

SITE NAME: Deephams STW  
DATE: 19/10/2023

ODOUR RISK ASSESSMENT

Process Stage	Process Unit	Applicable Legislation	Normal		Abnormal			Nearest Customer/ Receptor	Offensive-ness (0-5)	Likelihood of Impact (0-5)	Odour Risk (<5 Low, >15 High)	Odour Impact	Mitigation Measures	Residual Odour Impact (LMH)	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																	
Works Inlet	Incoming Sewers & Reception Wet Well	UWWTD	Fresh Sewage	C				Nightingale Rd residents, Users of Meridian Way	1	1	1	Low	Covered.	-	Tech 1s	-	
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	UWWTD	Sewage	C				Nightingale Rd residents, Users of Meridian Way	1	1	1	Low	Locked off and covered. Washdown.	-	Sh 1s / Tanker Dr	-	
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	UWWTD	Sewage		Spillage	R	Hours	Nightingale Rd residents, Users of Meridian Way	1	1	1	Low	Clean up ASAP as per section 4.3.3 in OMP	L	Tech 1s	N	
Storm Separation	Storm & Balancing Tanks	UWWTD	Fresh Sewage	O				Nightingale Rd residents, Users of Meridian Way	1	1	1	Low	The TLL Storm Tanks have been installed with a cleaning system, this will activate once the flows to treatment allow. The old Storm Tanks have a cleaning system and are emptied automatically and cleaned as soon as flows to treatment allow. If/when deemed necessary storm tanks will also be manually cleaned via entry to the tank basins by a competent contractor	-	-	-	
Storm Separation	Storm & Balancing Tanks	UWWTD	Fresh Sewage		Amajets fail.	R	Weeks	Nightingale Rd residents	4	3	12	Medium	Wash down, drain tank.	L	TM	N	This would breach requirements of Local Authority.
Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	Sewage	C				Nightingale Rd residents, Andra Rd Industrial warehouses.	2	1	2	Low	Coarse screenings from the Bosker Screens below the PHLL PS are removed using the grab; these are removed from the point of deposition, adjacent to the Meridian Way boundary, to a skip. Connected to OCU.	-	Tech 1s	-	
Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	Foul sewage		Failure of screen handling system	R	Hours	Nightingale Rd residents, Andra Rd Industrial warehouses.	2	2	4	Low	Shut down, clean up, lock off.	L	PCE	N	
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management	UWWTD	Foul sewage	C				Nightingale Rd residents, Andra Rd Industrial warehouses.	2	1	2	Low	General housekeeping. Covered. Connected to OCU.	-	Tech 1s	-	
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management	UWWTD	Foul sewage		Spillage	R	Hours	Nightingale Rd residents, Andra Rd Industrial warehouses.	2	1	2	Low	Clean up ASAP as per section 4.3.3 in OMP	L	Tech 1s	N	
Crude Sewage Transfer	Flow & Distribution to Primary Settlement Tanks	UWWTD	Fresh Sewage	C				Nightingale Rd residents	1	1	1	Low	Covered. Connected to OCU.	-	Tech 1s	-	
Primary Settlement	Primary Settlement Tanks	UWWTD	Sewage	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	1	2	2	Low	Minimum sludge levels are maintained at all times Tanks to remain covered at all operational times. Tanks are periodically drained to the inlet works for cleaning and maintenance. Keep covers in place during operation	-	Tech 1s	-	
Primary Settlement	Primary Settlement Tanks	UWWTD	Raw Sludge		Sludge processes downstream unavailable	R	Days	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	4	4	16	High	Tanker off site. Job raised with biorecycling and removed from site as soon as possible.	H	PM	Y	Local groups may need to be contacted. This would breach requirements of Local Authority.
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Sewage	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	2	0	0	Low	General housekeeping - clean out once a week. Covered. Connected to OCU.	-	Tech 1s	-	
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Sewage		Scraper and pump failure.	R	Days	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	2	2	4	Low	Possible tanker. Raised with M&E to review, M&E to carry out replacement/repair.	L	PM & PCE	N	
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Fresh Sludge	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	2	1	2	Low	Sludge is automatically removed. On failure, manual intervention is used to avoid accumulation. If necessary, tanks are drained and cleaned. Process failures in the sludge process downstream may impact on the ability to accept further sludge from the PSTs. Manual intervention is required to minimise the impact of odour emissions in collection of	-	Tech 1s	-	

Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw Sludge		Sludge processes downstream unavailable	R	Hours	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	2	2	4	Low	Tanker off site. Job raised with biorecycling and removed from site as soon as possible.	L	PM	Y	This would breach requirements of Local Authority.
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw Sludge		Scraper failure	R	Hours	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	2	2	4	Low	Tank taken out of service and funding sought to overhaul.	L	PM & PCE	N	Two PSTs can be taken out of service with the process unaffected.
Settled Sewage Transfer	Flow & Distribution to Secondary Treatment	UWWTD	Sewage	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	Covered. Connected to OCU.	-	Tech 1s	-	
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	1	1	1	Low	Anoxic zones connected to OCU.	-	Tech 1s	-	
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy		Air main failure	R	Days	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	3	2	6	Medium	Take tank out of service. Job raised with contractor as soon as possible to repair pipework.	M	PM & PCE	N	6 ASFs, process can run as normal with 5. Customer communication depends on severity / weather.
Secondary Treatment (Biological)	Flow & Distribution to Secondary Settlement	UWWTD	Earthy	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	1	1	1	Low	Covered and connected to OCU	-	Tech 1s	-	
Secondary Settlement	Final Settlement Tanks	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	N/A	-	-	-	
Secondary Settlement	Scum Removal System	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	N/A	-	-	-	
Secondary Settlement	RAS Chambers & Pumping	UWWTD	Earthy	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	1	1	1	Low	Mostly covered, low surface area. General housekeeping.	-	Tech 1s	-	
Secondary Settlement	SAS Chambers & Pumping	UWWTD	Earthy	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	1	1	1	Low	Mostly covered, low surface area. General housekeeping.	-	Tech 1s	-	
Tertiary Treatment 1	Filtration - Disc	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	Covered. General housekeeping.	-	Tech 1s	-	
Tertiary Treatment 2	Filtration - Mecnao	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	Covered. General housekeeping.	-	Tech 1s	-	
Tertiary Treatment	Back Wash Returns	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	Covered. General housekeeping.	-	Tech 1s	-	
Final Effluent	Final Effluent	UWWTD	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	General housekeeping.	-	Tech 1s	-	
Sludge Imports	Sludge Reception, Wash down & Drainage	EPR	Sludge	I				Andra Rd Industrial Warehouses	3	1	3	Low	Follow normal procedures for imports.	-	Tech 1s	-	Fed to Raw Sludge Blending Tank.
Sludge Imports	Sludge Reception, Wash down & Drainage	EPR	Sludge		Spillage.	R	Hours	Andra Rd Industrial Warehouses	3	2	6	Medium	Housekeeping. Tech 1s clean up ASAP as per section 4.3.3 in OMP.	L	Tech 1s	N	
Sludge Imports	Skip Management	EPR	None	C				Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	0	0	0	Low	Collected by contractors when full - daily.	-	Tech 1s / Contractors	-	
Sludge Imports	Skip Management	EPR	Sludge		Not collected	R	Days	Pickets Lock, Nightingale Rd, Andra Rd, Chingford.	3	3	9	Medium	Chase contractors.	L	PM	N	
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping	EPR	Sludge	C				Andra Rd Industrial Warehouses	2	2	4	Low	Iron dosing (primarily for phosphorus removal) is critical in limiting the odour emission from the primary sludge thickening and holding. The doors to the Gravity Belt Press enclosure are kept closed. Covers on the Buffer Tanks are kept closed and the OCU is operating correctly.		Tech 1s		
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping	EPR	Sludge		Failure of chemical dosing on sewage stream.	R	Hours	Andra Rd Industrial Warehouses	2	2	4	Low	Replace pumps. Restore dosing.	L	PM	N	Minimal impact if OCU operational.
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping	EPR	Sludge		Covers/ doors left open.	R	Hours	Andra Rd Industrial Warehouses	3	2	6	Medium	Housekeeping.	L	Tech 1s	N	Minimal impact if Dosing is OK. This would breach requirements of Local Authority.
Sludge Conditioning (Indigenous)	Sludge blending tank	EPR	Sludge	C				Andra Rd Industrial Warehouses	1	1	1	Low	Covered. Connected to OCU.		Tech 1s		
Sludge Conditioning (Indigenous)	Sludge blending tank	EPR	Sludge		Tank failure	R	Months	Andra Rd Industrial Warehouses	5	3	15	High	Tank inspections as per TW standard.	M	PM / Area Services Manager	N	

Sludge Conditioning (Indigenous)	SAS Thickening & Pumping	EPR	Earthy	C				Ardra Rd Industrial Warehouses	2	2	4	Low	2 tanks inside ventilated building with tanks connected to OCU, 2 tanks outside building but partially covered.		Tech 1s		
Sludge Conditioning (Indigenous)	SAS Thickening & Pumping	EPR	Earthy		Spillage	R	Hours	Ardra Rd Industrial Warehouses	2	2	4	Low	Clean up ASAP as per section 4.3.3 in OMP	L	Tech 1s	N	
Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	Sludge	C				Ardra Rd Industrial Warehouses	2	2	4	Low	Covers to tanks to be kept closed. Connected to OCU.		Tech 1s		
Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	Sludge		Damage to vent line.	R	Days	Ardra Rd Industrial Warehouses	3	2	6	Medium	Contractor to repair. Job raised on same day.	L	PM & PCE	N	
Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	Sludge		Covers open	R	Hours	Ardra Rd Industrial Warehouses	3	2	6	Medium	Cover ASAP	L	Tech 1s	N	
Sludge Conditioning (Indigenous)	Return Liquors	EPR	Sludge	C				Ardra Rd Industrial Warehouses	3	1	3	Low	Covered pipes. General housekeeping.		Tech 1s		Inside covered chamber.
Sludge Conditioning (Indigenous)	Return Liquors	EPR	Sludge		Blockage.	R	Hours	Ardra Rd Industrial Warehouses	3	1	3	Low	Tech 1s to repair ASAP	L	Tech 1s & M&E	N	
Sludge Treatment	Primary Digestion	EPR	Digested sludge.	I				Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	-	-	-	-	
Sludge Treatment	Primary Digestion	EPR	Digested sludge.		Blockage causing impact to overflow.	R	Days	Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	Unblock. Housekeeping.	L	TM	N	
Sludge Treatment	Primary Digestion	EPR	Digested sludge.		Gas venting	R	Days	Ardra Rd Industrial warehouses, Chingford.	2	1	2	Low	Alarmed, process addressed.	L	PM	N	Illegal emission.
Sludge Treatment	Primary Digestion	EPR	Digested sludge.		Digester taken out of service	P	Days	Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	Risk assessments. Method statements.	L	PM	N	
Sludge Treatment	Secondary Digestion and Mixing	EPR	Digested sludge.	C				Ardra Rd Industrial warehouses, Chingford.	3	3	9	Medium	Tanks are now covered	L	-	-	
Sludge Treatment	Secondary Digestion and Mixing	EPR	Digested sludge.		Crusting. Overflow down road.	R	Days	Ardra Rd Industrial warehouses, Chingford.	3	4	12	Medium	Keep mixers operational.	L	TM	N	This would breach requirements of Local Authority.
Sludge Dewatering	Beltpress	EPR	Digested sludge.	C				Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	-	L	-	-	In well ventilated building.
Sludge Dewatering	Beltpress	EPR			Ventilation failure, Building failure.			Ardra Rd Industrial warehouses, Chingford.	3	3	9	Medium	Repair.	M	PM	N	This would breach requirements of Local Authority.
Sludge Dewatering	Centrifuge	EPR	Digested sludge.	C				Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	-	-	-	-	
Sludge Dewatering	Centrifuge	EPR			Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	3	2	6	Medium	-	-	-	-	
Sludge Dewatering	Liquor Return	EPR	Foul liquor.	C				Ardra Rd Industrial warehouses, Chingford.	2	1	2	Low	-	-	-	-	
Sludge Dewatering	Liquor Return	EPR			Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	2	1	2	Low	-	-	-	-	
Sludge Storage & Movements	Cake Pad & Drainage (including imports)	EPR	Digested sludge.	C				Ardra Rd Industrial warehouses, Chingford.	2	2	4	Low	Operations are limited to the working day. Operations are programmed and where possible adverse weather conditions are avoided. Measures are taken where possible to avoid waterlogging of cake stockpiles - not holding stockpiles to avoid water logging of cake. Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage.		-	-	
Sludge Storage & Movements	Cake Pad & Drainage	EPR			Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	2	2	4	Low	-	-	-	-	
Sludge Storage & Movements	Vehicle Movements & Wash Down	EPR	Digested sludge.	I				Ardra Rd Industrial warehouses, Chingford.	2	3	6	Medium	Covered wagons. Wheelwash.		Biorecycling.		
Sludge Storage & Movements	Vehicle Movements & Wash Down	EPR						Ardra Rd Industrial warehouses, Chingford.			0	-	-	-	-	-	
Biogas Systems	Biogas Storage	EPR	Gas					Ardra Rd Industrial warehouses, Chingford.	1	1	1	Low	-	-	-	-	
Biogas Systems	Biogas Storage	EPR	Gas		Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	1	1	1	Low	-	-	-	-	
Biogas Systems	CHP	EPR	Gas					Ardra Rd Industrial warehouses, Chingford.			0	-	-	-	-	-	
Biogas Systems	CHP	EPR	Gas					Ardra Rd Industrial warehouses, Chingford.			0	-	-	-	-	-	
Biogas Systems	Boilers	EPR	Gas					Ardra Rd Industrial warehouses, Chingford.	0	0	0	-	-	-	-	-	
Biogas Systems	Boilers	EPR	Gas		Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	0	0	0	-	-	-	-	-	
Biogas Systems	Waste Gas Burner	EPR	Gas					Ardra Rd Industrial warehouses, Chingford.	1	1	1	Low	-	-	-	-	
Biogas Systems	Waste Gas Burner	EPR	Gas		Nothing to impact odour release			Ardra Rd Industrial warehouses, Chingford.	1	1	1	Low	-	-	-	-	
Power Generation	Standby Generators	EPR	Slightly of oil	O				Nightingale Rd residents, Ardra Rd Industrial warehouses.	2	1	2	Low					

Power Generation	Standby Generators	EPR			Nothing to impact odour release			Nightingale Rd residents. Ardra Rd Industrial warehouses.	2	1	2	Low					
Odour Control Unit	OCU (Sludge holding tanks)	EPR	None					Ardra Rd Industrial warehouses. Chingford.	0	0	0	-	Hydrogen sulphide measurement on outlet of stack. Visual checks to ensure fans, pumps and H2s Monitors are operational. Ensure water dosing is maintained. Framework maintenance company twice yearly routine visits to check compliance and service plant	-	-	-	
Odour Control Unit	OCU (Sludge holding tanks)	EPR	Sludge	C	Failure of fans.	R	Weeks	Ardra Rd Industrial warehouses. Chingford.	4	3	12	Medium	Maintenance contract.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU (Sludge holding tanks)	EPR	Sludge	C	Failure of media.	R	Weeks	Ardra Rd Industrial warehouses. Chingford.	4	3	12	Medium	Replace media.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 1	UWWTD	Foul sewage					Nightingale Rd residents. Users of Meridian Way	1	1	1	Low	Hydrogen sulphide measurement on outlet of stack. Visual checks to ensure fans, pumps and H2s Monitors are operational. Ensure water dosing is maintained. Framework maintenance company twice yearly routine visits to check compliance and service plant	-	-	-	
Odour Control Unit	OCU1	UWWTD	Foul sewage	C	Failure of fans.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Maintenance contract.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 1	UWWTD	Foul sewage	C	Failure of media.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Replace media.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 2	UWWTD	Foul sewage					Nightingale Rd residents. Users of Meridian Way	1	1	1	Low	Hydrogen sulphide measurement on outlet of stack. Visual checks to ensure fans, pumps and H2s Monitors are operational. Ensure water dosing is maintained. Framework maintenance company twice yearly routine visits to check compliance and service plant	-	-	-	
Odour Control Unit	OCU 2	UWWTD	Foul sewage	C	Failure of fans.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Maintenance contract.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 2	UWWTD	Foul sewage	C	Failure of media.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Replace media.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 3	UWWTD	Foul sewage					Nightingale Rd residents. Users of Meridian Way	1	1	1	Low	Hydrogen sulphide measurement on outlet of stack. Visual checks to ensure fans, pumps and H2s Monitors are operational. Ensure water dosing is maintained. Framework maintenance company twice yearly routine visits to check compliance and service plant	-	-	-	
Odour Control Unit	OCU 3	UWWTD	Foul sewage	C	Failure of fans.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Maintenance contract.	M	TM	N	This would breach requirements of Local Authority.
Odour Control Unit	OCU 3	UWWTD	Foul sewage	C	Failure of media.	R	Weeks	Nightingale Rd residents. Users of Meridian Way	4	3	12	Medium	Replace media.	M	TM	N	This would breach requirements of Local Authority.