

# East Worthing 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	East Worthing WTW CSO	PO5- Sewer Overflows	WOEA.SC01.1	Surface Water Separation	Surface Water Removal (40%) will reduce the total predicted flood volume by 17%.	No						Cost Effective
Control/ Reduce surface water entering the sewers	Sea Lane Goring WPS CSO	PO5- Sewer Overflows	WOEA.SC01.2	Surface Water Separation	Surface Water Removal (40%) will reduce the total predicted flood volume by 17%.	No						Cost Effective
Control/ Reduce surface water entering the sewers	Smopting Road Worthing Outside 22 CSO	PO5- Sewer Overflows	WOEA.SC01.3	Surface Water Separation	Surface Water Removal (40%) will reduce the total predicted flood volume by 17%.	No						Cost Effective
Control/ Reduce surface water entering the sewers	SIDL FC01_1 - Old Shoreman Road	PO4 and PO7 Flooding	WOEA.SC01.4	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	SIDL FC01_1 - Ham Road	PO4 and PO7 Flooding	WOEA.SC01.5	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	SIDL FC01_3 -Durington Lane	PO4 and PO7 Flooding	WOEA.SC01.6	Surface Water Separation	DAP Option.	No						
Control/ Reduce surface water entering the sewers	SIDL FC01_4 - Alinora Crescent	PO4 and PO7 Flooding	WOEA.SC01.7	Surface Water Separation	DAP Option.	No						
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Marine Parade, properties adjacent to A2025, Columbia Drive	PO1- Internal Flooding	WOEA.SC03.1	Customer Education Programme	Targeted education programme in known incident areas to reduce the risk.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Control / Reduce the quantity / flow of wastewater entering sewer system	Catchment Wide	PO8 (2050)- Dry Weather Flow	WOEA.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)	Catchment Wide	PO8 (2050)- Dry Weather Flow	WOEA.PW01.1	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	No						Cost Effective and Deliver the required outcome
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide excluding Goring-by-Sea and Coastal areas until Lancing Beach	PO12- Ground Water Pollution	WOEA.PW01.2	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment to reduce risk of exfiltration to the Source Protection and Ground Water Capture Zones.	Yes	Yes	Yes	Minor Positive +	£12,190K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C05 - Marine Crescent/Alinora Avenue	PO4 and PO7 - Growth	WOEA.PW01.3	Upsizing and Offline Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C06 - Marine Crescent	PO4 and PO7 - Growth	WOEA.PW01.4	Upsizing, new sewer and Offline Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C07 - West Parade/ Bolsover Road/Lincett Drive	PO4 and PO7 - Growth	WOEA.PW01.5	Upsizing and Offline Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C08 - Victoria Road/ Winchester Road	PO4 and PO7 - Growth	WOEA.PW01.6	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C09 - Merton Terrace/Chatsworth Road	PO4 and PO7 - Growth	WOEA.PW01.7	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C10 - Ham Road/ Ladydell Road/Homefield Road/Lyndhurst Road/Brougham Road	PO4 and PO7 - Growth	WOEA.PW01.8	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C11- Lose Lane	PO4 and PO7 - Growth	WOEA.PW01.9	Upsizing and Offline Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C12 - Penfold Road/Dominion Road	PO4 and PO7 - Growth	WOEA.PW01.10	Upsizing	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C13- Old Shoreman Road/Grindstead Lane/West way/New Salts Farm Road	PO4 and PO7 - Growth	WOEA.PW01.11	Upsizing, new sewer and Offline Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C14 - Goring street/Romany Road	PO4 and PO7 - Growth	WOEA.PW01.12	Upsizing, Offline Storage and online storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£6,660K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C01 SalvingtonRoad (Option 1)	PO4 and PO7- Flooding DG5 External - 7 DG5 Internal - 0 Flood Vol. m³ - 1059 (1 in 30)	WOEA.PW01.13	Offline Storage	DAP Option.	No						
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C02 SalvingtonRoad (Option 2)	PO4 and PO7- Flooding DG5 External - 7 DG5 Internal - 0 Flood Vol. m³ - 1059 (1 in 30)	WOEA.PW01.14	Offline Storage & Conveyance	DAP Option.	No						
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C03 Manor Way (Option 1)	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.15	Upsizing and Online Storage	DAP Option.	No						
Network Improvements (eg increase capacity, storage, conveyance)	DAP WOEAF C04 Manor Way (Option 2)	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.16	Upsizing and Online Storage	DAP Option.	No						
Network Improvements (eg increase capacity, storage, conveyance)	SIDL FC01_1 - Old Shoreman Road	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.17	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£1,855K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SIDL FC01_1 - Ham Road	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.18	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£870K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SIDL FC01_3 -Durlington Lane	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.19	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£3,235K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	SIDL FC01_4 - Alinora Crescent	PO4 and PO7- Flooding DG5 External - 33 DG5 Internal - 0 Flood Vol. m³ - 344.7 (1 in 30)	WOEA.PW01.20	Storage	DAP Option.	Yes	Yes	Yes	Major Positive +++	£4,195K	Yes	Best Value

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Improve treatment (capacity and quality at existing works or develop new WTWs)	East Worthing WTW	PO8 (2050)- Dry Weather Flow	WOEA.PW02.1	Permit Review	Increasing the treatment capacity at the treatment works, to ensure permit is below 80% and reduced risk of exceeding.	Yes	Yes	Yes	Minor Positive +	£1,505K	Yes	Best Value
<b>Wastewater Transfer</b>												
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)	Catchment Wide	PO1, PO4, PO7 and PO10- Flooding Objectives	WOEA.RC04.1	Flood Mitigation for Flooding	Flooding mitigation to consider options (but not limited to); Non-return Values, Smart Airbricks, Flood Doors, Jetting sewers via Maintenance Scheduled Tasks.	No						Risk and uncertainty - future resilience
Study/ investigation to gather more data	Catchment Wide	PO8 (2050)- Dry Weather Flow	WOEA.OT01.1	CCTV Survey - Condition Assessment / Infiltration Study	Investigation work to determine the structural condition of the sewer network within the catchment, identifying areas of high infiltration and/or poor structural condition with potential to infiltrate.	No						Risk and uncertainty - future resilience
Study/ investigation to gather more data	Catchment Wide excluding Goring-by-Sea and Coastal areas until Lancing Beach	PO12- Ground Water Pollution	WOEA.OT01.2	CCTV Survey - Condition Assessment / Infiltration Study	Investigation work to determine the structural condition of the sewer network within the catchment.	No						Risk and uncertainty - future resilience
Study/ investigation to gather more data	Catchment Wide / East Worthing WTW CSO, Sea Lane Goring WPS CSO, Sompting Road Worthing outside 22 CSO	PO13- Bathing Water Quality	WOEA.OT01.3	Studies / Investigations	Investigations continuing under the Bathing Water Programme to be completed to identify misconnections (foul to surface) along with sewer rehabilitation.	No						Deliver the required outcome and Risk and uncertainty - future resilience
Study/ investigation to gather more data	WOEA FC15 - EAST WORTHING WTW (ICM link: TQ1603851X.1)	PO5, PO13 and PO14 - Spill Assessments	WOEA.OT01.4	Storage (East Worthing WTW)	The DAP model has a confidence score of 2 and was last verified in 2018.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Study/ investigation to gather more data	WOEA FC16 - EAST WORTHING WTW (ICM link: DUM0048.2)	PO5, PO13 and PO14 - Spill Assessments	WOEA.OT01.5	Storage (East Worthing WTW)	The DAP model has a confidence score of 2 and was last verified in 2018.	No						Technically feasible Cost Effective Deliver the required outcome Environmental risk mitigatable Do customer support it Risk and uncertainty - future resilience
Study/ investigation to gather more data	WOEA FC17 - SEA LANE GORING CSO	PO5 and PO13 - Spill Assessments	WOEA.OT01.6	Storage (Sea Lane Goring)	The DAP model has a confidence score of 2 and was last verified in 2018.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value
Study/ investigation to gather more data	WOEA FC19 - SOMPTING ROAD WORTHING OUTSIDE 22 CSO	PO5 and PO13 - Spill Assessments	WOEA.OT01.7	Storage (Sompting Road Worthing Outside 22)	The DAP model has a confidence score of 2 and was last verified in 2018.	Yes	Yes	Yes	Major Positive +++	£1,000K	Yes	Best Value