

SITE NAME: Crossness STW
 DATE: November 2023

ODOUR RISK ASSESSMENT

Process Stage	Process Unit	UWWTD/STC	Normal			Abnormal			Nearest Customer/ Receptor(s)	Offensiveness (0-5)	Likelihood of Impact (0-5)	Odour Risk (<5 Low, >15 High)	Odour Impact	Mitigation Measures (see OMP for further information)	Residual Odour Impact (L/M/H)	Responsibility for Mitigation Measures	Customer Communication Needed?	Notes
			Odour Description	Constant/ Intermittent/ Occasional/ Rare	Event Description	Likelihood of Event Frequent/ Rare/ Planned	Length of Time of Release											
ADD EXTRA ROWS BELOW THIS ROW IF REQUIRED											0	-	-	-	-	-		
Site Housekeeping	General	UWWTD	General	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Care taken to ensure site clean and tidy	L	All site personnel	N		
Works Inlet	Low & High level sewers	UWWTD	Dilute sewage	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	Enclosed in a building with positive pressure fans. As per decision from Blackfriars Crown Court (2005): Ensure all doors and windows are kept closed at all times, save as required for access purposes or in an emergency.	
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	UWWTD/STC	Concentrated sewage	R				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-	Enclosed tanker discharge.	
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	UWWTD/STC	Concentrated sewage		Spillage	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Wash down area.	L	Team Leader	N	Using the category level overview matrix, if the spillage is either, higher than category 3 or considered to present an offsite odour nuisance potential, the Process Controller shall make a note in the logbook.	
Storm Separation	Storm Tanks	UWWTD	Dilute sewage	O				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-		
Storm Separation	Storm Tanks	UWWTD	Raw sludge		Amajets failure	F	Year	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	3	9	Medium	Repair Amajets / Empty storm tanks at next storm event	M	Team Leader	N		
Storm Separation	Storm Tanks	UWWTD	Dilute sewage		Failure of return system	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Control system in manual	L	Process Controller	N		
Storm Separation	Storm Tanks - Screens	UWWTD	Screenings	O				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-		
Storm Separation	Storm Tanks - Screens	UWWTD	Screenings		Breakdown of screen	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Repair screens	L	M&E	N	Open screens	
Storm Separation	Storm Tanks - Screenings skips	UWWTD	Screenings	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	Skips are removed once full or part full.	
Storm Separation	Storm Tanks - Screenings skips	UWWTD	Screenings		Long storage period	P	Months	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Medium	Change skip - Contractor service	L	Process Controller	N		
Storm Separation	Storm Tanks - Screenings skips	UWWTD	Screenings		Spillage	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Clean up	L	Team Leader	N		
Preliminary Treatment	Coarse screen - Low & High level sewer	UWWTD	Screenings	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	Enclosed in a building with positive pressure fans. As per decision from Blackfriars Crown Court (2005): Ensure all doors and windows are kept closed at all times, save as required for access purposes or in an emergency.	
Works Inlet	Coarse screen - Low & High level sewer	UWWTD	Screenings		Breakdown of screen	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Repair screen	L	M&E	N		
Preliminary Treatment	Coarse screen - Low & High level sewer	UWWTD	Screenings		Maintenance	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Clean screens for maintenance	L	Team Leader	N		

New Preliminary Treatment Works	Main Inlet Chamber	UWWTD	Dilute sewage	C	Breakdown of IPS Pumps	P	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	None required but Pump failure at IPS will need maintenance	L	M&E	N	Main Inlet Chamber is odour controlled and covered. It is fed from the 4 No. Inlet culverts from the IPS.
New Preliminary Treatment Works	Fine Screens	UWWTD	Dilute sewage to screened sewage and screenings	C	Maintenance or break down of fine screen	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Clean screens, remove blockages or repair screen	L	M&E and/or Process Controller	N	Fine Screens are odour controlled and covered
New Preliminary Treatment Works	CVGC's (Constant Velocity Grit Channels)	UWWTD	Screened sewage	C	Maintenance or break down of CVGC	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Clean CVGC bridges or Pumps remove blockages or repair	L	M&E and/or Process Controller	N	CVGCs are odour controlled and covered
New Preliminary Treatment Works	Screenings Conditioning	UWWTD	Screenings	C	Conveyor failure, Screenings compactor (wash press) failure, overflow to open skip, no skips	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low	Allowable redundancy in installation. Clean /routine maintenance/ repair	L	M&E and/or Process Controller	N	Conveyors are odour controlled and enclosed. 5 No screening skips or covered. Overflow skip is rarely in operation
New Preliminary Treatment Works	Grit Building	UWWTD	Grit	C	Faulty Grit classifier or no skip	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Allowable redundancy in installation. Clean /routine maintenance/ repair	L	M&E and/or Process Controller	N	Grit Building is enclosed and odour controlled
Preliminary Treatment	Screenings skips - Low & High level sewer	UWWTD	Screenings	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-	Open to atmosphere.
Preliminary Treatment	Screenings skips - Low & High level sewer	UWWTD	Screenings		Spillages	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Clean up	L	Process Operator	N	
Preliminary Treatment	Screenings skips - Low level sewer	UWWTD	Screenings		Skips not collected by contractor	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Chase contractors	L	Process Controllers	N	
Preliminary Treatment	FFT Screens	UWWTD	Screenings	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	Open to atmosphere.
Preliminary Treatment	FFT Screens	UWWTD	Screenings		Breakdown of screen	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Repair screen	L	M&E	N	
Preliminary Treatment	FFT Screens	UWWTD	Screenings		Maintenance	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Screens taken out of service. Complete maintenance promptly. Escalate any issues identified to site management and log any repairs needed on SAP.	L	M&E	N	
Preliminary Treatment	Screenings compactors - FFT screens	UWWTD	Screenings	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-	Enclosed skips.
Preliminary Treatment	Screenings compactors - FFT screens	UWWTD	Screenings		Spillages when skip is disconnected	F	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Medium	Clean area	L	Team Leader	N	
Preliminary Treatment	Screenings compactors - FFT screens	UWWTD	Screenings		Skips not collected by contractor	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Chase contractors	L	Process Controller	N	It happens once a month.

Preliminary Treatment	Screenings compactors - FFT screens	UWWTD	Screenings		Breakdown of loader / megawasher	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Repair / Use of stand by loader	L	M&E	N	
Preliminary Treatment	Grit Channel and Tram	UWWTD	Dilute sewage	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	
Preliminary Treatment	Grit Channel and Tram	UWWTD	Dilute sewage		Breakdown of Tram	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Repair Tram	L	M&E	N	
Preliminary Treatment	Grit Channel and Tram	UWWTD	Grit		Drain of channel for maintenance or repair	P	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Channel taken out of service. Complete maintenance promptly. Escalate any issues identified to site management and log any repairs needed on SAP.	M	M&E/Contractor	N	In extreme levels of grit a crane can be used to remove it from the channel.
Preliminary Treatment	Grit Screens	UWWTD	Grit	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	
Preliminary Treatment	Grit Screens	UWWTD	Grit		Breakdown / Blockage	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Repair / Clean	L	M&E / Operator	N	
Preliminary Treatment	Grit Screens	UWWTD	Grit		Maintenance	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Screens taken out of service. Complete maintenance promptly. Escalate any issues identified to site management and log any repairs needed on SAP.	L	M&E	N	
Preliminary Treatment	Grit Drying Bay	UWWTD	Grit	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Medium	-	-	-	-	Can stay in the drying bay for up to 2 weeks.
Preliminary Treatment	Grit Drying Bay	UWWTD	Grit		Grit left more than two weeks	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Medium	Chase contractor to remove grit	L	Process Controller	N	
Crude Sewage Transfer	Flow & Distribution to Primary Settlement Tanks	UWWTD	Crude sewage	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	0	0	Low	-	-	-	-	Pipe located under ground.
Primary Settlement	Primary Settlement Tanks	UWWTD	Crude sewage	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	Existing covers over the desludge trough, odour control covers at outlet of PSTs. / As per decision from Blackfriars Crown Court (2005) - Any exceedance of the agreed sludge depth in PSTs shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures. ; - Ensure all inspection hatches on PST sludge channels are closed at all time, save for necessary inspection or in an emergency and - PSTs will be dipped at least twice a week.
Primary Settlement Tanks	Primary Settlement Tanks 17 - 24	UWWTD	Crude sewage and raw sludge	C	OCU failure	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	3	12	Medium	Hatches can be opened for ventilation if required. OCU repair	M	Team Leader, PO and M&E	N	DC1, RSPS and PSTs 17-24 are covered.
Primary Settlement	Primary Settlement Tanks	UWWTD	Crude sewage		Scraper bridge breakdown	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Refresh tank and chase repair	H	Team Leader	N	
Primary Settlement	Primary Settlement Tanks	UWWTD	Raw sludge		Tank drained down for maintenance	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium	Clean tank and pump the hoppers empty	L	Team Leader	N	

Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Raw sludge		Scum bridge breakdown: scum sitting on the surface	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Refresh tank and chase repair	H	Team Leader	N	
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Raw sludge		Trough scum flap remains open	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low	Manually close the flap	L	Shift Operator	N	
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Odour Controlled / Underground.
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw sludge, H2S		Failure of OCU	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Raise a repair request with the M&E Team via SAP. If unable to repair in-house call specialist contractor if required.	L	M&E	N	
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw sludge, H2S		Pump failure	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Use stand by pump / Fit new pump	L	Process Controllers / M&E	N	
Settled Sewage Transfer	Flow & Distribution to Secondary Treatment	UWWTD	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	0	0	Low	-	-	-	-	
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-	Pipe between each pair of PSTs and its associated pair of aeration lanes.
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy		Spinner / Mixer failure	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Stop flow into tanks / Repair the spinners	L	Process Controllers / M&E	N	
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy		Lane drained down	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	-	-	-	N	
Secondary Treatment (Biological)	Flow & Distribution to Secondary Settlement	UWWTD	Earthy					Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	-	-	-	-	-	Pipe between each pair of aeration lanes and its associated four FSTs.
Secondary Settlement	Final Settlement Tanks	UWWTD	Final effluent	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	0	0	0	Low	-	-	-	-	
Secondary Settlement	Final Settlement Tanks	UWWTD	Earthy		High sludge blanket level	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Bottom draining of tank / Restrict flow to the tank	L	Process Controllers	N	
Secondary Settlement	Final Settlement Tanks	UWWTD	Earthy		Bridge breakdown	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Drain tank for repair if required	L	M&E	N	
Secondary Settlement	Scum Removal System	UWWTD	Final effluent	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	0	0	0	Low	-	-	-	-	
Secondary Settlement	Scum Removal System	UWWTD	Earthy		Breakdown	F	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Chase repair / Manual scum removal	L	Team Leader / M&E	N	
Secondary Settlement	Scum Removal System	UWWTD	Earthy		Scum build up blocking scum removal system	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	2	4	Low	Manual scum removal	L	Team Leader	N	Happens once every two weeks .
Secondary Settlement	RAS Chambers & Pumping	UWWTD	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	
Secondary Settlement	RAS Chambers & Pumping	UWWTD	H2S		Pump failure	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Use assist or stand by pump.	L	Process Controllers	N	

Secondary Settlement	RAS Chambers & Pumping	UWWTD	H2S		Maintenance	P	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Use assist or stand by pump.	L	M&E	N	
Secondary Settlement	SAS Buffer Tank	UWWTD	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Daily checks. Level monitoring via SCADA	-	-	-	Open tank, short residence time.
Secondary Settlement	SAS Buffer Tank	UWWTD	Earthy		Spillage	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Repair leak / stop pumping / Clean up area	L	Team Leader	N	Clean up would take place within hours.
Final Effluent	Specify Type	UWWTD	Final effluent	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	0	0	0	Low	-	-	-	-	
Final Effluent	Specify Type	UWWTD	Earthy		Loss of solids from FSTs	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	Bottom draining of tank / Restrict flow to the tank	L	Process Controllers	N	
Sludge Conditioning (Indigenous)	Picket Fence Thickener	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Covered and odour controlled. As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches on PFTs are closed at all times, save for necessary inspection or in an emergency.
Sludge Conditioning (Indigenous)	Picket Fence Thickener	STC	Raw sludge		Failure of OCU	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Conditioning (Indigenous)	Picket Fence Thickener	STC	Raw sludge		Breakdown of PFTs	R	Months	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Drain tank and repair.	L	Process Controllers / M&E	N	
Sludge Conditioning (Indigenous)	Picket Fence Thickener	STC	Raw sludge		Breakdown of PFT pumps	F	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Use stand by pump and organise repair through M&E Team.	L	M&E	N	
Sludge Conditioning (Indigenous)	Picket Fence Thickener	STC	Raw sludge		Spillage	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium	Clean up spillage.	L	Team Leader	N	
Sludge Conditioning (Indigenous)	Gravity Belt Thickeners	STC	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Treatment of raw sludge. Enclosed in a building and abated by odour control unit. As per decision from Blackfriars Crown Court (2005); Ensure all doors and windows are kept closed at all times, save as required for access purposes or in an emergency.
Sludge Conditioning (Indigenous)	Gravity Belt Thickeners	STC	Earthy		Spillage	F	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Clean up spillage.	L	Shift Operator	N	
Sludge Conditioning (Indigenous)	Gravity Belt Thickeners	STC	Earthy		Plant failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Wash off belts and empty feed hopper. Raise a repair with M&E Team via SAP. Service contract in place should a contractor repair be needed.	L	Shift Operator	N	
Sludge Conditioning (Indigenous)	Gravity Belt Thickeners	STC	Earthy		Maintenance	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Wash off belts and empty feed hopper. Service contract in place.	L	M&E	N	
Sludge Conditioning (Indigenous)	Aquabelts	STC	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	-	-	-	-	Enclosed in a building.
Sludge Conditioning (Indigenous)	Sludge (SAS) Blending Tank	STC	Earthy	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Covered and Odour Controlled. As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches are closed at all times, save for necessary inspection or in an emergency.
Sludge Conditioning (Indigenous)	Sludge (SAS) Blending Tank	STC	Earthy		Spillage	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Regular checks throughout the day. Clean up spillage. Small spillages are cleaned up within 2 hours.	L	Shift Operator	N	

Sludge Conditioning (Indigenous)	Sludge (SAS) Blending Tank	STC	Earthy / H2S		OCU Failure	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Conditioning (Indigenous)	Sludge (Primary) Blending Tank	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Covered and Odour Controlled. Service contract in place. As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches are closed at all time, save for necessary inspection or in an emergency.
Sludge Conditioning (Indigenous)	Sludge (Primary) Blending Tank	STC	Raw sludge / H2S		Failure of OCU	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Conditioning (Indigenous)	Sludge (Primary) Blending Tank	STC	Raw sludge / H2S		Failure of tank (Structure, valves, ...)	R	Months	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	3	12	Medium	Drain tank, chase repair and divert sludge to RawSAS Tank No3.	M	Site Manager	N	
Sludge Conditioning (Indigenous)	Sludge (Primary) Blending Tank	STC	Raw sludge / H2S		Breakdown of sludge transfer pumps	F	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Three pumps available - duty, assist and standby. Raised on SAP for maintenance repair.	L	M&E	N	
Sludge Conditioning (Indigenous)	Sludge (Primary) Blending Tank	STC	Raw sludge / H2S		Spillage	F	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Clean up area.	L	Shift Operator	N	
Sludge Import	Sludge Imports	STC	Raw Sludge					Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low	ensure tankers coupled correctly				
Sludge Import	Sludge Imports	STC	Raw Sludge		Spillage	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Clean up area.	L	Shift operator	N	
Sludge Conditioning (Indigenous)	THP High Energy Mixing Tank	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	-	-	-	-	Covered and Odour Controlled. As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches are closed at all time, save for necessary inspection or in an emergency.
Sludge Conditioning (Indigenous)	THP High Energy Mixing Tank	STC	Raw sludge		Failure of OCU	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Conditioning (Indigenous)	THP High Energy Mixing Tank	STC	Raw sludge / H2S		Blockages due to rag build up	F	Months	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Drain and isolate tank / Unblock, clean up and divert sludge to Blending Tank 4	L	Shift Operator	N	
Sludge Dewatering	Liquor Return	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	0	0	Low	-	-	-	-	Contained in underground pipework.
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	-	-	-	-	As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches are closed at all times.
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge		Hot weather	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Increase on-site odour checks.	M	Shift Operator	N	Level monitoring linked to SCADA.
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge		Spillages / Sludge overflowing	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Clean up spillage.	L	Shift Operator	N	
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	4	0	0	Low	abated by OCU	-	-	-	Covered and Odour Controlled. As per decision from Blackfriars Crown Court (2005); Ensure all inspection hatches are closed at all time, save for necessary inspection or in an emergency.
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge		Failure of OCU	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Job raised to M&E Team via SAP. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Storage & Movements	Sludge Buffer Tanks	STC	Raw sludge		Hatches left open	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	1	4	Low	Close hatches	L	Shift Operator	N	
Sludge Treatment	THP and associated tanks	STC	Raw sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low	Odour abated by OCU. Monthly inspections by specialist contractor.				

Sludge Treatment	THP and associated tanks	STC	Raw sludge	C	OCU failure	R	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	3	9	Medium	Job raised to M&E Team via SAP. M&E repair if possible or a contractor is employed.	L	M&E	N	
Sludge Storage & Movements	Cake Barn	STC	Cake	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low	Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage.				No storage or stockpiling of sludge cake on site except in enclosed structures with air extraction or in the event of an emergency
Sludge Storage & Movements	Cake Imports	STC	Cake					Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low	Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage. Imports subject to pre-acceptance checks.				
Sludge Storage & Movements	Cake Barn (including cake imports)	STC	Cake		disposal routes for sludge cake are not available	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium	Look to use alternative storage areas either on-site or at an alternative TW location.	L	TW biorecycling	N	Thames Water Biorecycling overseeing the off-site sludge cake disposal shall arrange for sludge to be stored appropriately at another Thames Water site. If this is not possible then landfill shall be considered.
Sludge Storage & Movements	Cake Barn (including cake imports)	STC	Cake		disposal routes for sludge cake are not available	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium	Policy on Crossness STW	L	TW	N	Policy on Crossness STW to store liquid sludge as per section on Sludge Storage Tanks. Ensure to minimise double handling of solid materials and any potential issues with sludge cake liquors leaching to ground
Sludge Storage & Movements	Cake Barn	STC	Cake		sludge processing plant failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium	Loss in sludge processing capacity should be identified	M	Site Manager	N	If timescale for restoration of full process capability is such that due to the failure the need to implement the Emergency Protocol is probable, the necessary resources shall be brought in to immediately organise the hire of, (as necessary), additional processing plant to cover the shortfall in processing capacity. Once the emergency is over, the stockpile will be removed and ground remediation carried out as quickly as possible as per the procedures in the Emergency Protocol
Power Generation	STW Standby Generators	STC	Diesel	R				Areas around Fairway Drive, Waldrist Way & Norman Road.	2	1	2	Low					Enclosed in a building. As per decision from Blackfriars Crown Court (2005); Ensure all doors and windows are kept closed at all times, save as required for access purposes or in an emergency.
Odour Control Unit	Biofilter and activated carbon filters - New preliminary treatment works	UWWTd	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					As per decision from Blackfriars Crown Court (2005); Any exceedance of the agreed hydrogen sulphide emissions from bioscrubbers and biofilters shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures.
Odour Control Unit	Biofilter and activated carbon filters - New preliminary treatment works	UWWTd	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	4	8	Medium	Contact specialist contractor. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Biofilter and activated carbon filters - New preliminary treatment works	UWWTd	H2S		Maintenance of scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	2	4	8	Medium	Contact specialist contractor	L	Team Leader	N	
Odour Control Unit	Biofilter and activated carbon filters - PSTs 17-24	UWWTd	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					As per decision from Blackfriars Crown Court (2005); Any exceedance of the agreed hydrogen sulphide emissions from bioscrubbers and biofilters shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures.
Odour Control Unit	Biofilter and activated carbon filters - PSTs 17-24	UWWTd	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Significant repairs raised on APS to get funding and repairs in place.	L	Team Leader	N	

Odour Control Unit	Biofilter and activated carbon filters - PSTs 17, 24	UWWTd	H2S		Maintenance of scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor	L	Team Leader	N	
Odour Control Unit	Bio-scrubber - PFT	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					As per decision from Blackfriars Crown Court (2005); Any exceedance of the agreed hydrogen sulphide emissions from bioscrubbers and biofilters shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures.
Odour Control Unit	Bio-scrubber - PFTs	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Bio-scrubber - PFTs	STC	H2S		Maintenance of scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Activated Carbon filters - PSTs 1-8 and Raw Sludge Wet Well	UWWTd	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	
Odour Control Unit	Activated Carbon filters - PSTs 1-8 and Raw Sludge Wet Well	UWWTd	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Activated Carbon filters - PSTs 1-8 and Raw Sludge Wet Well	UWWTd	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Activated Carbon filters - PSTs 9-16 and Raw Sludge Wet Well	UWWTd	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low	-	-	-	-	
Odour Control Unit	Activated Carbon filters - PSTs 9-16 and Raw Sludge Wet Well	UWWTd	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Activated Carbon filters - PSTs 9-16 and Raw Sludge Wet Well	UWWTd	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Bio-scrubber - Raw Sludge Storage tanks	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					As per decision from Blackfriars Crown Court (2005); Any exceedance of the agreed hydrogen sulphide emissions from bioscrubbers and biofilters shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures.
Odour Control Unit	Bio-scrubber - Raw Sludge Storage tanks	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Unit	Bio-scrubber - Raw Sludge Storage tanks	STC	H2S		Maintenance of scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	M&E	N	
Odour Control Unit	Bio-scrubber - Tanks 3 and 4	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					As per decision from Blackfriars Crown Court (2005); Any exceedance of the agreed hydrogen sulphide emissions from bioscrubbers and biofilters shall be reported on the next working day to the London Borough of Bexley and within 30 days thereafter proposals shall be submitted to the Borough for remedial measures.
Odour Control Unit	Bio-scrubber - Tanks 3 and 4	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	

Odour Control Packages	Bio-scrubber - Tanks 3 and 4	STC	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	M&E	N	
Odour Control Unit	Water Scrubber - THP	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					
Odour Control Unit	Water Scrubber - THP	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Packages	Water Scrubber - THP	STC	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	M&E	N	
Odour Control Unit	Bio-trickling filter - Supernatant Well	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					
Odour Control Unit	Bio-trickling filter - Supernatant Well	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Packages	Bio-trickling filter - Supernatant Well	STC	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	M&E	N	
Odour Control Unit	GBT	STC	H2S	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					
Odour Control Unit	GBT	STC	H2S		Scrubbing effectiveness failure	R	Weeks	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	4	16	High	Alarm raised on SCADA. Job raised to M&E Team via SAP who carry out a same day review. M&E repair if possible or a contractor is employed. Service contract in place.	L	Team Leader	N	
Odour Control Packages	GBT	STC	H2S		Maintenance of the scrubbing system	P	Days	Areas around Fairway Drive, Waldrist Way & Norman Road.	4	2	8	Medium	Contact specialist contractor. Service contract in place.	L	M&E	N	
Sludge Treatment	Primary Digesters and gas bag holders.	STC	Biogas	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	5	1	5	Low	Regular checks are made on the primary digester whesoe valves and other pressure relief devices. 12 monthly contractor service with report provided.		Tech 1 / contractor		Service contract in place for Whesoe valves plus daily/weekly checks by Operations, PRVs monitored by SCADA, 3-monthly SHE 6M by management.
Sludge Treatment	Digested Sludge Buffer Tanks	STC	Digested Sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	3	2	6	Medium					Odour controlled.
Sludge Treatment	Dewatering presses	STC	Digested Sludge	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	3	1	3	Low					Odour controlled.
Biogas Systems	CHP Engines	STC	Combusted biogas	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					CHP engines and boilers are subject to regular maintenance to maintain maximum use of outlets. Daily checks.

Biogas Systems	Boilers	STC	Combusted biogas	C				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low					CHP engines and boilers are subject to regular maintenance to maintain maximum use of outlets. Daily checks.
Biogas Systems	Waste Gas Burner - Flare stack gas	STC	Combusted biogas	I				Areas around Fairway Drive, Waldrist Way & Norman Road.	1	1	1	Low		Contractor			The flare stack is maintained under a service contract with the supplier with a report provided.
Biogas Systems	Waste Gas Burner - Flare stack	STC	Biogas / H2S		Failure allowing gas to escape from digesters	R	Hours	Areas around Fairway Drive, Waldrist Way & Norman Road.	5	4	20	High	Gas monitoring system in place. Automatic shutdown of the process and stop digester feeding if PRVs are activated for a sustained period of time. Regular service contract. Investigate and rectify, Contractors contacted by phone to organise repair.	L	TM / M&E	N	Consider customer communication (EHO) if prolonged / EA to be contacted as per notifications procedure.