

**CITY OF SPOKANE,  
WASHINGTON**

**CSO FLOW MONITORING PROJECT**

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**FLOW, FREQUENCY AND DURATION**

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**SEWER MAINTENANCE**

**Monthly Report  
November 2008**

January 9, 2009  
*CSOMonthly2008-11.doc*

## OVERFLOW EVENTS

Table 1 – Flow-Frequency-Duration, provides a summary of the flow volume calculated for the overflow pipes at each site for each event recorded. The flow calculations are based on flow monitor recorded level and velocity measurements. See Attachment A for a summary of the precipitation volumes.

**Table 1 – Flow-Frequency-Duration**

	Location	CSO#	Freq.	Date of Event <sup>1</sup>	Estimated <sup>2</sup> Total Flow (Gallons)	Event Duration (Minutes)	Comments
1.	AL Parkway Storage (West)	2	None				
2.	NW Blvd @ Kiernan	6	4	Total	1,058,949	7,770	Missing data 11/17 08:45 to 11/20 14:20 Missing data 11/24 14:35 to 11/24 14:40
				11/4	61,867	1,065	
				11/6	576,823	4,500	
				11/11	418,192	2,080	
				11/13	2,067	125	
3.	Columbia @ Downriver	7	None				Missing data 11/3 08:55 to 11/3 09:00 Missing data 11/21 13:25 to 11/21 14:05
4.	Nettleton @ York/Buckeye	10	None				Missing data 11/3 09:30 to 11/3 09:40
5.	Nora @ Pettet	12	2	Total	40,719	615	
				11/7	34,019	395	
				11/11	6,700	220	
6.	Sherwood @ Summit	14	None				Missing data 11/3 10:20 to 11/3 10:25
7.	Nettleton @ Ohio	15	4	Total	63,065	3,380	Missing data 11/3 10:30 to 11/3 10:35 Missing data 11/18 08:55 to 11/18 14:50
				11/7	14,659	640	
				11/11	26,117	2,000	
				11/13	106	410	
				11/14	22,183	330	Dry Weather Overflow; DOE letter sent 11/24.

<sup>1</sup> Designation as an event means that both a level and velocity reading were recorded concurrently. Not all level and velocity readings that were coincident are included in this report, however. The level and velocity readings that appear to be “background noise” from the electronic equipment are not included in the table.

<sup>2</sup> The flows presented in this column are calculated from measurements of velocity and depth of flow by electronic devices inserted in the water stream. These measurements are subject to singular and possibly cumulative errors. These errors result from limitations inherent in the measuring devices and from the introduction of a measuring device in to the physical flow stream. Also, error in velocity and depth measurements may be and typically are introduced by the physical conditions of each site. The flow numbers presented in this table are estimates only.

	Location	CSO#	Freq.	Date of Event <sup>1</sup>	Estimated <sup>2</sup> Total Flow (Gallons)	Event Duration (Minutes)	Comments
8.	A @ Linton	16B	None				Missing data 11/3 13:45 to 11/3 13:50
9.	7 <sup>th</sup> @ Inland Empire	19	None				
10.	3500 High Drive	20	None				Missing data 11/10 08:55 to 11/10 09:00
11.	Main @ Oak	22B	None				Missing data 11/3 14:00 to 11/3 14:05
12.	Cedar @ Ide	23	1	Total	3,641	95	Missing data 11/3 11:00 to 11/3 11:05
				11/7	3,641	95	
13.	Riverside @ Cedar	24A	2	Total	111,935	495	
				11/7	70,428	315	
				11/12	41,507	180	
14.	Riverside @ Cedar	24B	None				
15.	Cedar @ Main	25	1	Total	912	90	Missing data 11/12 09:00 to 11/12 15:00
				11/7	912	90	
16.	Riverside @ Lincoln	26	2	Total	408,932	320	Missing data 11/3 12:30 to 11/3 12:35
				11/7	367,937	250	
				11/12	40,995	70	
17.	Arthur @ 5 <sup>th</sup>	33A	None				Missing data 11/10 14:00 to 11/10 14:05
18.	Perry @ 3 <sup>rd</sup>	33B	None				Missing data 11/10 09:05 to 11/10 14:20
19.	Arthur @ 3 <sup>rd</sup>	33C	None				
20.	Arthur @ 1 <sup>st</sup>	33D	1	Total	8,622	120	Missing data 11/10 14:35 to 11/10 14:40
				11/7	8,622	120	
21.	Riverside @ Napa/Crestline	34	2	Total	234,079	125	Missing data 11/10 13:20 to 11/10 13:25
				11/7	56,346	80	
				11/12	177,733	45	
22.	S. Riverton @ Magnolia	38	None				
23.	S. Riverton @ Altamont	39	None				Missing data 11/10 12:40 to 11/10 12:45
24.	S. Riverton @ Regal	40	None				Missing data 11/10 11:00 to 11/10 11:05
25.	Rebecca @ Upriver	41	None				Missing data 11/10 10:45 to 11/10 10:50

	Location	CSO#	Freq.	Date of Event <sup>1</sup>	Estimated <sup>2</sup> Total Flow (Gallons)	Event Duration (Minutes)	Comments
26.	Riverton @ Surro	42	None				Missing data 11/10 10:20 to 11/10 10:25 Missing data 11/17 15:20 to 11/17 15:25 Missing data 11/24 09:15 to 12/2 15:00 Construction of CSO storage tank resulted in 11/24 – 12/2 data loss.
	<b>Monthly Total</b>		<b>19</b>		<b>1,930,854</b>	<b>13,010</b>	<b>1 Dry Weather Overflow</b>

