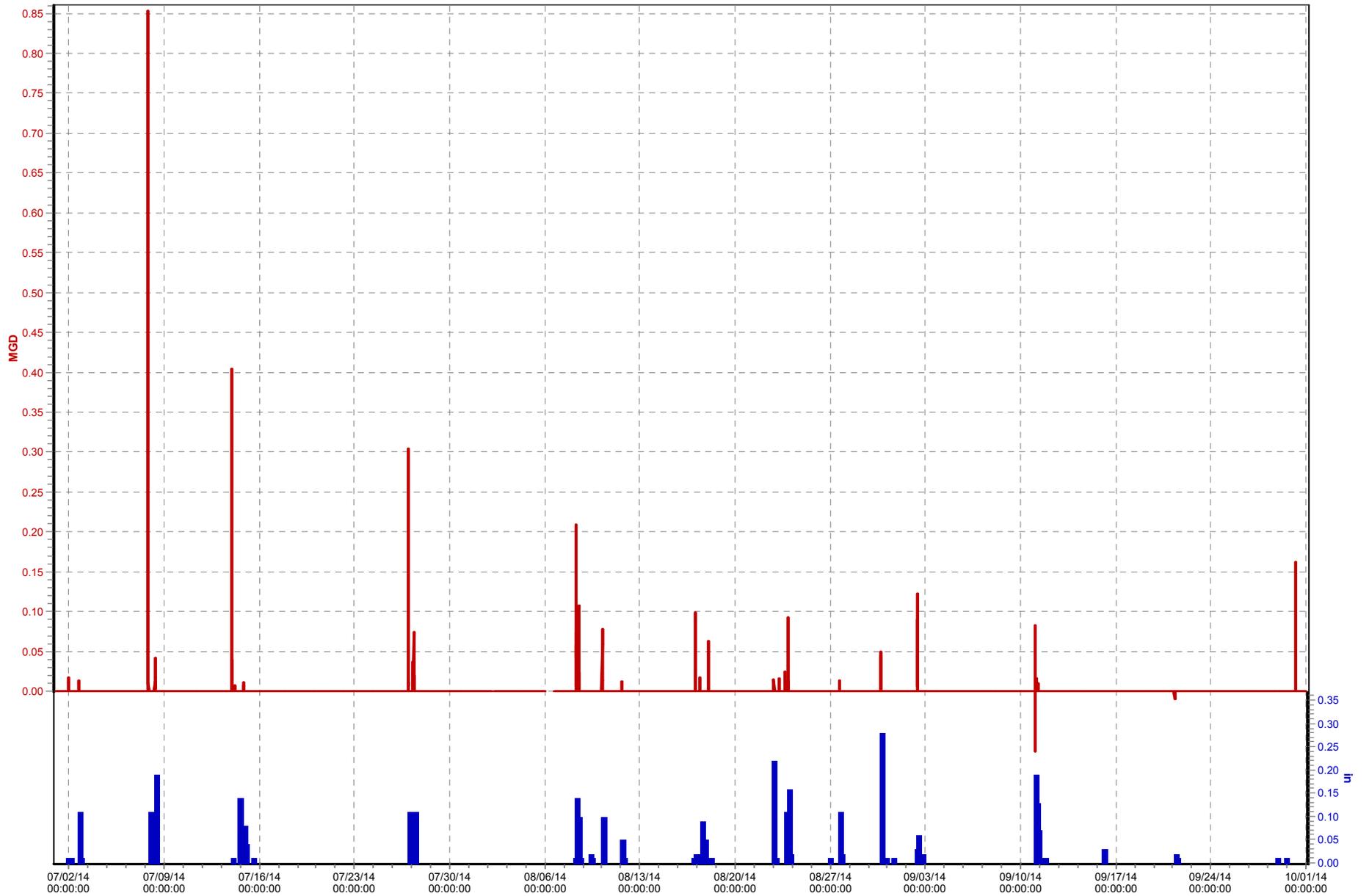
CSO155 Rowan St (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



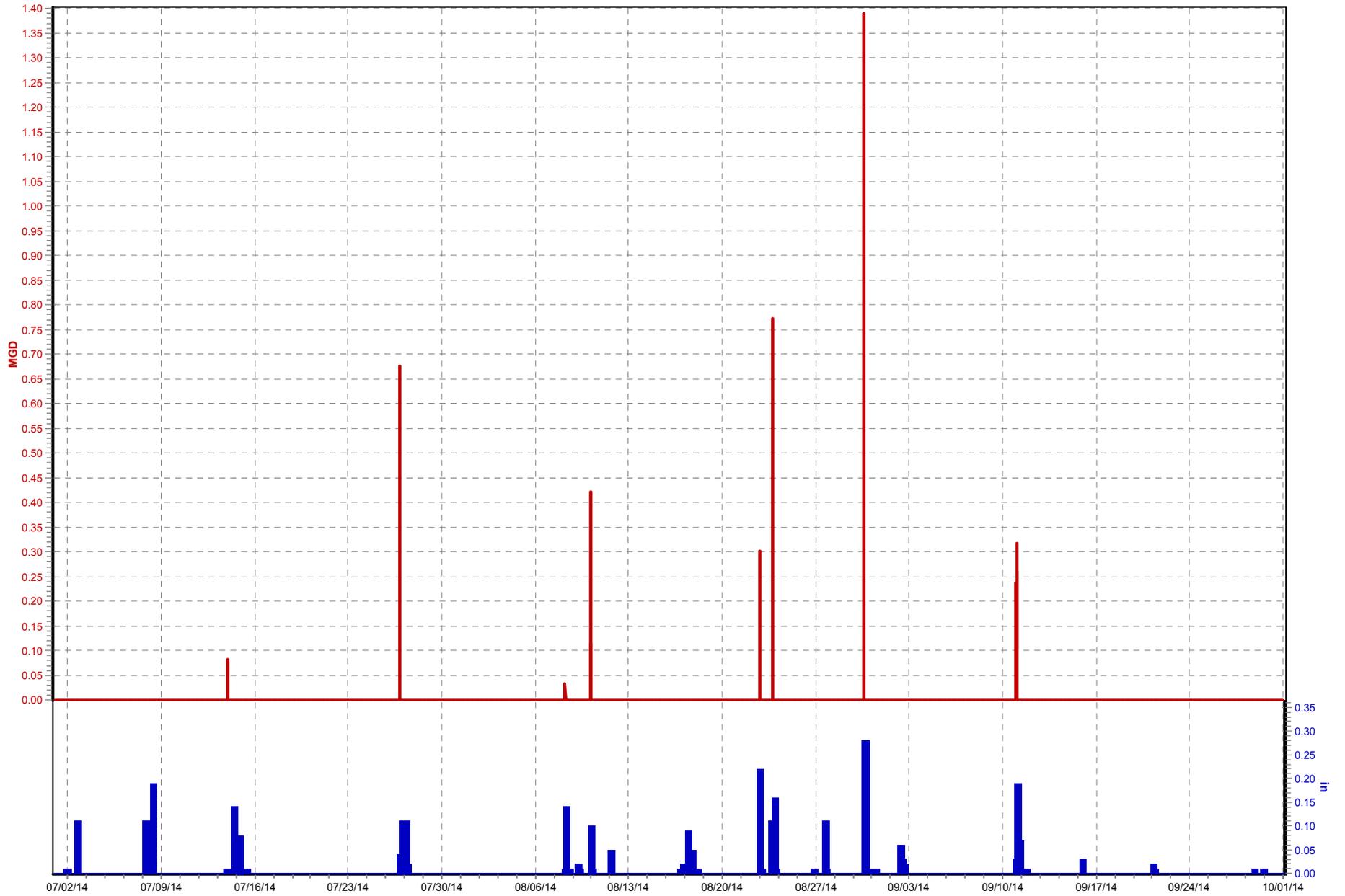
CSO160\_1st St White Castle (07/01/14 to 10/01/14)

Raw Flow MGD (MGD)  TR05\_Beargrass PS.Rain (in)



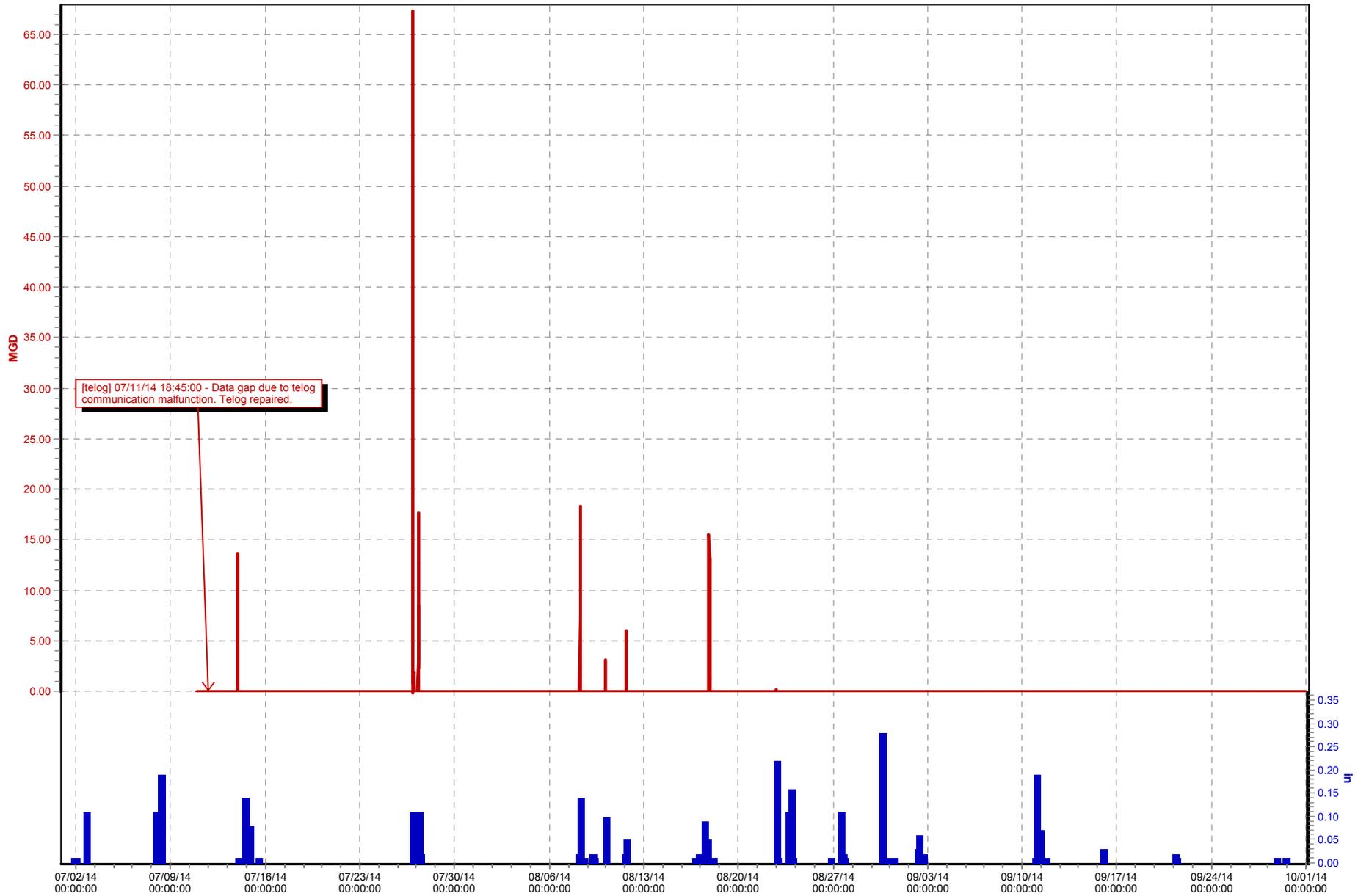
### CSO161\_1st and Market St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



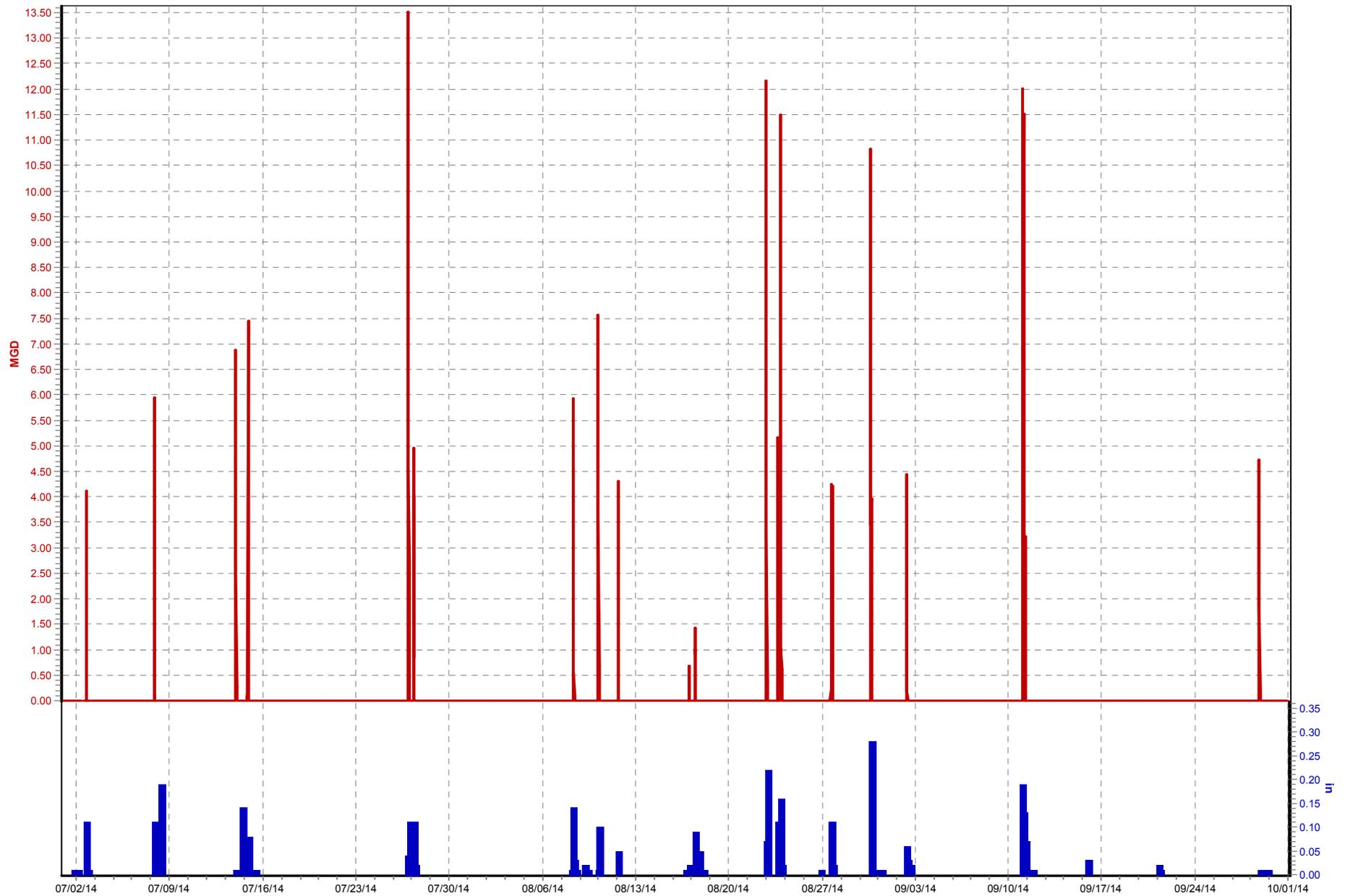
### CSO166 Lex Rd (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



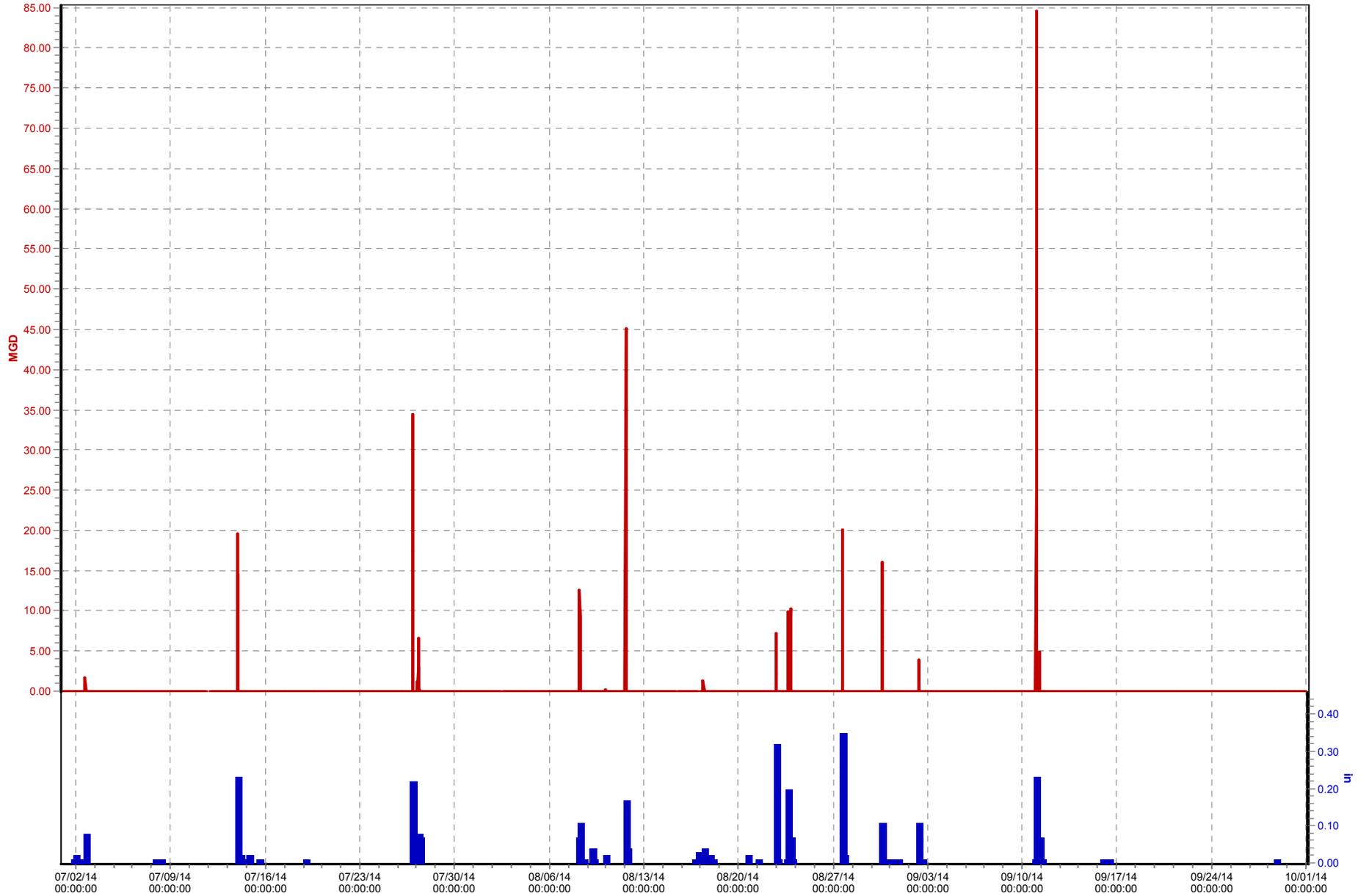
### CSO167 Brownsboro Rd (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



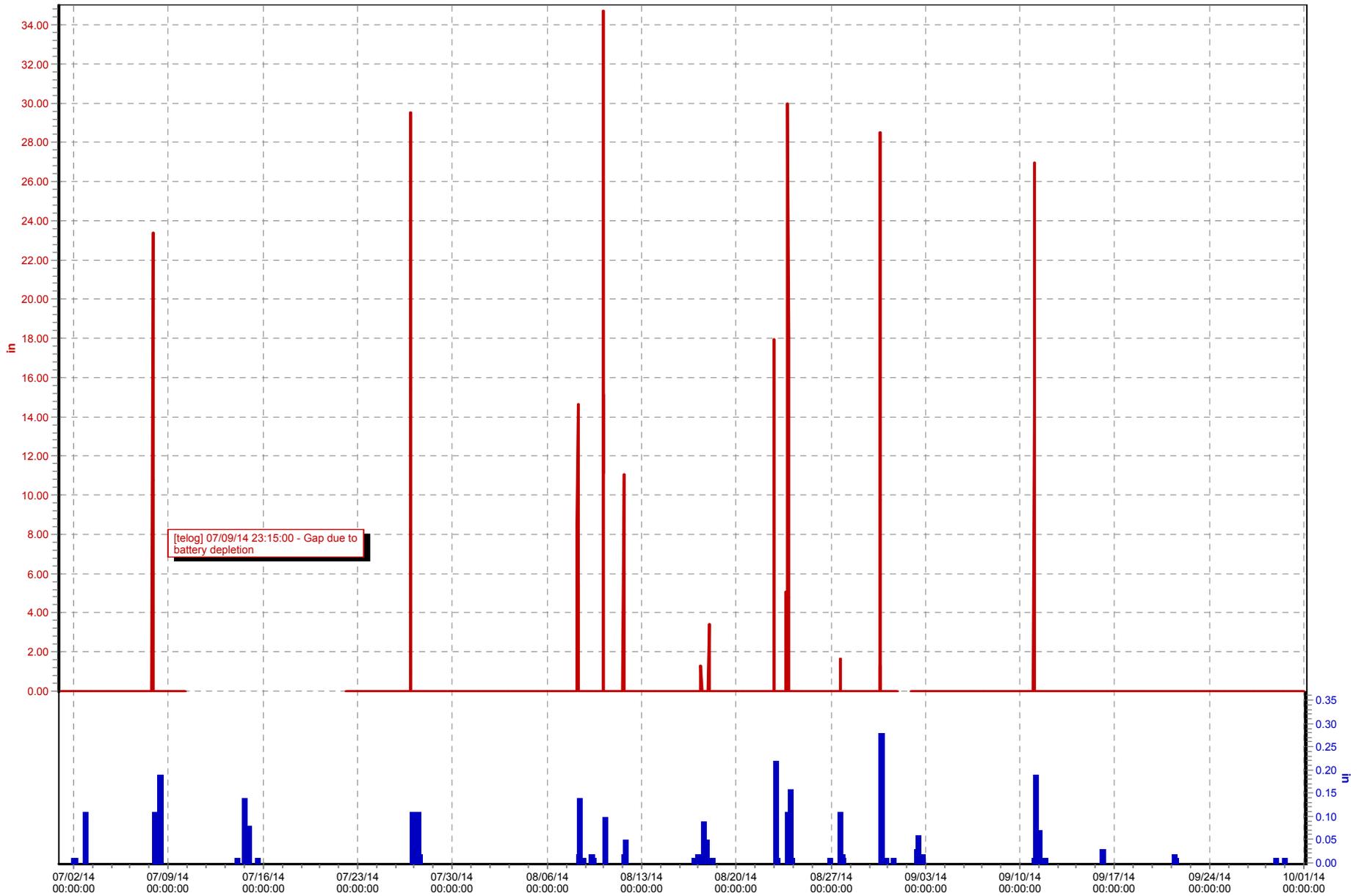
### CSO174 - Goss\_Boyle Ave (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR12\_Nightingale PS.Rain (in)



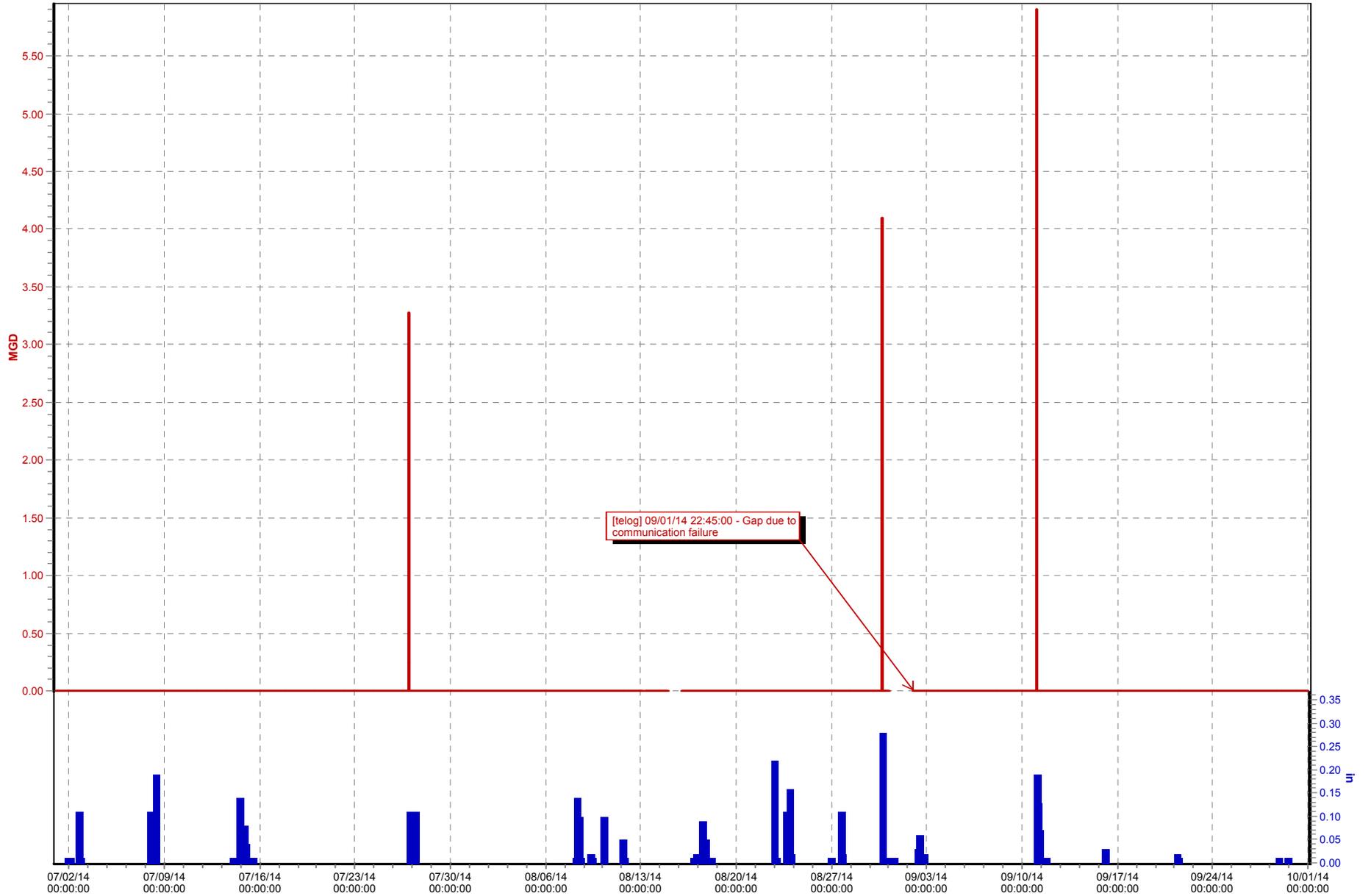
### CSO178\_CSO Upstream (07/01/14 to 10/01/14)

Estimated Level (in)     TR05\_Beargrass PS.Rain (in)



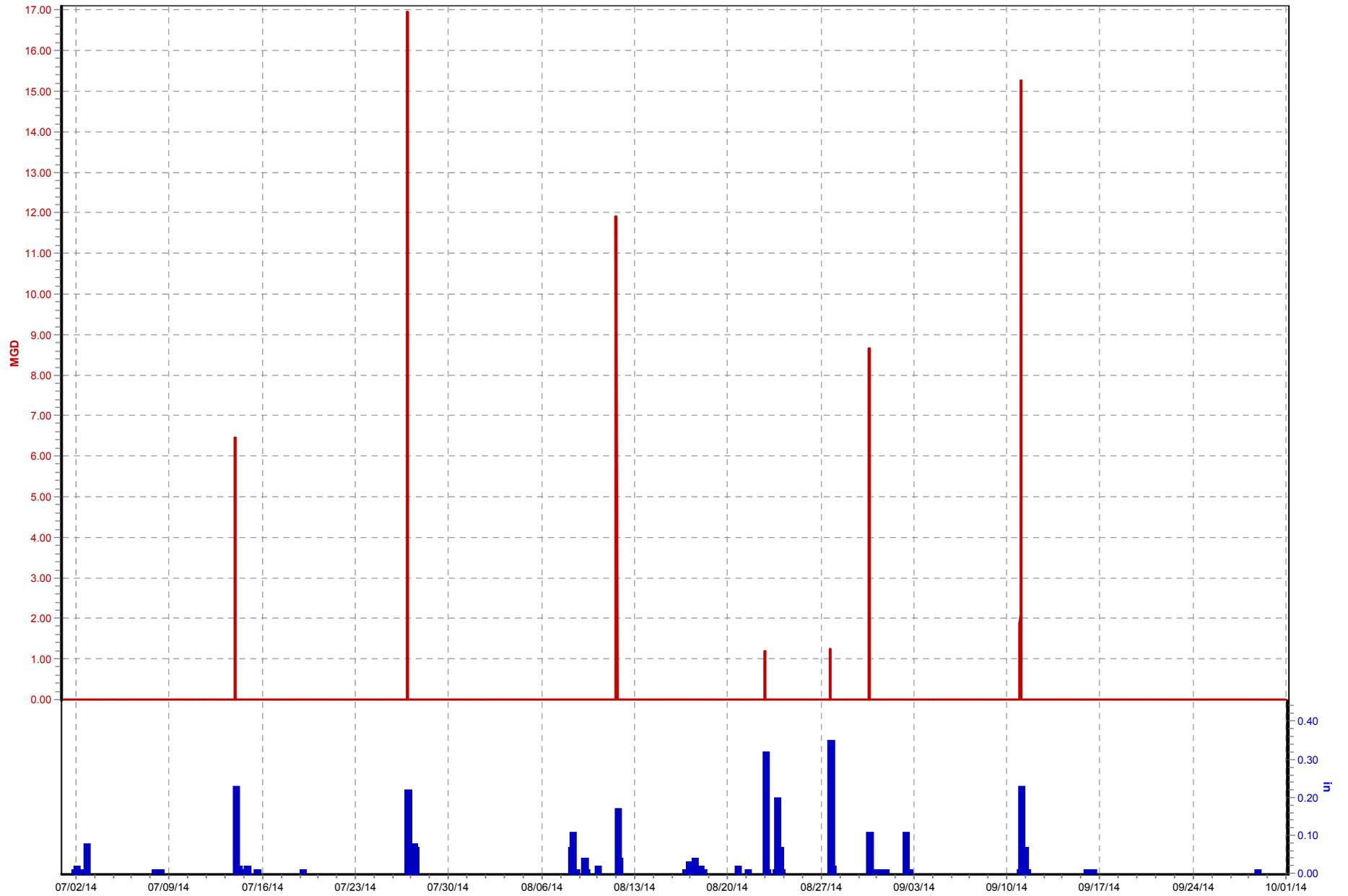
### CSO179 - KY St\_Goss (07/01/14 to 10/01/14)

Flow (MGD)  TR05\_Beargrass PS.Rain (in)



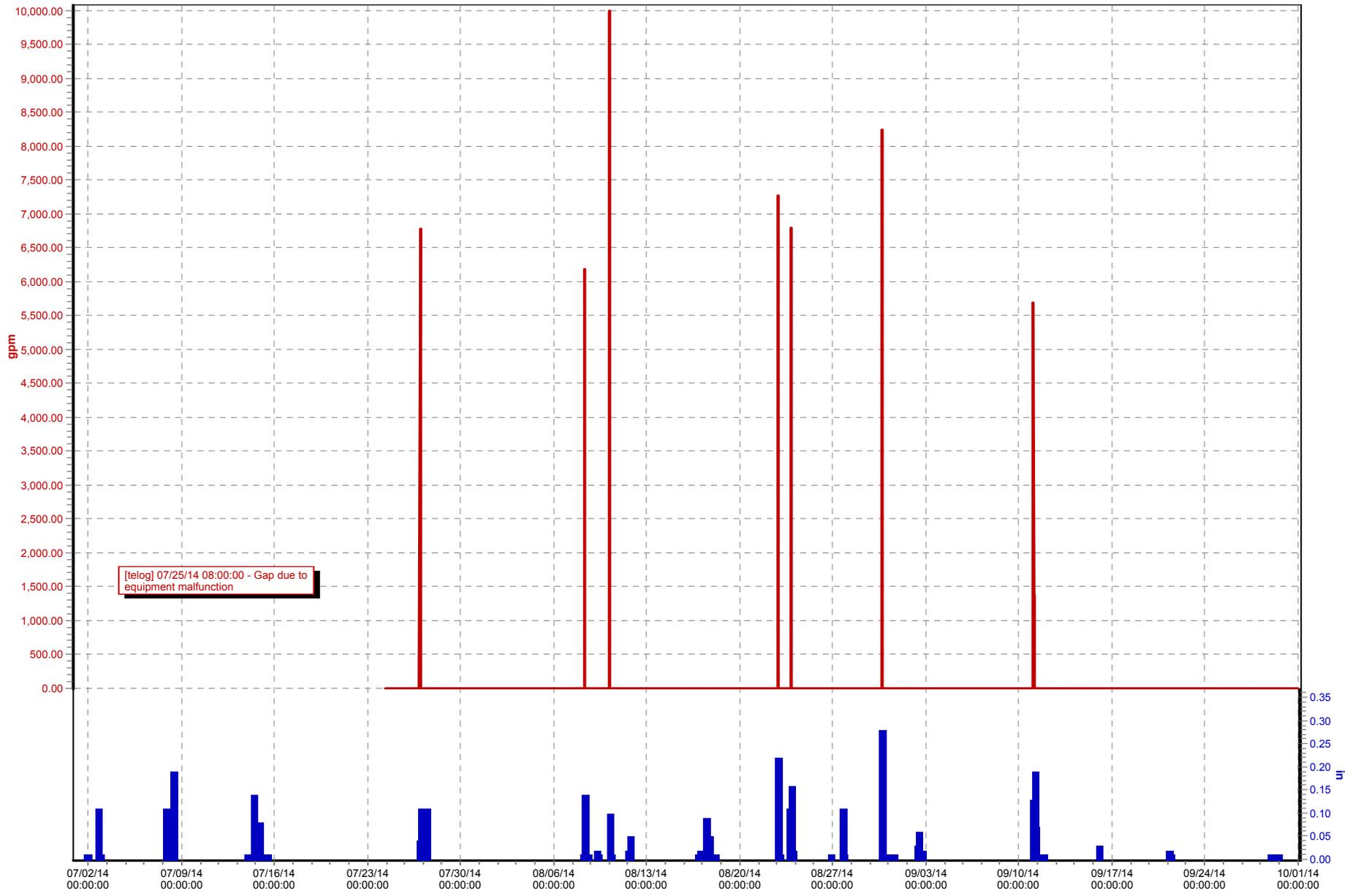
### CSO180 at 636 E Ormsby Ave (07/01/14 to 10/01/14)

Raw Flow (MGD)     TR12\_Nightingale PS.Rain (in)



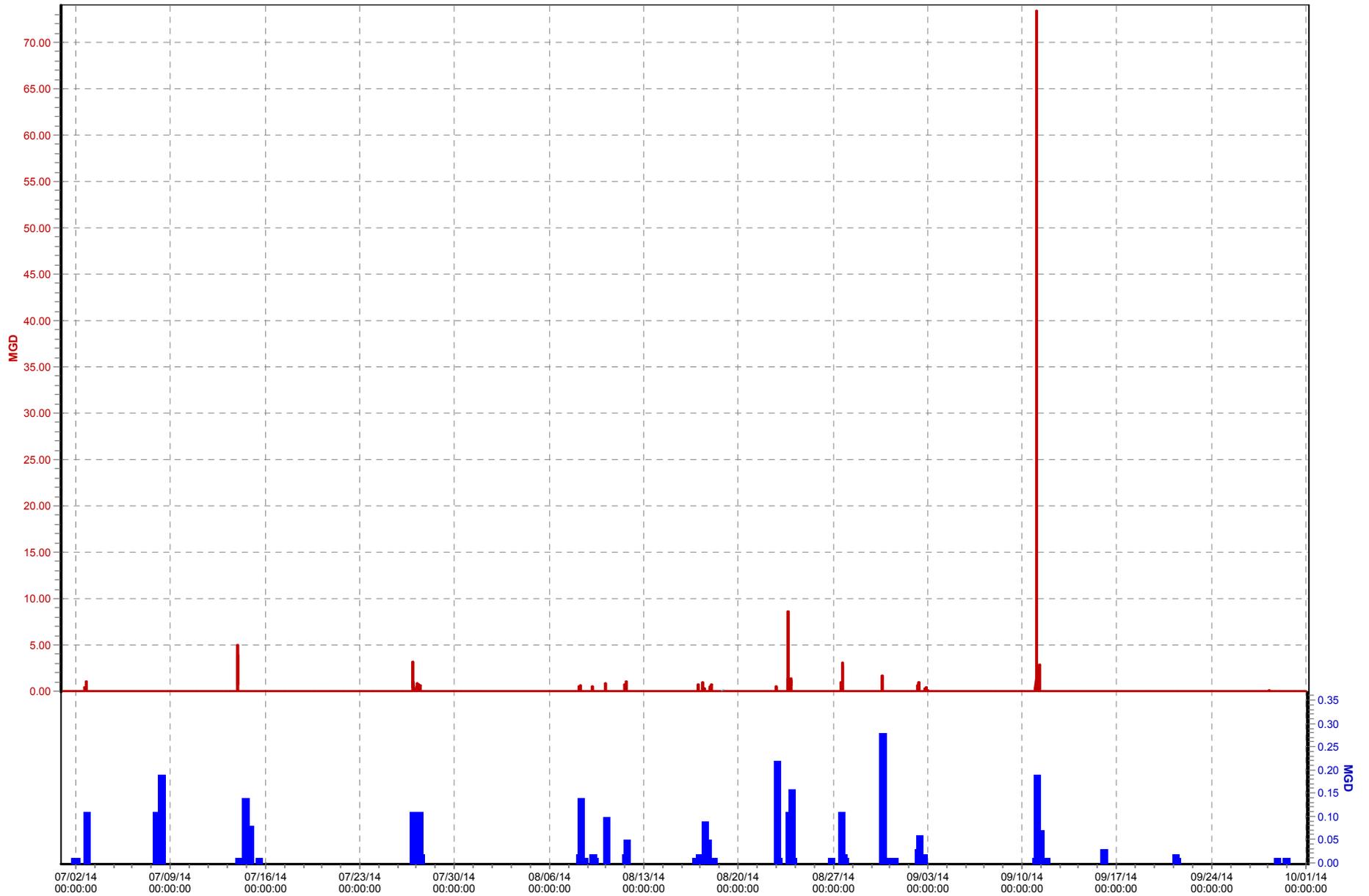
### CSO181\_2nd St Broadway (07/01/14 to 10/01/14)

Raw Flow (gpm)     TR05\_Beargrass PS.Rain (in)



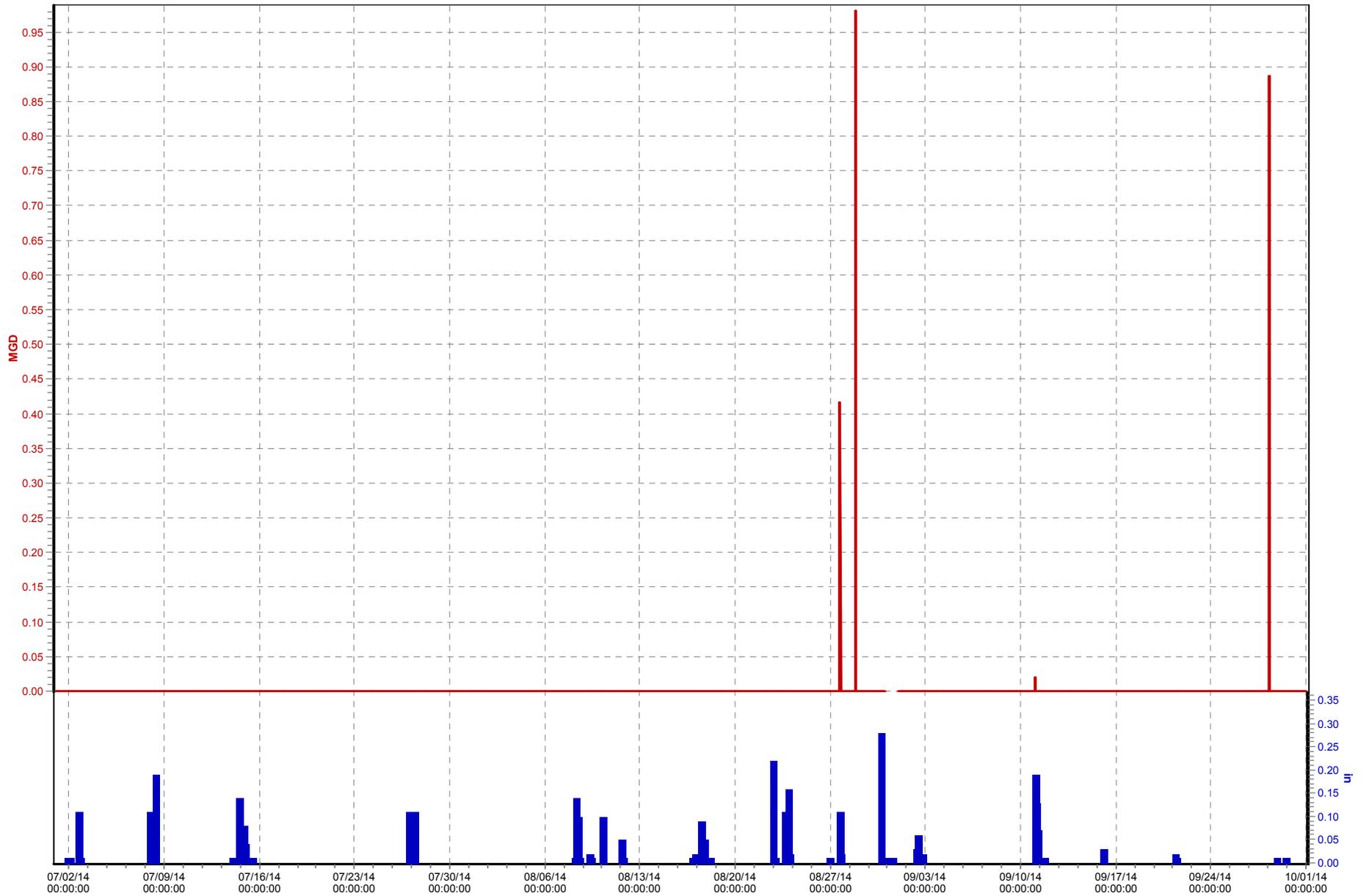
CSO182\_Shelby St Burnett (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



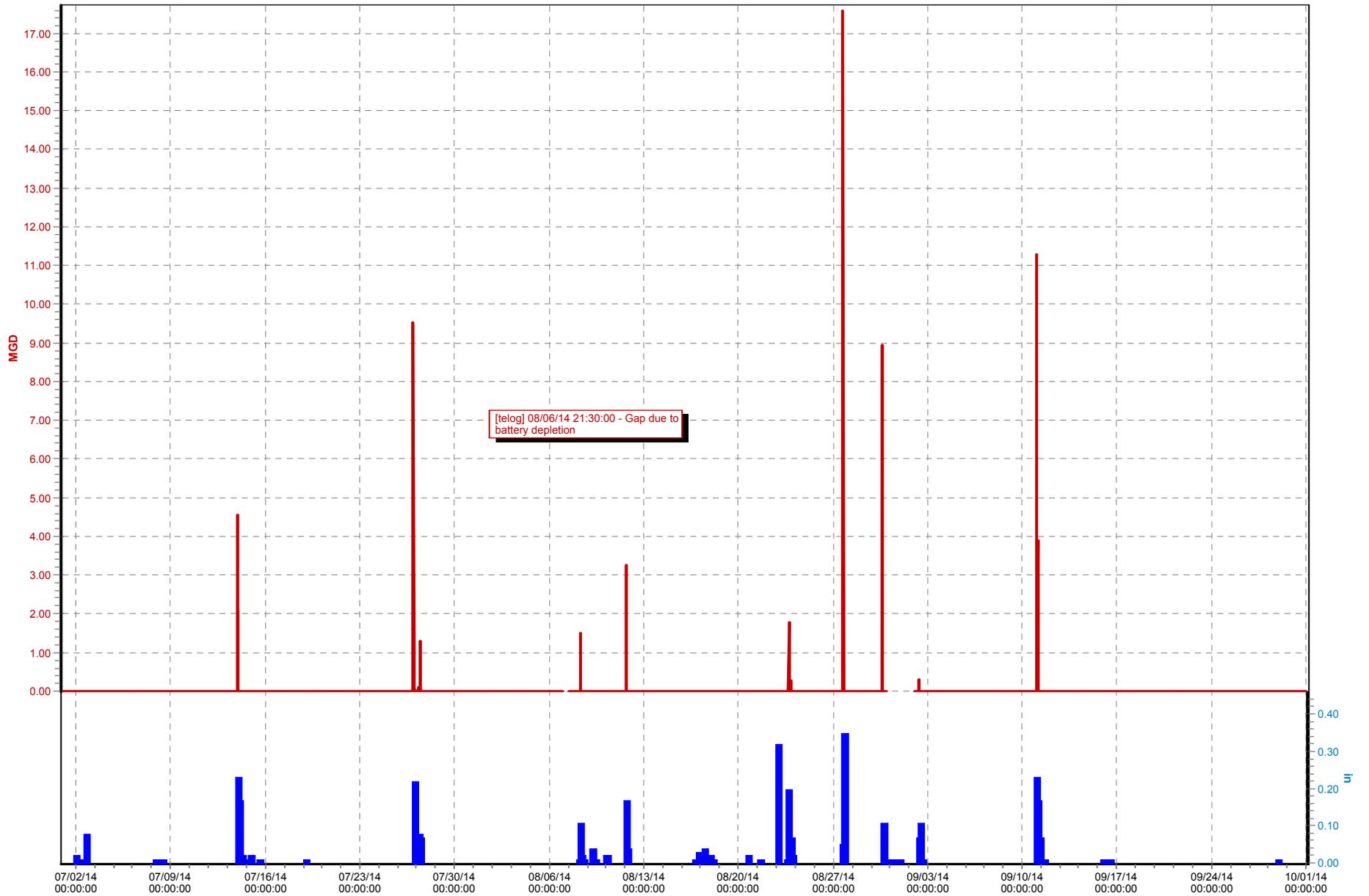
CSO183\_Keswick Alexander (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



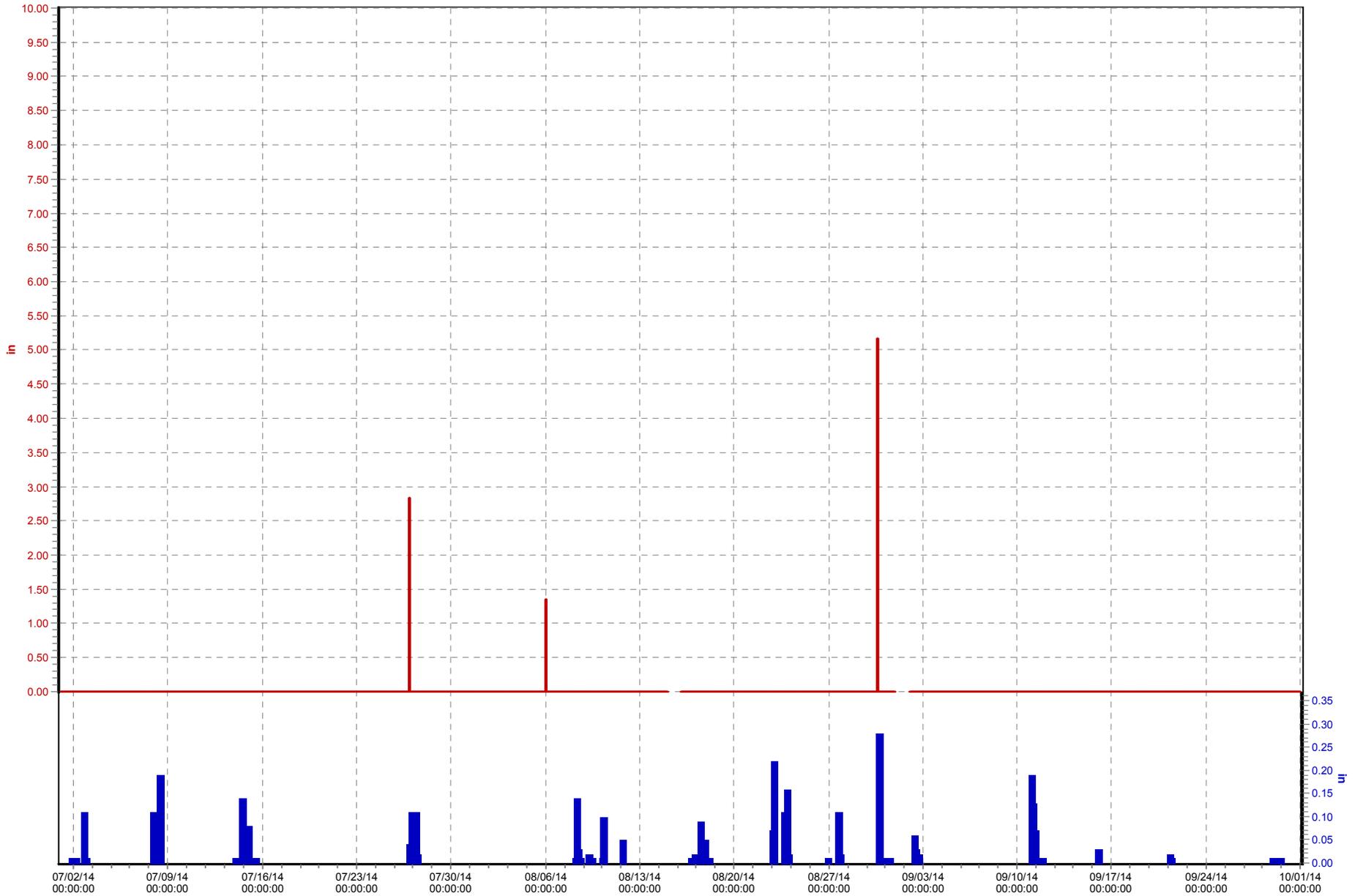
### CSO184\_Fetter Alexander (07/01/14 to 10/01/14)

Calc CSO184 Flow (MGD)  TR12\_Nightingale PS.Rain (in)



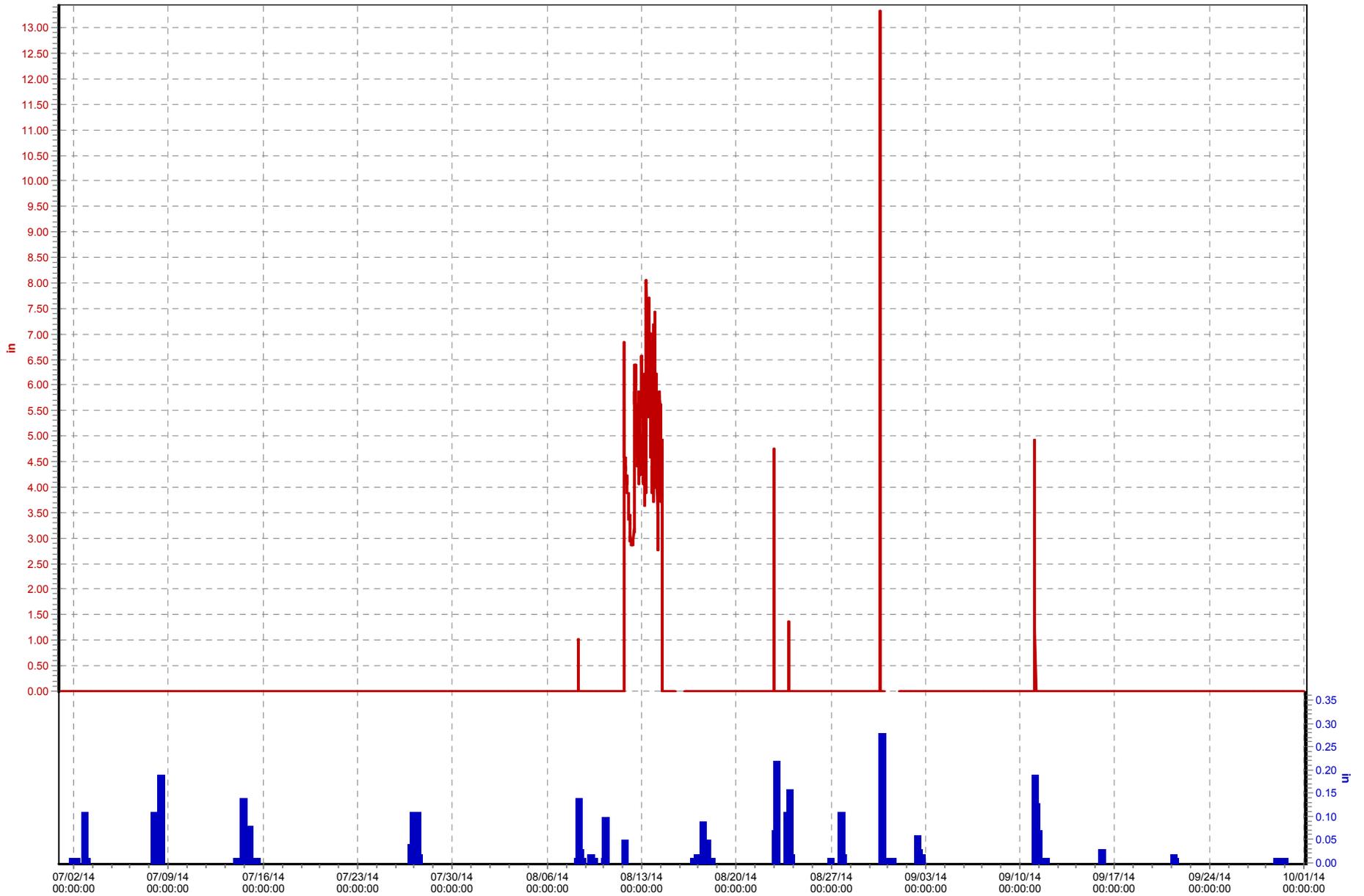
### CSO186\_Oak St Logan St (07/01/14 to 10/01/14)

Overflow Level (in)     TR05\_Beargrass PS.Rain (in)



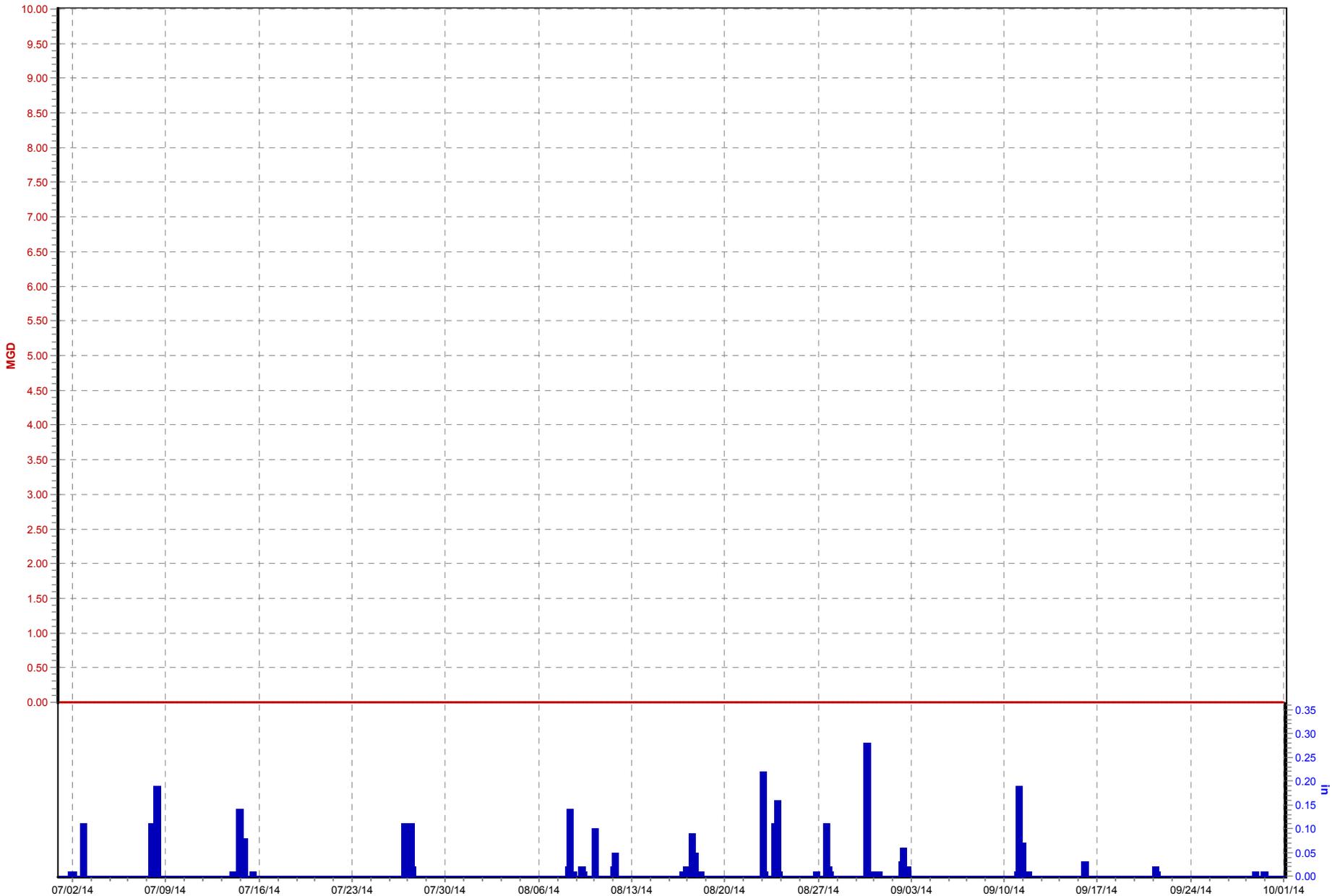
CSO187\_1260 S Shelby St (07/01/14 to 10/01/14)

Overflow Level (in)  TR05\_Beargrass PS.Rain (in)



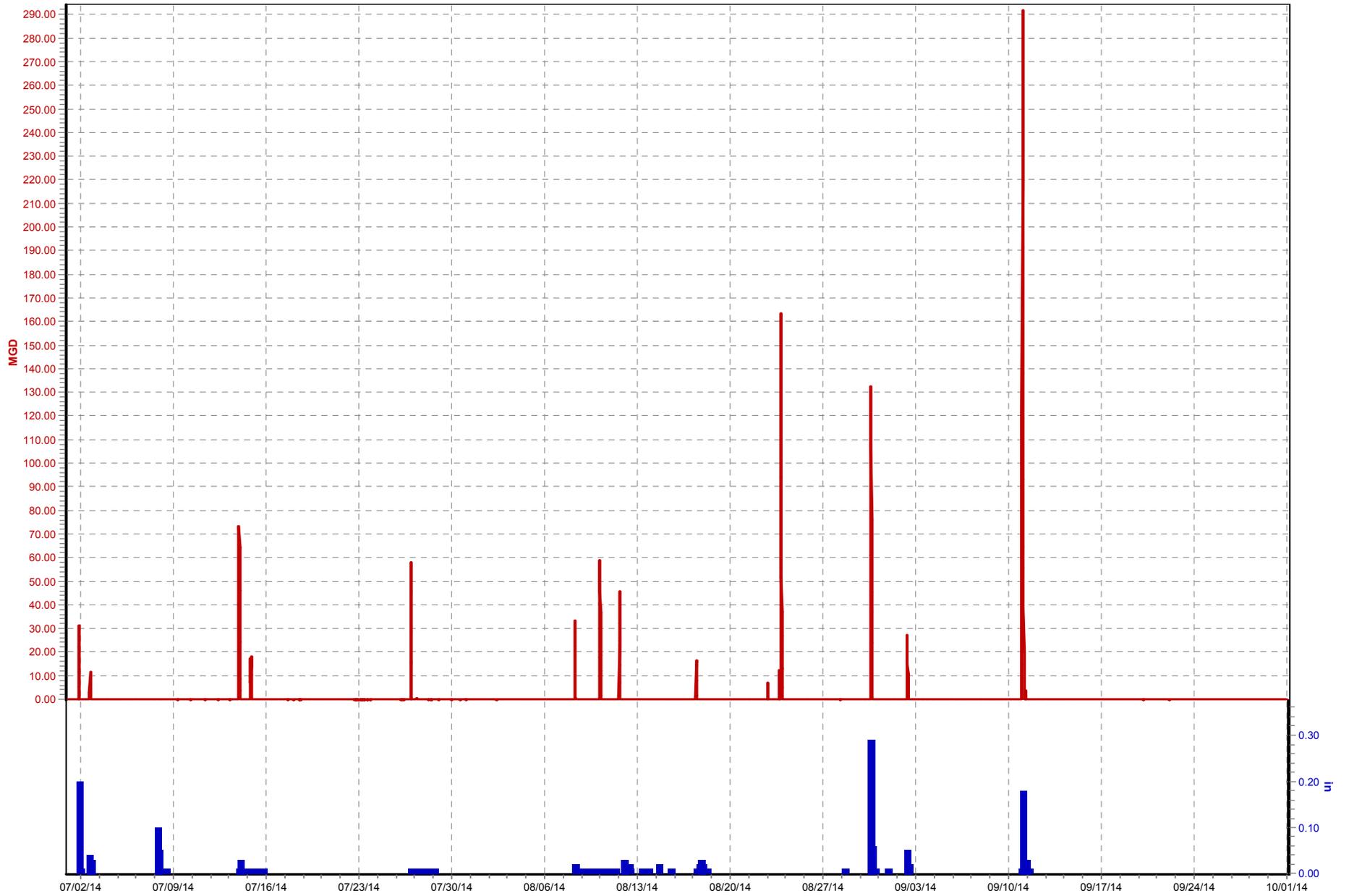
CSO188\_1245 S Clay St (07/01/14 to 10/01/14)

Flow (MGD)  TR05\_Beargrass PS.Rain (in)



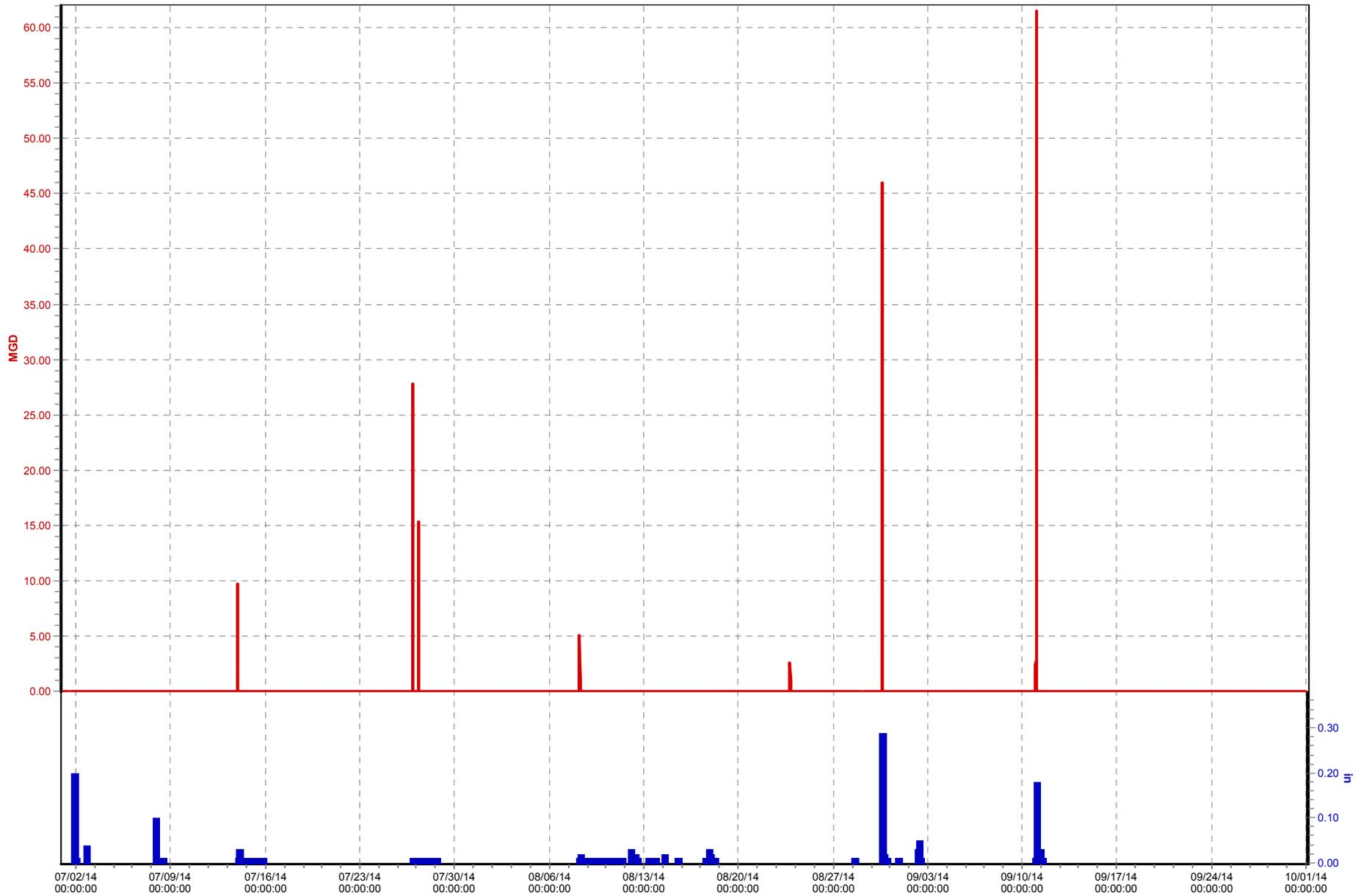
CSO189 Shawnee PK PS (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR04\_Morris Forman WQTC.Rain (in)



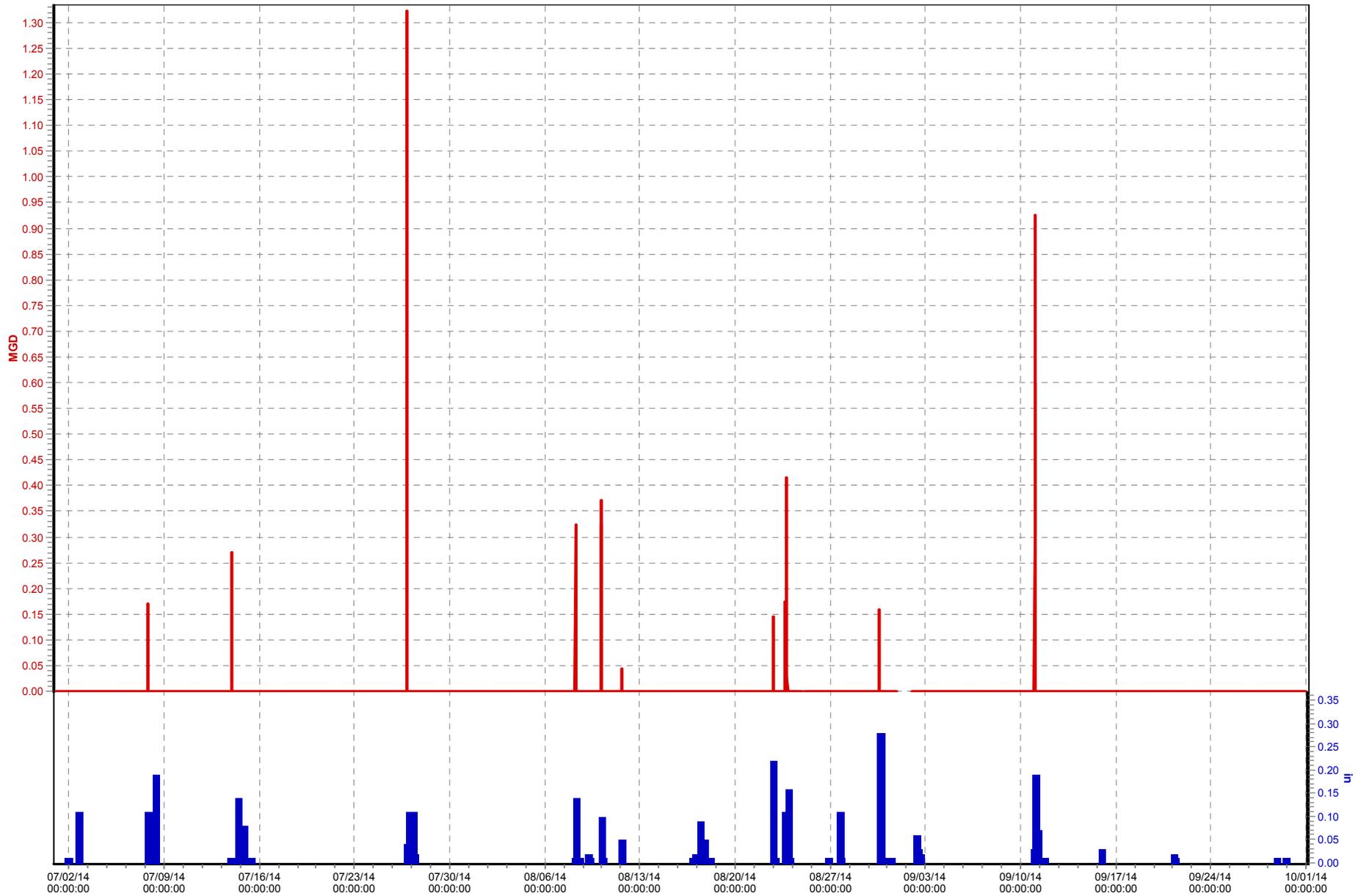
### CSO191 Bells Lane PS (07/01/14 to 10/01/14)

Final Flow (MGD)       TR04\_Morris Forman WQTC.Rain (in)



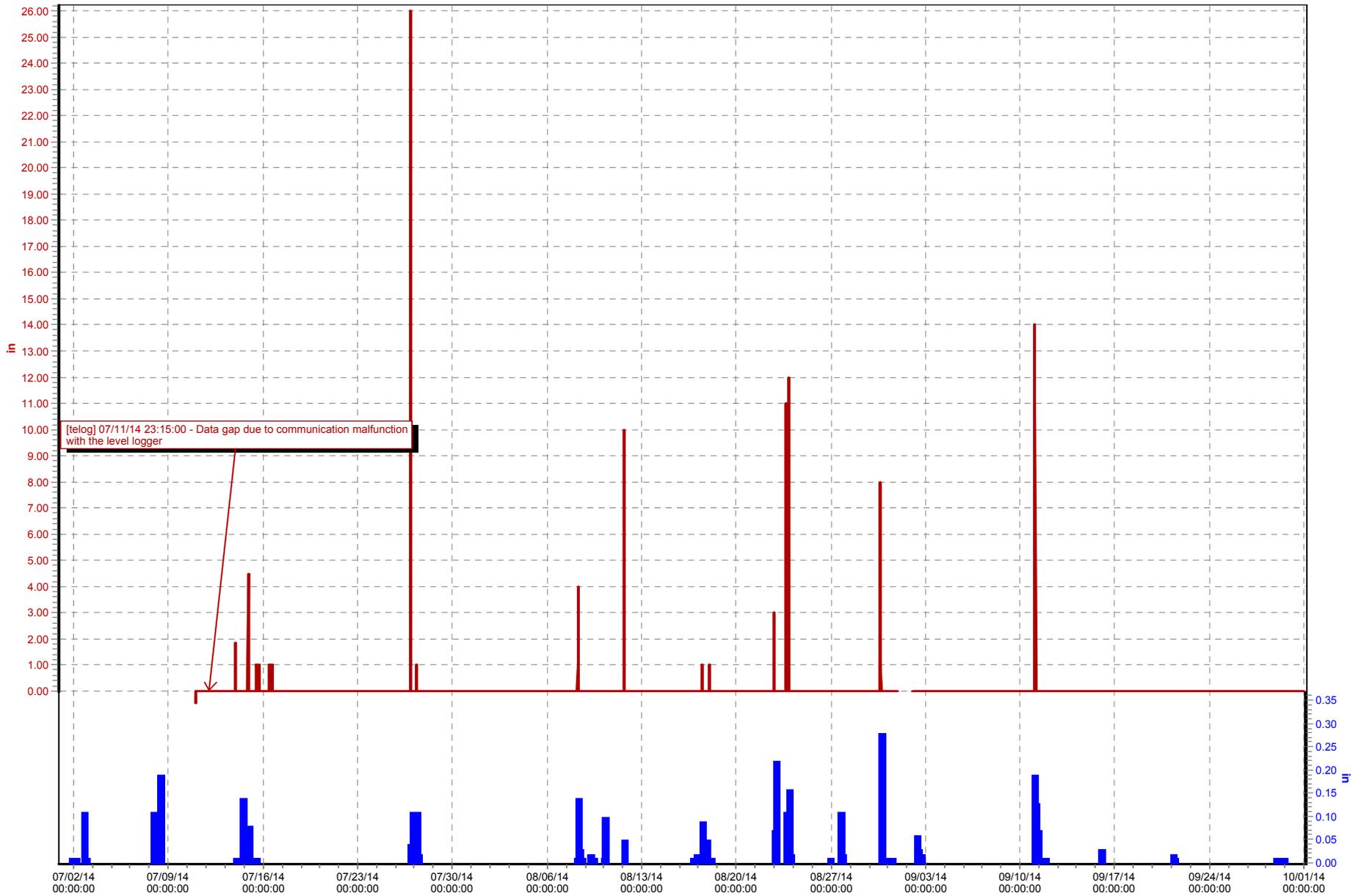
### CSO193\_6th and KY (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



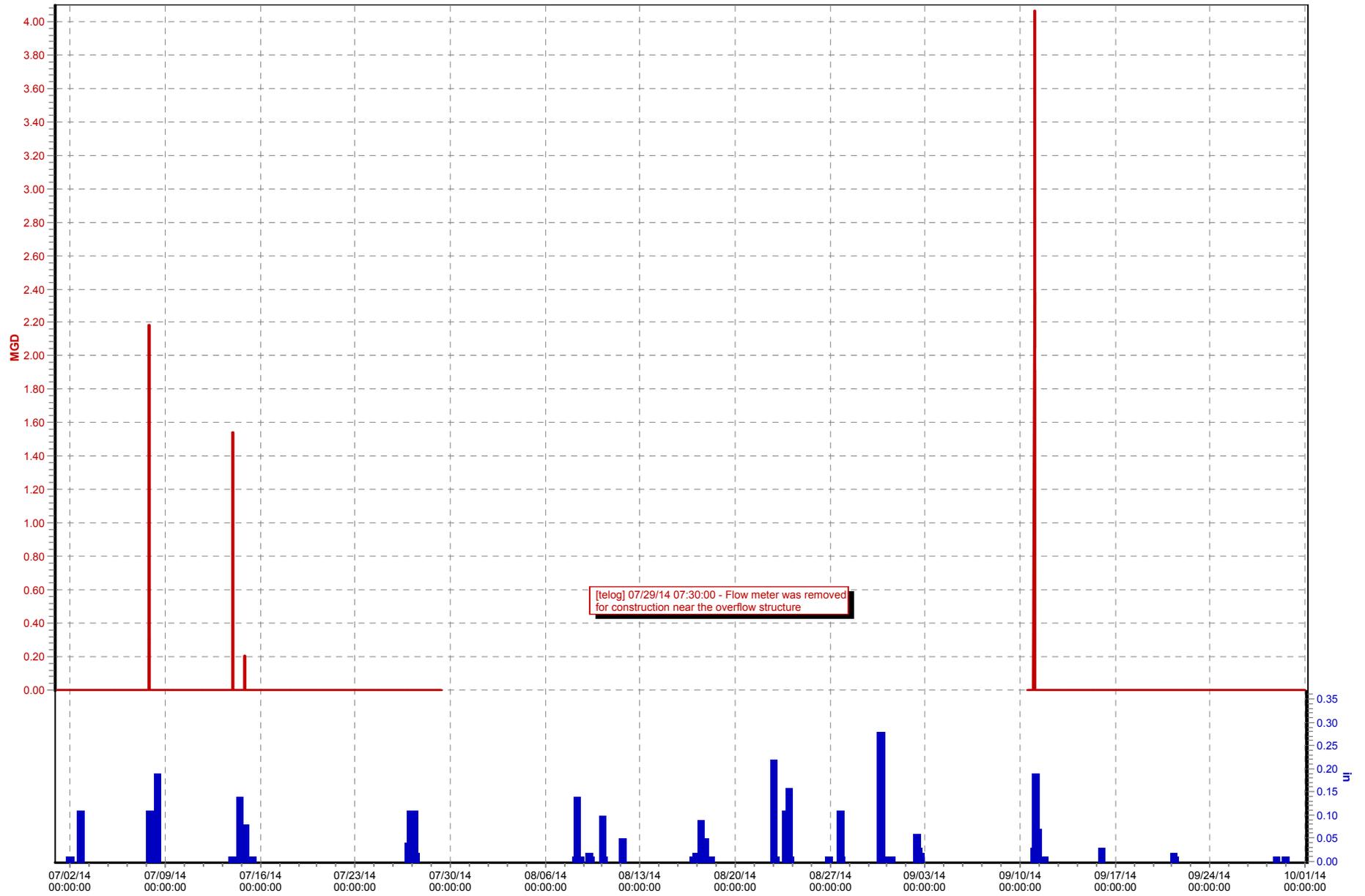
### CSO195 Overflow (07/01/14 to 10/01/14)

Calculated Level (in)     TR05\_Beargrass PS.Rain (in)



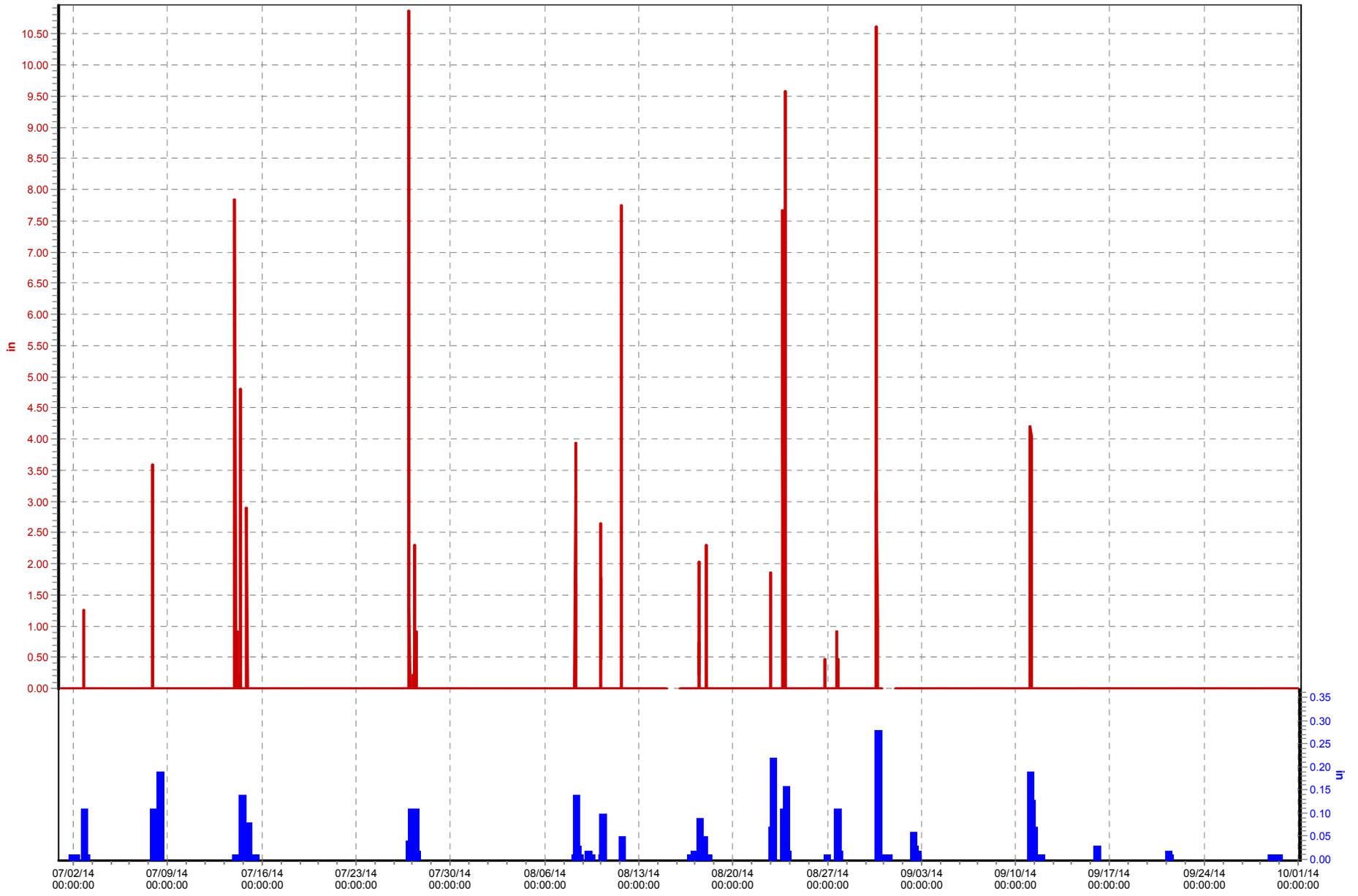
### CSO196\_Overflow (07/01/14 to 10/01/14)

Final CSO Flow (MGD)  TR05\_Beargrass PS.Rain (in)



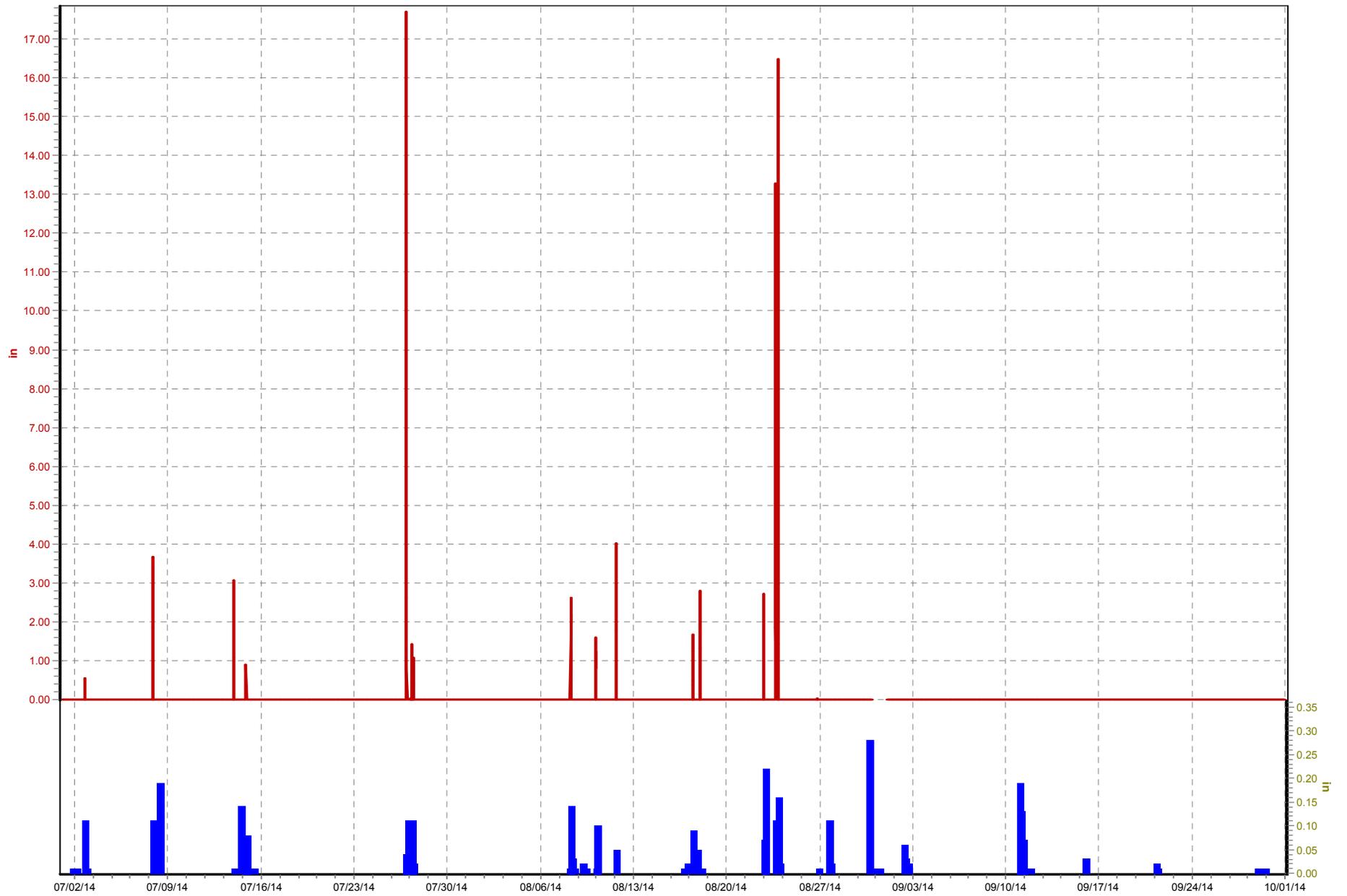
CSO197 S 3rd St (07/01/14 to 10/01/14)

Overflow Level (in)  TR05\_Beargrass PS.Rain (in)



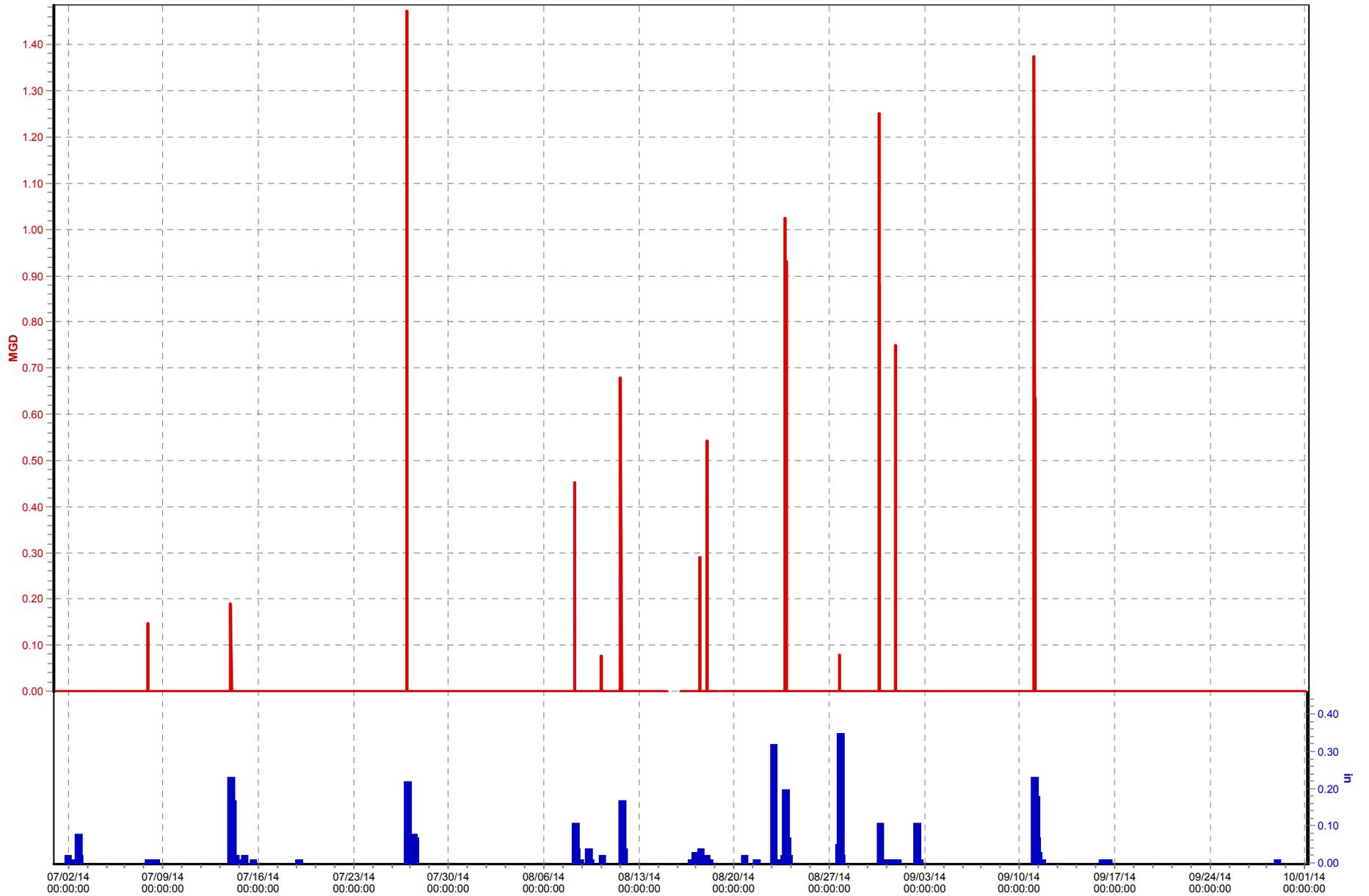
### CSO198\_S 3rd St (07/01/14 to 10/01/14)

Overflow Level (in)     TR05\_Beargrass PS.Rain (in)



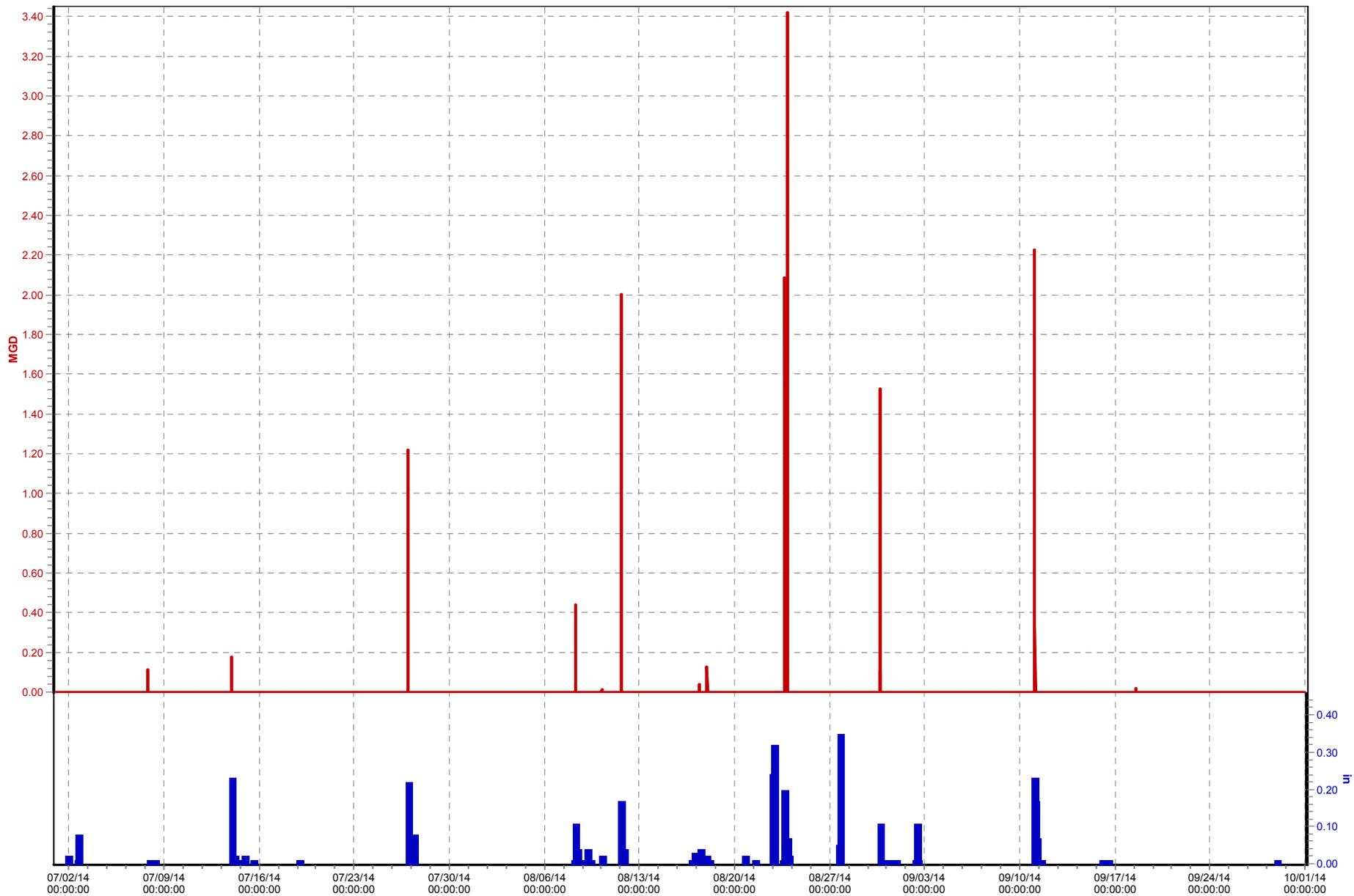
### CSO199 S 3rd St (07/01/14 to 10/01/14)

Final Flow (MGD)  TR12\_Nightingale PS.Rain (in)



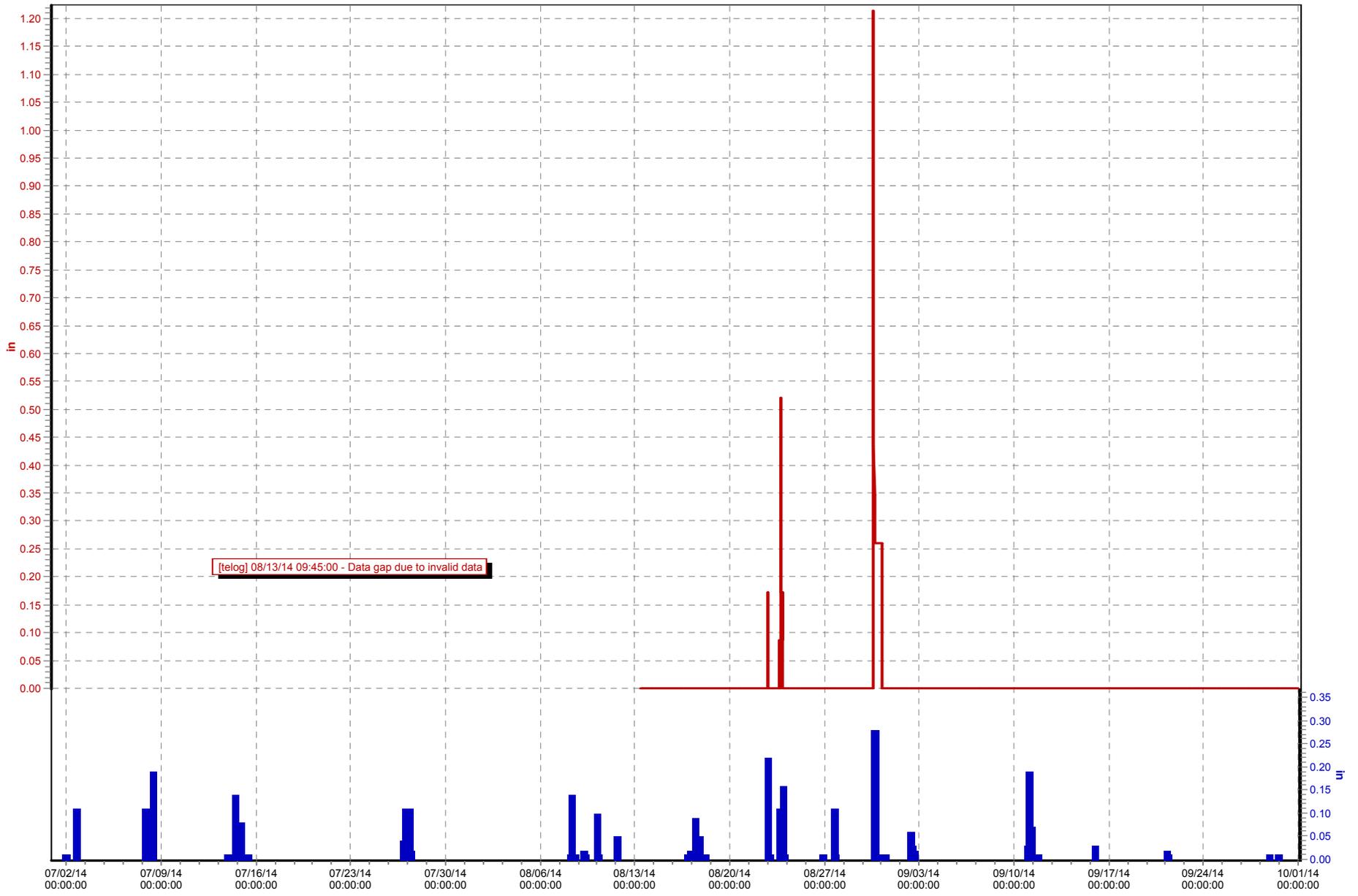
CSO200 S 3rd St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR12\_Nightingale PS.Rain (in)



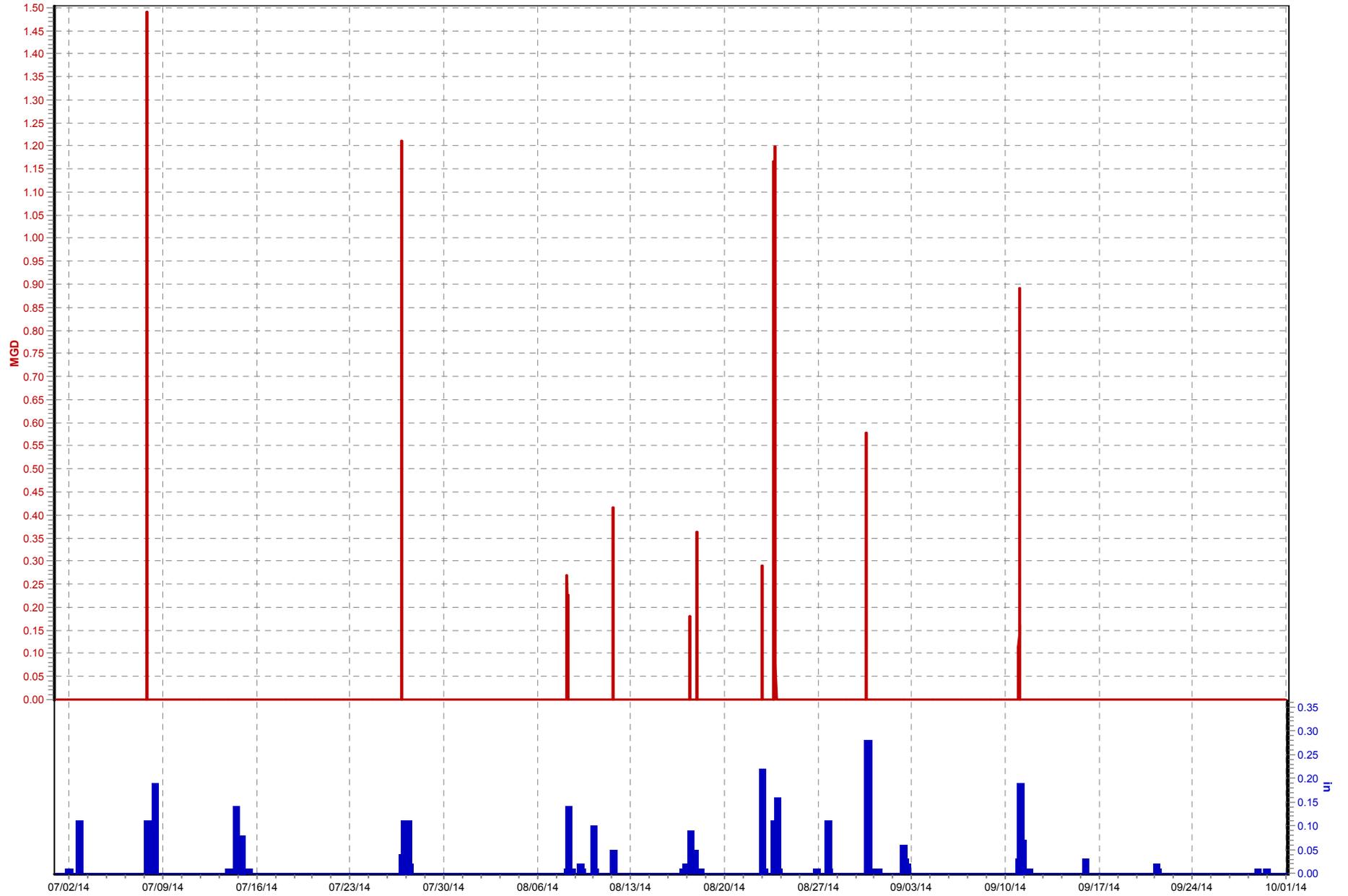
### CSO201\_Upstream of Dam (07/01/14 to 10/01/14)

Estimated CSO Level (in)  TR05\_Beargrass PS.Rain (in)



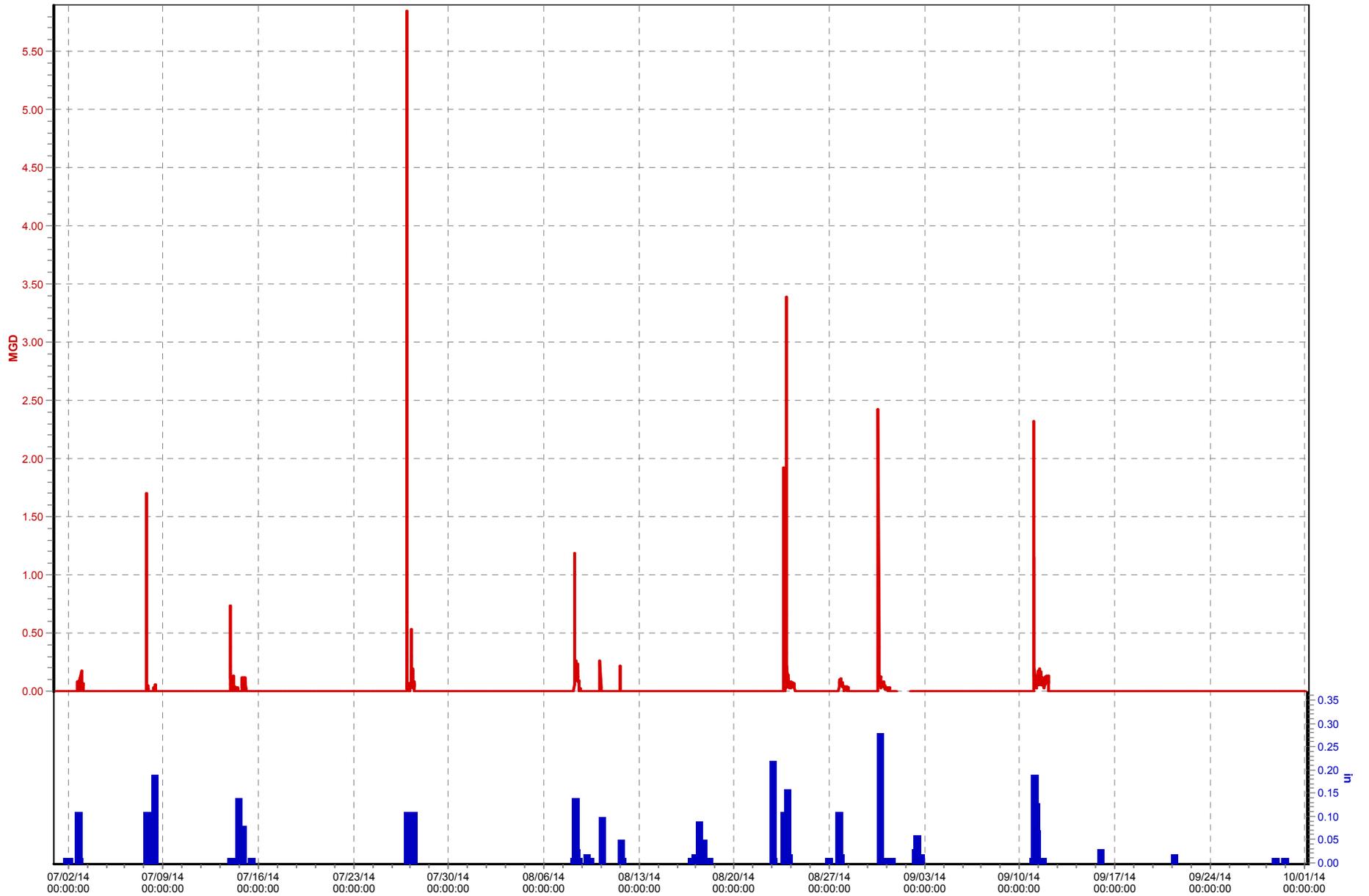
### CSO202 (07/01/14 to 10/01/14)

Flow (MGD)     TR05\_Beargrass PS.Rain (in)



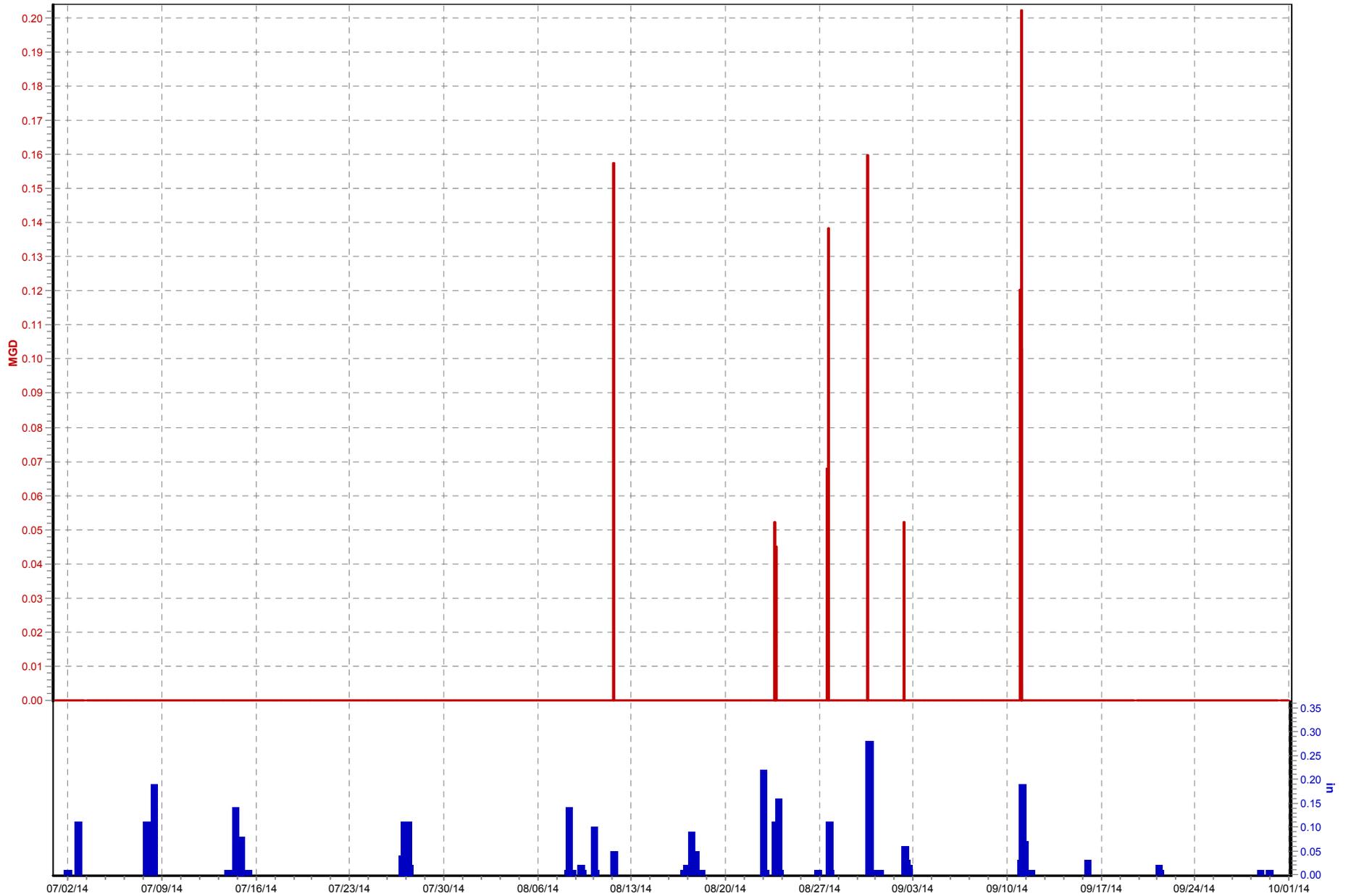
CSO203\_S 4th St (07/01/14 to 10/01/14)

Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)



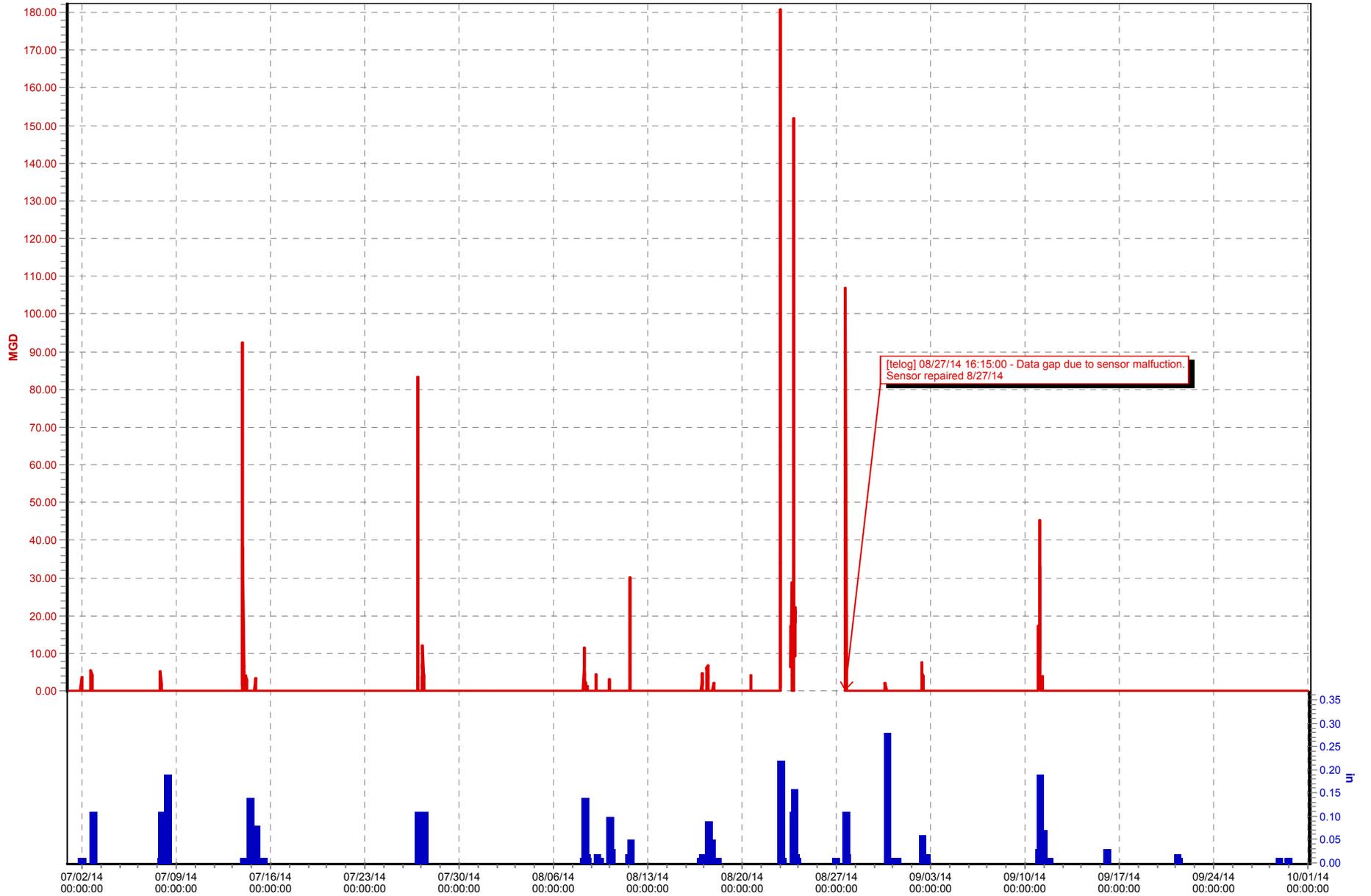
CSO205\_Morgan St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



### CSO206 Cherokee Park\_String St (07/01/14 to 10/01/14)

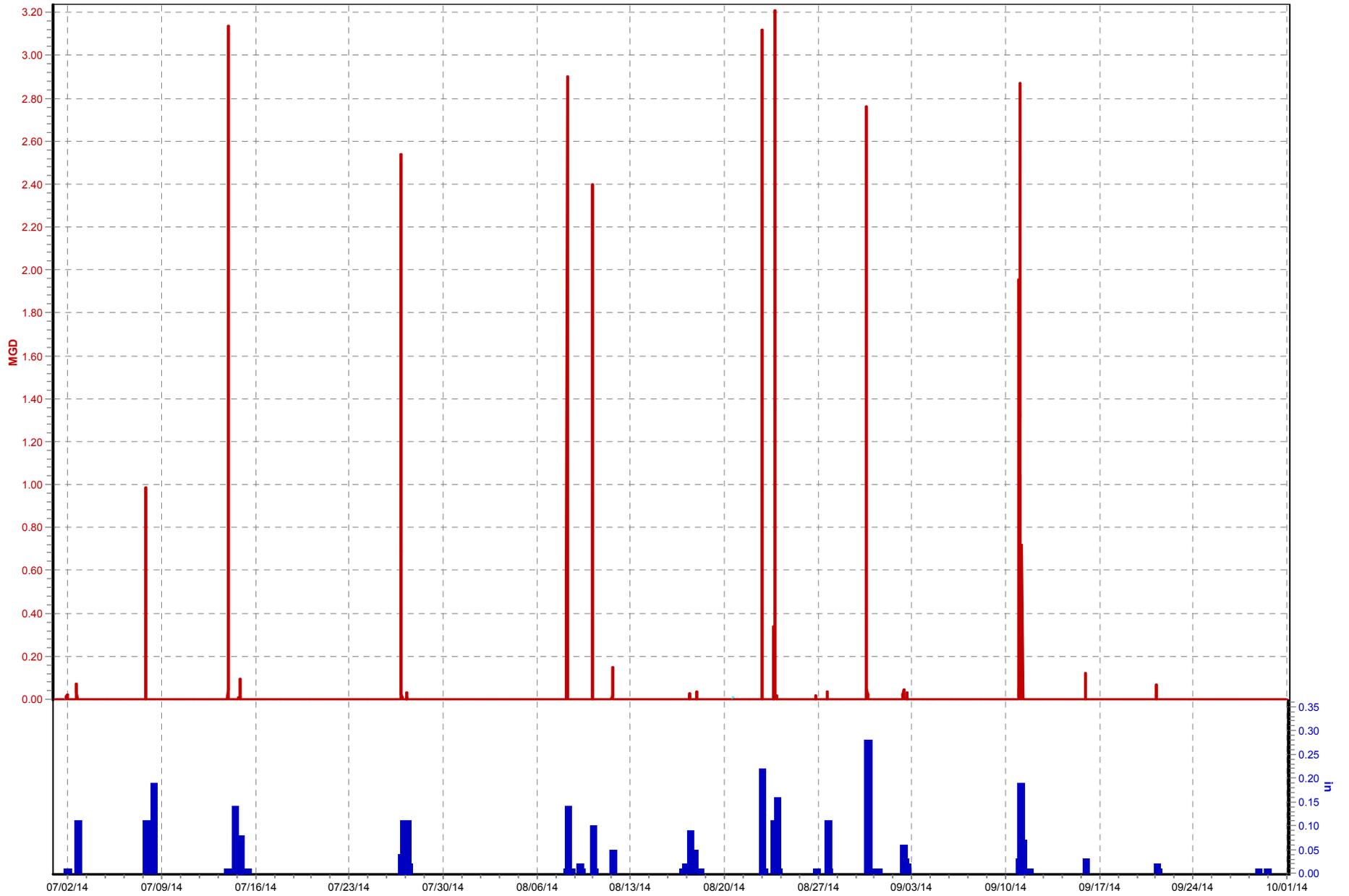
Final Flow (MGD)  TR05\_Beargrass PS.Rain (in)





CSO208\_W Jefferson St 12th St (07/01/14 to 10/01/14)

Raw Flow (MGD)  TR05\_Beargrass PS.Rain (in)



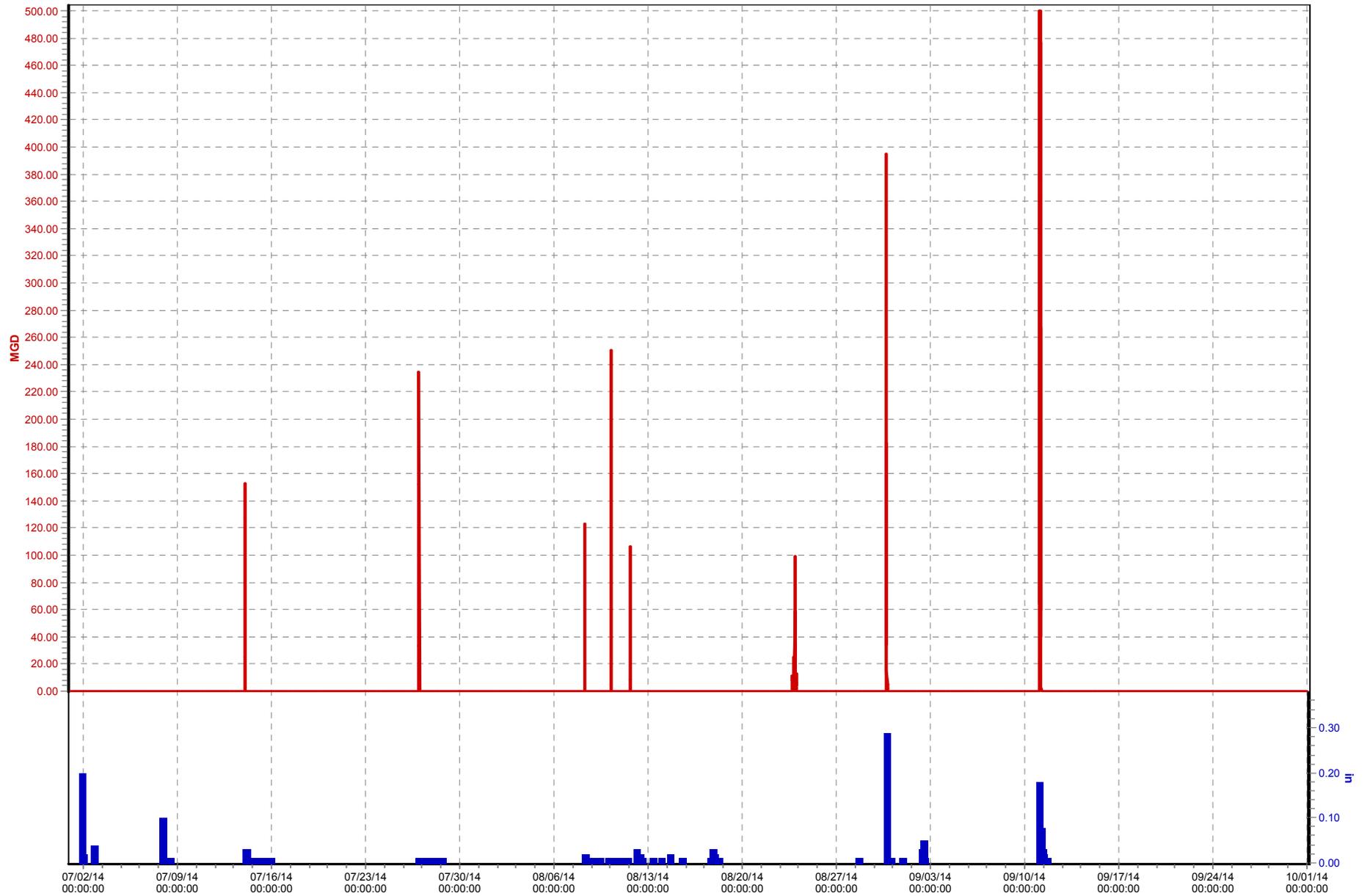
### CSO210 Whayne Supply (07/01/14 to 10/01/14)

— RTC\_MDS-CSO210\_FLW (MGD)  █ TR04\_Morris Forman WQTC.Rain (in)



### CSO211 Wayne Supply (07/01/14 to 10/01/14)

Final Flow (MGD)  TR04\_Morris Forman WQTC.Rain (in)



Appendix C – Acronyms

## Appendix C - Acronyms for Project WIN Quarterly Report

AAM	Advanced Asset Management
AAOV	Annual Average Overflow Volume
ADAPS	Automated Data Processing System
BGC	Beargrass Creek
BMP	Best Management Practices
CCP	Composite Correction Plan
CD	Consent Decree
CMF	Central Maintenance Facility
CMMS	Computerized Maintenance Management System
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CSSA	Continuing Sewer System Assessment
DAP	Discharge Abatement Plan (DAP)
DMR	Discharge Monitoring Report
eB	Enterprise Bridge (Spescom scanning software for document management)
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
FM	Force Main
FOG	Fats, Oil & Grease
FPS	Flood Pump Station
FSE	Food Service Establishment
FY	Fiscal Year
GCE	Grease Control Equipment
GIS	Geographical Information System
GLPM	Gravity Line Preventive Maintenance
HMI	Human Machine Interface
I&FP	Infrastructure & Flood Protection (MSD Division)
ICA	Interceptor Condition Assessment
ID	Identification
I&I	Inflow and Infiltration
IMS	Information Management System
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
IT	Information Technology
IWD	Industrial Waste Department
JCPS	Jefferson County Public Schools
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
KY	Kentucky
LE	Lateral Extension
LID	Low Impact Development
LIMS	Laboratory Information Management System
LTC	Long Term Control
LTCP	Long Term Control Plan
LOJIC	Louisville and Jefferson County Information Consortium
MDS	Main Diversion Structure
MEB	Main Equipment Building

## Appendix C - Acronyms for Project WIN Quarterly Report

MFWTP	Morris Forman Wastewater Treatment Plant
MG	Million Gallons
MGD	Million Gallons Per Day
MLK	Martin Luther King
MO	Metro Operations
MOA	Memorandum of Agreement
MOR	Monthly Operating Report
MOU	Memorandum of Understanding
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NDD	Non-Domestic Dischargers
NMC	Nine Minimum Controls
NPR	National Public Radio
ORSANCO	Ohio River Valley Water Sanitation Commission
PACP	Pipeline Assessment and Certification Program
PCM	Post Construction Monitoring
PI	Plant Information System
PM	Preventive Maintenance
POC	Pollutants of Concern
PP	Pumping Package
PS	Pump Station
PSC	Property Service Connection
RDII	Rainfall-Derived Infiltration and Inflow
RS	Regulatory Services
RTC	Real Time Control
SCADA	Supervisory Control And Data Acquisition
SCAP	System Capacity Assurance Plan
SIU	Significant Industrial User
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWOR2	Southwestern Outfall Relief - Phase 2
SWPS	Southwestern Pump Station
TM	Technical Memorandum
TMDL	Total Maximum Daily Load
TV	Television
UIM	Utility Information Management
UK	University of Kentucky
USACE	US Army Corps of Engineers
USF&W	United States Fish and Wildlife
USGS	United States Geological Survey
WDR	Wastewater Discharge Regulators
WIN	Waterway Improvements Now
WQT	Water Quality Tool
WQTC	Water Quality Treatment Center
WW	Wet Weather
WWT	Wet Weather Team

Appendix D – SCAP Balance



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
<b>CCREEK</b>						
235533	CEDAR CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	6,521	6,521
236380	FAIRMOUNT ROAD MH REHAB	SCAPCREDIT		6/5/09	10,734	17,255
362688	CCRK IFP ACTIVITY NOV08-MAY12	SCAPCREDIT		5/1/12	2,161	19,416
362689	CCRK IFP ACTIVITY JUN12-AUG12	SCAPCREDIT		8/31/12	2,047	21,463
320989	LITTLE CEDAR CREEK I/I REHABIL	SCAPCREDIT		9/27/12	652,907	674,370
263934	ST JAMES CROSSINGS	LAT EXT	9,000	11/30/12	-19,575	654,795
196927	SONIC SPRINGS	LAT EXT	3,600	12/5/12	-7,830	646,965
14SC1000	FY13 IFP ACTIVITY FIRST HALF - CEDAR CREEK	SCAPCREDIT		12/31/13	2,048	649,013
<b>FFORK</b>						
235557	FLOYDSFRK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	14,540	14,540
362638	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	1	14,541
362647	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	4	14,545
362651	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	524	15,069
230379	SHAKES RUN SECTION 4	LAT EXT	3,770	1/5/10	-8,200	6,869
362655	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	81	6,950
362661	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	14,155	21,105
362669	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	22,707	43,812
242480	CLAIBOURNE CROSSINGS PHASE 2	LAT EXT	0	10/17/11	0	43,812
359320	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	47,812
362674	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	2	47,814
362678	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	331	48,145
332823	SINGLE FAMILY HOME	LAT EXT	400	7/13/12	-870	47,275
315945	BROOKFIELD SEC 3	LAT EXT	12,800	10/26/12	-27,840	19,435



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
361689	LAKE FOREST REHAB PH1	SCAPCREDIT		12/18/12	174,769	194,204
362683	FY13 IFP ACTIVITY FIRST HALF - FFORK	SCAPCREDIT		12/31/12	3	194,207
331397	BROOKFIELD SEC 2A	LAT EXT	14,400	5/8/13	-31,320	162,887
<b>HCREEK</b>						
235561	HITE CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	6,404	6,404
362641	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	2	6,406
362648	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	8	6,414
362652	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	8	6,422
362657	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	329	6,751
295322	FLOYDSBURG RD I/I INVEST/REHAB	SCAPCREDIT		12/17/10	28,437	35,188
320906	FLOYDSBURG ROAD I/I REHABILITA	SCAPCREDIT		12/17/10	28,437	63,625
362662	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	3	63,628
362670	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	5	63,633
246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/11	-1,740	61,893
362675	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	332	62,225
362679	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	5,002	67,227
290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/12	-26,970	40,257
304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/12	-20,663	19,595
335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/12	-13,920	5,675
362684	FY13 IFP ACTIVITY FIRST HALF - HCREEK	SCAPCREDIT		12/31/12	3	5,678
<b>JTOWN</b>						
235563	J-TOWN IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	6,203	6,203
359323	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	10,203
254871	LAKESIDE BAPT CHURCH PRIV PS	LAT EXT	2,500	8/10/10	-5,438	4,766

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
340213	JEFFERSONTOWN ENG REHAB	SCAPCREDIT		8/11/11	997,448	1,002,214
359324	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	1,006,214
337261	SINGLE FAMILY 2909 PELHAM CT	LAT EXT	400	5/28/13	-870	1,005,344
13LE1010	SWOPE HR & TRAINING BLDG	LAT EXT	400	6/28/13	-870	1,004,474
13LE1092	BALE EQUIPMENT	LAT EXT	450	10/25/13	-979	1,003,495
14SC1002	FY13 IFP ACTIVITY FIRST HALF - JEFFERSONTC	SCAPCREDIT		12/31/13	3,458	1,006,953
13LE1098	UNIPAK	LAT EXT	720	2/27/14	-1,566	1,005,387
13LE1067	PARK COMMUNITY	LAT EXT	2,220	12/31/14	-4,829	1,000,558
<b>MCREEK</b>						
359380	CALENDAR 2005 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/05	12,000	12,000
359381	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	24,000	36,000
235568	MILL CK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	51,530	87,530
359382	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	103,530
362642	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	93	103,623
362649	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	1,507	105,130
236614	DEVEROES	LAT EXT	960	9/9/09	-2,088	103,042
362653	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	25,272	128,314
359383	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	32,000	160,314
253586	KINGSFORD RETAIL CENTER	LAT EXT	480	1/6/10	-1,044	159,270
238421	6840 DIXIE HWY OUTLOT	LAT EXT	2,100	4/28/10	-4,568	154,703
362658	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	6,213	160,916
259408	FAMILY DOLLAR 5105 DIXIE	LAT EXT	1,200	7/2/10	-2,610	158,306
264294	SAINT PETER THE APOSTLE CATHOL	LAT EXT	2,000	7/23/10	-4,350	153,956
276215	FAMILY DOLLAR - KRISTIN WAY	LAT EXT	400	10/12/10	-870	153,086
362664	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	22,740	175,826

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359384	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	4,000	179,826
359325	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	8,000	187,826
320916	SONNE AVE PS REHABILITATION -	SCAPCREDIT		6/30/11	120,800	308,626
362671	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	11,615	320,241
299399	FAMILY DOLLAR - GREENWOOD RD	LAT EXT	800	10/4/11	-1,740	318,501
309018	PRP PERFORMING ARTS ADDITION	LAT EXT	1,134	11/9/11	-2,466	316,034
359385	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	328,034
362676	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	3,245	331,279
359326	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	12,000	343,279
318096	CRACKER BARREL OLD COUNTRY	LAT EXT	6,000	1/19/12	-13,050	330,229
262545	DIXIE MANOR SHOPPING CENTER	LAT EXT	965	5/21/12	-2,099	328,130
300374	FORT KNOX FEDERAL CREDIT UNION	LAT EXT	400	6/26/12	-870	327,260
362680	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	2,807	330,067
361693	FY12 MILL CREEK REHAB	SCAPCREDIT		6/30/12	81,675	411,742
231800	PIONEER MOBILE HOME PARK	LAT EXT	11,200	7/24/12	-24,360	387,382
237457	WAVERLY HILLS	LAT EXT	400	9/18/12	-870	386,512
341883	NHK SPRING PRECISION	LAT EXT	17,800	10/19/12	-38,715	347,797
334997	BEECHLAND BAPTIST CHURCH	LAT EXT	2,715	12/5/12	-5,905	341,892
359327	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	148,000	489,892
362685	FY13 IFP ACTIVITY FIRST HALF - MCREEK	SCAPCREDIT		12/31/12	3,458	493,350
359386	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	497,350
343763	SOUTHEAST CHRISTIAN CHURCH SW	LAT EXT	6,000	1/18/13	-13,050	484,300
224875	ASHBY GREEN APARTMENT HOMES	LAT EXT	36,400	3/20/13	-79,170	405,130
265944	RIVERPORT PHASE 4A - MICHELIN	LAT EXT	400	6/6/13	-870	404,260
314887	DAYTON FREIGHT	LAT EXT	1,200	9/10/13	-2,610	401,650
13LE1014	LOUISVILLE FREE PUBLIC LIBRARY SOUTHWEST	LAT EXT	8,200	9/26/13	-17,835	383,815



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
357140	FAMILY DOLLAR CANE RUN ROAD	LAT EXT	832	10/3/13	-1,810	382,005
13LE1171	SINGLE FAMILY HOME 3700 ROMANIA DR	LAT EXT	400	1/29/14	-870	381,135
<b>MFORK</b>						
359400	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	84,000	84,000
359328	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	20,000	104,000
235566	MID FORK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	43,779	147,779
359329	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	8,000	155,779
236517	ANCHOR ESTATES MH REHAB	SCAPCREDIT		1/16/09	15,552	171,331
217235	SINKING FORK ICA PHASE I REHAB	SCAPCREDIT		3/30/09	437,967	609,298
235376	MIDDLE FORK INT REHAB PH1	SCAPCREDIT		5/15/09	487,744	1,097,042
179246	SHADY GLEN OF LYNDON PERSONAL	LAT EXT	-500	5/26/09	1,088	1,098,130
250572	1316 WITAWANGA AVE	LAT EXT	400	11/4/09	-870	1,097,260
359331	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	24,000	1,121,260
359401	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	4,000	1,125,260
197432	ALMOST HOME KENNELS - ALL PET	LAT EXT	3,700	3/16/10	-8,048	1,117,212
260064	OXMOOR GOLF FRONT 9	LAT EXT	400	4/15/10	-870	1,116,342
260065	OXMOOR GOLF BACK 9	LAT EXT	400	4/15/10	-870	1,115,472
229834	THE BROOK HOS- DUPONT ADDITION	LAT EXT	1,763	4/27/10	-3,835	1,111,637
265723	Z-XPRESS CAR WASH	LAT EXT	5,449	7/2/10	-11,852	1,099,786
255793	HERR LANE APARTMENTS - 4 PLEX	LAT EXT	1,200	7/14/10	-2,610	1,097,176
255792	HERR LANE APARTMENTS - 8 PLEX	LAT EXT	2,400	7/14/10	-5,220	1,091,956
274303	FARM CREDIT SERVICES	LAT EXT	525	9/9/10	-1,142	1,090,814
278015	METROPOLITAN UROLOGY	LAT EXT	400	12/15/10	-870	1,089,944
359402	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	8,000	1,097,944
359333	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	1,109,944



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
285637	SHELBYHURST OFFICE BUILDING 1	LAT EXT	6,600	1/20/11	-14,355	1,095,589
313465	DORSEY POINTE/CODOMINIUMS 8-13	LAT EXT	2,400	1/27/11	-5,220	1,090,369
291263	BROWNS LANE BUILDING	LAT EXT	400	4/14/11	-870	1,089,499
293400	FOUR PLEX APARTMENTS	LAT EXT	1,200	6/14/11	-2,610	1,086,889
330019	FY11 ANCHOR ESTATES REHAB	SCAPCREDIT		8/11/11	1,359	1,088,248
310046	EL NAPEL - MCMAHAN CENTER	LAT EXT	3,100	10/31/11	-6,743	1,081,506
314591	CHOCOLATE MARTINI BAR/REST	LAT EXT	3,275	11/29/11	-7,123	1,074,382
320983	HURSTBOURNE I/I INVESTIGATION	SCAPCREDIT		12/27/11	1,408,279	2,482,661
359335	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	2,498,661
321228	SINGLE FAMILY UNIT	LAT EXT	400	2/15/12	-870	2,497,791
321647	SINGLE FAMILY	LAT EXT	400	3/27/12	-870	2,496,921
328074	SINGLE FAMILY-703 FOUNTAIN AVE	LAT EXT	400	6/22/12	-870	2,496,051
193195	CEDAR LAKE LODGE WASHBURN	LAT EXT	1,900	8/20/12	-4,133	2,491,919
320923	ST MATTHEWS I/I REHABILITATION	SCAPCREDIT		8/23/12	20,841	2,512,760
337796	CHAMPPS	LAT EXT	635	9/5/12	-1,381	2,511,379
347126	ADVANCE PRODUCTION SYSTEMS	LAT EXT	400	12/28/12	-870	2,510,509
359336	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	92,000	2,602,509
339367	BAPTIST RADIATION ONCOLOGY	LAT EXT	1,500	1/4/13	-3,263	2,599,246
340778	PANDA RESTAURANT	LAT EXT	1,725	1/16/13	-3,752	2,595,494
349044	BLAIRWOOD POOL ADDITION	LAT EXT	400	1/29/13	-870	2,594,624
328659	SINGLE FAMILY HOME - 6911 AMBR	LAT EXT	400	2/4/13	-870	2,593,754
352805	POOL HOUSE 9213 REIGATE COURT	LAT EXT	200	2/20/13	-435	2,593,319
14LE1001	MIRANDA LAGRANGE RD	LAT EXT	400	3/19/13	-870	2,592,449
350246	SINGLE FAMILY - 218 BLISS AVE	LAT EXT	400	3/20/13	-870	2,591,579
349974	SINGLE FAMILY 205 N WATTERSON	LAT EXT	400	3/26/13	-870	2,590,709
342433	SHELBYHURST 700 OFFICE BLDG	LAT EXT	7,500	4/15/13	-16,313	2,574,397

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
350340	JARED THE GALLERY OF JEWELRY	LAT EXT	770	4/16/13	-1,675	2,572,722
13LE1009	Single familv 11716 Wetherbv Ave	LAT EXT	400	6/7/13	-870	2,571,852
13SC1000	FY14 STARVIEW REHABILITATION	SCAPCREDIT		6/30/13	14,183	2,586,035
13LE1001	Single Family 835 Fountain Ave	LAT EXT	400	8/28/13	-870	2,585,165
355162	PROPOSED RESTAURANT	LAT EXT	7,540	9/10/13	-16,400	2,568,766
13LE1045	SINGLE FAMILY 8325 WHIPPS MILL RD	LAT EXT	400	9/30/13	-870	2,567,896
319292	WATERMARK ON HURSTBOURNE	LAT EXT	71,600	10/22/13	-155,730	2,412,166
331542	DENTAL/MEDICAL OFFICE BLDG	LAT EXT	400	10/28/13	-870	2,411,296
13LE1128	SINGLE FAMILY HOME 1327 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,410,426
13LE1144	SINGLE FAMILY 1329 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,409,556
13LE1165	SINGLE FAMILY 8504 LORE LANE	LAT EXT	400	11/25/13	-870	2,408,686
13LE1146	CITY OF ST MATTHEWS COMMUNITY CTR PARI	LAT EXT	1,500	11/26/13	-3,263	2,405,423
13LE1099	NICKLIES - ST MATTHEWS	LAT EXT	1,920	12/11/13	-4,176	2,401,247
353963	DORSEY COMMONS TRACTS 1.2.3	LAT EXT	4,335	12/18/13	-9,429	2,391,819
14SC1003	FY13 IFP ACTIVITY FIRST HALF - MIDDLE FORK	SCAPCREDIT		12/31/13	3,230	2,395,049
352026	MCPAHAN PLAZA PHASE II BLDG B	LAT EXT	766	12/31/13	-1,666	2,393,382
13LE1117	THE VININGS	LAT EXT	850	4/10/14	-1,849	2,391,534
14LE1128	WALDORF SCHOOL OF LOUISVILLE	LAT EXT	400	6/30/14	-870	2,390,664
<b>NDITCH</b>						
359404	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	28,000	28,000
235569	N.DITCH IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	11,147	39,147
236363	NORTHERN DITCH INT REHAB PH1	SCAPCREDIT		11/25/08	108,760	147,907
359339	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	151,907
234678	THE LIGHTHOUSE PROMISE COMPLEX	LAT EXT	2,825	3/5/10	-6,144	145,763
284728	SUBWAY - NEW CUT RD	LAT EXT	1,314	12/21/10	-2,858	142,905



## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359340	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	146,905
320908	PARKVIEW ESTATES REHABILITATIO	SCAPCREDIT		6/28/11	36	146,941
312810	WILLOW PLACE APT COMMUNITY CEN	LAT EXT	400	11/11/11	-870	146,071
359341	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	24,000	170,071
359405	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	182,071
315723	JCPS EARLY CHILDHOOD DEVELOP	LAT EXT	6,000	1/26/12	-13,050	169,021
312057	DOLLAR GENERAL - MEDALLION CT	LAT EXT	400	3/21/12	-870	168,151
312659	KROGER L-350 FUEL STATION	LAT EXT	400	8/20/12	-870	167,281
359343	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	191,281
13LE1147	CARLON ROOFING	LAT EXT	992	12/5/13	-2,158	189,123
13LE1126	JENNINGS CROSSING TRACT 3	LAT EXT	2,100	12/12/13	-4,568	184,556
14SC1004	FY13 IFP ACTIVITY FIRST HALF - NORTHERN DI	SCAPCREDIT		12/31/13	329	184,885
<b>ORFM</b>						
359433	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	56,000	56,000
359344	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	4,000	60,000
235572	ORFM IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	19,826	79,826
362643	FY09 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/08	2	79,828
362650	FY09 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/09	3,836	83,664
362654	FY10 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/09	7,322	90,986
263548	SINGLE FAMILY CONNECTION	LAT EXT	400	5/18/10	-870	90,116
213488	NORTHEAST CHRISTIAN CHURCH	LAT EXT	10,000	6/28/10	-21,750	68,366
362660	FY10 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/10	6,630	74,996
362665	FY11 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/10	165	75,161
362672	FY11 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/11	4,124	79,285
280837	SPRINGHURST TOWNE CTR LOT C	LAT EXT	400	9/20/11	-870	78,415

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
320920	SHADOW WOOD I/I REHABILITATION	SCAPCREDIT		9/30/11	14,279	92,694
311412	SPRINGHURST CHEVROLET	LAT EXT	855	10/14/11	-1,860	90,834
359345	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	106,834
359434	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	16,000	122,834
362677	FY12 IFP ACTIVITY FIRST HALF	SCAPCREDIT		12/31/11	7,258	130,092
320921	DERINGTON COURT I/I REHABILITA	SCAPCREDIT		3/1/12	56,208	186,300
187028	GLENVIEW PARK SUBD SECTION 1	LAT EXT	4,400	3/5/12	-9,570	176,730
213450	GLENVIEW PARK SUB. SEC 2	LAT EXT	5,600	3/5/12	-12,180	164,550
322455	FIRST LADY NAILS	LAT EXT	400	3/12/12	-870	163,680
362681	FY12 IFP ACTIVITY SECOND HALF	SCAPCREDIT		6/30/12	18,220	181,900
292239	SPRINGHURST RESTAURANT/ RETAIL	LAT EXT	3,440	7/5/12	-7,482	174,418
323821	TIRE DISCOUNTERS WESTPORT RD	LAT EXT	400	12/11/12	-870	173,548
363238	FY13 PROSPECT MANHOLE REHAB	SCAPCREDIT		12/18/12	72,703	246,251
341319	RAISING CANES RETAIL CENTER	LAT EXT	1,225	12/18/12	-2,664	243,587
359346	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	267,587
363235	FY13 MUDDY FORK MH REHAB	SCAPCREDIT		12/31/12	41,653	309,240
362686	FY13 IFP ACTIVITY FIRST HALF - ORFM	SCAPCREDIT		12/31/12	1,148	310,388
360262	SINGLE FAMILY 3419 HILLVALE RD	LAT EXT	400	5/13/13	-870	309,518
343729	RETAIL & RESTAURANT	LAT EXT	3,500	6/21/13	-7,613	301,906
334154	GLENVIEW PARK SUBD SEC 4	LAT EXT	3,600	11/7/13	-7,830	294,076
352634	BAUER PROPERTY	LAT EXT	2,920	11/21/13	-6,351	287,725
13LE1024	Overlook at Beech Spring Farm Sec 4	LAT EXT	5,600	12/31/13	-12,180	275,545
199896	SPRINGDALE OFFICE BUILDING	LAT EXT	4,210	3/11/14	-9,157	266,388
225863	SPRING FARM LAKES SEC 1	LAT EXT	4,800	5/16/14	-10,440	255,948

PCREEK

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
235574	POND CRK IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	71,782	71,782
359347	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	75,782
359438	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	4,000	79,782
359439	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	12,000	91,782
359348	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	95,782
192513	BANNON CROSSINGS SECTION 3A-1	LAT EXT	800	2/17/10	-1,740	94,042
261115	EMERGENCY RESTORATION	LAT EXT	400	4/27/10	-870	93,172
276977	DADISMAN BUILDERS-POPLAR TREE	LAT EXT	400	10/13/10	-870	92,302
266833	THORNTONS @ PRESTON HWY	LAT EXT	400	12/1/10	-870	91,432
280751	NOTTINGTON HILLS SEC 1	LAT EXT	4,400	12/29/10	-9,570	81,862
359350	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	93,862
187739	GLENGARRY INDUSTRIAL PARK	LAT EXT	4,300	1/13/11	-9,353	84,510
277777	TIRE DISCOUNTERS - BOERSTE WAY	LAT EXT	2,960	3/21/11	-6,438	78,072
304408	UPS SUPPLY CHAIN SOLUTIONS #7	LAT EXT	2,250	9/14/11	-4,894	73,178
320918	EDSEL I/I REHABILITATION - FY1	SCAPCREDIT		9/27/11	106,700	179,878
313444	PLANET FITNESS - JEFF BLVD	LAT EXT	1,600	11/4/11	-3,480	176,398
312391	LONGHORN STEAKHOUSE RESTAURANT	LAT EXT	4,840	11/29/11	-10,527	165,871
320919	LANTANA I/I REHABILITATION - F	SCAPCREDIT		12/29/11	5,000	170,871
359351	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	20,000	190,871
310845	ZAXBY'S RESTAURANT	LAT EXT	3,750	2/28/12	-8,156	182,715
255044	ISA-RECYCLING CENTER	LAT EXT	400	3/13/12	-870	181,845
312814	MILLER TRANSPORTATION	LAT EXT	1,800	3/19/12	-3,915	177,930
324554	NORTONS TEMPORARY OFFICE	LAT EXT	900	4/16/12	-1,958	175,972
234102	ETHOS AT VALLEY FARM SR LIVING	LAT EXT	7,050	6/19/12	-15,334	160,638
322367	SHEPHERDS CARE MEMORY HOME	LAT EXT	2,000	6/21/12	-4,350	156,288
307332	LOUISVILLE INDUSTRIAL BLDG B	LAT EXT	2,520	8/6/12	-5,481	150,807

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
279860	BANNON CROSSINGS SEC 3B-2	LAT EXT	9,600	8/10/12	-20,880	129,927
312053	DOLLAR GENERAL - CLEARWATER FA	LAT EXT	400	8/13/12	-870	129,057
343455	SINGLE FAMILY 1812 GREYLING DR	LAT EXT	400	10/12/12	-870	128,187
243109	OVERBROOK APARTMENTS	LAT EXT	41,200	11/9/12	-89,610	38,577
284215	HURSTBOURNE POINTE APTS	LAT EXT	9,600	12/27/12	-20,880	17,697
359354	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	56,000	73,697
329624	COPART	LAT EXT	400	2/20/13	-870	72,827
346082	ZAXBYS	LAT EXT	2,065	5/2/13	-4,491	68,336
320924	LEA ANN WAY INTERCEPTOR I&I RE	SCAPCREDIT		6/30/13	1,017,423	1,085,759
335385	HARRISON LOW PRESSURE S/S	LAT EXT	1,600	7/2/13	-3,480	1,082,279
320940	4 RESIDENCE SFU 7821 MANSLICK	LAT EXT	400	8/16/13	-870	1,081,409
361336	RENAISSANCE SOUTH BUSINESS	LAT EXT	540	9/6/13	-1,175	1,080,234
324886	PNC BANK	LAT EXT	400	9/6/13	-870	1,079,364
13LE1083	SINGLE FAMILY HOME 5402 (H) E MANSLICK RE	LAT EXT	400	9/26/13	-870	1,078,494
353125	PEGASUS TRANSPORTATION	LAT EXT	250	12/9/13	-544	1,077,951
341439	PRESTON GARDENS APTS	LAT EXT	22,200	12/10/13	-48,285	1,029,666
308206	APPLEGATE FARMS	LAT EXT	57,200	12/10/13	-124,410	905,256
14SC1005	FY13 IFP ACTIVITY FIRST HALF - POND CREEK	SCAPCREDIT		12/31/13	21,344	926,600
13LE1179	TIMBERBEND SUBDIVISION SEC 5B	LAT EXT	6,400	2/14/14	-13,920	912,680
13LE1035	RENAISSANCE SOUTH BUSINESS PARK TRACT	LAT EXT	5,415	4/10/14	-11,778	900,902
348014	ASHTON PARK TOWN HOMES	LAT EXT	9,000	4/24/14	-19,575	881,327
280180	LOUISVILLE INDUSTRIAL CTR F	LAT EXT	2,480	5/16/14	-5,394	875,933
14LE1085	Williams Properties - Self Storage Facility	LAT EXT	400	5/28/14	-870	875,063
13LE1034	6300 GEIL LANE WAREHOUSE	LAT EXT	720	6/9/14	-1,566	873,497

SEDIV

## Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359355	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	8,000	8,000
359440	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	128,000	136,000
235575	SE DIV IFP WORK AUG05-NOV08	SCAPCREDIT		11/1/08	71,472	207,472
236214	GOLDSMITH BUECHB ICA PHI REHAB	SCAPCREDIT		12/22/08	314,808	522,280
236296	BEARGRASS INT REHAB PH1 SEDIV	SCAPCREDIT		12/22/08	122,688	644,968
359441	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	660,968
359356	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	664,968
229854	TINY HANDS DAYCARE	LAT EXT	1,225	10/20/09	-2,664	662,304
359357	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	12,000	674,304
359443	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	8,000	682,304
235291	SULLIVAN COLLEGE OF TECHNOLOGY	LAT EXT	900	2/11/10	-1,958	680,346
238328	LOUISVILLE COLLEGIATE SPORTS	LAT EXT	400	3/1/10	-870	679,476
241759	FRISCHS BIG BOY RESTAURANT	LAT EXT	2,400	3/5/10	-5,220	674,256
257275	LOUISVILLE JUNIOR ACADEMY	LAT EXT	520	4/16/10	-1,131	673,125
320993	BEARGRASS CREEK PHASE II - FY1	SCAPCREDIT		12/14/10	10,368	683,493
359358	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	687,493
359444	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	24,000	711,493
286513	GARDINER POINT RESIDENCE HALL	LAT EXT	10,800	2/16/11	-23,490	688,003
276378	TIRE DISCOUNTERS - BARDSTOWN	LAT EXT	1,500	5/6/11	-3,263	684,741
287888	BEVERAGE WAREHOUSE	LAT EXT	1,180	5/30/11	-2,567	682,174
296295	KEN TOWERY -3800 S HURSTBOURNE	LAT EXT	400	7/1/11	-870	681,304
359445	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	8,000	689,304
359359	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	64,000	753,304
307018	HOOK PROPERTY FAMILY DOLLAR	LAT EXT	400	8/10/12	-870	752,434
359361	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	68,000	820,434
359446	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	824,434

<u>APNO</u>	<u>APNAME</u>	<u>APTTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
187741	BROOKSTONE SENIOR APARTMENTS	LAT EXT	16,800	3/11/13	-36,540	787,894
232601	RAINTREE/MARIAN CT P/S ELIM	LAT EXT	105,800	6/14/13	-230,115	557,779
330437	COLLEGIATE ATHLETIC FIELD	LAT EXT	800	11/26/13	-1,740	556,039
14SC1006	FY13 IFP ACTIVITY FIRST HALF - SE DIVERSION	SCAPCREDIT		12/31/13	20,623	576,662

Appendix E – CSO Storm Frequency Data

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO015	7/13/14 11:00 PM	7/14/14 1:00 AM	1,135,646.72	0.08	0.75	1,514,195.63	0.88	0.44	1 hr	CloudBurst
CSO015	7/26/14 10:00 PM	7/27/14 10:00 AM	2,511,679.96	0.50	1.1	2,283,345.42	1.13	0.51	12 hr	CloudBurst
CSO015	8/8/14 5:45 AM	8/8/14 11:45 AM	4,593,558.53	0.25	0.77	5,965,660.43	0.84	0.38	6 hr	CloudBurst
CSO015	8/11/14 7:00 PM	8/11/14 8:00 PM	581,735.21	0.04	0.32	1,817,922.53	1.81	0.18	6 hr	CloudBurst
CSO015	8/23/14 8:15 PM	8/24/14 12:30 AM	1,680,228.59	0.18	0.85	1,976,739.52	1.82	0.41	6 hr	CloudBurst
CSO015	8/30/14 3:15 PM	8/30/14 7:45 PM	284,480.07	0.19	0.71	400,676.15	1.84	0.42	1 hr	CloudBurst
CSO015	9/11/14 1:30 AM	9/11/14 10:30 AM	12,115,453.19	0.38	1.71	7,085,060.34	1.72	0.95	3 hr	Atlas14
CSO016	7/13/14 11:00 PM	7/14/14 1:00 AM	1,268,660.91	0.08	0.69	1,838,639.00	0.79	0.35	1 hr	CloudBurst
CSO016	7/26/14 10:00 PM	7/26/14 11:45 PM	1,310,994.99	0.07	1.02	1,285,289.20	0.54	0.47	12 hr	CloudBurst
CSO016	8/8/14 6:30 AM	8/8/14 10:00 AM	3,789,000.12	0.15	0.75	5,052,000.17	0.73	0.36	6 hr	CloudBurst
CSO016	8/10/14 4:30 AM	8/10/14 7:15 AM	2,473,929.59	0.11	0.72	3,436,013.32	1.64	0.63	1 hr	CloudBurst
CSO016	8/11/14 3:45 PM	8/11/14 6:00 PM	1,647,996.13	0.09	0.2	8,239,980.63	1.77	0.11	6 hr	CloudBurst
CSO016	8/17/14 11:15 AM	8/17/14 11:30 AM	5,419.23	0.01	0.5	10,838.46	0.97	0.26	3 hr	CloudBurst
CSO016	8/23/14 5:00 PM	8/24/14 1:00 AM	7,668,629.50	0.33	1.01	7,592,702.48	2.04	0.5	6 hr	CloudBurst
CSO016	8/27/14 6:30 PM	8/27/14 7:00 PM	92,623.91	0.02	0.23	402,712.65	1.52	0.19	1 hr	CloudBurst
CSO016	8/30/14 3:30 PM	8/30/14 6:45 PM	3,100,619.35	0.14	0.96	3,229,811.82	2.25	0.57	3 hr	CloudBurst
CSO016	9/2/14 10:00 AM	9/2/14 10:30 AM	21,038.74	0.02	0.34	61,878.64	1.66	0.21	3 hr	CloudBurst
CSO016	9/11/14 1:00 AM	9/11/14 8:30 AM	6,461,926.67	0.31	2.11	3,062,524.49	2.11	2.21	3 hr	Atlas14
CSO018	7/13/14 10:00 PM	7/14/14 2:00 AM	4,583.33	0.17	0.75	6,111.11	1.45	0.41	3 hr	CloudBurst
CSO018	7/26/14 10:00 PM	7/27/14 12:30 AM	4,687.50	0.10	1.5	3,125.00	0.82	0.68	12 hr	CloudBurst
CSO018	8/22/14 9:00 PM	8/22/14 10:45 PM	1,145.83	0.07	0.45	2,546.30	1.08	0.32	1 hr	CloudBurst
CSO018	8/23/14 8:15 PM	8/23/14 8:30 PM	1,145.83	0.01	0.82	1,397.36	1.59	0.38	12 hr	CloudBurst
CSO018	8/27/14 5:00 PM	8/27/14 7:45 PM	31,354.17	0.11	0.84	37,326.39	2.12	0.65	1 hr	CloudBurst
CSO018	9/11/14 12:45 AM	9/11/14 8:45 AM	212,083.33	0.33	1.87	113,413.55	1.89	1.43	3 hr	Atlas14
CSO019	7/1/14 7:45 PM	7/2/14 1:15 AM	1,541,570.76	0.23	0.49	3,146,062.77	0.54	0.33	1 hr	CloudBurst
CSO019	7/2/14 4:00 PM	7/2/14 8:15 PM	1,221,647.84	0.18	0.16	7,635,298.97	0.69	0.14	1 hr	CloudBurst
CSO019	7/7/14 8:15 PM	7/7/14 8:45 PM	202,394.09	0.02	0.01	20,239,408.84	0.66	0.01	6 hr	CloudBurst
CSO019	7/13/14 10:45 PM	7/14/14 9:00 AM	2,483,886.04	0.43	0.9	2,759,873.37	0.99	0.44	1 hr	CloudBurst
CSO019	7/14/14 7:00 PM	7/15/14 1:30 AM	4,359,732.42	0.27	0.3	14,532,441.40	1.29	0.19	3 hr	CloudBurst
CSO019	7/26/14 9:30 PM	7/27/14 3:15 PM	3,169,064.28	0.74	0.91	3,482,488.22	0.96	0.41	12 hr	CloudBurst
CSO019	8/8/14 5:45 AM	8/8/14 1:45 PM	1,941,290.33	0.33	0.58	3,347,052.29	0.67	0.28	6 hr	CloudBurst
CSO019	8/9/14 8:15 AM	8/9/14 10:00 AM	21,162.26	0.07	0.09	235,136.25	0.76	0.06	3 hr	CloudBurst
CSO019	8/10/14 3:30 AM	8/10/14 11:00 AM	6,282,737.82	0.31	0.65	9,665,750.49	1.4	0.54	1 hr	CloudBurst
CSO019	8/11/14 1:45 PM	8/11/14 7:45 PM	2,815,972.58	0.25	0.23	12,243,359.03	1.63	0.16	1 hr	CloudBurst
CSO019	8/16/14 11:30 PM	8/18/14 3:00 AM	1,366,611.63	1.15	0.82	1,666,599.55	1.7	0.31	24 hr	CloudBurst
CSO019	8/22/14 7:00 PM	8/22/14 11:00 PM	1,000,394.33	0.17	0.12	8,336,619.42	0.96	0.07	6 hr	CloudBurst
CSO019	8/23/14 3:30 PM	8/24/14 5:00 AM	6,032,692.01	0.56	1.2	5,027,243.34	2.16	0.56	12 hr	CloudBurst
CSO019	8/26/14 7:45 PM	8/26/14 11:15 PM	297,178.16	0.15	0.12	2,476,484.65	1.46	0.1	1 hr	CloudBurst
CSO019	8/27/14 5:30 PM	8/27/14 6:15 PM	161,548.49	0.03	0.03	5,384,949.82	1.47	0.03	1 hr	CloudBurst
CSO019	8/30/14 3:00 PM	8/31/14 11:30 AM	4,602,660.01	0.85	1.19	3,867,781.52	2.54	0.72	3 hr	CloudBurst
CSO019	9/2/14 6:30 AM	9/2/14 4:45 PM	1,835,901.56	0.43	0.72	2,549,863.27	2.06	0.46	3 hr	Atlas14
CSO019	9/11/14 12:15 AM	9/11/14 2:15 PM	14,265,056.42	0.58	1.65	8,645,488.74	1.65	0.93	3 hr	CloudBurst
CSO019	9/15/14 11:00 PM	9/16/14 12:00 AM	1,818.09	0.04	0.02	90,904.69	1.67	0.01	48 hr	CloudBurst
CSO020	7/13/14 11:00 PM	7/14/14 12:15 AM	580,095.20	0.05	0.59	983,212.21	1.32	0.31	1 hr	CloudBurst
CSO020	7/14/14 9:00 PM	7/14/14 9:00 PM	10,088.11	0.00	0.44	22,927.53	1.62	0.31	1 hr	CloudBurst
CSO020	7/29/14 8:45 AM	7/29/14 9:00 AM	204,725.17	0.01	0.66	310,189.65	0.69	0.304	2 hr	Atlas14
CSO020	8/8/14 6:30 AM	8/8/14 9:00 AM	3,462,955.11	0.10	0.78	4,439,686.04	0.58	0.38	6 hr	CloudBurst
CSO020	8/10/14 4:45 AM	8/10/14 5:15 AM	105,352.23	0.02	0.64	164,612.86	1.51	0.52	1 hr	CloudBurst
CSO020	8/22/14 8:00 PM	8/22/14 8:30 PM	102,020.21	0.02	0.26	392,385.44	0.95	0.17	1 hr	CloudBurst
CSO020	8/23/14 8:15 PM	8/23/14 11:00 PM	2,438,783.36	0.11	0.52	4,689,967.99	1.45	0.27	3 hr	CloudBurst
CSO020	8/30/14 3:30 PM	8/30/14 4:30 PM	921,344.61	0.04	0.61	1,510,401.00	1.34	0.39	1 hr	CloudBurst
CSO020	9/11/14 1:00 AM	9/11/14 8:45 AM	13,701,169.40	0.32	1.92	7,136,025.73	1.92	1.47	3 hr	Atlas14

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO027	8/10/14 4:15 AM	8/10/14 4:15 AM	5,912.30	0.00	0.52	11,369.81	1.49	0.41	1 hr	CloudBurst
CSO028	7/7/14 7:30 PM	7/7/14 7:30 PM	708.06	0.00	0.47	1,506.52	0.77	0.41	1 hr	CloudBurst
CSO028	7/13/14 11:00 PM	7/13/14 11:00 PM	291.20	0.00	0.77	378.18	1.33	0.38	1 hr	CloudBurst
CSO028	7/26/14 9:45 PM	7/26/14 9:45 PM	16,826.05	0.00	1.06	15,873.63	0.41	0.49	12 hr	CloudBurst
CSO028	8/8/14 6:30 AM	8/8/14 6:30 AM	739.45	0.00	0.85	869.94	0.62	0.41	6 hr	CloudBurst
CSO028	8/22/14 7:15 PM	8/22/14 7:15 PM	467.19	0.00	0.47	994.02	1.18	0.37	1 hr	CloudBurst
CSO028	8/30/14 3:15 PM	8/30/14 3:15 PM	930.28	0.00	0.56	1,661.22	1.13	0.31	1 hr	CloudBurst
CSO028	9/11/14 1:00 AM	9/11/14 2:15 AM	2,412.03	0.05	1.91	1,262.84	1.6	1.33	3 hr	Atlas14
CSO029	7/7/14 7:30 PM	7/7/14 7:45 PM	43,485.09	0.01	0.47	92,521.48	0.79	0.41	1 hr	CloudBurst
CSO029	7/14/14 8:15 PM	7/14/14 8:15 PM	25,972.20	0.00	0.31	83,781.28	1.4	0.21	3 hr	Atlas14
CSO029	7/26/14 9:45 PM	7/26/14 10:00 PM	310,630.89	0.01	1.06	293,048.01	0.45	0.49	12 hr	CloudBurst
CSO029	8/8/14 6:00 AM	8/8/14 7:30 AM	20,903.84	0.06	0.85	24,592.76	0.66	0.41	6 hr	CloudBurst
CSO029	8/10/14 4:00 AM	8/10/14 4:45 AM	402,395.67	0.03	0.52	773,837.82	1.51	0.41	1 hr	CloudBurst
CSO029	8/17/14 9:45 AM	8/17/14 9:45 AM	2,175.94	0.00	0.73	2,980.74	0.86	0.28	24 hr	CloudBurst
CSO029	8/17/14 11:00 PM	8/17/14 11:15 PM	17,130.30	0.01	0.73	23,466.17	1.03	0.28	24 hr	CloudBurst
CSO029	8/22/14 7:15 PM	8/22/14 7:30 PM	21,027.13	0.01	0.47	44,738.56	1.18	0.37	1 hr	CloudBurst
CSO029	8/23/14 4:30 PM	8/23/14 8:15 PM	441,387.22	0.16	0.65	679,057.26	1.65	0.36	3 hr	CloudBurst
CSO029	8/27/14 5:15 PM	8/27/14 5:15 PM	3,756.94	0.00	0.14	26,835.27	1.29	0.1	1 hr	CloudBurst
CSO029	8/30/14 3:15 PM	8/30/14 6:15 PM	317,872.29	0.13	0.56	567,629.10	1.27	0.31	1 hr	CloudBurst
CSO029	9/11/14 12:30 AM	9/11/14 2:30 AM	398,252.18	0.08	1.91	208,509.00	1.62	1.33	3 hr	Atlas14
CSO031	7/27/14 7:00 AM	7/27/14 8:00 AM	18,222.78	0.04	1.06	17,191.30	1.01	0.49	12 hr	CloudBurst
CSO031	8/17/14 11:00 PM	8/17/14 11:30 PM	18,553.57	0.02	0.73	25,415.85	1.03	0.28	24 hr	CloudBurst
CSO031	8/20/14 4:00 PM	8/20/14 4:30 PM	6,592.54	0.02	0.03	219,751.38	0.76	0.03	1 hr	CloudBurst
CSO031	8/22/14 7:15 PM	8/22/14 7:30 PM	6,681.73	0.01	0.47	14,216.45	1.18	0.37	1 hr	CloudBurst
CSO031	8/23/14 3:45 PM	8/23/14 11:45 PM	176,640.26	0.33	0.65	271,754.24	1.88	0.36	3 hr	CloudBurst
CSO031	8/27/14 4:30 PM	8/27/14 5:30 PM	3,965.46	0.04	0.14	28,324.70	1.29	0.1	1 hr	CloudBurst
CSO031	8/30/14 3:15 PM	8/30/14 4:30 PM	56,975.29	0.05	0.56	101,741.60	1.2	0.31	1 hr	CloudBurst
CSO031	9/2/14 6:30 AM	9/2/14 9:45 AM	61,622.40	0.14	0.4	154,055.99	1.11	0.25	3 hr	Atlas14
CSO031	9/11/14 12:30 AM	9/11/14 9:15 PM	359,158.14	0.86	1.91	188,040.91	1.91	1.33	3 hr	Atlas14
CSO034	7/7/14 7:30 PM	7/7/14 7:30 PM	45,729.74	0.00	0.47	97,297.32	0.77	0.41	1 hr	CloudBurst
CSO034	7/13/14 10:15 PM	7/13/14 10:15 PM	836.25	0.00	0.77	1,086.04	0.91	0.38	1 hr	CloudBurst
CSO034	7/26/14 9:45 PM	7/26/14 9:45 PM	87,106.28	0.00	1.06	82,175.74	0.41	0.49	12 hr	CloudBurst
CSO034	8/8/14 6:30 AM	8/8/14 6:30 AM	5,529.83	0.00	0.85	6,505.69	0.62	0.41	6 hr	CloudBurst
CSO034	8/10/14 4:30 AM	8/10/14 4:30 AM	2,905.80	0.00	0.52	5,588.08	1.5	0.41	1 hr	CloudBurst
CSO034	8/22/14 7:15 PM	8/22/14 7:15 PM	4,527.75	0.00	0.47	9,633.51	1.18	0.37	1 hr	CloudBurst
CSO034	8/23/14 8:00 PM	8/23/14 8:00 PM	23,832.41	0.00	0.65	36,665.24	1.57	0.36	3 hr	CloudBurst
CSO034	8/30/14 3:15 PM	8/30/14 3:15 PM	21,857.56	0.00	0.56	39,031.36	1.13	0.31	1 hr	CloudBurst
CSO034	9/11/14 12:30 AM	9/11/14 2:15 AM	37,279.91	0.07	1.91	19,518.28	1.6	1.33	3 hr	Atlas14
CSO036	7/7/14 7:30 PM	7/7/14 7:45 PM	21,883.35	0.01	1.15	19,029.00	1.38	1	1 hr	CloudBurst
CSO036	7/13/14 10:30 PM	7/13/14 11:15 PM	44,712.56	0.03	0.93	48,078.02	2.32	0.49	1 hr	CloudBurst
CSO036	7/14/14 8:00 PM	7/14/14 8:30 PM	14,945.49	0.02	0.23	64,980.39	1.63	0.19	1 hr	CloudBurst
CSO036	8/10/14 4:00 AM	8/10/14 4:45 AM	75,926.34	0.03	1.16	65,453.74	2.1	0.97	1 hr	CloudBurst
CSO036	8/11/14 3:30 PM	8/11/14 3:30 PM	13,750.33	0.00	0.48	28,646.53	2.56	0.4	1 hr	CloudBurst
CSO036	8/17/14 9:30 AM	8/17/14 10:30 AM	11,513.43	0.04	0.73	15,771.82	1.1	0.28	24 hr	CloudBurst
CSO036	8/17/14 11:00 PM	8/17/14 11:15 PM	18,913.00	0.01	0.73	25,908.22	1.21	0.28	24 hr	CloudBurst
CSO036	8/22/14 7:15 PM	8/22/14 7:30 PM	36,182.90	0.01	0.34	106,420.28	1.11	0.26	1 hr	CloudBurst
CSO036	8/23/14 3:45 PM	8/23/14 9:45 PM	101,377.89	0.25	0.62	163,512.72	1.71	0.3	3 hr	CloudBurst
CSO036	8/27/14 5:15 PM	8/27/14 5:15 PM	3,490.61	0.00	0.22	15,866.43	1.24	0.15	3 hr	Atlas14
CSO036	8/30/14 3:15 PM	8/30/14 4:00 PM	75,033.41	0.03	0.62	121,021.63	1.35	0.39	1 hr	CloudBurst
CSO036	9/11/14 12:30 AM	9/11/14 6:00 AM	108,623.12	0.23	1.78	61,024.23	1.71	0.99	3 hr	Atlas14
CSO036	7/26/14 9:45 PM	7/26/14 10:45 PM	87,710.73	0.04	1.17	74,966.44	0.56	0.54	12 hr	CloudBurst
CSO038	7/26/14 9:45 PM	7/26/14 9:45 PM	195,174.28	0.00	1.06	184,126.68	0.41	0.49	12 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO038	7/27/14 6:45 AM	7/27/14 9:30 AM	72,659.15	0.11	1.06	68,546.36	1.1	0.49	12 hr	CloudBurst
CSO038	8/8/14 6:30 AM	8/8/14 7:00 AM	47,297.67	0.02	0.85	55,644.31	0.62	0.41	6 hr	CloudBurst
CSO038	8/10/14 4:30 AM	8/10/14 4:45 AM	111,317.24	0.01	0.52	214,071.61	1.51	0.41	1 hr	CloudBurst
CSO038	8/23/14 8:00 PM	8/23/14 8:15 PM	67,683.83	0.01	0.65	104,128.96	1.59	0.36	3 hr	CloudBurst
CSO038	9/11/14 12:30 AM	9/12/14 4:45 PM	1,475,797.15	1.68	1.91	772,668.67	1.91	1.33	3 hr	Atlas14
CSO050	7/1/14 8:00 PM	7/1/14 10:15 PM	6,162.60	0.09	0.31	19,879.37	0.36	0.2	3 hr	CloudBurst
CSO050	7/2/14 4:00 PM	7/2/14 4:30 PM	44,132.16	0.02	0.19	232,274.50	0.55	0.17	1 hr	CloudBurst
CSO050	7/7/14 7:30 PM	7/7/14 8:00 PM	156,465.63	0.02	0.26	601,790.87	0.76	0.23	1 hr	CloudBurst
CSO050	7/8/14 7:15 AM	7/8/14 7:15 AM	1,559.47	0.00	0.2	7,797.34	0.96	0.17	1 hr	CloudBurst
CSO050	7/13/14 10:45 PM	7/14/14 4:15 AM	265,124.94	0.23	0.83	319,427.63	1.15	0.4	1 hr	CloudBurst
CSO050	7/14/14 7:00 PM	7/14/14 8:30 PM	56,855.75	0.06	0.45	126,346.12	1.74	0.3	3 hr	CloudBurst
CSO050	7/26/14 9:30 PM	7/27/14 9:15 AM	290,860.46	0.49	1.15	252,922.14	1.23	0.52	12 hr	CloudBurst
CSO050	8/8/14 5:30 AM	8/8/14 10:45 AM	540,497.24	0.22	0.73	740,407.18	0.76	0.35	6 hr	CloudBurst
CSO050	8/10/14 3:30 AM	8/10/14 5:30 AM	519,143.97	0.08	0.49	1,059,477.48	1.33	0.34	1 hr	CloudBurst
CSO050	8/11/14 3:00 PM	8/11/14 3:45 PM	71,154.58	0.03	0.4	177,886.46	1.73	0.29	1 hr	CloudBurst
CSO050	8/17/14 12:15 AM	8/17/14 12:15 AM	757.26	0.00	0.7	1,081.80	1.16	0.27	24 hr	CloudBurst
CSO050	8/17/14 8:45 AM	8/17/14 10:30 AM	35,778.14	0.07	0.7	51,111.62	0.98	0.27	24 hr	CloudBurst
CSO050	8/17/14 11:00 PM	8/18/14 2:00 AM	47,492.33	0.13	0.7	67,846.19	1.1	0.27	24 hr	CloudBurst
CSO050	8/20/14 3:45 PM	8/20/14 3:45 PM	2,626.81	0.00	0.02	131,340.63	0.72	0.02	1 hr	CloudBurst
CSO050	8/22/14 7:00 PM	8/22/14 7:30 PM	235,075.67	0.02	0.24	979,481.97	0.91	0.17	1 hr	CloudBurst
CSO050	8/23/14 3:30 PM	8/24/14 12:00 AM	665,160.66	0.35	1	665,160.66	1.96	0.46	3 hr	CloudBurst
CSO050	8/26/14 7:45 PM	8/26/14 8:00 PM	9,850.46	0.01	0.11	89,549.63	1.36	0.1	1 hr	CloudBurst
CSO050	8/27/14 5:15 PM	8/27/14 5:30 PM	34,876.23	0.01	0.28	124,557.96	1.63	0.24	1 hr	CloudBurst
CSO050	8/30/14 3:00 PM	8/30/14 6:00 PM	253,212.25	0.13	0.92	275,230.71	2.22	0.61	1 hr	CloudBurst
CSO050	9/2/14 8:00 AM	9/2/14 3:45 PM	31,856.04	0.32	0.6	53,093.40	1.91	0.31	6 hr	CloudBurst
CSO050	9/11/14 12:00 AM	9/11/14 8:15 AM	1,433,764.46	0.34	2.22	645,839.85	2.22	2.43	3 hr	Atlas14
CSO050	9/15/14 10:45 PM	9/15/14 10:45 PM	1,771.01	0.00	0.04	44,275.26	2.26	0.03	3 hr	CloudBurst
CSO051	7/7/14 7:30 PM	7/7/14 7:30 PM	15,781.38	0.00	0.26	60,697.63	0.75	0.23	1 hr	CloudBurst
CSO051	7/13/14 10:45 PM	7/13/14 10:45 PM	19,858.13	0.00	0.83	23,925.46	0.89	0.4	1 hr	CloudBurst
CSO051	7/14/14 8:00 PM	7/14/14 8:00 PM	861.68	0.00	0.45	1,914.84	1.47	0.3	3 hr	CloudBurst
CSO051	7/26/14 9:45 PM	7/26/14 9:45 PM	12,515.81	0.00	1.15	10,883.32	0.56	0.52	12 hr	CloudBurst
CSO051	7/27/14 7:45 AM	7/27/14 7:45 AM	2,884.07	0.00	1.15	2,507.89	1.17	0.52	12 hr	CloudBurst
CSO051	8/8/14 6:15 AM	8/8/14 7:15 AM	23,982.32	0.04	0.73	32,852.50	0.53	0.35	6 hr	CloudBurst
CSO051	8/10/14 4:00 AM	8/10/14 4:30 AM	33,650.86	0.02	0.49	68,675.21	1.31	0.34	1 hr	CloudBurst
CSO051	8/11/14 3:15 PM	8/11/14 3:15 PM	8,598.39	0.00	0.4	21,495.96	1.73	0.29	1 hr	CloudBurst
CSO051	8/17/14 11:00 PM	8/17/14 11:00 PM	5,906.69	0.00	0.7	8,438.13	1.1	0.27	24 hr	CloudBurst
CSO051	8/22/14 7:15 PM	8/22/14 7:15 PM	79.06	0.00	0.24	329.43	0.91	0.17	1 hr	CloudBurst
CSO051	8/23/14 3:45 PM	8/23/14 8:00 PM	23,738.27	0.18	1	23,738.27	1.59	0.46	3 hr	CloudBurst
CSO051	8/27/14 5:15 PM	8/27/14 5:15 PM	4,516.46	0.00	0.28	16,130.21	1.63	0.24	1 hr	CloudBurst
CSO051	8/30/14 3:15 PM	8/30/14 4:00 PM	4,522.01	0.03	0.92	4,915.23	2.11	0.61	1 hr	CloudBurst
CSO051	9/2/14 8:15 AM	9/2/14 8:15 AM	1,328.14	0.00	0.6	2,213.56	1.59	0.31	6 hr	CloudBurst
CSO051	9/11/14 12:30 AM	9/11/14 2:45 AM	71,734.75	0.09	2.22	32,312.95	1.9	2.43	3 hr	Atlas14
CSO053	7/2/14 4:15 PM	7/2/14 4:30 PM	22,875.39	0.01	0.18	127,085.48	0.51	0.16	1 hr	CloudBurst
CSO053	7/7/14 7:30 PM	7/7/14 7:45 PM	249,258.05	0.01	0.31	804,058.23	0.78	0.27	1 hr	CloudBurst
CSO053	7/13/14 10:45 PM	7/13/14 11:15 PM	176,048.46	0.02	0.92	191,357.02	1.31	0.52	1 hr	CloudBurst
CSO053	7/14/14 8:00 PM	7/14/14 8:15 PM	34,957.30	0.01	0.46	75,994.13	1.76	0.3	3 hr	CloudBurst
CSO053	7/26/14 9:30 PM	7/26/14 10:45 PM	208,204.21	0.05	0.89	233,937.32	0.51	0.4	12 hr	CloudBurst
CSO053	7/27/14 7:00 AM	7/27/14 9:15 AM	66,199.43	0.09	0.89	74,381.38	0.96	0.4	12 hr	CloudBurst
CSO053	8/8/14 5:45 AM	8/8/14 7:45 AM	412,896.01	0.08	0.79	522,653.18	0.59	0.38	6 hr	CloudBurst
CSO053	8/10/14 4:00 AM	8/10/14 4:45 AM	413,625.26	0.03	0.73	566,609.94	1.62	0.57	1 hr	CloudBurst
CSO053	8/11/14 3:15 PM	8/11/14 3:30 PM	55,523.25	0.01	0.33	168,252.26	1.94	0.23	1 hr	CloudBurst
CSO053	8/17/14 9:30 AM	8/17/14 10:15 AM	30,263.34	0.03	0.68	44,504.92	0.89	0.26	24 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO053	8/17/14 11:00 PM	8/17/14 11:15 PM	38,973.51	0.01	0.68	57,313.99	1.01	0.26	24 hr	CloudBurst
CSO053	8/22/14 7:15 PM	8/22/14 7:15 PM	55,356.18	0.00	0.16	345,976.10	0.8	0.1	3 hr	CloudBurst
CSO053	8/23/14 3:45 PM	8/24/14 6:30 AM	342,267.52	0.61	0.83	412,370.50	1.68	0.43	3 hr	CloudBurst
CSO053	8/26/14 8:00 PM	8/26/14 8:00 PM	6,725.80	0.00	0.11	61,143.65	1.11	0.1	1 hr	CloudBurst
CSO053	8/27/14 5:15 PM	8/27/14 5:15 PM	86,246.98	0.00	0.11	784,063.49	1.21	0.08	1 hr	CloudBurst
CSO053	8/30/14 3:15 PM	8/30/14 4:00 PM	137,515.65	0.03	0.72	190,993.96	1.57	0.44	1 hr	CloudBurst
CSO053	9/2/14 8:15 AM	9/2/14 8:30 AM	15,123.70	0.01	0.49	30,864.69	1.21	0.25	3 hr	CloudBurst
CSO053	9/11/14 12:15 AM	9/11/14 6:00 AM	537,841.14	0.24	2.08	258,577.47	2.01	1.63	3 hr	Atlas14
CSO054	7/1/14 7:45 PM	7/1/14 10:30 PM	847.28	0.11	0.29	2,921.66	0.34	0.19	3 hr	Atlas14
CSO054	7/2/14 4:00 PM	7/2/14 4:45 PM	9,392.28	0.03	0.18	52,179.34	0.52	0.16	1 hr	CloudBurst
CSO054	7/7/14 7:30 PM	7/7/14 8:15 PM	32,891.80	0.03	0.31	106,102.59	0.78	0.27	1 hr	CloudBurst
CSO054	7/8/14 6:30 AM	7/8/14 7:30 AM	2,178.86	0.04	0.38	5,733.85	1.16	0.33	1 hr	CloudBurst
CSO054	7/13/14 10:45 PM	7/14/14 4:15 AM	52,101.11	0.23	0.92	56,631.64	1.48	0.52	1 hr	CloudBurst
CSO054	7/14/14 7:00 PM	7/14/14 8:45 PM	5,856.95	0.07	0.46	12,732.50	2.07	0.3	3 hr	CloudBurst
CSO054	7/26/14 9:30 PM	7/27/14 9:45 AM	34,067.84	0.51	0.89	38,278.47	0.96	0.4	12 hr	CloudBurst
CSO054	8/8/14 5:30 AM	8/8/14 11:00 AM	37,786.91	0.23	0.79	47,831.54	0.81	0.38	6 hr	CloudBurst
CSO054	8/10/14 3:45 AM	8/10/14 5:30 AM	36,716.33	0.07	0.73	50,296.34	1.62	0.57	1 hr	CloudBurst
CSO054	8/11/14 2:00 PM	8/11/14 4:00 PM	3,031.83	0.08	0.33	9,187.37	1.94	0.23	1 hr	CloudBurst
CSO054	8/16/14 11:15 PM	8/17/14 11:00 AM	4,318.55	0.49	0.68	6,350.81	1.63	0.26	24 hr	CloudBurst
CSO054	8/17/14 8:00 PM	8/18/14 12:00 AM	7,658.30	0.17	0.68	11,262.21	1.01	0.26	24 hr	CloudBurst
CSO054	8/20/14 3:45 PM	8/20/14 3:45 PM	343.15	0.00	0.01	34,314.58	0.69	0.01	6 hr	CloudBurst
CSO054	8/22/14 7:00 PM	8/22/14 7:45 PM	37,370.14	0.03	0.16	233,563.35	0.81	0.1	3 hr	CloudBurst
CSO054	8/23/14 3:30 PM	8/23/14 11:00 PM	58,933.00	0.31	0.83	71,003.61	1.67	0.43	3 hr	CloudBurst
CSO054	8/26/14 7:45 PM	8/26/14 8:30 PM	4,640.18	0.03	0.11	42,183.43	1.11	0.1	1 hr	CloudBurst
CSO054	8/27/14 5:00 PM	8/27/14 6:00 PM	6,077.72	0.04	0.11	55,251.99	1.21	0.08	1 hr	CloudBurst
CSO054	8/30/14 3:00 PM	8/30/14 6:30 PM	8,167.70	0.15	0.72	11,344.03	1.67	0.44	1 hr	CloudBurst
CSO054	9/2/14 6:30 AM	9/2/14 3:30 PM	4,808.69	0.38	0.49	9,813.65	1.43	0.25	3 hr	CloudBurst
CSO054	9/11/14 12:00 AM	9/11/14 8:30 AM	134,349.52	0.35	2.08	64,591.12	2.08	1.63	3 hr	Atlas14
CSO054	9/15/14 10:30 PM	9/15/14 10:45 PM	1,159.94	0.01	0.03	38,664.58	2.11	0.03	1 hr	CloudBurst
CSO054	9/21/14 6:15 AM	9/21/14 6:15 AM	514.38	0.00	0.02	25,718.75	0.04	0.01	48 hr	CloudBurst
CSO055	7/7/14 7:30 PM	7/7/14 7:30 PM	33,184.30	0.00	0.31	107,046.13	0.76	0.27	1 hr	CloudBurst
CSO055	7/13/14 10:45 PM	7/13/14 10:45 PM	2,586.29	0.00	0.92	2,811.19	1.27	0.52	1 hr	CloudBurst
CSO055	7/26/14 9:45 PM	7/26/14 9:45 PM	51,529.09	0.00	0.89	57,897.86	0.36	0.4	12 hr	CloudBurst
CSO055	7/27/14 7:45 AM	7/27/14 7:45 AM	2,388.26	0.00	0.89	2,683.44	0.93	0.4	12 hr	CloudBurst
CSO055	8/8/14 6:00 AM	8/8/14 8:00 AM	56,104.78	0.08	0.79	71,018.70	0.59	0.38	6 hr	CloudBurst
CSO055	8/10/14 4:00 AM	8/10/14 4:30 AM	106,753.10	0.02	0.73	146,237.13	1.6	0.57	1 hr	CloudBurst
CSO055	8/11/14 3:15 PM	8/11/14 3:15 PM	6,632.04	0.00	0.33	20,097.10	1.94	0.23	1 hr	CloudBurst
CSO055	8/17/14 9:30 AM	8/17/14 9:30 AM	1,334.50	0.00	0.68	1,962.50	0.78	0.26	24 hr	CloudBurst
CSO055	8/17/14 11:00 PM	8/17/14 11:00 PM	36,520.14	0.00	0.68	53,706.08	1.01	0.26	24 hr	CloudBurst
CSO055	8/23/14 3:45 PM	8/23/14 10:00 PM	30,674.94	0.26	0.83	36,957.76	1.61	0.43	3 hr	CloudBurst
CSO055	8/27/14 5:15 PM	8/27/14 5:15 PM	1,350.66	0.00	0.11	12,278.69	1.21	0.08	1 hr	CloudBurst
CSO055	8/30/14 3:15 PM	8/30/14 4:15 PM	14,679.09	0.04	0.72	20,387.63	1.57	0.44	1 hr	CloudBurst
CSO055	9/11/14 12:30 AM	9/11/14 6:15 AM	103,493.13	0.24	2.08	49,756.31	2.02	1.63	3 hr	Atlas14
CSO057	7/7/14 7:30 PM	7/7/14 7:30 PM	842.71	0.00	0.48	1,755.64	0.8	0.42	1 hr	CloudBurst
CSO057	7/13/14 10:45 PM	7/13/14 10:45 PM	3,625.72	0.00	0.74	4,899.62	1.26	0.37	1 hr	CloudBurst
CSO057	7/26/14 9:45 PM	7/26/14 9:45 PM	4,092.02	0.00	0.99	4,133.35	0.39	0.44	12 hr	CloudBurst
CSO057	8/8/14 5:45 AM	8/8/14 6:45 AM	7,061.80	0.04	0.8	8,827.25	0.54	0.35	6 hr	CloudBurst
CSO057	8/10/14 4:00 AM	8/10/14 4:15 AM	2,761.23	0.01	0.91	3,034.32	1.74	0.75	1 hr	CloudBurst
CSO057	8/11/14 3:15 PM	8/11/14 3:15 PM	549.92	0.00	0.43	1,278.88	2.19	0.36	1 hr	CloudBurst
CSO057	8/17/14 9:30 AM	8/17/14 9:30 AM	346.32	0.00	0.72	481.00	0.93	0.28	24 hr	CloudBurst
CSO057	8/23/14 7:45 PM	8/23/14 7:45 PM	7,017.43	0.00	0.73	9,612.91	1.38	0.38	3 hr	Atlas14
CSO057	8/27/14 2:45 PM	8/27/14 2:45 PM	840.05	0.00	0.12	7,000.43	1.2	0.08	3 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO057	8/30/14 4:00 PM	8/30/14 4:00 PM	21.90	0.00	0.58	37.75	1.25	0.37	1 hr	CloudBurst
CSO057	9/11/14 1:00 AM	9/11/14 2:15 AM	6,874.81	0.05	1.88	3,656.82	1.58	1.27	3 hr	Atlas14
CSO058	7/2/14 4:15 PM	7/2/14 4:15 PM	126.60	0.00	0.06	2,110.07	0.25	0.04	3 hr	CloudBurst
CSO058	7/7/14 7:30 PM	7/7/14 7:30 PM	3,542.45	0.00	0.85	4,167.59	1.06	0.74	1 hr	CloudBurst
CSO058	7/13/14 11:00 PM	7/13/14 11:00 PM	6,367.68	0.00	0.99	6,432.00	2.09	0.48	3 hr	Atlas14
CSO058	7/14/14 8:00 PM	7/14/14 8:00 PM	590.82	0.00	0.25	2,363.29	1.77	0.18	1 hr	CloudBurst
CSO058	7/26/14 9:45 PM	7/26/14 10:15 PM	3,587.01	0.02	1.34	2,676.87	0.49	0.62	12 hr	CloudBurst
CSO058	7/27/14 7:00 AM	7/27/14 7:45 AM	616.03	0.03	1.34	459.72	1.27	0.62	12 hr	CloudBurst
CSO058	8/8/14 5:45 AM	8/8/14 7:30 AM	95,015.76	0.07	0.77	123,397.10	0.59	0.37	6 hr	CloudBurst
CSO058	8/10/14 4:00 AM	8/10/14 4:30 AM	4,128.70	0.02	0.89	4,638.99	1.77	0.73	1 hr	CloudBurst
CSO058	8/23/14 8:00 PM	8/23/14 8:00 PM	291.15	0.00	0.65	447.92	1.38	0.34	3 hr	CloudBurst
CSO058	8/30/14 4:00 PM	8/30/14 4:15 PM	38,837.97	0.01	0.58	66,962.02	1.17	0.35	1 hr	CloudBurst
CSO058	9/11/14 12:30 AM	9/11/14 6:15 AM	371,335.41	0.24	1.78	208,615.40	1.73	0.99	3 hr	CloudBurst
CSO083	7/13/14 11:00 PM	7/13/14 11:00 PM	1,289.53	0.00	0.68	1,896.37	1.89	0.39	1 hr	CloudBurst
CSO083	7/26/14 9:30 PM	7/26/14 10:00 PM	162.30	0.02	1.22	133.03	0.5	0.56	12 hr	CloudBurst
CSO083	8/11/14 3:30 PM	8/11/14 3:30 PM	58,091.45	0.00	0.44	132,026.01	2.04	0.37	1 hr	CloudBurst
CSO083	8/22/14 7:15 PM	8/22/14 7:15 PM	81,739.03	0.00	0.45	181,642.29	1.18	0.35	1 hr	CloudBurst
CSO083	9/11/14 12:30 AM	9/11/14 2:15 AM	65,020.19	0.07	1.93	33,689.22	1.64	1.43	3 hr	Atlas14
CSO084	8/23/14 8:00 PM	8/23/14 8:30 PM	1,595.17	0.02	0.55	2,900.30	1.53	0.25	3 hr	CloudBurst
CSO084	8/27/14 5:15 PM	8/27/14 5:30 PM	6,542.49	0.01	0.24	27,260.37	1.39	0.17	1 hr	CloudBurst
CSO084	8/30/14 3:45 PM	8/30/14 4:00 PM	1,999.85	0.01	0.5	3,999.71	1.18	0.3	1 hr	CloudBurst
CSO084	9/2/14 8:30 AM	9/3/14 1:45 AM	5,492.14	0.00	0.34	16,153.34	1.12	0.22	3 hr	CloudBurst
CSO084	9/11/14 1:45 AM	9/11/14 2:45 AM	3,635.66	0.04	1.93	1,883.76	1.67	1.43	3 hr	Atlas14
CSO088	7/7/14 7:45 PM	7/7/14 8:00 PM	34,661.65	0.01	0.49	70,738.05	0.82	0.43	1 hr	CloudBurst
CSO088	7/13/14 11:00 PM	7/13/14 11:15 PM	24,675.47	0.01	0.62	39,799.14	1.24	0.28	1 hr	CloudBurst
CSO088	7/14/14 8:15 PM	7/14/14 8:30 PM	7,300.37	0.01	0.34	21,471.67	1.31	0.23	3 hr	Atlas14
CSO088	7/26/14 10:00 PM	7/26/14 10:15 PM	9,503.84	0.01	0.94	10,110.47	0.47	0.42	12 hr	CloudBurst
CSO088	7/27/14 7:15 AM	7/27/14 8:15 AM	15,079.64	0.04	0.94	16,042.17	0.93	0.42	12 hr	CloudBurst
CSO088	8/8/14 6:30 AM	8/8/14 7:45 AM	94,705.21	0.05	0.84	112,744.29	0.63	0.41	6 hr	CloudBurst
CSO088	8/10/14 4:15 AM	8/10/14 4:15 AM	4,164.14	0.00	0.53	7,856.87	1.41	0.44	1 hr	CloudBurst
CSO088	8/17/14 9:45 AM	8/17/14 9:45 AM	5,303.08	0.00	0.7	7,575.82	0.82	0.26	24 hr	CloudBurst
CSO088	8/22/14 7:15 PM	8/22/14 7:15 PM	4,157.29	0.00	0.31	13,410.62	0.95	0.21	1 hr	CloudBurst
CSO088	8/23/14 4:00 PM	8/23/14 8:30 PM	18,118.13	0.19	0.48	37,746.11	1.31	0.23	3 hr	Atlas14
CSO088	8/27/14 3:00 PM	8/27/14 3:00 PM	4,232.25	0.00	0.18	23,512.51	1.15	0.11	3 hr	CloudBurst
CSO088	8/30/14 3:30 PM	8/30/14 3:45 PM	35,529.10	0.01	0.55	64,598.36	1.21	0.34	1 hr	CloudBurst
CSO088	9/11/14 12:45 AM	9/11/14 2:30 AM	205,202.11	0.07	1.92	106,876.10	1.65	1.4	3 hr	Atlas14
CSO091	7/2/14 4:15 PM	7/2/14 4:30 PM	1,031.49	0.01	0.11	9,377.18	0.36	0.1	1 hr	CloudBurst
CSO091	7/7/14 7:30 PM	7/7/14 7:30 PM	12,563.49	0.00	0.8	15,704.36	1.06	0.7	1 hr	CloudBurst
CSO091	7/13/14 10:15 PM	7/13/14 11:00 PM	23,864.00	0.03	0.76	31,400.00	1.81	0.4	3 hr	Atlas14
CSO091	7/14/14 8:00 PM	7/14/14 8:00 PM	1,387.92	0.00	0.13	10,676.28	1.32	0.1	1 hr	CloudBurst
CSO091	7/26/14 9:30 PM	7/26/14 9:45 PM	66,877.72	0.01	1.19	56,199.76	0.44	0.54	12 hr	CloudBurst
CSO091	7/27/14 6:30 AM	7/27/14 7:15 AM	3,531.99	0.03	1.19	2,968.06	0.98	0.54	12 hr	CloudBurst
CSO091	8/8/14 5:30 AM	8/8/14 7:15 AM	60,031.99	0.07	0.98	61,257.13	0.74	0.45	6 hr	CloudBurst
CSO091	8/10/14 3:45 AM	8/10/14 4:00 AM	2,050.42	0.01	0.41	5,001.02	1.37	0.34	1 hr	CloudBurst
CSO091	8/11/14 3:15 PM	8/11/14 3:30 PM	47,327.61	0.01	0.44	107,562.75	1.85	0.35	1 hr	CloudBurst
CSO091	8/17/14 9:30 AM	8/17/14 10:00 AM	1,126.39	0.02	0.71	1,586.46	1.02	0.27	24 hr	CloudBurst
CSO091	8/22/14 7:00 PM	8/22/14 7:15 PM	26,174.97	0.01	0.42	62,321.35	1.1	0.3	1 hr	CloudBurst
CSO091	8/23/14 3:45 PM	8/23/14 8:15 PM	15,039.08	0.19	0.59	25,489.96	1.54	0.27	12 hr	CloudBurst
CSO091	8/27/14 4:45 PM	8/27/14 5:15 PM	1,930.45	0.02	0.26	7,424.80	1.3	0.17	3 hr	Atlas14
CSO091	8/30/14 3:00 PM	8/30/14 3:15 PM	59,924.72	0.01	0.53	113,065.50	1.16	0.32	1 hr	CloudBurst
CSO091	9/2/14 8:15 AM	9/2/14 8:15 AM	842.50	0.00	0.36	2,340.28	1.03	0.22	3 hr	CloudBurst
CSO091	9/11/14 12:30 AM	9/11/14 5:45 AM	160,119.83	0.22	1.92	83,395.75	1.86	1.4	3 hr	Atlas14

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO092	7/2/14 4:15 PM	7/2/14 4:15 PM	2,351.64	0.00	0.11	21,378.50	0.34	0.1	1 hr	CloudBurst
CSO092	7/7/14 7:30 PM	7/7/14 7:30 PM	25,153.35	0.00	0.8	31,441.69	1.06	0.7	1 hr	CloudBurst
CSO092	7/13/14 10:15 PM	7/13/14 11:00 PM	18,029.19	0.03	0.76	23,722.61	1.81	0.4	3 hr	Atlas14
CSO092	7/14/14 8:00 PM	7/14/14 8:00 PM	165.92	0.00	0.13	1,276.28	1.32	0.1	1 hr	CloudBurst
CSO092	8/8/14 5:45 AM	8/8/14 7:45 AM	34,946.95	0.08	0.98	35,660.15	0.76	0.45	6 hr	CloudBurst
CSO092	8/10/14 3:45 AM	8/10/14 4:15 AM	3,090.09	0.02	0.41	7,536.81	1.45	0.34	1 hr	CloudBurst
CSO092	8/11/14 3:30 PM	8/11/14 3:30 PM	43,906.71	0.00	0.44	99,787.97	1.85	0.35	1 hr	CloudBurst
CSO092	8/17/14 9:30 AM	8/17/14 10:15 AM	6,776.61	0.03	0.71	9,544.53	1.04	0.27	24 hr	CloudBurst
CSO092	8/22/14 7:15 PM	8/22/14 7:15 PM	25,773.17	0.00	0.42	61,364.69	1.1	0.3	1 hr	CloudBurst
CSO092	8/23/14 8:00 PM	8/23/14 9:30 PM	14,485.91	0.06	0.59	24,552.38	1.63	0.27	12 hr	CloudBurst
CSO092	8/27/14 3:00 PM	8/27/14 5:30 PM	18,499.65	0.10	0.26	71,152.48	1.34	0.17	3 hr	Atlas14
CSO092	8/30/14 3:15 PM	8/30/14 3:15 PM	260,768.53	0.00	0.53	492,016.10	1.16	0.32	1 hr	CloudBurst
CSO092	9/2/14 8:15 AM	9/2/14 8:30 AM	19.19	0.01	0.36	53.30	1.06	0.22	3 hr	CloudBurst
CSO092	9/11/14 12:45 AM	9/11/14 6:00 AM	158,111.85	0.22	1.92	82,349.92	1.87	1.4	3 hr	Atlas14
CSO097	7/13/14 10:30 PM	7/13/14 11:45 PM	18,645.83	0.05	0.73	25,542.24	1.58	0.39	3 hr	CloudBurst
CSO097	7/13/14 10:45 PM	7/14/14 12:00 AM	17212.177	0.05	0.73	23578.32	1.58	0.41	2 hr	Atlas14
CSO097	7/26/14 9:45 PM	7/27/14 9:45 AM	29866.66699	0.50	1.39	21486.81	1.41	0.628	12 hr	Atlas14
CSO097	8/8/14 6:00 AM	8/8/14 8:30 AM	57799.92442	0.10	1.01	57227.65	0.86	0.028	2 hr	Atlas14
CSO097	8/11/14 3:30 PM	8/11/14 4:30 PM	2797.093756	0.04	0.32	8740.92	1.57	0.324	.25 hr	Atlas14
CSO097	8/22/14 7:30 PM	8/22/14 7:30 PM	865.302063	0.00	0.63	1373.5	1.25	0.775	.25 hr	Atlas14
CSO097	8/23/14 8:15 PM	8/23/14 9:30 PM	1900.635396	0.05	0.61	3115.8	1.81	0.279	12 hr	Atlas14
CSO097	8/27/14 4:45 PM	8/27/14 6:15 PM	51955.25102	0.06	0.62	83798.79	1.87	0.437	.25 hr	Atlas14
CSO097	8/30/14 3:15 PM	8/30/14 4:30 PM	13987.8543	0.05	0.52	26899.72	1.58	0.408	.25 hr	Atlas14
CSO097	9/2/14 8:30 AM	9/2/14 8:45 AM	164.166718	0.01	0.3	547.22	1.38	0.2	3 hr	Atlas14
CSO097	9/11/14 12:45 AM	9/11/14 10:00 AM	362522.7571	0.39	2.03	178582.64	2.04	1.857	2 hr	Atlas14
CSO104	7/13/14 11:15 PM	7/13/14 11:45 PM	10,735.98	0.02	0.69	15,559.39	0.46	0.32	12 hr	CloudBurst
CSO104	7/26/14 9:45 PM	7/26/14 10:45 PM	38,882.64	0.04	1.04	37,387.15	0.65	0.48	12 hr	CloudBurst
CSO104	8/8/14 7:00 AM	8/8/14 7:00 AM	1,783.42	0.00	0.62	2,876.48	0.46	0.31	6 hr	CloudBurst
CSO104	8/10/14 4:45 AM	8/10/14 5:30 AM	33,904.98	0.03	1.14	29,741.21	1.92	0.98	1 hr	CloudBurst
CSO104	8/23/14 4:15 PM	8/23/14 9:30 PM	77,297.56	0.22	0.96	80,518.29	1.82	0.46	6 hr	CloudBurst
CSO104	8/30/14 3:15 PM	8/30/14 4:15 PM	71,727.26	0.04	1.27	56,478.16	2.24	0.8	1 hr	CloudBurst
CSO104	9/11/14 12:45 AM	9/11/14 3:15 AM	611,537.61	0.10	2.3	265,885.92	2.03	3.07	3 hr	Atlas14
CSO105	7/1/14 7:30 PM	7/1/14 10:30 PM	297,071.69	0.13	0.6	495,119.48	0.62	0.38	3 hr	CloudBurst
CSO105	7/2/14 3:45 PM	7/2/14 4:30 PM	3,773.51	0.03	0.1	37,735.10	0.73	0.09	1 hr	CloudBurst
CSO105	7/7/14 7:15 PM	7/7/14 10:00 PM	2,411,861.23	0.11	0.03	80,395,374.17	0.73	0.03	1 hr	CloudBurst
CSO105	7/13/14 10:30 PM	7/14/14 4:45 AM	3,389,232.44	0.26	0.69	4,911,931.07	0.68	0.32	12 hr	CloudBurst
CSO105	7/14/14 8:00 PM	7/14/14 9:45 PM	448,084.31	0.07	0.42	1,066,867.40	1.17	0.3	1 hr	CloudBurst
CSO105	7/26/14 9:30 PM	7/27/14 10:15 AM	5,101,266.13	0.53	1.04	4,905,063.58	1.14	0.48	12 hr	CloudBurst
CSO105	8/8/14 5:15 AM	8/8/14 11:00 AM	4,297,120.57	0.24	0.62	6,930,839.63	0.67	0.31	6 hr	CloudBurst
CSO105	8/10/14 3:15 AM	8/10/14 7:15 AM	5,557,676.70	0.17	1.14	4,875,155.00	1.92	0.98	1 hr	CloudBurst
CSO105	8/11/14 2:45 PM	8/11/14 5:15 PM	1,749,799.88	0.10	0.15	11,665,332.53	2.04	0.1	1 hr	CloudBurst
CSO105	8/16/14 11:45 PM	8/17/14 12:15 AM	2,015.82	0.02	0.83	2,428.70	1.63	0.32	24 hr	CloudBurst
CSO105	8/17/14 8:45 AM	8/17/14 4:15 PM	939,061.38	0.31	0.83	1,131,399.25	0.97	0.32	24 hr	CloudBurst
CSO105	8/22/14 8:00 PM	8/22/14 9:00 PM	287,044.81	0.04	0.13	2,208,036.98	0.94	0.07	6 hr	CloudBurst
CSO105	8/23/14 4:00 PM	8/24/14 12:00 AM	11,327,640.42	0.33	0.96	11,799,625.44	1.94	0.46	6 hr	CloudBurst
CSO105	8/30/14 3:00 PM	8/30/14 6:15 PM	5,881,820.21	0.14	1.27	4,631,354.50	2.38	0.8	1 hr	CloudBurst
CSO105	9/2/14 6:45 AM	9/2/14 10:30 AM	719,517.14	0.16	0.53	1,357,579.52	1.95	0.3	3 hr	CloudBurst
CSO105	9/11/14 12:00 AM	9/11/14 7:30 AM	16,882,729.99	0.31	2.3	7,340,317.39	2.29	3.07	3 hr	Atlas14
CSO106	7/2/14 4:15 PM	7/2/14 4:15 PM	245.10	0.00	0.16	1,531.90	0.35	0.14	1 hr	CloudBurst
CSO106	7/13/14 9:45 PM	7/13/14 11:15 PM	26,770.61	0.06	0.73	36,672.07	1.57	0.39	3 hr	CloudBurst
CSO106	7/26/14 9:30 PM	7/27/14 9:00 AM	18,768.28	0.48	1.39	13,502.36	1.41	0.63	12 hr	CloudBurst
CSO106	8/8/14 5:30 AM	8/8/14 7:45 AM	19,651.26	0.09	1.01	19,456.69	0.85	0.5	3 hr	Atlas14

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO106	8/9/14 3:45 AM	8/9/14 3:45 AM	259.43	0.00	0.08	3,242.84	1.1	0.04	12 hr	CloudBurst
CSO106	8/11/14 3:15 PM	8/11/14 3:30 PM	4,534.50	0.01	0.32	14,170.31	1.57	0.22	1 hr	CloudBurst
CSO106	8/17/14 9:30 AM	8/17/14 10:00 AM	152.99	0.02	0.69	221.72	0.87	0.26	24 hr	CloudBurst
CSO106	8/22/14 7:00 PM	8/22/14 11:00 PM	11,670.55	0.17	0.63	18,524.69	1.33	0.48	1 hr	CloudBurst
CSO106	8/23/14 8:00 PM	8/23/14 8:00 PM	13,939.23	0.00	0.61	22,851.20	1.61	0.28	12 hr	CloudBurst
CSO106	8/27/14 3:00 PM	8/27/14 5:45 PM	7,414.53	0.11	0.62	11,958.92	1.87	0.4	3 hr	CloudBurst
CSO106	8/30/14 3:00 PM	8/30/14 3:45 PM	7,046.47	0.03	0.52	13,550.90	1.57	0.3	1 hr	CloudBurst
CSO106	9/2/14 8:15 AM	9/2/14 8:15 AM	9,337.66	0.00	0.3	31,125.52	1.33	0.2	3 hr	CloudBurst
CSO106	9/11/14 12:30 AM	9/11/14 9:45 AM	73,539.33	0.39	2.03	36,226.27	2.04	1.67	3 hr	Atlas14
CSO108	7/13/14 10:15 PM	7/13/14 11:30 PM	145,950.20	0.05	1.04	140,336.73	1.31	0.65	1 hr	CloudBurst
CSO108	7/26/14 10:00 PM	7/26/14 10:30 PM	147,928.33	0.02	1.48	99,951.58	0.61	0.68	12 hr	CloudBurst
CSO108	8/11/14 3:45 PM	8/11/14 4:00 PM	93,318.28	0.01	0.24	388,826.17	1.38	0.13	6 hr	CloudBurst
CSO108	8/22/14 7:30 PM	8/22/14 7:45 PM	62,851.50	0.01	0.66	95,229.55	1.25	0.5	1 hr	CloudBurst
CSO108	8/23/14 8:15 PM	8/23/14 9:00 PM	83,923.23	0.03	0.89	94,295.76	1.97	0.41	12 hr	CloudBurst
CSO108	8/27/14 5:00 PM	8/27/14 5:45 PM	130,538.57	0.03	0.75	174,051.42	2.3	0.6	1 hr	CloudBurst
CSO108	9/2/14 8:45 AM	9/2/14 8:45 AM	15,272.55	0.00	0.32	47,726.72	1.36	0.21	3 hr	CloudBurst
CSO108	9/11/14 1:00 AM	9/11/14 8:15 AM	1,516,148.34	0.30	2.16	701,920.53	2.18	2.14	3 hr	Atlas14
CSO110	7/2/14 5:00 PM	7/2/14 5:00 PM	22,823.52	0.00	0.15	152,156.82	0.37	0.12	1 hr	CloudBurst
CSO110	7/13/14 10:00 PM	7/14/14 12:30 AM	885,248.70	0.10	0.7	1,264,641.00	1.61	0.37	3 hr	CloudBurst
CSO110	7/26/14 9:45 PM	7/27/14 10:30 AM	1,543,064.72	0.53	1.3	1,186,972.86	1.32	0.6	12 hr	CloudBurst
CSO110	8/8/14 6:15 AM	8/8/14 8:45 AM	1,103,602.87	0.10	1.02	1,081,963.59	0.81	0.47	6 hr	CloudBurst
CSO110	8/11/14 3:45 PM	8/11/14 4:45 PM	268,306.13	0.04	0.36	745,294.79	1.62	0.24	1 hr	CloudBurst
CSO110	8/17/14 10:15 AM	8/17/14 10:45 AM	114,304.37	0.02	0.71	160,992.07	0.96	0.26	24 hr	CloudBurst
CSO110	8/22/14 7:30 PM	8/22/14 8:15 PM	225,921.58	0.03	0.4	564,803.95	1.05	0.28	1 hr	CloudBurst
CSO110	8/23/14 4:00 PM	8/23/14 10:15 PM	292,358.81	0.26	0.63	464,061.61	1.71	0.29	12 hr	CloudBurst
CSO110	8/27/14 3:15 PM	8/27/14 6:45 PM	1,118,430.21	0.15	0.48	2,330,062.94	1.53	0.31	3 hr	CloudBurst
CSO110	8/30/14 3:30 PM	8/30/14 4:45 PM	360,421.07	0.05	0.45	800,935.70	1.42	0.24	1 hr	CloudBurst
CSO110	9/2/14 8:45 AM	9/2/14 9:45 AM	191,384.97	0.04	0.34	562,896.98	1.25	0.21	3 hr	Atlas14
CSO110	9/11/14 12:45 AM	9/11/14 9:30 AM	3,033,955.51	0.36	1.97	1,540,078.94	1.97	1.57	3 hr	Atlas14
CSO111	7/13/14 10:00 PM	7/13/14 11:15 PM	23,602.40	0.05	0.7	33,717.71	1.59	0.37	3 hr	CloudBurst
CSO111	7/26/14 9:45 PM	7/26/14 10:15 PM	36,596.19	0.02	1.3	28,150.92	0.54	0.6	12 hr	CloudBurst
CSO111	7/27/14 6:45 AM	7/27/14 9:15 AM	11,257.77	0.10	1.3	8,659.82	1.32	0.6	12 hr	CloudBurst
CSO111	8/8/14 6:00 AM	8/8/14 7:30 AM	8,428.04	0.06	1.02	8,262.79	0.8	0.47	6 hr	CloudBurst
CSO111	8/11/14 3:30 PM	8/11/14 3:45 PM	34,750.72	0.01	0.36	96,529.78	1.62	0.24	1 hr	CloudBurst
CSO111	8/22/14 7:30 PM	8/22/14 7:30 PM	699.69	0.00	0.4	1,749.22	1.04	0.28	1 hr	CloudBurst
CSO111	8/23/14 8:15 PM	8/23/14 8:15 PM	1,241.21	0.00	0.63	1,970.17	1.46	0.29	12 hr	CloudBurst
CSO111	8/27/14 3:15 PM	8/27/14 5:30 PM	130,237.82	0.09	0.48	271,328.80	1.51	0.31	3 hr	CloudBurst
CSO111	8/30/14 3:15 PM	8/30/14 4:00 PM	81,576.07	0.03	0.45	181,280.15	1.4	0.24	1 hr	CloudBurst
CSO111	9/2/14 8:30 AM	9/2/14 8:30 AM	2,797.11	0.00	0.34	8,226.81	1.16	0.21	3 hr	Atlas14
CSO111	9/11/14 12:45 AM	9/11/14 6:15 AM	290,272.88	0.23	1.97	147,346.64	1.92	1.57	3 hr	Atlas14
CSO113	7/2/14 4:30 PM	7/2/14 4:45 PM	6,293.11	0.01	0.11	57,210.13	0.37	0.1	1 hr	CloudBurst
CSO113	7/7/14 7:45 PM	7/7/14 7:45 PM	4,347.07	0.00	0.8	5,433.84	1.09	0.7	1 hr	CloudBurst
CSO113	7/13/14 10:30 PM	7/13/14 11:30 PM	49,992.93	0.04	0.76	65,780.17	1.83	0.4	3 hr	Atlas14
CSO113	7/14/14 8:30 PM	7/14/14 8:30 PM	1,275.65	0.00	0.13	9,812.66	1.32	0.1	1 hr	CloudBurst
CSO113	7/26/14 9:45 AM	7/27/14 9:30 AM	262,631.06	0.49	1.19	220,698.37	1.22	0.54	12 hr	CloudBurst
CSO113	8/8/14 6:00 AM	8/8/14 8:00 AM	149,434.21	0.08	0.98	152,483.89	0.76	0.45	6 hr	CloudBurst
CSO113	8/10/14 4:00 AM	8/10/14 4:15 AM	4,044.77	0.01	0.41	9,865.30	1.45	0.34	1 hr	CloudBurst
CSO113	8/11/14 3:30 PM	8/11/14 4:00 PM	168,382.77	0.02	0.44	382,688.12	1.85	0.35	1 hr	CloudBurst
CSO113	8/17/14 9:45 AM	8/17/14 10:30 AM	19,012.11	0.03	0.71	26,777.63	1.04	0.27	24 hr	CloudBurst
CSO113	8/22/14 7:15 PM	8/22/14 7:45 PM	90,771.15	0.02	0.42	216,121.79	1.1	0.3	1 hr	CloudBurst
CSO113	8/23/14 8:15 PM	8/23/14 8:45 PM	20,192.53	0.02	0.59	34,224.63	1.5	0.27	12 hr	CloudBurst
CSO113	8/27/14 3:15 PM	8/27/14 5:30 PM	132,802.68	0.09	0.26	510,779.55	1.34	0.17	3 hr	Atlas14

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO113	8/30/14 3:15 PM	8/30/14 4:15 PM	191,371.47	0.04	0.53	361,078.25	1.25	0.32	1 hr	CloudBurst
CSO113	9/2/14 8:30 AM	9/2/14 8:45 AM	11,793.31	0.01	0.36	32,759.20	1.09	0.22	3 hr	CloudBurst
CSO113	9/11/14 12:45 AM	9/11/14 6:15 AM	457,494.79	0.23	1.92	238,278.54	1.87	1.4	3 hr	Atlas14
CSO117	7/2/14 4:30 PM	7/2/14 5:30 PM	182,601.74	0.04	0.09	2,028,908.18	0.28	0.08	1 hr	CloudBurst
CSO117	7/7/14 7:45 PM	7/7/14 8:30 PM	439,986.36	0.03	1.1	399,987.60	1.33	0.96	1 hr	CloudBurst
CSO117	7/13/14 10:30 PM	7/14/14 12:30 AM	1,031,967.05	0.08	0.81	1,274,033.40	2.14	0.43	1 hr	CloudBurst
CSO117	7/14/14 8:15 PM	7/14/14 9:00 PM	298,966.97	0.03	0.19	1,573,510.37	1.43	0.17	1 hr	CloudBurst
CSO117	7/26/14 9:45 PM	7/27/14 10:30 AM	2,403,783.51	0.53	1.22	1,970,314.35	1.25	0.56	12 hr	CloudBurst
CSO117	8/8/14 6:00 AM	8/8/14 8:45 AM	1,929,936.80	0.11	0.87	2,218,318.16	0.64	0.4	6 hr	CloudBurst
CSO117	8/10/14 4:00 AM	8/10/14 5:15 AM	487,951.94	0.05	0.98	497,910.14	1.92	0.82	1 hr	CloudBurst
CSO117	8/11/14 3:30 PM	8/11/14 4:45 PM	850,032.64	0.05	0.46	1,847,897.03	2.36	0.38	1 hr	CloudBurst
CSO117	8/17/14 9:45 AM	8/17/14 11:15 AM	552,989.82	0.06	0.72	768,041.41	1.09	0.27	24 hr	CloudBurst
CSO117	8/17/14 11:15 PM	8/18/14 12:00 AM	234,809.00	0.03	0.72	326,123.62	1.18	0.27	24 hr	CloudBurst
CSO117	8/22/14 7:15 PM	8/22/14 8:15 PM	573,618.92	0.04	0.38	1,509,523.47	1.14	0.3	1 hr	CloudBurst
CSO117	8/23/14 4:00 PM	8/23/14 10:30 PM	1,648,524.92	0.27	0.6	2,747,541.54	1.75	0.29	3 hr	CloudBurst
CSO117	8/27/14 3:15 PM	8/27/14 6:15 PM	481,970.92	0.13	0.24	2,008,212.17	1.4	0.16	3 hr	CloudBurst
CSO117	8/30/14 3:15 PM	8/30/14 5:00 PM	1,342,077.85	0.07	0.58	2,313,927.32	1.4	0.36	1 hr	CloudBurst
CSO117	9/2/14 8:45 AM	9/2/14 9:45 AM	160,926.87	0.04	0.39	412,633.00	1.3	0.25	3 hr	Atlas14
CSO117	9/11/14 12:45 AM	9/11/14 7:00 AM	3,097,797.31	0.26	1.88	1,647,764.53	1.85	1.3	3 hr	Atlas14
CSO118	7/1/14 8:00 PM	7/1/14 8:00 PM	140.73	0.00	0.13	1,082.53	0.11	0.08	3 hr	CloudBurst
CSO118	7/2/14 4:15 PM	7/2/14 5:00 PM	64,144.86	0.03	0.08	801,810.73	0.29	0.07	1 hr	CloudBurst
CSO118	7/7/14 7:30 PM	7/7/14 8:30 PM	1,031,201.38	0.04	1.04	991,539.79	1.25	0.9	1 hr	CloudBurst
CSO118	7/8/14 7:15 AM	7/8/14 7:15 AM	112.84	0.00	0.36	313.45	1.61	0.3	1 hr	CloudBurst
CSO118	7/13/14 10:00 PM	7/14/14 4:15 AM	1,357,033.01	0.26	0.68	1,995,636.78	2.02	0.39	1 hr	CloudBurst
CSO118	7/14/14 8:00 PM	7/14/14 9:00 PM	693,199.51	0.04	0.1	6,931,995.14	1.14	0.09	1 hr	CloudBurst
CSO118	7/26/14 9:45 PM	7/27/14 10:15 AM	3,307,018.99	0.52	1.22	2,710,671.31	1.25	0.56	12 hr	CloudBurst
CSO118	8/8/14 3:45 AM	8/8/14 10:45 AM	3,393,045.33	0.29	0.9	3,770,050.37	0.9	0.44	6 hr	CloudBurst
CSO118	8/9/14 4:00 AM	8/9/14 4:00 AM	51.56	0.00	0.05	1,031.25	0.95	0.036	2 hr	Atlas14
CSO118	8/10/14 3:45 AM	8/10/14 5:15 AM	1,130,610.27	0.06	0.62	1,823,564.96	1.61	0.5	1 hr	CloudBurst
CSO118	8/11/14 3:30 PM	8/11/14 4:15 PM	737,727.48	0.03	0.44	1,676,653.36	2.04	0.37	1 hr	CloudBurst
CSO118	8/17/14 12:00 AM	8/17/14 12:15 AM	307.08	0.01	0.7	438.69	1.38	0.27	24 hr	CloudBurst
CSO118	8/17/14 9:00 AM	8/17/14 11:00 AM	564,771.09	0.08	0.7	806,815.85	1.06	0.27	24 hr	CloudBurst
CSO118	8/17/14 11:00 PM	8/17/14 11:45 PM	87,122.13	0.03	0.7	124,460.19	1.15	0.27	24 hr	CloudBurst
CSO118	8/20/14 4:00 PM	8/20/14 4:00 PM	124.40	0.00	0.08	1,554.95	0.79	0.07	1 hr	CloudBurst
CSO118	8/22/14 7:15 PM	8/22/14 8:00 PM	1,094,770.65	0.03	0.45	2,432,823.66	1.18	0.35	1 hr	CloudBurst
CSO118	8/23/14 3:45 PM	8/23/14 10:15 PM	1,616,171.66	0.27	0.55	2,938,493.94	1.74	0.25	3 hr	CloudBurst
CSO118	8/26/14 8:00 PM	8/26/14 8:00 PM	159.11	0.00	0.15	1,060.76	1.23	0.13	1 hr	CloudBurst
CSO118	8/27/14 3:00 PM	8/27/14 6:00 PM	581,046.22	0.13	0.24	2,421,025.90	1.47	0.17	1 hr	CloudBurst
CSO118	8/30/14 3:15 PM	8/31/14 1:00 AM	2,706,523.41	0.41	0.5	5,413,046.82	1.4	0.3	1 hr	CloudBurst
CSO118	9/2/14 8:15 AM	9/2/14 9:15 AM	66,414.99	0.04	0.34	195,338.21	1.22	0.22	3 hr	CloudBurst
CSO118	9/11/14 12:15 AM	9/11/14 6:30 AM	5,579,678.57	0.26	1.93	2,891,025.17	1.88	1.43	3 hr	Atlas14
CSO118	9/15/14 10:45 PM	9/15/14 10:45 PM	85.05	0.00	0.03	2,835.07	1.96	0.03	1 hr	CloudBurst
CSO120	7/2/14 4:30 PM	7/2/14 4:30 PM	13,868.19	0.00	0.12	115,568.23	0.4	0.1	1 hr	CloudBurst
CSO120	7/7/14 7:30 PM	7/7/14 7:45 PM	92,843.66	0.01	0.62	149,747.84	0.95	0.54	1 hr	CloudBurst
CSO120	7/13/14 10:30 PM	7/13/14 11:00 PM	122,576.41	0.02	0.69	177,646.97	1.5	0.34	1 hr	CloudBurst
CSO120	7/14/14 8:15 PM	7/14/14 8:15 PM	98,224.20	0.00	0.3	327,414.01	1.41	0.2	3 hr	CloudBurst
CSO120	7/26/14 9:45 PM	7/26/14 10:15 PM	179,537.68	0.02	0.97	185,090.40	0.49	0.43	12 hr	CloudBurst
CSO120	7/27/14 6:45 AM	7/27/14 8:00 AM	114,595.13	0.05	0.97	118,139.31	0.96	0.43	12 hr	CloudBurst
CSO120	8/8/14 6:00 AM	8/8/14 7:30 AM	246,769.57	0.06	0.87	283,643.18	0.66	0.42	6 hr	CloudBurst
CSO120	8/10/14 4:00 AM	8/10/14 4:15 AM	33,325.47	0.01	0.78	42,724.96	1.74	0.65	1 hr	CloudBurst
CSO120	8/11/14 3:30 PM	8/11/14 3:30 PM	130,880.98	0.00	0.35	373,945.67	2.1	0.3	1 hr	CloudBurst
CSO120	8/17/14 9:30 AM	8/17/14 10:15 AM	71,976.91	0.03	0.72	99,967.93	0.95	0.27	24 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO120	8/22/14 7:15 PM	8/22/14 7:15 PM	111,562.46	0.00	0.22	507,102.10	0.94	0.13	3 hr	CloudBurst
CSO120	8/23/14 8:00 PM	8/23/14 8:30 PM	94,072.99	0.02	0.52	180,909.60	1.28	0.26	3 hr	CloudBurst
CSO120	8/27/14 3:00 PM	8/27/14 3:00 PM	38,606.31	0.00	0.12	321,719.27	1.01	0.09	1 hr	CloudBurst
CSO120	8/30/14 3:15 PM	8/30/14 3:30 PM	120,519.11	0.01	0.54	223,183.54	1.03	0.31	1 hr	CloudBurst
CSO120	9/11/14 12:45 AM	9/11/14 6:00 AM	357,644.23	0.22	1.86	192,281.85	1.81	1.23	3 hr	Atlas14
CSO121	7/2/14 4:15 PM	7/2/14 4:15 PM	5,403.91	0.00	0.12	45,032.55	0.38	0.1	1 hr	CloudBurst
CSO121	7/7/14 7:30 PM	7/7/14 7:45 PM	143,207.39	0.01	0.62	230,979.67	0.95	0.54	1 hr	CloudBurst
CSO121	7/13/14 10:45 PM	7/13/14 10:45 PM	136,899.50	0.00	0.69	198,405.07	1.48	0.34	1 hr	CloudBurst
CSO121	7/14/14 8:15 PM	7/14/14 8:15 PM	40,841.04	0.00	0.3	136,136.81	1.41	0.2	3 hr	CloudBurst
CSO121	7/26/14 9:30 PM	7/26/14 10:45 PM	61,455.23	0.05	0.97	63,355.91	0.56	0.43	12 hr	CloudBurst
CSO121	7/27/14 7:15 AM	7/27/14 9:15 AM	32,844.33	0.08	0.97	33,860.14	1.01	0.43	12 hr	CloudBurst
CSO121	8/8/14 5:45 AM	8/8/14 7:30 AM	164,012.34	0.07	0.87	188,519.93	0.66	0.42	6 hr	CloudBurst
CSO121	8/10/14 4:15 AM	8/10/14 4:15 AM	16,858.95	0.00	0.78	21,614.03	1.74	0.65	1 hr	CloudBurst
CSO121	8/11/14 3:15 PM	8/11/14 3:30 PM	22,470.65	0.01	0.35	64,201.85	2.1	0.3	1 hr	CloudBurst
CSO121	8/17/14 9:30 AM	8/17/14 9:45 AM	29,088.64	0.01	0.72	40,400.88	0.89	0.27	24 hr	CloudBurst
CSO121	8/22/14 7:15 PM	8/22/14 7:15 PM	94,487.77	0.00	0.22	429,489.84	0.94	0.13	3 hr	CloudBurst
CSO121	8/23/14 8:15 PM	8/23/14 8:15 PM	57,041.48	0.00	0.52	109,695.15	1.27	0.26	3 hr	CloudBurst
CSO121	8/27/14 3:00 PM	8/27/14 3:00 PM	28,339.72	0.00	0.12	236,164.32	1.01	0.09	1 hr	CloudBurst
CSO121	8/30/14 3:00 PM	8/30/14 4:00 PM	229,081.67	0.04	0.54	424,225.32	1.12	0.31	1 hr	CloudBurst
CSO121	9/2/14 8:15 AM	9/2/14 8:15 AM	13,711.03	0.00	0.4	34,277.58	1	0.25	3 hr	Atlas14
CSO121	9/11/14 1:00 AM	9/11/14 6:00 AM	167,729.79	0.21	1.86	90,177.31	1.81	1.23	3 hr	Atlas14
CSO125	7/2/14 4:30 PM	7/2/14 4:45 PM	169,740.54	0.01	0.2	848,702.71	0.59	0.17	1 hr	CloudBurst
CSO125	7/7/14 7:45 PM	7/7/14 8:00 PM	135,376.11	0.01	0.76	178,126.45	1.13	0.66	1 hr	CloudBurst
CSO125	7/13/14 11:00 PM	7/13/14 11:15 PM	47,096.00	0.01	0.51	92,345.09	1.41	0.24	3 hr	CloudBurst
CSO125	7/14/14 8:30 PM	7/14/14 8:30 PM	37,101.75	0.00	0.2	185,508.75	1.02	0.13	3 hr	CloudBurst
CSO125	7/26/14 9:45 PM	7/26/14 10:15 PM	179,892.25	0.02	1.12	160,618.08	0.56	0.5	12 hr	CloudBurst
CSO125	7/27/14 7:15 AM	7/27/14 8:00 AM	109,953.87	0.03	1.12	98,173.10	1.09	0.5	12 hr	CloudBurst
CSO125	8/8/14 6:00 AM	8/8/14 7:45 AM	63,809.63	0.07	1.08	59,082.99	0.84	0.55	6 hr	CloudBurst
CSO125	8/10/14 4:15 AM	8/10/14 4:30 AM	64,857.20	0.01	0.27	240,211.85	1.43	0.23	1 hr	CloudBurst
CSO125	8/11/14 3:30 PM	8/11/14 3:45 PM	54,060.50	0.01	0.28	193,073.21	1.7	0.23	1 hr	CloudBurst
CSO125	8/17/14 8:15 PM	8/17/14 8:15 PM	3,700.05	0.00	0.73	5,068.56	1	0.28	24 hr	CloudBurst
CSO125	8/22/14 7:00 PM	8/22/14 7:30 PM	308,099.86	0.02	0.39	789,999.64	1	0.25	3 hr	Atlas14
CSO125	8/23/14 4:00 PM	8/23/14 9:45 PM	801,960.81	0.24	0.73	1,098,576.45	1.79	0.35	6 hr	CloudBurst
CSO125	8/27/14 4:45 PM	8/27/14 5:30 PM	429,754.53	0.03	0.42	1,023,225.07	1.57	0.27	3 hr	CloudBurst
CSO125	8/30/14 3:30 PM	8/30/14 4:00 PM	191,139.01	0.02	0.42	455,092.87	1.44	0.22	1 hr	CloudBurst
CSO125	9/2/14 8:30 AM	9/2/14 8:45 AM	168,638.09	0.01	0.37	455,778.61	1.16	0.23	3 hr	CloudBurst
CSO125	9/11/14 12:45 AM	9/11/14 7:00 AM	1,768,241.01	0.26	1.9	930,653.16	1.86	1.3	3 hr	Atlas14
CSO125	9/28/14 7:45 PM	9/28/14 8:00 PM	265,908.67	0.01	0.15	1,772,724.45	0.15	0.13	1 hr	CloudBurst
CSO126	7/7/14 7:30 PM	7/7/14 7:30 PM	29,597.08	0.00	0.76	38,943.53	1.05	0.66	1 hr	CloudBurst
CSO126	7/26/14 9:45 PM	7/26/14 9:45 PM	18,782.58	0.00	1.12	16,770.16	0.48	0.5	12 hr	CloudBurst
CSO126	7/27/14 7:45 AM	7/28/14 3:30 PM	113,677.96	0.00	1.12	101,498.18	1.09	0.5	12 hr	CloudBurst
CSO126	8/22/14 7:00 PM	8/23/14 2:15 AM	54,172.14	0.30	0.39	138,902.91	1.12	0.25	3 hr	Atlas14
CSO126	8/23/14 8:00 PM	8/23/14 8:15 PM	44,442.98	0.01	0.73	60,880.79	1.53	0.35	6 hr	CloudBurst
CSO126	8/27/14 5:15 PM	8/27/14 8:15 PM	23,374.43	0.13	0.42	55,653.40	1.58	0.27	3 hr	CloudBurst
CSO126	8/30/14 5:15 PM	8/31/14 2:15 PM	406,703.87	0.88	0.42	968,342.55	1.43	0.22	1 hr	CloudBurst
CSO126	9/11/14 1:00 AM	9/11/14 11:30 AM	1,260,211.52	0.44	1.9	663,269.22	1.9	1.3	3 hr	Atlas14
CSO127	7/2/14 4:15 PM	7/2/14 5:00 PM	34,770.33	0.03	0.22	158,046.94	0.49	0.19	1 hr	CloudBurst
CSO127	7/7/14 7:30 PM	7/7/14 7:45 PM	48,457.86	0.01	0.75	64,610.48	1.14	0.65	1 hr	CloudBurst
CSO127	7/13/14 10:00 PM	7/13/14 11:30 PM	74,273.26	0.06	0.63	117,894.06	1.52	0.32	3 hr	CloudBurst
CSO127	7/14/14 8:15 PM	7/14/14 8:30 PM	33,179.10	0.01	0.09	368,656.72	1.01	0.07	1 hr	CloudBurst
CSO127	7/26/14 9:45 PM	7/27/14 8:15 AM	1,631,457.58	0.44	1.24	1,315,691.59	1.19	0.55	12 hr	CloudBurst
CSO127	8/8/14 5:45 AM	8/8/14 8:00 AM	247,628.27	0.09	1.05	235,836.45	0.84	0.54	6 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO127	8/9/14 4:00 AM	8/9/14 4:15 AM	28,416.29	0.01	0.06	473,604.87	1.11	0.03	12 hr	CloudBurst
CSO127	8/10/14 4:00 AM	8/10/14 4:30 AM	134,555.20	0.02	0.17	791,501.20	1.31	0.15	1 hr	CloudBurst
CSO127	8/11/14 3:30 PM	8/11/14 4:00 PM	264,504.60	0.02	0.35	755,727.43	1.64	0.29	1 hr	CloudBurst
CSO127	8/17/14 12:30 AM	8/17/14 12:45 AM	1,377.84	0.01	0.7	1,968.35	0.85	0.26	24 hr	CloudBurst
CSO127	8/17/14 9:30 AM	8/17/14 10:45 AM	65,715.52	0.05	0.7	93,879.31	0.95	0.26	24 hr	CloudBurst
CSO127	8/17/14 8:00 PM	8/17/14 8:15 PM	20,898.12	0.01	0.7	29,854.46	1.04	0.26	24 hr	CloudBurst
CSO127	8/22/14 7:00 PM	8/23/14 2:30 AM	777,695.91	0.31	0.53	1,467,350.77	1.25	0.36	1 hr	CloudBurst
CSO127	8/23/14 3:30 PM	8/23/14 10:00 PM	467,124.03	0.27	0.75	622,832.03	1.95	0.38	3 hr	CloudBurst
CSO127	8/27/14 2:45 PM	8/27/14 5:45 PM	1,336,077.36	0.13	0.42	3,181,136.57	1.74	0.28	3 hr	CloudBurst
CSO127	8/30/14 3:15 PM	8/30/14 4:15 PM	732,110.29	0.04	0.55	1,331,109.61	1.53	0.3	1 hr	CloudBurst
CSO127	9/2/14 8:15 AM	9/2/14 9:00 AM	108,439.47	0.03	0.33	328,604.47	1.29	0.21	3 hr	CloudBurst
CSO127	9/11/14 12:30 AM	9/11/14 7:15 AM	3,079,782.55	0.28	2.01	1,532,230.12	1.99	1.63	3 hr	Atlas14
CSO130	7/2/14 4:15 PM	7/2/14 5:30 PM	4,933.25	0.05	0.13	37,948.08	0.42	0.1	1 hr	CloudBurst
CSO130	7/7/14 7:45 PM	7/7/14 7:45 PM	5,327.88	0.00	0.49	10,873.21	0.82	0.43	1 hr	CloudBurst
CSO130	7/13/14 10:30 PM	7/13/14 11:45 PM	17,063.34	0.05	0.62	27,521.52	1.24	0.28	1 hr	CloudBurst
CSO130	7/14/14 8:15 PM	7/14/14 8:15 PM	6,807.74	0.00	0.34	20,022.76	1.31	0.23	3 hr	Atlas14
CSO130	7/26/14 9:45 PM	7/28/14 4:15 PM	1,437,359.98	1.77	0.94	1,529,106.36	0.97	0.42	12 hr	CloudBurst
CSO130	8/8/14 6:00 AM	8/8/14 8:45 AM	105,043.04	0.11	0.84	125,051.24	0.63	0.41	6 hr	CloudBurst
CSO130	8/10/14 4:15 AM	8/10/14 5:00 AM	8,729.33	0.03	0.53	16,470.44	1.46	0.44	1 hr	CloudBurst
CSO130	8/11/14 3:30 PM	8/11/14 4:00 PM	27,923.99	0.02	0.3	93,079.96	1.75	0.21	1 hr	CloudBurst
CSO130	8/17/14 9:45 AM	8/17/14 9:45 AM	3,941.19	0.00	0.7	5,630.27	0.82	0.26	24 hr	CloudBurst
CSO130	8/22/14 7:15 PM	8/22/14 7:30 PM	34,361.96	0.01	0.31	110,845.02	0.95	0.21	1 hr	CloudBurst
CSO130	8/23/14 2:15 PM	8/24/14 1:30 PM	620,532.66	0.45	0.48	1,292,776.37	1.46	0.227	3 hr	Atlas14
CSO130	8/26/14 9:00 PM	8/26/14 10:45 PM	207,813.79	0.07	0.22	944,608.13	1.02	0.19	1 hr	CloudBurst
CSO130	8/27/14 3:00 PM	8/27/14 3:00 PM	3,214.08	0.00	0.18	17,856.02	1.15	0.11	3 hr	CloudBurst
CSO130	8/30/14 10:30 AM	8/30/14 10:45 AM	877,708.33	0.01	0.549	1,598,740.13	1.27	0.408	.25 hr	Atlas14
CSO130	9/2/14 8:30 AM	9/2/14 8:30 AM	11.15	0.00	0.42	26.54	1.24	0.26	3 hr	CloudBurst
CSO130	9/11/14 12:30 AM	9/11/14 11:45 AM	792,189.16	0.47	1.92	412,598.52	1.92	1.4	3 hr	Atlas14
CSO130	9/21/14 6:30 AM	9/21/14 6:30 AM	1,374.64	0.00	0.01	137,463.54	0.03	0.01	6 hr	CloudBurst
CSO132	7/2/14 4:45 PM	7/2/14 5:00 PM	57,209.83	0.01	0.15	381,398.86	0.53	0.12	1 hr	CloudBurst
CSO132	7/7/14 7:30 PM	7/7/14 8:15 PM	921,744.33	0.03	0.74	1,245,600.44	1.09	0.64	1 hr	CloudBurst
CSO132	7/13/14 11:15 PM	7/13/14 11:30 PM	32,481.80	0.01	0.59	55,053.90	1.43	0.27	3 hr	CloudBurst
CSO132	7/14/14 7:30 PM	7/14/14 8:45 PM	454,546.30	0.05	0.3	1,515,154.34	1.36	0.2	3 hr	CloudBurst
CSO132	7/26/14 9:45 PM	7/27/14 9:45 AM	703,043.26	0.50	0.98	717,391.08	1.01	0.44	12 hr	CloudBurst
CSO132	8/8/14 6:00 AM	8/8/14 8:15 AM	902,112.72	0.09	0.89	1,013,609.80	0.65	0.44	6 hr	CloudBurst
CSO132	8/10/14 4:15 AM	8/10/14 4:45 AM	632,698.46	0.02	0.44	1,437,951.04	1.4	0.37	1 hr	CloudBurst
CSO132	8/11/14 3:30 PM	8/11/14 4:00 PM	384,613.43	0.02	0.22	1,748,242.86	1.61	0.16	1 hr	CloudBurst
CSO132	8/17/14 12:45 AM	8/17/14 12:45 AM	46,306.84	0.00	0.66	70,161.88	0.96	0.25	24 hr	CloudBurst
CSO132	8/17/14 9:45 AM	8/17/14 10:45 AM	431,470.61	0.04	0.66	653,743.35	0.77	0.25	24 hr	CloudBurst
CSO132	8/22/14 7:30 PM	8/22/14 7:45 PM	77,698.62	0.01	0.45	172,663.60	1.04	0.32	1 hr	CloudBurst
CSO132	8/23/14 4:15 PM	8/23/14 10:15 PM	103,221.33	0.25	0.49	210,655.78	1.57	0.25	3 hr	Atlas14
CSO132	8/27/14 3:00 PM	8/27/14 5:30 PM	192,795.56	0.10	0.21	918,074.10	1.21	0.13	3 hr	Atlas14
CSO132	8/30/14 3:45 PM	8/30/14 4:30 PM	206,424.42	0.03	0.51	404,753.76	1.06	0.31	1 hr	CloudBurst
CSO132	9/2/14 9:00 AM	9/2/14 9:30 AM	8,306.68	0.02	0.4	20,766.69	1.16	0.25	3 hr	Atlas14
CSO132	9/11/14 12:45 AM	9/11/14 7:00 AM	1,645,278.89	0.26	1.95	843,732.76	1.91	1.57	3 hr	Atlas14
CSO132	9/28/14 8:00 PM	9/28/14 8:15 PM	19,957.29	0.01	0.07	285,104.17	0.07	0.06	1 hr	CloudBurst
CSO137	7/2/14 4:30 PM	7/2/14 4:30 PM	4,426.06	0.00	0.16	27,662.89	0.38	0.14	1 hr	CloudBurst
CSO137	7/7/14 7:45 PM	7/7/14 7:45 PM	1,694.68	0.00	0.62	2,733.35	0.95	0.54	1 hr	CloudBurst
CSO137	7/13/14 10:00 PM	7/13/14 11:00 PM	44,666.48	0.04	0.73	61,186.96	1.56	0.39	3 hr	CloudBurst
CSO137	7/26/14 9:45 PM	7/26/14 10:00 PM	41,891.64	0.01	1.39	30,137.87	0.54	0.63	12 hr	CloudBurst
CSO137	7/27/14 6:45 AM	7/27/14 9:15 AM	75,166.87	0.10	1.39	54,076.89	1.41	0.63	12 hr	CloudBurst
CSO137	8/9/14 4:00 AM	8/9/14 4:00 AM	16,880.89	0.00	0.08	211,011.08	1.1	0.04	12 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO137	8/10/14 4:00 AM	8/10/14 4:15 AM	4,034.40	0.01	0.18	22,413.31	1.31	0.15	1 hr	CloudBurst
CSO137	8/11/14 3:30 PM	8/11/14 3:45 PM	27,053.20	0.01	0.32	84,541.24	1.57	0.22	1 hr	CloudBurst
CSO137	8/17/14 9:45 AM	8/17/14 10:15 AM	4,878.49	0.02	0.69	7,070.27	0.89	0.26	24 hr	CloudBurst
CSO137	8/17/14 8:00 PM	8/17/14 8:00 PM	2,331.48	0.00	0.69	3,378.96	0.99	0.26	24 hr	CloudBurst
CSO137	8/20/14 4:00 PM	8/20/14 4:00 PM	8,573.30	0.00	0.01	857,330.27	0.7	0.01	6 hr	CloudBurst
CSO137	8/22/14 7:15 PM	8/22/14 7:15 PM	6,035.24	0.00	0.63	9,579.75	1.25	0.48	1 hr	CloudBurst
CSO137	8/23/14 8:15 PM	8/24/14 7:30 AM	87,067.97	0.47	0.61	142,734.38	1.89	0.28	12 hr	CloudBurst
CSO137	8/27/14 3:00 PM	8/27/14 5:30 PM	158,138.55	0.10	0.62	255,062.18	1.87	0.4	3 hr	CloudBurst
CSO137	8/30/14 3:15 PM	8/30/14 4:00 PM	87,022.91	0.03	0.52	167,351.74	1.56	0.3	1 hr	CloudBurst
CSO137	9/2/14 8:30 AM	9/2/14 8:45 AM	39,394.03	0.01	0.3	131,313.44	1.38	0.2	3 hr	CloudBurst
CSO137	9/11/14 12:45 AM	9/12/14 2:15 AM	543,609.90	1.06	2.03	267,788.13	2.04	1.67	3 hr	Atlas14
CSO140	7/7/14 7:45 PM	7/7/14 7:45 PM	102,601.64	0.00	0.66	155,457.03	1	0.23	1 hr	CloudBurst
CSO140	7/13/14 11:00 PM	7/13/14 11:00 PM	130,221.27	0.00	0.65	200,340.41	1.46	0.35	12 hr	CloudBurst
CSO140	7/14/14 8:15 PM	7/14/14 8:30 PM	48,036.83	0.01	0.27	177,914.20	1.28	0.34	3 hr	CloudBurst
CSO140	7/26/14 9:45 PM	7/26/14 10:00 PM	94,663.82	0.01	1.02	92,807.67	0.45	0.65	12 hr	CloudBurst
CSO140	7/27/14 7:00 AM	7/27/14 8:00 AM	56,747.33	0.04	1.02	55,634.64	1	0.65	12 hr	CloudBurst
CSO140	8/8/14 6:00 AM	8/8/14 7:30 AM	158,301.89	0.06	0.97	163,197.82	0.72	0.5	3 hr	CloudBurst
CSO140	8/10/14 4:15 AM	8/10/14 4:15 AM	45,688.92	0.00	0.5	91,377.84	1.52	0.25	1 hr	CloudBurst
CSO140	8/11/14 3:30 PM	8/11/14 3:30 PM	151,494.23	0.00	0.3	504,980.78	1.83	0.27	1 hr	CloudBurst
CSO140	8/17/14 9:45 AM	8/17/14 9:45 AM	16,337.48	0.00	0.71	23,010.53	0.84	0.22	24 hr	CloudBurst
CSO140	8/22/14 7:15 PM	8/22/14 7:15 PM	140,848.47	0.00	0.27	521,661.00	0.96	0.71	1 hr	CloudBurst
CSO140	8/23/14 4:00 PM	8/23/14 8:30 PM	59,964.37	0.19	0.55	109,026.13	1.38	0.35	3 hr	CloudBurst
CSO140	8/27/14 2:45 PM	8/27/14 5:15 PM	31,127.32	0.10	0.2	155,636.62	1.2	0.47	1 hr	CloudBurst
CSO140	8/30/14 3:15 PM	8/30/14 4:00 PM	218,235.67	0.03	0.61	357,763.39	1.33	0.71	1 hr	CloudBurst
CSO140	9/2/14 8:30 AM	9/2/14 8:30 AM	2,453.76	0.00	0.36	6,816.00	1.18	0.19	1 hr	CloudBurst
CSO140	9/11/14 12:45 AM	9/11/14 2:45 PM	797,239.13	0.58	1.92	415,228.71	1.92	7.86	3 hr	Atlas14
CSO141	7/1/14 10:15 PM	7/1/14 10:15 PM	426.38	0.00	0.21	2,030.36	0.26	0.13	3 hr	Atlas14
CSO141	7/2/14 4:30 PM	7/2/14 5:00 PM	4,531.89	0.02	0.12	37,765.71	0.4	0.1	1 hr	CloudBurst
CSO141	7/7/14 7:30 PM	7/7/14 7:45 PM	26,376.62	0.01	0.62	42,542.94	0.95	0.54	1 hr	CloudBurst
CSO141	7/8/14 7:00 AM	7/8/14 7:30 AM	1,439.50	0.02	0.42	3,427.38	1.37	0.37	1 hr	CloudBurst
CSO141	7/13/14 10:15 PM	7/14/14 8:45 AM	18,758.94	0.44	0.69	27,186.87	1.71	0.34	1 hr	CloudBurst
CSO141	7/14/14 6:30 PM	7/14/14 9:30 PM	11,129.20	0.13	0.3	37,097.33	2.03	0.217	2 hr	Atlas14
CSO141	7/26/14 9:45 PM	7/27/14 12:45 PM	42,840.01	0.63	0.97	44,164.96	1.01	0.43	12 hr	CloudBurst
CSO141	8/8/14 4:00 AM	8/8/14 12:45 PM	20,978.21	0.36	0.87	24,112.89	0.91	0.42	6 hr	CloudBurst
CSO141	8/9/14 4:00 AM	8/9/14 7:00 AM	2,498.13	0.13	0.07	35,687.64	0.98	0.05	1 hr	CloudBurst
CSO141	8/10/14 3:45 AM	8/10/14 4:30 AM	12,314.51	0.03	0.78	15,787.83	1.75	0.65	1 hr	CloudBurst
CSO141	8/11/14 3:30 PM	8/11/14 3:45 PM	9,737.41	0.01	0.35	27,821.16	2.1	0.3	1 hr	CloudBurst
CSO141	8/16/14 10:15 PM	8/17/14 8:15 PM	22,019.20	0.92	0.72	30,582.22	1.84	0.27	24 hr	CloudBurst
CSO141	8/22/14 7:15 PM	8/23/14 12:30 AM	16,634.48	0.22	0.22	75,611.27	1	0.13	3 hr	CloudBurst
CSO141	8/23/14 3:45 PM	8/23/14 9:45 PM	10,722.56	0.25	0.52	20,620.31	1.47	0.26	3 hr	CloudBurst
CSO141	8/26/14 8:00 PM	8/26/14 8:15 PM	2,111.32	0.01	0.11	19,193.84	0.91	0.1	1 hr	CloudBurst
CSO141	8/27/14 3:00 PM	8/28/14 2:15 AM	13,121.59	0.47	0.12	109,346.62	1.03	0.09	1 hr	CloudBurst
CSO141	8/30/14 3:15 PM	8/30/14 5:30 PM	16,775.60	0.09	0.54	31,065.93	1.19	0.31	1 hr	CloudBurst
CSO141	8/31/14 3:45 AM	8/31/14 5:00 AM	4,064.00	0.05	0.54	7,525.93	0.76	0.31	1 hr	CloudBurst
CSO141	9/2/14 7:00 AM	9/2/14 9:30 AM	5,555.80	0.10	0.4	13,889.51	1.14	0.25	3 hr	Atlas14
CSO141	9/2/14 7:15 PM	9/2/14 7:15 PM	4,263.98	0.00	0.4	10,659.95	1.17	0.25	3 hr	Atlas14
CSO141	9/11/14 12:15 AM	9/11/14 9:45 PM	134,231.55	0.41	1.86	72,167.50	1.86	1.23	3 hr	Atlas14
CSO141	9/21/14 7:45 AM	9/21/14 10:15 PM	72,174.99	0.60	0.01	7,217,499.26	0.03	0.01	6 hr	CloudBurst
CSO144	7/7/14 7:30 PM	7/7/14 7:30 PM	1,413.33	0.00	0.71	1,990.61	0.99	0.62	1 hr	CloudBurst
CSO144	7/13/14 10:45 PM	7/13/14 10:45 PM	1,510.55	0.00	0.58	2,604.40	1.45	0.28	3 hr	CloudBurst
CSO144	7/26/14 9:45 PM	7/26/14 9:45 PM	551.25	0.00	1.11	496.62	0.44	0.49	12 hr	CloudBurst
CSO144	8/10/14 4:00 AM	8/10/14 4:00 AM	9.59	0.00	0.35	27.41	1.36	0.29	1 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO144	8/22/14 7:00 PM	8/22/14 7:00 PM	1,573.29	0.00	0.31	5,075.13	0.95	0.2	3 hr	CloudBurst
CSO144	8/23/14 8:00 PM	8/23/14 8:00 PM	404.72	0.00	0.54	749.48	1.29	0.26	3 hr	CloudBurst
CSO144	8/27/14 5:00 PM	8/27/14 5:00 PM	225.46	0.00	0.35	644.17	1.26	0.23	3 hr	Atlas14
CSO144	8/30/14 3:15 PM	8/30/14 3:15 PM	366.41	0.00	0.56	654.30	1.32	0.34	1 hr	CloudBurst
CSO144	9/11/14 12:30 AM	9/11/14 2:15 AM	3,418.22	0.07	1.94	1,761.97	1.66	1.5	3 hr	Atlas14
CSO146	7/2/14 4:15 PM	7/2/14 5:15 PM	179,171.69	0.04	0.08	2,239,646.10	0.28	0.07	1 hr	CloudBurst
CSO146	7/7/14 7:30 PM	7/7/14 7:45 PM	176,908.56	0.01	1.01	175,156.99	1.25	0.88	1 hr	CloudBurst
CSO146	7/13/14 10:00 PM	7/14/14 12:00 AM	976,110.49	0.08	0.7	1,394,443.56	2.09	0.35	3 hr	CloudBurst
CSO146	7/14/14 8:15 PM	7/14/14 8:15 PM	10,256.52	0.00	0.08	128,206.51	1.33	0.07	1 hr	CloudBurst
CSO146	7/26/14 9:30 PM	7/27/14 9:45 AM	1,866,030.29	0.51	1.43	1,304,916.29	1.47	0.66	12 hr	CloudBurst
CSO146	8/8/14 5:45 AM	8/8/14 8:15 AM	1,235,394.15	0.10	0.9	1,372,660.16	0.73	0.43	6 hr	CloudBurst
CSO146	8/9/14 4:00 AM	8/9/14 4:15 AM	23,554.59	0.01	0.07	336,494.20	0.97	0.04	6 hr	CloudBurst
CSO146	8/10/14 4:00 AM	8/10/14 4:30 AM	35,178.95	0.02	0.71	49,547.81	1.74	0.58	1 hr	CloudBurst
CSO146	8/11/14 3:15 PM	8/11/14 4:15 PM	941,138.31	0.04	0.51	1,845,369.24	2.2	0.4	1 hr	CloudBurst
CSO146	8/17/14 12:15 AM	8/17/14 1:00 AM	33,537.18	0.03	0.72	46,579.41	1.54	0.27	24 hr	CloudBurst
CSO146	8/17/14 9:30 AM	8/17/14 11:30 AM	383,429.98	0.08	0.72	532,541.64	1.15	0.27	24 hr	CloudBurst
CSO146	8/17/14 11:15 PM	8/17/14 11:30 PM	22,099.75	0.01	0.72	30,694.10	1.23	0.27	24 hr	CloudBurst
CSO146	8/22/14 7:15 PM	8/22/14 8:00 PM	514,521.81	0.03	0.35	1,470,062.31	1.05	0.26	1 hr	CloudBurst
CSO146	8/23/14 4:00 PM	8/23/14 10:15 PM	721,399.82	0.26	0.59	1,222,711.56	1.65	0.28	3 hr	CloudBurst
CSO146	8/27/14 3:00 PM	8/27/14 6:00 PM	813,073.72	0.13	0.27	3,011,384.13	1.33	0.18	3 hr	CloudBurst
CSO146	8/30/14 3:15 PM	8/30/14 4:30 PM	1,097,094.70	0.05	0.6	1,828,491.17	1.41	0.38	1 hr	CloudBurst
CSO146	9/2/14 8:15 AM	9/2/14 9:30 AM	205,196.21	0.05	0.4	512,990.53	1.32	0.24	3 hr	CloudBurst
CSO146	9/11/14 12:30 AM	9/11/14 6:45 AM	3,726,304.08	0.26	1.9	1,961,212.67	1.85	1.33	3 hr	Atlas14
CSO148	7/2/14 4:15 PM	7/2/14 4:15 PM	51,336.57	0.00	0.16	320,853.56	0.35	0.14	1 hr	CloudBurst
CSO148	7/7/14 7:30 PM	7/7/14 7:45 PM	852.07	0.01	0.62	1,374.31	0.95	0.54	1 hr	CloudBurst
CSO148	7/13/14 10:00 PM	7/13/14 11:00 PM	48,126.22	0.04	0.73	65,926.34	1.56	0.39	3 hr	CloudBurst
CSO148	7/14/14 8:15 PM	7/14/14 8:15 PM	468.81	0.00	0.07	6,697.32	1.18	0.06	1 hr	CloudBurst
CSO148	7/26/14 9:45 PM	7/26/14 10:15 PM	70,675.82	0.02	1.39	50,845.91	0.59	0.63	12 hr	CloudBurst
CSO148	7/27/14 6:45 AM	7/27/14 9:15 AM	52,800.68	0.10	1.39	37,986.10	1.41	0.63	12 hr	CloudBurst
CSO148	8/8/14 5:30 AM	8/8/14 7:45 AM	86,500.84	0.09	1.01	85,644.39	0.85	0.5	3 hr	Atlas14
CSO148	8/9/14 4:00 AM	8/9/14 4:00 AM	1,635.67	0.00	0.08	20,445.83	1.1	0.04	12 hr	CloudBurst
CSO148	8/10/14 4:00 AM	8/10/14 4:00 AM	107.47	0.00	0.18	597.05	1.3	0.15	1 hr	CloudBurst
CSO148	8/11/14 3:30 PM	8/11/14 3:30 PM	50,850.38	0.00	0.32	158,907.42	1.57	0.22	1 hr	CloudBurst
CSO148	8/17/14 9:30 AM	8/17/14 10:15 AM	2,834.96	0.03	0.69	4,108.64	0.89	0.26	24 hr	CloudBurst
CSO148	8/22/14 7:15 PM	8/22/14 7:30 PM	112,949.69	0.01	0.63	179,285.21	1.25	0.48	1 hr	CloudBurst
CSO148	8/23/14 4:45 PM	8/23/14 8:15 PM	28,706.92	0.15	0.61	47,060.52	1.68	0.28	12 hr	CloudBurst
CSO148	8/27/14 3:15 PM	8/27/14 5:15 PM	97,430.11	0.08	0.62	157,145.35	1.87	0.4	3 hr	CloudBurst
CSO148	8/30/14 3:15 PM	8/30/14 3:45 PM	97,308.28	0.02	0.52	187,131.30	1.56	0.3	1 hr	CloudBurst
CSO148	9/2/14 8:15 AM	9/2/14 8:30 AM	41,248.21	0.01	0.3	137,494.04	1.36	0.2	3 hr	CloudBurst
CSO148	9/11/14 12:30 AM	9/11/14 6:00 AM	248,092.71	0.23	2.03	122,213.16	2	1.67	3 hr	Atlas14
CSO148	9/28/14 7:00 PM	9/28/14 7:00 PM	1,843.44	0.00	0.07	26,334.82	0.03	0.06	1 hr	CloudBurst
CSO149	7/2/14 4:30 PM	7/2/14 5:15 PM	60,351.54	0.03	0.08	754,394.27	0.28	0.07	1 hr	CloudBurst
CSO149	7/7/14 7:30 PM	7/7/14 8:15 PM	276,053.54	0.03	1.01	273,320.34	1.25	0.88	1 hr	CloudBurst
CSO149	7/13/14 10:15 PM	7/14/14 12:00 AM	478,411.90	0.07	0.7	683,445.57	2.09	0.35	3 hr	CloudBurst
CSO149	7/14/14 8:15 PM	7/14/14 8:45 PM	86,592.48	0.02	0.08	1,082,405.94	1.33	0.07	1 hr	CloudBurst
CSO149	7/26/14 9:45 PM	7/27/14 10:00 AM	1,461,256.87	0.51	1.43	1,021,857.95	1.47	0.66	12 hr	CloudBurst
CSO149	8/8/14 5:45 AM	8/8/14 8:15 AM	1,149,649.93	0.10	0.9	1,277,388.81	0.73	0.43	6 hr	CloudBurst
CSO149	8/10/14 4:00 AM	8/10/14 5:00 AM	228,063.08	0.04	0.71	321,215.61	1.74	0.58	1 hr	CloudBurst
CSO149	8/11/14 3:30 PM	8/11/14 4:30 PM	1,237,656.34	0.04	0.51	2,426,777.13	2.2	0.4	1 hr	CloudBurst
CSO149	8/17/14 9:30 AM	8/17/14 11:00 AM	96,057.60	0.06	0.72	133,413.33	1.14	0.27	24 hr	CloudBurst
CSO149	8/17/14 11:15 PM	8/17/14 11:45 PM	44,030.37	0.02	0.72	61,153.30	1.23	0.27	24 hr	CloudBurst
CSO149	8/22/14 7:15 PM	8/22/14 8:00 PM	79,595.55	0.03	0.35	227,415.85	1.05	0.26	1 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO149	8/23/14 4:00 PM	8/23/14 10:15 PM	961,068.11	0.26	0.59	1,628,929.00	1.65	0.28	3 hr	CloudBurst
CSO149	8/27/14 3:15 PM	8/27/14 6:00 PM	448,624.29	0.11	0.27	1,661,571.44	1.32	0.18	3 hr	CloudBurst
CSO149	8/30/14 3:15 PM	8/30/14 4:30 PM	1,040,388.00	0.05	0.6	1,733,979.99	1.41	0.38	1 hr	CloudBurst
CSO149	9/2/14 8:30 AM	9/2/14 9:30 AM	40,960.46	0.04	0.4	102,401.14	1.32	0.24	3 hr	CloudBurst
CSO149	9/11/14 12:45 AM	9/11/14 1:15 AM	1,844,942.96	0.02	1.9	971,022.61	1.24	1.33	3 hr	Atlas14
CSO150	7/7/14 7:30 PM	7/7/14 7:30 PM	2,098.47	0.00	0.31	6,769.25	0.76	0.27	1 hr	CloudBurst
CSO150	7/13/14 10:45 PM	7/13/14 10:45 PM	1,291.36	0.00	0.92	1,403.66	1.27	0.52	1 hr	CloudBurst
CSO150	7/26/14 9:30 PM	7/26/14 9:45 PM	11,487.20	0.01	0.89	12,906.96	0.36	0.4	12 hr	CloudBurst
CSO150	8/8/14 6:30 AM	8/8/14 8:15 AM	101,851.47	0.07	0.79	128,925.91	0.59	0.38	6 hr	CloudBurst
CSO150	8/10/14 4:00 AM	8/10/14 4:30 AM	34,527.71	0.02	0.73	47,298.23	1.6	0.57	1 hr	CloudBurst
CSO150	8/18/14 2:15 PM	8/18/14 4:15 PM	13,792.87	0.08	0.028	492,602.33	0.96	0.018	25 hr	Atlas14
CSO150	8/22/14 7:00 PM	8/22/14 7:00 PM	1,800.26	0.00	0.16	11,251.63	0.8	0.1	3 hr	CloudBurst
CSO150	8/23/14 7:45 PM	8/23/14 11:00 PM	112,702.13	0.14	0.83	135,785.70	1.62	0.43	3 hr	CloudBurst
CSO150	8/27/14 5:00 PM	8/27/14 5:00 PM	5,482.00	0.00	0.11	49,836.36	1.21	0.08	1 hr	CloudBurst
CSO150	8/30/14 3:00 PM	8/30/14 5:30 PM	45,719.16	0.10	0.72	63,498.84	1.67	0.44	1 hr	CloudBurst
CSO150	9/11/14 12:30 AM	9/11/14 8:00 AM	215,087.74	0.31	2.08	103,407.57	2.08	1.63	3 hr	Atlas14
CSO151	9/11/14 1:15 AM	9/11/14 10:15 AM	1,472,009.49	0.38	1.88	782,983.77	1.88	1.3	3 hr	Atlas14
CSO152	7/2/14 4:45 PM	7/2/14 5:15 PM	65,691.03	0.02	0.11	597,191.21	0.37	0.1	1 hr	CloudBurst
CSO152	7/7/14 8:00 PM	7/7/14 8:15 PM	51,295.97	0.01	0.8	64,119.96	1.09	0.7	1 hr	CloudBurst
CSO152	7/13/14 10:15 PM	7/14/14 12:15 AM	157,232.91	0.08	0.76	206,885.41	1.83	0.4	3 hr	Atlas14
CSO152	7/14/14 8:30 PM	7/14/14 8:45 PM	54,176.18	0.01	0.13	416,739.84	1.32	0.1	1 hr	CloudBurst
CSO152	7/26/14 10:00 PM	7/27/14 9:45 AM	547,241.98	0.49	1.19	459,867.21	1.22	0.54	12 hr	CloudBurst
CSO152	8/8/14 6:00 AM	8/8/14 8:15 AM	332,811.45	0.09	0.98	339,603.52	0.76	0.45	6 hr	CloudBurst
CSO152	8/9/14 4:15 AM	8/9/14 4:15 AM	4,587.24	0.00	0.06	76,453.98	1.01	0.03	12 hr	CloudBurst
CSO152	8/10/14 4:00 AM	8/10/14 4:45 AM	54,395.55	0.03	0.41	132,672.07	1.45	0.34	1 hr	CloudBurst
CSO152	8/11/14 3:30 PM	8/11/14 4:15 PM	82,909.39	0.03	0.44	188,430.43	1.85	0.35	1 hr	CloudBurst
CSO152	8/17/14 12:45 AM	8/17/14 12:45 AM	163.65	0.00	0.71	230.49	1.16	0.27	24 hr	CloudBurst
CSO152	8/17/14 9:45 AM	8/17/14 10:30 AM	90,372.24	0.03	0.71	127,284.85	1.04	0.27	24 hr	CloudBurst
CSO152	8/22/14 7:45 PM	8/22/14 8:00 PM	36,255.72	0.01	0.42	86,323.15	1.11	0.3	1 hr	CloudBurst
CSO152	8/23/14 4:00 PM	8/23/14 10:15 PM	146,312.76	0.26	0.59	247,987.73	1.72	0.27	12 hr	CloudBurst
CSO152	8/27/14 3:15 PM	8/27/14 5:45 PM	151,853.14	0.10	0.26	584,050.52	1.35	0.17	3 hr	Atlas14
CSO152	8/30/14 3:30 PM	8/30/14 4:30 PM	223,124.42	0.04	0.53	420,989.46	1.23	0.32	1 hr	CloudBurst
CSO152	9/2/14 8:30 AM	9/2/14 9:30 AM	76,844.48	0.04	0.36	213,456.88	1.16	0.22	3 hr	CloudBurst
CSO152	9/11/14 12:45 AM	9/11/14 7:00 AM	259,448.72	0.26	1.92	135,129.54	1.88	1.4	3 hr	Atlas14
CSO153	7/2/14 4:15 PM	7/2/14 4:30 PM	11,117.97	0.01	0.12	92,649.74	0.4	0.1	1 hr	CloudBurst
CSO153	7/7/14 7:30 PM	7/7/14 7:45 PM	240,860.91	0.01	0.62	388,485.33	0.95	0.54	1 hr	CloudBurst
CSO153	7/13/14 10:30 PM	7/13/14 11:15 PM	53,781.27	0.03	0.69	77,943.86	1.5	0.34	1 hr	CloudBurst
CSO153	7/14/14 8:00 PM	7/14/14 8:30 PM	110,991.87	0.02	0.3	369,972.92	1.41	0.2	3 hr	CloudBurst
CSO153	7/26/14 9:45 PM	7/27/14 5:45 PM	1,288,470.16	0.83	0.97	1,328,319.75	1.01	0.43	12 hr	CloudBurst
CSO153	8/8/14 5:45 AM	8/8/14 8:00 AM	289,237.94	0.09	0.87	332,457.40	0.67	0.42	6 hr	CloudBurst
CSO153	8/10/14 4:00 AM	8/10/14 4:15 AM	54,698.77	0.01	0.78	70,126.62	1.74	0.65	1 hr	CloudBurst
CSO153	8/11/14 3:30 PM	8/11/14 3:45 PM	90,767.89	0.01	0.35	259,336.82	2.1	0.3	1 hr	CloudBurst
CSO153	8/17/14 9:30 AM	8/17/14 10:30 AM	71,458.34	0.04	0.72	99,247.70	0.96	0.27	24 hr	CloudBurst
CSO153	8/22/14 7:15 PM	8/22/14 7:15 PM	67,650.91	0.00	0.22	307,504.12	0.94	0.13	3 hr	CloudBurst
CSO153	8/23/14 4:00 PM	8/23/14 10:00 PM	132,681.44	0.25	0.52	255,156.61	1.48	0.26	3 hr	CloudBurst
CSO153	8/27/14 3:00 PM	8/27/14 3:00 PM	7,468.28	0.00	0.12	62,235.68	1.01	0.09	1 hr	CloudBurst
CSO153	8/30/14 3:15 PM	8/30/14 4:15 PM	269,290.93	0.04	0.54	498,686.91	1.12	0.31	1 hr	CloudBurst
CSO153	9/2/14 8:30 AM	9/2/14 8:45 AM	11,836.41	0.01	0.4	29,591.02	1.07	0.25	3 hr	Atlas14
CSO153	9/11/14 12:45 AM	9/11/14 2:30 AM	1,489,489.43	0.07	1.86	800,800.77	1.59	1.23	3 hr	Atlas14
CSO154	7/7/14 7:45 PM	7/7/14 7:45 PM	35,222.25	0.00	0.74	47,597.64	1.09	0.64	1 hr	CloudBurst
CSO154	7/13/14 11:00 PM	7/13/14 11:00 PM	199.78	0.00	0.59	338.61	1.42	0.27	3 hr	CloudBurst
CSO154	7/26/14 10:00 PM	7/27/14 10:15 AM	76,455.03	0.51	0.98	78,015.34	1.01	0.44	12 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO154	8/8/14 7:00 AM	8/8/14 8:00 AM	65,029.53	0.04	0.89	73,066.88	0.65	0.44	6 hr	CloudBurst
CSO154	8/10/14 4:15 AM	8/10/14 4:15 AM	7,715.50	0.00	0.44	17,535.23	1.36	0.37	1 hr	CloudBurst
CSO154	8/22/14 7:00 PM	8/23/14 2:45 AM	122,752.13	0.32	0.45	272,782.51	1.12	0.32	1 hr	CloudBurst
CSO154	8/23/14 8:30 PM	8/23/14 8:30 PM	901.50	0.00	0.49	1,839.80	1.35	0.25	3 hr	Atlas14
CSO154	8/30/14 3:30 PM	8/30/14 3:30 PM	165,594.95	0.00	0.51	324,695.99	1.02	0.31	1 hr	CloudBurst
CSO154	9/11/14 12:45 AM	9/11/14 10:45 AM	737,351.95	0.42	1.95	378,129.21	1.95	1.57	3 hr	Atlas14
CSO155	7/2/14 4:00 PM	7/2/14 4:15 PM	7,702.10	0.01	0.19	40,537.39	0.54	0.17	1 hr	CloudBurst
CSO155	7/7/14 7:15 PM	7/7/14 7:30 PM	3,059.85	0.01	0.26	11,768.67	0.75	0.23	1 hr	CloudBurst
CSO155	7/13/14 10:45 PM	7/13/14 10:45 PM	2,646.51	0.00	0.83	3,188.57	0.89	0.4	1 hr	CloudBurst
CSO155	7/14/14 7:45 PM	7/14/14 8:00 PM	3,153.39	0.01	0.45	7,007.52	1.47	0.3	3 hr	CloudBurst
CSO155	7/26/14 9:30 PM	7/26/14 9:45 PM	11,183.58	0.01	1.15	9,724.85	0.56	0.52	12 hr	CloudBurst
CSO155	7/27/14 7:00 AM	7/27/14 7:30 AM	852.08	0.02	1.15	740.94	1.17	0.52	12 hr	CloudBurst
CSO155	8/8/14 5:30 AM	8/8/14 6:45 AM	29,819.43	0.05	0.73	40,848.54	0.52	0.35	6 hr	CloudBurst
CSO155	8/10/14 3:45 AM	8/10/14 4:30 AM	80,158.63	0.03	0.49	163,589.05	1.31	0.34	1 hr	CloudBurst
CSO155	8/11/14 3:00 PM	8/11/14 3:00 PM	10,544.88	0.00	0.4	26,362.19	1.72	0.29	1 hr	CloudBurst
CSO155	8/17/14 9:30 AM	8/17/14 9:30 AM	826.43	0.00	0.7	1,180.61	0.86	0.27	24 hr	CloudBurst
CSO155	8/17/14 11:00 PM	8/17/14 11:00 PM	3,051.35	0.00	0.7	4,359.08	1.1	0.27	24 hr	CloudBurst
CSO155	8/22/14 7:00 PM	8/22/14 7:00 PM	9,528.17	0.00	0.24	39,700.70	0.91	0.17	1 hr	CloudBurst
CSO155	8/23/14 3:30 PM	8/23/14 8:00 PM	19,919.17	0.19	1	19,919.17	1.59	0.46	3 hr	CloudBurst
CSO155	8/26/14 7:45 PM	8/26/14 7:45 PM	202.97	0.00	0.11	1,845.17	1.36	0.1	1 hr	CloudBurst
CSO155	8/27/14 5:00 PM	8/27/14 5:00 PM	4,281.29	0.00	0.28	15,290.33	1.63	0.24	1 hr	CloudBurst
CSO155	8/30/14 3:00 PM	8/30/14 3:00 PM	4,952.66	0.00	0.92	5,383.32	1.93	0.61	1 hr	CloudBurst
CSO155	9/11/14 12:15 AM	9/11/14 5:45 AM	89,213.85	0.23	2.22	40,186.42	2.14	2.43	3 hr	Atlas14
CSO160	7/1/14 9:45 PM	7/1/14 10:30 PM	479.27	0.03	0.22	2,178.50	0.24	0.14	3 hr	CloudBurst
CSO160	7/2/14 4:15 PM	7/2/14 5:00 PM	261.43	0.03	0.12	2,178.56	0.37	0.1	1 hr	CloudBurst
CSO160	7/7/14 7:30 PM	7/7/14 7:45 PM	8,985.64	0.01	0.48	18,720.07	0.82	0.42	1 hr	CloudBurst
CSO160	7/8/14 6:30 AM	7/8/14 7:30 AM	930.76	0.04	0.32	2,908.63	1.14	0.28	1 hr	CloudBurst
CSO160	7/13/14 10:15 PM	7/14/14 5:00 AM	5,056.18	0.28	0.74	6,832.67	1.48	0.37	1 hr	CloudBurst
CSO160	7/14/14 7:15 PM	7/14/14 8:30 PM	330.91	0.05	0.35	945.45	1.82	0.23	3 hr	CloudBurst
CSO160	7/26/14 9:30 PM	7/27/14 9:30 AM	7,002.80	0.50	0.99	7,073.54	1.02	0.44	12 hr	CloudBurst
CSO160	8/8/14 5:45 AM	8/8/14 11:00 AM	5,787.48	0.22	0.8	7,234.35	0.76	0.35	6 hr	CloudBurst
CSO160	8/10/14 4:15 AM	8/10/14 4:45 AM	1,563.51	0.02	0.91	1,718.14	1.77	0.75	1 hr	CloudBurst
CSO160	8/11/14 3:30 PM	8/11/14 3:30 PM	123.01	0.00	0.43	286.07	2.19	0.36	1 hr	CloudBurst
CSO160	8/17/14 12:00 AM	8/17/14 12:00 AM	1,034.83	0.00	0.72	1,437.27	1.66	0.28	24 hr	CloudBurst
CSO160	8/17/14 9:45 AM	8/17/14 9:45 AM	181.50	0.00	0.72	252.09	0.98	0.28	24 hr	CloudBurst
CSO160	8/17/14 11:30 PM	8/17/14 11:45 PM	703.29	0.01	0.72	976.79	1.15	0.28	24 hr	CloudBurst
CSO160	8/22/14 7:45 PM	8/22/14 7:45 PM	154.18	0.00	0.29	531.65	1.01	0.22	1 hr	CloudBurst
CSO160	8/23/14 4:15 AM	8/23/14 4:15 AM	164.75	0.00	0.29	568.09	1.05	0.22	1 hr	CloudBurst
CSO160	8/23/14 4:00 PM	8/23/14 9:00 PM	1,909.77	0.21	0.73	2,616.12	1.61	0.38	3 hr	Atlas14
CSO160	8/27/14 3:15 PM	8/27/14 3:30 PM	170.16	0.01	0.12	1,418.01	1.2	0.08	3 hr	CloudBurst
CSO160	8/30/14 3:30 PM	8/30/14 4:15 PM	980.23	0.03	0.58	1,690.04	1.29	0.37	1 hr	CloudBurst
CSO160	9/2/14 8:30 AM	9/2/14 9:30 AM	3,508.91	0.04	0.45	7,797.58	1.09	0.22	3 hr	CloudBurst
CSO160	9/11/14 12:45 AM	9/11/14 6:15 AM	1,579.01	0.23	1.88	839.90	1.82	1.27	3 hr	Atlas14
CSO161	7/13/14 10:45 PM	7/13/14 10:45 PM	853.39	0.00	0.74	1,153.22	1.26	0.37	1 hr	CloudBurst
CSO161	7/26/14 9:30 PM	7/26/14 9:30 PM	7,048.79	0.00	0.99	7,119.99	0.3	0.44	12 hr	CloudBurst
CSO161	8/8/14 6:15 AM	8/8/14 6:15 AM	341.38	0.00	0.8	426.72	0.5	0.35	6 hr	CloudBurst
CSO161	8/10/14 3:45 AM	8/10/14 4:15 AM	5,590.82	0.02	0.91	6,143.76	1.74	0.75	1 hr	CloudBurst
CSO161	8/22/14 7:00 PM	8/22/14 7:00 PM	3,155.32	0.00	0.29	10,880.42	1	0.22	1 hr	CloudBurst
CSO161	8/23/14 7:45 PM	8/23/14 7:45 PM	8,054.75	0.00	0.73	11,033.90	1.38	0.38	3 hr	Atlas14
CSO161	8/30/14 3:00 PM	8/30/14 3:00 PM	14,485.17	0.00	0.58	24,974.43	1.3	0.37	1 hr	CloudBurst
CSO161	9/11/14 12:30 AM	9/11/14 2:00 AM	9,592.42	0.06	1.88	5,102.35	1.52	1.27	3 hr	Atlas14
CSO166	7/13/14 11:15 PM	7/13/14 11:45 PM	279,299.62	0.02	0.63	443,332.73	1.52	0.32	3 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO166	7/26/14 10:00 PM	7/27/14 8:45 AM	1,632,745.49	0.45	1.24	1,316,730.24	1.2	0.55	12 hr	CloudBurst
CSO166	8/8/14 6:30 AM	8/8/14 8:30 AM	558,490.78	0.08	1.05	531,895.99	0.84	0.54	6 hr	CloudBurst
CSO166	8/10/14 4:30 AM	8/10/14 5:00 AM	77,814.96	0.02	0.17	457,735.03	1.31	0.15	1 hr	CloudBurst
CSO166	8/11/14 3:30 PM	8/11/14 4:15 PM	75,099.67	0.03	0.35	214,570.48	1.64	0.29	1 hr	CloudBurst
CSO166	8/17/14 8:15 PM	8/17/14 9:00 PM	324,257.98	0.03	0.7	463,225.69	1.04	0.26	24 hr	CloudBurst
CSO166	8/22/14 7:00 PM	8/22/14 7:00 PM	2,269.81	0.00	0.53	4,282.67	1.13	0.36	1 hr	CloudBurst
CSO167	7/2/14 4:30 PM	7/2/14 5:00 PM	67,532.98	0.02	0.15	450,219.86	0.53	0.12	1 hr	CloudBurst
CSO167	7/7/14 7:30 PM	7/7/14 8:15 PM	135,536.80	0.03	0.74	183,157.84	1.09	0.64	1 hr	CloudBurst
CSO167	7/13/14 11:00 PM	7/13/14 11:30 PM	100,347.13	0.02	0.59	170,079.88	1.43	0.27	3 hr	CloudBurst
CSO167	7/14/14 7:30 PM	7/14/14 8:45 PM	115,595.15	0.05	0.3	385,317.16	1.36	0.2	3 hr	CloudBurst
CSO167	7/26/14 9:45 PM	7/27/14 8:30 AM	379,199.88	0.45	0.98	386,938.66	0.97	0.44	12 hr	CloudBurst
CSO167	8/8/14 6:00 AM	8/8/14 8:15 AM	334,124.76	0.09	0.89	375,421.08	0.65	0.44	6 hr	CloudBurst
CSO167	8/10/14 4:00 AM	8/10/14 4:45 AM	123,935.74	0.03	0.44	281,672.13	1.4	0.37	1 hr	CloudBurst
CSO167	8/11/14 3:30 PM	8/11/14 4:00 PM	91,199.41	0.02	0.22	414,542.75	1.61	0.16	1 hr	CloudBurst
CSO167	8/17/14 12:45 AM	8/17/14 12:45 AM	7,065.79	0.00	0.66	10,705.74	0.96	0.25	24 hr	CloudBurst
CSO167	8/17/14 9:30 AM	8/17/14 10:45 AM	52,251.04	0.05	0.66	79,168.24	0.77	0.25	24 hr	CloudBurst
CSO167	8/22/14 7:00 PM	8/22/14 7:45 PM	203,379.17	0.03	0.45	451,953.72	1.04	0.32	1 hr	CloudBurst
CSO167	8/23/14 3:45 PM	8/23/14 10:00 PM	317,868.32	0.26	0.49	648,710.85	1.57	0.25	3 hr	Atlas14
CSO167	8/27/14 2:45 PM	8/27/14 5:30 PM	134,113.02	0.11	0.21	638,633.44	1.21	0.13	3 hr	Atlas14
CSO167	8/30/14 3:15 PM	8/30/14 4:30 PM	265,715.79	0.05	0.51	521,011.35	1.14	0.31	1 hr	CloudBurst
CSO167	9/2/14 8:30 AM	9/2/14 9:00 AM	69,633.25	0.02	0.4	174,083.12	1.15	0.25	3 hr	Atlas14
CSO167	9/11/14 12:30 AM	9/11/14 6:45 AM	870,726.29	0.26	1.95	446,526.30	1.91	1.57	3 hr	Atlas14
CSO167	9/28/14 7:45 PM	9/28/14 8:15 PM	70,937.81	0.02	0.07	1,013,397.23	0.07	0.06	1 hr	CloudBurst
CSO174	7/2/14 4:30 PM	7/2/14 4:30 PM	18,012.94	0.00	0.08	225,161.72	0.27	0.07	1 hr	CloudBurst
CSO174	7/13/14 10:00 PM	7/13/14 11:15 PM	463,903.52	0.05	0.7	662,719.32	2.06	0.35	3 hr	CloudBurst
CSO174	7/26/14 9:45 PM	7/27/14 9:30 AM	665,264.75	0.49	1.43	465,220.10	1.47	0.66	12 hr	CloudBurst
CSO174	8/8/14 5:45 AM	8/8/14 7:30 AM	376,213.01	0.07	0.9	418,014.46	0.73	0.43	6 hr	CloudBurst
CSO174	8/10/14 4:00 AM	8/10/14 4:00 AM	2,682.15	0.00	0.71	3,777.67	1.54	0.58	1 hr	CloudBurst
CSO174	8/11/14 3:30 PM	8/11/14 3:45 PM	592,226.62	0.01	0.51	1,161,228.66	2.2	0.4	1 hr	CloudBurst
CSO174	8/17/14 9:45 AM	8/17/14 10:15 AM	18,263.10	0.02	0.72	25,365.42	1.12	0.27	24 hr	CloudBurst
CSO174	8/22/14 7:15 PM	8/22/14 7:30 PM	96,677.85	0.01	0.35	276,222.43	1.05	0.26	1 hr	CloudBurst
CSO174	8/23/14 4:45 PM	8/23/14 8:30 PM	272,830.15	0.16	0.59	462,423.98	1.49	0.28	3 hr	CloudBurst
CSO174	8/27/14 4:45 PM	8/27/14 5:15 PM	385,757.03	0.02	0.27	1,428,729.74	1.29	0.18	3 hr	CloudBurst
CSO174	8/30/14 3:15 PM	8/30/14 3:30 PM	237,002.19	0.01	0.6	395,003.65	1.35	0.38	1 hr	CloudBurst
CSO174	9/2/14 8:30 AM	9/2/14 8:30 AM	40,479.57	0.00	0.4	101,198.94	1.22	0.24	3 hr	CloudBurst
CSO174	9/11/14 12:45 AM	9/11/14 6:15 AM	2,507,959.24	0.23	1.9	1,319,978.55	1.85	1.33	3 hr	Atlas14
CSO179	7/26/14 9:45 PM	7/26/14 10:00 PM	36,703.16	0.01	1.43	25,666.54	0.56	0.66	12 hr	CloudBurst
CSO179	8/30/14 3:15 PM	8/30/14 3:15 PM	42,673.89	0.00	0.6	71,123.14	1.34	0.38	1 hr	CloudBurst
CSO179	9/11/14 1:15 AM	9/11/14 1:15 AM	61,485.55	0.00	1.9	32,360.82	1.24	1.33	3 hr	Atlas14
CSO180	7/13/14 10:45 PM	7/13/14 10:45 PM	67,316.44	0.00	0.7	96,166.34	2.04	0.35	3 hr	CloudBurst
CSO180	7/26/14 9:30 PM	7/26/14 9:45 PM	198,549.03	0.01	1.43	138,845.47	0.53	0.66	12 hr	CloudBurst
CSO180	8/11/14 3:15 PM	8/11/14 3:15 PM	124,151.39	0.00	0.51	243,434.10	2.2	0.4	1 hr	CloudBurst
CSO180	8/22/14 7:15 PM	8/22/14 7:15 PM	12,548.22	0.00	0.35	35,852.05	1.05	0.26	1 hr	CloudBurst
CSO180	8/27/14 4:45 PM	8/27/14 4:45 PM	12,917.24	0.00	0.27	47,841.63	1.22	0.18	3 hr	CloudBurst
CSO180	8/30/14 3:15 PM	8/30/14 3:15 PM	90,178.28	0.00	0.6	150,297.14	1.34	0.38	1 hr	CloudBurst
CSO180	9/11/14 12:30 AM	9/11/14 1:15 AM	249,525.23	0.03	1.9	131,329.07	1.24	1.33	3 hr	Atlas14
CSO181	7/26/14 9:45 PM	7/26/14 10:00 PM	142,773.22	0.01	1.17	122,028.40	0.43	0.54	12 hr	CloudBurst
CSO181	8/8/14 6:30 AM	8/8/14 6:45 AM	106,656.93	0.01	0.86	124,019.69	0.58	0.39	6 hr	CloudBurst
CSO181	8/10/14 4:30 AM	8/10/14 4:30 AM	149,999.06	0.00	1.16	129,309.54	2.1	0.97	1 hr	CloudBurst
CSO181	8/11/14 3:30 PM	8/11/14 3:30 PM	63.38	0.00	0.48	132.03	2.56	0.4	1 hr	CloudBurst
CSO181	8/22/14 7:15 PM	8/22/14 7:30 PM	110,770.74	0.01	0.34	325,796.30	1.11	0.26	1 hr	CloudBurst
CSO181	8/23/14 8:00 PM	8/23/14 8:15 PM	114,869.26	0.01	0.62	185,273.00	1.49	0.3	3 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO181	8/30/14 3:15 PM	8/30/14 3:30 PM	193,898.82	0.01	0.62	312,740.03	1.3	0.39	1 hr	CloudBurst
CSO181	9/11/14 12:45 AM	9/11/14 2:30 AM	178,545.57	0.07	1.78	100,306.50	1.51	0.99	3 hr	Atlas14
CSO182	7/1/14 10:30 PM	7/1/14 10:30 PM	116.16	0.00	0.18	645.31	0.21	0.11	3 hr	CloudBurst
CSO182	7/2/14 4:30 PM	7/2/14 5:00 PM	15,744.10	0.02	0.11	143,128.16	0.32	0.09	1 hr	CloudBurst
CSO182	7/13/14 10:00 PM	7/13/14 11:45 PM	169,132.91	0.07	0.64	264,270.18	1.59	0.33	3 hr	CloudBurst
CSO182	7/26/14 10:00 PM	7/27/14 9:45 AM	119,509.31	0.49	1.32	90,537.36	1.34	0.61	12 hr	CloudBurst
CSO182	8/8/14 5:30 AM	8/8/14 8:15 AM	20,335.58	0.11	1	20,335.58	0.8	0.46	6 hr	CloudBurst
CSO182	8/9/14 3:45 AM	8/9/14 4:15 AM	6,290.55	0.02	0.07	89,865.03	1.02	0.04	6 hr	CloudBurst
CSO182	8/10/14 4:15 AM	8/10/14 4:15 AM	8,940.46	0.00	0.44	20,319.22	1.51	0.37	1 hr	CloudBurst
CSO182	8/11/14 3:15 PM	8/11/14 4:00 PM	26,506.90	0.03	0.42	63,111.67	1.85	0.3	1 hr	CloudBurst
CSO182	8/17/14 12:30 AM	8/17/14 12:45 AM	11,157.66	0.01	0.71	15,715.01	1.16	0.27	24 hr	CloudBurst
CSO182	8/17/14 9:30 AM	8/17/14 10:45 AM	19,126.00	0.05	0.71	26,938.03	1.03	0.27	24 hr	CloudBurst
CSO182	8/17/14 8:45 PM	8/17/14 11:15 PM	16,237.87	0.10	0.71	22,870.25	1.14	0.27	24 hr	CloudBurst
CSO182	8/22/14 7:15 PM	8/22/14 7:45 PM	10,098.75	0.02	0.24	42,078.13	0.9	0.16	1 hr	CloudBurst
CSO182	8/23/14 4:15 PM	8/23/14 10:15 PM	179,811.25	0.25	0.72	249,737.84	1.64	0.34	6 hr	CloudBurst
CSO182	8/27/14 3:30 PM	8/27/14 6:00 PM	73,716.69	0.10	0.3	245,722.31	1.29	0.19	3 hr	CloudBurst
CSO182	8/30/14 3:45 PM	8/30/14 4:15 PM	38,553.94	0.02	0.58	66,472.31	1.39	0.37	1 hr	CloudBurst
CSO182	9/2/14 7:15 AM	9/3/14 12:00 AM	61,520.12	0.70	0.36	170,889.22	1.26	0.22	3 hr	CloudBurst
CSO182	9/11/14 12:30 AM	9/11/14 6:45 AM	1,060,560.10	0.26	1.99	532,944.77	1.94	1.57	3 hr	Atlas14
CSO183	8/27/14 4:45 PM	8/27/14 4:45 PM	4,341.76	0.00	0.38	11,425.68	1.37	0.27	1 hr	CloudBurst
CSO183	9/11/14 12:30 AM	9/11/14 12:30 AM	206.99	0.00	2.01	102.98	0.47	1.6	3 hr	Atlas14
CSO184	7/13/14 10:00 PM	7/13/14 11:00 PM	70,814.39	0.04	0.62	114,216.76	1.79	0.33	3 hr	CloudBurst
CSO184	7/26/14 9:45 PM	7/27/14 9:15 AM	149,970.53	0.48	1.34	111,918.31	1.36	0.62	12 hr	CloudBurst
CSO184	8/8/14 6:15 AM	8/8/14 6:30 AM	17,520.80	0.01	1.09	16,074.13	0.82	0.55	6 hr	CloudBurst
CSO184	8/11/14 3:30 PM	8/11/14 3:45 PM	35,710.88	0.01	0.38	93,975.99	1.74	0.21	6 hr	CloudBurst
CSO184	8/23/14 4:45 PM	8/23/14 8:15 PM	21,403.82	0.15	0.8	26,754.78	1.53	0.39	6 hr	CloudBurst
CSO184	8/27/14 5:00 PM	8/27/14 5:15 PM	184,815.35	0.01	0.38	486,356.19	1.42	0.27	1 hr	CloudBurst
CSO184	8/30/14 3:15 PM	8/30/14 3:15 PM	93,235.16	0.00	0.44	211,898.10	1.45	0.22	3 hr	CloudBurst
CSO184	9/2/14 8:30 AM	9/2/14 8:30 AM	3,290.18	0.00	0.35	9,400.51	1.11	0.22	3 hr	CloudBurst
CSO184	9/11/14 12:45 AM	9/11/14 2:30 AM	227,149.55	0.07	2.01	113,009.73	1.71	1.6	3 hr	Atlas14
CSO185	7/2/14 4:30 PM	7/2/14 4:30 PM	548.42	0.00	0.11	4,985.61	0.34	0.1	1 hr	CloudBurst
CSO185	7/13/14 10:00 PM	7/13/14 11:30 PM	270,176.18	0.06	0.62	435,768.03	1.8	0.33	3 hr	CloudBurst
CSO185	7/26/14 9:45 PM	7/26/14 10:00 PM	104,738.54	0.01	1.34	78,163.09	0.5	0.62	12 hr	CloudBurst
CSO185	7/27/14 6:15 AM	7/27/14 9:15 AM	42,701.11	0.13	1.34	31,866.50	1.36	0.62	12 hr	CloudBurst
CSO185	8/8/14 6:15 AM	8/8/14 7:45 AM	156,643.67	0.06	1.09	143,709.79	0.94	0.55	6 hr	CloudBurst
CSO185	8/10/14 10:45 AM	8/10/14 12:30 PM	2,154.83	0.07	0.25	8,619.33	1.51	0.21	1 hr	CloudBurst
CSO185	8/11/14 3:30 PM	8/11/14 4:15 PM	271,160.79	0.03	0.38	713,581.02	1.74	0.21	6 hr	CloudBurst
CSO185	8/12/14 8:45 AM	8/12/14 9:15 AM	1,169.27	0.02	0.121	9,663.40	1.89	0.055	12 hr	Atlas14
CSO185	8/22/14 7:30 PM	8/22/14 7:30 PM	8,302.04	0.00	0.21	39,533.53	0.9	0.14	3 hr	CloudBurst
CSO185	8/23/14 4:00 PM	8/23/14 8:15 PM	89,271.63	0.18	0.8	111,589.54	1.53	0.39	6 hr	CloudBurst
CSO185	8/27/14 3:15 PM	8/27/14 6:15 PM	344,120.74	0.13	0.38	905,580.90	1.45	0.27	1 hr	CloudBurst
CSO185	8/30/14 3:15 PM	8/30/14 3:30 PM	133,426.34	0.01	0.44	303,241.68	1.46	0.22	3 hr	CloudBurst
CSO185	9/2/14 8:30 AM	9/2/14 8:30 AM	19,427.16	0.00	0.35	55,506.16	1.11	0.22	3 hr	CloudBurst
CSO185	9/11/14 12:00 AM	9/11/14 9:00 PM	1,312,155.68	0.88	2.01	652,813.77	2.01	1.6	3 hr	Atlas14
CSO189	7/1/14 8:00 PM	7/1/14 9:00 PM	731,838.76	0.04	0.6	1,219,731.26	0.45	0.38	3 hr	CloudBurst
CSO189	7/2/14 4:30 PM	7/2/14 5:00 PM	197,199.06	0.02	0.1	1,971,990.60	0.73	0.09	1 hr	CloudBurst
CSO189	7/13/14 10:45 PM	7/14/14 12:30 AM	2,750,717.56	0.07	0.69	3,986,547.19	0.48	0.32	12 hr	CloudBurst
CSO189	7/14/14 7:15 PM	7/14/14 9:15 PM	970,317.17	0.08	0.42	2,310,278.98	1.18	0.3	1 hr	CloudBurst
CSO189	7/26/14 9:45 PM	7/26/14 11:15 PM	2,031,904.33	0.06	1.04	1,953,754.17	0.69	0.48	12 hr	CloudBurst
CSO189	7/27/14 7:30 AM	7/27/14 8:00 AM	9,496.03	0.02	1.04	9,130.80	1.05	0.48	12 hr	CloudBurst
CSO189	8/8/14 6:15 AM	8/8/14 8:00 AM	1,286,130.58	0.07	0.62	2,074,404.16	0.48	0.31	6 hr	CloudBurst
CSO189	8/10/14 3:45 AM	8/10/14 5:45 AM	2,414,634.94	0.08	1.14	2,118,100.82	1.92	0.98	1 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO189	8/11/14 2:30 PM	8/11/14 4:15 PM	1,536,340.00	0.07	0.15	10,242,266.68	2.04	0.1	1 hr	CloudBurst
CSO189	8/17/14 10:00 AM	8/17/14 10:45 AM	280,251.38	0.03	0.83	337,652.26	0.86	0.32	24 hr	CloudBurst
CSO189	8/22/14 7:30 PM	8/22/14 8:00 PM	142,749.84	0.02	0.13	1,098,075.66	0.91	0.07	6 hr	CloudBurst
CSO189	8/23/14 4:30 PM	8/23/14 10:45 PM	5,855,563.86	0.26	0.96	6,099,545.68	1.91	0.46	6 hr	CloudBurst
CSO189	8/30/14 3:15 PM	8/30/14 5:15 PM	5,136,995.99	0.08	1.27	4,044,878.73	2.35	0.8	1 hr	CloudBurst
CSO189	9/2/14 8:15 AM	9/2/14 9:45 AM	1,019,991.99	0.06	0.53	1,924,513.18	1.95	0.3	3 hr	CloudBurst
CSO189	9/11/14 12:30 AM	9/11/14 6:30 AM	17,170,059.90	0.25	2.3	7,465,243.44	2.24	3.07	3 hr	Atlas14
CSO191	7/13/14 11:00 PM	7/13/14 11:00 PM	15,457.78	0.00	0.75	20,610.38	0.85	0.44	1 hr	CloudBurst
CSO191	7/27/14 9:15 AM	7/27/14 9:15 AM	25,263.82	0.00	1.1	22,967.11	1.13	0.51	12 hr	CloudBurst
CSO191	8/8/14 6:00 AM	8/8/14 6:30 AM	57,774.74	0.02	0.77	75,032.13	0.56	0.38	6 hr	CloudBurst
CSO191	8/23/14 8:15 PM	8/23/14 8:15 PM	10,655.22	0.00	0.85	12,535.55	1.4	0.41	6 hr	CloudBurst
CSO191	8/30/14 3:15 PM	8/30/14 3:30 PM	44,248.06	0.01	0.71	62,321.21	1.65	0.42	1 hr	CloudBurst
CSO191	9/11/14 2:15 AM	9/11/14 2:45 AM	448,493.73	0.02	1.71	262,277.03	1.46	0.95	3 hr	Atlas14
CSO193	7/7/14 7:30 PM	7/7/14 7:30 PM	1,786.20	0.00	0.47	3,800.42	0.77	0.41	1 hr	CloudBurst
CSO193	7/13/14 11:00 PM	7/13/14 11:00 PM	2,816.56	0.00	0.77	3,657.87	1.33	0.38	1 hr	CloudBurst
CSO193	7/26/14 9:45 PM	7/26/14 9:45 PM	13,778.98	0.00	1.06	12,999.04	0.41	0.49	12 hr	CloudBurst
CSO193	8/8/14 6:30 AM	8/8/14 6:45 AM	4,223.56	0.01	0.85	4,968.90	0.62	0.41	6 hr	CloudBurst
CSO193	8/10/14 4:00 AM	8/10/14 4:30 AM	7,250.46	0.02	0.52	13,943.19	1.5	0.41	1 hr	CloudBurst
CSO193	8/11/14 3:30 PM	8/11/14 3:30 PM	462.66	0.00	0.3	1,542.19	1.78	0.23	1 hr	CloudBurst
CSO193	8/22/14 7:15 PM	8/22/14 7:15 PM	1,526.47	0.00	0.47	3,247.81	1.18	0.37	1 hr	CloudBurst
CSO193	8/23/14 4:30 PM	8/23/14 8:15 PM	6,439.72	0.16	0.65	9,907.26	1.65	0.36	3 hr	CloudBurst
CSO193	8/30/14 3:15 PM	8/30/14 3:15 PM	1,656.13	0.00	0.56	2,957.37	1.13	0.31	1 hr	CloudBurst
CSO193	9/11/14 12:45 AM	9/11/14 2:15 AM	26,031.18	0.06	1.91	13,628.89	1.6	1.33	3 hr	Atlas14
CSO196	7/7/14 7:30 PM	7/7/14 7:45 PM	25,942.09	0.01	0.56	46,325.17	0.85	0.49	1 hr	CloudBurst
CSO196	7/13/14 11:00 PM	7/13/14 11:00 PM	16,082.85	0.00	0.78	20,619.04	1.43	0.39	3 hr	CloudBurst
CSO196	7/14/14 8:15 PM	7/14/14 8:15 PM	2,168.49	0.00	0.18	12,047.16	1.26	0.14	1 hr	CloudBurst
CSO196	9/11/14 12:45 AM	9/11/14 2:30 AM	115,450.62	0.07	1.83	63,087.77	1.53	1.03	3 hr	Atlas14
CSO199	7/7/14 7:30 PM	7/7/14 7:30 PM	1,538.17	0.00	0.56	2,746.73	0.83	0.49	1 hr	CloudBurst
CSO199	7/13/14 11:00 PM	7/13/14 11:00 PM	1,981.35	0.00	0.78	2,540.20	1.43	0.39	3 hr	CloudBurst
CSO199	7/26/14 9:45 PM	7/26/14 10:00 PM	16,206.82	0.01	1.16	13,971.40	0.46	0.53	12 hr	CloudBurst
CSO199	8/8/14 5:45 AM	8/8/14 6:45 AM	13,731.10	0.04	0.86	15,966.40	0.63	0.41	6 hr	CloudBurst
CSO199	8/10/14 4:00 AM	8/10/14 4:00 AM	796.00	0.00	0.61	1,304.92	1.5	0.5	1 hr	CloudBurst
CSO199	8/11/14 3:30 PM	8/11/14 3:30 PM	7,084.31	0.00	0.34	20,836.21	1.91	0.26	1 hr	CloudBurst
CSO199	8/17/14 9:30 AM	8/17/14 9:45 AM	3,536.93	0.01	0.73	4,845.11	0.9	0.28	24 hr	CloudBurst
CSO199	8/17/14 11:00 PM	8/17/14 11:00 PM	5,646.92	0.00	0.73	7,735.50	1.07	0.28	24 hr	CloudBurst
CSO199	8/23/14 4:30 PM	8/23/14 8:15 PM	22,456.46	0.16	0.71	31,628.81	1.58	0.37	3 hr	CloudBurst
CSO199	8/27/14 5:00 PM	8/27/14 5:00 PM	816.11	0.00	0.2	4,080.57	1.24	0.16	1 hr	CloudBurst
CSO199	8/30/14 2:45 PM	8/30/14 3:15 PM	22,220.21	0.02	0.56	39,678.95	1.25	0.33	1 hr	CloudBurst
CSO199	8/31/14 7:45 PM	8/31/14 7:45 PM	7,803.00	0.00	0.56	13,933.93	0.79	0.437	.25 hr	Atlas14
CSO199	9/11/14 12:45 AM	9/11/14 2:30 AM	40,858.51	0.07	1.83	22,327.06	1.53	1.03	3 hr	Atlas14
CSO200	7/7/14 7:30 PM	7/7/14 7:30 PM	1,198.76	0.00	0.56	2,140.64	0.83	0.49	1 hr	CloudBurst
CSO200	7/13/14 10:45 PM	7/13/14 11:00 PM	1,984.43	0.01	0.78	2,544.14	1.43	0.39	3 hr	CloudBurst
CSO200	7/26/14 9:45 PM	7/26/14 9:45 PM	12,685.48	0.00	1.16	10,935.76	0.42	0.53	12 hr	CloudBurst
CSO200	8/8/14 6:00 AM	8/8/14 7:15 AM	5,547.01	0.05	0.86	6,450.01	0.68	0.41	6 hr	CloudBurst
CSO200	8/10/14 4:15 AM	8/10/14 4:15 AM	132.99	0.00	0.61	218.02	1.61	0.5	1 hr	CloudBurst
CSO200	8/11/14 3:15 PM	8/11/14 3:30 PM	22,742.01	0.01	0.34	66,888.26	1.91	0.26	1 hr	CloudBurst
CSO200	8/17/14 9:30 AM	8/17/14 9:30 AM	387.40	0.00	0.73	530.68	0.84	0.28	24 hr	CloudBurst
CSO200	8/17/14 11:00 PM	8/17/14 11:00 PM	1,328.84	0.00	0.73	1,820.33	1.07	0.28	24 hr	CloudBurst
CSO200	8/23/14 4:30 PM	8/23/14 8:15 PM	58,365.77	0.16	0.71	82,205.31	1.58	0.37	3 hr	CloudBurst
CSO200	8/30/14 3:15 PM	8/30/14 4:00 PM	17,149.97	0.03	0.56	30,624.94	1.32	0.33	1 hr	CloudBurst
CSO200	9/11/14 12:30 AM	9/11/14 2:30 AM	52,268.81	0.08	1.83	28,562.19	1.53	1.03	3 hr	Atlas14
CSO202	7/7/14 7:30 PM	7/7/14 7:30 PM	15,531.86	0.00	0.56	27,735.47	0.83	0.49	1 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO202	7/26/14 9:45 PM	7/26/14 9:45 PM	12,619.64	0.00	1.16	10,879.00	0.42	0.53	12 hr	CloudBurst
CSO202	8/8/14 5:45 AM	8/8/14 7:15 AM	8,861.87	0.06	0.86	10,304.50	0.68	0.41	6 hr	CloudBurst
CSO202	8/11/14 3:30 PM	8/11/14 3:30 PM	4,333.72	0.00	0.34	12,746.23	1.91	0.26	1 hr	CloudBurst
CSO202	8/17/14 9:30 AM	8/17/14 9:30 AM	1,893.06	0.00	0.73	2,593.24	0.84	0.28	24 hr	CloudBurst
CSO202	8/17/14 11:00 PM	8/17/14 11:00 PM	3,791.35	0.00	0.73	5,193.64	1.07	0.28	24 hr	CloudBurst
CSO202	8/22/14 7:15 PM	8/22/14 7:15 PM	3,013.51	0.00	0.33	9,131.85	1.04	0.25	1 hr	CloudBurst
CSO202	8/23/14 4:30 PM	8/23/14 8:15 PM	25,419.13	0.16	0.71	35,801.59	1.58	0.37	3 hr	CloudBurst
CSO202	8/30/14 3:15 PM	8/30/14 3:15 PM	6,016.98	0.00	0.56	10,744.61	1.25	0.33	1 hr	CloudBurst
CSO202	9/11/14 12:30 AM	9/11/14 2:15 AM	18,217.08	0.07	1.83	9,954.69	1.52	1.03	3 hr	Atlas14
CSO203	7/2/14 5:00 PM	7/3/14 2:30 AM	17,911.93	0.40	0.1	179,119.27	0.32	0.09	1 hr	CloudBurst
CSO203	7/7/14 7:30 PM	7/7/14 9:30 PM	19,022.35	0.08	0.56	33,968.49	0.85	0.49	1 hr	CloudBurst
CSO203	7/8/14 8:30 AM	7/8/14 11:00 AM	3,627.52	0.10	0.3	12,091.74	1.15	0.26	1 hr	CloudBurst
CSO203	7/13/14 10:30 PM	7/15/14 2:15 AM	47,932.55	1.16	0.78	61,451.99	1.82	0.39	3 hr	CloudBurst
CSO203	7/26/14 9:45 PM	7/27/14 11:30 AM	110,654.39	0.57	1.16	95,391.72	1.19	0.53	12 hr	CloudBurst
CSO203	8/8/14 5:45 AM	8/8/14 4:00 PM	82,015.96	0.43	0.86	95,367.39	0.93	0.41	6 hr	CloudBurst
CSO203	8/10/14 4:15 AM	8/10/14 4:30 AM	3,087.36	0.01	0.61	5,061.25	1.61	0.5	1 hr	CloudBurst
CSO203	8/11/14 3:15 PM	8/11/14 3:30 PM	4,472.13	0.01	0.34	13,153.31	1.91	0.26	1 hr	CloudBurst
CSO203	8/23/14 4:30 PM	8/24/14 11:00 AM	106,749.23	0.77	0.71	150,351.03	1.79	0.37	3 hr	CloudBurst
CSO203	8/27/14 5:15 PM	8/28/14 9:15 AM	28,638.92	0.67	0.2	143,194.58	1.27	0.16	1 hr	CloudBurst
CSO203	8/30/14 3:15 PM	8/31/14 10:45 AM	70,470.83	0.81	0.56	125,840.77	1.5	0.33	1 hr	CloudBurst
CSO203	9/11/14 12:45 AM	9/12/14 3:15 AM	159,885.60	1.10	1.83	87,369.18	1.83	1.03	3 hr	Atlas14
CSO205	8/11/14 3:15 PM	8/11/14 3:15 PM	1,640.50	0.00	0.42	3,905.95	1.84	0.3	1 hr	CloudBurst
CSO205	8/23/14 4:30 PM	8/23/14 8:00 PM	1,707.76	0.15	0.72	2,371.89	1.46	0.34	6 hr	CloudBurst
CSO205	8/27/14 3:00 PM	8/27/14 4:45 PM	2,146.03	0.07	0.3	7,153.44	1.22	0.19	3 hr	CloudBurst
CSO205	8/30/14 3:00 PM	8/30/14 3:00 PM	1,665.23	0.00	0.58	2,871.08	1.41	0.37	1 hr	CloudBurst
CSO205	9/2/14 8:15 AM	9/2/14 8:15 AM	544.01	0.00	0.36	1,511.14	1.11	0.22	3 hr	CloudBurst
CSO205	9/11/14 12:30 AM	9/11/14 2:15 AM	4,812.70	0.07	1.99	2,418.44	1.68	1.57	3 hr	Atlas14
CSO206	7/1/14 10:15 PM	7/1/14 10:45 PM	56,358.63	0.02	0.16	352,241.43	0.24	0.26	3 hr	CloudBurst
CSO206	7/2/14 4:15 PM	7/2/14 5:15 PM	178,253.34	0.04	0.2	891,266.68	0.44	0.73	1 hr	CloudBurst
CSO206	7/7/14 7:45 PM	7/7/14 8:15 PM	106,176.94	0.02	0.61	174,060.56	0.97	0.21	1 hr	CloudBurst
CSO206	7/13/14 10:00 PM	7/14/14 4:30 AM	1,797,137.86	0.27	0.7	2,567,339.80	1.56	0.3	1 hr	CloudBurst
CSO206	7/14/14 7:00 PM	7/14/14 8:45 PM	92,087.44	0.07	0.06	1,534,790.58	1.66	0.07	0.25 hr	Atlas14
CSO206	7/26/14 9:45 PM	7/27/14 9:45 AM	2,315,089.31	0.50	1.35	1,714,880.97	1.36	0.56	12 hr	CloudBurst
CSO206	8/8/14 5:45 AM	8/8/14 11:15 AM	596,058.66	0.23	1.03	578,697.72	1	0.58	3 hr	CloudBurst
CSO206	8/9/14 4:00 AM	8/9/14 4:30 AM	111,447.99	0.02	0.07	1,592,114.16	1.07	0.03	12 hr	CloudBurst
CSO206	8/10/14 4:00 AM	8/10/14 4:30 AM	76,559.76	0.02	0.09	850,664.02	1.19	0.28	1 hr	CloudBurst
CSO206	8/11/14 3:30 PM	8/11/14 4:15 PM	415,436.57	0.03	0.38	1,093,254.13	1.53	0.22	1 hr	CloudBurst
CSO206	8/16/14 11:45 PM	8/17/14 1:00 AM	178,090.41	0.05	0.68	261,897.67	0.77	0.26	24 hr	CloudBurst
CSO206	8/17/14 9:45 AM	8/17/14 11:00 AM	282,202.46	0.05	0.68	415,003.61	0.96	0.26	24 hr	CloudBurst
CSO206	8/17/14 8:30 PM	8/17/14 9:00 PM	29,923.28	0.02	0.68	44,004.82	1.05	0.26	24 hr	CloudBurst
CSO206	8/20/14 4:00 PM	8/20/14 4:30 PM	81,120.59	0.02	0.03	2,704,019.64	0.71	0.01	6 hr	CloudBurst
CSO206	8/22/14 7:15 PM	8/22/14 8:00 PM	2,919,980.62	0.03	0.58	5,034,449.34	1.17	0.92	1 hr	CloudBurst
CSO206	8/23/14 3:30 PM	8/23/14 10:15 PM	4,240,176.99	0.28	0.77	5,506,723.36	2.01	0.54	6 hr	CloudBurst
CSO206	8/27/14 4:45 PM	8/27/14 5:45 PM	1,210,403.62	0.04	0.59	2,051,531.56	1.94	0.75	3 hr	Atlas14
CSO206	8/30/14 3:15 PM	8/30/14 4:00 PM	51,830.82	0.03	0.41	126,416.63	1.54	0.09	3 hr	CloudBurst
CSO206	9/2/14 8:15 AM	9/2/14 9:45 AM	353,211.32	0.06	0.41	861,491.02	1.4	0.27	3 hr	CloudBurst
CSO206	9/11/14 12:30 AM	9/11/14 6:45 AM	1,710,822.91	0.26	1.66	1,030,616.21	1.62	4.57	3 hr	Atlas14
CSO207	7/1/14 7:45 PM	7/2/14 8:15 AM	5,958.58	0.52	0.22	27,084.47	0.26	0.14	3 hr	CloudBurst
CSO207	7/2/14 5:30 PM	7/3/14 12:45 AM	2,384.79	0.30	0.12	19,873.26	0.37	0.1	1 hr	CloudBurst
CSO207	7/7/14 7:15 PM	7/8/14 12:30 PM	22,942.06	0.72	0.48	47,795.96	1.14	0.42	1 hr	CloudBurst
CSO207	7/13/14 11:30 PM	7/15/14 3:00 PM	23,008.23	1.65	0.74	31,092.20	1.89	0.37	1 hr	CloudBurst
CSO207	7/18/14 9:45 PM	7/18/14 11:30 PM	1,221.38	0.07	0.01	122,137.50	1.1	0.01	6 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO207	7/23/14 11:30 AM	7/23/14 12:00 PM	147.29	0.02	0.03	4,909.72	0.04	0.03	1 hr	CloudBurst
CSO207	7/26/14 9:15 PM	7/28/14 9:45 AM	76,175.61	1.52	0.99	76,945.06	1.03	0.44	12 hr	CloudBurst
CSO207	8/8/14 4:15 AM	8/8/14 2:15 PM	23,135.99	0.42	0.8	28,919.99	0.8	0.35	6 hr	CloudBurst
CSO207	8/9/14 4:30 AM	8/9/14 1:45 PM	13,481.17	0.39	0.09	7,153.44	0.86	0.056	.25 hrs	Atlas14
CSO207	8/10/14 3:30 AM	8/10/14 10:00 AM	55,609.98	0.27	0.91	61,109.87	1.77	0.75	1 hr	CloudBurst
CSO207	8/11/14 3:30 PM	8/12/14 10:00 AM	2,894.93	0.77	0.43	6,732.39	2.2	0.36	1 hr	CloudBurst
CSO207	8/16/14 6:30 PM	8/18/14 11:30 AM	44,817.77	1.71	0.72	62,246.91	2.06	0.28	24 hr	CloudBurst
CSO207	8/20/14 3:30 PM	8/20/14 5:45 PM	1,506.18	0.09	0.04	37,654.43	0.76	0.03	3 hr	CloudBurst
CSO207	8/22/14 7:00 PM	8/24/14 10:45 AM	65,113.46	1.66	0.29	224,529.17	1.78	0.22	1 hr	CloudBurst
CSO207	8/26/14 8:45 PM	8/28/14 11:15 AM	7,872.27	1.60	0.06	131,204.51	1.24	0.05	1 hr	CloudBurst
CSO207	8/30/14 3:00 PM	8/31/14 2:30 PM	48,115.37	0.98	0.58	82,957.54	1.49	0.37	1 hr	CloudBurst
CSO207	9/2/14 6:15 AM	9/3/14 8:15 AM	6,393.66	1.08	0.45	14,208.12	1.21	0.22	3 hr	CloudBurst
CSO207	9/10/14 10:45 PM	9/12/14 12:45 AM	68,899.95	1.08	1.88	36,648.91	1.88	1.27	3 hr	Atlas14
CSO207	9/15/14 10:30 PM	9/16/14 4:30 AM	13,379.15	0.25	0.07	191,130.66	1.95	0.06	1 hr	CloudBurst
CSO207	9/21/14 6:45 AM	9/21/14 9:00 AM	505.55	0.09	0.02	25,277.60	0.09	0.02	1 hr	CloudBurst
CSO208	7/1/14 9:45 PM	7/1/14 10:15 PM	466.05	0.02	0.22	2,118.42	0.26	0.14	3 hr	CloudBurst
CSO208	7/2/14 4:00 PM	7/2/14 4:15 PM	1,065.36	0.01	0.1	10,653.65	0.36	0.09	1 hr	CloudBurst
CSO208	7/7/14 7:30 PM	7/7/14 7:30 PM	10,268.63	0.00	0.4	25,671.56	0.71	0.35	1 hr	CloudBurst
CSO208	7/13/14 10:30 PM	7/14/14 4:00 AM	33,210.19	0.23	0.74	44,878.63	1.36	0.38	1 hr	CloudBurst
CSO208	7/14/14 7:00 PM	7/14/14 8:15 PM	1,305.09	0.05	0.26	5,019.59	1.73	0.18	1 hr	CloudBurst
CSO208	7/26/14 9:30 PM	7/26/14 10:15 PM	33,955.06	0.03	0.81	41,919.83	0.44	0.37	12 hr	CloudBurst
CSO208	7/27/14 6:45 AM	7/27/14 7:45 AM	485.28	0.04	0.81	599.11	0.82	0.37	12 hr	CloudBurst
CSO208	8/8/14 5:15 AM	8/8/14 7:30 AM	40,884.86	0.09	0.82	49,859.58	0.63	0.39	6 hr	CloudBurst
CSO208	8/10/14 3:45 AM	8/10/14 4:45 AM	63,117.56	0.04	0.48	131,494.92	1.4	0.35	1 hr	CloudBurst
CSO208	8/11/14 3:00 PM	8/11/14 3:15 PM	1,758.71	0.01	0.33	5,329.42	1.72	0.27	1 hr	CloudBurst
CSO208	8/17/14 9:30 AM	8/17/14 10:15 AM	828.71	0.03	0.69	1,201.03	0.91	0.27	24 hr	CloudBurst
CSO208	8/17/14 11:00 PM	8/17/14 11:00 PM	393.07	0.00	0.69	569.67	1.02	0.27	24 hr	CloudBurst
CSO208	8/22/14 7:00 PM	8/22/14 7:00 PM	32,507.94	0.00	0.48	67,724.87	1.12	0.37	1 hr	CloudBurst
CSO208	8/23/14 3:30 PM	8/23/14 9:30 PM	51,643.37	0.25	0.94	54,939.75	2.03	0.5	3 hr	CloudBurst
CSO208	8/26/14 7:45 PM	8/26/14 8:00 PM	310.94	0.01	0.07	4,441.96	1.51	0.06	1 hr	CloudBurst
CSO208	8/27/14 5:00 PM	8/27/14 5:15 PM	543.18	0.01	0.18	3,017.65	1.67	0.15	1 hr	CloudBurst
CSO208	8/30/14 3:00 PM	8/30/14 4:00 PM	29,616.58	0.04	0.76	38,969.19	1.72	0.44	1 hr	CloudBurst
CSO208	9/2/14 8:15 AM	9/2/14 3:30 PM	1,553.15	0.30	0.48	3,235.72	1.49	0.28	3 hr	CloudBurst
CSO208	9/11/14 12:00 AM	9/11/14 5:45 AM	96,178.32	0.24	1.92	50,092.88	1.83	1.1	3 hr	Atlas14
CSO208	9/15/14 10:30 PM	9/15/14 10:30 PM	1,253.27	0.00	0.08	15,665.89	2	0.07	1 hr	CloudBurst
CSO208	9/21/14 6:15 AM	9/21/14 6:15 AM	696.76	0.00	0.04	17,419.01	0.12	0.03	3 hr	CloudBurst
CSO210	7/1/14 7:45 PM	7/1/14 7:45 PM	1,780.09	0.00	0.46	3,869.77	0.31	0.29	3 hr	CloudBurst
CSO210	7/7/14 7:15 PM	7/7/14 7:30 PM	65,177.12	0.01	0.24	271,571.32	0.89	0.21	1 hr	CloudBurst
CSO210	7/13/14 10:45 PM	7/14/14 1:00 AM	32,025.06	0.09	0.69	46,413.13	0.79	0.35	1 hr	CloudBurst
CSO210	7/26/14 9:30 PM	7/27/14 12:00 AM	180,015.50	0.10	1.02	176,485.78	0.55	0.47	12 hr	CloudBurst
CSO210	7/27/14 9:15 AM	7/27/14 9:15 AM	11,140.88	0.00	1.02	10,922.43	1.07	0.47	12 hr	CloudBurst
CSO210	8/8/14 6:45 AM	8/8/14 10:15 AM	82,122.53	0.15	0.75	109,496.71	0.78	0.36	6 hr	CloudBurst
CSO210	8/10/14 4:45 AM	8/10/14 7:00 AM	18,621.18	0.09	0.72	25,862.75	1.64	0.63	1 hr	CloudBurst
CSO210	8/11/14 4:15 PM	8/11/14 6:00 PM	32,467.57	0.07	0.2	162,337.87	1.77	0.11	6 hr	CloudBurst
CSO210	8/17/14 10:45 AM	8/17/14 12:00 PM	18,780.16	0.05	0.5	37,560.31	1	0.26	3 hr	CloudBurst
CSO210	8/23/14 5:30 PM	8/24/14 12:15 AM	336,938.19	0.28	1.01	333,602.17	2.03	0.5	6 hr	CloudBurst
CSO210	8/30/14 3:15 PM	8/30/14 7:00 PM	129,621.49	0.16	0.96	135,022.39	2.26	0.57	3 hr	CloudBurst
CSO210	9/2/14 9:45 AM	9/2/14 10:45 AM	17,026.94	0.04	0.34	50,079.23	1.66	0.21	3 hr	CloudBurst
CSO210	9/11/14 1:15 AM	9/11/14 8:45 AM	825,137.85	0.31	2.11	391,060.59	2.11	2.21	3 hr	Atlas14
CSO211	7/13/14 11:00 PM	7/13/14 11:45 PM	4,639,255.67	0.03	0.69	6,723,558.94	0.78	0.35	1 hr	CloudBurst
CSO211	7/26/14 10:00 PM	7/26/14 10:30 PM	4,379,045.84	0.02	1.02	4,293,182.20	0.46	0.47	12 hr	CloudBurst
CSO211	8/8/14 6:30 AM	8/8/14 6:30 AM	1,281,708.75	0.00	0.75	1,708,945.00	0.55	0.36	6 hr	CloudBurst

CSO	Start Date-Time	End Date-Time	Total Volume (Gal)	Duration (days)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency (yrs)	Period	Standard
CSO211	8/10/14 4:30 AM	8/10/14 4:45 AM	3,570,811.81	0.01	0.72	4,959,460.85	1.64	0.63	1 hr	CloudBurst
CSO211	8/11/14 3:45 PM	8/11/14 4:00 PM	1,198,985.84	0.01	0.2	5,994,929.18	1.75	0.11	6 hr	CloudBurst
CSO211	8/23/14 5:00 PM	8/23/14 11:45 PM	5,125,372.09	0.28	1.01	5,074,625.83	2.04	0.5	6 hr	CloudBurst
CSO211	8/30/14 3:30 PM	8/30/14 5:45 PM	13,000,936.87	0.09	0.96	13,542,642.57	2.24	0.57	3 hr	CloudBurst
CSO211	9/11/14 1:00 AM	9/11/14 5:00 AM	35,593,041.95	0.17	2.11	16,868,740.26	1.98	2.21	3 hr	Atlas14

Appendix F – IOAP Project Crosswalk

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Avanti PS Elimination	IOAP	21229-W	S_PO_WC_PC07_M_01_A
Sinking Fork Relief Sewer	ISSDP	21103	SFRS
Sinking Fork Relief Sewer	ISSDP	63319	SFRS
Sinking Fork Relief Sewer	ISSDP	25012	SFRS
Beargrass Interceptor Rehab Ph. 2	IOAP	51594	S_SD_MF_NB06_S_13_C
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
Floydsburg Rd. I/I Investigation & Rehabilitation	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
Running Fox PS Elimination	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
Beechwood Village Sanitary Sewer Replacement	ISSDP	21153	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21101	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21156	BVSSR
Beechwood Village Sanitary Sewer Replacement	ISSDP	21061	BVSSR
Hazelwood PS I/I Investigation & Rehabilitation	IOAP	55667	S_MC_MF_55665_S_07_C
Hazelwood PS I/I Investigation & Rehabilitation	IOAP	55665	S_MC_MF_55665_S_07_C
Parkview Estates I/I Investigation & Rehabilitation	IOAP	47250	S_SD_MF_NB03_S_07_C
Sonne PS I/I Investigation & Rehabilitation	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
Woodland Hills PS Diversion	IOAP	33003	S_FF_FF_NB01_S_01_C_A
	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A - 1
Northern Ditch Diversion Interceptor	ISSDP	MSD0271	NDDI
Edsel PS I/I Investigation & Rehabilitation	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	94009	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	92098	S_PO_WC_PC11_M_07_C
Edsel PS I/I Investigation & Rehabilitation	IOAP	92099	S_PO_WC_PC11_M_07_C
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	44397	S_SF_MF_30917_M_09_A

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements 3 - Sewer Replacement & Sewer Rehabilitation	IOAP	104231	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	104231	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 1 - SSES	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	8717	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	104231	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 2 - Sewer Replacement and Rehabilitation	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	44397	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	51301	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	99259	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13943	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	8717	S_SF_MF_30917_M_09_A

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13946	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	13931	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	44396	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	104223	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	36763	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	66349	S_SF_MF_30917_M_09_A
Camp Taylor System Improvements Phase 4 - Storage Basin and Sewer Upsize	IOAP	104231	S_SF_MF_30917_M_09_A
Hurstbourne I/I Investigation & Rehabilitation	IOAP	67535	S_MI_MF_NB07_S_07_C
Hurstbourne I/I Investigation & Rehabilitation	IOAP	47650	S_MI_MF_NB07_S_07_C
Hurstbourne I/I Investigation & Rehabilitation	IOAP	47656	S_MI_MF_NB07_S_07_C
Hurstbourne I/I Investigation & Rehabilitation	IOAP	1793	S_MI_MF_NB07_S_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	25484	S_PO_WC_PC05_M_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
Lantana PS #1 I/I Investigation and Rehabilitation	IOAP	93719	S_PO_WC_PC05_M_07_C
Derington Ct. PS I/I Investigation & Rehabilitation	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
Derington Ct. PS I/I Investigation & Rehabilitation	IOAP	20155	S_OR_MF_NB03_S_07_C
Southeastern Diversion Structure and Interceptor	ISSDP	72571-X	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30704	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30702	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	63779	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8426	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8427	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8431	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	49647	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	8430	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	18654	SDSI
Southeastern Diversion Structure and Interceptor	ISSDP	30701	SDSI
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	MSD0277	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	32688	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	59169	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22307	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22385	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	22370	DRGWQTC
Derek R. Guthrie WQTC Wet Weather Facility	ISSDP	32682	DRGWQTC

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Hikes Lane Interceptor and Highgate Springs	ISSDP	18370	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18434	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	30681	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	MSD0012-PS	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49673	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49236	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18483	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49224	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18134	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18471	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18318-W	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18505	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18595	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	73111	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	49672	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	17571	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18302	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18297	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	18299	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	30680	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48886	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48888	HLIHSPS
Hikes Lane Interceptor and Highgate Springs	ISSDP	48885	HLIHSPS
Lake Forest PS SSO Investigation	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
Meadow Stream Pump Station & Force Main Upgrade	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
Meadow Stream Pump Station & Force Main Upgrade	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	41374	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	26752	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	24472	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Mellwood System Improvements & PS Elimination - Mellwood PS and FM Improvements	IOAP	24152-W	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	24472	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	41374	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	26752	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	24152-W	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
Mellwood System Improvements & PS Elimination - Winton and Mockingbird Valley Elimination	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	817	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	746	S_MI_MF_NB06_M_01_A_A - 2
Anchor Estates PS Elimination 1 - Vannah PS Elimination	IOAP	1106	S_MI_MF_NB06_M_01_A_A - 2
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2933	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2935	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	8537	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	2932	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 1- Buechel Basin	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	2933	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	2935	S_MISF_MF_NB01_M_01_C_A1

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	8537	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	2932	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
Middle Fork Relief Interceptor, Wet Weather Storage, and UMFLS Diversion 2 - PS Diversion and	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
Fairway View PS Improvements	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
Riding Ridge PS Improvements	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
Shively Interceptor	IOAP	MSD0047-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	4498	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0049-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	4542	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	81814-W	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0016-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0044-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0048-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0050-PS	S_MC_WC_NB01_M_01_A
Shively Interceptor	IOAP	MSD0043-PS	S_MC_WC_NB01_M_01_A
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	92061	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	86052	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0263	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD1043-PS	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0196-PS	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	64096	S_JT_JT_NB01A_M_03_C
Chenoweth Hills WQTC Elimination & PS Improvements	IOAP	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
Fairmount Road Pump Station Off-Line Storage	IOAP	81316	S_FF_CC_81316_M_03_C_A
Fairmount Road Pump Station Off-Line Storage	IOAP	97362	S_FF_CC_81316_M_03_C_A
Jeffersontown WQTC Elimination	IOAP	28391	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	64505	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	28392	S_JT_JT_NB01_M_01_C_A

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Jeffersontown WQTC Elimination	IOAP	28395	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	ISO28-SI	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	31733	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	28551	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	MSD0255	S_JT_JT_NB01_M_01_C_A
Jeffersontown WQTC Elimination	IOAP	28173	S_JT_JT_NB01_M_01_C_A
Klondike Interceptor	IOAP	26651	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	26650	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	20644	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	66232	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	49513	S_SD_MF_NB04_S_01_B_A
Klondike Interceptor	IOAP	25676	S_SD_MF_NB04_S_01_B_A
Lea Ann Way System Improvements	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	29933	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	31074	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	31073	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	57874	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	29948	S_PO_WC_PC08_M_01_C
Lea Ann Way System Improvements	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
Prospect #1 - WQTC Eliminations	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40870	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	89791	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40879	S_OR_MF_NB04_M_03_B_B

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Prospect #1 - WQTC Eliminations	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #1 - WQTC Eliminations	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40870	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	89791	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40879	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #2 - Harrods Creek PS and FM	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	40871	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	65635	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	22436	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	89646	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	40879	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	40880	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemtns	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Prospect #3 - ORFM System Improvemetns	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	42675	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	40872	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	65633	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	40870	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	65623	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	42680	S_OR_MF_NB04_M_03_B_B
Prospect #3 - ORFM System Improvemetns	IOAP	89791	S_OR_MF_NB04_M_03_B_B
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	1106	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	817	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A - 1
Anchor Estates PS Elimination 2 - Anchor Estates #1 and #2 PS Elimination	IOAP	746	S_MI_MF_NB06_M_01_A_A - 1
Caven Ave Pump Station Elimination	IOAP	70212	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	61667	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	MSD0133-PS	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	17724	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	61687	S_PO_WC_PC09_M_09B_C
Caven Ave Pump Station Elimination	IOAP	27116	S_PO_WC_PC09_M_09B_C
Ashburton PS Improvements & Diversion	IOAP	MSD0165-PS	S_FF_FF_NB03_M_01_C_A
Bardstown Rd. PS Improvements	IOAP	88545	S_CC_CC_MSD1025_S_03_B
East Rockford PS Relocation	IOAP	04699-W	S_MC_WC_NB02_S_03_C
Fox Harbor Inline Storage	IOAP	62769	S_HC_HN_NB03_S_09A_A_A
Gunpowder PS Inline Storage	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
Lucas Lane PS Inline Storage	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
Raintree and Marian Ct 1 - PS Elimination	IOAP	28395A	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	28719	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	28729-W	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 1 - PS Elimination	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28395A	S_JT_JT_NB03_M_01_C

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28719	S_JT_JT_NB03_M_01_C
Raintree and Marian Ct 2 - Pipe Upgrades	IOAP	28729-W	S_JT_JT_NB03_M_01_C
St. Rene Rd. PS Inline Storage	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
Charleswood Interceptor Extension	IOAP	25480	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	25479	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	25477	S_PO_WC_PC03_M_01_C
Charleswood Interceptor Extension	IOAP	MSD0130-PS	S_PO_WC_PC03_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28415	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	98564	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28250	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	99649	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28416	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28340	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	104289	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28414	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28417	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28413	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28249	S_JT_JT_NB02_M_01_C
Dell Rd and Charlane Pkwy Interceptor Improvements	IOAP	28336	S_JT_JT_NB02_M_01_C
Leven PS Elimination	IOAP	36419	S_PO_WC_PC10_M_01_C
Monticello PS Elimination	IOAP	27969	S_JT_JT_NB04_M_01_A
Monticello PS Elimination	IOAP	MSD0151-PS	S_JT_JT_NB04_M_01_A
Cinderella PS Elimination	IOAP	MSD1013-PS	S_PO_WC_PC04_M_01_C
Cinderella PS Elimination	IOAP	60679	S_PO_WC_PC04_M_01_C
Cinderella PS Elimination	IOAP	35309	S_PO_WC_PC04_M_01_C
Idlewood Inline Storage	IOAP	63094	S_CC_CC_70158_M_09A_C
Idlewood Inline Storage	IOAP	63095	S_CC_CC_70158_M_09A_C
Idlewood Inline Storage	IOAP	70158	S_CC_CC_70158_M_09A_C
Idlewood Inline Storage	IOAP	28984	S_CC_CC_70158_M_09A_C
Idlewood Inline Storage	IOAP	28998	S_CC_CC_70158_M_09A_C
Sutherland Interceptor	IOAP	16649	S_SD_MF_NB05_M_01_A
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	43472	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	105936	S_MI_MF_NB04_M_03_B

Appendix F  
IOAP Project Crosswalk

Project Name	PROGRAM	ASSET ID	PROJECT ID
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	62418	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	62420	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	21628-W	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	91630	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	46891	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 1 - Devondale Wet Weather Storage	IOAP	91629	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	62420	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	91629	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	46891	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	62418	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	43472	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	91630	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	105936	S_MI_MF_NB04_M_03_B
Goose Creek PS Improvements & Wet Weather Storage 2 - PS and FM Upgrades	IOAP	21628-W	S_MI_MF_NB04_M_03_B
Government Center PS Elimination	IOAP	94541	S_PO_WC_PC06_M_01_C
Government Center PS Elimination	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
Government Center PS Elimination	IOAP	94542	S_PO_WC_PC06_M_01_C
Kavanaugh Rd. PS Improvements	IOAP	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
Little Cedar Creek Interceptor Improvements	IOAP	67997	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89197	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89196	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	86423	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	89195	S_CC_CC_67997_M_01_C
Little Cedar Creek Interceptor Improvements	IOAP	86424	S_CC_CC_67997_M_01_C
Eden Care PS SSO Investigation	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
Leland Road SSO Investigation	IOAP	96020	S_OR_MF_NB02_S_13_C