



DEPARTMENT OF MUNICIPAL AFFAIRS

APPENDIX A:

CONDITION ASSESSMENT GUIDE

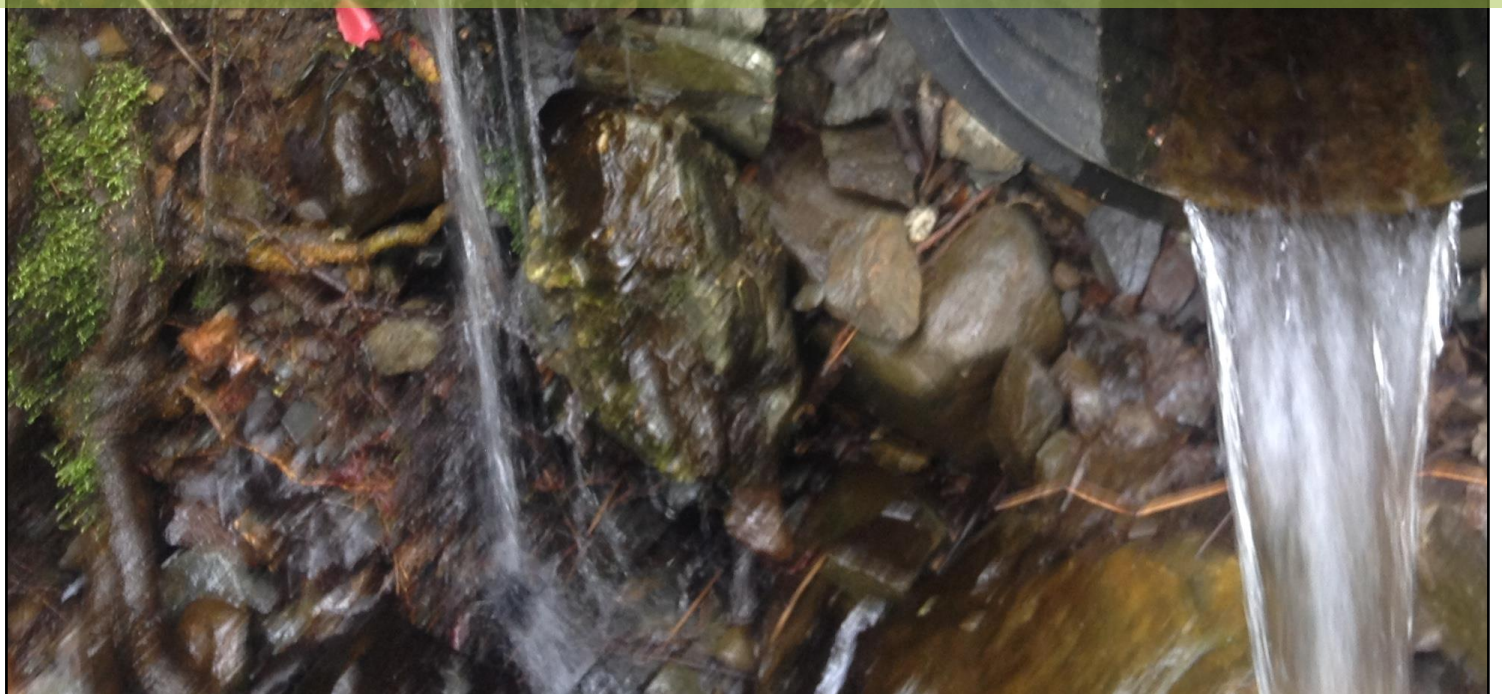
DATA COLLECTION STANDARD OPERATING PROCEDURE

Version 1: November 2018






PART I




ASSET CLASS: STORMWATER COLLECTION



ASSET CLASS:	STORMWATER COLLECTION		SWC		
SUBTYPE:	GRAVITY PIPE		GPSW		
FEATURE CODE:	GRAVITY PIPE		GRVPST		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Cracking and Joint Displacement (if no CCTV available, not applicable; leave blank)	None	Minor, no infiltration evident	Minor, some seepage evident.	significant cracking and/or joint displacement. Significant infiltration	excessive cracking and/or joint displacement. Excessive infiltration. Pipe collapse imminent
Pipe Material	PVC, HDPE, Concrete		Corrugated Steel		
Visible blockage by sediment	None	<10% of diameter	10% to 20% of diameter	20% to 50% of diameter	Over 50% of diameter

ASSET CLASS:	STORMWATER COLLECTION		SWC		
SUBTYPE:	MANHOLE		MHSW		
FEATURE CODE:	MANHOLE		MHST		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Material	Concrete				Brick
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.

	<ul style="list-style-type: none"> • Manhole material, Brick (5) • Manhole appearance, significant damage, still safe for use (4)
	<ul style="list-style-type: none"> • Manhole material, Concrete (1) • Manhole appearance, exposed rebar (5)
	<ul style="list-style-type: none"> • Manhole material, Brick lower, concrete upper (5) • Manhole appearance, no signs of damage or cracking condition, signs of leakage (3)

	<ul style="list-style-type: none"> • Manhole material, Concrete (1) • Manhole appearance, excellent condition, no sign of concrete leakage (1) <ul style="list-style-type: none"> • Pipe blockage, 20% to 50% blocked (4) • Pipe material, PVC Upper, Concrete Lower (1)
	<ul style="list-style-type: none"> • Manhole material, Concrete (1) • Manhole appearance, evidence of concrete leakage, no severe concrete damage (3) <ul style="list-style-type: none"> • Pipe blockage, 20% to 50% blocked (4) • Pipe material, PVC (1)
	<ul style="list-style-type: none"> • Manhole material, Brick (5) • Manhole appearance, excellent condition, no sign of leakage or damage (1) <ul style="list-style-type: none"> • Pipe blockage, none (1) • Pipe material, PVC (1)

ASSET CLASS:	STORMWATER COLLECTION		SWC		
SUBTYPE:	PRESSURE SEWER PIPE		GPSW		
FEATURE CODE:	PRESSURE SEWER PIPE		SWFRM		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 Years	≥ 15 and < 30 Years	≥ 30 and < 45 Years	≥ 45 and < 60 Years	≥ 60 Years
Pipe Material	PVC, HDPE or Ductile Iron		Asbestos Concrete		Cast Iron
Number of Leaks per Year	No Leaks	< 1 leak per Year	1 leak per Year	2 leaks per Year	> 2 leaks per Year

ASSET CLASS:	STORMWATER COLLECTION		SWC		
SUBTYPE:	LIFT STATION		LFS		
FEATURE CODE:	LIFT STATION		LIFT		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Pump Age	<5 Years	≥ 5 and < 10 Years	≥ 10 and <15 Years	≥ 15 and < 20 Years	≥ 20 Years
Interior Wet Well Condition	Excellent condition. No signs of concrete damage, paint on piping and valves looks great. No leaking evident.	Good condition. No visual concrete damage, minor rusting on piping and valves. No leaking evident.	Fair condition. Minor concrete damage, some rusting of piping and valves. Minor leaking visible when pumps running	Poor condition. Significant concrete damage, significant rusting of piping and valves. Still operable. Significant leaking visible when pumps running	Very poor - critical condition. Excessive concrete damage, exposed rebar, major rusting of piping and valves inoperable. Excessive leaking visible when pumps running
Exterior Condition	Excellent condition. No signs of concrete damage, hatch, control panel enclosure and vent piping look great	Good condition. No visual signs of concrete damage, hatch, control panel enclosure and vent piping look good.	Fair condition. Minor concrete damage, hatch, control panel enclosure and vent piping still serviceable.	Poor condition. Significant concrete damage, hatch & control panel enclosure have broken or missing parts but is still operable. vent piping significantly deteriorated.	Very poor condition. Excessive concrete damage, hatch & control panel enclosure not lockable and hinges broken, vent piping excessively deteriorated
Mechanical Fault Outages	0 per Year	1 per Year	3 per Year	3-5 per Year	>5 per Year

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		CATCH BASIN		CBN	
FEATURE CODE:		CATCH BASIN		CB	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Material	Concrete				Brick
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.
Sump	<25% accumulation in sump		50-75% accumulation in sump		No sump present, or >75% accumulation in sump

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		DRAINAGE CHANNEL		DRC	
FEATURE CODE:		GUTTER		RRGT	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	≥15 and <30 Years	≥30 and <45 Years	≥45 and <60 Years	≥60 Years
Surface Condition (concrete)	Like new. No signs of surface wear, spalling, cracking, heave or settlement. All control & expansion joints are in good shape and edges are intact	Good Condition. Occasional cracks <10mm, slight signs of surface wear, slight spalling or scaling. Some isolated patches in good condition. Occasional settlement <25mm vertical.	Moderate spalling and scaling, frequent patches in good condition. Moderate longitudinal cracks extending across control joints of about 30% to 40% of length. Faulting (i.e. vertical surface drop) <25mm vertical in about 10% to 20% of slabs.	Up to 50% of slabs have severe chipping or spalling. Moderate cracks (10 to 20mm) extending continuously across a few slabs, slabs faulting 25mm or more. Large number of patch work in fair condition.	All the previous mentioned defects are in severe condition, poor drainage and extensive patching that is in poor condition.

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		INLET & OUTLET		INO	
FEATURE CODE:		INLET & OUTLET		IO	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Material	Concrete/PVC/HDPE		Corrugated Steel		Wood
Corrosion / Denting / Spalling	Excellent condition. No signs of damage,	Good condition. No visual damage aside from minor deformation or chipped concrete with no rebar exposed.	Fair condition. Any of: Visible damage, dents, corrosion or spalling to 10% of pipe.	Poor condition. Any of: Visible damage, dents, corrosion or spalling to 50% of pipe.	Very poor - critical condition. Any of: Damage, dents, corrosion through pipe wall or spalling with exposed rebar,
Riprap Protection / Headwall	Handrails and trash racks in place. Rock protection in place. No damage to headwall.	Minor signs of wear on handrails and trash racks. Some sloughing in riprap protection. Surficial cracking, spalling on headwall	Minor damage to handrails and trash racks. Small visible gaps in riprap protection. Cracks greater than 6mm wide or spalling greater than 6mm deep in headwall.	Significant damage to handrails and trash racks, sloughing of riprap protection with visible bank erosion. Cracks greater than 12mm wide or spalling greater than 12mm deep in headwall.	Handrails not solid or broken, trash racks missing or blocked. Riprap protection not present . Cracks greater than 25mm wide or spalling that exposes rebar in headwall.
Sedimentation/ Vegetation Buildup	None	<10% of diameter	10% to 20% of diameter	20% to 50% of diameter	Over 50% of diameter

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		CULVERT		CUL	
FEATURE CODE:		CULVERT		CLVT	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Roadway	No deterioration	Dip in asphalt above culvert	Single transverse crack above culvert	Alligator cracking and dip in asphalt above culvert	Pothole or sinkhole above culvert
Culvert Material	Concrete/HDPE		Corrugated Metal		Timber
General Appearance	Excellent condition. No signs of damage, No leaking evident	Good condition. No visible damage, minor signs of wear/age.	Fair condition. Minor concrete spalling / CMP corrosion / HDPE/PVC cracking.	Poor condition. significant concrete spalling / CMP corrosion / HDPE/PVC cracking.	Very Poor condition. Excessive concrete spalling / CMP corrosion / HDPE/PVC cracking.
Blockage	None	<10% of diameter	10% to 20% of diameter	20% to 50% of diameter	Over 50% of diameter
Inlet/outlet condition	Excellent Condition. No damage, riprap intact	Good condition. No visual damage, Some sloughing in riprap protection	Fair condition. Any of: Visible damage to approximately 10% of pipe, small visible gaps in rock protection.	Poor condition. Any of: Visible damage or corrosion to 50% of pipe, sloughing of riprap protection with visible bank erosion.	Very poor - critical condition. Any of: Damage or corrosion on the majority of the pipe, erosion protection not present with evidence of erosion.

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		DRAINAGE CHANNEL		DRC	
FEATURE CODE:		DRAINAGE CHANNEL		DRCH	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Vegetation/Clearing</i>	Vegetation trimmed, channel flows freely	Vegetation growth on bank but channel flows freely.	Vegetation in channel or debris / sediment buildup evident in channel. Blockages cause pooling in channel.	Thick vegetation in channel, trees / roots growing into channel, Channel section is still visible.	Thick vegetation in channel, trees / roots growing into channel, Channel not easily visible.
<i>Erosion/Bank Sloughing</i>	None	Some erosion at channel bends	Significant erosion at channel bends, some erosion on straight sections	Bank sloughing is evident over 50% of channel banks. Erosion encroaching on adjacent trails, roads, fences, etc.	Erosion undermining adjacent trails, roads, fences etc.
<i>Size</i>	OHWL 600mm below bank	OHWL 300mm below bank	OHWL at bank	Channel overtops bank in large storms	Channel overtops bank several times per year

Note: Original High-Water Mark (OHWL) is the depth where thick vegetation is growing.

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		POND		PND	
FEATURE CODE:		POND		PND	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Vegetation / Clearing	Clear access to pond. No overgrown paths or equipment	Vegetation beginning to encroach on access to the pond site	Moderate vegetation growth. Access to site starting to become restricted	Significant vegetation growth which impedes access to the pond site	Access to pond site not possible.
Erosion/Bank Sloughing	No sloughing.	Sloughing on 10% of the bank.	Sloughing on 10 - 20% of bank	Sloughing up to 50% of bank.	Sloughing on over 50% of the bank
Garbage Accumulation	None		Minor debris in pond, no blockage of inlet or outlet		Significant debris causing blockage of inlet and outlet.
Sediment Accumulation (wet pond)	> 80% remaining volume capacity	60% to 80% of remaining volume capacity	40% to 60% of remaining volume capacity	20% to 40% remaining volume capacity	<20% remaining volume capacity
Water Level Issues	None		Standing water in pockets in bottom of pond, Outlet partially blocked.		Permanent pool in bottom of pond, sediment blockage at outlet, anecdotal reports of overtopping.
Damaged Fencing or Concrete	No observed damage to perimeter fencing or concrete	Minor damage to fencing or concrete. Structure remains in good working order.	Moderate damage to fencing or concrete. Structure performance is degraded but functional.	Considerable damage to fencing or concrete. Structural performance compromised. Fencing can be moved by hand.	Areas of fencing missing or collapsed. Posts broken or detached from foundation.
Beaver Activity	None				Beaver dam impeding pond flow

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		TREATMENT DEVICE		TRD	
FEATURE CODE:		TREATMENT DEVICE		TRMTD	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.
Sediment Accumulation	<25% accumulation		50-75% accumulation		>75% accumulation
Hydrocarbon Accumulation	<25% accumulation		50-75% accumulation		>75% accumulation

ASSET CLASS:		STORMWATER COLLECTION		SWC	
SUBTYPE:		UNDERGROUND STORAGE		UST	
FEATURE CODE:		UNDERGROUND STORAGE		UGS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.
Sediment / Garbage Accumulation	<10% accumulation		10-25% accumulation		>25% accumulation



PART II

ASSET CLASS: WASTEWATER COLLECTION

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		GRAVITY SEWER PIPE		GPWW	
FEATURE CODE:		GRAVITY SEWER PIPE		GRVPSA, FTTESAN, GRVPCO	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Cracking and Joint Displacement (if no CCTV available, not applicable; leave blank)	None	Minor, no infiltration evident	Minor, some seepage evident.	Significant cracking and/or joint displacement. Significant infiltration	Excessive cracking and/or joint displacement. Excessive infiltration. Pipe collapse imminent
Pipe Material	PVC		Concrete		Clay
Blockage (if no CCTV available, not applicable; leave blank)	None	<10% of diameter	10% to 20% of diameter	20% to 50% of diameter	Over 50% of diameter

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		MANHOLE		MHWW	
FEATURE CODE:		MANHOLE		MHCO/MHSA	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Material	Concrete				Brick
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.

*Refer to part I: Stormwater Collection, for example condition images

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		LIFT & PUMP STATION		LPS	
FEATURE CODE:		LIFT & PUMP STATION		PMPS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Pump Age	< 5 Years	≥ 5 and < 10 Years	≥ 10-15 Years	≥ 15 and < 20 Years	≥ 20 Years
Interior Wet Well Condition	Excellent condition. No signs of concrete damage, paint on piping and valves looks great. No leaking evident.	Good condition. No visual concrete damage, minor rusting on piping and valves. No leaking evident.	Fair condition. Minor concrete damage, some rusting of piping and valves. Minor leaking visible when pumps running	Poor condition. Significant concrete damage, significant rusting of piping and valves. Still operable. Significant leaking visible when pumps running	Very poor - critical condition. Excessive concrete damage, exposed rebar, major rusting of piping and valves inoperable. Excessive leaking visible when pumps running
Exterior Condition	Excellent condition. No signs of concrete damage, hatch, control panel enclosure and vent piping look great	Good condition. No visual signs of concrete damage, hatch, control panel enclosure and vent piping look good.	Fair condition. Minor concrete damage, hatch, control panel enclosure and vent piping still serviceable.	Poor condition. Significant concrete damage, hatch & control panel enclosure have broken or missing parts but is still operable. vent piping significantly deteriorated.	Very poor condition. Excessive concrete damage, hatch & control panel enclosure not lockable and hinges broken, vent piping excessively deteriorated
Unplanned Outages	0 per Year	1 per Year	2 per Year	3-5 per Year	>5 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		PRESSURE SEWER PIPE			
FEATURE CODE:		PRESSURE SEWER PIPE		WWFCRM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Pipe Material</i>	PVC, HDPE or Ductile Iron		Asbestos Concrete		Cast Iron
<i>Age</i>	<15 Years	≥ 15 and < 30 Years	≥ 30 and < 45 Years	≥ 45 and < 60 Years	≥ 60 Years
<i>Number of Leaks per Year</i>	0 Leaks per Year	1 leak per Year	2 leaks per Year	3-5 leaks per Year	> 5 leaks per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		SEPTIC FIELD		SEP	
FEATURE CODE:		SEPTIC FIELD		SEPT	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age</i>	< 10 Years	≥ 10 and < 15 Years	≥ 15 and < 20 Years	≥ 20 and < 25 Years	≥ 25 Years
<i>Dispersal Bed</i>	Looks excellent. No extra plant growth over or around bed, no foul odours detected		Looks fair. Some minor extra plant growth over or around bed, minor foul odours detected. No visual breakouts detected		Excessive plant growth over or around bed, significant foul odours detected. visual breakouts evident

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		SEPTIC TANK		WWST	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age</i>	<10 Years	≥ 10 and < 15 Years	≥ 15 and < 20 Years	≥ 20 and < 25 Years	≥ 25 Years
<i>Last Pump-Out</i>	1 year		3 Years		5 Years
<i>Septic Tank</i>	Tank, baffles and access ports in excellent condition.	Good condition. No visual signs of damage to tank and baffles, access covers in good condition	Fair condition. Minor tank damage visible, loose or partially blocked baffles, access covers remain serviceable	Poor condition. Significant tank damage, access covers have broken or missing parts but are still operable. Missing or significantly plugged baffles	Very poor condition. Excessive tank damage, access covers not lockable and/or broken, complete blockages of baffles evident.

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		CONVENTIONAL PUMP		WWCPMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Motor Hours Run</i>	<10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
<i>Vibration</i>	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
<i>Temperature</i>	No unusual temperature detected	Minimal heat from casing using hand	Heat detected by hand	Heat detected by hand is uncomfortable to the touch	Heat too high to assess by hand
<i>Leaking seals</i>	No visible sign of leaking seals	Minor leaking seals	Moderate leaking seals	Considerable leaking seals	Major leaking seals
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		SUBMERSIBLE PUMP		WWSPMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Motor Hours Run</i>	< 10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
<i>Vibration</i>	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		SBR TANK		WWSBRT	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age of Tank</i>	< 1 year	≥ 1 and < 10 years	≥ 10 and < 20 years	≥ 20 and < 30 years	≥ 30 years
<i>Visible Condition of Tank</i>	Excellent Condition, do distress evident		Cracking <3mm, cracking less than 10% of surface		Cracking >3mm or cracking on greater than 10% of surface
<i>Inlet and Outlet Piping</i>	No leakage detected				Visible leakage

ASSET CLASS:	WASTEWATER COLLECTION		WWC		
SUBTYPE:	TREATMENT FACILITY		TFWW		
FEATURE CODE:	FILTER FEED TANK		WWFFT		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Years of Service	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
Feed line leakage	No detectable leakage	Minor detectable leakage	Moderate detectable leakage	Considerable detectable leakage	Heavy detectable leakage
Feed Pump Noise	No unusual noises detected	Slight whine/rattle detected	Moderate whine/rattle detected, easily heard over pump noise	Loud whine/rattle	Disturbingly loud vibrations during operation
Unplanned Outages Avg # per Year	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS: WASTEWATER COLLECTION		WWC			
SUBTYPE: TREATMENT FACILITY		TFWW			
FEATURE CODE: LAGOON		WWLAG			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<5 Years	≥ 5 and < 10 Years	≥ 10 and < 20 Years	≥ 20 and < 30 Years	≥ 30 Years
Vegetation / Clearing	Clear access to pond. No overgrown paths or equipment	Vegetation beginning to encroach on access to the pond site	Moderate vegetation growth. Access to site starting to become restricted	Significant vegetation growth which impedes access to the pond site	Access to pond site not possible.
Liner	No recorded leaks		1 leak detected per year		>1 leak detected per year
Garbage Accumulation	None		Minor debris in pond, no blockage of inlet or outlet		Significant debris causing blockage of inlet and outlet.
Sludge Accumulation	> 80% remaining volume capacity	60% to 80% of remaining volume capacity	40% to 60% of remaining volume capacity	20% to 40% remaining volume capacity	<20% remaining volume capacity
Water Level Issues	None		Overflow events 1 per year		Overflow events >1 per year
Damaged Fencing or Concrete	No observed damage to perimeter fencing or concrete	Minor damage to fencing or concrete. Structure remains in good working order.	Moderate damage to fencing or concrete. Structure performance is degraded but functional.	Considerable damage to fencing or concrete. Structural performance compromised. Fencing can be moved by hand.	Areas of fencing missing or collapsed. Posts broken or detached from foundation.

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		SCREEN CHAMBER		WWSCRC	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Years of Service</i>	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
<i>Screen</i>	Intact		Minor breakage, still functioning		Significant breakage, screening not working
<i>Visible Condition of Tank</i>	Excellent Condition, do distress evident		Cracking <3mm, cracking less than 10% of surface		Cracking >3mm or cracking on greater than 10% of surface
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		BAR SCREEN CHAMBER		WWBSC	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age</i>	< 15 Years	≥ 15 and < 30 Years	≥ 30 and < 45 Years	≥ 45 and < 60 Years	≥ 60 Years
<i>Avg # per Year</i>	0/year	1/year	2/year	3/year	More than 3/year
<i>Screen</i>	Intact		Minor breakage, still functioning		Significant breakage, screening not working
<i>Visible Condition of Tank</i>	Excellent Condition, do distress evident		Cracking <3mm, cracking less than 10% of surface		Cracking >3mm or cracking on greater than 10% of surface
<i>Years of Service</i>	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		FLOW METER		WWFLME	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Years of Service</i>	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
<i>Years since last calibration</i>	< 1 year	1 < 2 years	2 < 3 years	3 < 4 years	> 4 years
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		BUILDING		WWTFBLD	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Exterior Building Condition</i>	Great condition. No delamination's (Siding, Roof, Foundation, Doors and Windows in pristine condition).	Good condition. No visual delamination (Siding, Roof, Foundation, Doors and Windows showing minimal wear).	Fair condition. Minor delamination's (Siding, Roof, Foundation, Doors and Windows need adjustment).	Poor condition. Some visual delamination's (Siding, Roof, Foundation, Doors and Windows not working).	Very Poor -Critical condition. Excessive delamination's (Siding, Roof leaking, Foundation, Doors and Windows broken). Unsafe.
<i>Interior Building Condition</i>	Great condition. No delamination's (Walls, Ceiling and Floors in pristine condition).	Good condition. No visual delamination (Walls, Ceiling and Floors showing minimal wear).	Fair condition. Minor delamination's (Repainting needed, light bulbs need replaced and windows or doors need adjustment).	Poor condition. Some visual delamination's (Windows or doors inoperable, paint peeling and electrical components not working).	Very Poor -Critical condition. Excessive delamination's (Windows broken and doors unlockable). Unsafe.

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		OFFICE FURNITURE AND SUPPLIES		WWOFS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age</i>	< 5 years	≥ 5 and < 7 years	≥ 7 and < 9 years	≥ 9 and < 11 years	≥ 11 years
<i>Amount</i>	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		COMPUTER		WWCOMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 1 years	≥ 1 and < 2 years	≥ 2 and < 3 years	≥ 3 and < 4 years	≥ 5 years
Amount	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		GENERATOR		WWTFGEN	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Number of Exercises	12 + per year	8 - 11 per year	4 - 7 per year	1 -3 per year	0 per year
Unplanned Outages Avg # per Year	0 per Year	1 - 2 per year	3 - 5 per year	6 - 10 per year	> 10 per year
Maintenance required	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		INTAKE STRUCTURES AND VALVES		WWISV	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Screen and Piping Condition	Screen is intact and piping in good shape		Screen showing signs of deterioration.		Screen severely damaged/ deteriorated/ missing
Isolation Valve - Was valve operable last time used	Yes		Unknown		No
Unplanned Outages Avg # per Year	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		LAB EQUIPMENT		WWLAB	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 3 years	≥ 3 and < 6 years	≥ 6 and < 8 years	≥ 8 and < 10 years	≥ 10 years
Maintenance required	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		PRESEDIMENTATION TANK		WWPTNK	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥ 60 years
Exterior Coating	No chipping or visible thin spots in exterior coating	Minor chipping or thin areas	Moderate chipping and thin area	Considerable chipping and thin areas	Major areas of chipped or thin exterior coating
Panel Sealant/Caulking	No leaks have been detected/ caulking has no peeling or lifting from paneling, no fading/ no visible rust	Minor leaks detected/ caulking has minor peeling or lifting from paneling, minor fading/ no visible rust	Moderate leak caulking has moderate peeling or lifting from paneling, moderate fading/ Some visible rust	considerable leaking/ caulking has considerable peeling or lifting from paneling, considerable fading/ considerable visible rust	Major leaking/ caulking has significant peeling or lifting from paneling, extreme fading, major rust (complete sealant failure)
Concrete Ringwall	No cracks or visible structural damage to exposed concrete	Minor cracking or visible damage	Moderate cracking or visible damage	Considerable cracking and visible damage	Major cracking and visible damage to concrete

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		STREAMING CURRENT MONITOR		WWSCM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 11 years	≥ 11 and < 15 years	≥ 15 years
Maintenance required	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		TELEMETRY		WWTLEM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 and < 20 years	≥ 20 years
Parts available	Yes				No

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		AIR COMPRESSOR		WWTFAC	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Amount	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		GASOLINE DRIVEN TRASH PUMP		WWGDTP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Years in Service	1-2 years	≥ 2 and < 4 years	≥ 4 and < 6 years	≥ 6 and < 8 years	≥ 8 years
Leaking seals	No visible sign of leaking seals	Minor leaking seals	Moderate leaking seals	Considerable leaking seals	Major leaking seals
Engine Startup	Starts quickly/runs smoothly		Moderately hard to start engine/runs a little rough		Hard to start/engine quits while in use

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		DAF TANK OR AIR SATURATION VESSEL			
		WWDAFT			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Corrosion	None Evident, paint shows no discoloration or chipping	Paint chipped, peeling or missing and rust showing on >10% of tank or piping	Paint chipped, peeling or missing and rust showing on >25% of tank or piping		Paint chipped, peeling or missing and rust showing on >50% of tank or piping
Leaks	No leaks evident		Potential intermittent leakage from any seal or connection. Pooling is not evident. Public works reports intermittent leakage.		Leakage from any seal or connection ongoing. Leakage causing pooling.
Amount	According to manufacturer’s recommendations	75% of the time	50 % of the time	25% of the time	Never

ASSET CLASS: WASTEWATER COLLECTION		WWC			
SUBTYPE: TREATMENT FACILITY		TFWW			
FEATURE CODE: DAF SKIMMER		WWDAFS			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Paddles	Paddles are all intact and not corroded	A single paddle is corroded or damaged by chipping	Greater than 1 paddle is corroded or damaged by chipping	Paddles are corroded or damaged, no greater than one is missing	Greater than 1 paddle is missing
Drive Chain and sprockets	Drive chain runs consistently and smoothly. No sign of wear on chain	Drive chain runs consistently and smoothly. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on several links)	Drive chain skips less than once per cycle, no missing teeth on sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on greater than 50% of links)	Drive chain skips less than once per cycle, one or more teeth missing from sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on greater than 75% of links)	Drive chain skips on sprockets greater than once per cycle, one or more teeth missing from sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on all links)
Amount	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time	Never

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		ELECTRIC MOTOR (PUMPS EXCLUDED)		WWELECM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Motor Hours Run</i>	< 10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
<i>Vibration</i>	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
<i>Temperature</i>	No unusual temperature detected	Minimal heat from casing using hand	Heat detected by hand	Heat detected by hand is uncomfortable to the touch	Heat too high to assess by hand
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		OXIDATION DITCH		WWOXDI	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Liner Material</i>	Impermeable membrane		Concrete or Asphalt		
<i>Stairs, Handrails, Walkways</i>	No observed damage or rust. Height meets current code.	Minor damage and/or rust to 10% of surface. Structure remains in good working order.	Moderate damage and/or rust to 25% of surface. Structure performance is degraded but functional.	Considerable damage and/or rust to 25-50% of surface. Structural performance compromised. Can be easily moved by hand.	Areas of stairs, handrails or walkways missing or collapsed, and/or rust to >50% of surface. Posts broken or detached from foundation. Height not to current code.

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		PADDLE AERATORS (MINUS MOTORS)		WWPADAE	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 and < 20 years	≥ 20 years
Paddles	Paddles are all intact and not corroded	A single paddle is corroded or damaged by chipping	Greater than 1 paddle is corroded or damaged by chipping	Paddles are corroded or damaged, no greater than one is missing	Greater than 1 paddle is missing

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		CLARIFIER		WWCLAR	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥ 60 years
Baffle and Weir	Baffle and weir are level, showing consistent flow at all points.		Baffle and weir are slightly off level, or minor algae growth or trash in effluent weir, causing minor inconsistencies in flow.		Baffle and weir are significantly off level, or major algae growth or trash in effluent weir, causing flow short circuiting.
Skimmer Paddles	Paddles are all intact and not corroded		paddle is corroded or damaged by chipping		Paddle is non-functional
Stairs, Handrails, Walkways	No observed damage or rust. Height meets current code.	Minor damage and/or rust to 10% of surface. Structure remains in good working order.	Moderate damage and/or rust to 25% of surface. Structure performance is degraded but functional.	Considerable damage and/or rust to 25-50% of surface. Structural performance compromised. Can be easily moved by hand.	Areas of stairs, handrails or walkways missing or collapsed, and/or rust to >50% of surface. Posts broken or detached from foundation. Height not to current code.

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		SLUDGE DRYING BEDS		WWSDB	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥ 60 years
Condition	Excellent condition. No signs of concrete sidewall damage, paint on piping and valves looks great. No leaking evident.	Good condition. No visual concrete sidewall damage, minor rusting on piping and valves. No leaking evident.	Fair condition. Minor concrete sidewall damage, some rusting of piping and valves. Reports of minor leaking visible when loading sludge to beds	Poor condition. Significant concrete sidewall damage, significant rusting of piping and valves. Still operable. Reports of significant leaking visible when loading sludge to beds	Very poor - critical condition. Excessive concrete sidewall damage, exposed rebar, major rusting of piping and valves inoperable. Reports of excessive leaking visible when loading sludge to beds

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		BLOWER		WWBLWR	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Motor Hours Run	< 10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
Vibration	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
Temperature	No unusual temperature detected	Minimal heat from casing using hand	Heat detected by hand	Heat detected by hand is uncomfortable to the touch	Heat too high to assess by hand
Unplanned Outages Avg # per Year	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS: WASTEWATER COLLECTION		WWC			
SUBTYPE: TREATMENT FACILITY		TFWW			
FEATURE CODE: CHLORINE CONTACT CHAMBER		WWCLCC			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Appearance	Excellent condition. No signs of concrete/brick damage, cover and frame look great. No leaking evident.	Good condition. No visual concrete/brick damage, minor signs of wear on cover and frame. No leaking evident.	Fair condition. Minor concrete/brick damage no gaps or exposed rebar, minor cracking on frame and cover. Evidence of leaking along walls or pipe penetrations.	Poor condition. Significant concrete/brick damage with cracks greater than 6mm. Cracks greater than 6mm or missing pieces from frame and cover. Significant leaks along walls or pipe penetrations.	Very poor - critical condition. Excessive concrete/brick damage, exposed rebar, frame and cover missing or not safe for use. Soil penetrating walls or pipe penetrations.

ASSET CLASS: WASTEWATER COLLECTION		WWC			
SUBTYPE: TREATMENT FACILITY		TFWW			
FEATURE CODE: CHEMICAL FEED SYSTEM		WWCCSYS			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Years of Service	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
Feed line leakage	No detectable leakage	Minor detectable leakage	Moderate detectable leakage	Considerable detectable leakage	Heavy detectable leakage
Feed Pump Noise	No unusual noises detected	Slight whine/rattle detected	Moderate whine/rattle detected, easily heard over pump noise	Loud whine/rattle	Disturbingly loud vibrations during operation
Unplanned Outages Avg # per Year	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS:		WASTEWATER COLLECTION		WWC	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		TREATMENT FACILITY		WWCTF	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Overall Subjective Rating</i>					

*Only to be used if inspection of components is not feasible, subjective based on staff opinion. This is not recommended unless a formal engineering condition assessment is pending, and the rating is temporary.



PART III

ASSET CLASS: WATER SUPPLY

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		STORAGE TANK		STO	
FEATURE CODE:		WATER SUPPLY STORAGE TANK		WSST	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Fencing and Gate	The site is secure	Security devices have minor damage, but no unauthorized personnel can enter	Moderate damage allowing unauthorized personnel to enter.	Considerable damage to security devices	No security, site is exposed to threat
Exterior Coating	No chipping or visible thin spots in exterior coating	Minor chipping or thin areas	Moderate chipping and thin area	Considerable chipping and thin areas	Major areas of chipped or thin exterior coating
Leaks	No leaks have been detected.	Minor leaks detected	Moderate Leak	Considerable Leak	Major Leak

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		BOOSTER STATION		BST	
FEATURE CODE:		BOOSTER STATION		BST	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 3 years	≥ 3 and < 6 years	≥ 6 and < 9 years	≥ 9 and < 15 years	≥ 15 years
Exterior Vault/ Building Condition	Great condition/no delamination's (siding, roof, foundation, doors and windows in pristine condition)	Good condition/ no visual delamination (siding, roof, foundation, doors and windows showing minimal wear)	Fair condition/ minor delamination's (siding, roof, foundation, doors and windows need adjustment)	Poor condition/ some visual delamination's (siding, roof, foundation, doors and windows not working)	Very poor -critical condition/excessive delamination's (siding, roof leaking, foundation, doors and windows broken)/ unsafe
Interior Vault/ Building Condition	Great condition/ no delamination's (walls, ceiling and floors in pristine condition)	Good condition/ no visual delamination (walls, ceiling and floors showing minimal wear)	Fair condition/ minor delamination's (repainting needed, light bulbs need replaced and windows or doors need adjustment)	Poor condition/ some visual delamination's (windows or doors inoperable, paint peeling and electrical components not working)	Very poor -critical condition/excessive delamination's (windows broken and doors unlockable)/ unsafe

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		DISTRIBUTION PIPE		DIS	
FEATURE CODE:		FITTINGS		CS, FTBD11, FTBD22, FTBD45, FTBD90, FTCAP, FTCP, FTHY, FTHYTE, FTRD, FTTS, FTTE	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Pipe Material	PVC or Ductile Iron		Asbestos Concrete		Cast Iron
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Number of Leaks per Year	No Leaks	< 1 leak per Year	1 leak per Year	2 leaks per Year	> 2 leaks per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		DISTRIBUTION PIPE		DIS	
FEATURE CODE:		PIPE		TRNS, DIMN	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Pipe Material	PVC or Ductile Iron		Asbestos Concrete		Cast Iron
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Number of Leaks per Year	No Leaks	< 1 leak per Year	1 leak per Year	2 leaks per Year	> 2 leaks per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		METERING SYSTEM		MTS	
FEATURE CODE:		WATER METER		METER	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 3 years	≥ 3 and < 6 years	≥ 6 and < 9 years	≥ 9 and < 15 years	≥ 15 years
Accuracy	No slowdown detected	Slight decrease in average demand	Noticeable decrease in average demand	Considerable decrease in average demand	Meter register does not move between monthly readings
Leaks	No visible water in meter pit or in meter	Slight condensation on glass	Moderate water in meter pit and/or water behind glass	Considerable water in meter pit and/or water behind glass	Major water in meter pit and/or water behind glass, visibly leaking from meter setter

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		DISTRIBUTION PIPE		DIS	
FEATURE CODE:		FIRE HYDRANT		HY	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 10 years	≥ 10 and < 20 years	≥ 20 and < 30 years	≥ 30 and < 40 years	≥ 40 years
Paint Condition	Great condition	Good Condition	Moderate condition, chip in paint	Paint chipped, dulled, thin in areas	Poor condition, chipped or faded paint.
Missing or defective items such as caps, misaligned nozzles, rounded operating nuts	None	Rounded operating nut	Missing cap and/or rounded operating nut	Defective items, missing items, rounded nuts	Missing parts, misaligned nozzles, rounded operating nuts, considerable deficiency

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		WATER SOURCE		PWS	
FEATURE CODE:		WATER SOURCE		WS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Security	The site is secure	Security devices have minor damage, but no unauthorized personnel can enter	Moderate damage allowing unauthorized personnel to enter	Considerable damage to security devices	No security, site is exposed to threat
Reliability/Unplanned Outages	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	>10 per Year
Well Pump Age(groundwater)	< 3 Years	≥ 3 and < 7 Years	≥ 7 and < 11 Years	≥ 11 and < 15 Years	≥ 15 Years

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		PRV		PRV	
FEATURE					
CODE:		AIR VACUUM/RELEASE VALVE		APV	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Valve Age	< 5 years	≥ 5 and < 15 years	≥ 15 and < 30 years	≥ 30 years < 40 years	≥ 40 years
High Downstream Pressure	Normal operating Pressure	Minor increase in downstream pressure <2 psi	Moderate increase in downstream pressure 2 to 5 psi	Considerable increase in downstream pressure 5 to 10 psi	Major increase in downstream pressure >10 psi, pipes breaking, customer complaints
Vault	Vault and access hatch in new condition	Minor cracks and pinholes in concrete, rust on access hatch	Moderate damage to concrete and rust on access hatch	Considerable damage to concrete and rust on access hatch	Cracks in concrete, visible signs of water infiltration into the vault, and/or missing or damaged beyond repair access hatch

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		PRV		PRV	
FEATURE					
CODE:		PRESSURE REDUCING VALVE		PRV	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 10 years	≥ 10 and < 20 years	≥ 20 and < 30 years	≥ 30 and < 40 years	≥ 40 years
High Downstream Pressure	Normal operating Pressure	Minor increase in downstream pressure	Moderate increase in downstream pressure	Considerable increase in downstream pressure	Major increase in downstream pressure, pipe breaking, customer complaints
Vault	Vault and access hatch in new condition	Minor cracks and pinholes in concrete, rust on access hatch	Moderate damage to concrete and rust on access hatch	Considerable damage to concrete and rust on access hatch	Cracks in concrete, visible signs of water infiltration into the vault, and/or missing or damaged beyond repair access hatch

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		VALVE		VLV	
FEATURE CODE:		VALVES		GV, WV, FTVLHY	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 5 years	≥ 5 and < 15 years	≥ 15 and < 30 years	≥ 30 years < 40 years	≥ 40 years
Valve Box	Box and cover in good condition	Minor deficiencies with condition of box and/or cover	Moderate deficiencies with condition of box and/or cover	Considerable deficiencies with condition of box and/or cover	Cracks in valve box and/or missing or damaged beyond repair cover

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		CONVENTIONAL PUMP		WSCPMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Motor Hours Run	<10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
Vibration	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
Temperature	No unusual temperature detected	Minimal heat from casing using hand	Heat detected by hand	Heat detected by hand is uncomfortable to the touch	Heat too high to assess by hand
Noise	No unusual noises detected	Slight whine/rattle detected	Moderate whine/rattle detected, easily heard over pump noise	Loud whine/rattle	Disturbingly loud vibrations during operation
Leaking seals	No visible sign of leaking seals	Minor leaking seals	Moderate leaking seals	Considerable leaking seals	Major leaking seals
Unplanned Outages Avg # per Year	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		SUBMERSIBLE PUMP		WSSPMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Motor Hours Run</i>	< 10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
<i>Vibration</i>	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
<i>Noise</i>	No unusual noises detected	Slight whine/rattle detected	Moderate whine/rattle detected, easily heard over pump noise	Loud whine/rattle	Disturbingly loud vibrations during operation
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		MIXED MEDIA FLITER		WSMMF	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age of Media</i>	< 1 year	≥ 1 and < 4 years	≥ 4 and < 7 years	≥ 7 and < 10 years	≥ 10 years
<i>Visible Condition of Media</i>	No visible deposits or change in media color	Minor visible deposits or change in media color	Moderate deposits and visible color change	Considerable visible deposits or change in media color	Heavy deposits and visible color change
<i>Depth/Amount of Anthracite Coal as per Manufacture</i>	18"	16"	14"	12"	10"
<i>Depth/Amount of Silica Sand as per Manufacture</i>	9"	8"	6"	5"	4"
<i>Filtered Water Turbidity</i>	Continually meets required level		Occasionally doesn't meet required level		Frequently doesn't meet required level

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	CHECMICAL FEED SYSTEM		WSCCSYS		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Years of Service</i>	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
<i>Feed line leakage</i>	No detectable leakage	Minor detectable leakage	Moderate detectable leakage	Considerable detectable leakage	Heavy detectable leakage
<i>Feed Pump Noise</i>	No unusual noises detected	Slight whine/rattle detected	Moderate whine/rattle detected, easily heard over pump noise	Loud whine/rattle	Disturbingly loud vibrations during operation
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	VACUUM CHLORINATOR		WSVACCL		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Years in Service</i>	< 3 years	≥ 3 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
<i>Condition of Chlorinator Housing/ Body</i>	No visible cracks or broken parts	A few cracks or worn areas but still serviceable		Excessive number of cracks in housing and broken parts. Barely serviceable	
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	FLOW METER		WSFLME		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Years of Service</i>	< 1 year	≥ 1 and < 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 years
<i>Years since last calibration</i>	< 1 year	≥ 1 and < 2 years	≥ 2 and < 3 years	≥ 3 and < 4 years	≥ 4 years
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1 per Year	2 per Year	3 per Year	More than 3 per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		BUILDING		WSTFBLD	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Exterior Building Condition	Great condition. No delamination's (Siding, Roof, Foundation, Doors and Windows in pristine condition).	Good condition. No visual delamination (Siding, Roof, Foundation, Doors and Windows showing minimal wear).	Fair condition. Minor delamination's (Siding, Roof, Foundation, Doors and Windows need adjustment).	Poor condition. Some visual delamination's (Siding, Roof, Foundation, Doors and Windows not working).	Very Poor -Critical condition. Excessive delamination's (Siding, Roof leaking, Foundation, Doors and Windows broken). Unsafe.
Interior Building Condition	Great condition. No delamination's (Walls, Ceiling and Floors in pristine condition).	Good condition. No visual delamination (Walls, Ceiling and Floors showing minimal wear).	Fair condition. Minor delamination's (Repainting needed, light bulbs need replaced and windows or doors need adjustment).	Poor condition. Some visual delamination's (Windows or doors inoperable, paint peeling and electrical components not working).	Very Poor -Critical condition. Excessive delamination's (Windows broken and doors unlockable). Unsafe.

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		OFFICE FURNITURE AND SUPPLIES		WSOFS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 5 years	≥ 5 and < 7 years	≥ 7 and < 9 years	≥ 9 and < 11 years	≥ 11 years
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		COMPUTER		WSCOMP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 1 years	≥ 1 and < 2 years	≥ 2 and < 3 years	≥ 3 and < 4 years	≥ 5 years

Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never
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ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	GENERATOR		WSTFGEN		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Number of Exercises</i>	12 + per year	8 - 11 per year	4 - 7 per year	1 -3 per year	0 per year
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1 - 2 per year	3 - 5 per year	6 - 10 per year	> 10 per year
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	INTAKE STRUCTURE AND VALVES		WSISV		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Screen and Piping Condition</i>	Screen is intact and piping in good shape		Screen showing signs of deterioration.		Screen severely damaged/deteriorated/missing
<i>Isolation Valve - Was valve operable last time used</i>	Yes		Unknown		No
<i>Unplanned Outages Avg # per Year</i>	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	LAB EQUIPMENT		WSLAB		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
<i>Age</i>	< 3 years	≥ 3 and < 6 years	≥ 6 and < 8 years	≥ 8 and <10 years	≥ 10 years
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		CLARIFIER		WSCLAR	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥ 60 years
Baffle and Weir	Baffle and weir are level, showing consistent flow at all points.		Baffle and weir are slightly off level, or minor algae growth or trash in effluent weir, causing minor inconsistencies in flow.		Baffle and weir are significantly off level, or major algae growth or trash in effluent weir, causing flow short circuiting.
Skimmer Paddles	Paddles are all intact and not corroded		paddle is corroded or damaged by chipping		Paddle is non-functional
Stairs, Handrails, Walkways	No observed damage or rust. Height meets current code.	Minor damage and/or rust to 10% of surface. Structure remains in good working order.	Moderate damage and/or rust to 25% of surface. Structure performance is degraded but functional.	Considerable damage and/or rust to 25-50% of surface. Structural performance compromised. Can be easily moved by hand.	Areas of stairs, handrails or walkways missing or collapsed, and/or rust to >50% of surface. Posts broken or detached from foundation. Height not to current code.

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		PRESEDIMENTATION TANK/ Water Supply Treatment Pond		WSPTNK/WSTP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥60 years
Exterior Coating	No chipping or visible thin spots in exterior coating	Minor chipping or thin areas	Moderate chipping and thin area	Considerable chipping and thin areas	Major areas of chipped or thin exterior coating
Panel Sealant/Caulking	No leaks have been detected/ caulking has no peeling or lifting from paneling, no fading/ no visible rust	Minor leaks detected / caulking has minor peeling or lifting from paneling, minor fading/ no visible rust	Moderate leak caulking has moderate peeling or lifting from paneling, moderate fading/ Some visible rust	considerable leaking/ caulking has considerable peeling or lifting from paneling, considerable fading/ considerable visible rust	Major leaking / caulking has significant peeling or lifting from paneling, extreme fading, major rust (complete sealant failure)
Concrete Ringwall	No cracks or visible structural damage to exposed concrete	Minor cracking or visible damage	Moderate cracking or visible damage	Considerable cracking and visible damage	Major cracking and visible damage to concrete

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		STREAMING CURRENT MONITOR		WSSCM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 11 years	≥ 11 and < 15 years	≥ 15 years
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time.	Never

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		CHLORINE LEAK DETECTOR		WSCLLD	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 3 years	≥ 3 and < 6 years	≥ 6 and < 8 years	≥ 8 and < 10 years	≥ 10 years
Replacement Timeframe	Sensor is < 1 year old		Sensor is 1 year old		Sensor is over 2 years old

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		TELEMETRY		WSTLEM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 5 years	≥ 5 and < 10 years	≥ 10 and < 15 years	≥ 15 and < 20 years	≥ 20 years
Availability of Parts	Yes				No

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		AIR COMPRESSOR		WSTFAC	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time	Never

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		GASOLINE DRIVEN TRASH PUMP		WSGDTP	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Years in Service	1-2 years	≥ 3 and < 4 years	≥ 4 and < 6 years	≥ 6 and < 8 years	≥ 8 years
Leaking seals	No visible sign of leaking seals	Minor leaking seals	Moderate leaking seals	Considerable leaking seals	Major leaking seals
Engine Startup	Starts quickly/runs smoothly		Moderately hard to start engine/runs a little rough		Hard to start/engine quits while in use

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		DAF TANK OR SATURATION VESSEL		WSDAFT	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Corrosion	None Evident, paint shows no discoloration or chipping	Paint chipped, peeling or missing and rust showing on >10% of tank or piping	Paint chipped, peeling or missing and rust showing on >25% of tank or piping		Paint chipped, peeling or missing and rust showing on >50% of tank or piping
Leaks	No leaks evident		Potential intermittent leakage from any seal or connection. Pooling is not evident. Public works reports intermittent leakage.		Leakage from any seal or connection ongoing. Leakage causing pooling.
Preventative Maintenance	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time	Never

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		DAF SKIMMER		WSDAFS	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 4 years	≥ 4 and < 8 years	≥ 8 and < 12 years	≥ 12 and < 15 years	≥ 15 years
Paddles	Paddles are all intact and not corroded	A single paddle is corroded or damaged by chipping	Greater than 1 paddle is corroded or damaged by chipping	Paddles are corroded or damaged, no greater than one is missing	Greater than 1 paddle is missing
Drive Chain and sprockets	Drive chain runs consistently and smoothly. No sign of wear on chain	Drive chain runs consistently and smoothly. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on several links)	Drive chain skips less than once per cycle, no missing teeth on sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on greater than 50% of links)	Drive chain skips less than once per cycle, one or more teeth missing from sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on greater than 75% of links)	Drive chain skips on sprockets greater than once per cycle, one or more teeth missing from sprocket. Visual signs of wear on chain are rounded or inconsistent edges, surface defects on all links)
Corrosion	According to manufacturer's recommendations	75% of the time	50 % of the time	25% of the time	Never

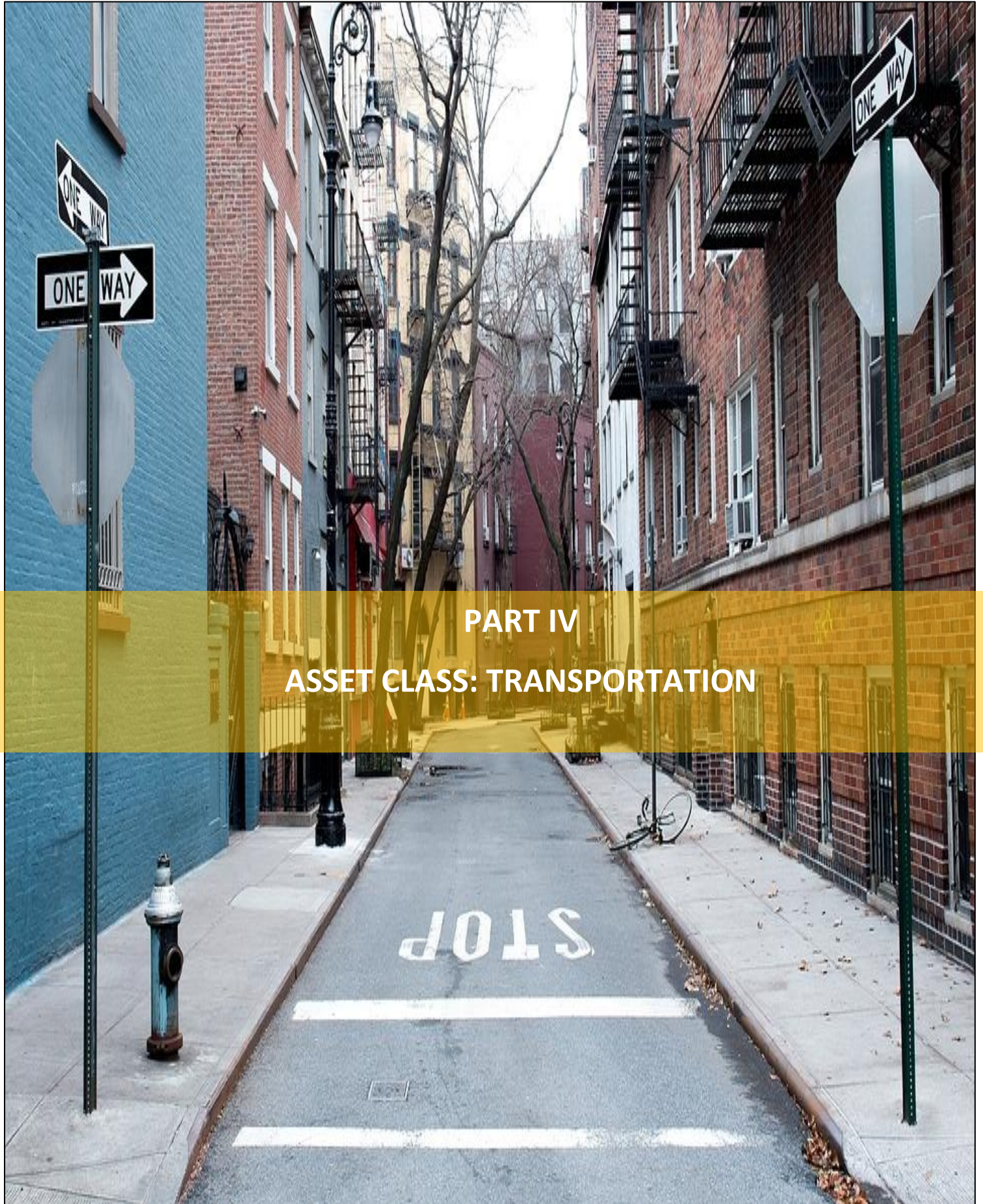
ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		ELECTRIC MOTOR (PUMPS EXCLUDED)		WSELECM	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Motor Hours Run	< 10,000 hours	≥ 10,000 and < 50,000 hours	≥ 50,000 and < 100,000 hours	≥ 100,000 and < 200,000 hours	≥ 200,000 hours
Vibration	No unusual vibration detectable	Minor vibration detected	Moderate vibration	Considerable vibration	Major vibration
Temperature	No unusual temperature detected	Minimal heat from casing using hand	Heat detected by hand	Heat detected by hand is uncomfortable to the touch	Heat too high to assess by hand
Unplanned Outages Avg # per Year	0 per Year	1-2 per Year	3-5 per Year	6-10 per Year	More than 10 per Year

ASSET CLASS:	WATER SUPPLY		PWS		
SUBTYPE:	TREATMENT FACILITY		TFWS		
FEATURE CODE:	MEMBRANE FILTER SYSTEM (Individual filters are consumable items)		WSMFS		
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
System Age	<15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥60 years
Piping, valves and fittings	Excellent condition. Paint on piping, valves and fittings looks great. No leaking evident.	Good condition. Minor rusting on piping, valves and fittings. No leaking evident.	Fair condition. Minor rusting of piping, valves and fittings. Minor leaking visible when pumps running	Poor condition. Significant rusting of piping, valves and fittings. Still operable. Significant leaking visible when pumps running	Very poor - Major rusting of piping, valves and fittings inoperable. Excessive leaking visible when pumps running
Support Structure	Excellent condition. Coating intact, no signs of rust.	Good condition. Some flaking or degradation of coating. Minor rust spots.	Fair condition. Exposed steel over 10% of structure. Rust evident in exposed areas and weld locations.	Poor condition. Exposed steel over 25% of structure. Rust and pitting evident in exposed areas and weld locations.	Very poor condition. Exposed steel over 25% of structure. Cracks, split welds or rusted through evident anywhere on structure.
Unplanned Outages Avg # per Year	0 per Year	1 per Year	2 per Year	3-5 per Year	>5 per Year

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWS	
FEATURE CODE:		UV LIGHT (Bulb replacement is considered a consumable item)		WSUV	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 years	≥ 15 and < 30 years	≥ 30 and < 45 years	≥ 45 and < 60 years	≥60 years
Concrete Tank	No cracks or visible structural damage to exposed concrete	Minor cracking or visible damage, hairline cracks only	Moderate cracking or visible damage, cracks less than 3mm	Considerable cracking and visible damage, cracks greater than 3mm, no visible rebar	Major cracking and visible damage to concrete, exposed rebar
Steel Enclosure Corrosion	None Evident, exterior shows no discoloration or chipping	Exterior coating chipped, peeling or missing and rust showing on >10% of enclosure. Pitting evident on stainless enclosures on >10% of surface	Exterior coating chipped, peeling or missing and rust showing on >25% of enclosure. Pitting evident on stainless enclosures on >25% of surface		Exterior coating chipped, peeling or missing and rust showing on >50% of enclosure. Pitting evident on stainless enclosures on >50% of surface
Leaks	No leaks evident		Potential intermittent leakage from any seal or connection. Pooling is not evident. Public works reports intermittent leakage.		Leakage from any seal or connection ongoing. Leakage causing pooling.

ASSET CLASS:		WATER SUPPLY		PWS	
SUBTYPE:		TREATMENT FACILITY		TFWW	
FEATURE CODE:		TREATMENT FACILITY		WSTF	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Overall Subjective Rating					

*Only to be used if inspection of components is not feasible, subjective based on staff opinion. This is not recommended unless a formal engineering condition assessment is pending, and the rating is temporary.



PART IV

ASSET CLASS: TRANSPORTATION

ASSET CLASS:		TRANSPORTATION		TRN	
SUBTYPE:		ROAD		RDS	
FEATURE CODE:		RRGR, RRCB-A, RRCB-C, RRRD-A			
ROAD					
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	15-30 Years	30-45 Years	45-60 Years	> 60 Years
Potholes	None	minor potholes (<25mm in depth)	occasional small potholes (25-50mm in depth)	moderate (50 - 100mm in depth) over 10-25% of the area	severe (over 100mm in depth) over at least 25% of the area
Rutting	None	Slight rutting (< 25 mm) in some areas during wet weather	Moderate rutting (25-50 mm deep), during wet weather	Severe rutting (> 75 mm) in 10 to 25 % of roadway during wet weather.	Severe rutting (> 75 mm) on more than 25 % of roadway during wet weather
Surface Gravel Condition	Good gravel thickness and excellent drainage.	Adequate gravel thickness, good pavement crown, and good drainage. Moderate loose aggregate and slight washboarding.	Gravel layer is adequate, but additional aggregate is necessary in isolated areas. Some loose aggregate (50 mm deep). Moderate washboarding (25-50 deep) over 10 to 25% of the area.	Some areas (up to 25 %) with little or no aggregate. Moderate to severe washboarding (> 75 mm) over up to 25 % of area. Severe loose aggregate (> 100 mm)	Many areas (>25 %) with little or no aggregate. Moderate to severe washboarding (> 75 mm) over more than 25 % of area. Severe loose aggregate (> 100 mm)

ASSET CLASS:		TRANSPORTATION		TRN	
SUBTYPE:		STREET LIGHT		STL	
FEATURE CODE:		STREET LIGHT		TFSL, TFSLOR, UTPO	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	≥15 and <30 Years	≥30 and <45 Years	≥45 and <60 Years	≥60 Years
Luminaire Type	Metal Halide		HPS / LPS		LED
Pole Condition	Excellent, coating / finishing defect free		Fair, coating / finishing shows some visual defects but no pitting or cracking		Poor, pitting or cracking is evident
Electrical Condition	Excellent, to current municipal standard, no operational issues.		Fair, obsolete or non-standard parts, no operational issues.		Operational issues such as outages, inconsistent function
Foundation	Excellent condition, no cracks or chipping		Broken concrete, cracks up to 3mm, no exposed rebar		Broken concrete, exposed rebar or cracks >3mm

ASSET CLASS: TRANSPORTATION		TRN			
SUBTYPE: SIGN		SGN			
FEATURE					
CODE: SIGN		TFSP			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Priority	Guide and miscellaneous signs (street name, wayfinding, hospital, etc.)		Warning signs (stop ahead, obstruction ahead, curve ahead, change in speed ahead, deer crossing, etc.)		Regulatory Signs (stop, yield, crosswalk, speed limit, parking/ no parking)
Sign condition	New		noticeable fading and/or color change, no damage		Damaged severely or badly faded and color almost gone
Post Condition	New		Signs of wear/age (minor rusting, pitting, wood cracking) but remains sturdy and plumb		Poor condition. Significant rusting, pitting or cracking, bending, needs replaced
Visibility	Excellent. No obstructions, sign oriented towards traffic.		Partially obstructed by other signs, trees, shrubs, etc. or oriented slightly away from traffic however sign's effectiveness not significantly reduced.		Obstructed by other signs, trees, shrubs, etc. or oriented in such a manner where effectiveness of sign is significantly or totally reduced

ASSET CLASS:		TRANSPORTATION		TRN	
SUBTYPE:		STREET LIGHT		STL	
FEATURE					
CODE:		SIGNAL		TSIG, TFTL	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	≥15 and <30 Years	≥30 and <45 Years	≥45 and <60 Years	≥60 Years
Post and arm condition	New		Signs of wear/age (minor rusting, pitting, wood cracking) but remains sturdy and plumb		Poor condition. Significant rusting, pitting or cracking, bending, needs replaced
Visibility	Excellent. No obstructions signal oriented towards traffic.		Partially obstructed by signs, trees, shrubs, etc. or oriented slightly away from traffic however signal's effectiveness not significantly reduced.		Obstructed by signs, trees, shrubs, etc. or oriented in such a manner where effectiveness of signal is significantly or totally reduced
Bulbs burnt out	No				Yes

ASSET CLASS: TRANSPORTATION		TRN			
SUBTYPE: SIDEWALK/TRAILS		SWT			
FEATURE CODE: SIDEWALK/TRAILS		RRSW-C/A/B/W, RRTR, RRPW, RRDR-A			
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	≥15 and <30 Years	≥30 and <45 Years	≥45 and <60 Years	≥60 Years
Surface Condition (concrete)	Like new. No signs of surface wear, spalling, cracking, heave or settlement. All control & expansion joints are in good shape and edges are intact	Good Condition. Occasional cracks <10mm, slight signs of surface wear, slight spalling or scaling. Some isolated patches in good condition. Occasional settlement of some slabs <25mm vertical.	Moderate spalling and scaling, frequent patches in good condition. Moderate longitudinal cracks extending across control joints of about 30% to 40% of length of sidewalk. Faulting (i.e. vertical surface drop) <25mm vertical in about 10% to 20% of slabs.	Up to 50% of slabs have severe chipping or spalling. Moderate cracks (10 to 20mm) extending continuously across a few slabs, Moderate settlement and trip hazard - slabs faulting 25mm or more. Large number of patch work in fair condition.	All the previous mentioned defects are in severe condition, posing a safety hazard to users, poor drainage and extensive patching that is in poor condition.
Surface Condition (asphalt)	Like new. No signs of surface wear or raveling, cracking, heave or settlement. Asphalt surface age <1 yr.	Good Condition. Minor cracks <10mm, slight signs of surface wear or raveling. Isolated patches in good condition. Slight surface rippling (sag or hog) at occasion isolated spots.	Moderate surface wear and raveling. Frequent patching in good condition. Moderate longitudinal cracks from 10 to 20mm. Minor block cracks visible in a few lengths. Occasional sagging & shallow potholes.	Top surface worn out, severe raveling. Continuous longitudinal cracks >20mm open, closely spaced block cracking. Significant heave or sagging with frequent potholes >25mm in depth. Severely eroded or broken edges.	All the previous mentioned defects are in severe condition, posing a safety hazard to users, poor drainage and extensive patching that is in poor condition.
Surface Condition (gravel)	Like new. No signs of surface wear. Good compaction and drainage.	Good Condition. Minor erosion or scour. Minor rutting, occasional shallow (<25mm) pothole	up to 50% of gravel layer washed way or embedded in subgrade, moderate ruts, moderately spaced potholes (>2-3m spacing, 25-50mm depth) and drop off edges in about 50% of sidewalk/trail	Top gravel layer mostly eroded with closely spaced potholes (<1m spacing, >50mm depth) in more than 50% of surface area, Shoulder edges eroded with deep burrows/cuts.	All the previous mentioned defects are in severe condition, posing a safety hazard to users, poor drainage.

ASSET CLASS:		TRANSPORTATION		TRN	
SUBTYPE:		BRIDGE		BRG	
FEATURE					
CODE:		BRIDGE		STPR	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	< 15 years	≥ 15 and < 35 years	≥ 35 and < 55 years	≥ 55 and < 80 years	≥ 80 years
Abutments	Excellent, no concrete spalling, wood rot or steel corrosion		Fair, concrete spalling, wood rot or steel corrosion over <10% of surface		Conduct engineering assessment. Concrete spalling, wood rot or steel corrosion over >10% of surface
Foundations					
Girders					
Beams					
Decking	No cracking or spalling	Cracks <3mm wide over less than 10% of the surface	Cracks <3mm wide over 50% or greater of the surface	Cracks >3mm wide over 25% of surface, <5 potholes	Cracks >3mm wide over >25% of surface, >5 potholes
Sidewalks	Excellent, no cracking, misalignment or missing concrete.		Fair, minor cracking over <25% of surface, limited missing concrete, misalignment does not impede walking or wheelchairs		Poor, cracking over >25% of surface, missing concrete impedes travel, misalignment poses tripping hazards or impedes wheelchairs
Barriers	Excellent, barriers intact, no concrete spalling or corrosion		Fair, barriers intact, limited concrete spalling and corrosion		Poor, missing barrier, extensive concrete spalling, significant corrosion
Bearings	Bearings and joints are to be assessed by a qualified professional engineer				
Joints					

NOTE: This assessment is not intended as an engineering structural assessment. Structural condition assessments of bridges shall be conducted by a qualified professional engineer in accordance with all applicable laws and regulations.

ASSET CLASS:		TRANSPORTATION		TRN	
SUBTYPE:		BARRIER/GUARD RAIL		BAR	
FEATURE					
CODE:		BARRIER/GUARD RAIL		STGR, SB, FL	
Distress Mode	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Age	<15 Years	≥15 and <30 Years	≥30 and <45 Years	≥45 and <60 Years	≥60 Years
Height	Meets current code				Does not meet current code
Damage	None	Post alignment good, rail connections missing or not tight	Poor post alignment, railing connections missing or not tight	Majority of posts out of alignment, rail connections insufficient for impact	Poor rail alignment, posts missing, rail missing
Rust	None	10% of surface	25% of surface	25-50% of surface	>50% of surface

[illegible]

Figure 1: Paver Asphalt Road Assessment Form