

2016 Stormwater Sample Data at 6UMN-outfall January - August

Station	Sample Start	Sample End	Sample Reason	Sample Type	Air Temperature (°F)	Water Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	pH	Salinity (ppt)	Specific Conductivity (µS/cm)	Transparency (cm)	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)
6UMN-outfall	01/06/2016 11:35		Base	Grab	30	7.9	848.0	11.35	8.3	0.63	1260.0	> 100	312	0.03
6UMN-outfall	01/22/2016 10:35		Base	Grab	20	7.5	817.0	11.01	8.2	0.61	1228.0	> 100	307	0.01
6UMN-outfall	02/05/2016 10:50		Base	Grab	11	6.2	972.0	11.50	8.2	0.76	1516.0	> 100	331	0.01
6UMN-outfall	02/17/2016 10:50		Base	Grab	20	7.2	842.0	13.39	8.2	0.64	1274.0	> 100	328	0.03
6UMN-outfall	03/01/2016 10:20		Base	Grab	20	6.2	793.6	11.39	8.0	0.60	1238.5	> 100	322	0.01
6UMN-outfall	04/20/2016 21:08	04/21/2016 02:33	Rain	Composite	50	12.9	265.0	7.38	7.4	0.20	345.1	14	74	0.28
6UMN-outfall	04/21/2016 09:05	04/21/2016 11:17	Rain	Composite	50	10.7	184.7	10.18	7.9	0.10	254.1	14	41	0.28
6UMN-outfall	04/24/2016 07:01	04/24/2016 13:40	Rain	Composite	60	12.7	91.9	9.62	7.7	0.10	120.1	12	27	0.52
6UMN-outfall	04/27/2016 13:41	04/28/2016 09:33	Rain	Composite	50	9.8	270.6	10.77	8.0	0.20	381.4	15	89	0.10
6UMN-outfall	05/19/2016 10:36		Base	Grab	60	13.0	933.1	9.82	8.2	0.60	1205.4		310	0.01
6UMN-outfall	05/25/2016 09:58	05/25/2016 13:46	Rain	Composite	75	21.4	273.6	3.46	7.5	0.10	293.6		68	0.05
6UMN-outfall	05/27/2016 11:08	05/27/2016 18:07	Rain	Composite	70	21.5	292.5	7.13	7.6	0.20	313.3		70	0.12
6UMN-outfall	05/28/2016 15:43	05/28/2016 18:31	Rain	Composite	70	21.5	223.6	5.29	7.5	0.10	239.8		51	0.09
6UMN-outfall	06/02/2016 11:41		Base	Grab	77	13.8	960.3	9.86	8.3	0.60	1218.7	> 100	322	0.01
6UMN-outfall	06/09/2016 03:51	06/09/2016 05:19	Rain	Composite	74	19.2	416.4	8.17	7.9	0.20	467.8	7	16	0.31
6UMN-outfall	06/13/2016 05:38	06/13/2016 07:54	Rain	Composite	70	20.3	66.4	8.64	8.8	0.00	73.0	18	22	0.44
6UMN-outfall	06/14/2016 17:53	06/14/2016 19:38	Rain	Composite	70							17	20	0.14
6UMN-outfall	06/16/2016 10:20		Base	Grab	71	16.8	984.1	9.63	8.3	0.60	1167.3	> 100	306	0.02
6UMN-outfall	07/05/2016 10:50		Base	Grab	80	18.4	1017.6	9.41	8.3	0.60	1164.7	> 100	338	0.05
6UMN-outfall	07/05/2016 18:05	07/05/2016 18:57	Rain	Composite	75								18	0.19
6UMN-outfall	07/10/2016 05:43	07/10/2016 10:31	Rain	Composite	81								89	0.04
6UMN-outfall	08/01/2016 11:00		Base	Grab	75	19.2	1105.3	9.20	8.2	0.60	1243.4	> 100	297	0.04
6UMN-outfall	08/04/2016 07:18	08/04/2016 08:19	Rain	Composite	71							28	26	0.15
6UMN-outfall	08/10/2016 20:23	08/10/2016 21:53	Rain	Composite	75							23	13	0.14
6UMN-outfall	08/16/2016 17:24	08/16/2016 18:19	Rain	Composite	75							12	13	0.34
6UMN-outfall	08/23/2016 23:01	08/24/2016 00:29	Rain	Composite	72								13	0.01

Data in blue have been adjusted to remove symbols based on MWMO data protocols

2016 Stormwater Sample Data at 6UMN-outfall January - August continued

Station	Sample Start	Sample End	Carbonaceous			Dissolved Phosphorus (mg/L)	Ortho Phosphate (mg/L)	Total Phosphorus (mg/L)	E. coli (MPN/100 mL)	Hardness (mg/L CaCO3)	Total Kjeldahl Nitrogen (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
			Biological Oxygen Demand 5-day (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)								
6UMN-outfall	01/06/2016 11:35		0.5	6	173.9	0.04	0.01	0.01		484	0.40	1.29	0.02
6UMN-outfall	01/22/2016 10:35		0.5	8	156.0	0.01	0.01	0.03	1	468	0.53	0.99	0.02
6UMN-outfall	02/05/2016 10:50		0.6	6	268.6	0.01	0.02	0.03		448	0.36	0.99	0.02
6UMN-outfall	02/17/2016 10:50		0.4	8	170.7	0.01	0.01	0.02	13	460	0.37	0.95	0.02
6UMN-outfall	03/01/2016 10:20		0.6	5	214.6	0.01	0.02	0.02		460	0.56	1.06	0.02
6UMN-outfall	04/20/2016 21:08	04/21/2016 02:33	6.1	73	43.2	0.07	0.07	0.26		100	1.80	0.49	0.06
6UMN-outfall	04/21/2016 09:05	04/21/2016 11:17			19.6	0.04	0.03	0.24			1.80	0.58	0.06
6UMN-outfall	04/24/2016 07:01	04/24/2016 13:40		78	10.1	0.04		0.27		40	2.00	0.41	0.03
6UMN-outfall	04/27/2016 13:41	04/28/2016 09:33			45.0	0.06	0.05	0.12		128	0.74	0.33	0.05
6UMN-outfall	05/19/2016 10:36		1.8	10	178.8	0.03	0.01	0.03		428	0.45	1.22	0.02
6UMN-outfall	05/25/2016 09:58	05/25/2016 13:46	43.0	186	41.2	0.04	0.01	0.85		160	4.80	0.09	0.04
6UMN-outfall	05/27/2016 11:08	05/27/2016 18:07		54	35.8	0.07		0.16			1.40	0.58	0.07
6UMN-outfall	05/28/2016 15:43	05/28/2016 18:31		63	27.4	0.02		0.17		84	1.20	0.36	0.02
6UMN-outfall	06/02/2016 11:41		0.9	7	161.3	0.02	0.02	0.03		480	0.23	0.85	0.02
6UMN-outfall	06/09/2016 03:51	06/09/2016 05:19	7.2	109	4.9	0.09	0.07	0.38		80	2.05	0.38	0.02
6UMN-outfall	06/13/2016 05:38	06/13/2016 07:54	3.8	48	4.0	0.05	0.04	0.16		128	1.30	0.39	0.03
6UMN-outfall	06/14/2016 17:53	06/14/2016 19:38	2.6	59	4.9	0.01	0.02	0.19		52	0.91	0.27	0.02
6UMN-outfall	06/16/2016 10:20		0.4	8	171.8	0.06	0.07	0.05		428	0.30	0.91	0.02
6UMN-outfall	07/05/2016 10:50		1.4	6	167.6	0.01	0.02	0.05		416	0.22	0.83	0.02
6UMN-outfall	07/05/2016 18:05	07/05/2016 18:57	5.4	58	4.9	0.07	0.06	0.22		40	1.30	0.30	0.02
6UMN-outfall	07/10/2016 05:43	07/10/2016 10:31		54	53.2	0.12		0.20		124	1.20	0.73	0.14
6UMN-outfall	08/01/2016 11:00		1.0	13	171.4	0.03	0.02	0.02		448	0.29	0.74	0.02
6UMN-outfall	08/04/2016 07:18	08/04/2016 08:19		43	12.7	0.05		0.19		68	1.10	0.40	0.02
6UMN-outfall	08/10/2016 20:23	08/10/2016 21:53	3.4	26	3.5	0.06	0.04	0.11		20	0.57	0.26	0.02
6UMN-outfall	08/16/2016 17:24	08/16/2016 18:19	3.4	39	2.4	0.03	0.03	0.17		40	1.08	0.33	0.02
6UMN-outfall	08/23/2016 23:01	08/24/2016 00:29	3.3	34	5.0	0.05	0.03	0.18		36	0.70	0.12	0.02

Data in blue have been adjusted to remove symbols based on MWMO data protocols

2016 Stormwater Sample Data at 6UMN-outfall January - August continued

Station	Sample Start	Sample End	Sulfate (mg/L)	Total Biological Oxygen Demand 5-							Total Zinc (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Volatile Suspended Solids (mg/L)
				day (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Total					
6UMN-outfall	01/06/2016 11:35		69.0	0.4	0.0001	0.0002	0.0007	0.0002	0.0025	0.0099	675	2.5	2	1	
6UMN-outfall	01/22/2016 10:35		62.0	0.4							674	2.2	2	1	
6UMN-outfall	02/05/2016 10:50		64.5	0.5							810	2.4	1	1	
6UMN-outfall	02/17/2016 10:50		64.9	0.3	0.0001	0.0002	0.0008	0.0002	0.0050	0.0025	700	2.1	1	1	
6UMN-outfall	03/01/2016 10:20		66.5	0.3	0.0001	0.0003	0.0025	0.0003	0.0074	0.0114	712	2.1	3	1	
6UMN-outfall	04/20/2016 21:08	04/21/2016 02:33	15.7	7.4							176		64	27	
6UMN-outfall	04/21/2016 09:05	04/21/2016 11:17											103	45	
6UMN-outfall	04/24/2016 07:01	04/24/2016 13:40	3.9		0.0003	0.0078	0.0261	0.0157	0.0058	0.1320	54		99	27	
6UMN-outfall	04/27/2016 13:41	04/28/2016 09:33	16.5										34	12	
6UMN-outfall	05/19/2016 10:36		68.2	1.1	0.0001	0.0001	0.0011	0.0002	0.0048	0.0051	718	3.0	2	1	
6UMN-outfall	05/25/2016 09:58	05/25/2016 13:46	16.4	49.0							182		385	150	
6UMN-outfall	05/27/2016 11:08	05/27/2016 18:07	14.4								178		40	15	
6UMN-outfall	05/28/2016 15:43	05/28/2016 18:31	10.2								132		70	26	
6UMN-outfall	06/02/2016 11:41		67.9	0.5							695	3.1	1	1	
6UMN-outfall	06/09/2016 03:51	06/09/2016 05:19	2.9	9.6							48		211	61	
6UMN-outfall	06/13/2016 05:38	06/13/2016 07:54	2.8	4.9	0.0001	0.0063	0.0157	0.0122	0.0048	0.0855	42		94	22	
6UMN-outfall	06/14/2016 17:53	06/14/2016 19:38	3.2	4.7	0.0002	0.0060	0.0166	0.0151	0.0045	0.0902	46		82	21	
6UMN-outfall	06/16/2016 10:20		64.5	0.5	0.0001	0.0009	0.0013	0.0003	0.0045	0.0039	660	2.5	8	1	
6UMN-outfall	07/05/2016 10:50		67.2	1.2							686	3.6	6	6	
6UMN-outfall	07/05/2016 18:05	07/05/2016 18:57	64.2	6.7	0.0003	0.0074	0.0200	0.0165	0.0050	0.1030	45		109	28	
6UMN-outfall	07/10/2016 05:43	07/10/2016 10:31	21.4								245		22	10	
6UMN-outfall	08/01/2016 11:00		65.1	0.5							655	3.2	1	1	
6UMN-outfall	08/04/2016 07:18	08/04/2016 08:19	6.8								61		63	18	
6UMN-outfall	08/10/2016 20:23	08/10/2016 21:53	2.9	3.8							32		25	6	
6UMN-outfall	08/16/2016 17:24	08/16/2016 18:19	2.0	4.6	0.0001	0.0059	0.0129	0.0128	0.0034	0.0622	31		105	21	
6UMN-outfall	08/23/2016 23:01	08/24/2016 00:29	2.7	5.2	0.0001	0.0019	0.0060	0.0056	0.0018	0.0363	41		62	12	

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2016 Stormwater Sample Data at 6UMN-outfall September - November

Station	Sample Start	Sample End	Sample Reason	Sample Type	Air	Water	Conductivity (μ S/cm)	Dissolved	Salinity (ppt)	Specific	Transparency (cm)	Alkalinity (mg/L)	Ammonia	
					Temperature (°F)	Temperature (°C)		Oxygen (mg/L)		Conductivity (μ S/cm)			Nitrogen (mg/L)	
6UMN-outfall	09/01/2016 10:50		Base	Grab	69	17.7	1064.9	8.73	8.2	0.60	1236.4	> 100	278	0.02
6UMN-outfall	09/06/2016 04:15	09/06/2016 07:04	Rain	Composite	70								23	0.01
6UMN-outfall	09/14/2016 10:15		Base	Grab	56	14.9	980.5	9.41	8.1	0.60	1216.3	> 100	298	0.02
6UMN-outfall	09/21/2016 16:33	09/22/2016 00:55	Rain	Composite	65								31	0.20
6UMN-outfall	10/05/2016 01:59	10/05/2016 07:21	Rain	Composite	58								34	0.16
6UMN-outfall	10/06/2016 20:30	10/06/2016 22:37	Rain	Composite	43								26	0.23
6UMN-outfall	10/11/2016 10:52		Base	Grab	65	14.0	1062.2	9.39	8.2	0.70	1343.6	> 100	333	0.03
6UMN-outfall	10/17/2016 17:05	10/17/2016 22:50	Rain	Composite	55								107	0.06
6UMN-outfall	10/21/2016 10:36		Base	Grab	42	12.2	956.5	9.77	8.2	0.60	1265.3	> 100	310	0.04
6UMN-outfall	10/25/2016 20:00	10/26/2016 14:30	Rain	Composite	43								67	0.08
6UMN-outfall	11/01/2016 10:13		Base	Grab	52	12.6	904.0	10.49	8.0	0.59	1183.0	> 100	328	0.02
6UMN-outfall	11/17/2016 11:40		Base	Grab	48	13.0	1022.4	11.02	8.2	0.70	1326.7	> 100	314	0.04
6UMN-outfall	11/18/2016 08:30	11/18/2016 13:43	Rain	Composite	36								41	0.16
6UMN-outfall	11/22/2016 12:30	11/22/2016 22:30	Rain	Composite	51								120	0.10
6UMN-outfall	11/23/2016 03:30	11/23/2016 14:00	Rain	Composite	51								89	0.07
6UMN-outfall	11/23/2016 20:00	11/24/2016 09:30	Rain	Composite	51								157	0.03
6UMN-outfall	11/28/2016 15:30	11/28/2016 19:00	Rain	Composite	36								28	0.39

Data in blue have been adjusted to remove symbols based on MWMO data protocols

2016 Stormwater Sample Data at 6UMN-outfall September - November continued

Station	Sample Start	Sample End	Carbonaceous					Dissolved Phosphorus (mg/L)	Ortho Phosphate (mg/L)	Total Phosphorus (mg/L)	E. coli (MPN/100 mL)	Hardness (mg/L CaCO3)	Total Kjeldahl Nitrogen (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
			Biological Oxygen Demand 5-day (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)										
6UMN-outfall	09/01/2016 10:50		0.8	10	167.1	0.04	0.02	0.07		456	0.41	1.18	0.02		
6UMN-outfall	09/06/2016 04:15	09/06/2016 07:04		60	5.3	0.01		0.19		44	1.00	0.23	0.02		
6UMN-outfall	09/14/2016 10:15		0.6	5	150.6	0.04	0.03	0.06		428	0.35	1.11	0.04		
6UMN-outfall	09/21/2016 16:33	09/22/2016 00:55	4.0	49	3.8	0.03	0.03	0.17		48	1.10	0.28	0.02		
6UMN-outfall	10/05/2016 01:59	10/05/2016 07:21	5.6	25	5.4	2.66	2.85	3.03		52	0.69	0.31	0.02		
6UMN-outfall	10/06/2016 20:30	10/06/2016 22:37	5.1	34	6.7	0.24	0.26	0.32		32	0.79	0.20	0.02		
6UMN-outfall	10/11/2016 10:52		0.7	8	164.1	0.04	0.03	0.06		560	0.28	1.14	0.02		
6UMN-outfall	10/17/2016 17:05	10/17/2016 22:50	9.4	95	42.9	0.22	0.21	0.47		180	1.70	0.70	0.04		
6UMN-outfall	10/21/2016 10:36		0.8	5	146.1	0.04	0.04	0.05		472	0.29	1.09	0.02		
6UMN-outfall	10/25/2016 20:00	10/26/2016 14:30		42	24.7	0.10		0.20		92	0.64	0.18	0.04		
6UMN-outfall	11/01/2016 10:13		1.1	6	138.8	0.04	0.01	0.02		516	0.24	0.81	0.02		
6UMN-outfall	11/17/2016 11:40		1.0	11	161.6	0.01	0.01	0.01		504	0.25	1.03	0.02		
6UMN-outfall	11/18/2016 08:30	11/18/2016 13:43		110	15.1	0.13		0.46		80	2.30	0.44	0.09		
6UMN-outfall	11/22/2016 12:30	11/22/2016 22:30		66	316.1	0.08		0.30		208	1.50	0.38	0.02		
6UMN-outfall	11/23/2016 03:30	11/23/2016 14:00		74	808.1	0.11		0.23		164	1.30	0.48	0.02		
6UMN-outfall	11/23/2016 20:00	11/24/2016 09:30		30	122.8	0.08		0.15		292	0.58	0.72	0.02		
6UMN-outfall	11/28/2016 15:30	11/28/2016 19:00	6.7	86	18.4	0.07	0.05	0.27		80	1.40	0.31	0.02		

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2016 Stormwater Sample Data at 6UMN-outfall September - November continued

Station	Sample Start	Sample End	Sulfate (mg/L)	Total Biological Oxygen Demand 5- day (mg/L)							Total Zinc (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Volatile Suspended Solids (mg/L)
				Total Cadmium (mg/L)	Total Chromium (mg/L)	Total Copper (mg/L)	Total Lead (mg/L)	Total Nickel (mg/L)	Total Copper (mg/L)	Total Lead (mg/L)					
6UMN-outfall	09/01/2016 10:50		82.2	0.8	0.0001	0.0004	0.0017	0.0011	0.0042	0.0055	679	3.4	16	2	
6UMN-outfall	09/06/2016 04:15	09/06/2016 07:04	3.6		0.0002	0.0045	0.0143	0.0149	0.0036	0.0846	50		62	21	
6UMN-outfall	09/14/2016 10:15		68.7	0.9							662	3.5	1	1	
6UMN-outfall	09/21/2016 16:33	09/22/2016 00:55	3.5	5.5							37		91	22	
6UMN-outfall	10/05/2016 01:59	10/05/2016 07:21	4.2	7.4							69		32	12	
6UMN-outfall	10/06/2016 20:30	10/06/2016 22:37	4.9	6.9	0.0001	0.0021	0.0063	0.0044	0.0017	0.0411	63		34	15	
6UMN-outfall	10/11/2016 10:52		76.6	0.7	0.0001	0.0002	0.0009	0.0004	0.0042	0.0039	704	2.5	5	1	
6UMN-outfall	10/17/2016 17:05	10/17/2016 22:50	22.8	9.6							230		97	31	
6UMN-outfall	10/21/2016 10:36		69.3	0.7							672	3.1	1	2	
6UMN-outfall	10/25/2016 20:00	10/26/2016 14:30	13.0								155		21	10	
6UMN-outfall	11/01/2016 10:13		65.1	0.5							657	3.7	1	1	
6UMN-outfall	11/17/2016 11:40		68.3	0.8							655	3.8	1	1	
6UMN-outfall	11/18/2016 08:30	11/18/2016 13:43	9.9								132		114	40	
6UMN-outfall	11/22/2016 12:30	11/22/2016 22:30	25.8								628		54	24	
6UMN-outfall	11/23/2016 03:30	11/23/2016 14:00	17.3								1390		55	25	
6UMN-outfall	11/23/2016 20:00	11/24/2016 09:30	31.1								384		18	9	
6UMN-outfall	11/28/2016 15:30	11/28/2016 19:00	6.2	7.9	0.0002	0.0061	0.0167	0.0148	0.0045	0.1840	88		137	40	

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