



A Division of ADS LLC

51 Wentworth Ave, Suite 11
Londonderry, NH 03053
www.adsenv.com

April 12, 2021

Chelsey Little, BSBS MPH
Superintendent
Montague WPCF

Dear Ms. Little,

ADS is pleased to submit the March 2021 report for the 2021 Flow Monitoring Project .

During the monitoring period the following quality assurance steps are taken to ensure the integrity of the data collected:

- **Measure Power Supply:** The monitor is powered by a dry cell battery pack. Power levels are recorded and battery packs replaced, if necessary. A separate battery provides back-up power to memory, which allows the primary battery to be replaced without the loss of data.
- **Confirm Monitor Synchronization:** The field crew and/or data analyst checks the flow monitor's clock for accuracy.
- **Upload and Review Data:** Data collected by the monitor is uploaded and reviewed by a data analyst. All readings are checked for consistency and screened for deviations in the flow patterns, which indicate system anomalies or equipment failure.

To facilitate review of the data beginning Monday, March 1, 2021 through Wednesday, March 31, 2021, results have been provided in graphical, tabular and 5-minute Excel formats.

The flow data is presented graphically in the form of hydrographs and include depth, velocity, quantity and rain. Tables are provided in daily average format. Along with depth and velocity, these tables show the flow rate for each day, along with the daily minimum and maximums, the times they were observed, the total daily flow, and total flow for the month. The following explanation of terms may aid in interpretation of the tables and hydrographs.

DEPTH - Final calculated depth measurement (in inches)

QUANTITY - Final calculated flow rate (in MGD)

VELOCITY - Final calculated flow velocity (in feet per second)

REPORT TOTAL - Total volume of flow recorded for the indicated time period (in MG)

In addition, we would be happy to further explain any details about the report that may seem unclear. Should you have any questions or comments, please contact the Project Manager, Michael Armes at 603-625-1212 or me at 256-975-4059.

Thank you for choosing ADS products and services to meet your flow monitoring needs.

Sincerely,
ADS ENVIRONMENTAL SERVICES

Melissa Hygom
Data Analyst



[An IDEX Fluid & Metering Business](#)

Accusonic
ADS Environmental Services
Hydra-Stop

Site Commentary

Site Information

7th_L_CSO	
Location:	7th Street at L Street

Overview

The [hydrograph](#) for location 7th_L_CSO shows depth levels and calculated flow values recorded during the monitoring period of Monday, March 1, 2021 to Wednesday, March 31, 2021 .

[Daily longtables](#) displaying final quantities are also provided.

One overflow event occurred during the monitoring period.

Observations

Average flow depth and quantity data observed during Monday, March 1, 2021 to Wednesday, March 31, 2021 , along with observed minimum and maximum data, are provided in the following table.

Observed Flow Conditions		
Item	Depth (in)	Quantity (MGD)
Average	1.63	0.155
Minimum	1.10	0.068
Maximum	4.05	0.934
Time of Minimum	3/30/2021 6:05 AM	3/30/2021 6:05 AM
Time of Maximum	3/28/2021 3:00 PM	3/28/2021 3:00 PM

Please note the minimum and maximum flow rate recorded in this table may vary from those recorded on the daily and weekly tabular data. The minimum and maximum rates recorded on the daily and weekly tabular data are absolute versus average fifteen minute data. Graphical data reports are based on an hourly average.

Data Quality

Data uptime observed during the Monday, March 1, 2021 to the Wednesday, March 31, 2021 monitoring period is provided in the table below.

Percent Uptime	
Depth (in)	100

Montague, MA

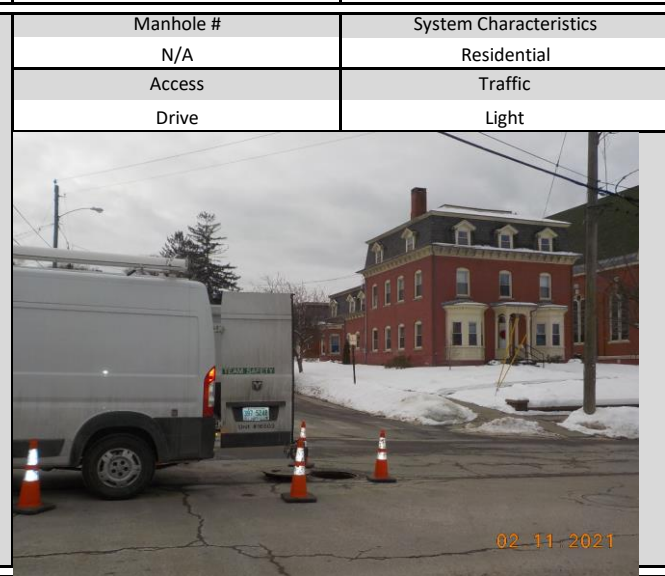
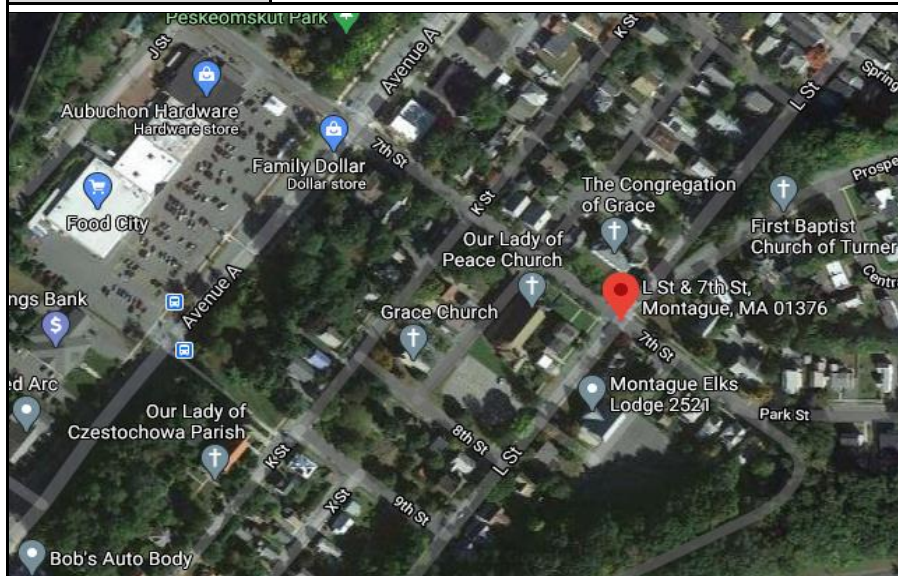
Flow Monitoring Site Installation Report



Site I.D.

7th_L_CSO

Site Address / Location:	7TH STREET AT L STREET	Monitor Series	Location Type
Site Access:	Drive- Detailed needed	TRITON+	Permanent
		Pipe Size (H x W)	Pipe Shape
		14.25x14.25	Circular



Installation Information

Installation Date:	Installation Type:
Thursday, February 11, 2021	Doppler Standard Ring and Crank
Monitoring Location (Sensors):	Monitor Location:
	Manhole
Sensors / Devices:	Pressure Sensor Range (psi)
Peak Combo (CS4)	

Installation Confirmation:

Confirmation Time:	Pipe Size (HxW)
11:41:00 AM	14.25x14.25
Depth of Flow (Wet DOF) (in)	Range (Air DOF) (in)
1.5	
Downlooker Physical Offset (in)	Measurement Confidence (in)
	0.25"
Peak Velocity (fps)	Velocity Sensor Offset (in)
2.5	N/A
Silt (in)	Silt Type
0	N/A

Hydraulic Comments:

Slow

Manhole / Pipe Information:

Manhole Depth (Approx. FT):	Manhole Configuration
6	Common Trench
Manhole Material:	Manhole Condition:
Concrete	Good
Manhole Opening Diameter (in)	Manhole Diameter (Approx.):
24	24
Manhole Cover	Manhole Frame
Concealed	Normal
Active Drop Connections	Air Quality:
No	Good
Pipe Material	Pipe Condition:
PVC	Good

Communication Information:

Communication Type	Antenna Location
Wireless	Drilled Pavement / Concrete

Additional Site Info. / Comments:

N. 42.60349 W. -72.55722 S / N: 64109 I/P: 166.219.169.91 Site Overflows at Depth of 8.0 Inches

ADS Project Name:	Montague, MA
ADS Project Number:	

HYDROGRAPH REPORT

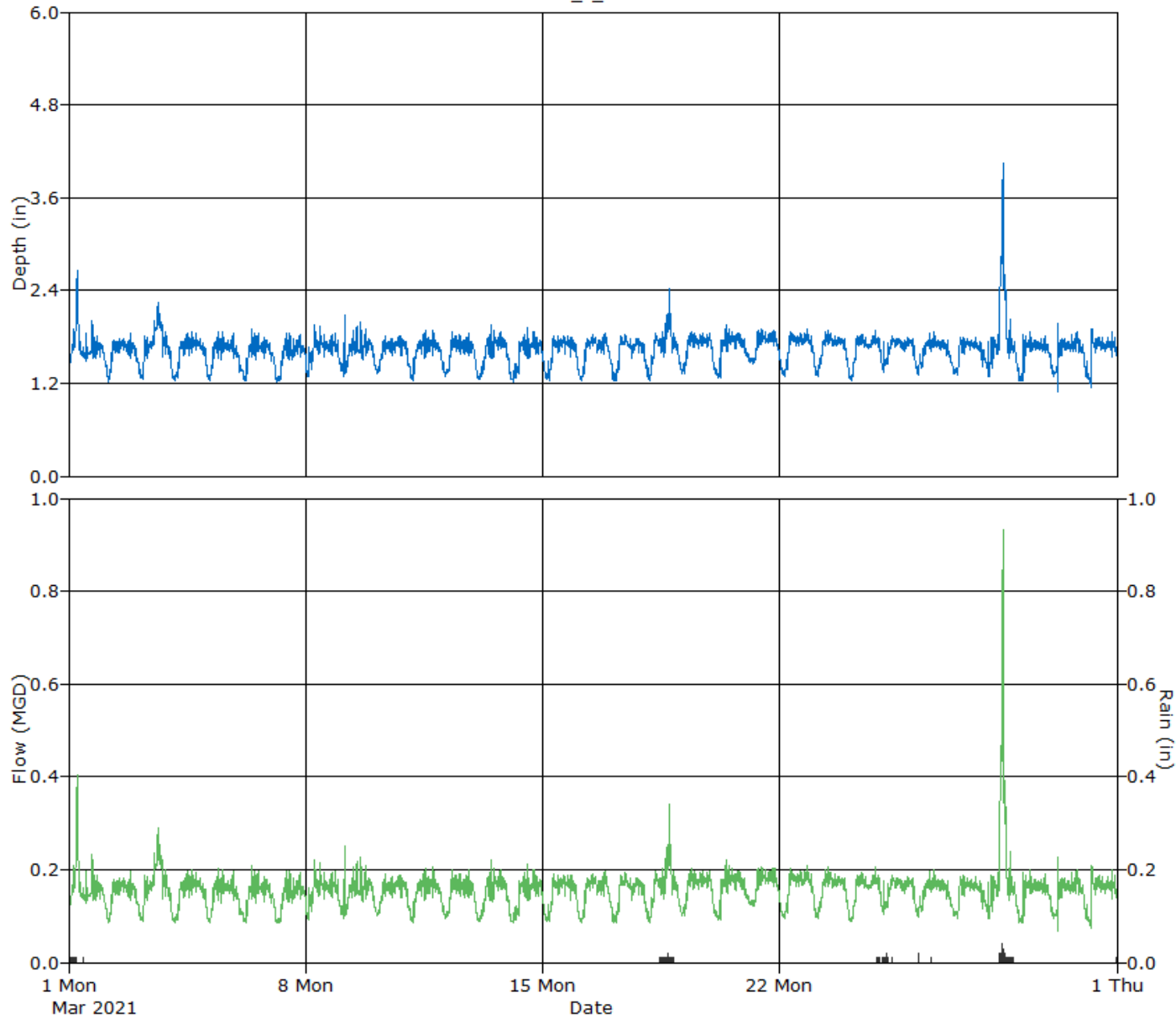
7th_L_CSO

Flow Monitor
7th_L_CSO

Pipe Height
14.25 in

Report Period
3/1/2021
To
3/31/2021

Legend
— Depth
— Quantity
— Rain



Daily Tabular Report

Date	Depth (in)					Quantity (MGD - Total MG)						Rain (in)							
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	
03/01/2021	00:40	1.40	06:05	2.65	1.69		00:40	0.112	06:05	0.405	0.166	0.166							0.21
03/02/2021	04:30	1.22	19:40	1.84	1.61		04:30	0.084	19:40	0.195	0.149	0.149							
03/03/2021	04:45	1.25	15:25	2.24	1.69		04:45	0.089	15:25	0.289	0.166	0.166							
03/04/2021	03:45	1.23	15:15	1.86	1.60		03:45	0.086	15:15	0.201	0.149	0.149							
03/05/2021	04:40	1.23	10:30	1.87	1.60		04:40	0.086	10:30	0.202	0.148	0.148							
03/06/2021	05:35	1.23	09:35	1.91	1.58		05:35	0.087	09:35	0.210	0.144	0.144							
03/07/2021	04:10	1.22	13:00	1.85	1.56		04:10	0.085	13:00	0.197	0.142	0.142							
03/08/2021	02:15	1.28	06:50	1.95	1.64		02:15	0.093	06:50	0.220	0.156	0.156							
03/09/2021	03:15	1.29	03:40	2.08	1.61		03:15	0.095	03:40	0.250	0.149	0.149							
03/10/2021	03:15	1.33	09:15	1.82	1.62		03:15	0.101	09:15	0.190	0.152	0.152							
03/11/2021	04:30	1.24	18:10	1.88	1.60		04:30	0.087	18:10	0.205	0.149	0.149							
03/12/2021	03:20	1.29	08:35	1.86	1.61		03:20	0.094	08:35	0.200	0.150	0.150							
03/13/2021	03:00	1.24	11:55	1.96	1.58		03:00	0.088	11:55	0.221	0.146	0.146							
03/14/2021	03:55	1.22	14:00	1.92	1.57		03:55	0.084	14:00	0.212	0.144	0.144							
03/15/2021	05:05	1.24	07:55	1.81	1.61		05:05	0.087	07:55	0.190	0.150	0.150							
03/16/2021	04:25	1.24	20:35	1.85	1.61		04:25	0.087	20:35	0.196	0.151	0.151							
03/17/2021	02:40	1.23	10:25	1.83	1.61		02:40	0.085	10:25	0.193	0.150	0.150							
03/18/2021	04:10	1.23	18:15	2.43	1.68		04:10	0.086	18:15	0.340	0.164	0.164							0.49
03/19/2021	04:55	1.32	10:15	1.87	1.67		04:55	0.100	10:15	0.201	0.162	0.162							
03/20/2021	06:50	1.26	10:30	1.95	1.64		06:50	0.090	10:30	0.220	0.157	0.157							
03/21/2021	05:25	1.46	11:05	1.89	1.70		05:25	0.121	11:05	0.207	0.167	0.167							
03/22/2021	04:10	1.29	20:25	1.90	1.67		04:10	0.094	20:25	0.208	0.161	0.161							
03/23/2021	03:55	1.29	11:15	1.89	1.65		03:55	0.094	11:15	0.206	0.159	0.159							
03/24/2021	03:50	1.24	20:40	1.88	1.63		03:50	0.087	20:40	0.205	0.155	0.155							0.03
03/25/2021	02:20	1.35	08:50	1.80	1.66		02:20	0.103	08:50	0.188	0.159	0.159							0.10
03/26/2021	03:30	1.30	14:25	1.86	1.63		03:30	0.097	14:25	0.200	0.153	0.153							0.04
03/27/2021	07:05	1.30	10:35	1.80	1.61		07:05	0.096	10:35	0.187	0.150	0.150							
03/28/2021	05:10	1.29	15:00	4.05	1.85		05:10	0.094	15:00	0.934	0.213	0.213							0.99
03/29/2021	04:35	1.24	10:10	1.86	1.60		04:35	0.087	10:10	0.201	0.149	0.149							
03/30/2021	06:05	1.10	06:25	1.98	1.61		06:05	0.068	06:25	0.226	0.151	0.151							
03/31/2021	05:20	1.15	06:10	1.90	1.61		05:20	0.074	06:10	0.207	0.150	0.150							0.01

Report Summary For The Period 03/01/2021 - 03/31/2021

	Depth (in)	Quantity (MGD - Total MG)	Rain (in)
Total		4.810	1.87
Avg	1.63	0.155	

Site Commentary

Site Information

Ave_A_CSO	
Location:	7th Street at L Street

Overview

The [hydrograph](#) for location Ave_A_CSO shows depth levels and calculated flow values recorded during the monitoring period of Monday, March 1, 2021 to Wednesday, March 31, 2021 .

[Daily longtables](#) displaying final quantities are also provided.

No overflow events occurred during the monitoring period.

Observations

Average flow depth and quantity data observed during Monday, March 1, 2021 to Wednesday, March 31, 2021 , along with observed minimum and maximum data, are provided in the following table.

Observed Flow Conditions		
Item	Depth (in)	Quantity (MGD)
Average	2.44	0.500
Minimum	1.29	0.128
Maximum	9.99	7.430
Time of Minimum	3/2/2021 4:45 AM	3/2/2021 4:45 AM
Time of Maximum	3/28/2021 3:05 PM	3/28/2021 3:05 PM

Please note the minimum and maximum flow rate recorded in this table may vary from those recorded on the daily and weekly tabular data. The minimum and maximum rates recorded on the daily and weekly tabular data are absolute versus average fifteen minute data. Graphical data reports are based on an hourly average.

Data Quality

Data uptime observed during the Monday, March 1, 2021 to the Wednesday, March 31, 2021 monitoring period is provided in the table below.

Percent Uptime	
Depth (in)	100

Montague, MA

Flow Monitoring Site Installation Report



Site I.D.

Ave_A_CSO

Site Address / Location:	250 Avenue A	Monitor Series	ECHO	Location Type	Permanent
Site Access:	Drive- Detailed needed	Pipe Size (H x W)	21x21	Pipe Shape	Circular



Manhole #	N/A	System Characteristics	Residential
Access	Drive		Traffic
			Light



Installation Information	
Installation Date:	Thursday, February 11, 2021
Installation Type:	Level Only
Monitoring Location (Sensors):	Manhole
Sensors / Devices:	Peak Combo (CS4)
	Pressure Sensor Range (psi)

Installation Confirmation:	
Confirmation Time:	11:15:00 AM
Pipe Size (HxW)	21x21
Depth of Flow (Wet DOF) (in)	0.5
Range (Air DOF) (in)	
Downlooker Physical Offset (in)	Measurement Confidence (in)
	0.25"
Peak Velocity (fps)	Velocity Sensor Offset (in)
	N/A
Silt (in)	Silt Type
0	N/A

Hydraulic Comments:
Slow

Manhole / Pipe Information:	
Manhole Depth (Approx. FT):	10.75
Manhole Configuration	Common Trench
Manhole Material:	Concrete
Manhole Condition:	Good
Manhole Opening Diameter (in)	24
Manhole Diameter (Approx.):	24
Manhole Cover	Concealed
Manhole Frame	Normal
Active Drop Connections	No
Air Quality:	Good
Pipe Material	PVC
Pipe Condition:	Good

Communication Information:	
Communication Type	Wireless
Antenna Location	Drilled Pavement / Concrete

Additional Site Info. / Comments:
N. 42.60422 W. -72.56094 S /N: 1729 I/P: 107.80.17.199 Site Overflows at Depth of 27.0 Inches

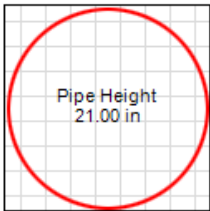


ADS Project Name:	Montague, MA
ADS Project Number:	

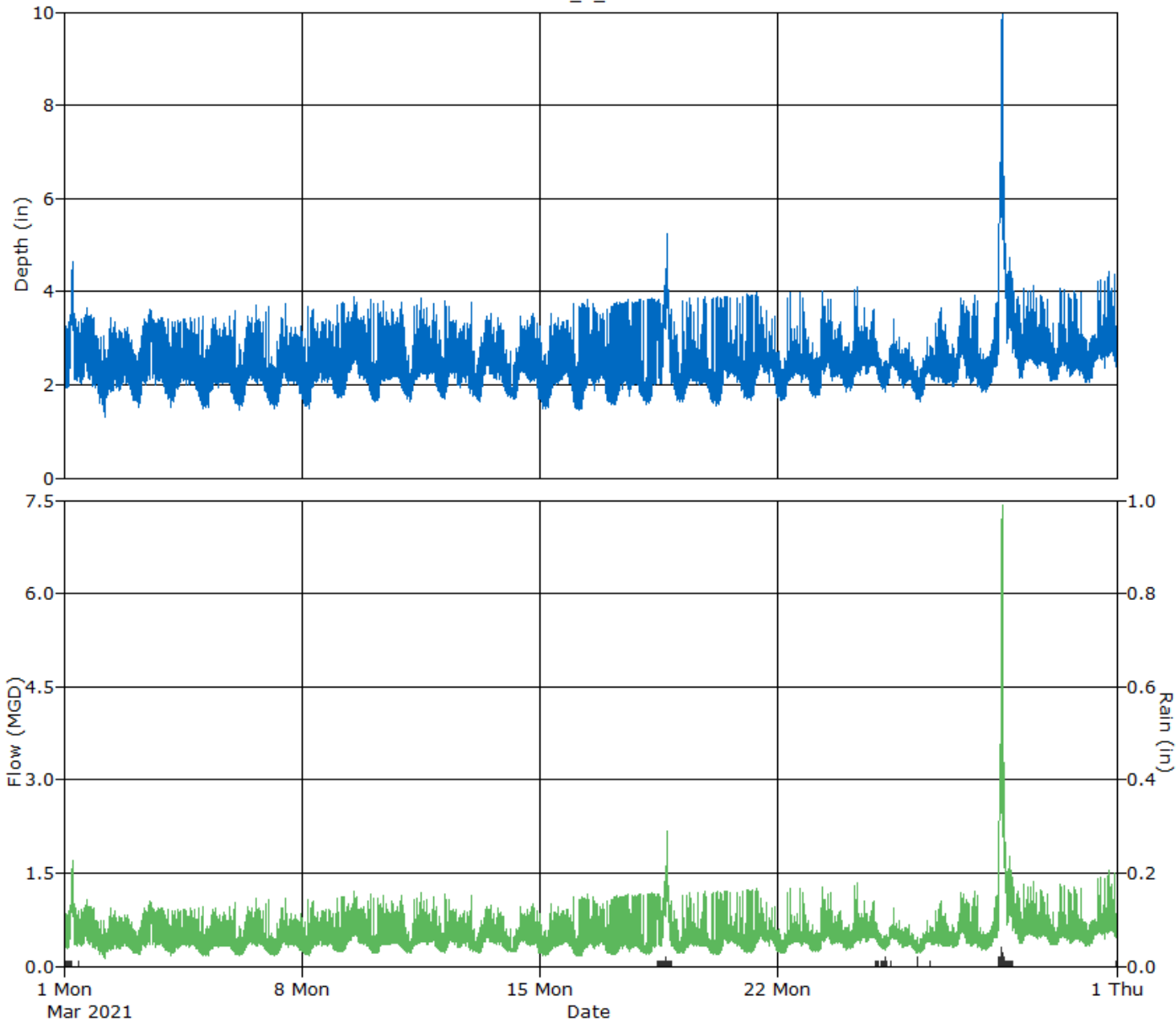
HYDROGRAPH REPORT

Ave_A_CSO

Flow Monitor
Ave_A_CSO



Report Period
3/1/2021
To
3/31/2021



Daily Tabular Report

Date	Depth (in)						Quantity (MGD - Total MG)						Rain (in)						
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	
03/01/2021	02:15	1.93	06:10	4.64	2.69		02:15	0.291	06:10	1.701	0.595	0.595							0.21
03/02/2021	04:45	1.29	09:30	3.45	2.29		04:45	0.128	09:30	0.945	0.429	0.429							
03/03/2021	04:45	1.53	13:05	3.62	2.56		04:45	0.180	13:05	1.043	0.543	0.543							
03/04/2021	04:00	1.51	23:35	3.43	2.33		04:00	0.176	23:35	0.937	0.447	0.447							
03/05/2021	02:25	1.49	02:35	3.48	2.21		02:25	0.173	02:35	0.963	0.400	0.400							
03/06/2021	04:10	1.46	15:35	3.70	2.27		04:10	0.164	15:35	1.088	0.425	0.425							
03/07/2021	04:30	1.48	12:25	3.73	2.24		04:30	0.169	12:25	1.104	0.414	0.414							
03/08/2021	05:05	1.49	04:50	3.68	2.35		05:05	0.171	04:50	1.079	0.456	0.456							
03/09/2021	02:30	1.71	13:30	3.89	2.66		02:30	0.229	13:30	1.198	0.581	0.581							
03/10/2021	03:40	1.65	01:00	3.82	2.41		03:40	0.211	01:00	1.157	0.481	0.481							
03/11/2021	04:35	1.65	12:00	3.86	2.41		04:35	0.210	12:00	1.182	0.475	0.475							
03/12/2021	04:55	1.70	05:25	3.81	2.35		04:55	0.224	05:25	1.151	0.453	0.453							
03/13/2021	05:30	1.65	14:00	3.52	2.32		05:30	0.211	14:00	0.985	0.437	0.437							
03/14/2021	23:40	1.69	19:35	3.54	2.25		23:40	0.221	19:35	0.994	0.415	0.415							
03/15/2021	02:25	1.48	08:00	3.54	2.29		02:25	0.169	08:00	0.998	0.434	0.434							
03/16/2021	03:45	1.45	10:05	3.82	2.34		03:45	0.163	10:05	1.155	0.460	0.460							
03/17/2021	03:15	1.57	22:30	3.84	2.37		03:15	0.191	22:30	1.169	0.487	0.487							
03/18/2021	03:55	1.58	18:30	5.25	2.63		03:55	0.193	18:30	2.176	0.603	0.603							0.49
03/19/2021	02:50	1.64	20:55	3.88	2.22		02:50	0.208	20:55	1.194	0.406	0.406							
03/20/2021	05:10	1.53	13:05	3.90	2.30		05:10	0.182	13:05	1.208	0.443	0.443							
03/21/2021	05:20	1.67	09:55	3.97	2.36		05:20	0.218	09:55	1.250	0.464	0.464							
03/22/2021	03:45	1.67	16:10	3.99	2.29		03:45	0.217	16:10	1.260	0.428	0.428							
03/23/2021	02:55	1.73	07:35	4.01	2.48		02:55	0.234	07:35	1.276	0.504	0.504							
03/24/2021	00:35	1.84	09:00	4.10	2.53		00:35	0.263	09:00	1.329	0.517	0.517							0.03
03/25/2021	04:00	1.85	10:05	3.42	2.26		04:00	0.266	10:05	0.930	0.409	0.409							0.10
03/26/2021	04:45	1.63	19:55	3.64	2.21		04:45	0.207	19:55	1.053	0.394	0.394							0.04
03/27/2021	23:35	1.94	19:35	3.92	2.47		23:35	0.296	19:35	1.215	0.496	0.496							
03/28/2021	00:45	1.85	15:05	9.99	3.49		00:45	0.267	15:05	7.430	1.166	1.166							0.99
03/29/2021	03:35	2.16	13:20	4.14	2.79		03:35	0.367	13:20	1.357	0.631	0.631							
03/30/2021	01:15	2.08	08:15	4.06	2.56		01:15	0.340	08:15	1.307	0.530	0.530							
03/31/2021	02:35	2.05	18:05	4.43	2.68		02:35	0.331	18:05	1.554	0.582	0.582							0.01

Report Summary For The Period 03/01/2021 - 03/31/2021

	Depth (in)	Quantity (MGD - Total MG)	Rain (in)
Total		15.503	1.87
Avg	2.44	0.500	

Site Commentary

Site Information

Greenfield_M1	
Location:	Greenfield Road - CSO

Overview

The [hydrograph](#) for location Greenfield_M1 shows depth levels and calculated flow values recorded during the monitoring period of Monday, March 1, 2021 to Wednesday, March 31, 2021 .

[Daily longtables](#) displaying final quantities are also provided.

One overflow event occurred during the monitoring period.

Observations

Average flow depth and quantity data observed during Monday, March 1, 2021 to Wednesday, March 31, 2021 , along with observed minimum and maximum data, are provided in the following table.

Observed Flow Conditions		
Item	Depth (in)	Quantity (MGD)
Average	3.89	0.461
Minimum	2.69	0.205
Maximum	27.27	3.009
Time of Minimum	3/18/2021 5:20 AM	3/18/2021 5:20 AM
Time of Maximum	3/28/2021 3:55 PM	3/28/2021 4:00 PM

Please note the minimum and maximum flow rate recorded in this table may vary from those recorded on the daily and weekly tabular data. The minimum and maximum rates recorded on the daily and weekly tabular data are absolute versus average fifteen minute data. Graphical data reports are based on an hourly average.

Data Quality

Data uptime observed during the Monday, March 1, 2021 to the Wednesday, March 31, 2021 monitoring period is provided in the table below.

Percent Uptime	
Depth (in)	100

Montague, MA

Flow Monitoring Site Installation Report



Site I.D.

Greenfield_M1

Site Address / Location:	GREENFIELD ROAD - CSO	Monitor Series	Location Type
Site Access:	Drive	TRITON+	Permanent
		Pipe Size (H x W)	Pipe Shape
		36x36	Circular



Manhole #	System Characteristics
N/A	Residential
Access	Traffic
Drive	Light



Installation Information

Installation Date:	Installation Type:
Thursday, February 11, 2021	Doppler Standard Ring and Crank
Monitoring Location (Sensors):	Monitor Location:
	Manhole
Sensors / Devices:	Pressure Sensor Range (psi)
Peak Combo (CS4)	

Installation Confirmation:

Confirmation Time:	Pipe Size (HxW)
10:21:00 AM	36x36
Depth of Flow (Wet DOF) (in)	Range (Air DOF) (in)
4.63	
Downlooker Physical Offset (in)	Measurement Confidence (in)
	0.25"
Peak Velocity (fps)	Velocity Sensor Offset (in)
2.5	N/A
Silt (in)	Silt Type
0	N/A

Hydraulic Comments:

Slow

Manhole / Pipe Information:

Manhole Depth (Approx. FT):	Manhole Configuration
14	Common Trench
Manhole Material:	Manhole Condition:
Concrete	Good
Manhole Opening Diameter (in)	Manhole Diameter (Approx.):
24	24
Manhole Cover	Manhole Frame
Concealed	Normal
Active Drop Connections	Air Quality:
No	Good
Pipe Material	Pipe Condition:
Concrete	Good

Communication Information:

Communication Type	Antenna Location
Wireless	Drilled Pavement / Concrete

Additional Site Info. / Comments:

N. 42.58211 W. -72.57486 S / N: 52143 I/P: 107.80.17.22 Site Overflows at Depth of 42.0 Inches

ADS Project Name:	Montague, MA
ADS Project Number:	

HYDROGRAPH REPORT

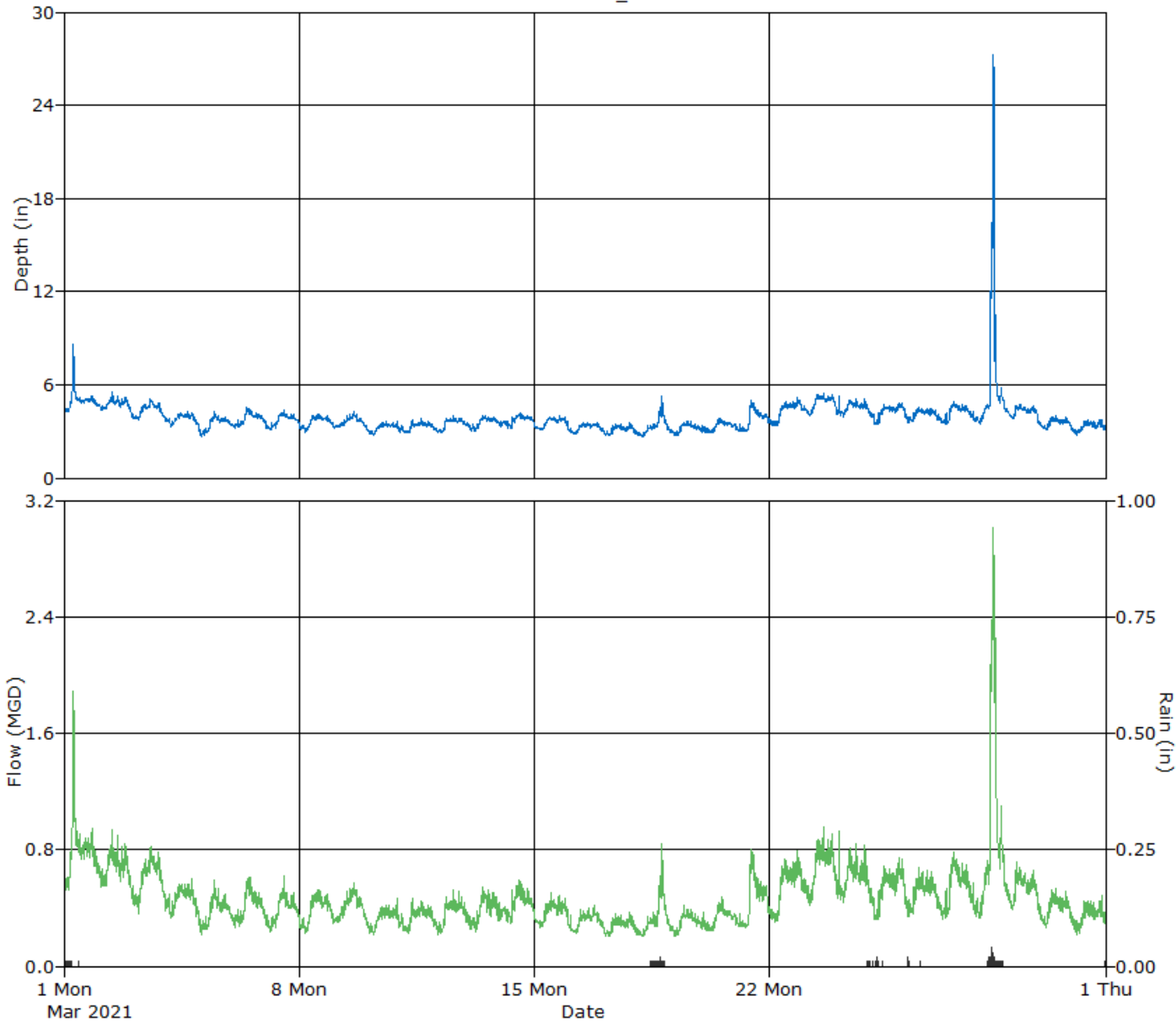
Greenfield_M1

Flow Monitor
Greenfield_M1

Pipe Height
36.00 in

Report Period
3/1/2021
To
3/31/2021

Legend
— Depth
— Quantity
— Rain



Daily Tabular Report

Date	Depth (in)					Quantity (MGD - Total MG)						Rain (in)						
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total
03/01/2021	03:25	4.27	06:55	8.60	4.99		03:15	0.523	06:50	1.884	0.806	0.806						0.21
03/02/2021	02:50	4.41	10:35	5.57	4.77		02:45	0.540	10:35	0.934	0.683	0.683						
03/03/2021	05:15	3.72	13:40	5.06	4.34		05:10	0.364	14:40	0.826	0.598	0.598						
03/04/2021	04:40	3.33	16:15	4.26	3.82		04:35	0.331	19:20	0.603	0.463	0.463						
03/05/2021	02:40	2.70	11:25	4.31	3.48		02:35	0.218	11:20	0.587	0.376	0.376						
03/06/2021	02:40	3.17	10:35	4.53	3.81		02:35	0.261	12:00	0.611	0.415	0.415						
03/07/2021	03:55	3.07	12:55	4.41	3.70		03:35	0.231	12:55	0.617	0.385	0.385						
03/08/2021	04:25	2.95	12:50	4.09	3.61		04:45	0.227	14:40	0.523	0.387	0.387						
03/09/2021	00:45	3.23	14:55	4.24	3.61		00:40	0.293	15:00	0.567	0.405	0.405						
03/10/2021	05:10	2.79	14:25	3.69	3.21		04:55	0.219	22:30	0.466	0.324	0.324						
03/11/2021	06:15	2.89	14:45	3.78	3.31		06:15	0.224	08:40	0.464	0.335	0.335						
03/12/2021	05:30	2.93	14:25	3.99	3.46		03:15	0.217	14:25	0.523	0.358	0.358						
03/13/2021	05:20	3.01	11:10	4.03	3.56		05:55	0.236	11:10	0.541	0.384	0.384						
03/14/2021	07:15	3.18	14:25	4.15	3.72		07:15	0.296	13:25	0.587	0.425	0.425						
03/15/2021	03:55	3.08	18:10	4.01	3.56		04:15	0.264	12:15	0.505	0.375	0.375						
03/16/2021	04:30	2.86	11:10	3.55	3.25		06:05	0.230	18:45	0.422	0.312	0.312						
03/17/2021	02:55	2.72	19:55	3.52	3.12		02:55	0.210	19:55	0.369	0.283	0.283						
03/18/2021	05:20	2.69	19:05	5.24	3.33		05:20	0.205	19:05	0.837	0.332	0.332						0.49
03/19/2021	04:20	2.70	13:35	3.62	3.19		04:20	0.207	10:50	0.421	0.300	0.300						
03/20/2021	06:30	2.89	12:15	3.81	3.33		06:30	0.241	13:55	0.480	0.330	0.330						
03/21/2021	06:40	2.99	10:50	4.97	3.74		06:40	0.260	10:50	0.802	0.440	0.440						
03/22/2021	03:35	3.35	20:15	5.15	4.31		03:40	0.302	20:15	0.793	0.545	0.545						
03/23/2021	05:05	4.04	14:45	5.41	4.80		04:50	0.422	14:45	0.953	0.666	0.666						
03/24/2021	04:55	3.96	01:45	5.27	4.53		04:50	0.436	01:40	0.930	0.608	0.608						0.03
03/25/2021	05:10	3.48	22:40	4.84	4.28		05:10	0.319	21:05	0.741	0.541	0.541						0.10
03/26/2021	03:15	3.58	10:30	4.52	4.11		03:10	0.341	10:30	0.677	0.504	0.504						0.04
03/27/2021	07:00	3.50	11:55	4.89	4.18		03:40	0.326	11:55	0.787	0.534	0.534						
03/28/2021	06:15	3.51	15:55	27.27	6.32		05:40	0.334	16:00	3.009	0.887	0.887						0.99
03/29/2021	05:55	3.80	11:30	4.71	4.31		05:35	0.392	08:35	0.720	0.543	0.543						
03/30/2021	05:35	3.07	12:20	3.97	3.54		05:30	0.265	12:15	0.536	0.397	0.397						
03/31/2021	03:15	2.77	11:20	3.78	3.31		03:15	0.218	21:15	0.481	0.343	0.343						0.01

Report Summary For The Period 03/01/2021 - 03/31/2021

	Depth (in)	Quantity (MGD - Total MG)	Rain (in)
Total		14.284	1.87
Avg	3.89	0.461	

Site Commentary

Site Information

DentonStOverflow	
Location:	7th Street at L Street

Overview

The [hydrograph](#) for location DentonStOverflow shows depth levels and calculated flow values recorded during the monitoring period of Monday, March 1, 2021 to Wednesday, March 31, 2021 .

[Daily longtables](#) displaying final quantities are also provided.

One overflow event occurred during the monitoring period.

Observations

Average flow depth and quantity data observed during Monday, March 1, 2021 to Wednesday, March 31, 2021 , along with observed minimum and maximum data, are provided in the following table.

Observed Flow Conditions		
Item	Depth (in)	Quantity (MGD)
Average	0.99	
Minimum	0.52	
Maximum	1.50	
Time of Minimum	3/2/2021 4:40 AM	
Time of Maximum	3/28/2021 10:20 PM	

Please note the minimum and maximum flow rate recorded in this table may vary from those recorded on the daily and weekly tabular data. The minimum and maximum rates recorded on the daily and weekly tabular data are absolute versus average fifteen minute data. Graphical data reports are based on an hourly average.

Data Quality

Data uptime observed during the Monday, March 1, 2021 to the Wednesday, March 31, 2021 monitoring period is provided in the table below.

Percent Uptime	
Depth (in)	100

MWRA TEMP

Flow Monitoring Site Installation Report



Site I.D.

DentonSt

Site Address / Location:	3 Denton St	Monitor Series	ECHO	Location Type	Temporary
Site Access:	Drive	Pipe Size (H x W)	N/A	Pipe Shape	Circular



Manhole #	N/A	System Characteristics	Residential
Access	Drive		Traffic
			None



Installation Information

Installation Date:	Thursday, May 31, 2018	Installation Type:	Level Only
Monitoring Location (Sensors):		Monitor Location:	Manhole
Sensors / Devices:	ECHO Depth	Pressure Sensor Range (psi)	

Installation Confirmation:

Confirmation Time:	10:00:00 AM	Pipe Size (HxW)	N/A
Depth of Flow (Wet DOF) (in)	N/A	Range (Air DOF) (in)	N/A
Downlooker Physical Offset (in)	N/A	Measurement Confidence (in)	
Peak Velocity (fps)	N/A	Velocity Sensor Offset (in)	N/A
Silt (in)	0	Silt Type	N/A

Hydraulic Comments:

steady flow

Manhole / Pipe Information:

Manhole Depth (Approx. FT):	7	Manhole Configuration	Common Trench
Manhole Material:	Concrete	Manhole Condition:	Fair
Manhole Opening Diameter (in)	N/A	Manhole Diameter (Approx.):	N/A
Manhole Cover	Vented	Manhole Frame	Normal
Active Drop Connections	No	Air Quality:	Good
Pipe Material		Pipe Condition:	Fair

Communication Information:

Communication Type	Serial	Antenna Location	
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Additional Site Info. / Comments:

S/N: 332 IP: 107.80.22.16 42.558154, -72.516005 Crew: Nick B

ADS Project Name:	MWRA TEMP
ADS Project Number:	53383.22.325

HYDROGRAPH REPORT

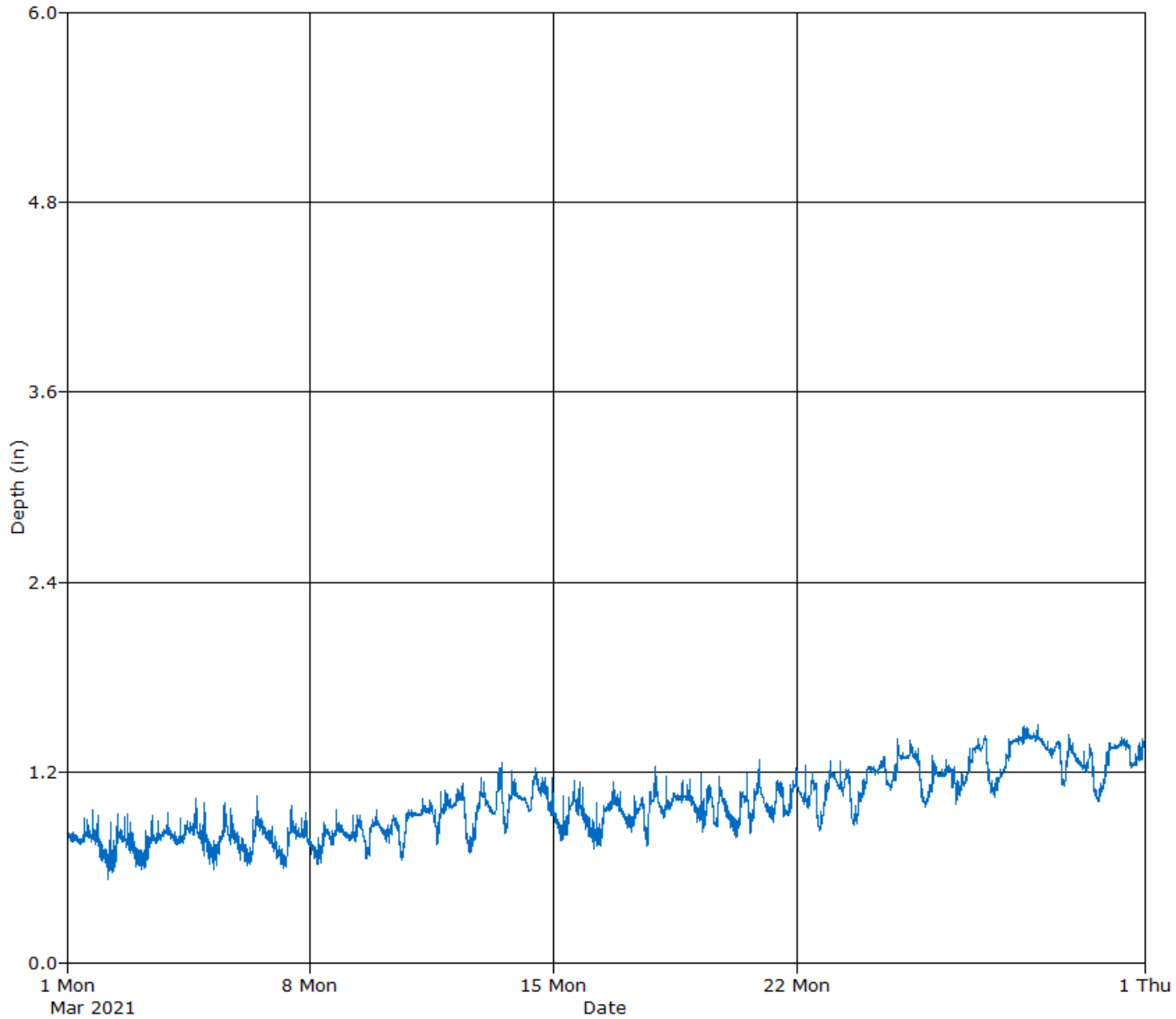
DentonStOverflow

Flow Monitor
DentonStOverflow

Pipe Height
36.00 in

Report Period
3/1/2021
To
3/31/2021

Legend
— Depth



Daily Tabular Report

Date	Depth (in)					Quantity (MGD - Total MG)					Rain (in)							
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total
03/01/2021	23:25	0.65	17:40	0.96	0.79													
03/02/2021	04:40	0.52	11:00	0.94	0.73													
03/03/2021	03:50	0.59	21:45	0.94	0.76													
03/04/2021	22:20	0.67	16:35	1.03	0.81													
03/05/2021	05:30	0.59	13:25	1.01	0.77													
03/06/2021	04:00	0.61	11:05	1.05	0.78													
03/07/2021	05:05	0.59	10:55	0.99	0.76													
03/08/2021	05:45	0.62	18:15	0.96	0.77													
03/09/2021	14:55	0.66	21:45	0.97	0.82													
03/10/2021	15:25	0.64	19:45	0.97	0.84													
03/11/2021	15:25	0.75	21:15	1.09	0.94													
03/12/2021	14:20	0.69	22:00	1.16	0.94													
03/13/2021	14:45	0.82	12:00	1.26	1.02													
03/14/2021	21:50	0.93	11:25	1.23	1.05													
03/15/2021	06:05	0.77	14:15	1.15	0.93													
03/16/2021	04:00	0.72	17:25	1.14	0.92													
03/17/2021	16:50	0.73	22:00	1.24	0.95													
03/18/2021	04:20	0.91	06:00	1.17	1.02													
03/19/2021	07:15	0.82	06:05	1.19	0.98													
03/20/2021	05:45	0.79	22:05	1.28	0.97													
03/21/2021	07:40	0.89	22:50	1.23	1.02													
03/22/2021	15:55	0.84	23:05	1.27	1.05													
03/23/2021	15:35	0.87	05:50	1.27	1.08													
03/24/2021	16:40	1.08	21:30	1.41	1.21													
03/25/2021	16:55	0.98	06:00	1.41	1.20													
03/26/2021	13:55	1.00	22:55	1.35	1.17													
03/27/2021	16:30	1.05	09:55	1.43	1.24													
03/28/2021	00:05	1.23	22:20	1.50	1.40													
03/29/2021	16:30	1.11	20:05	1.44	1.32													
03/30/2021	16:35	1.02	23:50	1.39	1.21													
03/31/2021	14:55	1.23	08:20	1.42	1.34													

Report Summary For The Period 03/01/2021 - 03/31/2021

	Depth (in)
Total	
Avg	0.99

Site Commentary

Site Information

GStreetOutfall	
Location:	7th Street at L Street

Overview

The [hydrograph](#) for location GStreetOutfall shows depth levels and calculated flow values recorded during the monitoring period of Monday, March 1, 2021 to Wednesday, March 31, 2021 .

[Daily longtables](#) displaying final quantities are also provided.

One overflow event occurred during the monitoring period.

Observations

Average flow depth and quantity data observed during Monday, March 1, 2021 to Wednesday, March 31, 2021 , along with observed minimum and maximum data, are provided in the following table.

Observed Flow Conditions		
Item	Depth (in)	Quantity (MGD)
Average	2.22	
Minimum	1.44	
Maximum	3.50	
Time of Minimum	3/1/2021 11:05 AM	
Time of Maximum	3/14/2021 8:25 PM	

Please note the minimum and maximum flow rate recorded in this table may vary from those recorded on the daily and weekly tabular data. The minimum and maximum rates recorded on the daily and weekly tabular data are absolute versus average fifteen minute data. Graphical data reports are based on an hourly average.

Data Quality

Data uptime observed during the Monday, March 1, 2021 to the Wednesday, March 31, 2021 monitoring period is provided in the table below.

Percent Uptime	
Depth (in)	99

MWRA TEMP

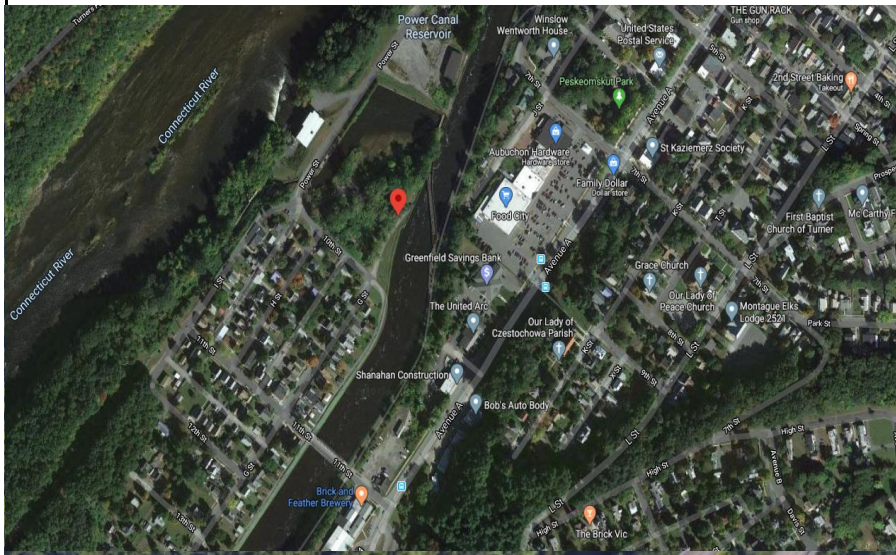
Flow Monitoring Site Installation Report



Site I.D.

GStreetOutfall

Site Address / Location:	G Street at 11th St (dirt road)	Monitor Series	Location Type
Site Access:	Drive	ECHO	Temporary
		Pipe Size (H x W)	Pipe Shape
		N/A	Circular



Manhole #	System Characteristics
N/A	Residential
Access	Traffic
Drive	None



Installation Information

Installation Date:	Installation Type:
Thursday, May 31, 2018	Level Only
Monitoring Location (Sensors):	Monitor Location:
Sensors / Devices:	Manhole
ECHO Depth	Pressure Sensor Range (psi)

Installation Confirmation:

Confirmation Time:	Pipe Size (HxW)
11:00:00 AM	N/A
Depth of Flow (Wet DOF) (in)	Range (Air DOF) (in)
N/A	N/A
Downlooker Physical Offset (in)	Measurement Confidence (in)
N/A	
Peak Velocity (fps)	Velocity Sensor Offset (in)
N/A	N/A
Silt (in)	Silt Type
0	N/A

Hydraulic Comments:

steady flow

Manhole / Pipe Information:

Manhole Depth (Approx. FT):	Manhole Configuration
7.5	Common Trench
Manhole Material:	Manhole Condition:
Concrete	Fair
Manhole Opening Diameter (in)	Manhole Diameter (Approx.):
N/A	N/A
Manhole Cover	Manhole Frame
Vented	Normal
Active Drop Connections	Air Quality:
No	Good
Pipe Material	Pipe Condition:
	Fair

Communication Information:

Communication Type	Antenna Location
Serial	

Additional Site Info. / Comments:

S/N: 342 IP: 107.80.22.18 42.604965,-72.563304 Crew: Nick B

ADS Project Name:	Montague, Ma
ADS Project Number:	32257

HYDROGRAPH REPORT

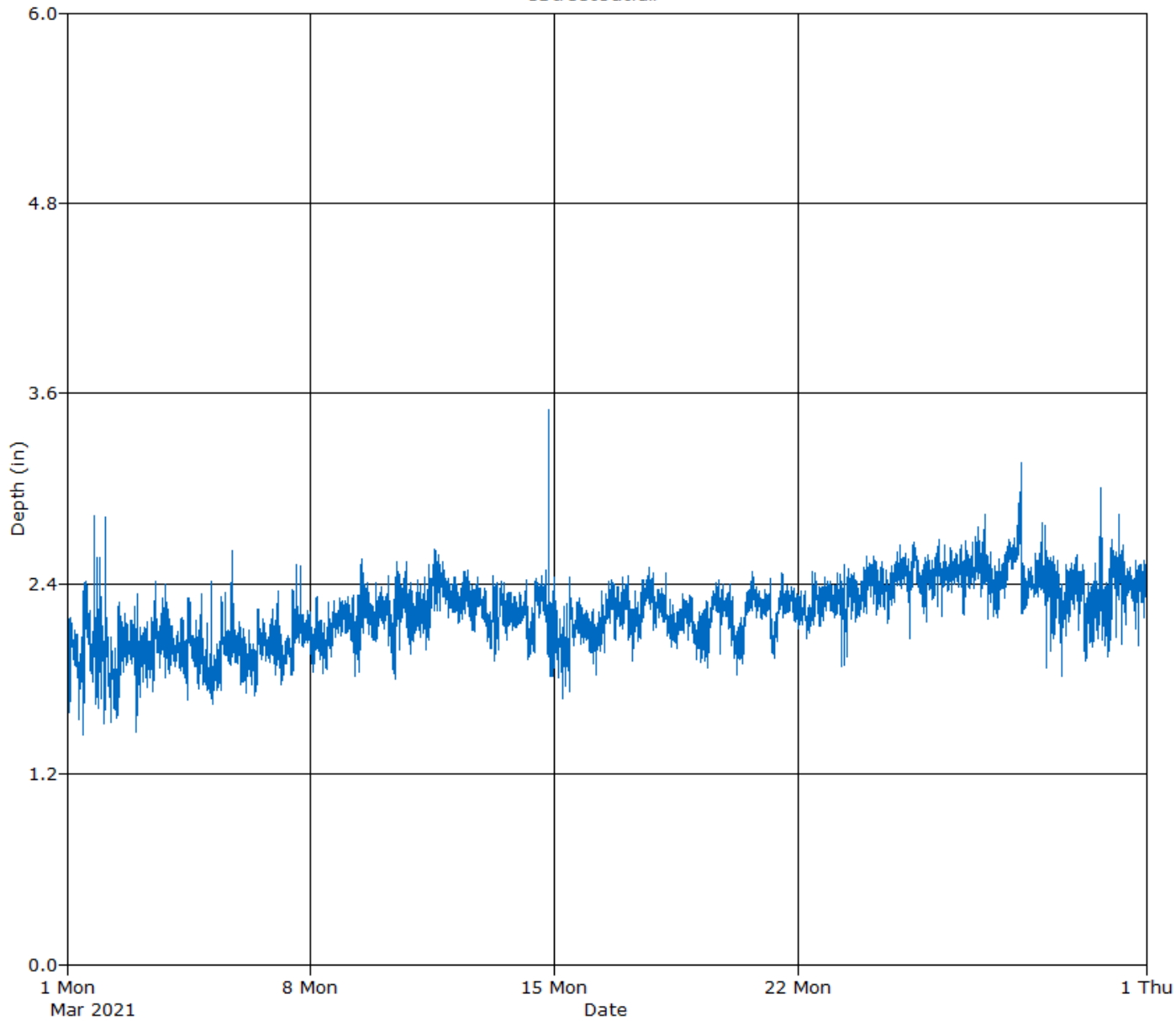
GStreetOutfall

Flow Monitor
GStreetOutfall

Pipe Height
36.00 in

Report Period
3/1/2021
To
3/31/2021

Legend
— Depth



Daily Tabular Report

Date	Depth (in)					Quantity (MGD - Total MG)					Rain (in)							
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total
03/01/2021	11:05	1.44	18:35	2.83	1.99													
03/02/2021	23:25	1.46	02:40	2.82	1.95													
03/03/2021	00:10	1.57	12:50	2.41	2.01													
03/04/2021	11:30	1.67	20:20	2.34	1.98													
03/05/2021	04:25	1.64	18:15	2.61	1.96													
03/06/2021	09:45	1.69	21:20	2.24	1.96													
03/07/2021	03:50	1.77	14:25	2.52	2.06													
03/08/2021	08:25	1.83	04:40	2.32	2.09													
03/09/2021	06:25	1.82	11:35	2.56	2.19													
03/10/2021	09:55	1.80	11:35	2.54	2.22													
03/11/2021	07:10	1.99	13:10	2.62	2.32													
03/12/2021	16:50	2.10	12:30	2.49	2.30													
03/13/2021	07:00	1.92	05:40	2.45	2.21													
03/14/2021	22:35	1.81	20:25	3.50	2.21													
03/15/2021	05:25	1.68	10:55	2.44	2.09													
03/16/2021	04:45	1.83	22:55	2.44	2.18													
03/17/2021	05:40	1.91	17:25	2.50	2.25													
03/18/2021	12:10	1.99	04:30	2.46	2.19													
03/19/2021	09:45	1.87	17:05	2.42	2.18													
03/20/2021	05:30	1.83	16:55	2.48	2.19													
03/21/2021	07:25	1.93	12:40	2.47	2.24													
03/22/2021	05:55	2.06	09:35	2.48	2.27													
03/23/2021	06:10	1.88	23:10	2.57	2.30													
03/24/2021	13:30	2.15	22:25	2.64	2.41													
03/25/2021	05:00	2.05	07:55	2.66	2.46													
03/26/2021	03:25	2.19	01:25	2.68	2.47													
03/27/2021	10:50	2.18	09:10	2.84	2.46													
03/28/2021	10:15	2.21	09:30	3.16	2.50													
03/29/2021	13:55	1.82	00:20	2.78	2.35													
03/30/2021	05:45	1.91	17:10	3.00	2.28													
03/31/2021	19:00	2.01	05:15	2.84	2.41													

Report Summary For The Period 03/01/2021 - 03/31/2021

	Depth (in)
Total	
Avg	2.22

Rainfall data

The rainfall measured at RG1 from March 01, 2021 to March 31, 2021 is 1.87 inches.

<u>Date / Time</u>	<u>Maximum Rainfall (in.)</u>
3/28/2021 2:50 PM	0.04

a division of ADS LLC.

Site Name:	Montague_RG1	Meter Type:	Rain Alert	Monitor S/N:	7015	Manhole #:	N/A
Address / Location:	Located at WWTP - 34 Greenfield Rd, Montague, MA			Map Page #:	N/A		
				Pipe Height:	n/a Inches		
Access:	Drive	Type of System:	Combined	Pipe Width:	n/a Inches		
				Phone Number:	I.P. 166.219.185.190		



Investigation Information:			Manhole Information:		
Date/Time of Investigation:	August 26, 2009	5:00 PM	Manhole Depth:	Feet	
Site Hydraulics:			Manhole Material / Condition:		
			Active Drop Connections?		
Upstream Input: (L/S, P/S)			Pipe Material / Condition:		
Upstream Manhole:			Mini System Character:		
Downstream Manhole:			Telephone Information:		
Depth of Flow (Wet Dof):			Access Pole #:	N/A	
Range (Air Dof):			Distance From Manhole:	N/A Feet	
Peak Velocity:	fps		Road Cut Length:	N/A Feet	
Silt:	Inches		Trench Length:	N/A Feet	

Other Information:
N 42' 34' 49.0" W 72' 34' 17.0"



Planar N ↑

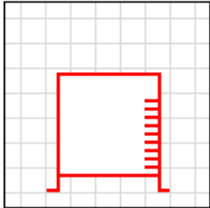
Installation Information		Backup	Yes	No	?	Distance
Installation Type:	Rain Gauge	Trunk		X		
Sensors / Devices:	Rain Gauge Tipping Bucket	Lift/Pump Station		X		
Surcharge Height:	Feet	WWTP		X		
Rain Gauge Zone:	N/A	Other		X		

Additional Site Information / Comments:

HYDROGRAPH REPORT

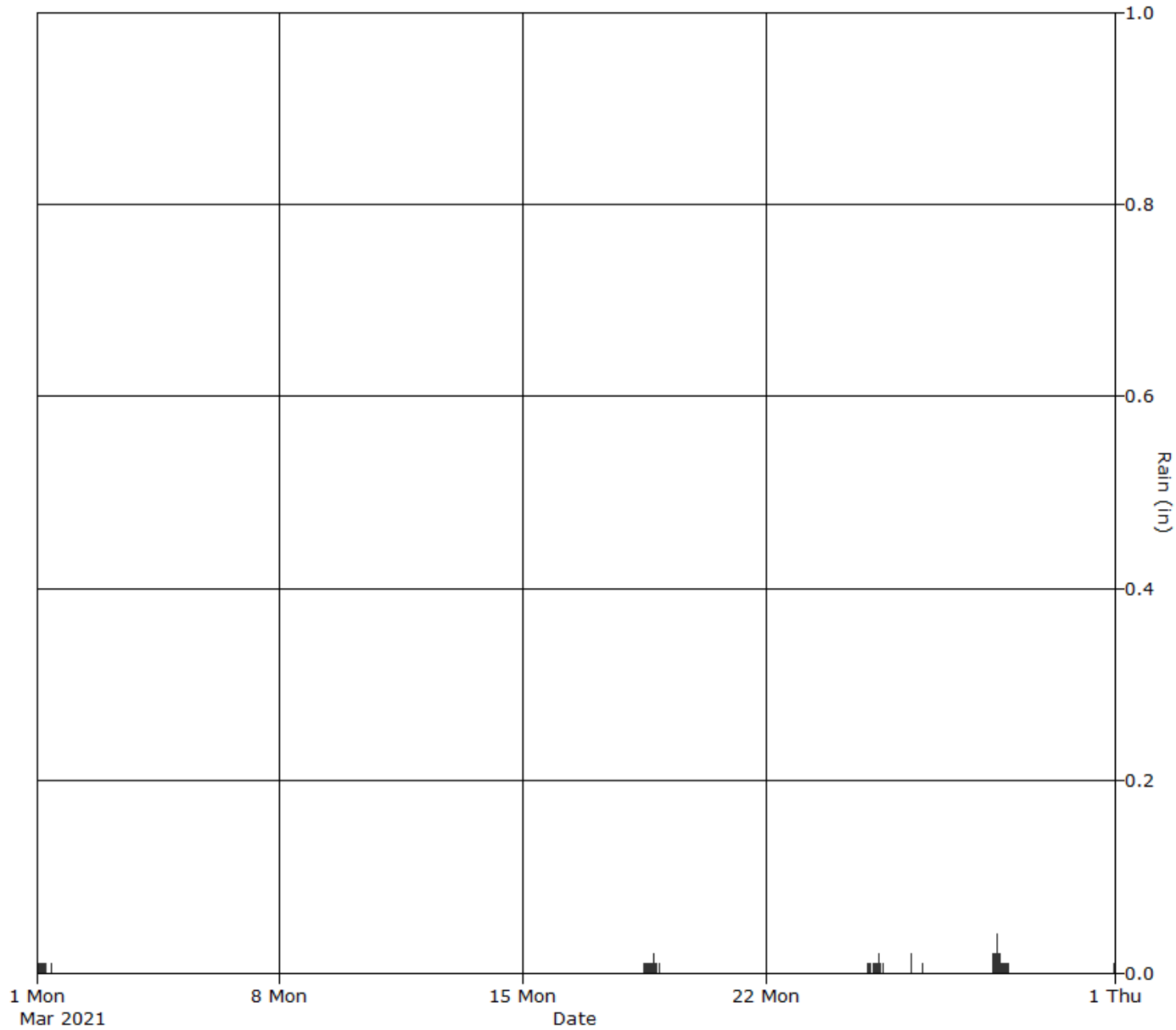
RG1

Rain Gauge
RG1



Report Period
3/1/2021
To
3/31/2021

Legend
— Rain



Daily Tabular Report

Date	Depth (in)						Quantity (MGD - Total MG)						Rain (in)						
	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	Time	Min	Time	Max	Avg	Total	
03/01/2021																			0.21
03/02/2021																			
03/03/2021																			
03/04/2021																			
03/05/2021																			
03/06/2021																			
03/07/2021																			
03/08/2021																			
03/09/2021																			
03/10/2021																			
03/11/2021																			
03/12/2021																			
03/13/2021																			
03/14/2021																			
03/15/2021																			
03/16/2021																			
03/17/2021																			
03/18/2021																			0.49
03/19/2021																			
03/20/2021																			
03/21/2021																			
03/22/2021																			
03/23/2021																			
03/24/2021																			0.03
03/25/2021																			0.10
03/26/2021																			0.04
03/27/2021																			
03/28/2021																			0.99
03/29/2021																			
03/30/2021																			
03/31/2021																			0.01

Report Summary For The Period 03/01/2021 - 03/31/2021

	Rain (in)
Total	1.87
Avg	