SOAF Investigation Output Summary

Dŵr Cymru Welsh Water

Cyfoeth Naturiol Cymru Natural Resources Wales

Reference: SOAF.R 00001

Please see Aurill Statement Technical Guidance for further information

ASSET INVESTIGATION DETAILS					
SAP Asset Name:	Opp 92 Bonymaen Rd Swansea CSO			**Asset Template reference**	BP0244401-(BONYMAEN RD NR DARTFORD RD) SWANSE-73040-Stage 4 - CBA-Swansea
Investigation Type	SOAF (River)				
Year of breach:	*2018*	**Spill Trigger cause:**		*Hydraulic*	
Year of Investigation:	*2022*	**Investigation year performance:**		*42 (Data available from 22/04/2022 onwards)*	
Population of Asset	*1979*	**Modelled Performance: (DESIGN) / (CALIBRATED)**		*76 / 76 (58 spills from 22/04/2022 onwards)*	
Permit Details					
Storm Permit ID:	BP0244401	**Storm Permit Name:**		SWANSEA - BONYMAEN ROAD NEAR DARTFORD ROAD (POINT 101) CSO	
Asset NGR:	SS6732795168	**Waterbody ID**		GB110059025710	
Discharge NGR:	SS6722795237	**Water body Discharge location**		Nant y Fendrod - headwaters to conf with Tawe	

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

Incoming Pipe: 475mm; CSO Type: Double sided, low-level weir; Screening: None consented or installed; Flow Control: X-Pipe ; PFF Pipe: 375mm; Storage Provision: None consented; PFF Consent: None - Deemed consent; SocA is 34.7l/s.

SOAF STAGE 1	
Details of assessment:	Asset condition surveys supported by hydraulic model assessment of the asset performance.
Permit Compliance	
PFF	Compliant
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 Hydraulic, with no secondary cause of spills. 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

Cause of spill count :	**Other Cause**	**No**	**Catchment Hydraulic**	**Yes**	**Infiltration & IRP required**	**No**
Future Operational Management Proposal:	*The primary cause of spills was found to be hydraulic, and as such the asset progressed through to Stage 2 of the SOAF process*					
Operational intervention required:	*None*					

SOAF Operational Intervention					
Start Date:	-	**Completion Date:**	-	**Indicative future annual spill performance** *(less than 40 do not continue to stage 2)*	6 / 76 (58 spills from 22/04/2022 onwards

Intervention Description:					
Target Completion by Date:	**Jan-00**	**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			Moderate		
Stage 2a					
Aesthetic survey:	Spring	-	**Aesthetic Total score** (inclusive of amenity classification, previous complaints & pollutions)	UTC	UTC
	Autumn	-		UTC	UTC
Stage 2b				*Yes / No unable due to culverted watercourse*	
Invertebrate survey:	Spring	-	**Invertebrate survey score:**	UTC	UTC
	Autumn	-		UTC	UTC
Stage 2c Required:				*Yes / No*	
Stage 2c screening:	Required	**Progressed through screening?** Yes	**Stage 2c water quality assessment Score:**	46 - Severe	

SOAF STAGE 3 - STEP 1>3						
Options assessed	Rainscape		Traditional Storage	Y	PFF Increase	N
Equivalent storage volume required	21m3	**Rainscape Cost**		£1,612,450.00	**CBR**	0.8
Bespoke future trigger agreement	21	**Traditional Storage**		£96,054.99	**CBR**	12.9
		Other		N/A	**CBR**	N/A
Key Constraints	*None Identified*					
Future Active Management Proposal	*The primary cause of spills was hydraulic and Stage 2 impact assessments have shown that the asset was having a significant effect on the receiving waterbody, with the waterbody itself requiring improvement to achieve Good or higher status. Assessments of the potential high-level solutions have indicated that the asset passed the SOAF cost benefit threshold for further investigation and as such it is proposed to progress to detailed benefits assessment. Further details are shown below detailing DCWW's plans for storm overflow spill reduction*					

Conclusion and Future Spill Reduction Proposals					
Summary	*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 - BONYMAEN ROAD NEAR DARTFORD ROAD (POINT 101) CSO was Shown to have a Severe + Impact therefor as set out above based upon our Long Term Delivery Strategy a spill reduction scheme to eliminate this level of impact is Profiled to be delivered before 2035*				
Asset Prioritisation Level	*Priority 1*			**Delivery Predicted Period**	*AMP8/9*
Asset NEP ID	*N/A*	**Asset NEP Driver Code**	*N/A*	**Detailed Design Predicted Period**	*AMP7/8*
Progression to Stage 5 In AMP	*No*	*Proposed Solution yet to be taken through detailed design devloped*			

SOAF AGREEMENT					
	Date	**SOAF STAGE**	**Name**	**Contact Details**	**Location of Output**
DCWW Approval	01/07/2024	*Stage 4 - CBA*	**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?	**UTC**	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?	**Y**		
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**		