SOAF Investigation Output Summary

Dŵr Cymru Welsh Water

Cyfoeth Naturiol Cymru Natural Resources Wales

Reference: SOAF.R 00001

Please see Ayrfil Statement Technical Guidance for further information

ASSET INVESTIGATION DETAILS					
SAP Asset Name:	Swansea Heol Gwyrossydd R/O No 61 Pt 52		**Asset Template reference**	BP0242701-PENLAN CRESENT (POINT 52A) SWANSEA-71059-Stage 1 - OC-Swansea	
Investigation Type	SOAF (River)				
Year of breach:	*2017*	**Spill Trigger cause:**		*OC Telemetry*	
Year of Investigation:	*2022*	**Investigation year performance:**		*45*	
Population of Asset	*644*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*2 / 2*	
Permit Details					
Storm Permit ID:	BP0242701	**Storm Permit Name:**		SWANSEA (PENLAN CRESENT (POINT 52A))	
Asset NGR:	SS6502396658	**Waterbody ID**		GB110059025690	
Discharge NGR:	SS6502596660	**Water body Discharge location**		Tawe - conf with Nant Cwmgelli to tida	

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

Incoming Pipe: 225mm; CSO Type: Single-sided, high-level weir; Screening: none; Flow Control: X-Pipe ; PFF Pipe: 225 mm; Storage Provision: None; Consent: None - Deemed Consent. SocA is 12.21l/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	Deemed Permit – Meets SocA
Storage	N/A
Screening	N/A
Bespoke/Other	N/A

SOAF Stage 1 findings

Following the hydraulic model assessment, the cause of the high spills at the asset is concluded to be OC Telemetry. The asset has a deemed Permit and hydraulic assessment shows PFF exceeds SocA. The model is fit for use, based on the reported spill numbers and telemetry trends.

It has been determined through this investigation that the EDM monitor is recording false spills. The monitor is situated above some benching in the chamber and not directly over the incoming pipe. Furthermore it appears the EDM monitor is recording spills above the height range. Based on survey photos, it has been calculated the EDM monitor can read up to somewhere in the range of 600-800mm however the telemetry data has spills over 1m recorded. There is also a possibility when the A pipe is in use, the monitor is recording splash back from the entering flows into the CSO as a spill. The telemetry data is also of overall poor quality as spills are recorded outside of rainfall events.

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:	*Review required following telemetry intervention having been implemented and performance trigger again.*					

SOAF Operational Intervention					
Start Date:	**Apr-24**	**Completion Date:**	*TBC*	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*	0

Intervention Description:	**Telemetry has been identified as a factor in excess spills at this asset. Telemetry maintenance has been issued to address this problem. This is focused on, the re location of the monitoring to correctly capture spills and future performance will be monitored**				
Target Completion by Date:	**Apr-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			N/A		
Stage 2a					
Aesthetic survey:	Spring	2022	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	10	Very Low Impact
	Autumn	2022		10	Ver Low Impact
Stage 2b				*Yes / No unable due to culverted watercourse*	
Invertebrate survey:	Spring	-	**Invertebrate survey score:**	-	-
	Autumn	-		-	-
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	no	**Progressed through screening?**	no	**Stage 2c water quality assessment Score:**	Not required

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	Y/N	PFF Increase	Y/N
Equivalent storage volume required	Volume m3	**Rainscape Cost**			**CBR**	
Bespoke future trigger agreement	Number of spills	**Traditional Storage**			**CBR**	
		Other			**CBR**	
Key Constraints						
Future Active Management Proposal						

Conclusion and Future Spill Reduction Proposals					
Summary	*SWANSEA (PENLAN CRESENT (POINT 52A))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.* *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.* *This approach has formed the basis of DCWW's portfolio investment plan for Storm Overflows.* *SWANSEA (PENLAN CRESENT (POINT 52A)) was Shown to have an other cause issue resulting in higher spills which are expected to reduce once a resolution has been implemented.* *The asset will under take classificaion as part of DCWW's GN066 in AMP8, to establish any impact that there might be.*				
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	15/04/2024	*Stage 1 - OC*	**Christian Phillips Adams**	christian.phillipsadams@dwrcymru.com	*Email*
Regulator Liaison Date	Click here to enter a date				

CSO Classification					
Satisfactory	**Y**	Unsatisfactory	**N**	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?	**N**	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**	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?	**UTC**
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**