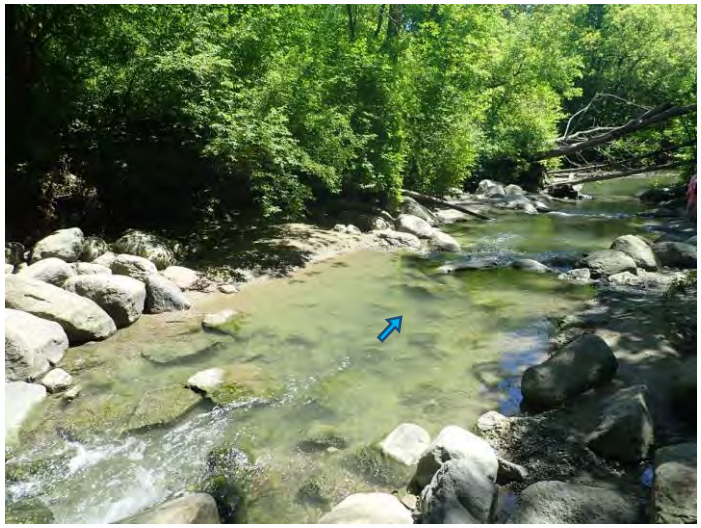
Appendix C:
Detailed Inventory of Toronto Water Infrastructure and Erosion Control Measures

Inventory 1: Areas of Erosion Concern, Existing Erosion Control Measures, and City of Toronto Infrastructure for Reach BB1

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
VRW1-1	Vortex rock weirs Length of channel with weirs: 40 m Constructed in 2005	Condition: Moderately Stable Impact: Moderate (bridge is an item of heritage)	The channel downstream from RC1-1 was reinforced with a series of vortex rock weirs. The weirs enhance the potential for fish passage upstream through Burke Brook. There was minor outflanking at the edges of the weirs due to anthropogenic activities (e.g., park user access to channel).		Recommended Action: Do Nothing / Monitor condition of VRW1-1 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
BT1-1	Boulder treatment (left and right bank) Length: 50 m Constructed in 2005	Condition: Moderately stable Impact: Moderate (bridge is an item of heritage)	Both channel banks were reinforced with a boulder treatment. There was minor erosion along the top of bank due to anthropogenic activities (e.g., park user access to channel)		Recommended Action: Do Nothing / Monitor condition of BT1-1 Rehabilitation Timing: 10 to 15 years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
C1-1	Confluence with Burke Brook	Condition: Stable Impact: N/A	A steep gully feature transects the valley slope and discharges into the main branch of Burke Brook, over a boulder revetment. There is limited flow stemming from the feature. There are no stability concerns at the confluence.		Recommended Action: Do Nothing / Monitor condition of C1-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low
GF1-1	Gully feature Length: 110 m	Condition: Unstable Impact: Very Low	The gully feature is entrenched within the south valley wall. The feature was characterized by indicators of degradation (e.g., knickpoint formation, basal scouring) and widening (e.g., fallen trees, exposed roots). There is no City infrastructure at risk within the feature.		Recommended Action: Do Nothing / Monitor condition of GF1-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
RC1-1 (DS)	Roadway / Service crossing (downstream end) Constructed prior to 1950	Condition: Moderately Stable Impact: Moderate	The channel passed through a concrete arch structure. The structure was undersized relative to the channel and exhibited minor signs of structural degradation. The structure was supported on either side with concrete aprons, which delivered flows into a scour pool. The structure was intact		Recommended Action: Do Nothing / Monitor condition of RC1-1 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
RC1-1 (US)	Roadway / Service crossing (upstream end) Constructed prior to 1950	Condition: Moderately Unstable Impact: Moderate	The upstream end of the crossing was supported with a boulder treatment. Constriction of the channel in the vicinity of the crossing has led to the general displacement of the materials from the bank.		Recommended Action: Reinstate erosion mitigation treatment along left and right banks. Candidate for vegetated rock buttress. Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BT2-1	Boulder treatment (left bank) Length: 60 m Constructed by 2007	Condition: Stable Impact: High (see SSC2-1 and SSP2-1) Risk is reduced due to good condition of protective treatment	The outer left bank of a channel meander is reinforced with a vegetated boulder treatment. The treatment is in generally good condition. The treatment protects the adjacent park path and SSP2-1, which extends to within 7.6 m of the top of channel bank.		Recommended Action: Do Nothing / Monitor condition of BT2-1 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
SSC2-1*	Sanitary sewer crossing Asset I.D.: SL4164186 Encased Maintenance: Toronto Water Constructed in 1963	Condition: Stable 1.12 m of cover (gravels, cobbles) based on measure-down survey Cover re-established with BT2-1 in 2004 Impact: High	A sanitary sewer crosses the channel at a riffle feature which consists of gravels and cobbles. The channel is partially constricted by BT2-1. Widening is anticipated along the unprotected right inner bank over the long term. The dotted line demarcates approximate sewer alignment.		Recommended Action: Do Nothing / Monitor condition of SSC2-1 Rehabilitation Timing: 10 to 15 years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSP2-1*	Sanitary sewer parallel to channel Asset I.D.: SL204051 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Stable Impact: High Risk is reduced as bank treatment is in good condition	A sanitary sewer line runs parallel to the watercourse. The sewer and adjacent park trail is protected with BT2-1. The trail extends to within 3 m of the top of bank and is at greater risk of exposure than the sewer, which is set 7.6 m from the channel. The dotted line demarcates approximate sewer alignment. The yellow arrow indicates the top of channel bank.		Recommended Action: Do Nothing / Monitor condition of SSP2-1 Rehabilitation Timing: 15+ years Risk Classification: Low
SSP2-2*	Sanitary sewer parallel to channel Asset I.D.: SL4164186 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Stable 1.12 m of cover (gravels, cobbles) based on measure-down survey Impact: High Risk is reduced due to good condition of protective treatment (BT2-2)	A sanitary sewer line is close proximity to the watercourse. The adjoining manhole MH5512528306 is located at the top of bank, protected within BT2-2. There is adequate cover over the sewer. A private sewer from CAMH located upslope and an abandoned sewer line connect to the manhole. The connecting sewers are protected by BT2-2.		Recommended Action: Do Nothing / Monitor condition of SSP2-2 Rehabilitation Timing: 15+ years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BT2-2	Boulder treatment (left bank) Length: 40 m Constructed by 2007	Condition: Stable Impact: High Risk is reduced due to good condition of protective treatment	The outer left bank of a channel meander is reinforced with a vegetated boulder treatment. The treatment is in generally good condition. The channel thalweg is aligned along the toe of the treatment. The treatment protects the SSP2-2 and the adjoining manhole (MH5512528306) which is embedded in the top course of stone of the treatment at the bend apex.		Recommended Action: Do Nothing / Monitor condition of BT2-2 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
BT2-3	Boulder treatment (left bank) Length: 50 m Constructed in 2007	Condition: Moderately Stable Impact: High Risk is reduced due to good condition of protective treatment	The outer left bank of a channel meander is reinforced with a vegetated boulder treatment. The treatment is in generally good condition. There is minor scouring along top course of stone at the apex of the meander bend, potentially due to overtopping. The treatment protects SSP2-3.		Recommended Action: Do Nothing / Monitor condition of BT2-3 Rehabilitation Timing: 10 to 15 years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSP2-3*	Sanitary sewer parallel to channel Asset I.D.: SL204050 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Moderately stable 2.5 m offset from channel 0.98 m of cover (cobbles, sands) over adjacent sewer, based on measure-down survey Impact: High	A sanitary sewer runs parallel to the watercourse. The sewer extends to within 2.5 m of the left channel bank. The sewer line is 1.5 m below the channel bed at this location. The adjacent channel bank is only partially protected by BT2-3 at the downstream end and BT2-4 at the upstream end. This intermittent section of non-reinforced bank is generally vegetated and stable.		Recommended Action: Introduce erosion mitigation along left bank. Candidate for vegetated rock buttress. Tie in to existing treatment (BT2-3 and BT2-4). Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate
SSP2-4	Abandoned sanitary sewer parallel to channel Inactive Construction date unknown	Condition: Moderately unstable Impact: Low (sewer is inactive)	An abandoned sewer line runs parallel to the right channel bank. The sewer line is inactive. Historically, the sewer discharged to MH5512528306, located downstream.		Recommended Action: Do Nothing / Monitor condition of SSP2-4 Rehabilitation Timing: 15+ years Risk Classification: Very Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BT2-4	Boulder treatment (left bank) Length: 50 m Constructed in 2006	Condition: Stable Impact: High Risk is reduced due to good condition of protective treatment	The outer left bank of a channel meander is reinforced with a vegetated boulder treatment. The treatment is in generally good condition. Channel grade is controlled by vortex rock weirs. SSC2-2 extends beneath the channel / point bar along the inside bank of the meander.		Recommended Action: Do Nothing / Monitor condition of BT2-4 Rehabilitation Timing: 15+ years Risk Classification: Very Low
SSC2-2*	Sanitary sewer crossing Asset I.D.: SL204047 Encased Maintenance: Toronto Water Constructed by 2008	Condition: Stable 1.00 m of cover over encasement (gravels, cobbles) Impact: High Risk is reduced due to good condition of protective treatment	A sanitary sewer line transects the channel meander, beneath the point bar and adjacent boulder treatment (BT2-4). The sewer line was equipped with a relatively enlarged concrete encasement (0.95 m in thickness) for added protection. Channel degradation is limited by the presence of vortex rock weirs. The upstream Manhole (MH5512528304) was not located and should be uncovered.		Recommended Action: Do Nothing / Monitor condition of SSC2-2 Rehabilitation Timing: 15+ years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BT2-5	Boulder treatment (right bank) Length: 40 m Constructed by 2008	Condition: Stable Impact: Low	The outer right bank of a channel meander is reinforced with a vegetated boulder treatment in the vicinity of the adjacent valley wall. The treatment is in generally good condition. A section of the valley wall has slumped over the treatment. However, this is not expected to significantly impact the treatment effectiveness.		Recommended Action: Do Nothing / Monitor condition of BT2-5 Rehabilitation Timing: 15+ years Risk Classification: Very Low
SSP2-5*	Sanitary sewer parallel to channel Asset I.D.: SL4164182 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Moderately stable 4.1 m offset from channel 0.14 to 0.90 m of cover, relative to the adjacent channel bed, based on measure-down survey Impact: High	A sanitary sewer pipe extends to within 4.1 m of the left channel bank near the downstream adjoining manhole (MH5512528303). The subject bank is vegetated and moderately stable. The adjacent stretch of channel is relatively wide, with multiple large bar formations comprised of relatively mobile materials (e.g., coarse sands).		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate

Inventory 3: Areas of Erosion Concern, Existing Erosion Control Measures, and City of Toronto Infrastructure for Reach BB3

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSP3-1*	Sanitary sewer parallel to channel Asset I.D.: SL4164181 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Unstable 0.14 m of cover relative to the adjacent channel bed, based on measure-down survey Impact: High	There is significant bank erosion around a sanitary sewer and adjoining manhole (MH5512528302). The manhole chimney is exposed to channel flows during storm events. Large boulders present along the inside channel bank deflect flows towards the exposed manhole.		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Re-establish cover over sewer and introduce grade controls. Candidate for vortex rock weirs. Rehabilitation Timing: 0 to 5 years Risk Classification: Very High
OF3-1	Outfall feature (right bank) 300 mm diameter CP Maintenance: Unknown Construction year unknown	Condition: Stable Impact: Moderate	There is an unmapped concrete outfall that discharges to a vegetated drainage feature on the right channel bank. The outfall is set back 14 m from the channel. An unmapped manhole is adjacent to the outfall. The feature is likely associated with SSP2-4 and is therefore abandoned. Both features are intact. Limited erosion was observed around feature.		Recommended Action: Do Nothing / Monitor condition of OF3-1 Verify active / inactive status and ownership of manhole Rehabilitation Timing: 15+ years Risk Classification: Very Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
VWC3-1	Valley wall contact (right bank) Length: 40 m	Condition: Unstable Impact: Low to moderate (deflects flows towards SSP4-1)	The channel has migrated into the adjacent valley wall, exposing a firm glaciolacustrine deposit along the toe of the slope. Widening along this stretch of channel has resulted in the formation of multiple in-channel bars, consisting of sands and small cobbles.		Recommended Action: Do Nothing / Monitor condition of VWC3-1 Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate
SSC3-1*	Sanitary sewer crossing Asset I.D.: SL204042 Not encased (HDPE pipe) Maintenance: Toronto Water Constructed in 2007	Condition: Moderately unstable 0.42 m of cover (hard till with gravels, boulders), based on measure-down survey 1.1 m of cover reported in 2007 Impact: High	A sanitary sewer line crosses the channel in a diagonal manner. According to the as-built drawings, the channel has degraded 0.68 m since 2004. The over-widened state of the channel and presence of till and coarse substrates may inhibit further downcutting. SSC3-1 and SSP4-1 converge at MH5512528301 (not found). See dotted lines for reference.		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Uncover and verify location of manhole MH5512528301 Re-establish cover over sewer and introduce grade controls. Candidate for vortex rock weirs. Encase sewer. Rehabilitation Timing: 0 to 5 years Risk Classification: High

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSP4-1*	Sanitary sewer parallel to channel Asset I.D.: SL4164180 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Moderately unstable 3.0 m offset from channel 0.42 m of cover relative to the adjacent channel bed, based on measure-down survey Impact: High	A sanitary sewer runs parallel to the watercourse. The sewer extends to within 3.0 m of the channel top of bank. The adjacent channel bank is moderately unstable, with evidence of active widening (e.g., undercutting, fallen trees, root exposure, etc.). The adjoining downstream manhole (MH5512528301) is buried		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Uncover and verify location of manhole MH5512528301 Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate
VWC4-1	Valley wall contact (right bank) Length: 80 m	Condition: Unstable Impact: High (Risk to outfall, park trails, and buildings at top of slope)	There is significant slope instability on the right channel bank. This includes a major slump around a storm sewer pipe and outlet (OF4-1). The channel is in contact with the toe of the slope, promoting instability along adjacent sections of valley wall.		Recommended Action: Slope restoration to be coordinated with OF4-1. It is understood this emergency work is not related to / being completed by Toronto Water Rehabilitation Timing: 0 to 5 years Risk Classification: Very High

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
OF4-1	Outfall feature (right bank) 375 mm CSP Asset I.D.: OF800072 Not Toronto Water infrastructure Constructed date unknown	Condition: Unstable Impact: High (Risk to outfall, park trails, and buildings at top of slope)	Significant slope failure on the right bank has resulted in the complete dislocation of an outfall pipe stemming from the top of slope. Continued slumping around the pipe chimney is anticipated as the pipe remains active and continues to saturate the newly exposed slope.		Recommended Action: Emergency slope and outfall restoration work is being undertaken by TRCA Rehabilitation Timing: 0 to 5 years Risk Classification: Very High
SSP4-2*	Sanitary sewer parallel to channel Asset I.D.: SL4164179 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Unstable 0.30 m offset from channel (see line) Sewer is elevated 0.65 m over the adjacent channel bed, based on measure-down assessment Impact: High	A sanitary sewer runs parallel to the watercourse. The sewer extends to within 0.30 m of the channel top of bank and is at risk of exposure. The top of pipe was visible at SSC4-1. The adjacent channel bank is unstable, with evidence of active widening (e.g., undercutting, fallen trees, root exposure, etc.).		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Re-establish cover over adjacent sewer and introduce grade controls. Candidate for vortex rock weirs. Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 0 to 5 years Risk Classification: High

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSC4-1*	Sanitary sewer crossing Asset I.D.: SL4164179 Not encased (Concrete pipe) Maintenance: Toronto Water Constructed in 1963	Condition: Unstable 0.03 m of pipe exposure observed in Fall 2020 (see arrow) Impact: High	A sanitary sewer line crosses a drainage channel associated with OF4-2. According to a historical topographic survey, the channel has not degraded significantly since 2004. Prior to 2004, there was significant downcutting within the drainage feature, as evidenced by OF4-2 and the observed level of feature entrenchment.		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Re-establish cover over adjacent sewer and introduce grade controls. Candidate for vortex rock weirs. Reinforce drainage feature banks with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 0 to 5 years Risk Classification: Very High
OF4-2	Outfall feature (left bank) Concrete box Asset I.D.: Unknown Maintenance: SHSC (Hospital) Constructed date unknown	Condition: Unstable Impact: High (see SSC4-1)	A concrete box outfall discharges to a drainage feature from the left channel bank. Significant downcutting has occurred within the drainage feature, leading to the exposure of SSC4-1 and the failure of the adjacent gabion basket bank treatment.		TRCA to restore the adjacent park trail in 2021. Coordinate channel works with TRCA. Recommended Action: Re-establish cover over adjacent sewer and introduce grade controls. Candidate for vortex rock weirs. Reinforce drainage feature banks with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 0 to 5 years Risk Classification: High

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BE4-1	Bank erosion (right and left banks) Length: 100 m	Condition: Unstable Impact: High	The left and right channel banks are undergoing active widening, in proximity to SSP4-3. The banks are characterized by undercutting, root exposure, and tree falls. There is a prominent scour along the left bank which extends through the adjacent sanitary sewer line.		Recommended Action: Re-establish cover over adjacent sewer and introduce grade controls. Candidate for vortex rock weirs. Reinforce drainage feature banks with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 0 to 5 years Risk Classification: High
SSP4-3*	Sanitary sewer parallel to channel Asset I.D.: SL4164178 Not encased Maintenance: Toronto Water Constructed in 1963	Condition: Unstable Sewer is elevated over 1 m above the adjacent channel bed based on measure-down assessment Impact: High	A sanitary sewer runs parallel to the watercourse. There is a prominent erosion scour along the bank, which the sewer transects (see line). The adjacent channel banks are unstable, with evidence of active widening (e.g., undercutting, fallen trees, root exposure, etc.).		Recommended Action: Re-establish cover over adjacent sewer and introduce grade controls. Candidate for vortex rock weirs. Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 0 to 5 years Risk Classification: High

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
C4-1	Confluence with Burke Brook	Condition: Stable Impact: N/A	A steep gully feature transects the valley slope and discharges into the main branch of Burke Brook. There is limited flow being conveyed within the feature.		Recommended Action: Do Nothing / Monitor condition of C4-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low
GF4-1	Gully feature Length: 110 m	Condition: Unstable Impact: Low	The gully feature is entrenched within the south valley wall. The feature was characterized by downcutting and widening. The feature stemmed from an abandoned concrete drainage structure associated with the building complex at the top of slope. There is no City infrastructure at risk along the feature extents.		Recommended Action: Do Nothing / Monitor condition of GF4-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
AW4-1	Armourstone wall and weirs (left bank) Length: 45 m Constructed by 2013	Condition: Stable Impact: High Risk is reduced given good condition of protective treatment	The left outer bank of a channel meander is reinforced with armourstone with riprap toe protection. Armourstone weirs are present along the channel bed for added grade control. The feature protects the adjacent sanitary sewer line SSP4-4.		Recommended Action: Do Nothing / Monitor condition of AW4-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low
SSP4-4*	Sanitary sewer parallel to channel Asset I.D.: SL4164177 Maintenance: Toronto Water Constructed in 1963 Reinforced by 2013	Condition: Stable Offset 3 m from channel bank Protected by AW4-1 Risk is reduced given good condition of protective treatment	A sanitary sewer runs parallel to the watercourse near a channel meander. The adjacent channel bank and bed is reinforced with AW4-1, which is in good condition.		Recommended Action: Do Nothing / Monitor condition of SSP4-4 Rehabilitation Timing: 10 to 15 years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
VWC4-2	Valley wall contact (right bank) Length: 130 m	Condition: unstable Impact: Low	A channel meander has migrated into the adjacent valley wall, leading to slope instability and failure. There is no infrastructure at immediate risk.		Recommended Action: Do Nothing / Monitor condition of VWC4-2 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
RT4-1	Riprap treatment (left bank) Length: 70 m Constructed by 2013	Condition: Stable Impact: High Risk is reduced given good condition of protective treatment	The left outer bank of a channel meander is reinforced with vegetated riprap protection. Armourstone weirs are present along the channel bed for added grade control at the up- and downstream extents of the treatment. The feature protects the adjacent sanitary sewer line SSP4-5.		Recommended Action: Do Nothing / Monitor condition of RT4-1 Rehabilitation Timing: 15+ years Risk Classification: Very Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSP4-5*	Sanitary sewer parallel to channel Asset I.D.: SL4164176 Maintenance: Toronto Water Constructed in 1963 Reinforced by 2013	Condition: Stable Impact: High Risk is reduced given good condition of protective treatment	A sanitary sewer runs parallel to the watercourse near a channel meander. The sewer extends to manhole MH5512528296. The adjacent channel bank and bed is reinforced with RT4-1, which is in good condition.		Recommended Action: Do Nothing / Monitor condition of SSP4-5 Rehabilitation Timing: 10 to 15 years Risk Classification: Low
SSP4-6*	Sanitary sewer parallel to channel Asset I.D.: SL4164175 Maintenance: Toronto Water Constructed in 1963	Condition: Unstable Impact: High Risk is reduced as sewer is offset 9.9 m from channel	A sanitary sewer runs parallel to the watercourse. The left bank is actively widening towards the sewer (BE4-2). Channel flows are constricted by the adjacent valley wall, which exacerbates erosion within the channel reach (VWC4-3).		Recommended Action: Do Nothing / Monitor condition of SSP4-6 Rehabilitation Timing: 10 to 15 years Risk Classification: Low

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
VWC4-3	Valley wall contact (right bank) Length: 65 m	Condition: Unstable Impact: Low (Deflects flows towards SSP4-6 and SSP4-7)	A stretch of channel has widened into the adjacent valley wall, leading to slope instability. A hard till is present at the slope toe. While there is no infrastructure at immediate risk, flow contact with the valley wall may enhance the potential for erosion along the opposite bank (BE4-2) in proximity to SSP4-6.		Recommended Action: Do Nothing / Monitor condition of VWC4-3 Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate
BE4-2	Bank erosion (left bank) Length: 70 m	Condition: Unstable Impact: High Risk is reduced as SSP4-6 and SSP4-7 are offset 9.9 and 4.7 m from the channel	The left bank is actively widening towards SSP4-6 and SSP4-7. The bank is characterized by extensive undercutting and multiple treefalls. Channel flows are constricted by the adjacent valley wall, which exacerbates erosion within the channel reach (VWC4-3).		Recommended Action: Reinforce left channel bank with erosion mitigation protection. Candidate for vegetated rock buttress. Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
BT4-1	Boulder treatment (left and right banks) Length: 25 m Constructed in 2007	Condition: Moderately stable Impact: High Risk is reduced given offset of sewer from channel and good condition of protective treatment	The receiving outlet pool and banks associated with OF4-3 and CC4-1 is protected with boulders / vegetated boulder treatment. The treatment is generally intact. SSP4-7 extends to within 4.7 m of the treatment. The boulder materials lining the bed of the receiving pool have been moderately displaced.		Recommended Action: Do Nothing / Monitor condition of BT4-1 Reinforce outlet pool bed with additional cover (see AW4-2) Rehabilitation Timing: 10 to 15 years Risk Classification: Low
SSP4-7*	Sanitary sewer parallel to channel Asset I.D.: SL4164173 Maintenance: Toronto Water Constructed in 1963	Condition: Moderately stable Sewer is protected by AW4-2 and BT4-1. Impact: High	A sanitary sewer runs parallel to the watercourse along the left bank. The adjoining manhole / chimney is encased in concrete. Beyond the AW4-2, the channel extends to within 4.7 m of the sewer. Erosion / spalling of the concrete encasement has exposed the reinforced concrete chimney to channel flows.		Recommended Action: Reinforce manhole chimney with additional concrete cover Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
SSC4-2*	Sanitary sewer crossing Asset I.D.: SL204052 HDPE pipe Maintenance: Toronto Water Constructed in 2004	Condition: Moderately stable 1.30 m of cover (concrete, amourstone) based on measure-down assessment Impact: High	A sanitary sewer crosses the channel beneath a concrete reinforced drop structure. The adjoining manhole chimney MH5512528293 is partially exposed to flows as a result of concrete degradation. Channel flow is constricted by AW4-2, which enhances the potential for erosion.		Recommended Action: Reinforce manhole chimney with additional concrete Rehabilitation Timing: 10 to 15 years Risk Classification: Low
AW4-2	Armourstone wall and drop structure (left and right banks) Constructed in 2007	Condition: Moderately unstable Impact: Moderate	The Burke Brook outlet and OF4-3 banks are reinforced with an armourstone wall. Erosive flows stemming from the adjacent concrete reinforced drop structure has displaced the underlying materials at the toe of the treatment. This has resulted in slumping of select armourstone (see arrow). Manhole MH3006509 is protected by a stable portion of AW4-2 near the top of bank.		Recommended Action: Reinforce outlet pool bed with additional cover. Reinstate slumped armourstone, as needed. Rehabilitation Timing: 5 to 10 years Risk Classification: Moderate

Feature ID	Feature Type	State of Feature	Description	Photograph	Risk Classification and Recommended Action
OF4-3*	Outfall feature (right bank) Adjoining concrete pipes (600 mm and 400 mm diameter) Constructed in 2004	Condition: Stable Feature protected by AW4-2 Impact: Moderate	A concrete box outfall discharges into Burke Brook from the right channel bank. The feature is protected by AW4-2. The structure is intact and set back from the main channel. The receiving pool is lined with boulders to mitigate scouring.		Recommended Action: Do Nothing / Monitor condition of OF4-3 Reinforce outlet pool bed with additional cover (see AW4-2) Rehabilitation Timing: 15+ years Risk Classification: Very Low
CC4-1*	Channel culvert (outlet) 1800 mm diameter concrete box Maintenance: Toronto Water Constructed in 1963	Condition: Stable Impact: Moderate	The Burke Brook culvert beneath Bayview Avenue consists of an 1800 mm diameter concrete box. The structure is undersized relative to the channel but is in good overall condition. The feature is protected by AW4-2.		Recommended Action: Do Nothing / Monitor condition of CC4-1 Reinforce outlet pool bed with additional cover (see AW4-2) Rehabilitation Timing: 15+ years Risk Classification: Very Low