SOAF Investigation Output Summary

Dŵr Cymru Welsh Water

Cyfoeth Naturiol Cymru Natural Resources Wales

Reference: SOAF.R 00001

Please see Audit Statement Technical Guidance for further information

ASSET INVESTIGATION DETAILS					
SAP Asset Name:	Ewenny No 2 PS		**Asset Template reference**	BM0004402-EWENNI NO2 PUMPING STATION CORTOWN-52048-Stage 1 - OC-Vale of Glamorgan & Cardiff	
Investigation Type	SOAF (River)				
Year of breach:	*2020*	**Spill Trigger cause:**		*OC Infiltration*	
Year of Investigation:	*2021*	**Investigation year performance:**		*169*	
Population of Asset	*315*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*0 / 125*	
Permit Details					
Storm Permit ID:	BM0004402	**Storm Permit Name:**		Ewenni No 2 PS	
Asset NGR:	SS9089077499	**Waterbody ID**		GB41002G200900	
Discharge NGR:	SS9082077543	**Water body Discharge location**		0	

Brief description of asset
(Screen, PFF flow control, Storage, outfall)

Incoming Pipe: 225 mm; CSO Type: Hole in wall of Wet Well; Screening: 10mm2D; Flow Control: Pumps; PFF Pipe: Rising Main; Storage Provision: 32.9m3 ; Consent: 12 l/s

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	Design Compliant – Operational Intervention required to restore					
Storage	Compliant					
Screening	Compliant					
Bespoke/Other	N/A					
SOAF Stage 1 findings						
Primary Cause: OC Infiltration - Secondary Cause: OC Continuation Restriction Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be OC Infiltration, with OC Continuation Restriction as the secondary cause of spills. The predicted pass-forward flow is below consent prior to the first spill. The model is fit for use, based on the reported spill numbers and telemetry trends. Asset rarely, if ever, achieves 12l/s PFF during spill events, PFF usually reaches 10l's during high levels. Asset appears to take a considerable time to recover following rainfall. Baffle plate has been removed from A pipe which now causes flow to land directly at pump 1 which is affecting the pump performance, flow can be very turbulent at times. Possible infiltration from storage tanks. Also clear flows noted from main incomer.						
Cause of spill count :	**Other Cause**	**OC Infiltration**	**Catchment Hydraulic**	**No**	**Infiltration & IRP required**	**Yes**
Future Operational Management Proposal:	*The primary cause of the spills are operational factors that have been assessed as requiring longer term (1+ year) intervention programmes. Given the scale of the issue, the asset will progress under a bespoke intervention programme with details to be supplied to with the regulator and other stakeholders outside of the normal SOAF processes*					
Operational intervention required:	*Ensure pumps are able to pass consent* *Infiltration reduction plan*					
SOAF Operational Intervention						
Start Date:	**Jan-24**	**Completion Date:**	*TBC*	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*		0
Intervention Description:	**Infiltration has been identified as a factor in excess spills at this asset. An infiltration reduction plan (IRP) is in the process of development to address the problem.** **It is recognised in the Storm Overflow Assessment Framework that investigation and resolution of infiltration issues can be difficult and that solutions may be iterative with IRPs potentially only succeeding over the medium to long-term.**					
Proposed Completion Date:	**Jan-29**	**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			Good		
Stage 2a					
Aesthetic survey:	Spring	0	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	-	-
	Autumn	0		-	-
Stage 2b				*Yes / No unable due to culverted watercourse*	

Invertebrate survey:	Spring	0	**Invertebrate survey score:**	-	-
	Autumn	0		-	-
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	-	**Progressed through screening?**	-	**Stage 2c water quality assessment Score:**	Not Required

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

Conclusion and Future Spill Reduction Proposals					
Summary	*Ewenni No 2 PS was Shown to have a other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented. Once the assets New spill performance is established, if this is shown to still be in excess of 10 the impact of the asset will be established as part of DCWW's Storm Overflow Water Quality Assessment Strategy (SOWQAS) in AMP8*				
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	03/01/2024	*Stage 1 - OC*	[redacted]	[redacted]@dwrcymru.com	*Email*
Regulator Liaison Date	Click here to enter a dat				

CSO Classification					
Satisfactory	**N**	Unsatisfactory	**Y**	Sub Standard	**Y**
		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	**Y**
		Any significant visual or aesthetic impact due to solids or sewage fungus?	**N**	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**		
		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**		