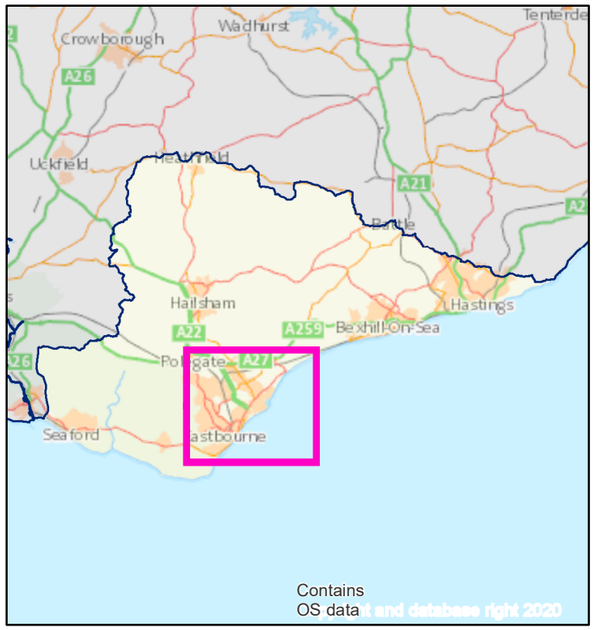
Drainage and Wastewater Management Plan

Eastbourne
Wastewater System Plan

from Southern Water

Contents

Eastbourne wastewater system: map and key facts



Population Equivalent (PE)	**116,948**
Discharge Waterbody	**Long sea outfall into English Channel**
Number of Pumping Stations	**72**
Number of Overflows	**6**
Length of Sewer (km)	**914.9**
Catchment Reference	**EALP**

BRAVA Results Table

	Planning Objective	2020	2050
1	Internal Sewer Flooding Risk	1	
2	Pollution Risk	1	
3	Sewer Collapse Risk	0	
4	Risk of Sewer Flooding in a 1 in 50 year storm	2	2
5	Storm Overflow performance	2	2
6	Risk of WTW Compliance Failure	0	0
7	Risk of flooding due to Hydraulic Overload	2	2
8	Dry Weather Flow Compliance	0	1
9	Good Ecological Status / Potential	0	
10	Surface Water Management	2	
11	Nutrient Neutrality	NA	NA
12	Groundwater Pollution	1	
13	Bathing Waters	2	
14	Shellfish Waters	NA	

Drivers of Risks

- Customer
- Hydraulics
- Operational
- Quality
- Unknown

Catchment Strategy: IMPROVE

EASTBOURNE WTW

EASTBOURNE

EASTBOURNE DISTRICT

0 0.5 1 2 3 4 Kilometers

Problem Characterisation
Eastbourne (EALP)

This document describes the causes of the risks identified by the Baseline Risk and Vulnerability Assessment (BRAVA). The BRAVA results for this wastewater system are summarised in Table 1. The results indicate that flooding, pollution and water quality are the main concerns in this wastewater system. We have completed risk assessments for 2050 where we have the data and tools available to do so. For the other planning objectives, we will explore how we can predict future risks for the next cycle of DWMPs. All the risk assessment methods need to be reviewed after the first DWMPs have been produced with a view to improve the methods and data for future planning cycles.

Table 1: Results of the BRAVA for Eastbourne wastewater system

Planning Objectives		2020	Driver	2050
1	Internal Sewer Flooding Risk	1	Customer	
2	Pollution Risk	1	Operational	
3	Sewer Collapse Risk	0	-	
4	Sewer Flooding in a 1 in 50-year storm	2	Hydraulic	2
5	Storm Overflow Performance	2	Hydraulic	2
6	WTW Water Quality Compliance	0	-	0
7	Flooding due to Hydraulic Overload	2	Hydraulic	2
8	WTW Dry Weather Flow Compliance	0	-	1
9	Good Ecological Status / Good Ecological Potential	0	-	
10	Surface Water Management	2	Hydraulic	
11	Nutrient Neutrality	NA	-	NA
12	Groundwater Pollution	1	Operational	
13	Bathing Waters	2	Customer	
14	Shellfish Waters	NA	-	

Key

BRAVA Risk Band	
NA	Not Applicable*
0	Not Significant
1	Moderately Significant
2	Very Significant

*No issues relevant to planning objective within Wastewater System

Investment Strategy

The risks identified in this wastewater system mean that we have assigned the following investment strategy:

Improve

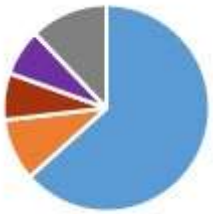
This means that we consider that the current performance of the drainage and wastewater system needs to be improved to reduce the impacts on our customers and/or the environment. We will plan investment to reduce the current risks by actively looking to invest capital funding in the short term to address current performance issues (and consider future risks when implementing improvements).

Planning Objective 1: Internal Sewer Flooding Risk

The number of internal sewer flooding incidents reported during the three years considered by the risk assessment are shown in Figure 1. The total number of connections in this wastewater system means there have been between 1.68 and 3.35 incidents per 10,000 connections per year (a threshold set by Ofwat) so the risk is in the 'moderately significant' band.

The primary driver for internal sewer flooding in this wastewater system is 'Customer'. Blockages caused 63% of all incidents recorded in this wastewater system. Blockages are often caused by fats, oils, grease, nappies, wet wipes and sanitary products within the system. These items are non-flushable and should not be disposed of into wastewater systems.

Figure 1: Number of internal flooding incidents per annum and causes



Blockage 63%
Pumping Station/ Treatment Work issue 10%
Sewer / Rising Main issue 7%
Hydraulic Overload 7%
Cause could not be Identified 12%

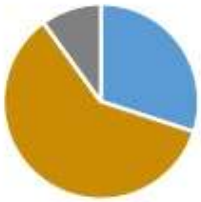
2017/18	2018/19	2019/20
14	8	19

Planning Objective 2: Pollution Risk

The number of pollution incidents reported during the three years considered by the risk assessment are shown in Figure 2. The length of sewer in this wastewater system means there have been between 24.51 and 49.01 incidents per 10,000km per year (a threshold set by Ofwat) so the risk is in the 'moderately significant' band.

The primary driver for pollution is 'Operational' due to asset operational issues. Asset operational issues at our pumping stations and treatments works are the main cause of incidents, contributing to 60% of all incidents recorded in this wastewater system.

Figure 2: Number of pollution incidents per annum and causes



Blockage 30%
Pumping Station/ Treatment Work issue 60%
Sewer / Rising Main issue 0%
Hydraulic Overload 0%
Cause could not be Identified 10%

2017	2018	2019
0	2	8

Planning Objective 3: Sewer Collapse Risk

The number of sewer collapses reported during the three years considered by the risk assessment are shown in Table 2. The length of sewer in this wastewater system means there have been less than 5.72 incidents per 1,000km per year (a threshold set by Ofwat) so the risk is in the 'not significant' band.

Table 2: Sewer collapses and rising main bursts

Sewer Collapse	2017/18	0
	2018/19	1
	2019/20	8
Rising Main Bursts	2017/18	0
	2018/19	0
	2019/20	1

Planning Objective 4: Sewer Flooding in a 1 in 50 Year Storm

The risk of flooding in a 1 in 50 year storm is very significant in 2020 and 2050. This is because our computer model of the sewer network indicate for 2020 that approximately 5800 - 5900 properties within this wastewater system are in areas that could flood by water escaping from sewers. This model prediction increases the number of properties in areas at risk from flooding to approximately 7700 - 7800 by 2050.

Our wastewater networks are generally designed with capacity for up to a 1 in 30 year storm, hence flooding is expected to occur during more severe storms such as a 1 in 50 year event. Flooding will occur due to insufficient capacity of the drainage system either on the surface before it enters the drainage system, and/or from manholes, in people's homes or at a low point elsewhere in the system.

Planning Objective 5: Storm Overflow Performance

The storm overflow performance risk has been assessed as very significant for both 2020 and 2050. Table 3 shows the overflows that discharge above the low threshold set for storm overflow discharges to Shellfish Water, Bathing Water and inland rivers.

The primary driver for the Storm Overflow Performance is 'Hydraulic.'

Table 3: Overflows exceeding discharge frequency threshold per annum

	Number of overflows		Threshold for number of discharges per annum		
	2020	2050	Low	Medium	High
Shellfish Waters	0 Medium	0 Medium	Less than 8	Between 8-10	10 or more
Bathing Waters	1 Medium	1 Medium	Less than 3	Between 3-10	10 or more
Freshwater	1 High	1 High	Less than 20	Between 20-40	40 or more

Planning Objective 6: Wastewater Treatment Works Water Quality Compliance

The risk of non-compliance with our wastewater quality permit has been assessed as not significant for both 2020 and 2050. This is because the wastewater treatment works has no record of compliance failure during the last three years (2018-2020).

Planning Objective 7: Flooding due to Hydraulic Overload

This is an assessment of the risk of flooding from sewers during a 1 in 30 year storm, and more frequent rainfall, to understand where flooding could occur. The risk of sewer flooding due to hydraulic overload is very significant in 2020 and 2050. The annualised number of properties in areas at risk of flooding is shown in Table 4.

Table 4: Annualised number of properties at risk per 10,000 connections.

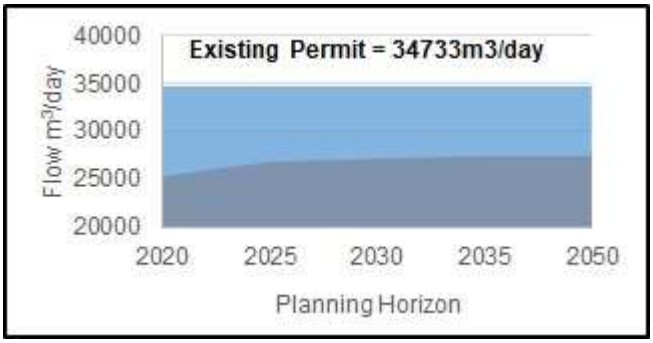
Rainfall Return Period (yr)	Number of Properties at Risk		Annualised per 10,000 connections	
	2020	2050	2020	2050
1 in 1	666	944	421	597
1 in 2	802	1479	316	582
1 in 5	2169	3535	393	641
1 in 10	3349	4717	319	449
1 in 20	4468	6075	218	296
1 in 30	5074	6915	166	227
Total Annualised			**1833**	**2791**

This indicates that the existing capacity of the wastewater network can already be exceeded during 1 in 30 year storms (or more frequent events).

Planning Objective 8: Wastewater Treatment Works Dry Weather Flow Compliance

The risk of Wastewater Treatment Works Dry Weather Flow Compliance is not significant for 2020 but is predicted to increase to moderately significant in 2050, shown in Figure 3. This is because the predicted DWF in 2050 is expected to be between 80% and 100% of the current permit.

Figure 3: Recorded and predicted dry weather flow with existing permit



Planning Objective 9: Good Ecological Status / Good Ecological Potential

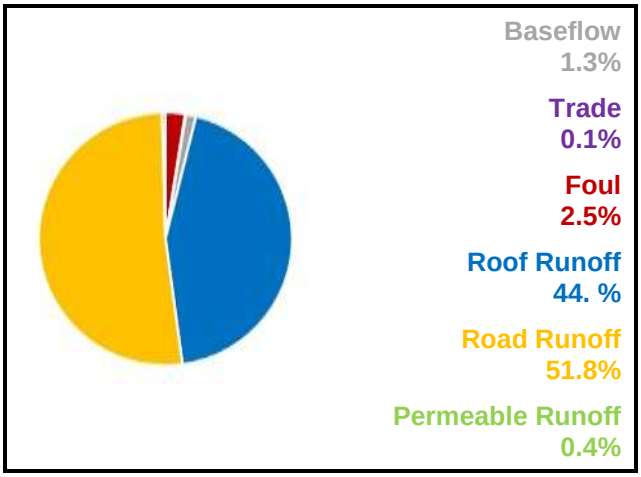
This wastewater system is not hydraulically linked to a waterbody where wastewater operations are contributing to not achieving GES/GEP, therefore the risk is not significant.

Planning Objective 10: Surface Water Management

Our initial high level assessment indicated that there is very significant interaction between surface water flooding and flooding from sewers in this wastewater system.The cause of this localised flooding is the capacity of the drainage network in these areas to convey both wastewater and surface water run-off.

Figure 4 illustrates the sources of water flowing in the wastewater system during a 1 in 20 year storm. It shows that surface water runoff from roofs, road and permeable surfaces constitutes more than 96.2% of the flow in the sewers. The total contribution of foul water from homes is 2.5% with business contributing 0.1%. The baseflow is infiltration from water in the ground and makes up 1.3% of the flow in the system.

Figure 4: Sources of water flowing in sewers during a 1 in 20 year storm



Planning Objective 11: Nutrient Neutrality

This wastewater system is not hydraulically linked to Habitat Sites noted as under threat by Natural England.

Planning Objective 12: Groundwater Pollution

The risk of Groundwater Pollution is moderately significant. The wastewater system network of sewers extends across geographical areas that are designated as a Source Protection Zone (SPZ) for water supply. Sewer survey data indicates that parts of the sewer network are in poor condition and are likely to leak sewage.

The primary driver is 'Operational' due to condition of our assets.

Planning Objective 13: Bathing Waters

The designated bathing waters that could be affected by discharges from this wastewater system are shown in Table 5, along with the current classification from the Environment Agency.

Table 5: Bathing Water annual results

Bathing Waters	Annual Results		
	2017	2018	2019
Norman`s Bay	Good	Poor	Good
Pevensey Bay	Good	Good	Good
Eastbourne	Excellent	Sufficient	Excellent

The risks from this wastewater system on Norman`s Bay, Pevensey Bay and Eastbourne bathing waters has led to an assessment of is very significant.

The primary driver is ‘Customer’ due to suspected foul to surface water misconnections as well as suspected agriculture affecting the bathing waters in this wastewater system.

Planning Objective 14: Shellfish Waters

The discharges from this wastewater system do not impact on any designated shellfish waters.

Generic Options Assessment for: Eastbourne (EALP)

Planning Objectives		2020	Driver	2050
PO1	Internal Flooding	1	Customer	-
PO2	Pollution Risk	1	Operational	-
PO3	Sewer Collapse	0	-	-
PO4	Risk of Sewer Flooding in 1 in 50 yr	2	Hydraulic	2
PO5	Storm Overflow Performance	2	Hydraulic	2
PO6	Risk of WTW Compliance Failure	0	-	0
PO7	Annualised Flood Risk/Hydraulic Overload	2	Hydraulic	2
PO8	DWF Compliance	0	-	1
PO9	Achieve Good Ecological Status	0	-	-
PO10	Improve Surface Water Management	2	Hydraulic	-
PO11	Secure Nutrient Neutrality	NA	-	NA
PO12	Reduce Groundwater Pollution	1	Operational	-
PO13	Improve Bathing Water Quality	2	Customer	-
PO14	Improve Shellfish Water Quality	NA	-	-

Type of Measures	Generic Option Categories	Icon	Take Forward?	Reasons	Examples of Generic Options
Source (Demand) Measures (to reduce likelihood)	Control / Reduce surface water run-off		Y	-	Natural Flood Management; rural land management and catchment management; SuDS including blue and green infrastructure; storm management
	Reduce groundwater levels		N	Reducing groundwater levels would reduce the risks from infiltration into the network. However, in practice, reducing groundwater levels will be detrimental to the environment, ground conditions and is prohibitively too costly to implement. For these reasons, this generic option has been discounted.	Reduce leakage from water supply pipes; pump away schemes to locally lower groundwater near sewer network
	Improve **quality** of wastewater		Y	-	Domestic and business customer education; incentives and behaviour change (reduce Fats, Oils & Grease, wet wipes etc.); monitoring trade waste at source; on-site black water and/or greywater pre-treatment
	Reduce the **quantity** / demand		Y	-	Water efficient appliances; water efficient measures; blackwater and/or greywater re-use; treatment at source
Pathway (Supply) Measures (to reduce likelihood)	Network Improvements		Y	-	Asset optimisation; additional network capacity; storage; separate flows; structural repairs; re-line sewer pipe and manholes; smart networks.
	Improve Treatment Quality		Y	-	Increase treatment capacity; rationalisation of treatment works (centralisation / de-centralisation); install tertiary plant; UV plant or disinfection facilities; innovation; improve Technical Achievable Limits; new WTWs
	Wastewater Transfer to treatment elsewhere		N	The causes of risk are not due to where our systems discharge to the environment or our ability to increase the capacity to connect more homes. Transferring wastewater for treatment elsewhere will not reduce any of the significant risks in this catchment.	Transfer flow to other network or treatment sites; transport sewage by tanker to other sites
Receptor Measures (to reduce consequences)	Mitigate impacts on Air Quality		N/A	Not included in first round of DWMPs	Carbon offsetting; noise suppression /filtering; odour control and treatments
	Improve Land and Soils		N/A	Not included in first round of DWMPs	Sludge soil enhancement
	Mitigate impacts on receiving waters		N	The receiving waters are not advserly impacted by our wastewater operations. Hence, offsetting any adverse impacts on receiving waters will not reduce any of the significant risks in this catchment.	River enhancement, aeration
	Reduce impact on properties		Y	-	Property flood resilience; non-return valves; flood guards / doors; air brick covers
Other	Study / Investigation		Y	-	Additional data required; hydraulic model development; WQ monitoring and modelling

August 2021
Version 1

Eastbourne Wastewater System - Outline Options Appraisal

Generic Option	Location of Risk	Planning Objective and Description of Risk	Option Reference	Description	Further Description	Unconstrained Option?	Constrained Option?	Feasible Option?	Net Benefits	Estimated Cost	Preferred Option	Best value / Least cost or Reasons for Rejection
Control/ Reduce surface water entering the sewers	EALP FC01 Gilbert, Whitney and Firle Rd,	PO4 and PO7 Flooding	EALP.SC01.1	Surface Water Separation	DAP Option.	Yes	No					Environmental - Strategic Environmental Assessment
Control/ Reduce surface water entering the sewers	EALP FC02 - Rise Park,	PO4 and PO7 Flooding	EALP.SC01.2	Surface Water Separation	DAP Option.	Yes	No					Environmental - Strategic Environmental Assessment
Control/ Reduce surface water entering the sewers	EALP FC03 - Wartling Rod,	PO4 and PO7 Flooding	EALP.SC01.3	Surface Water Separation	DAP Option.	Yes	No					Environmental - Strategic Environmental Assessment
Control/ Reduce surface water entering the sewers	EALP FC04 - Rattle Road,	PO4 and PO7 Flooding	EALP.SC01.4	Surface Water Separation	DAP Option.	No						
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Catchment Wide	PO1- Internal Flooding	EALP.SC03.1	Customer Education Programme	Customer education programme to reduce the risk.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Upstream of Eastbourne WTW	PO2- Pollution Risk	EALP.SC03.2	Customer Education Programme	Customer education programme.	Yes	No					Performance and Sustainability
Control / Reduce the quantity / flow of wastewater entering sewer system	EASTBOURNE WTW	PO8 (2050)- Dry Weather Flow	EALP.SC04.1	Water Efficient Appliance / Measures	Southern Water aims to reduce water consumption to 100 l/h/d by 2040.	Yes	No					Environmental - Strategic Environmental Assessment
Network Improvements (eg increase capacity, storage, conveyance)	ARCHERY EASTBOURNE WPS	PO1- Internal Flooding	EALP.PW01.1	Maintenance Programme	An efficient maintenance programme for pumping stations and/Treatment works to elimate the risk of a pollution incident due to an operational failure.	Yes	Yes	Yes	Minor Positive +	£235K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Eastbourne	PO1- Internal Flooding	EALP.PW01.2	Additional Storage	Additional Storage.	Yes	No					Operational
Network Improvements (eg increase capacity, storage, conveyance)	Eastbourne	PO1- Internal Flooding	EALP.PW01.3	Pipe Rehabilitation Programme	Pipe Rehabilitation Programme.	Yes	No					Environmental - Strategic Environmental Assessment
Network Improvements (eg increase capacity, storage, conveyance)	Rattle Road Westham Wps,	PO2- Pollution Risk	EALP.PW01.4	Maintenance Programme WPS	An efficient maintenance programme for pumping stations to elimate the risk of a pollution incident due to an operational failure.	Yes	No					Operational
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO8 (2050)- Dry Weather Flow	EALP.PW01.5	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	Yes	No					Environmental - Strategic Environmental Assessment
Network Improvements (eg increase capacity, storage, conveyance)	Eastbourne	PO12- Ground Water Pollution	EALP.PW01.6	Pipe Rehabilitation Programme	Total length of sewer within protection zones- 90.	Yes	Yes	Yes	Minor Positive +	£6,495K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO1- Internal Flooding	EALP.PW01.7	Jetting Programme	Jetting Programme.	Yes	Yes	Yes	Minor Positive +	£295K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Winchelsea Road	PO2- Pollution Risk	EALP.PW01.8	Jetting Programme	Jetting Programme.	No						Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	EALP FC01 Gilbert, Whitney and Firle Rd,	PO4 and PO7 Flooding	EALP.PW01.9	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£8,580K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	EALP FC02 - Rise Park,	PO4 and PO7 Flooding	EALP.PW01.10	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£81,855K	No	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	EALP FC03 - Wartling Rod,	PO4 and PO7 Flooding	EALP.PW01.11	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£7,885K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	EALP FC04 - Rattle Road,	PO4 and PO7 Flooding	EALP.PW01.12	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£595K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	EASTBOURNE WTW	PO2- Pollution Risk	EALP.PW02.1	Maintenance Programme WTW	An efficient maintenance programme for the treatment works to elimate the risk of a pollution incident due to an operational failure.	Yes	Yes	Yes	Minor Positive +	£6,970K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	EASTBOURNE WTW	PO8 (2050)- Dry Weather Flow	EALP.PW02.2	Permit Review	Proposed permit-35107m3.	Yes	Yes	Yes	Minor Positive +	£1,445K	Yes	Best Value
Wastewater Transfer	EASTBOURNE WTW	PO8 (2050)- Dry Weather Flow	EALP.PW03.1	Construct New WPS & Rising Main	No other WTWs are within a 20km radius of EASTBOURNE WTW with spare capacity to take DWF.	No						Cost Effective and Risk and uncertainty - future resilience
Mitigate impacts on Air Quality (e.g. Carbon neutrality, noise, odour)												Not included in the first round of DWMPs
Improve Land and Soils												Not included in the first round of DWMPs
Mitigate impacts on Water Quality												
Reduce consequences Properties (e.g. Property Flood Resilience)	Eastbourne	PO1- Internal Flooding	EALP.RC04.1	Property Flood Mitigation / Resistance	Short-term property level protection ahead of flood alleviation scheme - Non-return valves and flood mitigation doors / gates.	Yes	No					Operational
Study/ investigation to gather more data	Eastbourne	PO1- Internal Flooding	EALP.OT01.1	Investigation into causes	Further investigation to identify the cause of the internal flooding incident.	Yes	No					Operational
Study/ investigation to gather more data	Eastbourne	PO2- Pollution Risk	EALP.OT01.2	Investigation into causes	Further investigation to identify the cause of the pollution incident.	Yes	No					Operational
Study/ investigation to gather more data	Catchment Wide	PO8 (2050)- Dry Weather Flow	EALP.OT01.3	Infiltration Reduction Plan	Relining/improving structural grades of sewers across the catchment.	Yes	No					Environmental - Strategic Environmental Assessment
Study/ investigation to gather more data	Eastbourne	PO12- Ground Water Pollution	EALP.OT01.4	Study and Investigations	Total length of sewer within protection zones- 126.	Yes	No					Operational
Study/ investigation to gather more data	Catchment Wide	PO4- 1 in 50 year PO5- Storm Overflow PO7- Hydraulic Overload PO10- Surface Water Management	EALP.OT01.5	Improve Hydraulic Model	Improve Hydraulic Model.	Yes	Yes	Yes	Minor Positive +	£300K	Yes	Best Value
Study/ investigation to gather more data	EASTBOURNE WTW	PO5 Storm Overflow	EALP.OT01.6	Storage	Storage.	Yes	Yes	Yes	Minor Positive +	£1,000K	Yes	Best Value
Study/ investigation to gather more data	EASTBOURNE WTW	PO6 PO8 Saline Intrusion	EALP.OT01.7	Study- Saline Intrusion	Study to identify and provide solution for Saline intrusion at Eastbourne WTW.	Yes	Yes	Yes	Minor Positive +	£TBC - With Partners	Yes	Best Value

DWMP Investment Needs

1. The options listed in the DWMP Investment Needs below are the preferred options in our DWMP. They will need further refinement as we implement the DWMP to confirm the exact location and scope of action needed, and the cost.

2. The costs are indicative costs for planning purposes only. The basis for the cost estimates, including assumptions and uncertainties, are explained in our DWMP Investment Plans.

3. The table of Investment Need provides an indicative cost so we know what level of funding is needed to reduce the risks. It is not a commitment to fund or deliver any option.

4. The Indicative Timescale is when the investment is needed. Some options may take several investment periods to achieve the desired outcomes.

5. Potential Partners have been identified in the table of Investment Needs. This is to indicate where there may be opportunities for us to work with these partners when developing and delivering these options. It is not a commitment by any of the partners to work with us.

6. These options will inform our future business plans as part of the Ofwat periodic review process to secure the finance to implement these options.

7. The options listed are prioritised by the method stated in the Programme Appraisal Technical Summary.

Date : May 2023
Version : 1.0

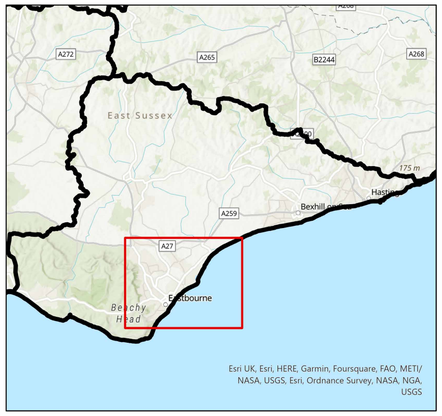
Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
Cuckmere and Pevensey Levels								
Eastbourne								
EALP.CONS01.1	Cuckmere and Pevensey Levels	Eastbourne	System Wide	The Blue Heart Project and Pevensey Bay to Eastbourne Coastal Management Scheme.	£TBC	AMP8	East Sussex County Council Environment Agency Eastbourne Borough Council	PO1 PO2 PO4 PO5 PO6 PO7 PO9
EALP.SC03.1	Cuckmere and Pevensey Levels	Eastbourne	Roselands, Langney, Westham	Customer Education Programme: Targeted campaign to reduce the amount of FOG (fats, oils and grease) and unflushables discharged into the sewer network	£115K	AMP8 onwards	Eastbourne Borough Council East Sussex County Council	PO1
EALP.PW01.1	Cuckmere and Pevensey Levels	Eastbourne	Archery Eastbourne WPS	Improve the operational resilience of wastewater pumping station (WPS) to reduce flooding	£235K	AMP8 onwards	-	PO1
EALP.PW01.6	Cuckmere and Pevensey Levels	Eastbourne	Upperton, Downside, West Meads	Sewer Rehabilitation: Targeted CCTV or electroscan surveys to check the integrity of sewers and reline or renew them to reduce the risk of groundwater pollution	£6,495K	AMP9	-	PO12
EALP.PW01.7	Cuckmere and Pevensey Levels	Eastbourne	Roselands, Langney, Westham	Enhanced Sewer Maintenance: Increase targeted sewer jetting to reduce the number of blockages in the network	£295K	AMP8 onwards	-	PO1
EALP.PW01.9	Cuckmere and Pevensey Levels	Eastbourne	Gilbert, Whitney, Firle Rd	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£8,580K	AMP9	Eastbourne Borough Council East Sussex County Council	PO4 PO7
EALP.PW01.10	Cuckmere and Pevensey Levels	Eastbourne	Rise Park	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£81,855K	AMP9	Eastbourne Borough Council East Sussex County Council	PO4 PO7
EALP.PW01.11	Cuckmere and Pevensey Levels	Eastbourne	Wartling Road	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£7,885K	AMP9	Eastbourne Borough Council East Sussex County Council	PO4 PO7
EALP.PW01.12	Cuckmere and Pevensey Levels	Eastbourne	Rattle Road	Flood Alleviation: Separate or attenuate excess rainwater in sewer network using Sustainable Drainage Systems (SuDS) to reduce risk of flooding (Costs based on storage solution but surface water separation is our preferred approach)	£595K	AMP9	Eastbourne Borough Council East Sussex County Council	PO4 PO7
EALP.PW02.1	Cuckmere and Pevensey Levels	Eastbourne	Eastbourne WTW	Improve the operational resilience of wastewater pumping station (WPS) to reduce pollution incidents	£6,970K	AMP8 onwards	-	PO2
EALP.PW02.2	Cuckmere and Pevensey Levels	Eastbourne	Eastbourne WTW	Increase capacity to allow for planned new development	£1,445K	AMP9	-	PO8
EALP.OT01.5	Cuckmere and Pevensey Levels	Eastbourne	System Wide	Improve the Hydraulic Model: Surveys and reverification of model to improve confidence and accuracy	£300K	AMP8	-	PO4 PO5 PO7 PO10
EALP.OT01.7	Cuckmere and Pevensey Levels	Eastbourne	Eastbourne WTW	Study and Investigation: Study to identify solutions to address saline intrusion at Eastbourne WTW.	£TBC	AMP8	-	PO6 PO8
EALP.WINEP01.1	Cuckmere and Pevensey Levels	Eastbourne	EASTBOURNE CSO	Reduce the number of storm discharges from EASTBOURNE CSO by creating below-ground storage	£21,355K	AMP9	-	PO5

Reference	River Basin (L2)	Wastewater System (L3)	Location	Option	Indicative Cost	Indicative Timescales	Potential Partners	Applicable Planning Objectives
EALP.WINEP01.2	Cuckmere and Pevensey Levels	Eastbourne	RATTLE ROAD WESTHAM CEO	Reduce the number of storm discharges from RATTLE ROAD WESTHAM CEO by a combination of SuDS and storage options	£11,465K	AMP12	-	PO4 PO5 PO7
EALP.WINEP01.3	Cuckmere and Pevensey Levels	Eastbourne	MONTAGUE WAY WESTHAM CEO	New or improved screen to reduce aesthetics impacts from storm discharges at MONTAGUE WAY WESTHAM CEO	£130K	AMP12	-	PO5
EALP.WINEP01.4	Cuckmere and Pevensey Levels	Eastbourne	GRANVILLE ROAD EASTBOURNE CSO	New or improved screen to reduce aesthetics impacts from storm discharges at GRANVILLE ROAD EASTBOURNE CSO	£130K	AMP12	-	PO5
EALP.WINEP01.5	Cuckmere and Pevensey Levels	Eastbourne	EASTBOURNE FORMULA A CEO	Reduce the number of storm discharges from EASTBOURNE FORMULA A CEO by a combination of SuDS and storage options	£30,880K	AMP10	-	PO4 PO5 PO7
EALP.WINEP01.6	Cuckmere and Pevensey Levels	Eastbourne	WALLSEND ROAD PEVENSEY CEO	Reduce the number of storm discharges from WALLSEND ROAD PEVENSEY CEO by a combination of SuDS and storage options	£13,490K	AMP11	-	PO4 PO5 PO7

Drainage and Wastewater Management Plan: Location of Potential Options EASTBOURNE Wastewater system in Cuckmere and Pevensey Levels River Basin Catchment

WATER for LIFE from Southern Water

(i) This map should be read in conjunction with the list of Investment Needs for this wastewater system
(ii) The areas shown on this map are the potential locations for the options. The location of the risk may be elsewhere in the system.
(iii) Labels for each location are the option references in the list of Investment Needs
(iv) Drainage Area Plan (DAP) options on flooding and growth are not shown.



- Customer Education
- Pipe Rehabilitation
- Asset Resilience
- Wastewater Treatment
- WINEP Nutient Neutrality
- WINEP Storm Overflows

EALP.PW01.7
EALP.SC03.1
EALP.WINEP01.2
EALP.WINEP01.6
EALP.WINEP01.3
EALP.PW02.1
EALP.PW02.2
EALP.PW01.6
EALP.PW01.1
EALP.WINEP01.4
EALP.WINEP01.5
EALP.WINEP01.1

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