

Isle of Dogs and South Poplar Integrated Water Management Plan

Executive Summary

Greater London Authority

AECOM Project Number: 60617450

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Revision Schedule

Revision	Revision Date	Details	Authorised	Name	Position
01	01 September 2020	Executive Summary - Draft	SL	Sarah Littlewood	Principal Consultant
02	16 September 2020	Executive Summary - Final	EC	Emily Craven	Associate
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01 EXECUTIVE SUMMARY

1.1 Introduction

The scale of growth planned for the Isle of Dogs and South Poplar to 2041 poses a significant challenge for the delivery of water services infrastructure in the area. Much of the existing infrastructure is close to, or already at capacity; and flood risk and water quality are key concerns in many parts of the area.

A targeted approach to water infrastructure provision is required in order to ensure the water services needs of the area can continue to be met, and to reduce the scale of investment required to provide new infrastructure. The Isle of Dogs and South Poplar Integrated Water Management Plan (IWMP) provides this targeted approach, setting out a framework for how water services infrastructure provision should be considered differently in order to reduce impacts on existing infrastructure.

The IWMP recommends water infrastructure measures which make better use of available water and which integrate the existing water environment, water supply needs, wastewater disposal and flood risk management using sustainable solutions. This approach supports the aims of Good Growth¹ and the creation of sustainable communities and demonstrates how the requirements of key water and flood risk policies within the Tower Hamlets Local Plan and the wider London Plan can be met.

¹ Good Growth by design is the London Mayor's plan to create a city that works for all Londoners.
<https://www.london.gov.uk/what-we-do/regeneration/advice-and-guidance/about-good-growth-design>

1.2 Study Drivers

The measures proposed in the IWMP have been developed from an understanding of the local constraints and opportunities, as well as the following four key drivers identified in local, London-wide and national policies and strategies:

- **Increasing resilience** through provision of reliable water services and reducing the impact of flooding.
- Supporting the delivery of **Net Gain and Urban Greening** through making space for water.
- Providing **sustainable drainage** to minimise and reduce flood risk and improve water quality.
- **Protecting and enhancing the water environment.**

1.3 Study Area Definition and Constraints

Based on a mixture of planning zones and identified infrastructure constraints, the IWMP divides the study area into six IWMP Zones as detailed in Table 1-1 and Figure 1-1. These Zones have been used to identify water solutions and form the IWMP.

Table 1-1 IWMP Zone Names

IWMP Zone Reference	IWMP Zone Name
Zone 1	South Poplar
Zone 2	Canary Wharf
Zone 3/4	South Quay and Crossharbour
Zone 5	Island Gardens
Zone 6A	Core Area Action Plan (AAP) Area
Zone 6B	Wider Area Action Plan (AAP) Area

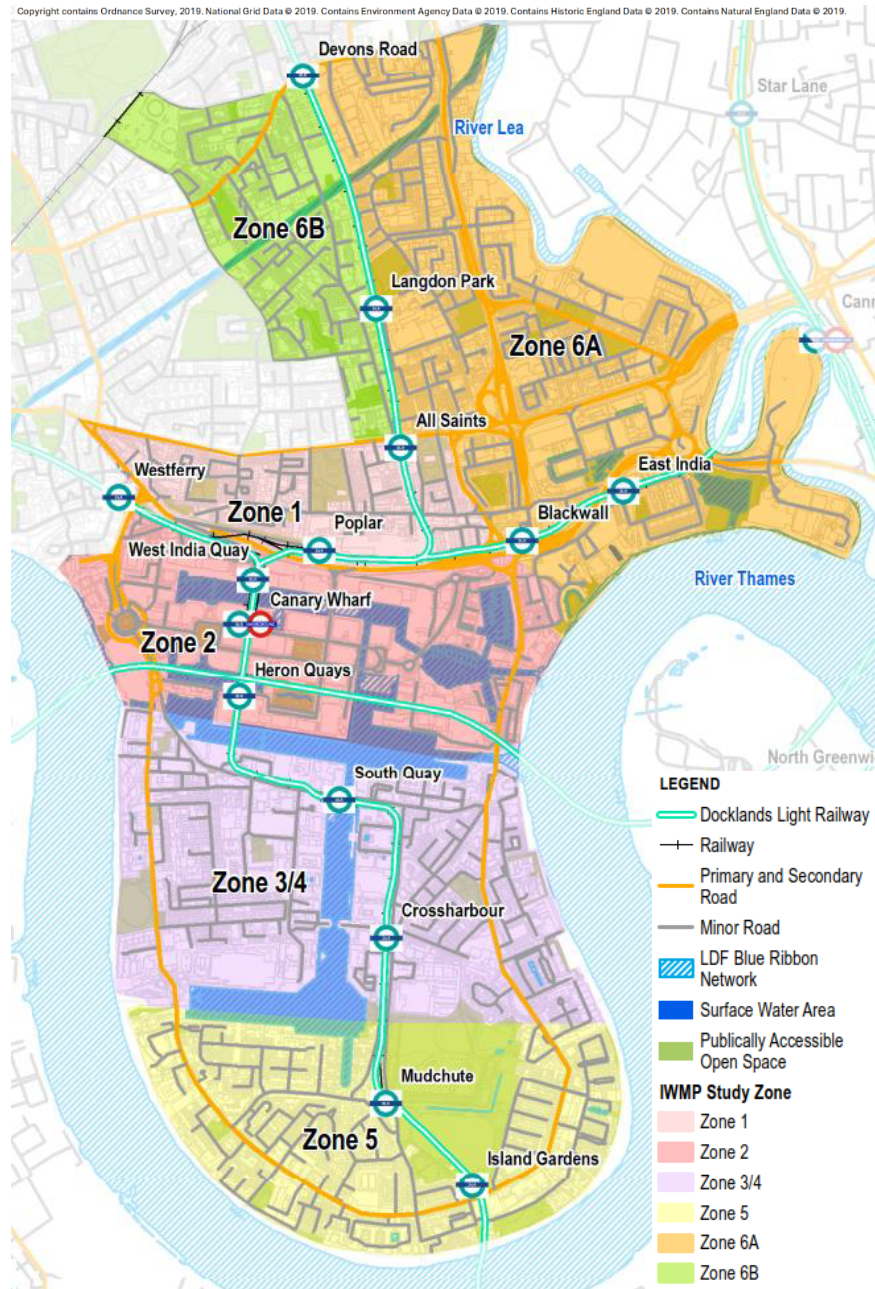


Figure 1-1 Zones for the IWMP (Appendix A Figure 2)

Water balance calculations were undertaken for the study area and within each Zone, and demonstrate that by 2041, demand for potable water in the study area will increase by 55% if specific new measures are not adopted. Wastewater flows to sewer will also increase by a similar amount if measures are not implemented to offset the impact through reductions in surface water volumes entering the sewer system.

The IWMP outlines several key constraints in the study area:

- **Constrained sewers:** sewer networks receiving both surface water from rainfall and wastewater from property are severely constrained in key locations. There is an increased risk of sewer flooding in all zones (particularly Island Gardens and South Poplar).
- **Lack of water resources:** Across London, the difference between total demand for water and available water by 2044 will increase to over 360 million litres a day if new supply solutions and water efficiency are not delivered.
- **Limited supply capacity:** Water supply networks to the study area are constrained and will need provision of significant sized water mains in order to meet future demand for potable water. This need for investment can be reduced by increasing water efficiency and minimising use of potable water for non-potable uses.

Significant opportunity is also identified in the study area:

- There are several **key waterbodies** accessible in the majority of Zones providing opportunities to remove surface water from the constrained sewer system and provide a means for water to be stored and reused.
- In the South Poplar, South Quay and Crossharbour, and Canary Wharf Zones, the mix of development affords **opportunity for water to be re-used** between residential and commercial property.
- Much of the proposed development will be located in high density developments in close proximity to one another, affording **opportunity for shared infrastructure** such as separated surface water systems and community-based re-use schemes.

1.4 Solutions and Recommendations

Based on the identified constraints and water balance issues, several measures and approaches were developed.

To guide developers and stakeholders in the adoption of measures proposed, a hierarchy of IWMP requirements has been developed. These have been shaped by local constraints, study drivers and the policies associated with them. A developer checklist has been produced based on the hierarchy (Appendix E).

Hierarchy of IWMP requirements	
<ol style="list-style-type: none"> 1) Minimise residential water demand through best practice fixtures and fittings and achieve BREEAM excellent for commercial property. 2) Reuse water within development (greywater or rainwater) to meet minimum water use target set for the study area. 	First Consideration: Demand reduction (both required)
<ol style="list-style-type: none"> 3) Attenuate rainwater in green infrastructure prior to discharge (for example green roofs, swales, etc). 4) Use integrated sustainable drainage to meet Urban Greening Factor (UGF) policy requirements. 	Second Consideration: Green Infrastructure (both preferred)
<ol style="list-style-type: none"> 5) Discharge to ground where possible. 6) Discharge surface water to the docks, River Lea or River Thames. 7) Discharge surface water to surface water sewer at greenfield runoff rate (via attenuation). 8) Discharge surface water to combined sewer at greenfield runoff rate (via attenuation). 	Hierarchy for surface water discharge (select most feasible option near top of list)

Several measures are not specific to any given location and have been recommended at a study wide level. These measures are detailed in Table 1-2.

Assessments within each Zone were also completed identifying location specific measures which should be adopted and taken forward. These are detailed in Table 1-3 and Figure 1-2 (also reproduced as Appendix A Figure 11).

Study wide and Zone-specific measures have been prioritised as follows:

- High Priority: would have the greatest benefit for some of the biggest constraints and have a clearer delivery mechanism.
- Medium Priority: options which will have significant benefit on their own but are likely to require multi-stakeholder involvement to deliver.
- Low Priority: options with long lead in times, uncertain delivery mechanisms and/or would need to form a suite of measures to address a constraint.
- Quick wins: measures which are relatively straightforward and quick to implement.

If adopted, the measures would greatly reduce the demand for new potable water, reducing the scale of upgrades required in the water supply infrastructure system and contributing significantly to securing London's water supply.

Pressure on the existing combined sewer would be drastically reduced through a significant lowering of the rate of discharge and removal of large volumes of surface water from the system which are currently limiting the capacity of the sewer system. This would subsequently allow the sewer system to be able to receive and manage the significant increase in foul water discharges which planned development will generate, without increasing the risk of sewer flooding in Critical Drainage Areas² and reducing the need for combined sewer system upgrades.

The mix of proposed measures would also facilitate the provision of multi-functional spaces, where water becomes a key part of the urban landscape and supports an increase in urban greening.

To ensure the measures are taken forward as appropriate, an IWMP Working Group of key stakeholders should be convened to deliver the next steps set out in the IWMP. This includes a series of supporting studies and policy development which will facilitate delivery of the priority measures.

² Areas of surface water and sewer flood risk as defined in LBTH Surface Water Management Plan.

Table 1-2 Prioritised study-wide measures and approaches

Measure/Approach	Rationale	Priority	Priority Justification
Develop a demand offset policy	A study-wide demand target of a maximum consumption of 90 litres per person for all new residential property; where this is not achieved by developers, a section 106 (s106) contribution will need to be paid. Accrued s106 payments would be used to fund water efficiency and re-use retrofit projects in the study area. This will require developers to include water re-use rather than relying solely on efficient fixtures and fittings to deliver water efficiency. The requirement to consider re-use is set out in policy SI13 (B1) and SI (C3) of the London Plan and policy D.ES5 and S.ES1 of the Local Plan.	High	A demand offset mechanism would be implementable by LBTH and could have a significant effect in minimising future demand for potable water.
Develop a greenfield run-off rate offset policy	All development should be required to achieve greenfield run-off rates for discharge of surface water through the provision of either on-site Sustainable Drainage Systems (SuDS) or community SuDS schemes. Where greenfield rates cannot be achieved, a s106 contribution will be paid. Accrued s106 payments would be used to fund retrofit SuDS measures within public realm or other council owned land to reduce overall discharge volumes and rates to the sewer system serving the study area.	High	A runoff offset mechanism would be implementable by LBTH ³ and would have a significant effect in offsetting the impact of additional foul discharge to the combined sewer system serving the study area.
Strategic multi-plot surface water networks in advance of development	In many identified locations, multiple development plots would benefit from separated surface and foul water discharge with the provision of strategic surface water sewers linking new development and discharging to the docks or watercourses. These systems could be developed and adopted by third party providers, supported by a mechanism by which developers contribute to the costs as development comes online.	Medium	Separated systems would facilitate more development connecting to surface water options and significantly reduce pressure on the combined sewer system but would require multi-stakeholder agreements regards funding and ownership.
Combine below ground surface water storage and re-use	Where developers propose the use of below ground storage as attenuation to reduce surface water runoff rates, they should be required to combine it with re-use of the stored water for non-potable uses, or to demonstrate why this is not feasible.	Low	All below ground storage acting to serve non-potable needs would bring benefit as part of a wider suite of re-use solutions.
Strategic dock attenuation	There is potential for the combined dock system to provide strategic attenuation for multiple plots adjacent to the waterbodies, particularly for some of the high density, space constrained development. Some plot-based attenuation via SuDS would be required to manage the quality of discharge, but additional storage could be provided by the docks for this purpose. This could reduce the reliance on pumping into the dock system from the River Thames in order to maintain water levels. Further study is required into the feasibility of this option.	Low	A dock-side attenuation system could bring substantial benefit but would require further detailed study to determine scope including protection of water quality during the summer.
New Appointment or Variation (NAV) advice	NAVs are limited companies which are licenced by the water industry regulator to provide water and wastewater services in an area previously served by an incumbent water company. NAVs can provide water and wastewater services to large plots or a group of plots, providing and managing a range of integrated SuDS, wastewater treatment and re-use for non-potable supply and	Quick Win	Advice can be easily incorporated into LBTH's current infrastructure co-ordinator service.

³ Such a mechanism also has precedent for the Old Kent Road Opportunity Area in London Borough of Southwark.

	charging occupiers directly for water and wastewater services; in this way, they provide integrated services which are not often provided by the incumbent monopolised market. Via the Council's infrastructure co-ordinator service, contacts with NAVs should be made available to developers where strategic re-use and integrated surface water management solutions are identified in the IWMP as being feasible.		
SuDS and Urban Greening	Further guidance should be provided to developers on how landscaping and water management via SuDS can deliver both urban greening policy requirements and water and flood risk policy requirements. Drainage engineers and landscape architects should be encouraged to jointly develop landscape plans and drainage strategies using the guidance.	Quick Win	An advice document would be relatively simple and quick to produce and would influence and support developers in increasing integrated SuDS uptake.
Dual plumbing	All new development should be encouraged to design for dual plumbing (potable and non-potable pipework systems) in order to provide improved future resilience. Dual plumbing would allow buildings to be connected to sources of re-used water as they are developed or brought on-line within the study area in the future, supporting the development of a market for re-used water.	Quick Win	Encouraging developers to adopt dual plumbing for future resilience would be relatively simple to promote.

Table 1-3 Zone Specific Measures (cross referenced with Figure 1-2 (Appendix A Figure 11))

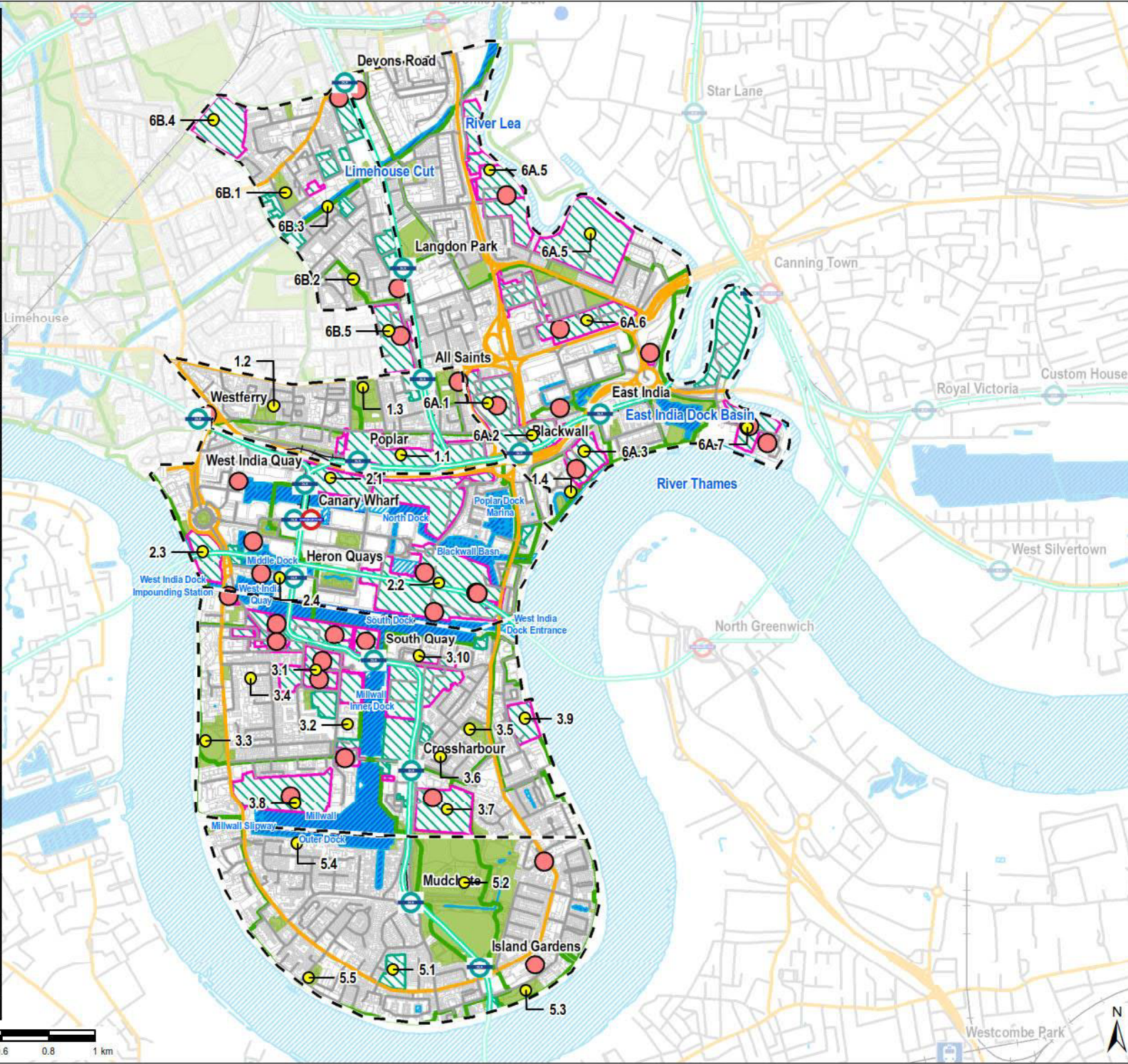
Zone	Measure	Description	Stakeholders and next steps	Label on Figure 1-2	Priority	Priority Justification
Zone 1: South Poplar	Community based rainwater harvesting along the A1261	Re-use of rainwater captured via commercial and residential units for train washing in the underlying train care depot.	<ul style="list-style-type: none"> - Developers consider installation of RWH and dual plumbing for non-potable supply. - LBTH to broker agreement between building occupiers and Train Care depot for RWH reuse. 	1.1	High	Significant opportunity to develop a viable re-use supply and demand system.
	Surface water discharge to River Thames or North Dock	The development plots along the A1261 can be linked to a joint surface water system with plots in Zone 2 (Canary Wharf) including options to discharge to the docks or the River Thames. Opportunities to combine with linear SuDS based systems following green infrastructure routes.	<ul style="list-style-type: none"> - Developers contribute to SuDS element of option. - LBTH encourage developer discussions with NAVs to provide solution. - Thames Water consider ownership of surface water sewer and discharge infrastructure. 	1.4	High	Significant opportunity to remove surface water from the sewer system with adoption options for piped network via Thames Water.
	Strategic surface water attenuation: Rosefield Gardens and Poplar Recreation Ground	Provision of strategic SuDS serving multiple plots (including potential sites for long-term growth to 2041) through landscaped depressions linked to underground attenuation.	<ul style="list-style-type: none"> - LBTH to undertake studies to investigate feasibility with parks team/LLFA. - Future developers to collaborate to deliver attenuation and flood management feature with LBTH. 	1.2, 1.3	Medium	Relatively straightforward measure to implement, but ownership and scale would depend on growth locations post 2031.
	Gravity fed greywater systems in high rise buildings	Collection and re-use of greywater from higher rise residential blocks for commercial non-potable uses on lower levels.	<ul style="list-style-type: none"> - Developers consider installation of GWR and dual plumbing for non-potable supply. 	1.1	Medium	Opportunity to significantly reduce potable demand but would require investment and cross-plot collaboration by developers and building management teams.
Zone 2: Canary Wharf	Integrated re-use systems – Wood Wharf	Significant mixed-use development providing opportunity for mixture of greywater and/or rainwater collection via residential property and re-used for commercial and other non-residential non-potable uses.	<ul style="list-style-type: none"> - Developer installs GWR/RWH and dual plumbing for non-potable supply. 	2.2	High	Significant opportunity to develop a viable re-use supply and demand system due to single development ownership.
	Surface water outfalls	Most large development plots have a feasible location to discharge attenuated surface water to a water body to reduce discharge volumes to the constrained combined sewer system. This includes outfalls to the River Thames for the large plot to the west; Zone 1 linked sewer	<ul style="list-style-type: none"> - LBTH encourage developer discussions with NAVs to provide solution. - Thames Water consider ownership of surface water sewer and discharge infrastructure if more than one development. 	2.1, 2.3	Medium	Significant opportunity to remove surface water from the sewer system however, provision and adoption of the multi-plot system would need to be agreed along with

Zone	Measure	Description	Stakeholders and next steps	Label on Figure 1-2	Priority	Priority Justification
		systems and an outfall to the North Dock or Thames for development to the north, and to the South Dock or River Thames for Wood Wharf.	<ul style="list-style-type: none"> - Developers provide individual surface water discharges when adjacent to Dock system in liaison with CRT. 			discharge agreement to the dock system with CRT.
	Combined surface water attenuation and re-use	High density development is likely to require some underground storage to achieve reduction in runoff rates – significant non-potable demand means such systems should combine attenuation with re-use via dual plumbed buildings as standard.	<ul style="list-style-type: none"> - Developers ensure tanked attenuation is installed with infrastructure and systems to allow water to be reused. - Developers consider installation of dual plumbing. 	2.1, 2.2	Low	All below ground storage acting to serve non-potable needs would bring benefit as part of a wider suite of re-use solutions.
Zone 3/4: South Quay and Crossharbour	Greywater re-use – South Dock and Millwall Inner Dock	Large scale residential and commercial mixed development means greywater re-use systems are more likely to be commercially viable and can be developed with residential greywater feeding non-potable demand for multiple residential and commercial buildings all in proximity.	<ul style="list-style-type: none"> - Developers consider installation of RWH and dual plumbing for non-potable supply. - LBTH to broker agreement between building occupiers or owner/occupiers for use between buildings. - LBTH encourage developer discussions with NAVs to provide solution. 	3.1	Medium	Opportunity to significantly reduce potable demand but would require investment and cross-plot collaboration by developers and building management teams.
	Rainwater harvesting for irrigation – Millharbour Village Park	Development proposed for plots around Millwall Inner Dock should provide rainwater collection and storage for use as irrigation water to the proposed Millharbour Village Park and other landscaped areas.	<ul style="list-style-type: none"> - Developers install RWH. 	3.2	High	Significant opportunity to develop a viable re-use system.
	Surface water discharge to River Thames and Docks	Most large development plots have a feasible location to discharge attenuated surface water to a water body to reduce discharge volumes to the constrained sewer system. This includes outfalls to the River Thames for the plot to the east and all development plots alongside the docks; these could be via multi-plot surface water systems and have the potential for some attenuation to be provided by the dock system.	<ul style="list-style-type: none"> - LBTH encourage developer discussions with NAVs to provide solution. - Thames Water consider ownership of surface water sewer and discharge infrastructure if more than one development. - Developers provide individual surface water discharges when adjacent to Dock system in liaison with CRT. 	3.8, 3.9	Medium	Significant opportunity to remove surface water from the sewer system however, provision and adoption of the multi-plot system would need to be agreed along with discharge agreement to the dock system with CRT.
	Strategic surface water attenuation: John McDougal Gardens, future Millharbour Village	Provision of strategic SuDS serving multiple plots (including potential sites for long-term growth to 2041) through landscaped SuDS	<ul style="list-style-type: none"> - LBTH to undertake studies to investigate feasibility with parks team/LLFA. 	3.3, 3.5	Medium	Relatively straightforward measure to implement, but ownership and scale would depend on growth locations post 2031.

Zone	Measure	Description	Stakeholders and next steps	Label on Figure 1-2	Priority	Priority Justification
	Park and St Johns Park	features and, in some cases, discharge to the River Thames or docks.	<ul style="list-style-type: none"> - Future developers to collaborate to deliver attenuation and flood management feature with LBTH - Thames Water consider feasibility of owning sewer and discharge infrastructure elements to reduce pressure on combined system. 			
	Docklands Light Railway (DLR) - SuDS	The DLR corridor is elevated across this zone, and there is potential to disconnect surface water downpipes from the combined sewer system to link to surface water collection (via SuDS), attenuation and discharge systems for proposed major redevelopment plots.	<ul style="list-style-type: none"> - DLR/TfI to work with LBTH, CRT and Thames Water to identify opportunities to disconnect DLR drainage and combine with development plots to provide SuDS and alternative surface water discharge location. 	-	Low	Good opportunity to provide multi-functional SuDS and reduce sewer discharge volumes as part of a wider suite of measures.
Zone 5: Island Gardens	Strategic surface water attenuation: Mudchute Farm, Millwall Park and Island Gardens	Long-term growth locations should make use of significant opportunity within greenspaces within the Zone to provide landscaped SuDS supporting multiple plots, with some locations such as Island Gardens likely to support a discharge to the Thames via SuDS based attenuation.	<ul style="list-style-type: none"> - LBTH to undertake studies to investigate feasibility with parks team/LLFA. - Future developers to collaborate to deliver attenuation and flood management feature with LBTH. - Thames Water consider feasibility of owning sewer and discharge infrastructure elements to reduce pressure on combined system. 	5.2	Medium	Relatively straightforward measure to implement, but ownership and scale would depend on growth locations post 2031.
	Surface Water Discharge	In this Zone there are opportunities to discharge surface water to the River Thames and the Millwall Outer Dock.	<ul style="list-style-type: none"> - LBTH to work with Thames Water and CRT to identify discharge opportunities. - Thames Water to consider feasibility of providing surface water sewers and outfalls to the docks or Thames. 	5.3, 5.4, 5.5	Low	Potential for significant reduction in surface water discharge but would require long lead in time depending on where development comes forward post 2031.
Zone 6A: Core Area AAP	Multi-plot surface water discharge to river systems	Several large development plots are located adjacent to the River Thames and River Lea. Plots north of the A1261 could be linked via a gravity-based strategic surface water system to increase the number of plots which could discharge this way and significantly reduce discharge to the combined sewer.	<ul style="list-style-type: none"> - Developers contribute to SuDS element of option. - LBTH encourage developer discussions with NAVs to provide solution. - Thames Water consider ownership of surface water sewer and discharge infrastructure. 	6A.1, 6A.2, 6A.3, 6A.4	High	Significant opportunity to remove surface water from the sewer system with adoption options for piped network via Thames Water.

Zone	Measure	Description	Stakeholders and next steps	Label on Figure 1-2	Priority	Priority Justification
	Surface water discharge – east of zone	A large mixed-use development is proposed east of East India Dock Basin – several surface water discharge locations are feasible for this plot, including the Basin, the River Lea and the River Thames.	<ul style="list-style-type: none"> - Developer to develop outfall solution. 	6A.7	High	Significant opportunity to remove surface water from the sewer system with adoption options for piped network via Thames Water.
	Greywater or rainwater re-use – mixed use development	There are several large plots located riverside of the River Lea and River Thames where significant mixed-use development provides opportunity for greywater and/or rainwater collection via residential property, with treatment and re-use for commercial and other non-residential non-potable uses.	<ul style="list-style-type: none"> - Developers consider installation of RWH/GWR and dual plumbing for non-potable supply. - LBTH to broker agreement between building occupiers or owner/occupiers for use between buildings. - LBTH encourage developer discussions with NAVs to provide solution. 	6A.5	Medium	Opportunity to significantly reduce potable demand but would require investment and cross-plot collaboration by developers and building management teams.
Zone 6B: Wider AAP	Integrated re-use systems – north and south of Zone	Large mixed-use plots provide significant opportunity for commercially viable community-based greywater and/or rainwater re-use systems to provide non-potable demand for all building types (if combined with dual plumbing).	<ul style="list-style-type: none"> - Developers consider installation of RWH/GWR and dual plumbing for non-potable supply. - LBTH to broker agreement between building occupiers or owner/occupiers for use between buildings. - LBTH encourage developer discussions with NAVs to provide solution. 	6B.4, 6B.5	Medium	Opportunity to significantly reduce potable demand but would require investment and cross-plot collaboration by developers and building management teams.
	Strategic surface water attenuation: Furze Green and Alton Street.	Future long-term development to 2041 which comes forward around Furze Green and Alton Street should consider strategic landscaped SuDS in these open spaces, potentially taking the form of wide and shallow depressions linked to below ground cellular storage for additional attenuation.	<ul style="list-style-type: none"> - LBTH to undertake studies to investigate feasibility with parks team/LLFA. - Future developers to collaborate to deliver attenuation and flood management feature with LBTH. 	6B.1, 6B.2, 6B.3	Medium	Relatively straightforward measure to implement, but ownership and scale would depend on growth locations post 2031.

Potential Option	
1.1	Coordinated surface water management across plots and discharge to the Docks
1.2	Options for attenuation
1.3	Options for attenuation
1.4	Surface water outfall to the Thames
2.1	New outfalls to the Docks. Coordination with South Poplar Masterplan Area as well as DLR
2.2	Options for multi-building grey water use
2.3	New surface water outfall to Thames
2.4	New outfalls to the Docks
3.1	Grey water re-use across mixed-use developments
3.2	Rainwater harvesting for irrigating green space
3.3	Landscaped attenuation in Sir John McDougall Gardens. Surface water outfall to Thames
3.4	Critical Drainage Area
3.5	Options for surface water attenuation in St John's Park
3.6	Critical Drainage Area
3.7	Case Study Site
3.8	New outfalls to Millwall Outer Dock
3.9	New surface water outfall to the Thames at Barge Close
3.10	Existing surface water sewer
5.1	Island Point (under construction)
5.2	Surface water attenuation in Mudchute Farm and Millwall Park
5.3	Attenuation in Island Gardens and new surface water outfall to the Thames
5.4	Opportunity to discharge surface water to Millwall Outer Dock
5.5	Attenuation beneath landscaped areas and new surface water outfall to the Thames, close to Napier Avenue
6A.1	Surface water linked to plots at 6A.2 and 6A.3 and to new surface water outfall to the Thames (1.4 / 6A.4)
6A.2	Surface water linked to plot at 6A.3 and to new surface water outfall to the Thames (1.4 / 6A.4)
6A.3	Surface water linked from plots at 6A.1 and 6A.2 and to new surface water outfall to the Thames (1.4 / 6A.4)
6A.5	Options for grey water recycling to serve residential non-potable demand
6A.5	Options for grey water recycling to serve residential non-potable demand
6A.6	Grey water reuse in mixed-use developments. Rainwater harvesting to feed landscaped areas
6A.7	Grey water reuse in mixed-use developments. Rainwater harvesting to feed landscaped areas. Surface water discharge to River Lea or Thames
6B.1	Surface water attenuation from surrounding plots in existing open spaces, e.g. Furze Green
6B.2	Surface water attenuation from surrounding plots in existing open spaces, e.g. Alton Street open space
6B.3	Surface water outfall to Limehouse Cut
6B.4	Mixed-use redevelopment provides opportunities for grey water re-use and rainwater harvesting
6B.5	Mixed-use redevelopment provides opportunities for grey water re-use and rainwater harvesting



THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- IWMP Study Zone
- Potential Option
- Commercial Phasing 2021 - 2031
- ▨ Docklands Light Railway
- Railway
- Primary and Secondary Road
- Minor Road
- Green Grid
- ▨ Residential Phasing 2021 - 2031
- ▨ Residential Phasing 2016 - 2020
- ▨ LDF Blue Ribbon Network
- Surface Water Area
- Publically Accessible Open Space

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Purpose of Issue
FINAL

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GREATER LONDON AUTHORITY

Project Title
ISLE OF DOGS AND SOUTH POPLAR INTEGRATED WATER MANAGEMENT PLAN

Drawing Title
SPATIAL OPTIONS IDENTIFICATION

Drawn: LL	Checked: AD	Approved: SL	Date: 02/10/2020
AECOM Internal Project No: 60617450		Scale @ A4 1:23,000	

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FIGURE 1-2

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