

Appendix C
Los Angeles River Watershed – Earth-Bottom Channels
Water Quality Monitoring Report

Pursuant to Condition 49 of the Waste Discharge Requirements Order No. R4-2010-0021 (WDR), the Los Angeles County Flood Control District (LACFCD) conducted water quality monitoring during the 2011 clearance season within the Los Angeles River at all earth-bottom channels cleared during that season. As set forth in the Study Workplan approved by the Regional Board, the results of this monitoring are set forth graphically in the table below, which reflects the reaches analyzed, the dates, sampling parameters, results from upstream/within project/downstream monitoring stations and comments.

General Observations and Comments

In evaluating the results of the monitoring, the LACFCD has the following general observations and comments:

- BMPs were generally effective in addressing the impacts of maintenance activities in the earth-bottom channel reaches. These BMPs included not only temporary downstream structures intended to collect sediment and debris released during work activities, but also steps taken to minimize contact with water flowing within the reaches. Additionally, upon noticing elevated turbidity levels, monitoring personnel, who work in the Geotechnical & Materials Engineering Division (GMED) of the County of Los Angeles Department of Public Works division, notified Flood Maintenance Division (FMD) field personnel, who acted to modify BMPs. However, BMPs were not always sufficient to achieve attainment of the very restrictive water quality limits set forth in the WDR.

- Due to the need to clear channels in a very narrow time window between the end of the bird nesting season and the start of winter rains, FMD field personnel must be prepared to clear a given reach with potentially very little notice. In some reaches during the 2011 season, GMED monitoring personnel could not do pre-work monitoring because of the need to commence immediate clearance of the reach in advance of a threatened rain event (which, under the terms of the WDR, prevents maintenance work). The LACFCD believes that better coordination between FMD field personnel and GMED monitoring personnel can overcome this problem by ensuring that pre-work monitoring proceeds independently of maintenance activities. LACFCD has established new procedures where pre-monitoring will take place no more than one week prior to the first scheduled day

of clearance. This will allow LACFCD to more efficiently utilize GMED monitoring personnel as well as minimize the likelihood of FMD field personnel standing idle while waiting for monitoring to be conducted.

- No post-work monitoring was conducted during the 2011 maintenance season. Steps have been taken with the responsible Public Works divisions to ensure that future monitoring will include a post-monitoring component, which will be conducted within seven days following completion of maintenance activities.
- LACFCD's policy regarding stream water diversion is intended to balance the impacts of clearance work on the reach with the potential damage to biological resources involved in diversions, which require construction of a dam and piping to carry flows through the reach. While water diversions may minimize turbidity and TSS impacts, they can adversely affect aquatic animals, benthic organisms, plants, and other biological resources in certain reaches. In reaches where water diversions were not constructed, all clearance work was done outside of the zone where waters were present in consultation with outside biologists. Generally, clearance work was limited to hand work. In one reach (Reach 15), LACFCD believes that due to the unusual circumstances of that clearance (discussed below), a streambed water diversion should have been constructed. LACFCD has changed its procedures to address such circumstances arising in the future.

Specific Reach Observations and Comments

Reach 1: Work was completed in this reach within one day. Due to a threatened rain event, no pre-work monitoring could be accomplished to meet the WDR's rain forecast requirements. As noted in the General Comments, changing pre-work monitoring requirements will address this issue. The downstream structural BMP consisted of two straw waddles located about 4 feet apart, anchored with stakes across the reach.

Reach 2: TSS and turbidity results were lower at the downstream monitoring point than the upstream on four of seven days of work, indicating that the BMPs were generally effective at addressing sediment and debris created during maintenance activities. The highest turbidity reading (measured on September 22) was unusual, in that the measurement of turbidity within the project was lower than the downstream measurement. The downstream structural BMP consisted of two straw waddles located about 4 feet apart, anchored with stakes across the reach.

Reach 5: Turbidity readings were lower at the downstream monitoring point than the upstream on four of six work days and TSS readings were consistently non-detect,

indicating that the BMPs were effective at addressing not only sediment and debris created during clearance activities but also ambient material present in the reach. Due to the need for work to commence, no pre-work monitoring was conducted. As noted, LACFCD has changed its procedures to address this issue. The downstream structural BMP consisted of straw waddles anchored with sandbags.

Reach 6: On the first day of work on October 19, 2011, FMD field personnel were notified of elevated turbidity at the downstream sampling location. Consequently, FMD field personnel adjusted the field BMPs, which resulted in lower downstream turbidity and TSS levels than upstream during the remainder of the work in the reach. This indicated that the BMPs were effective at addressing not only sediment and debris created during clearance activities but also ambient material present in the reach. The downstream structural BMP consisted of straw waddles anchored with sandbags. A TSS level of 61.0 mg/L recorded on October 19 was abnormally high, but it is believed to represent a laboratory error based on the fact that upstream and within project TSS levels were measured as non-detect. Further, the high TSS reading was incompatible with relatively low turbidity levels on that day. Due to the need for work to commence, no pre-work monitoring was conducted. As noted, LACFCD has changed its procedures to address this issue.

Reach 8: Pre-work monitoring was conducted. Generally, the BMPs were effective at addressing turbidity, with downstream results, in some cases, below those upstream of the project. Due to an emergency involving the assigned GMED monitoring employee, no monitoring was conducted on October 25. The downstream structural BMP consisted of two rows of straw waddles anchored with sandbags.

Reach 14: Pre-work monitoring was conducted. During the one day of maintenance, TSS levels recorded downstream were the same as those recorded upstream.. The downstream structural BMP consisted of a straw waddle anchored with sandbags.

Reach 15: This reach remains the focus of major concern regarding ponding, which creates conditions for breeding mosquitoes carrying the West Nile Virus. Therefore, clearance activities at this reach in 2011 were far more extensive than the usual maintenance activities due to the need to grade the reach to restore the original profile of the reach invert to eliminate ponding. Similar work was done in the reach in 2008. Monitoring conducted at this reach revealed significantly elevated turbidity and TSS readings from the maintenance operations. FMD field personnel were notified of the downstream turbidity during the maintenance activities and field BMPs were modified. As noted in the General Observations and Comments, LACFCD will construct a stream water diversion project when similar work is done in this reach in the future. The

installed downstream BMP (which consisted of at least five rows of straw waddles, about 10 feet apart, across the full width of the reach) was not sufficient to address impacts from the project. Pre-work monitoring was planned, but could not be conducted due to lack of water at the downstream sampling point necessary to perform a complete monitoring and sampling event. As noted above, better coordination of pre-work monitoring will address this problem in the future.

Reach 24: Pre-work monitoring was conducted. While mechanical clearance equipment was utilized, all work was done out of the water due to a previously established low-flow channel within the reach. On the first day of work on September 19, FMD field personnel were notified of elevated turbidity at the downstream sampling location. Consequently, FMD field personnel adjusted the field BMPs and, as a result, downstream TSS and turbidity levels were below upstream levels during the remainder of their work in the reach, with the exception of a slight increase in the downstream TSS on September 23. This indicates that the BMPs were effective at addressing not only sediment and debris created during clearance activities but also ambient material present in the reach. The downstream structural BMP consisted of a straw waddle anchored with sandbags.

Reach 25, West Side: Due to shortened notice, no pre-work monitoring was conducted. Because of the extreme width of the reach, which is the lower portion of the Los Angeles River, as well as limited access, no downstream BMP could be installed. However, a low flow channel had been previously established in the reach and the clearance work was done outside of this low flow channel. Despite the absence of a downstream BMP, TSS and turbidity levels measured downstream of the project area were below levels measured upstream on three of the six days of work. On October 24, GMED monitoring personnel observed an increase in algae in the water, which may have contributed to the increase in turbidity and TSS. No monitoring was conducted on October 25 due to an emergency involving the scheduled GMED monitoring employee.

Reach 25, East Side: Due to shortened notice, no pre-work monitoring was conducted. As noted above, due to the width of the reach, as well as limited access, no downstream BMP could be installed. However, a low flow channel had been previously established in the reach and the clearance work was done outside of this area. Despite the inability to establish BMPs, TSS levels measured downstream of the project area were below levels measured upstream on all but one day of work. No monitoring was conducted on October 25 due to an emergency involving the scheduled GMED monitoring employee.

Reach 99: No pre-monitoring could be conducted due to an expedited maintenance schedule to meet the WDR's rain forecast requirements. The downstream BMPs consisted of two sets of straw waddles anchored with sandbags. The BMPs proved effective, as TSS levels measured downstream were non-detect on both days of the maintenance activities and turbidity was extremely low (below 1.0 NTUs).

Reach 100: Pre-work monitoring was done in this reach. No monitoring was conducted on the first day of work. The downstream structural BMP consisted of straw waddles anchored with sandbags.

**Los Angeles River Watershed - Earth-Bottom Channels
Feasibility Studies Technical Assessments Reports and Recommendations
WATER QUALITY MONITORING RESULTS (2011)**

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 1, Bell Creek	10/28/2011	TIME	1308	1318	1328	First & Last Day of Field Work No pre-work monitoring due to one-day notification and expedited start date due to possible rain; first/last day of channel maintenance clearing activities; Hand clearing only; Surface water not diverted during field maintenance clearing activities; BMP consists of straw waddle anchored with sandbags
		SAMPLE NO.	BELLCK-1P	BELLCK-2P	BELLCK-3P	
		TEMP (°F)	65.1	64.0	63.0	
		pH	7.01	7.02	7.02	
		Turbidity (NTUs)	1.68	1.36	4.02	
		Dissolved O2 (mg/L)	4.33	4.65	4.42	
		Total Suspended Solids (mg/L)	ND	ND	8.0	
Reach 2, Dry Creek/PD 1845	9/13/2011	TIME	1423	1436	1445	Baseline Monitoring Baseline monitoring conducted prior to any work in the channel and in its natural condition.
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	
		TEMP (°F)	71.9	71.2	74.2	
		pH	7.17	7.38	7.38	
		Turbidity (NTUs)	1.58	1.57	0.54	
		Dissolved O2 (mg/L)	5.14	5.36	5.30	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 2, Dry Creek/PD 1845	9/16/2011	TIME	1324	1338	1349	First Day of Field Work First day of channel maintenance clearing activities; Hand clearing only; Surface water not diverted during channel maintenance clearing activities; BMP consists of 2 straw wattles, about 4 feet apart, anchored with stakes across Dry Cyn.
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	
		TEMP (°F)	66.5	67.0	67.4	
		pH	7.20	7.27	7.45	
		Turbidity (NTUs)	2.33	15.00	3.73	
		Dissolved O2 (mg/L)	4.83	3.60	4.84	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 2, Dry Creek/PD 1845	9/17/2011	TIME	0924	0936	0944	During Work Hand clearing work continues
		SAMPLE NO.	DCPD1845-1A	DCPD1845-2A	DCPD1845-3A	
		TEMP (°F)	64.9	64.9	65.0	
		pH	7.17	7.30	7.42	
		Turbidity (NTUs)	1.80	8.84	2.83	
		Dissolved O2 (mg/L)	5.50	4.79	4.78	
		Total Suspended Solids (mg/L)	ND	34	ND	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 2, Dry Creek/PD 1845	9/19/2011	TIME	1434	1445	1454	During Work
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	Hand clearing work continues
		TEMP (°F)	72.8	74.8	78.2	
		pH	7.11	7.26	7.31	
		Turbidity (NTUs)	4.38	9.52	2.10	
		Dissolved O2 (mg/L)	5.45	5.34	5.06	
		Total Suspended Solids (mg/L)	ND	5.0	6.0	
Reach 2, Dry Creek/PD 1845	9/20/2011	TIME	1509	1522	1530	During Work
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	Hand clearing work continues
		TEMP (°F)	71.8	73.8	76.9	
		pH	7.08	7.21	7.31	
		Turbidity (NTUs)	1.69	3.04	0.81	
		Dissolved O2 (mg/L)	5.44	5.77	5.22	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 2, Dry Creek/PD 1845	9/21/2011	TIME	1353	1403	1413	During Work
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	Hand clearing work continues
		TEMP (°F)	71.0	73.9	77.6	
		pH	7.12	7.24	7.37	
		Turbidity (NTUs)	1.97	1.43	1.01	
		Dissolved O2 (mg/L)	5.24	5.70	5.19	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 2, Dry Creek/PD 1845	9/22/2011	TIME	1223	1234	1242	During Work
		SAMPLE NO.	DCPD1845-1P	DCPD1845-2P	DCPD1845-3P	Hand clearing work continues; reason for malfunction of pH/T meter unknown
		TEMP (°F)	76.1	73.6	Malfunction	
		pH	7.20	7.41	Malfunction	
		Turbidity (NTUs)	4.38	1.94	7.65	
		Dissolved O2 (mg/L)	5.40	5.82	5.77	
		Total Suspended Solids (mg/L)	7.0	8.0	10.0	
Reach 2, Dry Creek/PD 1845	9/23/2011	TIME	1115	1125	1134	Last Day of Field Work
		SAMPLE NO.	DCPD1845-1A	DCPD1845-2A	DCPD1845-3A	Last day of monitoring and channel maintenance hand clearing activities; reason for malfunction of pH/T meter unknown
		TEMP (°F)	70.1	72.1	Malfunction	
		pH	7.54	7.66	Malfunction	
		Turbidity (NTUs)	1.55	3.59	2.40	
		Dissolved O2 (mg/L)	5.04	4.87	5.43	
		Total Suspended Solids (mg/L)	5.0	9.0	6.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 5, Caballero Creek	10/14/2011	TIME	1029A	1047A	1100A	First Day of Field Work
		SAMPLE NO.	CABCRK5-1A	CABCRK5-2A	CABCRK5-3A	No pre-work monitoring due to short notification; hand clearing only; first day of monitoring and channel maintenance clearing activities; surface water not diverted during maintenance clearing; BMP consists of 2 separate straw waddles anchored with sandbags d/s of the SBC; hand crew working in vicinity of internal sampling point resulting in higher turbidity and TSS readings
		TEMP (°F)	68.5	72	70.6	
		pH	7.09	7.10	7.04	
		Turbidity (NTUs)	1.84	24.90	3.11	
		Dissolved O2 (mg/L)	5.51	4.97	6.92	
		Total Suspended Solids (mg/L)	ND	67.0	ND	
Reach 5, Caballero Creek	10/17/2011	TIME	1258P	1308P	1319P	During Work
		SAMPLE NO.	CABCRK5-1P	CABCRK5-2P	CABCRK5-3P	Hand clearing work continues
		TEMP (°F)	69.0	71.9	75.9	
		pH	7.07	7.07	7.06	
		Turbidity (NTUs)	1.71	1.85	1.54	
		Dissolved O2 (mg/L)	5.69	5.41	6.14	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 5, Caballero Creek	10/18/2011	TIME	1024A	1046A	1065A	During Work
		SAMPLE NO.	CABCRK5-1A	CABCRK5-2A	CABCRK5-3A	Hand clearing work continues
		TEMP (°F)	64.7	68.9	67.6	
		pH	7.08	7.09	7.09	
		Turbidity (NTUs)	2.07	1.82	1.52	
		Dissolved O2 (mg/L)	5.62	5.46	6.94	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 5, Caballero Creek	10/19/2011	TIME	1138A	1147A	1159A	During Work
		SAMPLE NO.	CABCRK5-1A	CABCRK5-2A	CABCRK5-3A	Hand clearing work continues
		TEMP (°F)	62.9	69.5	69.2	
		pH	7.08	7.07	7.07	
		Turbidity (NTUs)	7.03	2.04	2.91	
		Dissolved O2 (mg/L)	5.10	4.44	5.93	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 5, Caballero Creek	10/20/2011	TIME	1249P	1259P	1329P	During Work
		SAMPLE NO.	CABCRK5-1P	CABCRK5-2P	CABCRK5-3P	Hand clearing work continues
		TEMP (°F)	65.1	69.4	74.6	
		pH	7.02	7.03	7.01	
		Turbidity (NTUs)	1.63	2.74	2.40	
		Dissolved O2 (mg/L)	5.59	4.60	5.94	
		Total Suspended Solids (mg/L)	ND	ND	ND	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 5, Caballero Creek	10/21/2011	TIME	1126A	1135A	1159A	Last Day of Field Work
		SAMPLE NO.	CABCRK5-1A	CABCRK5-2A	CABCRK5-3A	Last day of monitoring and channel maintenance clearing activities
		TEMPERATURE	65.0	68.2	72.4	
		pH	7.01	7.02	6.99	
		Turbidity (NTUs)	2.14	2.26	1.78	
		Dissolved O2 (mg/L)	5.31	4.81	6.28	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 6, Caballero Creek	10/19/2011	TIME	1210P	1220P	12290	First Day of Field Work
		SAMPLE NO.	CABCRK6-1P	CABCRK6-2P	CABCRK6-3P	No pre-work monitoring due to short notification; hand clearing only; first day of channel maintenance clearing activities; surface water not diverted during maintenance clearing activities; BMP consists of 2 separate straw waddles anchored with sandbags d/s of the SBC, adjusted to address turbidity.
		TEMPERATURE	68.9	70.2	71.3	
		pH	7.08	7.09	7.10	
		Turbidity (NTUs)	3.16	1.61	6.09	
		Dissolved O2 (mg/L)	5.24	4.96	4.95	
		Total Suspended Solids (mg/L)	ND	ND	61.0	
Reach 6 Caballero Creek	10/20/2011	TIME	1312P	1320P	1330P	During Work
		SAMPLE NO.	CABCRK6-1P	CABCRK6-2P	CABCRK6-3P	Hand clearing work continues
		TEMPERATURE	70.8	71.2	74.6	
		pH	7.00	7.00	7.01	
		Turbidity (NTUs)	10.56	2.82	2.40	
		Dissolved O2 (mg/L)	5.07	4.71	5.90	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 6 Caballero Creek	10/21/2011	TIME	1144A	1152A	1200P	Last Day of Field Work
		SAMPLE NO.	CABCRK6-1A	CABCRK6-2A	CABCRK6-3A	Last day of monitoring and channel maintenance hand clearing activities
		TEMPERATURE	68.5	71.2	72.2	
		Ph	7.01	7.00	6.99	
		Turbidity (NTUs)	5.38	2.18	1.78	
		Dissolved O2 (mg/L)	5.33	4.74	6.19	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 8 Hayvenhurst Drain/Project 470	10/21/2011	TIME	1234P	1243P	1251P	Baseline Monitoring
		SAMPLE NO.	HVNHRST1P	HVNHRST2P	HVNHRST3P	Baseline monitoring conducted prior to any work in the channel and in its natural condition.
		TEMPERATURE	71.4	69.1	70.3	
		pH	7.00	7.00	7.00	
		Turbidity (NTUs)	8.81	6.28	5.27	
		Dissolved O2 (mg/L)	5.46	4.38	5.37	
		Total Suspended Solids (mg/L)	6.0	11.0	7.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 8 Hayvenhurst Drain/Project 470	10/24/2011	TIME	1512P	1519P	1525P	First Day of Field Work
		SAMPLE NO.	HVNRST1P	HVNRST2P	HVNRST3P	First day of channel maintenance clearing activities; Hand clearing only; Surface water not diverted during maintenance clearing activities; BMP consists of 2 rows of straw wattles anchored with sandbags below the SBC; Turbidity and TSS levels below baseline levels
		TEMPERATURE	68.3	69.6	70.1	
		pH	7.03	7.02	7.03	
		Turbidity (NTUs)	5.92	2.82	2.74	
		Dissolved O2 (mg/L)	6.01	5.63	6.35	
		Total Suspended Solids (mg/L)	ND	ND	6.00	
Reach 8 Hayvenhurst Drain/Project 470	10/26/2011	TIME	1325P	1305P	1243P	During Work
		SAMPLE NO.	HVNRST1P	HVNRST2P	HVNRST3P	No monitoring on 10/25 due to emergency involving monitoring personnel; Turbidity level above baseline and TSS above ambient level at internal sampling point
		TEMPERATURE	66.5	67.8	69.0	
		pH	7.02	7.02	7.03	
		Turbidity (NTUs)	7.25	23.40	5.73	
		Dissolved O2 (mg/L)	6.30	5.60	6.24	
		Total Suspended Solids (mg/L)	ND	43.0	6.0	
Reach 8 Hayvenhurst Drain/Project 470	10/27/2011	TIME	1150A	1210P	1223P	During Work
		SAMPLE NO.	HAVENHURST1A	HAVENHURST2P	HAVENHURST3P	Hand clearing work continues
		TEMPERATURE	65.0	64.7	65.6	
		pH	7.01	7.02	7.02	
		Turbidity (NTUs)	30.70	8.34	6.87	
		Dissolved O2 (mg/L)	5.97	5.69	5.69	
		Total Suspended Solids (mg/L)	69.0	8.0	10.0	
Reach 8 Hayvenhurst Drain/Project 470	10/28/2011	TIME	1126A	1140A	1158A	Last Day of Field Work
		SAMPLE NO.	HAVENHURST1A	HAVENHURST2P	HAVENHURST3P	Last day of monitoring and channel maintenance hand clearing activities
		TEMPERATURE	64.4	64.2	64.5	
		pH	7.01	7.01	7.02	
		Turbidity (NTUs)	4.00	12.50	9.84	
		Dissolved O2 (mg/L)	6.01	5.48	5.59	
		Total Suspended Solids (mg/L)	ND	19.0	12.0	
Reach 14 May Canyon Channel	11/2/2011	TIME	1444P	1457P	1505P	Baseline Monitoring
		SAMPLE NO.	MAYCC-1P	MAYCC-2P	MAYCC-3P	Baseline monitoring conducted prior to any work in the channel and in its natural condition.
		TEMPERATURE	63.1	62.9	62.6	
		pH	6.99	7.01	7.01	
		Turbidity (NTUs)	1.55	1.91	1.42	
		Dissolved O2 (mg/L)	6.25	5.75	5.89	
		Total Suspended Solids (mg/L)	ND	5.0	ND	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 14 May Canyon Channel	11/3/2011	TIME	1348P	1400P	1415P	First and Last Day of Field Work Only day of channel maintenance clearing activities; Hand clearing only; Surface water not diverted during maintenance clearing activities; BMP consists of straw waddle anchored with sandbags d/s of the SBC.
		SAMPLE NO.	MAYCC-1P	MAYCC-2P	MAYCC-3P	
		TEMPERATURE	64.5	65.4	66.4	
		pH	7.02	7.02	7.02	
		Turbidity (NTUs)	4.36	6.38	17.40	
		Dissolved O2 (mg/L)	6.04	5.00	5.18	
		Total Suspended Solids (mg/L)	8.0	19.0	8.0	
Reach 15 Pacoima Wash	9/17/2011	TIME		See comments		Baseline Monitoring Insufficient amount of water at downstream sampling point to perform complete Baseline monitoring
		SAMPLE NO.				
		TEMPERATURE				
		pH				
		Turbidity (NTUs)				
		Dissolved O2 (mg/L)				
		Total Suspended Solids (mg/L)				
Reach 15 Pacoima Wash	9/20/2011	TIME	1355	1415P	1428P	First Day of Field Work First day of channel maintenance clearing activities involving both mechanical equipment and hand clearing; water not diverted during maintenance clearing activities; BMP consists of at least 5 rows of straw wattles, about 10' apart, across full width of Pacoima Wash d/s of SBC; equipment working in channel resulting in elevated turbidity and TSS levels at internal and d/s sampling points. Field personnel notified.
		SAMPLE NO.	PW1P	PW2P	PW3P	
		TEMPERATURE	88.0	91.4	84.2	
		pH	9.11	7.19	7.20	
		Turbidity (NTUs)	6.44	995.00	363.00	
		Dissolved O2 (mg/L)	8.68	0.53	0.59	
		Total Suspended Solids (mg/L)	ND	352.0	200.0	
Reach 15 Pacoima Wash	9/21/2011	TIME	1355P	1415P	1428P	During Work Temp, pH, and turbidity readings mistakenly duplicated from 09/20/11 event; equipment working in channel resulting in elevated turbidity and TSS levels.
		SAMPLE NO.	PW1P	PW2P	PW3P	
		TEMPERATURE	88.0	91.4	84.2	
		pH	9.11	7.19	7.20	
		Turbidity (NTUs)	6.44	995.00	363.00	
		Dissolved O2 (mg/L)	7.65	0.610	0.540	
		Total Suspended Solids (mg/L)	10.0	71.0	316.0	
Reach 15 Pacoima Wash	9/22/2011	TIME	1450P	1506P	1516P	During Work N/A = unable to recall why sample not collected for analyses; equipment working in channel resulting in elevated turbidity and TSS levels.
		SAMPLE NO.	PW1P	PW2P	PW3P	
		TEMPERATURE	84.7	92.9	86.3	
		pH	7.56	7.51	7.37	
		Turbidity (NTUs)	3.52	78.90	333.00	
		Dissolved O2 (mg/L)	9.36	0.510	N/A	
		Total Suspended Solids (mg/L)	6.0	1010.0	N/A	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 15 Pacoima Wash	9/23/2011	TIME	1222P	1251P	1301P	During Work
		SAMPLE NO.	PW1P	PW2P	PW3P	Equipment working in channel resulting in elevated turbidity and TSS levels.
		TEMPERATURE	86.0	86.3	85.3	
		pH	9.01	8.16	7.96	
		Turbidity (NTUs)	3.05	208.00	236.00	
		Dissolved O2 (mg/L)	8.53	2.840	0.750	
		Total Suspended Solids (mg/L)	9.0	172.0	176.0	
Reach 15 Pacoima Wash	9/26/2011	TIME	1320P	1333P	1343P	During Work
		SAMPLE NO.	PW1P	PW2P	PW3P	End of daily monitoring, begin weekly monitoring; Equipment working in channel.
		TEMPERATURE	79.2	85.1	78.8	
		pH	9.26	8.69	8.00	
		Turbidity (NTUs)	4.04	82.50	26.20	
		Dissolved O2 (mg/L)	9.65	8.28	3.84	
		Total Suspended Solids (mg/L)	6.0	71.0	19.0	
Reach 15 Pacoima Wash	10/3/2011	TIME	1304P	See Comments	1330P	Last Day of Monitoring
		SAMPLE NO.	PW1P		PW3P	Last day of monitoring, estimated completion of channel maintenance clearing activities on 10/05/11; Unable to monitor within project area due to equipment working immediately adjacent to internal sampling point.
		TEMPERATURE	81.3		79.0	
		pH	6.51		6.56	
		Turbidity (NTUs)	4.27		80.60	
		Dissolved O2 (mg/L)	7.97		3.69	
		Total Suspended Solids (mg/L)	15.0		56.0	
Reach 24 Compton Creek	9/16/2011	TIME	0948A	1007A	1025A	Baseline Monitoring
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	Baseline monitoring conducted prior to any work in the channel and in its natural condition.
		TEMPERATURE	66.5	67.9	69.0	
		pH	8.20	7.33	7.31	
		Turbidity (NTUs)	1.14	8.40	6.58	
		Dissolved O2 (mg/L)	6.56	2.64	0.52	
		Total Suspended Solids (mg/L)	ND	ND	5.0	
Reach 24 Compton Creek	9/19/2011	TIME	0923A	0937A	0950A	First Day of Field Work
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	First day of channel maintenance clearing activities involving both mechanical equipment and hand clearing; Surface water not diverted during maintenance activities; BMP consists of straw waddle anchored with sandbags below the SBC; Equipment working along channel margins outside the established low flow channel; BMPs adjusted to address turbidity.
		TEMPERATURE	68.9	67.5	69.3	
		pH	8.29	7.39	7.31	
		Turbidity (NTUs)	1.92	9.05	3.14	
		Dissolved O2 (mg/L)	9.98	2.58	2.37	
		Total Suspended Solids (mg/L)	ND	ND	6.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 24 Compton Creek	9/20/2011	TIME	0856A	0911A	0928A	During Work
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	Maintenance clearing activities continues
		TEMPERATURE	66.0	66.8	67.3	
		pH	7.48	7.10	7.15	
		Turbidity (NTUs)	3.39	8.87	1.37	
		Dissolved O2 (mg/L)	5.62	2.59	2.89	
		Total Suspended Solids (mg/L)	5.0	ND	ND	
Reach 24 Compton Creek	9/21/2011	TIME	1212P	1227P	1244P	During Work
		SAMPLE NO.	CCRK1P	CCRK2P	CCRK3P	Maintenance clearing activities continues
		TEMPERATURE	83.5	71.2	72.1	
		pH	8.35	7.2	7.03	
		Turbidity (NTUs)	2.49	3.21	0.65	
		Dissolved O2 (mg/L)	11.1	2.77	3.62	
		Total Suspended Solids (mg/L)	7	5	ND	
Reach 24 Compton Creek	9/22/2011	TIME	1458P	1521P	1543P	During Work
		SAMPLE NO.	CCRK1P	CCRK2P	CCRK3P	Maintenance clearing activities continues
		TEMPERATURE	83.4	71.5	73.1	
		pH	9.02	8.02	7.68	
		Turbidity (NTUs)	4.33	2.46	1.09	
		Dissolved O2 (mg/L)	10.90	2.73	4.22	
		Total Suspended Solids (mg/L)	17.0	12.0	15.0	
Reach 24 Compton Creek	9/23/2011	TIME	0931A	0946A	1004A	During Work
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	Maintenance clearing activities continues
		TEMPERATURE	70.6	69.4	69.2	
		pH	8.28	7.47	7.54	
		Turbidity (NTUs)	2.04	4.44	1.68	
		Dissolved O2 (mg/L)	9.75	2.16	3.17	
		Total Suspended Solids (mg/L)	17.0	10.0	21.0	
Reach 24 Compton Creek	9/26/2011	TIME	1041A	1101A	1115A	During Work
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	End of daily monitoring, begin weekly monitoring
		TEMPERATURE	68.7	68.4	68.0	
		pH	8.37	7.62	7.59	
		Turbidity (NTUs)	4.90	2.65	1.52	
		Dissolved O2 (mg/L)	9.67	2.96	3.46	
		Total Suspended Solids (mg/L)	11.0	5.0	8.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 24 Compton Creek	10/3/2011	TIME	1126A	1142A	1159A	During Work
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	Weekly monitoring, next scheduled monitoring event on 10/10.
		TEMPERATURE	77.6	71.5	72.4	
		pH	6.77	6.48	6.53	
		Turbidity (NTUs)	2.17	2.14	2.61	
		Dissolved O2 (mg/L)	8.59	3.79	4.50	
		Total Suspended Solids (mg/L)	9.0	8.0	5.0	
Reach 24 Compton Creek	10/17/2011	TIME	1107A	1125A	1141A	Last Day of Monitoring
		SAMPLE NO.	CCRK1A	CCRK2A	CCRK3A	All work suspended during week of 10/10 due to rain on 10/05; Last day of monitoring, estimated completion of channel maintenance clearing activities, 10/21.
		TEMPERATURE	73.9	74.4	73.2	
		pH	7.09	7.07	7.08	
		Turbidity (NTUs)	4.66	3.87	2.82	
		Dissolved O2 (mg/L)	9.07	6.48	6.34	
		Total Suspended Solids (mg/L)	12.0	12.0	6.0	
Reach 25 Los Angeles River - West Side	10/18/2011	TIME	1438P	1458P	1513P	First Day of Field Work
		SAMPLE NO.	LARW-1P	LARW-2P	LARW-3P	No pre-work monitoring due to one-day notification; First day of channel maintenance clearing activities involving both mechanical equipment and hand clearing; all hand clearing work until heavy equipment due on-site on 10/24; Surface water not diverted during channel activities; Water flowed in established low flow channel; No BMPs utilized due to limited access and excessive width of L.A. River at d/s endpoint
		TEMPERATURE	78.3	72.2	70.9	
		pH	7.06	7.06	7.06	
		Turbidity (NTUs)	3.21	4.67	4.17	
		Dissolved O2 (mg/L)	9.04	7.69	5.72	
		Total Suspended Solids (mg/L)	ND	13.0	7.0	
Reach 25 Los Angeles River - West Side	10/20/2011	TIME	1102A	1120A	1144A	During Work
		SAMPLE NO.	LARW-1P	LARW-2P	LARW-3P	All hand clearing work
		TEMPERATURE	65.7	64.8	65.1	
		pH	7.02	7.02	7.03	
		Turbidity (NTUs)	10.07	6.41	3.33	
		Dissolved O2 (mg/L)	8.11	7.42	4.80	
		Total Suspended Solids (mg/L)	17.0	ND	ND	
Reach 25 Los Angeles River - West Side	10/21/2011	TIME	0947A	1001A	1020A	During Work
		SAMPLE NO.	LARW-1A	LARW-2A	LARW-3A	All hand clearing work
		TEMPERATURE	64.9	64.9	65.5	
		pH	7.02	7.03	7.02	
		Turbidity (NTUs)	4.41	7.59	5.46	
		Dissolved O2 (mg/L)	8.47	6.63	5.01	
		Total Suspended Solids (mg/L)	6.0	19.0	16.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 25 Los Angeles River - West Side	10/24/2011	TIME	1231P	1246P	1305P	During Work
		SAMPLE NO.	LARW-1P	LARW-2P	LARW-3P	Heavy equipment on-site; TSS above ambient levels at all 3 sampling points due to increased algae in water
		TEMPERATURE	66.9	66.0	66.2	
		pH	7.03	7.03	7.03	
		Turbidity (NTUs)	4.50	22.00	5.71	
		Dissolved O2 (mg/L)	8.87	7.98	6.05	
		Total Suspended Solids (mg/L)	ND	153.0	15.0	
Reach 25 Los Angeles River - West Side	10/26/2011	TIME	0855A	0930A	1005A	During Work
		SAMPLE NO.	LARW-1A	LARW-2A	LARW-3A	No monitoring on 10/25 due to emergency involving monitoring personnel. End of daily monitoring, begin weekly monitoring.
		TEMPERATURE	62.6	64.5	65.6	
		pH	7.03	7.02	7.02	
		Turbidity (NTUs)	12.90	4.31	4.05	
		Dissolved O2 (mg/L)	8.75	6.17	5.63	
		Total Suspended Solids (mg/L)	15.0	13.0	6.0	
Reach 25 Los Angeles River - West Side	11/2/2011	TIME	0900A	0927A	0948A	Last Day of Monitoring
		SAMPLE NO.	LARW-1A	LARW-2A	LARW-3A	Last day of monitoring; channel maintenance clearing activities to be completed on Friday, 11/04.
		TEMPERATURE	57.8	58.4	60.1	
		pH	7.02	7.03	7.03	
		Turbidity (NTUs)	7.43	5.71	2.30	
		Dissolved O2 (mg/L)	8.43	7.16	6.17	
		Total Suspended Solids (mg/L)	33.0	15.0	8.0	
Reach 25 Los Angeles River - East Side	10/24/2011	TIME	1321P	1341P	1358P	First Day of Field Work
		SAMPLE NO.	LARE-1P	LARE-2P	LARE-3P	No pre-work monitoring due to one-day notification; First day of channel maintenance clearing activities involving both mechanical equipment and hand clearing; Heavy equipment due on-site on 11/02; Surface water not diverted during channel activities; Water flowed in established low flow channel; No BMPs utilized due to limited access and excessive width of L.A. River at d/s endpoint
		TEMPERATURE	69.6	69.3	68.4	
		pH	7.03	7.03	7.03	
		Turbidity (NTUs)	3.11	7.17	4.19	
		Dissolved O2 (mg/L)	9.38	8.20	7.43	
		Total Suspended Solids (mg/L)	8.0	17.0	ND	
Reach 25 Los Angeles River East Side	10/26/2011	TIME	1030A	1055A	1122A	During Work
		SAMPLE NO.	LARE-1A	LARE-2A	LARE-3A	No monitoring on 10/25 due to emergency involving monitoring personnel. All hand clearing work; End of daily monitoring, begin weekly monitoring.
		TEMPERATURE	65.9	64.2	63.0	
		pH	7.03	7.03	7.02	
		Turbidity (NTUs)	4.85	8.41	5.81	
		Dissolved O2 (mg/L)	9.78	8.80	5.96	
		Total Suspended Solids (mg/L)	9.0	20.0	6.0	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 25 Los Angeles River East Side	10/27/2011	TIME	0900A	0928A	1000A	During Work
		SAMPLE NO.	LARE-1A	LARE-2A	LARE-3A	All hand clearing work
		TEMPERATURE	56.7	57.4	59.4	
		pH	7.05	7.03	7.04	
		Turbidity (NTUs)	2.54	7.65	8.74	
		Dissolved O2 (mg/L)	7.78	6.85	6.03	
		Total Suspended Solids (mg/L)	9.0	13.0	12.0	
Reach 25 Los Angeles River East Side	10/28/2011	TIME	0855A	0290A	0950A	During Work
		SAMPLE NO.	LARE-1A	LARE-2A	LARE-3A	Heavy equipment on-site for vegetation removal and continued hand clearing work
		TEMPERATURE	54.3	55.3	57.2	
		pH	7.03	7.03	7.04	
		Turbidity (NTUs)	2.82	8.68	2.83	
		Dissolved O2 (mg/L)	7.64	6.62	5.68	
		Total Suspended Solids (mg/L)	17.0	19.0	8.0	
Reach 25 Los Angeles River East Side	10/29/2011	TIME	0845A	0912A	0936A	During Work
		SAMPLE NO.	LARE-1A	LARE-2A	LARE-3A	End of daily monitoring, begin weekly monitoring.
		TEMPERATURE	53.6	54.4	57.1	
		pH	7.04	7.04	7.04	
		Turbidity (NTUs)	8.06	5.42	4.06	
		Dissolved O2 (mg/L)	7.11	6.83	6.40	
		Total Suspended Solids (mg/L)	15.0	10.0	11.0	
Reach 25 Los Angeles River East Side	11/9/2011	TIME	1007A	1020A	1036A	Last Day of Field Work
		SAMPLE NO.	LARE-1A	LARE-2A	LARE-3A	Last day of monitoring and channel maintenance clearing activities
		TEMPERATURE	59.1	60.3	58.4	
		pH	7.02	7.01	6.99	
		Turbidity (NTUs)	6.29	5.97	5.38	
		Dissolved O2 (mg/L)	8.39	8.10	6.20	
		Total Suspended Solids (mg/L)	12.0	7.0	ND	
Reach 99 Kagel Canyon Channel	11/9/2011	TIME	1424P	1439P	1459P	First Day of Field Work
		SAMPLE NO.	KCYN1P	KCYN2P	KCYN3P	No pre-work monitoring due to one-day notification and expedited schedule due to forecast of rain; Hand clearing only; First day of channel clearing maintenance activities with crews working on channel margins outside the previously established low flow channel; Surface water not diverted during field operations; BMP consists of 2 sets of straw waddles anchored with sandbags d/s of SBC
		TEMPERATURE	61.3	59.0	60.3	
		pH	7.00	7.01	7.01	
		Turbidity (NTUs)	0.00	10.61	0.78	
		Dissolved O2 (mg/L)	6.79	6.50	7.11	
		Total Suspended Solids (mg/L)	ND	8.0	ND	

Reach No. and Name	DATE	Sampling Parameters	Sample Location			COMMENTS
			Upstream of Project (u/s)	Within Project	Downstream of Project (d/s)	
Reach 99 Kagel Canyon Channel	11/10/2011	TIME	1514P	1525P	1540P	Last Day of Field Work
		SAMPLE NO.	KCYN1P	KCYN2P	KCYN3P	Last day of monitoring and channel maintenance hand clearing activities.
		TEMPERATURE	61.9	59.1	57.7	
		pH	7.00	7.01	7.01	
		Turbidity (NTUs)	0.00	0.00	0.29	
		Dissolved O2 (mg/L)	6.11	6.01	6.40	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 100, Dry Canyon	10/31/2011	TIME	1125	1140	1155	Baseline Monitoring & First Day of Field Work
		SAMPLE NO.	DRYCYN-1A	DRYCYN-1A	DRYCYN-1A	Baseline monitoring conducted prior to any work in the channel and in its natural condition. First day of channel maintenance activities afterwards using hand clearing only. Surface water not diverted during field operations; BMP consists of straw waddles anchored with sandbags placed d/s of SBC in open-box concrete channel.
		TEMP (°F)	60.1	60.1	58.6	
		pH	7.02	7.02	7.01	
		Turbidity (NTUs)	2.97	1.98	1.80	
		Dissolved O2 (mg/L)	4.61	4.76	5.10	
		Total Suspended Solids (mg/L)	ND	ND	ND	
Reach 100, Dry Canyon	11/1/2011	TIME	1055	1107	1116	Last Day of Field Work
		SAMPLE NO.	DRYCYN-1A	DRYCYN-2A	DRYCYN-3A	Last day of monitoring and channel maintenance hand clearing activities
		TEMP (°F)	57.9	57.4	59.0	
		pH	7.02	7.02	7.03	
		Turbidity (NTUs)	2.09	4.47	5.39	
		Dissolved O2 (mg/L)	5.27	5.49	6.28	
		Total Suspended Solids (mg/L)	ND	8.0	4.0	