

## Appendix 5: SEA Matrices

## Testing of the LFRMS Action Plan Measures

Testing of the LFRMS Action Plan measures against the SEA objectives has been undertaken using the method and scoring methodology outlined below in the key below.

Key:

++	<b>Major Positive Impact</b> – when the LFRMS measures are very closely allied in their purpose and intended outcome to the SEA objective and will deliver a clear benefit.
+	<b>Minor Positive Impact</b> – when the LFRMS measures are related to the SEA objective and are likely to deliver some benefit as a result of their implementation.
–	<b>Minor Negative Impact</b> – when the LFRMS measures will lead to a minor negative effect on the SEA objective as a result of their implementation.
--	<b>Major Negative Impact</b> – where there is a clear and unambiguously negative relationship between the aims of the LFRMS and the SEA objective.
0	<b>'Unrelated'</b> – the aim of one of the LFRMS measures does not impact on the aim of the SEA objective. This is neither a positive or negative effect.
?	<b>'Unclear'</b> – where there is a relationship identified between the LFRMS measure and the SEA objective, but it can't be clarified whether this is positive or negative.

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<b>Measure Category A: Resources, Structure and Capacity to fulfil LLFA requirements under the Flood and Water Management Act 2010 and Flood Risk Regulations 2009</b>		
<ul style="list-style-type: none"> <li>• A1: Recruitment of appropriately skilled staff to deliver flood risk and drainage management</li> <li>• A2: Create Internal Partnership within London Borough of Southwark</li> <li>• A3: Create Strategic working partnership with London Borough of Lambeth</li> <li>• A4: Create External Partnership with relevant RMAs and stakeholders</li> <li>• A5: Create central database system to keep records of investigations of flooding incidents and mechanisms</li> <li>• A6: Develop and maintain Flood Risk Asset Register and Records</li> <li>• A7: Identify the map (GIS) all Ordinary and Hidden (lost) watercourses within London Borough of Southwark</li> <li>• A8: Prepare Local Flood Risk Management Strategy</li> <li>• A9: Work collaboratively with Thames water to identify areas where sewer flooding impacts on surface water flooding</li> <li>• A10: Work collaboratively with the EA to record and investigate ground water flooding</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	The LFRMS measures are considered to have a major positive effect on the SEA objective as they seek to deliver flood mitigation/ alleviation solutions through strategic partnerships with relevant stakeholders (measure A3). Other measures will combine to increase the skills and evidence base available to the Council to more effectively implement adaption measures.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	0	The measures in Category A of the LFRMS will not directly result in physical works to reduce flood risk and are therefore not considered to have an effect, either positive or negative, on the use of natural resources.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	Measures are expected to combine to have a secondary positive effect on overall flood risk by providing a sound evidence based and skills based to manage flood risk in the most appropriate and effective ways. By reducing overall flood risk the measures should help to protect biodiversity at designated sites from the adverse impacts of flood events, including direct impacts such as species mortality and indirect impacts such as contamination of habitats.
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	Measures are expected to combine to have a secondary positive effect on reducing overall flood risk in Southwark by providing a sound evidence based and skills based to manage flood risk in the most appropriate and effective ways. By reducing overall flood risk the measures help to protect habitats, networks and species from the adverse impacts of flood events, including direct impacts such as species mortality and indirect

Measure Category A: Resources, Structure and Capacity to fulfil LLFA requirements under the Flood and Water Management Act 2010 and Flood Risk Regulations 2009		
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SEA Objective	SEA Score	Justification
		impacts such as contamination of habitats.
Geology and Soil		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	By combining to reduce overall flood risk the LFRMS actions should have a secondary impact of reducing the adverse effects from flooding events (e.g. soil erosion caused by high levels of surface water run-off). None of the measures will result directly in physical works or actions that could affect land use.
Water		
6. Prevent Pollution to the water environment and protect resources	+	By combining to contribute to an overall reduction in flood risk the LFRMS measures should help to protect the water environment by reducing the likelihood of adverse impacts from flood events (e.g. as a result of run-off washing contaminants into watercourses). None of the measures associated with this LFRMS objective will result directly in physical works or actions that could have an adverse impact on water quality or resources in the Borough.
7. Reduce vulnerability to flooding	++	The LFRMS measure category will not result directly in physical works to reduce flood risk; however the measures are expected to combine to reduce overall flood risk by improving the evidence and skills base available to the Council. A decrease in overall flood risk is expected to have a major positive effect on reducing the potential damage to receptors from flood events and therefore vulnerability will also decrease.
Population and Human Health		
8. To reduce the flood risk to population and properties and to contribute to flood risk	++	The measures will not result directly in physical works to reduce flood risk to population and properties. However, by combining to reduce overall flood risk (through improved evidence and skills base) the LFRMS actions should have a major positive effect on reducing the flood risk to population

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<b>Measure Category A: Resources, Structure and Capacity to fulfil LLFA requirements under the Flood and Water Management Act 2010 and Flood Risk Regulations 2009</b>		
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<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
management within Southwark		and properties in the Borough.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	The measures will not result directly in physical works to reduce flood risk to safeguard public access, navigation and recreational resources. However, by combining to reduce overall flood risk (through improved evidence and skills base) the LFRMS actions should have a secondary positive effect of reducing the flood risk and therefore potential damage to access, navigation and recreational resources associated with flood events.
10. Increase accessibility to open space and green infrastructure	0	The LFRMS measures are concerned with increasing the evidence and skills base available to the Council to manage flood risk. They will not directly result in physical works to manage flood risk and so it is considered that they will not have an effect, either positive or negative, on accessibility to open space and green infrastructure.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	By combining to reduce overall flood risk, the LFRMS actions should have the secondary positive effect of reducing the flood risk and the associated adverse impacts that flood events can have on the historic environment. None of the actions will result directly in physical works or actions that could have an adverse impact on the setting of historic assets in Southwark or historic assets in neighbouring boroughs.
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS actions are considered not to have an effect on the SEA objective, as they will not directly result in physical works that could affect the townscape/ landscape character in Southwark.

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SEA Objective	SEA Score	Justification
Material Assets		
13. Protect and enhance green infrastructure and open space	+	By combining to reduce overall flood risk the LFRMS actions should have the secondary positive effect of reducing the adverse impacts that flood events can have on green infrastructure and open space (both through direct impacts and indirect impacts such as contamination). The actions will not result directly in physical works that could impact on green infrastructure and open space.
14. Reduce economic cost of flood damage	++	The LFRMS measures will not result in any direct physical works to manage the risk of flooding. However, by combining to reduce overall flood risk the LFRMS measures should have a major positive effect on reducing the economic costs associated with flood events (such as repairing damage to infrastructure, housing and contamination of land).
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	The LFRMS measure category will not result in any direct physical works to manage the risk of flooding. However, by combining to reduce overall flood risk the LFRMS measures are expected to have a major positive effect on reducing flood risk to housing and critical infrastructure.
16. Encourage Sustainable Tourism	0	The LFRMS measures are considered not to have an effect on the SEA objective. As they are concerned with ensuring the Council has the required resources, structure and capacity to fulfil their flood risk management duties.

Measure Category B: Communication, Partnerships and Community Engagement		
<ul style="list-style-type: none"> <li>• B1: Work with the EA to incorporate SWMP outputs in fluvial / pluvial modelling and strategic policies</li> <li>• B2: Actively engage with the public and key stakeholders on formulation of Local Flood Risk Management Strategy</li> <li>• B3: Develop a Communication and Engagement Plan to increase awareness on flood risk, consequences, improvement works and future resilience</li> <li>• B4: Develop a Southwark wide Flood Guide to educate the general public, communicate and promote community resilience, and publish on public domain</li> <li>• B5: Develop Community Flood Plans (through engagement with local communities) to improve resilience to flooding</li> </ul>		
SEA Objective	SEA Score	Justification
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	Although the LFRMS measures will directly result in physical works to mitigate/ adapt to climate change, it is considered that the measure will have a major positive effect on the SEA objective. Measure B1 will incorporate SWMP outputs into modelling and should ensure that climate change projections are considered and suitable adaption measures (such as sustainable drainage solutions) are obliged in new developments/ redevelopments.. Measure B3 should result in effective communication with the community on future resilience measures to minimise and adapt to incidences of flood risk.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	0	It is considered that the LFRMS actions associated with this measure will not have an effect on the SEA objective as the focus of the actions are on developing effective communication and partnerships and will not result in direct physical works.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	By combining to have a secondary positive effect in reducing overall flood risk (through partners and the public having increased knowledge and engagement with flood risk management), the LFRMS measures will combine to reduce the likelihood of adverse impacts from flood events on biodiversity at designated sites.
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	By combining to have a secondary positive effect in reducing overall flood risk (through partners and the public having increased knowledge and engagement with flood risk management), the LFRMS actions associated with this measure will reduce the likelihood of adverse impacts from flood events on priority habitats, ecological networks and species.
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	By combining to have a secondary positive effect in reducing overall flood risk (through partners and the public having increased knowledge and engagement with flood risk management), the LFRMS

Measure Category B: Communication, Partnerships and Community Engagement		
<ul style="list-style-type: none"> <li>• B1: Work with the EA to incorporate SWMP outputs in fluvial / pluvial modelling and strategic policies</li> <li>• B2: Actively engage with the public and key stakeholders on formulation of Local Flood Risk Management Strategy</li> <li>• B3: Develop a Communication and Engagement Plan to increase awareness on flood risk, consequences, improvement works and future resilience</li> <li>• B4: Develop a Southwark wide Flood Guide to educate the general public, communicate and promote community resilience, and publish on public domain</li> <li>• B5: Develop Community Flood Plans (through engagement with local communities) to improve resilience to flooding</li> </ul>		
SEA Objective	SEA Score	Justification
		actions associated with this measure will reduce the likelihood of adverse impacts from flood events on soils and land (e.g. soil erosion from high surface water run-off).
Water		
6. Prevent Pollution to the water environment and protect resources	+	By combining to have a secondary positive effect in reducing overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management), the LFRMS measures will reduce the likelihood of adverse impacts from flood events on the water environment (such as run-off washing contaminants into watercourses).
7. Reduce vulnerability to flooding	++	The LFRMS measures are likely to combine to have a major positive effect on reducing vulnerability to flooding in Southwark by actively engaging the community in the development of the LFRMS (B2) and increasing communication and engagement (B3). The measures should combine to increase awareness and knowledge of the impacts of flooding at an individual and community level and provide the community to manage flood risk more effectively.
Population and Human Health		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	++	The LFRMS measures are expected to have a major positive effect on the SEA objective by individual measures combining to reduce overall flood risk. The measures seek to improve community and stakeholder engagement and communication, which should facilitate the effective use of local knowledge within the development of the LFRMS (B2) and lead to an overall reduction in flood risk at a local level and Borough level.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	By combining to have a secondary positive effect on reducing overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management), the LFRMS measures will reduce the likelihood of adverse impacts from flood events such as damage to public access, navigation and recreational resources.
10. Increase accessibility to open space and green infrastructure	0	It is considered that the LFRMS measures are unlikely to have an effect, either positive or negative, on increasing accessibility to open space and green infrastructure, as they are primarily concerned with increasing engagement and communication on flood risk management.



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Measure Category B: Communication, Partnerships and Community Engagement		
<ul style="list-style-type: none"> <li>• B1: Work with the EA to incorporate SWMP outputs in fluvial / pluvial modelling and strategic policies</li> <li>• B2: Actively engage with the public and key stakeholders on formulation of Local Flood Risk Management Strategy</li> <li>• B3: Develop a Communication and Engagement Plan to increase awareness on flood risk, consequences, improvement works and future resilience</li> <li>• B4: Develop a Southwark wide Flood Guide to educate the general public, communicate and promote community resilience, and publish on public domain</li> <li>• B5: Develop Community Flood Plans (through engagement with local communities) to improve resilience to flooding</li> </ul>		
SEA Objective	SEA Score	Justification
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	By combining to have a secondary positive effect on reducing overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management), the LFRMS measures will reduce the likelihood of adverse impacts from flood events on the historic environment (designated and undesignated heritage assets).
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS measures are considered unlikely to have a direct effect on this SEA objective as they will not result directly in any physical works, but instead relate to increasing awareness and knowledge on measures to reduce flood risk and its impacts.
<b>Material Assets</b>		
13. Protect and enhance green infrastructure and open space	+	By combining to reduce overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management), the LFRMS measures will have a secondary positive effect of reducing the likelihood of adverse impacts from flood events on green infrastructure and open spaces (such as contamination of open land).
14. Reduce economic cost of flood damage	++	By combining to reduce overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management) the LFRMS measures should have a major positive effect on reducing the economic costs associated with flood events (such as repairing damage to infrastructure, housing and contamination of land).
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	By combining to reducing overall flood risk (through partners and the public having an increased knowledge and engagement with flood risk management), the LFRMS measures are expected to have a major positive effect on reducing the likelihood of adverse impacts from flood events on housing and critical infrastructure.
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective.

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<b>Measure Category C: Emergency Response Plan</b>		
• <b>C1: Emergency Response Plan</b>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	The LFRMS measures are considered to have a major positive effect on the SEA objective. The Emergency Response Plan is expected to result in more effective response to the impacts of climate change (such as increased risks of extreme weather events leading to flooding).
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	0	The LFRMS measures are considered not to have an effect on the SEA objectives, as they seek to ensure correct emergency response procedures are in place and will not an effect, either positive or negative, on natural resources.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	The LFRMS measures aim to improve the current borough Multi-Agency Flood Plan (MAFP) by linkages with the Extreme Rainfall Alert (ERA), local flood knowledge, and high risk locations to inform coordinated recovery and response services. This should have a secondary positive effect on the flood risk posed to designated sites as more accurate prediction of flood events combined with more effective response, on a local (through Community Flood Plans) and borough scale, should help to reduce the overall flood risk and adverse impacts associated with flood events on biodiversity, flora and fauna (such as death of species, contamination of habitats).
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	The LFRMS measures aim to improve the current borough Multi-Agency Flood Plan (MAFP) by linkages with the Extreme Rainfall Alert (ERA), local flood knowledge, and high risk locations to inform coordinated recovery and response services. This should have a secondary positive effect on the flood risk posed to priority habitats, ecological networks and priority species as more accurate prediction of flood events combined with more effective response, on a local (through Community Flood Plans) and borough scale, should help to reduce the overall flood risk and adverse impacts associated with flood events on biodiversity, flora and fauna (such as death of species, contamination of habitats).
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	The LFRMS measures aim to improve the current borough Multi-Agency Flood Plan (MAFP) by linkages with the Extreme Rainfall Alert (ERA), local flood knowledge, and high risk locations to inform coordinated recovery and response services. This should have a secondary positive effect on the flood risk posed to land and soil as more accurate prediction of flood events combined with more effective response, on a local (through Community Flood Plans) and borough scale, should help to reduce the overall flood risk and adverse impacts associated with flood events on land and soil (such

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<b>Measure Category C: Emergency Response Plan</b>		
<b>• C1: Emergency Response Plan</b>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
		as soil erosion).
<b>Water</b>		
6. Prevent Pollution to the water environment and protect resources	+	The LFRMS measures aim to improve the current borough Multi-Agency Flood Plan (MAFP) by linkages with the Extreme Rainfall Alert (ERA), local flood knowledge, and high risk locations to inform coordinated recovery and response services. This should have a secondary positive effect on the flood risk posed to the water environment through more accurate prediction of flood events combined with more effective response, on a local (through Community Flood Plans) and borough scale. This should help to reduce the overall flood risk and adverse impacts associated with flood events on the water environment (such as run-off washing contaminants into watercourses).
7. Reduce vulnerability to flooding	++	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a major primary positive effect on reducing vulnerability to flood risk. Measures should enable the most vulnerable members of communities to be identified and prioritised.
<b>Population and Human Health</b>		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	++	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a major primary positive effect on reducing flood risk to population and properties. By increasing local resilience and improving understanding of flood risk through community flood plans it should contribute to people and businesses to take effective measures to reduce flood risk on a local scale.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a minor secondary positive effect on safeguarding public access and recreational resources to flood risk through reducing overall flood risk.
10. Increase accessibility to open space and green infrastructure	0	The LFRMS measures are considered not to have an effect on the SEA objectives, it is primarily concerned with effective response to flood events and will not provide opportunities to increase open space and green infrastructure.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a minor secondary positive effect on protecting the historic environment by reducing the overall flood risk and the adverse impacts associated with flood events.

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<b>Measure Category C: Emergency Response Plan</b>		
<b>• C1: Emergency Response Plan</b>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS measures are not considered likely to have a direct effect on the townscape/ landscape of Southwark as they will not result in any new development themselves.
<b>Material Assets</b>		
13. Protect and enhance green infrastructure and open space	+	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a minor secondary positive effect on protecting green infrastructure and open space by reducing the overall flood risk and the adverse impacts associated with flood events.
14. Reduce economic cost of flood damage	++	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a major positive effect on reducing the economic costs associated with flood events (such as repairing damage to infrastructure, housing and contamination of land).
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	Through improved prediction of flood events and more effective response (using new information on flood risks, Community Flood Plans), the LFRMS measures should have a major primary positive effect on reducing the flood risk to housing and critical infrastructure. Increasing local resilience and improved understanding of flood risk through community flood plans should contribute to people and businesses to take effective measures to reduce flood risk on a local scale.
16. Encourage Sustainable Tourism	0	The LFRMS measures are considered not to have an effect on the SEA objectives as they are concerned with promoting communication and engagement between stakeholder and are unrelated to tourism.

<b>Measure Category D: Community and Infrastructure Resilience</b>		
<ul style="list-style-type: none"> <li>• D1: Identify opportunities to improve property resilience through implementation of small scale measures by the public</li> <li>• D2: Identify opportunities to improve resilience of critical infrastructure</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	+	The identification of property and infrastructure resilience measures should have a minor positive effect on adapting to the predicted impacts of climate change (such as more extreme weather events). By giving guidance on property level measures through the Community Flood Plan, property owners will have a greater understanding of measures they can implement to adapt to the impacts such as SuDS to reduce surface water run-off. This is not considered a major positive effect as there are uncertainties over the implementation of these measures by individual property owners.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	?	It is unclear at this stage how natural resources will be used to implement flood management measures to individual properties (D1) and critical infrastructure (D2) There is the potential to have adverse or beneficial effects on their efficient and sustainable use. While, it is acknowledged that many of the measures outlined in D1 would result in more sustainable use of natural resources (rainwater harvesting, local food growth etc), uncertainty remains whether these will be taken on board by property owners.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	0	The LFRMS measures are not considered to have an effect, positive or negative, on biodiversity at designated sites as they are concerned with increasing community and infrastructure resilience.
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	0	The LFRMS measures are not considered to have an effect, positive or negative, on priority habitats, ecological networks or priority species as they are concerned with increasing community and infrastructure resilience. .
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	?	Measure D1 will increase public knowledge of property level measures to reduce flood risk and potentially result in greater uptake of resilience measures. It is unclear at this stage how land and soil will be used by individual property owners and whether this will have adverse or beneficial effects.
<b>Water</b>		
6. Prevent Pollution to the water environment and protect resources	+	Greater understanding and uptake of SuDS and other water management measures should have minor secondary positive effect on reducing pollution to water environment. SuDS seek to replicate natural systems by draining away surface water run-off through collection, storage and cleaning

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<b>Measure Category D: Community and Infrastructure Resilience</b>		
<ul style="list-style-type: none"> <li>• D1: Identify opportunities to improve property resilience through implementation of small scale measures by the public</li> <li>• D2: Identify opportunities to improve resilience of critical infrastructure</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
		before it is released back to the environment.
7. Reduce vulnerability to flooding	+	The LFRMS measures are considered to have a minor positive effect on reducing vulnerability to flooding. Identification of resilience measures and delivery of guidance through the Community Flood Plan should increase the public's knowledge of how they can reduce their vulnerability to flood events and potentially lead to implementation of identified flood risk management measures. This is not considered a major positive effect as there remains uncertainties over the level of uptake of identified opportunities to increase flood resilience by individual property owners.
<b>Population and Human Health</b>		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	+	The LFRMS measures are considered to have a minor secondary positive effect on reducing the flood risk to population and properties. Identification of resilience measures and delivery of guidance through the Community Flood Plan should increase the public's knowledge of how they can reduce flood risk to their properties on a local scale and potentially lead to implementation of identified flood risk management measures. This is not considered a major positive effect as there remains uncertainties over the level of uptake of identified opportunities to increase flood resilience by individual property owners. .
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	The LFRMS measures are considered to have a minor positive effect on the SEA objective. Identification of opportunities to increase critical infrastructure resilience to flooding should lead to implementation of measures which will protect public access. The measures should also educate the public on measures they can take to reduce flood risk.
10. Increase accessibility to open space and green infrastructure	+	The LFRMS measures are considered to have a minor secondary positive effect on reducing the flood risk to population and properties. Identification of resilience measures and delivery of guidance through the Community Flood Plan should increase the public's knowledge of how they can reduce flood risk to their properties on a local scale, including through gardening projects that could lead to enhancement of green infrastructure.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	The LFRMS measures are considered to have a minor secondary positive effect on reducing the flood risk to the historic environment. Identification of resilience measures and delivery of guidance through the Community Flood Plan should increase the public's knowledge of how they can reduce flood risk to their properties (including listed buildings) on a local scale and potentially lead to greater uptake of measures.

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### Appendix 5: SEA Matrices

Measure Category D: Community and Infrastructure Resilience		
<ul style="list-style-type: none"> <li>D1: Identify opportunities to improve property resilience through implementation of small scale measures by the public</li> <li>D2: Identify opportunities to improve resilience of critical infrastructure</li> </ul>		
SEA Objective	SEA Score	Justification
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS measures are not expected to have an effect on the character or visual quality of townscapes/ landscapes, either positively or negatively, as it they are concerned with increasing property and infrastructure resilience.
<b>Material Assets</b>		
13. Protect and enhance green infrastructure and open space	0	The LFRMS measures are not expected to have an effect on green infrastructure and open spaces, either positively or negatively, as it they are concerned with increasing property and infrastructure resilience.
14. Reduce economic cost of flood damage	+	By improving the resilience of properties and critical infrastructure to flood risk (by identifying opportunities to increase resilience and greater public knowledge of resilience measures), the LFRMS measures should have a positive effect in reducing the cost of flood damage by reducing the potential adverse impacts of flood events on properties and infrastructure. This is not considered a major positive effect as there are uncertainties over the uptake of flood resilience measures at a property level.
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	+	The LFRMS measures are considered to have a secondary positive effect on reducing the flood risk to population and properties. Identification of resilience measures and delivery of guidance through the Community Flood Plan should increase the public's knowledge of how they can reduce flood risk to their properties on a local scale. This is considered as a having a minor positive effect although uncertainties remain about uptake of the identified measures.
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective as they are concerned with increasing the resilience to flood risk of properties and infrastructure.

Measure Category E: Planning and Development Policies		
<ul style="list-style-type: none"> <li>E1: Ensure Development Control Policy incorporates use of permeable paving and SuDS for local residents</li> <li>E2: Ensure Development Control Policy incorporates Surface Water Flood Risk</li> <li>E3: Ensure that Spatial Planning includes surface water management policies to manage and reduce flood risk</li> </ul>		
SEA Objective	SEA Score	Justification
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	The LFRMS measures will combine to ensure that new development incorporates robust flood risk management measures, including providing education to developers on SuDS and the use of the Surface Water Management Plan outputs to control policy. This should result in major positive effect on adaption to the impacts of climate change (such as increased extreme weather events), by using detailed modelling on flood risk to inform decisions.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	?	Although the LFRMS measures will not result directly in physical works, they could lead to the implementation of measures (such as SuDS) into developments. It is unclear at this stage how natural resources will be used in any physical works as a result of development control policies.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	The LFRMS measures should combine to a reduction in the overall flood risk in Southwark by ensuring that new development incorporates flood risk management measures. This is likely to have a minor secondary positive effect on designated sites by reducing the likelihood of flood events and the potential negative effects on biodiversity (such as death of species, contamination of habitats).
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	The LFRMS measures should combine to a reduction in the overall flood risk in Southwark by ensuring that new development incorporates flood risk management measures. This is likely to have a minor secondary positive effect on priority habitats, ecological networks and species by reducing the likelihood of flood events having negative effects on them (such as death of species, contamination of habitats).
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	The LFRMS measures should combine to a reduction in the overall flood risk in Southwark by ensuring that new development incorporates flood risk management measures. This is likely to have a minor secondary positive effect on soil quantity and quality by reducing the likelihood of flood events having negative effects on soil and land (such as soil erosion from surface water run-off).
<b>Water</b>		
6. Prevent Pollution to the water environment and protect resources	+	The LFRMS measures in combination should lead to a reduction in the overall flood risk in Southwark by ensuring that new development incorporates flood risk management measures. This is likely to have a minor secondary positive effect on reducing pollution to the water environment by



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<b>Measure Category E: Planning and Development Policies</b>		
<ul style="list-style-type: none"> <li>• E1: Ensure Development Control Policy incorporates use of permeable paving and SuDS for local residents</li> <li>• E2: Ensure Development Control Policy incorporates Surface Water Flood Risk</li> <li>• E3: Ensure that Spatial Planning includes surface water management policies to manage and reduce flood risk</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
		reducing the likelihood of flood events having negative effects on the water environment (such as run-off washing contaminants into watercourses). Measures include providing education to developers on 'best practice' on use of SuDS, which should result in further reductions of pollution to the water environment.
7. Reduce vulnerability to flooding	+	The LFRMS measures are expected to have a minor effect on reducing vulnerability to flooding in the Borough. The measures are concerned with ensuring new developments are well informed by detailed surface water flood risk information and developers incorporate flood risk reduction measures into new development. While this is likely to reduce flood risk to new developments and in the Borough overall, it is not considered to significantly reduce flood risk to existing developments and is therefore not considered a major positive effect.
<b>Population and Human Health</b>		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	+	The LFRMS measures are expected to have a minor effect on reducing flood risk to populations and properties. The measures are concerned with ensuring new developments are well informed by detailed surface water flood risk information and developers incorporate flood risk reduction measures into new development. While this is likely to reduce flood risk to new developments and in the Borough in general, it is not considered to significantly reduce flood risk to existing developments and is therefore not considered a major positive effect.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	The measures are likely to have a minor secondary positive effect on safeguarding public access, navigation and recreational resources; by combining to reduce overall flood risk in the Borough (ensuring new development incorporates flood risk management measures).
10. Increase accessibility to open space and green infrastructure	0	It is considered that the LFRMS measures are unlikely to have an effect, either positive or negative, on increasing accessibility to open space and green infrastructure as they are concerned with development policy.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	The measures are likely to have a minor secondary positive effect on reducing flood risk to the historic environment, by combining to reduce overall flood risk in the Borough (by ensuring new development incorporates flood risk management measures).

Measure Category E: Planning and Development Policies		
<ul style="list-style-type: none"> <li>E1: Ensure Development Control Policy incorporates use of permeable paving and SuDS for local residents</li> <li>E2: Ensure Development Control Policy incorporates Surface Water Flood Risk</li> <li>E3: Ensure that Spatial Planning includes surface water management policies to manage and reduce flood risk</li> </ul>		
SEA Objective	SEA Score	Justification
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS measures are not considered likely to have a direct effect on the townscape/ landscape of Southwark as they are concerned with ensuring development policies incorporate flood risk management.
<b>Material Assets</b>		
13. Protect and enhance green infrastructure and open space	+	The measures are likely to have a minor secondary positive effect on protecting green infrastructure and open space; by combining to reduce overall flood risk in the borough (ensuring new development incorporates flood risk management measures).
14. Reduce economic cost of flood damage	+	The LFRMS measures are expected to have a minor effect on reducing the economic cost of flood damage. The measures are concerned with ensuring new developments are well informed by detailed surface water flood risk information and developers incorporate flood risk reduction measures into new development. While this is likely to reduce flood risk to new developments and in the Borough in general, it is not considered to significantly reduce flood risk to existing developments and is therefore not considered a major positive effect on reducing the economic costs of flood damage.
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	The measures are likely to have a major positive effect on minimising the impact of flooding on existing and future housing and critical infrastructure; by combining to reduce overall flood risk in the borough (ensuring new development incorporates flood risk management measures). Measure E2 will use mapped outputs from Southwark Surface Water Management Plan to require developers to comply with the National Planning Policy Framework, avoiding inappropriate development at high risk of flooding.
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective as they are concerned with planning and development policies and are unrelated to tourism.

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Appendix 5: SEA Matrices

<b>Measure Category F: Flood Alleviation Feasibility, Investigations and Design</b>		
<ul style="list-style-type: none"> <li>• <b>F1: Validate outputs of SWMP model</b></li> <li>• <b>F2: Undertake surface water Drainage Capacity Study in Critical Drainage Areas</b></li> <li>• <b>F3: Investigate resilience of Critical Infrastructure and Services</b></li> <li>• <b>F4: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Urban Greening' measures</b></li> <li>• <b>F5: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</b></li> <li>• <b>F6: Identify 'Quick Win' flood mitigation schemes and fast-track design for implementation</b></li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	Although the LFRMS measures will not result directly in physical works to manage the risk of flooding, they are expected to have a major positive effect on overall flood risk as they will combine to improve the evidence base and solutions available to the Council to manage flood risk in the most appropriate and effective ways.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	0	The LFRMS measures are not considered to have an effect, positive or negative, on the SEA objective as they will not result directly in physical works and the use of natural resources.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	Although the LFRMS actions will not result directly in physical works to manage the risk of flooding, they are expected to have a minor secondary positive effect by combining to reduce overall flood risk, by improving the evidence base and solutions available to the Council for managing flood risk in the most appropriate and effective ways, particularly in the targeted Critical Drainage Areas. A reduction in overall floods risk will help to protect designated sites from the adverse impacts associated with flood events on biodiversity, flora and fauna (such as death of species, contamination of habitats). None of the measures will result directly in physical works that could affect habitats/ species.
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	Although the LFRMS actions will not result directly in physical works to manage the risk of flooding, they are expected to have a minor secondary positive effect by combining to reduce overall flood risk, by improving the evidence base and solutions available to the Council for managing flood risk in the most appropriate and effective ways, particularly in the highest risk Critical Drainage Areas. A reduction in overall floods risk will help to protect ecological priority habitats, ecological networks and species from the adverse impacts associated with flood events on biodiversity, flora and fauna (such as death of species, contamination of habitats). None of the measures will result directly in physical

Measure Category F: Flood Alleviation Feasibility, Investigations and Design		
<ul style="list-style-type: none"> <li>F1: Validate outputs of SWMP model</li> <li>F2: Undertake surface water Drainage Capacity Study in Critical Drainage Areas</li> <li>F3: Investigate resilience of Critical Infrastructure and Services</li> <li>F4: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Urban Greening' measures</li> <li>F5: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>F6: Identify 'Quick Win' flood mitigation schemes and fast-track design for implementation</li> </ul>		
SEA Objective	SEA Score	Justification
		works that could affect habitats/ species.
Geology and Soil		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the council to deal with flood risk), the measures associated with this LFRMS should help to protect land and soils and reduce the likelihood of adverse effects from flooding events (e.g. soil erosion caused by high levels of surface water run-off). None of the measures will result directly in physical works that could affect land use.
Water		
6. Prevent Pollution to the water environment and protect resources	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the Council to reduce flood risk), the LFRMS measures are likely to have a minor secondary positive effect on protecting the water environment from the adverse effects associated with flood events (such as run-off washing contaminants into watercourses). The measures will not result in any direct physical works that could affect the water environment.
7. Reduce vulnerability to flooding	++	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the Council to reduce flood risk), the LFRMS measures are likely to have a major positive effect on reducing vulnerability to flooding in Southwark. By focusing measures on Critical Drainage Areas (CDAs) and Local Flood Risk Zones (LFRZs), the measures will have a positive effect on reducing flood risk in the most vulnerable areas within the borough, where there is a significant risk of flooding.
Population and Human Health		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	++	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the Council to deal with flood risk), the LFRMS measures are likely to have a major positive effect on reducing flood risk to populations and properties in Southwark. By focusing measures on Critical Drainage Areas (CDAs) and Local Flood Risk Zones (LFRZs), the measures will have a positive effect on reducing flood risk to the most vulnerable properties within the borough,

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### Appendix 5: SEA Matrices

<b>Measure Category F: Flood Alleviation Feasibility, Investigations and Design</b>		
<ul style="list-style-type: none"> <li>• F1: Validate outputs of SWMP model</li> <li>• F2: Undertake surface water Drainage Capacity Study in Critical Drainage Areas</li> <li>• F3: Investigate resilience of Critical Infrastructure and Services</li> <li>• F4: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Urban Greening' measures</li> <li>• F5: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>• F6: Identify 'Quick Win' flood mitigation schemes and fast-track design for implementation</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
		where there is a significant risk of flooding.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the Council to reduce flood risk), the LFRMS measures are likely to have a minor secondary positive effect on reducing flood risk to public access, navigation and recreational resources by reducing the likelihood of adverse impacts associated with flood events (such as flood damage to pathways or recreational facilities)
10. Increase accessibility to open space and green infrastructure	+	LFRMS measure F4 will identify 'urban greening' measures that can be implemented to reduce flood risk. This should have a secondary minor positive effect on increasing open space and green infrastructure, by promoting greening of the urban landscape to reduce surface water run-off at source.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the council to deal with flood risk), the measures associated with this LFRMS should help to protect the historic environment by reducing the likelihood of adverse effects from flooding events. None of the measures will result directly in physical works that could affect the historic environment.
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	0	The LFRMS measures are considered unlikely to have a direct effect on this SEA objective as they will not result directly in any physical works, but instead relate to increasing knowledge on measures to reduce flood risk.
<b>Material Assets</b>		
13. Protect and enhance green infrastructure and open space	+	The LFRMS measures should have a minor positive effect on protecting green infrastructure and open space by reducing the overall flood risk in the borough and therefore the negative effects associated with flood events (such as the contamination).The LFRMS measures may also lead to

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Appendix 5: SEA Matrices

Measure Category F: Flood Alleviation Feasibility, Investigations and Design		
<ul style="list-style-type: none"> <li>• F1: Validate outputs of SWMP model</li> <li>• F2: Undertake surface water Drainage Capacity Study in Critical Drainage Areas</li> <li>• F3: Investigate resilience of Critical Infrastructure and Services</li> <li>• F4: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Urban Greening' measures</li> <li>• F5: Undertake Feasibility Study, Investigations and Solution Design for providing Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>• F6: Identify 'Quick Win' flood mitigation schemes and fast-track design for implementation</li> </ul>		
SEA Objective	SEA Score	Justification
		enhancement opportunities, with measure F4 identifying 'urban greening' measures that can be implemented to reduce flood risk. This should have a secondary minor positive effect on increasing open space and green infrastructure, by promoting greening of the urban landscape to reduce surface water run-off at source.
14. Reduce economic cost of flood damage	++	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the council to reduce flood risk), the LFRMS measures should have a major positive effect on reducing the economic costs associated with flood events (such as repairing damage to infrastructure, housing and contamination of land).
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	By combining to contribute to an overall reduction in flood risk (by improving the evidence base and solutions available to the Council to reduce flood risk), the LFRMS measures are likely to have a major positive effect on reducing the impact of flooding on existing future housing and critical infrastructure. By focusing measures on Critical Drainage Areas (CDAs) and Local Flood Risk Zones (LFRZs), the measures will have a positive affect on reducing flood risk to the most vulnerable properties within the Borough, where there is a significant risk of flooding.
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective as they are concerned with improving the evidence base and solutions available to the Council to reduce flood risk.

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Appendix 5: SEA Matrices

<b>Measures Category G: Flood Alleviation Scheme Implementation</b>		
<ul style="list-style-type: none"> <li>• G1: 'Quick Win' flood alleviation schemes</li> <li>• G2: Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>• G3: Source Control using localised 'Urban Greening' measures</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	The LFRMS measures will combine to have a major positive effect on adapting to the potential impacts of climate change (such as increased winter precipitation and storm events) by reducing the overall flood risk within the borough. Flood alleviation and source control measures should directly reduce flood risk, particularly in CDAs and LFRZs where there is a higher risk of flooding.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	?	The LFRMS measures will result directly in physical works to reduce flood risk in Southwark. At this stage it is unclear how natural resources will be used in the development of physical works.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	?	While the LFRMS measures will result in a reduction in overall flood risk in the borough. There is the potential for direct positive impacts on biodiversity at designated sites (reduction in flood risk), or negative impacts (loss of habitats for flood management physical works).
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	?	While the LFRMS measures will result in a reduction in overall flood risk in the borough. There is the potential for direct positive impacts (reduction in flood risk), or negative impacts (loss of habitats for flood management physical works) on priority habitats, ecological networks and species.
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	?	While the LFRMS measures will result in a reduction in overall flood risk in the borough. There is the potential for direct positive impacts (reduction in flood risk), or negative impacts (loss of land for flood management physical works) on soils and land.
<b>Water</b>		
6. Prevent Pollution to the water environment and protect resources	++	The implementation of LFRMS measures to alleviate flooding should have a major primary positive effect on protecting the water environment by reducing the overall flood risk within the borough and minimising the associated negative impacts of flood events on water quality (such as run-off washing contaminants into watercourses). Measures such as urban greening, rainwater harvesting and small SuDS will likely lead to enhancement of the water environment as they replicate natural systems.

Measures Category G: Flood Alleviation Scheme Implementation		
<ul style="list-style-type: none"> <li>G1: 'Quick Win' flood alleviation schemes</li> <li>G2: Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>G3: Source Control using localised 'Urban Greening' measures</li> </ul>		
SEA Objective	SEA Score	Justification
7. Reduce vulnerability to flooding	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on reducing vulnerability to flooding. In particular by focussing on CDAs and LFRZs the measures will reduce vulnerability in the areas with the most significant flood risk.
<b>Population and Human Health</b>		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on reducing the flood risk to population and properties. By focussing on CDAs and LFRZs the measures will reduce the impacts of flooding in the areas at the most significant risk.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a secondary positive effect on safeguarding access, navigation and recreational resources.
10. Increase accessibility to open space and green infrastructure	+	Measures proposed include 'urban greening' measures which are likely to have a minor secondary positive effect on the enhancement of green infrastructure in Southwark by increasing the amount of green infrastructure, and therefore accessibility.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on protecting the historic environment from the negative effects associated with flood events . By focussing on CDAs and LFRZs the measures will reduce the impacts of flooding in the areas at the most significant risk.
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive townscapes/ landscapes in terms of both their visual quality and their character	?	As the LFRMS proposes a number of measures for flood alleviation it is unclear at this stage the effect this will have on townscapes or landscapes in Southwark. It is noted that the measures in category G do encourage urban greening and landscaping initiatives however green areas may also be used for flood attenuation. Therefore there is the potential for both beneficial and negative effects from the implementation of physical works to alleviate flooding.



Measures Category G: Flood Alleviation Scheme Implementation		
<ul style="list-style-type: none"> <li>• G1: 'Quick Win' flood alleviation schemes</li> <li>• G2: Source Control using localised 'Flow Diversion', 'Flood Storage' and SuDS measures</li> <li>• G3: Source Control using localised 'Urban Greening' measures</li> </ul>		
SEA Objective	SEA Score	Justification
Material Assets		
13. Protect and enhance green infrastructure and open space	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on the protection of green infrastructure and open space from the negative effects associated with flood events. Measures proposed include 'urban greening' measures which are likely to have a positive effect on the enhancement of green infrastructure in Southwark. By focussing on CDAs and LFRZs the measures will reduce the impacts of flooding in the areas at the most significant risk.
14. Reduce economic cost of flood damage	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on reducing the economic cost of flood damage by minimising the negative impacts of flooding, in particular impacts resulting in high economic damage such as damage to housing and infrastructure.
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	By combining to reduce overall flood risk in Southwark (through the implementation of flood alleviation schemes) the LFRMS measures should have a major primary positive effect on reducing the flood risk to existing and future properties. By focussing on CDAs and LFRZs the measures will reduce the impacts of flooding in the areas at the most significant risk.
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective as they are concerned with implementing flood alleviation schemes.

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<b>Measure Category H: Drainage Asset Operation and Maintenance</b>		
<ul style="list-style-type: none"> <li>• H1: Operation and Maintenance of New and Adopted Drainage Assets</li> <li>• H2: Improve maintenance of surface water drainage network</li> <li>• H3: Post Project Reviews</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Climatic Factors</b>		
1. Adapt to and mitigate the impact of climate change	++	The LFRMS measures will combine to have a major positive effect on reducing overall flood risk by increasing drainage provision (through targeted maintenance of assets and drains). As a result predicted increased winter precipitation and flood risk impacts are likely to be minimised.
2. To ensure that flood management related activities use natural resources more efficiently and sustainably, in particular land, mineral aggregates, water and fuel	0	The LFRMS measures are not considered to have an effect, positive or negative, on the use of natural resources as the measures will not directly result in physical works.
<b>Biodiversity, Flora and Fauna</b>		
3. To ensure protection and enhancement of biodiversity at designated sites	+	The LFRMS measures will combine to have a minor secondary positive effect on reducing overall flood risk and therefore the potential adverse impacts on biodiversity at designated sites (such as death of species and contamination of habitats), as an improved maintenance regime will increase capacity of drains and ensure surface water drainage is maximised. Post project reviews will add to the information held by the Flood and Drainage Team and contribute to the evidence base held by the council to manage flood risk.
4. To promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species and populations	+	The LFRMS measures will combine to have a minor secondary positive effect on reducing overall flood risk and therefore the potential adverse impacts on priority habitats, ecological networks and priority species (such as death of species and contamination of habitats), as an improved maintenance regime will increase capacity of drains and ensure surface water drainage is maximised. Post project reviews will add to the information held by the Flood and Drainage Team and contribute to the evidence base held by the council to manage flood risk.
<b>Geology and Soil</b>		
5. Promote the conservation and wise use of land, and protect soil quality and quantity	+	The LFRMS measures will combine to have a minor secondary positive effect on reducing overall flood risk and therefore the potential adverse impacts on soils and land (such as contamination of land and high run-off rates during floods), as an improved maintenance regime will increase capacity of drains and ensure surface water drainage is maximised. Post project reviews will add to the information held by the Flood and Drainage Team and contribute to the evidence base held by the council to manage flood risk.

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<b>Measure Category H: Drainage Asset Operation and Maintenance</b>		
<ul style="list-style-type: none"> <li>• H1: Operation and Maintenance of New and Adopted Drainage Assets</li> <li>• H2: Improve maintenance of surface water drainage network</li> <li>• H3: Post Project Reviews</li> </ul>		
<b>SEA Objective</b>	<b>SEA Score</b>	<b>Justification</b>
<b>Water</b>		
6. Prevent Pollution to the water environment and protect resources	+	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base through post project reviews), the LFRMS measures should have a minor secondary positive effect on preventing pollution to the water environment by reducing flood events and the associated negative effects (such as run-off washing contaminants into watercourses). Post project reviews will add to the information held by the Flood and Drainage Team and contribute to the evidence base held by the council to manage flood risk.
7. Reduce vulnerability to flooding	++	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base through post project reviews), the LFRMS measures should have a major positive effect on reducing vulnerability to flooding in the Borough.
<b>Population and Human Health</b>		
8. To reduce the flood risk to population and properties and to contribute to flood risk management within Southwark	++	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base through post project reviews ), the LFRMS measures should have a major positive effect on reducing the flood risk to population and properties.
9. To safeguard and promote existing public access, navigation and recreational resources and to promote education on the environment	+	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base through post project reviews ), the LFRMS measures should have a minor secondary positive effect on safeguarding existing public access, navigation and recreational resources by minimising the impacts that flood events have on them.
10. Increase accessibility to open space and green infrastructure	0	It is considered that the LFRMS measures are unlikely to have an effect, either positive or negative, on increasing accessibility to open space and green infrastructure, as the measures aim to ensure maximising drainage capacity.
<b>Cultural Heritage</b>		
11. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	+	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base), the LFRMS measures should have a minor secondary positive effect on protecting the historic environment by minimising the negative impacts that flood events have on both designated and undesignated assets.
<b>Townscape/ Landscape</b>		
12. To protect and enhance attractive	0	The LFRMS measures are not considered to have an effect, positive or negative, on townscape or

Measure Category H: Drainage Asset Operation and Maintenance		
<ul style="list-style-type: none"> <li>• H1: Operation and Maintenance of New and Adopted Drainage Assets</li> <li>• H2: Improve maintenance of surface water drainage network</li> <li>• H3: Post Project Reviews</li> </ul>		
SEA Objective	SEA Score	Justification
townscapes/ landscapes in terms of both their visual quality and their character		landscape character as they will not result directly in physical works that could affect Southwark's character or visual quality.
Material Assets		
13. Protect and enhance green infrastructure and open space	+	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base), the LFRMS measures should have a minor secondary positive effect on protecting green infrastructure and open space by minimising the negative impacts that flood events have on both designated and undesignated assets.
14. Reduce economic cost of flood damage	++	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base to reduce flood risk), the LFRMS measures should have a major positive effect on reducing the economic costs associated with flood events (such as repairing damage to infrastructure, housing and contamination of land).
15. Ensure the potential impact of flooding on existing and future housing and critical infrastructure is minimised	++	By combining to reduce overall flood risk in Southwark (by maximising capacity of surface water drainage and increasing the Council's evidence base), the LFRMS measures should have a major positive effect on reducing the impact of flooding on existing and future housing and critical infrastructure by decreasing the likelihood of flood events and the associated negative impacts (such as water damage to properties).
16. Encourage Sustainable Tourism	0	The LFRMS actions are considered not to have an effect on the SEA objective as they relate to drainage asset operation and maintenance and are unrelated to tourism.