

# Chickenhall Eastleigh 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	Fair Oak Road	PO4, PO7, PO10 - Flooding	CHEA.SC01.1	SUDs scheme	Install storm attenuation pond to manage surface water.	Yes	Yes	Yes	Moderate Positive ++	£TBC - With Partners	No	Best Value
Control/ Reduce surface water entering the sewers	Winchester Road and B3037	PO4, PO7, PO10 - Flooding	CHEA.SC01.2	SUDs scheme	Upstream attenuation of floods to prevent flooding at crossroads of Winchester Road and B3037.	No						Cost Effective and Do customer support it
Control / Reduce groundwater infiltration												
Improve quality of wastewater entering sewers (inc reducing FOG, RAG, pre-treatment, trade waste)	Hotspot 1 - Eastleigh Hotspot 2 - Colden Common	PO1- Internal Flooding	CHEA.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)	Hotspot 3 - Chandler's Ford Hotspot 4 - Fair Oak Hotspot 5 - Twford	PO2- Pollution Risk	CHEA.SC03.2	Customer Education Programme	Customer education programme XXXX Road / Street to reduce the risk.	Yes	Yes	Yes	Minor Positive +	£115K	Yes	Best Value
Control / Reduce the quantity / flow of wastewater entering sewer system	CHICKENHALL EASTLEIGH WTW	PO8 (2050)- Dry Weather Flow	CHEA.SC04.1	Water Efficient Appliance / Measures	Southern Water aims to reduce water consumption to 100 l/h/d by 2040.	No						Cost Effective
Network Improvements (eg increase capacity, storage, conveyance)	BOTLEY ROAD HORTON HEATH WPS	PO1- Internal Flooding	CHEA.PW01.1	Maintenance Programme	Improve resilience: An efficient maintenance programme for pumping stations and/Treatment works to eliminate the risk of a pollution incident due to an operational failure.	No						Do customer support it and Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Chandler's Ford	PO1- Internal Flooding	CHEA.PW01.2	Additional Storage	Additional Storage.	No						Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Botley Road Horton Heath Wps, Chickenhall Eastleigh Wtw, Kiln Lane Brambridge Wps, Kiln Lane Brambridge Wps, Chestnut Avenue Eastleigh Wps.	PO2- Pollution Risk	CHEA.PW01.3	Maintenance Programme WPS	Improve resilience: An efficient maintenance programme for pumping stations to eliminate the risk of a pollution incident due to an operational failure.	Yes	Yes	Yes	Minor Positive +	£930K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO2- Pollution Risk	CHEA.PW01.4	Additional Storage	Additional Storage.	No						Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO3- Sewer Collapse	CHEA.PW01.5	Pipe Rehabilitation Programme	Targeted CCTV / electroscan surveys and proactive sewer rehabilitation to reduce risk of sewer collapse.	No						Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO8 (2050)- Dry Weather Flow	CHEA.PW01.6	Pipe Rehabilitation Programme	Relining/improving structural grades of sewers across the catchment.	No						Cost Effective and Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Catchment Wide	PO2- Pollution Risk	CHEA.PW01.7	Pipe Rehabilitation Programme	Pipe Rehabilitation Programme.	No						Cost Effective and Risk and uncertainty - future resilience
Network Improvements (eg increase capacity, storage, conveyance)	Hotspot 1 - Eastleigh Hotspot 2 - Colden Common	PO1- Internal Flooding	CHEA.PW01.8	Jetting Programme	Jetting Programme.	No						Do customer support it
Network Improvements (eg increase capacity, storage, conveyance)	Chandler's Ford Eastleigh Fair Oak	PO2- Pollution Risk	CHEA.PW01.9	Jetting Programme	Jetting Programme.	Yes	Yes	Yes	Minor Positive +	£35K	Yes	Best Value
Network Improvements (eg increase capacity, storage, conveyance)	Otterbourne- Inner & Outer Zone TCZ Twyford- Inner & Outer Zone TCZ	PO12- Ground Water Pollution	CHEA.PW01.10	Pipe Rehabilitation Programme	Total length of sewer within protection zones- 91.	Yes	Yes	Yes	Minor Positive +	£2,840K	Yes	Best Value
Improve treatment (capacity and quality at existing works or develop new WTWs)	CHICKENHALL EASTLEIGH WTW	PO2- Pollution Risk	CHEA.PW02.1	Maintenance Programme WTW	Improve resilience: An efficient maintenance programme for the treatment works to eliminate 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)	CHICKENHALL EASTLEIGH WTW	PO8 (2050)- Dry Weather Flow	CHEA.PW02.2	Permit Review	Proposed permit-36513m3.	Yes	Yes	Yes	Minor Positive +	£2,570K	Yes	Best Value
Wastewater Transfer												
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	Chandler's Ford	PO1- Internal Flooding	CHEA.RC03.1	Property Flood Mitigation / Resistance	Short-term property level protection ahead of flood alleviation scheme - Non-return valves and flood mitigation doors / gates.	No						Risk and uncertainty - future resilience
Reduce consequences Properties (e.g. Property Flood Resilience)												
Study/ investigation to gather more data	Chandler's Ford	PO1- Internal Flooding	CHEA.OT01.1	Investigation into causes	Further investigation to identify the cause of the internal flooding incident.	No						Cost Effective
Study/ investigation to gather more data	Catchment Wide	PO8 (2050)- Dry Weather Flow	CHEA.OT01.2	Infiltration Reduction Plan	Relining/improving structural grades of sewers across the catchment.	No						Do customer support it and Risk and uncertainty - future resilience
Study/ investigation to gather more data	Solent Maritime Solent & Southampton Water Solent and Dorset Coast	PO11 - Nutrient Neutrality	CHEA.OT01.3	Nutrient Budget	Catchment is Hydraulically linked to; Solent Maritime (Threat/Remedy Identified or Anticipated) Solent & Southampton Water (NO Threat/Remedy Identified or Anticipated) Solent and Dorset Coast (Threat/Remedy Identified or Anticipated)  Banding 2020 - 2; There is a Phosphate permit (1mg/l) but no Nitrate permit (Note there is an Ammonia permit (2.	Yes	Yes	Yes	Major Positive +++	£75K	Yes	Best Value
Study/ investigation to gather more data	Otterbourne- Inner & Outer Zone TCZ Twyford- Inner & Outer Zone TCZ	PO12- Ground Water Pollution	CHEA.OT01.4	Study and Investigations	Total length of sewer within protection zones- 88.	No						Do customer support it and Risk and uncertainty - future resilience
Study/ investigation to gather more data	Catchment Wide	PO4- 1 in 50 year PO5- Storm Overflow PO7- Hydraulic Overload PO10- Surface Water Management	CHEA.OT01.5	Improve Hydraulic Model	Improve Hydraulic Model.	Yes	Yes	Yes	Minor Positive +	£300K	Yes	Best Value
Study/ investigation to gather more data	CHICKENHALL EASTLEIGH WTW	PO5 Storm Overflow	CHEA.OT01.6	Storage	Surface water separation to reduce spills from Chickenhall Eastleigh WTW (average cost assumed to reduce CSO spills to Band 0).	Yes	Yes	Yes	Major Positive +++	£TBC - With Partners	Yes	Best Value

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Study/ investigation to gather more data	River Itchen	PO1 PO4 PO5 PO7 PO10	CHEA.OT01.7	Study and Investigations - NFMs	Study / Investigation: Identify suitable location/s for wetland construction along with River Itchen in partnership with the EA (update hydraulic model).	Yes	Yes	Yes	Minor Positive +	£TBC - With Partners	Yes	Best Value