

ASSET INVESTIGATION DETAILS						
SAP Asset Name:	Overton WwTW		Asset Template reference		CM0188602-Storm Overflow at Overton Wastewater Treatment Works-2909-Stage 1 - OC-Flintshire & Wrexham	
Investigation Type	SOAF (River)					
Year of breach:	2019	Spill Trigger cause:		OC Continuation Restriction (Maintenance)		
Year of Investigation:	2023	Investigation year performance:		58		
Population of Asset	970	Modelled Performance: (DESIGN) / (CALIBRATED)		37 / 50		
Permit Details						
Storm Permit ID:	CM0188602	Storm Permit Name:		OVERTON WASTEWATER TREATMENT WORKS (STORM TANK)		
Asset NGR:	SJ3716041490	Waterbody ID		GB111067057080		
Discharge NGR:	SJ3662541598	Water body Discharge location		Dee - Chester Weir to Ceiriog		
Brief description of asset (Screen, PFF flow control, Storage, outfall)						
<p>There are two spill points at the asset, the SOAF Investigator is concerned with CM0188602 which is the spill from the tanks led by the SDWT weir.</p> <p>Inlet Spill point 1 (CG0430701): Incoming line: 225mm (Circular) and 380x580mm (egg shaped); CSO Type: Double-sided, high-level weir; Screening: consented 6mm x 6mm, installed 5mm 2D Static bar screen; Flow Control: 80mm flume ; PFF Pipe: 230mm x 850mm Channel, PFF Consent: 19l/s SOC A: 18.3l/s</p> <p>Flow in excess of the capacity of the inlet flume passes over the storm separation weir and fixed bar screen in the inlet CSO chamber. Spill flows pass through the storm screen before discharging into the final effluent pumping station to be pumped to the discharge point with the treated effluent.</p> <p>Inlet Spill point 2 (CM0188602): Incoming Pipe: 230mm x 850mm Channel; CSO Type: Double-sided, high-level weir; Screening: Two 1D 35mm Bar Screens; Flow Control: 70mm flume; FFT Pipe: 225mm; Storage Provision: 57.4m3; Consent: 7.97l/s, 3DWF: 6.7 l/s.</p> <p>Storm tank spill point (CM0188602):</p>						
SOAF STAGE 1						
Details of assessment:		Asset condition surveys supported by hydraulic model assessment of the asset performance against available telemetry information (EDM and radar rainfall datasets). Additional flow and rainfall monitoring was undertaken to improve the baseline model accuracy and assist in defining the root cause of spills.				
Permit Compliance						
PFF	Compliant					
Storage	Not Compliant					
Screening	Compliant					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
<p>Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be OC Continuation Restriction (Maintenance) due to operational issues with the storm tank return mechanism, rendering the sites storage ineffective. The return pump in storm tank 1 is observed to underperform from overuse (burnout) following a series of intense rainfall events. The absence of a backup/standby pump provided further evidence of this.</p> <p>The predicted pass-forward flow is within 10% of consent prior to the first spill. The model is fit for use, based on the reported spill numbers and telemetry trends.</p>						
Cause of spill count :	Other Cause	Yes	Catchment Hydraulic	No	Infiltration & IRP required	No
Future Operational Management Proposal:	The primary cause of the spills are operational factors that have been assessed as deliverable in the short term. The asset has been added to the SOAF Intervention programme with the details outlined below.					
Operational intervention required:	Storm return maintenance and potential upgrade is recommended, with pump underperformance observed throughout the assessment year. The issue was identified to progress into 2024, with the tanks failing to empty throughout the 6-week flow survey period. Issues were also identified from the inlet spill point (associated with CG0430701). This includes significant sedimentation and screen blinding, as well as a non-operational brush screen on the overflow line. Hence, jetting of the inlet chamber is recommended as well as maintenance to the mechanical screen.					
SOAF Operational Intervention						
Start Date:	Nov-24	Completion Date:	TBC	Indicative future annual spill performance (less than 40 do not continue to stage 2)		37

Intervention Description:	The storm return Pump Performance has been identified as a factor in excess spills at this asset, the assessment has determined that the pump performance requires a review and implementation of recommendations in order to reduce Spills.				
Target Completion by Date:	Nov-25	Data years to be excluded from future SOAF triggers calculations	-	Request to hold stage 2 surveys for environment recovery	

SOAF STAGE 2					
Receiving Waterbody WFD Status					
Stage 2a					
Aesthetic survey:	Spring		Aesthetic Total score (inclusive of amenity classification, previous complaints & pollutions)		
	Autumn				
Stage 2b				Yes / No unable due to culverted watercourse	
Invertebrate survey:	Spring		Invertebrate survey score:		
	Autumn				
Stage 2c Required:				Yes / No	
Stage 2c screening:		Progressed through screening?		Stage 2c water quality assessment Score:	

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	N	PFF Increase	N
Equivalent storage volume required	-	Rainscape Cost		-	CBR	-
Bespoke future trigger agreement	40	Traditional Storage		-	CBR	-
		Other		-	CBR	-
Key Constraints						
Future Active Management Proposal						

Conclusion and Future Spill Reduction Proposals					
Summary	<p>OVERTON WASTEWATER TREATMENT WORKS (STORM TANK)Based on the direction from the Welsh Government led Better River Quality Task Force, DCWW Storm overflow spill reduction programme will target the elimination of ecological harm and prevention of adverse ecological impact of any SO. With a large programme of assets requiring improvement priority will be given to CSOs having the greatest impact in the most sensitive receiving waters.</p> <p>To ensure that the improvement delivered is long term, the improvements for each site will be based on the expectation that water quality upstream of the discharge meets good or high ecological status (GES) irrespective of the actual status of the water.</p> <p>This approach has formed the basis of DCWW's portfolio investment plan for Storm Overflows.</p> <p>OVERTON WASTEWATER TREATMENT WORKS (STORM TANK) was Shown to have an other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented.</p> <p>The asset will under take classification as part of DCWW's GN066 in AMP8, to establish any impact that there might be.</p>				
Asset Prioritisation Level	-			Delivery Predicted Period	-
Asset NEP ID	N/A	Asset NEP Driver Code	N/A	Detailed Design Predicted Period	-
Progression to Stage 5 In AMP	No				

SOAF AGREEMENT						
	Date	SOAF STAGE		Name	Contact Details	Location of Output
DCWW Approval	23/11/2024	Stage 1 - OC		Christian Phillips Adams	christian.phillipsadams@dwrwymru.com	Email
Regulator Liaison Date	Click here to enter a date					
CSO Classification						
Satisfactory	N	Unsatisfactory	Y	Sub Standard	N	
		Any operation in dry weather conditions?	N	Does not meet modern standards of engineering and aesthetic control for storm overflow structures set out in the British standard BS EN 752:2017 drain and sewer systems outside buildings	N	

Any operation in breach of permit conditions?	Y	Does not have sufficient hydraulic capacity compared to accepted minimum design standards	N
Any significant visual or aesthetic impact due to solids or sewage fungus?	N/A	Risks becoming unsatisfactory because discharges have increased beyond the original design due to infiltration, growth and urban creep	N
Cause or significantly contributes to a deterioration in the biological or chemical status of the receiving water?	N/A		
Causes or significantly contributes to failures in bathing water quality standards for identified bathing waters?	N/A		
Causes or significantly contributes to failures in shellfish quality standards for identified shellfish waters	N/A		
Causes or significantly contribute to failures in water quality standards in coastal and transitional waters?	N/A		
Causes pollution of groundwater?	N/A		