

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

River Park Study Area - Monitoring Location: RP1

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021
Sampling Time	-	09:22	09:15	09:55	09:50	09:35	09:30	08:55	09:50	08:45	09:00	09:25	09:00
Weather	-	Sunny	Rain	Sunny	Cloudy	Overcast	Sunny	Sunny	Sunny	Sunny	Sunny	Cloudy	Sunny
Sampling Depth	cm	33	56	56	47	45	42	54	42	39	43	49	52
Sample: RP1-A													
pH	-	8.28	7.09	8.24	8.16	7.32	7	7.36	6.34	7.18	6.87	6.72	6.65
Salinity	ppt	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Temperature	°C	25.5	26.1	23.2	23.4	16.2	13.9	16.7	20.3	21.9	26.9	25.7	27.7
Turbidity	NTU	1.88	1.5	1.57	1.08	3.09	0.22	0.89	0.77	1.88	0.3	0.7	0.44
DO mg/L	mg/L	8.47	7.9	8.9	8.1	9.73	10.32	9.53	8.8	8.04	7.26	8.14	7.76
DO %	%	103.4	97.2	104.2	95.1	99	100	98	97.4	91.8	91	99.9	98.5
Suspended Solids	mg/L	0.6	2.4	0.5	0.8	<0.5	<0.5	<0.5	0.5	<0.5	0.8	3.2	1.2
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.01	0.01
Total Kjeldahl Nitrogen as N	mg/L	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	0.11	0.1	<0.05
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	110	1000	26	24	28	2	4	61	72	36	29	17
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	7	<2	<2	<2	<2	<2	<2	<2	4	6	2
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sample: RP1-B													
pH	-	8.32	6.98	8.15	8.2	7.17	7.45	7.12	6.38	7.49	6.86	6.68	6.65
Salinity	ppt	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Temperature	°C	25.7	26.1	23.2	23.4	16.3	13.9	16.6	20.3	22	26.9	25.8	27.7
Turbidity	NTU	1.82	1.6	1.74	1.09	2.91	0.2	0.92	0.88	1.96	0.32	0.74	0.46
DO mg/L	mg/L	8.48	7.9	8.86	8.1	9.64	10.26	8.73	8.73	8.09	7.27	8.14	7.75
DO %	%	103.7	97.3	103.7	95.1	98.2	99.3	89.8	96.9	92.5	91	99.9	98.5
Suspended Solids	mg/L	0.8	2.2	<0.5	0.6	<0.5	<0.5	<0.5	1	<0.5	0.7	2.2	1.5
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	0.07	0.09	<0.05
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.02	0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	100	1400	38	26	35	3	5	7	76	50	28	14
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	5	<2	<2	<2	<2	<2	<2	<2	<2	6	2
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum								
pH	-	6.0 - 9.0	7.15	6.34	8.32								
Salinity	ppt	-	0.02	0.02	0.03								
Temperature	°C	-	23.3	13.9	27.7								
Turbidity	NTU	-	1.0	0.2	3.09								
DO mg/L	mg/L	min. 4	8.31	7.26	10.32								
DO %	%	-	98.1	89.8	104.2								
Suspended Solids	mg/L	max. 25	0.6	<0.5	3.2								
Ammonia as N	mg/L	-	0.01	<0.01	0.03								
Total Kjeldahl Nitrogen as N	mg/L	-	0.05	<0.05	0.12								
Total Phosphorus as P	mg/L	-	0.01	<0.01	0.02								
Escherichia coli	CFU/100mL	-	31.50	2	1400								
Biochemical Oxygen Demand	mg/L	max. 5	<1.0	<1.0	<1.0								
Chemical Oxygen Demand	mg/L	max. 30	2	<2	7								
Oil & Grease	mg/L	-	<2	<2	<2								

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

River Park Study Area - Monitoring Location: RP2

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021
Sampling Time	-	11:20	10:15	11:10	11:15	10:40	10:35	09:30	09:45	09:30	09:45	10:05	09:35
Weather	-	Cloudy	Rain	Overcast	Cloudy	Overcast	Sunny	Sunny	Sunny	Sunny	Sunny	Cloudy	Sunny
Sampling Depth	cm	38	42	46	32	35	23	32	32	32	26	36	31
Sample: RP2-A													
pH	-	7.96	6.7	7.52	8.29	7.19	7.04	7.25	6.33	6.9	6.59	6.28	6.08
Salinity	ppt	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.04	0.04
Temperature	°C	26.4	26.3	23.7	23.7	16.2	14.8	17.6	20.5	23.2	27.2	25.9	28.9
Turbidity	NTU	0.88	2.3	1.33	0.35	0.21	0.16	0.28	0.19	1.4	0.63	0.49	0.23
DO mg/L	mg/L	8.07	7.2	8.54	8.17	9.34	9.8	8.62	7.55	6.29	5.49	7.17	7.87
DO %	%	100.2	89.8	100.8	96.6	95	96.8	90.3	83.8	73.6	69.1	88.1	102.1
Suspended Solids	mg/L	1.1	2.6	<0.5	0.9	<0.5	<0.5	<0.5	1.2	1.3	0.6	1.4	1.9
Ammonia as N	mg/L	0.02	0.06	0.01	0.03	0.03	0.02	0.03	0.01	0.01	0.01	0.03	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.1	0.23	0.11	0.11	0.07	0.07	0.11	0.08	0.19	0.22	0.26	0.14
Total Phosphorus as P	mg/L	0.02	0.04	0.03	0.03	0.02	0.04	0.05	0.06	0.07	0.07	0.02	0.04
Escherichia coli	CFU/100mL	270	1500	480	610	50	25	25	110	48	92	94	66
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1	<1.0	<1.0	1	<1.0	<1.0
Chemical Oxygen Demand	mg/L	3	8	2	3	<2	<2	2	2	3	4	8	5
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sample: RP2-B													
pH	-	7.93	6.67	7.52	8.2	7.06	6.97	6.93	6.35	6.81	6.59	6.23	6.08
Salinity	ppt	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.04	0.04
Temperature	°C	26.4	26.3	23.7	23.7	16.2	14.9	17.4	20.4	23.2	27.2	25.9	28.9
Turbidity	NTU	0.54	2.2	1.13	0.33	0.19	0.14	0.29	0.2	1.3	0.68	0.44	0.21
DO mg/L	mg/L	8.12	7.3	8.56	8.18	9.38	9.77	8.44	7.47	6.23	5.47	7.16	7.87
DO %	%	100.8	89.9	101.1	96.8	95.5	96.7	88.2	82.8	73	69.1	88.1	102.1
Suspended Solids	mg/L	1.1	2.8	0.6	0.7	<0.5	<0.5	0.9	1.5	1.9	0.6	1.2	1.5
Ammonia as N	mg/L	0.02	0.06	0.02	0.02	0.02	0.01	0.01	0.03	0.02	0.01	0.03	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.1	0.25	0.1	0.11	0.07	0.08	0.13	0.09	0.18	0.22	0.14	0.17
Total Phosphorus as P	mg/L	0.02	0.04	0.03	0.03	0.02	0.04	0.05	0.06	0.07	0.07	0.02	0.04
Escherichia coli	CFU/100mL	350	2100	120	270	45	32	30	78	56	46	86	65
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1	<1.0	<1.0
Chemical Oxygen Demand	mg/L	3	8	3	3	2	<2	<2	2	4	4	10	5
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum								
pH	-	6.0 - 9.0	6.92	6.08	8.29								
Salinity	ppt	-	0.04	0.03	0.05								
Temperature	°C	-	23.7	14.8	28.9								
Turbidity	NTU	-	0.40	0.14	2.3								
DO mg/L	mg/L	min. 4	7.97	5.47	9.80								
DO %	%	-	92.65	69.1	102.1								
Suspended Solids	mg/L	max. 25	1	<0.5	2.8								
Ammonia as N	mg/L	-	0.02	<0.01	0.06								
Total Kjeldahl Nitrogen as N	mg/L	-	0.11	0.07	0.26								
Total Phosphorus as P	mg/L	-	0.04	0.02	0.07								
Escherichia coli	CFU/100mL	-	111.25	25	2100								
Biochemical Oxygen Demand	mg/L	max. 5	1.0	<1.0	1.4								
Chemical Oxygen Demand	mg/L	max. 30	3	<2	10								
Oil & Grease	mg/L	-	<2	<2	<2								

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

River Park Study Area - Monitoring Location: RP3

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021
Sampling Time	-	11:51	10:45	11:30	11:45	11:05	11:00	10:10	11:00	09:55	11:10	10:30	10:05
Weather	-	Sunny	Rain	Overcast	Cloudy	Overcast	Sunny	Sunny	Sunny	Sunny	Sunny	Cloudy	Sunny
Sampling Depth	cm	8	10	5	4	5	4	3	3	3	3	8	4
Sample: RP3-A													
pH		8.11	6.93	7.62	8.1	7.17	7	7.24	8.62	7.37	7.55	6.88	6.31
Salinity	ppt	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.06	0.05	0.04
Temperature	°C	26.8	26.4	24.7	24.2	16.5	16.2	18.1	23.7	25.1	30.2	26.3	29.6
Turbidity	NTU	0.56	4.1	0.12	0.55	3.21	0.08	0.39	1.7	0.75	1.28	0.64	0.48
DO mg/L	mg/L	8.19	7.9	8.56	8.53	9.98	10.29	10.05	10.48	9.13	8.38	8.08	8.21
DO %	%	103	97.8	102.3	101.6	102.3	104.7	106.5	123.7	110.7	111.3	100.2	107.8
Suspended Solids	mg/L	1.2	6.9	0.6	<0.5	<0.5	<0.5	0.6	1.3	2.5	4	1.3	2.4
Ammonia as N	mg/L	<0.01	0.03	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.09	0.23	0.08	0.11	0.07	0.08	0.27	0.08	0.22	0.29	0.15	0.13
Total Phosphorus as P	mg/L	0.02	0.04	0.02	0.03	0.02	0.04	0.05	0.05	0.06	0.06	0.02	0.03
Escherichia coli	CFU/100mL	430	2400	180	150	44	27	12	53	110	59	96	46
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0
Chemical Oxygen Demand	mg/L	4	10	4	4	3	3	4	3	5	6	7	4
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sample: RP3-B													
pH		8	6.88	7.62	8.1	7.13	6.97	7.09	8.68	7.53	7.52	6.85	6.31
Salinity	ppt	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.06	0.05	0.04
Temperature	°C	27.1	26.4	24.3	24.2	16.6	16.2	18.2	24.2	25.1	30.2	26.3	29.6
Turbidity	NTU	0.52	5.5	0.14	0.6	3.09	0.09	0.34	1.66	0.68	1.24	0.7	0.47
DO mg/L	mg/L	8.19	7.8	8.61	8.53	10.05	10.21	10.06	10.29	9.13	8.38	8.08	8.21
DO %	%	103	96.9	103	101.6	103.1	103.9	106.8	122.8	110.8	111.2	100.1	107.9
Suspended Solids	mg/L	1.1	7.2	0.6	<0.5	<0.5	<0.5	1.1	1.2	1.4	4.2	1.8	2.1
Ammonia as N	mg/L	<0.01	0.06	<0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.04	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.09	0.29	0.09	0.09	0.06	0.08	0.16	0.12	0.21	0.36	0.18	0.13
Total Phosphorus as P	mg/L	0.02	0.04	0.02	0.03	0.02	0.04	0.05	0.05	0.05	0.07	0.02	0.03
Escherichia coli	CFU/100mL	330	1700	160	89	36	19	10	190	100	45	89	32
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.5	<1.0	<1.0
Chemical Oxygen Demand	mg/L	4	11	2	3	3	2	3	2	5	8	8	3
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum								
pH	-	6.0 - 9.0	7.31	6.31	8.68								
Salinity	ppt	-	0.04	0.03	0.06								
Temperature	°C	-	24.9	16.2	30.2								
Turbidity	NTU	-	0.62	0.08	5.5								
DO mg/L	mg/L	min. 4	8.55	7.80	10.48								
DO %	%	-	103.5	96.9	123.7								
Suspended Solids	mg/L	max. 25	1.2	<0.5	7.2								
Ammonia as N	mg/L	-	0.01	<0.01	0.06								
Total Kjeldahl Nitrogen as N	mg/L	-	0.125	0.06	0.36								
Total Phosphorus as P	mg/L	-	0.035	0.02	0.07								
Escherichia coli	CFU/100mL	-	90.02	10	2400								
Biochemical Oxygen Demand	mg/L	max. 5	1.0	<1.0	1.5								
Chemical Oxygen Demand	mg/L	max. 30	4	2	11								
Oil & Grease	mg/L	-	<2	<2	<2								

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

River Park Study Area - Monitoring Location: RP4

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021
Sampling Time	-	12:47	11:30	12:30	12:40	11:45	11:55	10:40	10:30	10:20	10:45	10:55	10:35
Weather	-	Cloudy	Rain	Cloudy	Cloudy	Overcast	Sunny	Sunny	Sunny	Sunny	Sunny	Cloudy	Sunny
Sampling Depth	cm	44	76	46	56	56	47	45	49	47	50	64	64
Sample: RP4-A													
pH		8.72	7.1	8.1	8.02	7.32	8.37	8.73	8.68	8.76	9.42	7.43	8.73
Salinity	ppt	0.05	0.03	0.08	0.15	0.24	0.37	0.05	0.04	0.05	0.06	0.47	0.05
Temperature	°C	29.2	26.8	26.5	25.5	17.5	20.7	20.3	24.2	28.3	32.3	27.8	34.9
Turbidity	NTU	1.43	29.1	2.1	0.59	0.89	0.7	1.45	1.66	5.25	0.97	0.6	11.84
DO mg/L	mg/L	8.35	7.8	8.61	8.69	10.4	10.85	11.51	10.29	11.07	11.58	9.27	10.73
DO %	%	108.9	97.9	107	106.2	108.9	121.1	127.5	122.7	143.7	159.5	118.4	154.2
Suspended Solids	mg/L	1.2	49.1	2.2	1.7	1.7	1.9	1.1	2	9.2	6.1	1.1	6.2
Ammonia as N	mg/L	0.04	0.08	0.04	0.02	0.06	0.05	0.06	0.22	0.04	0.04	0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.16	0.54	0.16	0.14	0.19	0.24	0.33	0.38	0.52	0.62	0.2	0.27
Total Phosphorus as P	mg/L	0.02	0.14	0.03	0.03	0.04	0.06	0.06	0.08	0.1	0.09	0.03	0.03
Escherichia coli	CFU/100mL	700	9400	960	380	310	260	390	240	520	210	94	74
Biochemical Oxygen Demand	mg/L	<1.0	1	1.4	<1.0	<1.0	2	1.5	1.4	2.1	2.4	<1.0	1.3
Chemical Oxygen Demand	mg/L	5	21	5	5	4	5	6	4	7	12	9	8
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sample: RP4-B													
pH		8.58	7.05	8.08	8.01	7.32	8.29	8.84	8.62	8.76	9.42	7.46	8.76
Salinity	ppt	0.05	0.03	0.07	0.13	0.28	0.34	0.05	0.04	0.05	0.06	0.51	0.05
Temperature	°C	28.8	26.7	26.6	25.5	17.5	20.7	20.1	23.7	28.4	32.3	27.8	34.8
Turbidity	NTU	1.15	48.7	1.92	0.53	0.77	0.67	1.3	1.7	5.84	0.96	0.61	10.22
DO mg/L	mg/L	8.51	7.8	8.69	8.74	10.4	10.64	11.49	10.48	10.83	11.69	9.33	11.55
DO %	%	110.4	97.1	108.2	106.7	108.9	118.8	126.9	123.7	139.2	162.9	118.7	165.6
Suspended Solids	mg/L	1.4	48.7	2.4	1.3	2	2.5	1.2	3.1	20	6.7	1.4	6.9
Ammonia as N	mg/L	0.01	0.1	0.04	0.02	0.06	0.04	0.02	0.19	0.03	0.04	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.11	0.55	0.13	0.12	0.18	0.25	0.24	0.38	0.75	0.68	0.2	0.42
Total Phosphorus as P	mg/L	0.02	0.14	0.03	0.03	0.04	0.06	0.05	0.09	0.13	0.1	0.03	0.04
Escherichia coli	CFU/100mL	520	9000	1100	240	280	220	530	270	360	160	92	63
Biochemical Oxygen Demand	mg/L	<1.0	1.3	1.3	<1.0	<1.0	2.1	1.7	1.3	2.4	2.3	<1.0	1.4
Chemical Oxygen Demand	mg/L	4	24	4	4	4	6	4	5	9	13	10	10
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum								
pH	-	6.0 - 9.0	8.48	7.05	9.42								
Salinity	ppt	-	0.06	0.03	0.51								
Temperature	°C	-	26.65	17.5	34.9								
Turbidity	NTU	-	1.37	0.53	48.7								
DO mg/L	mg/L	min. 4	10.40	7.80	11.69								
DO %	%	-	118.75	97.1	165.6								
Suspended Solids	mg/L	max. 25	2.1	1.1	49.1								
Ammonia as N	mg/L	-	0.04	<0.01	0.22								
Total Kjeldahl Nitrogen as N	mg/L	-	0.245	0.11	0.75								
Total Phosphorus as P	mg/L	-	0.045	0.02	0.14								
Escherichia coli	CFU/100mL	-	372.22	63	9400								
Biochemical Oxygen Demand	mg/L	max. 5	1.3	<1.0	2.4								
Chemical Oxygen Demand	mg/L	max. 30	5.5	4	24								
Oil & Grease	mg/L	-	<2	<2	<2								

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

Other Public Works Study Area - Monitoring Location: PW1

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021
Sampling Time	-	10:17	09:45	10:30	10:35	10:05	10:05
Weather	-	Fine	Rain	Sunny	Cloudy	Overcast	Sunny
Sampling Depth	cm	38	38	46	42	34	40
Sample: PW1-A							
pH		7.8	6.74	7.87	8.1	7.09	7.26
Salinity	ppt	0.02	0.02	0.02	0.02	0.02	0.03
Temperature	°C	26	26.2	23.4	23	16.2	14.1
Turbidity	NTU	3.5	4.36	0.48	0.31	0.61	1.1
DO mg/L	mg/L	8.24	7.52	8.62	8.65	9.27	9.15
DO %	%	101.5	93.1	101.3	100.8	94.2	88.9
Suspended Solids	mg/L	1.6	4.4	2.2	3.9	2.1	2.5
Ammonia as N	mg/L	0.03	0.1	0.12	0.1	0.15	0.2
Total Kjeldahl Nitrogen as N	mg/L	0.1	0.31	0.16	0.21	0.24	0.47
Total Phosphorus as P	mg/L	0.02	0.05	0.04	0.04	0.04	0.07
Escherichia coli	CFU/100mL	630	1400	360	1500	880	2400
Biochemical Oxygen Demand	mg/L	1.1	<1.0	1.2	<1.0	<1.0	3.1
Chemical Oxygen Demand	mg/L	4	8	3	4	3	4
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PW1-B							
pH		7.79	6.71	7.79	8.15	7.01	7.15
Salinity	ppt	0.02	0.02	0.02	0.02	0.02	0.03
Temperature	°C	26	26.2	23.4	23.1	16.2	14.1
Turbidity	NTU	1.22	2.92	0.47	0.36	0.71	0.98
DO mg/L	mg/L	8.21	7.53	8.62	8.65	9.28	9.2
DO %	%	101.2	93.1	106.4	100.8	94.4	89.4
Suspended Solids	mg/L	1.3	4.3	2.4	3.2	1.4	1.6
Ammonia as N	mg/L	0.05	0.12	0.12	0.09	0.13	0.2
Total Kjeldahl Nitrogen as N	mg/L	0.12	0.33	0.14	0.22	0.2	0.4
Total Phosphorus as P	mg/L	0.02	0.05	0.03	0.04	0.03	0.06
Escherichia coli	CFU/100mL	550	2400	980	900	670	2000
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1.1	<1.0	<1.0	2.8
Chemical Oxygen Demand	mg/L	3	8	2	4	3	3
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum		
pH	-	6.0 - 9.0	7.53	6.71	8.15		
Salinity	ppt	-	0.02	0.02	0.03		
Temperature	°C	-	23.25	14.1	26.2		
Turbidity	NTU	-	0.85	0.31	4.36		
DO mg/L	mg/L	min. 4	8.64	7.52	9.28		
DO %	%	-	97.6	88.9	106.4		
Suspended Solids	mg/L	max. 25	2.3	1.3	4.4		
Ammonia as N	mg/L	-	0.12	0.03	0.2		
Total Kjeldahl Nitrogen as N	mg/L	-	0.215	0.1	0.47		
Total Phosphorus as P	mg/L	-	0.04	0.02	0.07		
Escherichia coli	CFU/100mL	-	1038.27	360	2400		
Biochemical Oxygen Demand	mg/L	max. 5	1.0	<1.0	3.1		
Chemical Oxygen Demand	mg/L	max. 30	3.5	2	8		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

Other Public Works Study Area - Monitoring Location: PW2

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021
Sampling Time	-	12:27	11:00	12:05	12:10	11:25	11:30
Weather	-	Fine	Rain	Overcast	Cloudy	Overcast	Sunny
Sampling Depth	cm	10	15	5	3	6	3
Sample: PW2-A							
pH		8.51	6.93	7.92	8.2	7.79	8.08
Salinity	ppt	0.03	0.04	0.03	0.03	0.03	0.03
Temperature	°C	27.6	26.8	25	24.7	17.1	19.4
Turbidity	NTU	0.77	34.27	0.45	0.43	0.29	0.4
DO mg/L	mg/L	8.54	7.45	8.83	9.01	10.8	10.66
DO %	%	108.4	93.2	106.4	108.4	111.9	115.9
Suspended Solids	mg/L	2.1	16.4	0.7	0.9	1.6	<0.5
Ammonia as N	mg/L	<0.01	0.06	<0.01	<0.01	0.18	0.02
Total Kjeldahl Nitrogen as N	mg/L	0.1	0.3	0.08	0.14	0.28	0.15
Total Phosphorus as P	mg/L	0.02	0.07	0.02	0.03	0.05	0.04
Escherichia coli	CFU/100mL	760	4500	420	260	740	170
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	4	16	2	5	4	<2
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PW2-B							
pH		8.46	6.91	7.93	8.21	7.88	8
Salinity	ppt	0.03	0.03	0.03	0.03	0.03	0.03
Temperature	°C	27.6	26.6	25.1	24.7	17.1	19.3
Turbidity	NTU	0.67	18.58	0.48	0.44	0.35	0.42
DO mg/L	mg/L	8.62	7.53	8.85	9	10.96	10.66
DO %	%	109.4	95.7	107.4	108.3	113.8	115.9
Suspended Solids	mg/L	2.2	15.9	0.8	0.6	1.3	<0.5
Ammonia as N	mg/L	<0.01	0.05	<0.01	<0.01	0.11	0.04
Total Kjeldahl Nitrogen as N	mg/L	0.15	0.3	0.1	0.13	0.22	0.2
Total Phosphorus as P	mg/L	0.02	0.06	0.03	0.03	0.04	0.04
Escherichia coli	CFU/100mL	460	3300	280	180	710	160
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	1.8	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	5	12	3	4	4	<2
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum		
pH	-	6.0 - 9.0	7.97	6.91	8.51		
Salinity	ppt	-	0.03	0.03	0.04		
Temperature	°C	-	24.85	17.1	27.6		
Turbidity	NTU	-	0.45	0.29	34.27		
DO mg/L	mg/L	min. 4	8.93	7.45	10.96		
DO %	%	-	108.4	93.2	115.9		
Suspended Solids	mg/L	max. 25	1.1	<0.5	16.4		
Ammonia as N	mg/L	-	0.015	<0.01	0.18		
Total Kjeldahl Nitrogen as N	mg/L	-	0.15	0.08	0.3		
Total Phosphorus as P	mg/L	-	0.035	0.02	0.07		
Escherichia coli	CFU/100mL	-	521.90	160	4500		
Biochemical Oxygen Demand	mg/L	max. 5	1.0	<1.0	1.8		
Chemical Oxygen Demand	mg/L	max. 30	4	<2	16		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.1_Cumulative Data of Water Quality Monitoring (Eastern Tributary)

Other Public Works Study Area - Monitoring Location: PW3

Parameter	Unit	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021
Sampling Time	-	14:15	12:30	08:45	09:05	08:45	08:55
Weather	-	Light Rain	Cloudy	Sunny	Cloudy	Overcast	Sunny
Sampling Depth	cm	89	110	63	58	55	56
Sample: PW3-A							
pH		8.63	7.1	6.49	8.17	6.6	6.88
Salinity	ppt	8.77	0.34	5.09	23.92	10.08	11.11
Temperature	°C	28.1	26.4	24.1	24.6	16.4	15.4
Turbidity	NTU	1.81	175.15	1.35	6.88	0.77	0.75
DO mg/L	mg/L	6.93	7.36	7.46	7.69	7.3	8.12
DO %	%	93.1	91.6	91.5	104	79.1	87
Suspended Solids	mg/L	3.8	85.4	2.2	3.5	0.7	2.4
Ammonia as N	mg/L	0.04	0.09	0.01	0.03	0.03	0.01
Total Kjeldahl Nitrogen as N	mg/L	0.22	0.88	0.13	0.16	0.12	0.12
Total Phosphorus as P	mg/L	0.02	0.22	0.02	0.02	0.01	<0.01
Escherichia coli	CFU/100mL	380	230000	92	140	17	30
Biochemical Oxygen Demand	mg/L	<1.0	1.5	1.9	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	79	37	43	54	28	71
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PW3-B							
pH		8.67	6.94	6.49	8.1	6.53	6.63
Salinity	ppt	8.77	0.3	6.15	25.67	8.14	10.46
Temperature	°C	28.1	26.4	24	25	16.7	15.9
Turbidity	NTU	3.15	139.47	1.16	7.06	0.65	0.79
DO mg/L	mg/L	7.03	7.46	7.3	8.19	7.08	8.02
DO %	%	94.4	92.7	89.8	114.6	76.7	86.2
Suspended Solids	mg/L	4.2	103	2.6	4.4	0.9	1.6
Ammonia as N	mg/L	0.04	0.08	0.01	0.03	0.04	0.02
Total Kjeldahl Nitrogen as N	mg/L	0.22	0.92	0.11	0.13	0.14	0.14
Total Phosphorus as P	mg/L	0.02	0.22	0.02	0.02	0.01	<0.01
Escherichia coli	CFU/100mL	510	190000	68	76	21	34
Biochemical Oxygen Demand	mg/L	<1.0	1.7	1	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	79	39	55	50	38	69
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum		
pH	-	6.0 - 9.0	6.91	6.49	8.67		
Salinity	ppt	-	8.77	0.3	25.67		
Temperature	°C	-	24.35	15.4	28.1		
Turbidity	NTU	-	1.58	0.65	175.15		
DO mg/L	mg/L	min. 4	7.41	6.93	8.19		
DO %	%	-	91.55	76.7	114.6		
Suspended Solids	mg/L	max. 25	3.05	0.7	103		
Ammonia as N	mg/L	-	0.03	0.01	0.09		
Total Kjeldahl Nitrogen as N	mg/L	-	0.14	0.11	0.92		
Total Phosphorus as P	mg/L	-	0.02	<0.01	0.22		
Escherichia coli	CFU/100mL	-	277.14	17	230000		
Biochemical Oxygen Demand	mg/L	max. 5	1.0	<1.0	1.9		
Chemical Oxygen Demand	mg/L	max. 30	52	28	79		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

^Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.2_Cumulative Data of Water Quality Monitoring (Western Tributary)

Other Public Works Study Area - Monitoring Location: PW4

Parameter	Unit	May 2023	Jul 2023	Sep 2023	Nov 2023	Jan 2024	Mar 2024
Sampling Time	-	10:30	10:20	09:10	13:30	14:25	09:20
Weather	-	Sunny	Sunny	Sunny	Overcast	Sunny	Sunny
Sampling Depth	cm	20	20	25	50	40	40
Sample: PW4-A							
pH		8.21	7.32	7.34	6.87	6.6	7.13
Salinity	ppt	0.02	0.01	0.01	0.01	0.02	0.02
Temperature	°C	24.53	27.2	24.96	21.9	19.97	17.01
Turbidity	NTU	1.19	1.15	1.32	3.15	3.33	3.02
DO mg/L	mg/L	9.37	8.77	8.59	8.45	8.47	8.8
DO %	%	112.5	110.5	103.9	96.4	93.1	91.0
Suspended Solids	mg/L	1.9	2.2	0.7	<0.5	0.6	<0.5
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.09	0.07	<0.05	0.06	<0.05	0.07
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	73	49	30	11	2	12
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	3	3	3	3	4
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PW4-B							
pH		8.17	7.23	7.24	6.86	6.54	7.13
Salinity	ppt	0.02	0.01	0.01	0.01	0.02	0.02
Temperature	°C	24.53	27.19	24.96	21.92	20.04	16.97
Turbidity	NTU	1.23	1.09	1.33	2.68	3.7	3.09
DO mg/L	mg/L	9.26	8.56	8.1	7.54	7.97	9.24
DO %	%	111.1	107.8	98	86.1	87.7	95.6
Suspended Solids	mg/L	1.7	2.5	0.6	<0.5	0.6	<0.5
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.10	0.06	<0.05	<0.05	<0.05	0.05
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	82	54	34	13	7	15
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	4	4	4	2	5
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median[^]	Minimum	Maximum		
pH	-	6.0 - 9.0	7.18	6.54	8.21		
Salinity	ppt	-	0.02	0.01	0.02		
Temperature	°C	-	23.23	16.97	27.2		
Turbidity	NTU	-	2.01	1.09	3.70		
DO mg/L	mg/L	min. 4	8.58	7.54	9.37		
DO %	%	-	97.2	86.1	112.5		
Suspended Solids	mg/L	max. 25	1.2	0.6	2.5		
Ammonia as N	mg/L	-	0.02	0.02	0.02		
Total Kjeldahl Nitrogen as N	mg/L	-	0.06	<0.05	0.10		
Total Phosphorus as P	mg/L	-	<0.01	<0.01	<0.01		
Escherichia coli	CFU/100mL	-	20.59	2	82		
Biochemical Oxygen Demand	mg/L	max. 5	<1.0	<1.0	<1.0		
Chemical Oxygen Demand	mg/L	max. 30	3	<2	5		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

[^]Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.2_Cumulative Data of Water Quality Monitoring (Western Tributary)

Other Public Works Study Area - Monitoring Location: PWS

Parameter	Unit	May 2023	Jul 2023	Sep 2023	Nov 2023	Jan 2024	Mar 2024
Sampling Time	-	12:05	11:35	11:45	11:00	11:00	11:35
Weather	-	Sunny	Sunny	Sunny	Overcast	Sunny	Sunny
Sampling Depth	cm	10	10	20	35	35	30
Sample: PWS-A							
pH		6.48	7.16	6.93	6.78	6.8	6.96
Salinity	ppt	0.02	0.02	0.01	0.01	0.02	0.02
Temperature	°C	25.16	27.77	26.29	21.72	18.46	18.36
Turbidity	NTU	1.4	1.23	1.96	1.44	2.38	2.1
DO mg/L	mg/L	8.13	7.46	8.1	8.19	9.22	9.64
DO %	%	98.7	94.9	100.3	93.2	98.3	102.6
Suspended Solids	mg/L	0.6	0.6	0.6	1.3	<0.5	2.4
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.08	0.08	0.05	0.07	<0.05	0.06
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	91	29	46	10	16	15
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	4	3	4	<2	4
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PWS-B							
pH		6.49	7.09	6.62	6.76	6.74	6.89
Salinity	ppt	0.02	0.02	0.01	0.01	0.02	0.02
Temperature	°C	25.19	27.77	26.26	21.73	18.46	18.38
Turbidity	NTU	1.44	1.11	1.94	1.45	2.84	2.24
DO mg/L	mg/L	7.83	7.33	7.66	8.39	9.18	9
DO %	%	95.2	93.3	94.9	95.5	97.8	95.8
Suspended Solids	mg/L	0.6	0.6	0.7	<0.5	<0.5	<0.5
Ammonia as N	mg/L	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.08	0.09	<0.05	<0.05	<0.05	0.07
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	89	33	51	9	16	17
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	2	4	3	3	<2	6
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median[^]	Minimum	Maximum		
pH	-	6.0 - 9.0	6.79	6.48	7.16		
Salinity	ppt	-	0.02	0.01	0.02		
Temperature	°C	-	23.45	18.36	27.77		
Turbidity	NTU	-	1.70	1.11	2.84		
DO mg/L	mg/L	min. 4	8.16	7.33	9.64		
DO %	%	-	95.65	93.2	102.6		
Suspended Solids	mg/L	max. 25	0.6	<0.5	2.4		
Ammonia as N	mg/L	-	0.01	<0.01	0.01		
Total Kjeldahl Nitrogen as N	mg/L	-	0.07	<0.05	0.09		
Total Phosphorus as P	mg/L	-	<0.01	<0.01	<0.01		
Escherichia coli	CFU/100mL	-	26.25	9	91		
Biochemical Oxygen Demand	mg/L	max. 5	<1.0	<1.0	<1.0		
Chemical Oxygen Demand	mg/L	max. 30	3	2	6		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

[^]Summary data presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.

Appendix D8.2_Cumulative Data of Water Quality Monitoring (Western Tributary)

Other Public Works Study Area - Monitoring Location: PW6

Parameter	Unit	May 2023	Jul 2023	Sep 2023	Nov 2023	Jan 2024	Mar 2024
Sampling Time	-	14:45	15:10	13:50	10:15	10:20	14:10
Weather	-	Sunny	Sunny	Overcast	Overcast	Sunny	Sunny
Sampling Depth	cm	30	20	20	35	45	50
Sample: PW6-A							
pH		8.24	8.34	6.51	6.92	7.48	6.39
Salinity	ppt	0.03	0.03	0.02	0.03	0.03	0.04
Temperature	°C	26.01	28.82	26.93	22.05	19.00	20.52
Turbidity	NTU	1.42	1.25	2.08	3.34	1.02	1.42
DO mg/L	mg/L	9.66	7.45	7.75	9.31	7.57	6.09
DO %	%	119.1	96.5	97.2	106.6	81.6	67.7
Suspended Solids	mg/L	0.8	0.9	0.8	0.6	0.7	0.6
Ammonia as N	mg/L	<0.01	<0.01	<0.01	0.02	0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.10	0.08	<0.05	0.06	<0.05	0.06
Total Phosphorus as P	mg/L	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	82	47	300	320	9	10
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	5	5	3	<2	3
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Sample: PW6-B							
pH		7.8	8.2	6.33	6.99	7.08	6.26
Salinity	ppt	0.03	0.03	0.02	0.03	0.03	0.04
Temperature	°C	25.9	28.78	26.8	22.05	18.99	20.34
Turbidity	NTU	1.16	1.38	2.18	3.09	1.07	1.45
DO mg/L	mg/L	8.83	7.24	7.18	9.36	7.64	7.03
DO %	%	108.7	93.8	89.8	107.2	82.3	77.9
Suspended Solids	mg/L	0.8	0.9	0.9	0.7	0.9	0.7
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	0.11	0.07	<0.05	0.06	<0.05	<0.05
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Escherichia coli	CFU/100mL	73	50	280	540	11	19
Biochemical Oxygen Demand	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chemical Oxygen Demand	mg/L	<2	5	5	4	<2	4
Oil & Grease	mg/L	<2	<2	<2	<2	<2	<2
Summary		WQO*	Median^	Minimum	Maximum		
pH	-	6.0 - 9.0	7.04	6.26	8.34		
Salinity	ppt	-	0.03	0.02	0.04		
Temperature	°C	-	23.98	18.99	28.82		
Turbidity	NTU	-	1.42	1.02	3.34		
DO mg/L	mg/L	min. 4	7.61	6.09	9.66		
DO %	%	-	95.15	67.7	119.1		
Suspended Solids	mg/L	max. 25	0.8	0.6	0.9		
Ammonia as N	mg/L	-	0.01	<0.01	0.02		
Total Kjeldahl Nitrogen as N	mg/L	-	0.06	<0.05	0.11		
Total Phosphorus as P	mg/L	-	0.01	<0.01	0.01		
Escherichia coli	CFU/100mL	-	62.91	9	540		
Biochemical Oxygen Demand	mg/L	max. 5	<1.0	<1.0	<1.0		
Chemical Oxygen Demand	mg/L	max. 30	3.5	2	5		
Oil & Grease	mg/L	-	<2	<2	<2		

Notes:

^Summary data of the presented are in annual medians of monthly samples; except those for E. coli which are in annual geometric means (following EPD's Annual River Water Quality Report).

*The WQO compliance for suspended solids is based on annual median value, while WQO compliance for other parameters is based on individual measurements.