

**CSO INTERIM WATER QUALITY MONITORING**  
**2015 RED RIVER MONITORING REPORT**

Survey Date : June 7, 2015		Red River Sampling Locations																	
Parameter	Unit	SOUTH FLOODWAY CONTROL			FORT GARRY BRIDGE			NORWOOD BRIDGE			PROVENCHER BRIDGE			NORTH PERIMETER BRIDGE			LOCKPORT BRIDGE		
		(R5)			(R7)			(R8)			(RX2)			(R10)			(R11)		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	C	
Temperature	° C	18.1	18	17.9	18	17.9	17.9	17.9	17.9	17.8	17.8	17.9	18	18.4	18.1	18.5	18.7	18.1	
Dissolved Oxygen	mg/L	6.24	6.34	6.05	6.85	6.9	7.23	6.86	6.95	6.68	7.53	7.33	6.93	6.78	6.98	6.74	7.19	6.89	
Conductivity	mS/cm	850	854	851	900	899	897	944	946	945	1056	992	952	1000	1003	1007	1018	1014	
pH	units	8.34	8.4	8.45	8.21	8.18	8.06	8.11	8.04	8.08	8.25	8.2	8.05	8.2	8.14	8.18	8.16	8.26	
Biochemical Oxygen Demand	mg/L	2.2	2.1	2.8	2.2	< 2.0	< 2.0	2.2	2.6	3.7	2.6	2.1	2.1	2.9	4.3	3.3	3.4	2.6	
Carbonaceous BOD	mg/L																		
Total Suspended Solids	mg/L	462	554	538	332	376	392	264	432	400	192	314	400	190	326	260	352	256	
Ammonia Nitrogen	mg/L N	< 0.01	< 0.01	0.014	0.021	0.044	0.038	0.053	0.053	0.052	0.038	0.047	0.064	0.159	0.09	0.079	0.087	0.075	
Nitrate Nitrogen	mg/L N	0.662	0.669	0.663	0.621	0.628	0.618	0.664	0.662	0.656	0.326	0.5	0.645	0.515	0.523	0.542	0.533	0.508	
Nitrite Nitrogen	mg/L N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.012	0.01	0.01	< 0.01	< 0.01	< 0.01	0.017	0.015	0.014	0.018	0.015	
Nitrate-Nitrite Nitrogen	mg/L N	0.662	0.669	0.663	0.621	0.628	0.618	0.676	0.672	0.666	0.326	0.5	0.645	0.532	0.537	0.556	0.551	0.523	
Total Kjeldahl Nitrogen	mg/L N	1.69	1.06	1.33	1.28	1.22	1.39	1.4	1.21	1.39	1.52	1.52	1.27	1.25	1.07	1.34	1.21	1.62	
Total Nitrogen <sup>1</sup>	mg/L N	2.35	1.73	1.99	1.9	1.85	2.01	2.08	1.88	2.06	1.85	2.02	1.91	1.78	1.61	1.9	1.76	2.14	
Total Phosphorus	mg/L P	0.468	0.193	0.311	0.268	0.192	0.174	0.205	0.226	0.231	0.137	0.207	0.259	0.216	0.162	0.191	0.215	0.34	
Escherichia Coliform	MPN/100 mL	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	20000	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	< 10000	
Fecal Coliform	MPN/100 mL	*	< 10000	*	*	< 10000	*	*	< 10000	*	*	< 10000	*	*	< 10000	*	< 10000	*	
		9:15 AM	9:15 AM	9:15 AM	9:30 AM	9:35 AM	9:37 AM	10:05 AM	10:08 AM	10:11 AM	10:35 AM	10:45 AM	10:50 AM	1:00 PM	12:55 PM	12:50 PM	12:15 PM	12:05 PM	

Notes: 1) Calculated values  
2) \* - Fecal coliform testing performed only at Sample B locations to compare with historical data. Not a requirement of the Environment Act Licence No. 3042  
3) Analysed by contract laboratory

Client File No: 3205.00

**CSO INTERIM WATER QUALITY MONITORING**  
**2015 RED RIVER MONITORING REPORT**

Survey Date : June 8, 2015		Red River Sampling Locations																
Parameter	Unit	SOUTH FLOODWAY CONTROL			FORT GARRY BRIDGE			NORWOOD BRIDGE			PROVENCHER BRIDGE			NORTH PERIMETER BRIDGE			LOCKPORT BRIDGE	
		(R5)			(R7)			(R8)			(RX2)			(R10)			(R11)	
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	C
Temperature	° C	18.4	18.4	18.5	17.9	17.9	17.9	18.1	18.1	18.1	18.6	18.4	18.2	18.5	18.6	18.6	18.7	18.7
Dissolved Oxygen	mg/L	6.43	6.24	7.02	6.74	7.87	6.8	6.61	6.49	6.69	7.2	6.75	6.71	6.8	6.88	6.45	6.55	6.65
Conductivity	mS/cm	885	885	882	933	927	930	911	913	911	1023	979	936	961	963	963	942	941
pH	units	8.27	8.28	8.28	8.14	8.17	8.08	8.13	8.05	8.14	8.3	8.3	8.13	8.29	8.18	8.24	8.18	8.24
Biochemical Oxygen Demand	mg/L	2.5	2.6	2.8	< 2.0	2.7	2.5	3.7	4.3	2.9	< 2.0	2.4	2.4	< 2.0	2.3	2.3	2.3	2.1
Carbonaceous BOD	mg/L																	
Total Suspended Solids	mg/L	510	448	424	348	358	368	315	468	517	262	322	426	324	300	308	392	362
Ammonia Nitrogen	mg/L N	0.016	< 0.01	0.011	0.036	0.03	0.032	0.052	0.075	0.084	0.031	0.048	0.052	0.136	0.097	0.082	0.059	0.04
Nitrate Nitrogen	mg/L N	1.17	1.18	1.17	0.973	0.973	0.972	0.867	0.872	0.873	0.524	0.652	0.802	0.673	0.669	0.672	0.636	0.619
Nitrite Nitrogen	mg/L N	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.013	0.014	0.013	< 0.01	< 0.01	0.012	0.015	0.014	0.014	0.017	0.013
Nitrate-Nitrite Nitrogen	mg/L N	1.17	1.18	1.17	0.973	0.973	0.972	0.88	0.886	0.886	0.524	0.652	0.814	0.688	0.684	0.686	0.653	0.632
Total Kjeldahl Nitrogen	mg/L N	0.8	0.86	0.88	0.93	0.83	0.85	0.91	0.87	0.9	1.01	0.96	0.89	1.06	0.94	0.95	1	0.91
Total Nitrogen <sup>1</sup>	mg/L N	1.98	2.04	2.05	1.91	1.8	1.82	1.79	1.76	1.79	1.53	1.61	1.7	1.75	1.62	1.64	1.65	1.55
Total Phosphorus	mg/L P	0.146	0.156	0.151	0.149	0.144	0.14	0.149	0.14	0.145	0.131	0.141	0.142	0.158	0.144	0.141	0.149	0.142
Escherichia Coliform	MPN/100 mL	300	410	410	< 100	100	100	< 100	200	200	< 100	100	100	310	200	200	410	< 100
Fecal Coliform	MPN/100 mL	*	200	200	*	< 100	*	*	200	*	*	410	*	*	200	*	*	410
		12:45 PM	12:45 PM	12:45 PM	9:00 AM	9:00 AM	9:00 AM	9:45 AM	9:45 AM	9:45 AM	10:15 AM	10:15 AM	10:15 AM	12:30 PM	12:30 PM	12:30 PM	11:45 AM	11:30 AM

Notes: 1) Calculated values  
2) \* - Fecal coliform testing performed only at Sample B locations to compare with historical data. Not a requirement of the Environment Act Licence No. 3042  
3) Analysed by contract laboratory

Client File No: 3205.00

**CSO INTERIM WATER QUALITY MONITORING**  
**2015 RED RIVER MONITORING REPORT**

Survey Date : June 9, 2015		Red River Sampling Locations																	
Parameter	Unit	SOUTH FLOODWAY CONTROL			FORT GARRY BRIDGE			NORWOOD BRIDGE			PROVENCHER BRIDGE			NORTH PERIMETER BRIDGE			LOCKPORT BRIDGE		
		(R5)			(R7)			(R8)			(RX2)			(R10)			(R11)		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	C	
Temperature	° C	19.3	19.2	19.3	18.7	18.7	18.7	18.7	18.6	18.7	19.4	19.1	18.7	19.2	19.2	19.3	19.1	19	
Dissolved Oxygen	mg/L	6.78	6.67	6.64	6.65	6.17	6.91	6.63	6.57	6.64	7.26	7.04	7	7.03	6.77	7.03	6.7	5.57	
Conductivity	mS/cm	842	829	839	917	913	916	916	917	917	1035	996	920	965	965	964	966	965	
pH	units	8.25	8.25	8.26	8.1	8.17	8.1	8.17	8.1	8.15	8.32	8.31	8.09	8.25	8.19	8.24	8.21	8.27	
Biochemical Oxygen Demand	mg/L	2.8	2.6	2.8	< 2.0	3.1	2.5	3.6	3.7	3.2	2.7	2.1	< 2.0	2.6	2.6	2.8	6.6	6.2	
Carbonaceous BOD	mg/L																		
Total Suspended Solids	mg/L	412	396	374	392	340	452	388	452	476	260	310	514	350	398	356	390	360	
Ammonia Nitrogen	mg/L N	0.022	0.02	0.01	0.023	0.023	0.022	0.032	0.036	0.042	0.023	0.023	0.031	0.158	0.079	0.076	0.076	0.062	
Nitrate Nitrogen	mg/L N	1.32	1.33	1.33	1.32	1.33	1.33	1.34	1.35	1.33	0.692	0.892	1.34	1.03	1.03	1.03	0.982	0.939	
Nitrite Nitrogen	mg/L N	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.011	0.012	0.012	< 0.01	< 0.01	0.012	0.016	0.014	0.014	0.021	0.016	
Nitrate-Nitrite Nitrogen	mg/L N	1.32	1.33	1.34	1.32	1.33	1.33	1.35	1.36	1.35	0.692	0.892	1.35	1.05	1.04	1.04	1	0.955	
Total Kjeldahl Nitrogen	mg/L N	0.91	0.95	1.11	0.98	1.02	1.04	0.97	0.91	0.87	1.01	1.04	0.99	1.19	1.07	1.04	1.09	1.09	
Total Nitrogen <sup>1</sup>	mg/L N	2.23	2.28	2.45	2.3	2.35	2.37	2.31	2.27	2.21	1.7	1.93	2.33	2.24	2.11	2.08	2.09	2.05	
Total Phosphorus	mg/L P	0.16	0.159	0.159	0.156	0.157	0.161	0.16	0.16	0.154	0.133	0.149	0.155	0.155	0.145	0.146	0.163	0.152	
Escherichia Coliform	MPN/100 mL	110	52	63	62	73	75	202	145	197	63	109	228	216	327	336	279	169	
Fecal Coliform	MPN/100 mL	*	108	*	*	121	*	*	315	*	*	243	*	*	417	*	586	556	
		12:45 PM	12:45 PM	12:45 PM	9:15 AM	9:20 AM	9:25 AM	10:00 AM	10:05 AM	10:10 AM	10:25 AM	10:30 AM	10:40 AM	12:50 PM	12:40 PM	12:30 PM	12:00 PM	11:40 AM	

Notes: 1) Calculated values  
2) \* - Fecal coliform testing performed only at Sample B locations to compare with historical data. Not a requirement of the Environment Act Licence No. 3042  
3) Analysed by contract laboratory

Client File No: 3205.00