

SITE NAME: Banbury STW
May-23

			Normal	
Process Stage	Process Unit	Applicable Legislation	Odour Description	Constant/ Intermittent/ Occasional/ Rare
Works Inlet	Incoming Sewers & Reception Wet Well	UWWTD	Raw sewage	R
Works Inlet	Incoming Sewers & Reception Wet Well	UWWTD		-
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	EPR & UWWTD	Strong sewage	I
Works Inlet	Cess Reception, Discharge, Wash down & Drainage	EPR & UWWTD	-	-
Storm Separation	Storm & Balancing Tanks	UWWTD	Raw sewage	R
Storm Separation	Storm & Balancing Tanks	UWWTD	Sludge	-
Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	Sewage	C

Preliminary Treatment	Screens & Screening Conditioning, Drainage & Rag Skip Management	UWWTD	-	-
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management (Currently OOS)	UWWTD	Sewage	C
Preliminary Treatment	Grit Removal Equipment, Drainage & Grit Skip Management (Currently OOS)	UWWTD	Sewage	
Primary Settlement	Primary Settlement Tanks	UWWTD	Sewage	C
Primary Settlement	Primary Settlement Tanks	UWWTD	-	-
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	Sewage	C
Primary Settlement	Fats, Oil & Grease Scum Removal System	UWWTD	-	-
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	Raw sludge	I
Primary Settlement	Primary Raw Desludge Pumping	UWWTD	-	-
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	Earthy	C
Secondary Treatment (Biological)	Activated Sludge Plant Lanes & Zones	UWWTD	-	-

Secondary Treatment (Biological)	Flow & Distribution to Secondary Settlement	UWWTD	Earthy	-
Secondary Settlement	Final Settlement Tanks	UWWTD	Earthy	-
Secondary Settlement	Final Settlement Tanks	UWWTD	Earthy	-
Secondary Settlement	Scum Removal System	UWWTD	Earthy	-
Secondary Settlement	Scum Removal System	UWWTD	-	-
Secondary Settlement	RAS Chambers & Pumping	UWWTD	Earthy	-
Secondary Settlement	RAS Chambers & Pumping	UWWTD	-	-
Secondary Settlement	SAS Chambers & Pumping	UWWTD	Earthy	-
Secondary Settlement	SAS Chambers & Pumping	UWWTD	-	-
Tertiary Treatment	Filtration	UWWTD	Earthy	-
Tertiary Treatment	Back Wash Returns	UWWTD	Earthy	-
Final Effluent		UWWTD	Earthy	-
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	Raw sludge	1
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	-	-
Sludge Imports	Sludge Reception, Screening, Wash down & Drainage	EPR	-	-
Sludge Imports	Skip Management	EPR	Raw sludge	-
Sludge Imports	Skip Management	EPR	-	-

Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping	EPR	Strong sludge	C
Sludge Conditioning (Indigenous)	Primary Raw Sludge Thickening & Pumping	EPR	-	-
Sludge Conditioning (Indigenous)	SAS Thickening & Pumping	EPR	earthy	-
Sludge Conditioning (Indigenous)	SAS Thickening & Pumping	EPR	-	-
Sludge Conditioning (Indigenous)	SAS Thickening & Pumping	EPR	-	-
Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	Sludge	C
Sludge Conditioning (Indigenous)	Sludge Blending & Mixing	EPR	-	-
Sludge Conditioning (Indigenous)	Return Liquors	EPR	Sludge	C
Sludge Conditioning (Indigenous)	Return Liquors	EPR	-	-
Sludge Treatment	Digester Feeding, Mixing & Discharge	EPR	Sludge	C
Sludge Treatment	Digester Feeding, Mixing & Discharge	EPR	-	-
Sludge Treatment	Secondary Digestion, Mixing & Discharge	EPR	Digested sludge	C
Sludge Treatment	Secondary Digestion, Mixing & Discharge	EPR	-	-
Sludge Dewatering	Beltpress	EPR	Digested sludge	C

Sludge Dewatering	Beltpress	EPR	-	-
Sludge Dewatering	Liquor Return	EPR	Digested sludge	C
Sludge Dewatering	Liquor Return	EPR	-	-
Cake Imports	Cake Pad & Drainage	EPR	Digested sludge	
Sludge Storage & Movements	Cake Pad & Drainage	EPR	Digested sludge	C
Sludge Storage & Movements	Cake Pad & Drainage	EPR	Digested sludge	-

Sludge Storage & Movements	Vehicle Movements & Wash Down	EPR	Digested sludge	C
Sludge Storage & Movements	Vehicle Movements & Wash Down	EPR	-	-
Biogas Systems	Biogas Storage	EPR	Biogas	C
Biogas Systems	Biogas Storage	EPR	-	-
Biogas Systems	CHP	EPR	Biogas	C
Biogas Systems	CHP	EPR	-	-
Biogas Systems	Boilers	EPR	-	-
Biogas Systems	Waste Gas Burner	EPR	Biogas	-
Odour Control Packages	OUC1 Sludge holding tanks - Biofilter	EPR	Earthy	R
Odour Control Packages	OUC1 Sludge holding tanks - Biofilter	EPR	Eggy	-
Odour Control Packages	OUC2 Picket Fence Thickeners - Carbon filter	EPR	Sludge	R
Odour Control Packages	OUC2 Picket Fence Thickeners - Carbon filter	EPR	Raw Sludge	-

ODOUR RISK ASSESSMENT

Abnormal					
Event Description	Likelihood of Event Frequent/ Rare/ Planned	Length of Time of Release	Nearest Customer/ Receptor	Offensive-ness (0-5)	Likelihood of Impact (0-5)
-	-	-	Thorpe Ind. Estate	1	1
Trade effluent discharge.	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	2	1
Blockage leading to spillage on surface	R	Hours	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	1	1
Failure of clean down unit	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	2	2

Breakdown, skips not emptied	R	Days	Thorpe Ind. Estate	3	2
-	-	-	Thorpe Ind. Estate	2	1
Skips not emptied	R	Weeks	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	2	1
Pump or scraper failure, or downstream issues	R	Weeks	Thorpe Ind. Estate	3	2
-	-	-	Thorpe Ind. Estate	2	1
Blockages	R	Days	Thorpe Ind. Estate	2	1
-	-	-	Thorpe Ind. Estate	2	1
Blockages, plant failure	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	1	1
Tank out for service	P	Weeks	Thorpe Ind. Estate	2	1

-	-	-	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	1	1
Bridge failure	R	Weeks	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	1	1
Build-up of scum	R	Days	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	2	1
Blockages, plant failure	R	Days	Thorpe Ind. Estate	2	1
-	-	-	Thorpe Ind. Estate	2	1
Blockages, plant failure, downstream problems.	R	Days	Thorpe Ind. Estate	2	1
-	-	-	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate	3	1
Exceptional load, downstream issues.	R	Hours	Thorpe Ind. Estate	3	2
Spillage	R	Hours	Thorpe Ind. Estate	3	2
-	-	-	Thorpe Ind. Estate	3	1
Skips not removed	R	Days	Thorpe Ind. Estate	3	2

-	-	-	Thorpe Ind. Estate	4	2
Blockages in or out, pump failures, PLC/control issues, downstream failures.	F	Days	Thorpe Ind. Estate	4	2
-	-	-	Thorpe Ind. Estate	2	1
Downstream issues	R	Days	Thorpe Ind. Estate	2	1
Pump failure or blockage	R	Days	Thorpe Ind. Estate	2	1
-	-	-	Thorpe Ind. Estate	3	1
Blockages, breakdowns, Downstream issues	R	Days	Thorpe Ind. Estate	3	2
-	-	-	Thorpe Ind. Estate	3	1
Pump failure, or overwhelmed.	R	Days	Thorpe Ind. Estate	3	1
-	-	-	Thorpe Ind. Estate	2	1
Blockages, downstream issues. Digester cleaning.	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	2	2
Blockages, downstream issues. Digester cleaning.	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	2	2

Blockage or plant breakdown. Impact on upstream processes	R	Days	Thorpe Ind. Estate	2	2
-	-	-	Thorpe Ind. Estate	1	1
Blockages, plant failure	R	Weeks	Thorpe Ind. Estate	1	2
-	-		Thorpe Ind. Estate, Balancing Pond. Chaulker Way		
-	-	-	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	3	1
Waterlogging, very hot conditions.	R	Days	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	3	3

-	-	-	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	3	1
Movement of sludge and lorry loading.	P	Days	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	3	3
-	-	-	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	2	1
Venting, damaged gas vessel, valve or pipework.	R	Hours	Thorpe Ind. Estate, Balancing Pond. Chaulker Way	2	2
-	-	-	Thorpe Ind. Estate	1	1
Creating noxious fumes	R	Days	Thorpe Ind. Estate	3	2
-	-	-	Thorpe Ind. Estate	1	1
-	-	-	Thorpe Ind. Estate. Chaulker Way	1	1
-	-	-	Thorpe Ind. Estate. Chaulker Way	1	1
Failure of OCU	R	Months	Thorpe Ind. Estate. Chaulker Way	4	4
-	-	-	Thorpe Ind. Estate. Chaulker Way	1	1
Failure of OCU	R	Months	Thorpe Ind. Estate. Chaulker Way	4	4

Odour Risk (<5 Low, >15 High)	Odour Impact	Mitigation Measures	Residual Odour Impact (L/M/H)
1	Low	General housekeeping. Maintaining trees on fence line	-
4	Low	Liaison with offender	M
2	Low	Wash down facilities available. All site drainage is pumped to head of works. Spill kits on site also. Can stop cess imports also. Also tankers coupled correctly.	-
4	Low	Stop discharge and clear ASAP	L
1	Low	Regularly clean down when used - Manual clean and clean down units.	-
4	Low	mitigated with manual clean down. Root cause failure of unit and repair.	L
4	Low	Regularly clean down when used	

6	Medium	Monitor and replace as required. If urgent removal required we action.	L
2	low	Skips removed reguarly before full	
4	low	Call for skips to be changes	L
2	low	Daily site rounds to ensure tanks are operating correctly.	L
6	Medium	Repair plant, empty tank. Daily monitoring alarms daily blanket testing	M
2	Low	Site round checks	
2	low	Clear blockages	L
2	low	site rounds	
4	low	Clear blockages, repair plant	L
1	low	Site rounds	-
2	low	Seasonal considerations - hot weather.	L

1	low	Site rounds	-
1	low	Site rounds	-
1	low	Empty tank and repair	L
1	low	Site rounds	-
1	low	Remove scum, empty tank	L
2	low	Site rounds	-
2	low	Clear blockages, repair plant	L
2	low	Site rounds	-
2	low	Clear blockages, repair plant, resolve process issues.	L
1	low	Site rounds	-
1	low	Site rounds	-
1	low	Site rounds	-
3	low	OCU & Site rounds. Ensure tanker coupled correctly.	-
6	Medium	Closed imports.	M
6	Medium	Clean down ASAP	M
3	Low	Regularly remove skips before they are full	-
6	Medium	Replace skips as emergency. Biffa agreement is 48hrs turn around	L

8	medium	Monitor process and pump out to replenish the sludge condition.	-
8	medium	Deal with issues, empty tanks. Ensure OCU is operational. Understand why.	M
2	low	Inspections as defined in site round task spec	-
2	Low	Deal with issues, stop imports.	L
2	Low	identify cause and rectify	L
3	low	Covered & site rounds	-
6	medium	Deal with issues, stop imports. Ensure OCU is operational.	M
3	low	-	-
3	Low	Repair, overpump	L
2	low	Site rounds	-
4	Low	Deal with issues. Plan in a digester cleaning when appropriate.	L
4	low	Site rounds	-
4	low	Drain down tank and clean. Rectify downstream issues	-
4	low	Site rounds	-

4	Low	Repair, unblock	L
1	low	-	-
2	Low	Repair, unblock	L
		Regular collection of cake for removal off site. Cake in storage forms a crust after a day or two reducing risk of odour. Odour prevented during handling by limited drop heights, tipper trucks deposit sludge onto pad from height of less than 2m. Pre-acceptance checks on incoming digested cake. No additional turning or handling during cake storage. If long-term storage was needed temporary covers would be considered. Recessed cake pad provides wind barrier.	
3	low	Regular collection of cake for removal from site. Cake in storage forms a crust after a day or two reducing risk of odour. No additional turning or handling during cake storage. If long-term storage was needed temporary covers would be considered. Recessed cake pad provides wind barrier.	-
9	Medium	Bio recycling team monitor daily and remove loads as required. During inclement weather unloading of waste may be prohibited.	M

3	low	General housekeeping	-
9	medium	Covered wagons	M
2	low	Site rounds	-
4	low	use flare stack.	L
1	low	Site rounds and PPM	-
6	medium	CHP team monthly servicing and monitoring.	M
1	low	Wthin contained building	-
1	low	Site rounds	-
1	low	Monhtly service inspections, site rounds	-
16	High	Daily task check and serviing monthly. Mit - Spray temp OCU as masking	H
1	low	monthly service inspections	-
16	High	Daily task check and serviing monthly. Mit - Spray temp OCU as masking	H

Responsibility for Mitigation Measures	Customer Communication Needed?	Notes
Site ops	-	
Trade Effluent	N	
Site ops/PM	-	
Site ops/PM	N	
Site ops	-	
Site ops/PM	N	
site ops	-	

site/ops	N	
Site ops/PM	N	
PM	N	
Site Ops	-	
Site ops/PM	N	
Site ops	-	
Site ops	N	
site ops	-	
Site ops/PM	N	
site ops	-	
PM	N	

Site ops	-	
Site ops	-	
Site ops/PM	N	
Site ops	-	
Site ops/PM	N	
Site ops	-	
Site ops/PM	N	
site ops	-	
Site ops/PM	N	
site ops	-	
site ops	-	
site ops	-	
Site ops	-	
PM	N	
site ops		
PM	-	
PM	N	

Site ops	-	OCU
Site ops/PM	N	
Site ops	-	
PM	N	
Site ops/PM	N	
site ops	-	
Site ops/PM	N	
-	-	
Site ops/PM	N	
site ops	-	
PM	N	
Site ops	-	
Site ops/PM	N	
Site ops	-	

Site ops/ PM	N	
-	-	
Siteops/PM	N	
site ops		
-	-	
Sludge Management	N	Including cake imports

Site ops	-	
Sludge Management	N	
Site ops	-	
PM	N	
-	-	
PM/CHP team	N	
-	-	
Site ops	-	
Contractor/ Site ops	-	
PM	Y	
Contractor/ Site ops	-	
PM	Y	