

SITE NAME: BRACKNELL STW

ODOUR RISK ASSESSMENT

Process Stage	Process Unit	Legislation	Normal		Abnormal			Nearest Customer/ Receptor	Offensiveness (0-5)	Likelihood of Impact (0-5)	Odour Risk (<5 Low, >15 High)	Odour Impact	Mitigation Measures (for more info see OMP)	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 (days)										
ADD EXTRA ROWS BELOW IF REQUIRED																	
Works Inlet	Incoming Sewers & Reception Wet Well	UWWTD	Sewage	C			Isolated properties to N and NW	1	1	1	Low	Ensure that housekeeping around the inlet area is good. Since it is a raised inlet the odours generated from accumulated screenings or grit deposits can spread across the site. The inlet is situated at the south of the site well away from the isolated houses.	-	-	-		
Storm Separation	Storm & Balancing Tanks	UWWTD	Sewage	O			Isolated properties to N and NW	1	1	1	Low	There is a hydraulic restriction in the pumping station which makes it hard to empty the storm tanks back to the works. This can lead to old and septic storm sewage being left in the tanks. The tanks have to be manually pumped out.	-	-	-		
Storm Separation	Storm & Balancing Tanks	UWWTD	Septic sewage		Storm tanks manually emptied, have to be pumped out.	R	7 days	Isolated properties to N and NW	2	1	2	Low	Manual pumping out for storm return	L	Tech1	N	Known issue, caused by hydraulic restrictions in the pumping station. There is no method of cleaning. Improvements to the storm tanks would require capital spend.
Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	Sewage/musty	C			Isolated properties to N and NW	1	1	1	Low	General housekeeping, skips removed as required when full, manual cleaning available, PPM	-	Tech2	-		
Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	Screenings/musty		Screens blocked	R	1 Day	Isolated properties to N and NW	2	1	2	Low	Unblock and return to service ASAP	L	Tech1	N	Fresh screenings exposed to air as screen is unblocked
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management	UWWTD	Septic	I			Isolated properties to N and NW	1	1	1	Low	General housekeeping, skips removed as required when full, manual cleaning available, PPM	-	Tech2	-		
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management	UWWTD	Septic		Summer/hot weather grit skip becomes more odorous	R	7 days	Isolated properties to N and NW	2	1	2	Low	Replace skip, take old one off site. Hose down area to clear up fallen material. Skips to be removed the next day.	L	Tech1	N	Heat causes to grit to smell more than usual
Crude Sewage Transfer	Flow & Distribution to Primary Settlement Tanks	UWWTD	Sewage	C			Isolated properties to N and NW	1	1	1	Low	Constantly moving flow, low impact	-	-	-		
Primary Settlement	Primary Settlement Tanks	UWWTD	Sewage	C			Isolated properties to N and NW	2	2	4	Low	During summer, low flows cause increased retention times and septicity within the primary settlement tanks (PSTs). Operations take one or more tanks out of service at these times to avoid this problem. PST desludge lines can block due to fat or rag accumulations. Operations jst the line from time to time to prevent this. Thus avoiding potential sludge spills. Ferric dosed to help odour at the inlet.	-	-	-		
Primary Settlement	Primary Settlement Tanks	UWWTD	Septic sewage/sludge		Blocked tank	R	Days	Isolated properties to N and NW	4	2	8	Medium	Clear blockage and drain tank, possibility for contactor cleaning	L	TM	N	
Primary Settlement	Primary Settlement Tanks	UWWTD	Septic sewage		Summer/hot weather low flows	R	7 days	Isolated properties to N and NW	3	2	6	Medium	Take PST(s) out of service to decrease retention time	L	TM	N	Septic sewage caused by low flows
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	No issues	C			Isolated properties to N and NW			0	N/A	Enclosed pipework below ground	-	-	-		
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw sludge		Blocked line potential spills from chamber	R	1 day	Isolated properties to N and NW	2	2	4	Low	Jet line	L	TM	N	

Settled Sewage Transfer	Flow & Distribution to Secondary Treatment	UWWTD	Raw sludge	C				Localised on site	3	1	3	Low	Enclosed pipework below ground	-	-	-	
Secondary Treatment (Biological)	Primary Filters	UWWTD	Earthy	C				Localised on site	1	1	1	Low	Checked daily, rotation failure alarm.	-	-	-	open to air
Secondary Treatment (Biological)	Primary Filters	UWWTD	Silage		Rotation failure	R	Days	Localised on site	2	1	2	Low	Repair, return flow to filters	L	-	-	
Secondary Treatment (Biological)	Primary Humus Tanks	UWWTD	Earthy	C				Localised on site	1	1	1	Low	Daily checks, general housekeeping, PPM once a month				
Secondary Treatment (Biological)	Primary Humus Tanks	UWWTD	Earthy		Bridge failure-rising sludge	F	Days	Localised on site	3	1	3	Low	Tank drained with debris, direct flow to other tanks,	L			
Secondary Treatment (Biological)	Interstage Pumping Station	UWWTD	Earthy	C				Isolated properties to N and NW	1	1	1	Low	Constantly moving flow, low impact. Pump failure alarm, one standby pump available				
Secondary Treatment (Biological)	Secondary Filters	UWWTD	Earthy	C				Localised on site	1	1	1	Low	Checked daily, rotation failure alarm.	-	-	-	
Secondary Treatment (Biological)	Secondary Filters	UWWTD	Silage		Rotation failure	R	Days	Localised on site	2	1	2	Low	Repair, return flow to filters	L	-	-	
Secondary Treatment (Biological)	Flow & Distribution to Secondary Settlement	UWWTD	Earthy	C				Isolated properties to N and NW	1	1	1	Low					small area exposed to the air
Secondary Settlement	Secondary Humus Tanks	UWWTD	Earthy	C				Localised on site	1	1	1	Low	Daily checks, general housekeeping, PPM once a month	-	-	-	
Secondary Settlement	Secondary Humus Tanks	UWWTD	Earthy		Bridge failure-rising sludge	F	Days	Localised on site	3	1	3	Low	Tank drained with debris, direct flow to other tanks,	L	-	-	
Secondary Settlement	Scum Removal System	UWWTD	Earthy	C				Localised on site	1	1	1	Low		-	-	-	
Secondary Settlement	Humus Chambers & Pumping	UWWTD	Earthy/humus	O				Localised on site	1	1	1	Low	Daily checks, visually monitored	-	-	-	
Final Effluent	Final Effluent	UWWTD	Earthy	C				Isolated properties to N and NW	1	0	0	Low	-	-	-	-	
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	Raw sludge	I				Isolated properties to N and NW	2	2	4	Low	The sludge import area is located quite centrally on the site. Pumped into an enclosed tank. It is a fully sealed concrete area which facilitates spillage clean-up. The sludge Rotomats do block occasionally. They are unblocked as fast as possible and the rags cleaned away in to the skip. Ensure tankers are coupled correctly	-	-	-	
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	Sludge		Rotomat blocked	R	1 Day	Isolated properties to N and NW	3	2	6	Medium	Unblock and return to service ASAP	L	Tech1	N	Sludge screenings exposed to air.
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	Sludge		Spillages	R	1 Day	Isolated properties to N and NW	3	2	6	Medium	Immediate clean up	L	Tech1	N	Sludge screenings exposed to air.
Sludge Imports	Skip Management	EPR	Raw sludge	I				Localised on site	2	2	4	Low	Skips removed within 24 when full.	-	-	-	
Sludge Imports	Sludge Thickening (drum thickener)	EPR	Raw sludge	I				Localised on site	3	2	6	Medium	Ensure covers are on. Both the Picket Fence Thickener (PFT) and the drum thickener have hatches which need to remain closed to minimise odour release.	L	Tech1	N	
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping (PFT)	EPR	Raw sludge	C				Isolated properties to N and NW	1	1	1	Low	Ensure covers are on. The PFT is known to be at risk of septicity if sludge is retained in the tank too long. This can happen if there are high levels of sludge imports. The sludge imports take priority and the PFT desludge is inhibited. A quick response would be to divert imports for a time, or if the tank is really septic it would have to be drained or tankered out.	-	-	-	
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping (PFT)	EPR	Raw sludge		Septic sludge	R	7 days	Isolated properties to N and NW	4	2	8	Medium	Tanker out	L	TM	N	Sludge going septic in tank, high levels of imports can inhibit PFT desludge

Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	Raw sludge	C				Isolated properties to N and NW	2	2	4	Low	Tank covered, level are checked via HMI, levels also visually checked. Constantly mixed, low impact	-	-	-	
Sludge Conditioning (Indigenous)	Return Liquors	EPR	Sludge odours	C				Isolated properties to N and NW	2	2	4	Low	Covered, daily visual check	-	-	-	
Sludge Conditioning (Indigenous)	Return Liquors	EPR	Sludge odours		Pumps failure	R	Day	Isolated properties to N and NW	2	2	4	Low	Repare failre, export liquors to another site, spares kept on site	L	-	-	
Sludge Treatment	Digester Feeding, Mixing & Discharge	EPR	Sludge	C				Isolated properties to N and NW	3	1	3	Low	Enclosed, sludge levels monitored by HMI	-	-	-	Covered tanks
Sludge Treatment	Digester Feeding, Mixing & Discharge	EPR	septic sludge		pH dropping, sick digesters	R	7 days	Isolated properties to N and NW	4	3	12	Medium	Reduce feed and maybe reseed	L	PM	Y	Possible customer communication needed
Sludge Treatment	Digester Feeding, Mixing & Discharge	EPR	Sludge gas		Operation of Whessoe due to CHP failure or other reasons	R	7 days	Isolated properties to N and NW		3	0	Low	Repair CHP and reduce feeding of digesters	M	PM	Y	Possible customer communication needed. Gas vented to atmosphere.
Sludge Treatment	Secondary Digestion, Mixing & Discharge	EPR	Digested sludge/Earthy	C				Isolated properties to N and NW	1	1	1	Low	Air mixed, constant movement,	-	-	-	Open tanks, air mixed
Sludge Treatment	Secondary Digestion, Mixing & Discharge	EPR	Sludge		Septic sludge from digester problems	R	14 days	Isolated properties to N and NW	3	1	3	Low	Tanker out (same as for digesters)	L	PM	Y	
	Drying Beds	EPR	N/A					Isolated properties to N and NW	1	1	1	Low	When not in use just holding rain water				
	Drying Beds	EPR	Digested Sludge		In use	R	weeks	Isolated properties to N and NW	2	1	2	Low	Only used for digested tank cleans (1 in 10 years)	L			
Sludge Dewatering	Dewatering Feed Tank	EPR	Digested sludge	C				Isolated properties to N and NW	1	1	1	Low	The sludge buffer tank which feeds the beltpresses is an open tank, but it is air-mixed.	-	-	-	Open tank, air mixed
Sludge Dewatering	Dewatering Feed Tank	EPR	Digested sludge		Air mixing failure	R	Days	Isolated properties to N and NW	2	1	2	Low	Fix fault, consider the use of temporary mixing	L	PM		
Sludge Dewatering	Beltpresses	EPR	Digested sludge	C				Isolated properties to N and NW	1	1	1	Low	Enclosed building, odour controlled.	-	-	-	Currently dewatering via temporary centrifuge sited inside cake barn
Sludge Dewatering	Liquor Return	EPR	Digested sludge	C				Isolated properties to N and NW	1	1	1	Low	Covered and odour controlled	-	-	-	
Cake imports	Cake Barn & Drainage	EPR	Digested Sludge	R				Isolated properties to N and NW	1	1	1	Low	Keep doors closed and odour controlled. Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage. Building provides wind barrier. Tipper truck drop height not more than 2m. Subject to pre acceptance checks				
Sludge Storage & Movements	Cake Barn & Drainage	EPR	Digested sludge	C				Localised on site	1	1	1	Low	Keep doors closed and odour controlled. Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage. Building provides wind barrier. Drop height not more than 2m.	-	-	-	
Sludge Storage & Movements	Cake Barn & Drainage	EPR	Digested sludge		Damage to roller shutter door	R	days	Isolated properties to N and NW	2	1	2	Low	Repair door ASAP	L			Including cake imports
Sludge Storage & Movements	Cake Barn & Drainage	EPR	Digested sludge		Damage to internal gas monitor resulting in open door for ventilation	R	days	Isolated properties to N and NW	2	1	2	Low	Replace monitor ASAP to close door	L			Including cake imports
Sludge Storage & Movements	Vehicle Movements & Wash Down	EPR	Digested sludge	I				Isolated properties to N and NW	1	1	1	Low	wheelwash and covered vehicles, manual cleaning available	-	-	-	
Biogas Systems	Biogas Storage	EPR	Methane odourless, slight H2S	C				Localised on site	1	0	0	Low	Enclosed system, gas bag storage	-	-	-	

Biogas Systems	CHP	EPR	Exhaust	C				Isolated properties to N and NW	1	0	0	Low	Maintained by CHP, local HMI, failure alarm	-	-	-	
Biogas Systems	Boilers	EPR	Exhaust	I				Isolated properties to N and NW	1		0	Low	Inspected by contractors twice a year	-	-	-	
Biogas Systems	Waste Gas Burner	EPR	Exhaust	O				Isolated properties to N and NW	0	0	0	Low	-	-	-	-	
Biogas Systems	Waste Gas Burner	EPR	Gas		If producing excess gas and burner fails	R	1 day	Isolated properties to N and NW	3	3	9	Medium	Repair burner	L	TM	N	
Strategic tanks	Storage tanks	EPR							0	0	0		Not in use				
Odour Control Packages	OCU 1	EPR	Digested sludge	C				Isolated properties to N and NW	1	1	1	Low	Currently not operational	-	-	-	
Odour Control Packages	OCU 2	EPR	Digested sludge	C				Isolated properties to N and NW	1	1	1	Low	Routine monitoring undertaken by contractors	-	-	-	
Odour Control Packages		EPR	Digested sludge		OCU failure	R	Days	Isolated properties to N and NW	3	1	3	Low	Alarm sent to WOCC who notify ops	L	TM/Tech1	-	