

**City of Winnipeg
Water and Waste Department**

2017 RIVERS SURVEY MONITORING REPORT

| Survey Date ¹ : September 7, 2017 | | Assiniboine River Sampling Locations | | | | Red River Sampling Locations | | | | | | |
|--|------------|--------------------------------------|----------------------------|-----------------------------------|-------------------------|--|-----------------------------|------------------------|---------------------|---------------------|------------------------------|-----------------------|
| Parameter | Unit | HEADINGLY BRIDGE (R1) | WEST PERIMETER BRIDGE (R2) | ASSINIBOINE PARK FOOT BRIDGE (R3) | MAIN STREET BRIDGE (R4) | SOUTH FLOODWAY CONTROL ³ (R5) | SOUTH PERIMETER BRIDGE (R6) | FORT GARRY BRIDGE (R7) | NORWOOD BRIDGE (R8) | REDWOOD BRIDGE (R9) | NORTH PERIMETER BRIDGE (R10) | LOCKPORT BRIDGE (R11) |
| Temperature | ° C | 14.2 | 17.0 | 16.8 | 17.5 | 18.7 | 19.1 | 19.5 | 18.0 | 17.8 | 17.7 | 18.0 |
| Dissolved Oxygen | mg/L | 10.7 | 10.3 | 9.3 | 9.2 | 9.0 | 9.1 | 8.9 | 8.6 | 8.4 | 8.0 | 8.9 |
| Oxygen Saturation | % | 111 | 106 | 96 | 96 | 97 | 98 | 97 | 90 | 88 | 84 | 93 |
| Biochemical Oxygen Demand | mg/L | nr ⁴ | nr ⁴ | nr ⁴ | nr ⁴ | nr ⁴ | <3 | nr ⁴ | nr ⁴ | nr ⁴ | nr ⁴ | nr ⁴ |
| pH | units | 8.34 | 8.32 | 8.27 | 8.32 | 8.22 | 8.21 | 8.10 | 8.11 | 8.16 | 7.99 | 8.01 |
| Total Solids | mg/L | 762 | 768 | 758 | 766 | 664 | 678 | 784 | 728 | 750 | 766 | 802 |
| Total Suspended Solids | mg/L | 55 | 60 | 54 | 45 | 29 | 28 | 34 | 34 | 43 | 33 | 29 |
| Turbidity | n.t.u. | 37 | 39 | 36 | 33 | 39 | 35 | 34 | 39 | 37 | 34 | 29 |
| Total Organic Carbon | mg/L | 31 | 32 | 28 | 25 | 24 | 22 | 25 | 22 | 27 | 26 | 30 |
| Chlorophyll a | ug/L | 44 | 35 | 29 | 25 | 11 | 13 | 13 | 13 | 19 | 17 | 11 |
| Ammonia Nitrogen | mg/L N | <0.003 | 0.014 | <0.003 | <0.003 | <0.003 | <0.003 | 0.461 | 0.348 | 0.182 | 0.765 | 0.465 |
| Nitrate Nitrogen | mg/L N | <0.003 | <0.003 | <0.003 | 0.162 | 0.757 | 0.697 | 0.513 | 0.503 | 0.489 | 0.469 | 0.708 |
| Total Nitrogen | mg/L N | 0.9 | 1.0 | 0.7 | 0.7 | 1.4 | 1.4 | 1.8 | 1.6 | 1.4 | 2.0 | 2.1 |
| Soluble Phosphorus | mg/L P | <0.01 | 0.02 | <0.01 | <0.01 | 0.13 | 0.13 | 0.16 | 0.18 | 0.13 | 0.22 | 0.22 |
| Total Phosphorus | mg/L P | 0.14 | 0.13 | 0.11 | 0.11 | 0.17 | 0.19 | 0.22 | 0.24 | 0.20 | 0.30 | 0.31 |
| Escherichia Coliform ² | MPN/100 mL | 225 | 326 | 770 | 111 | 46 | 34 | 22 | 28 | 129 | 96 | 148 |
| Fecal Coliform ² | MPN/100 mL | 261 | 435 | 649 | 138 | 63 | 37 | 26 | 40 | 172 | 131 | 125 |

Weather Conditions during monitoring Winds NNE at 9 km/hr with 15% cloud cover and <0.1 mm of precipitation. Average air temperature during survey at 20°C

- Notes:
- 1) LIMS Reference No: **50697**
 - 2) Analysed by contract laboratory
 - 3) Red River Floodway at South Floodway Control Gates **734.4** ft.
 - 4) No result because the initial temperature was outside the BOD test limit.

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