



Preliminary Environmental Information Report

Volume 4 Appendix 10.1

Flood Risk Summary Tables for Likely Significant and Non-Significant Environmental Effects

Flood Risk Summary Tables

1 Potential Likely Significant Construction Effects

Table 1: Potential Likely Significant Construction Effects Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
All National Planning Policy Framework (NPPF) Categories except Water Compatible uses in Flood Zone 3b (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at Environmental Statement (ES) stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this Preliminary Environmental Information Report (PEIR) preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction). A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with Planning Practice Guidance (PPG) 2022).
NPPF Highly Vulnerable & Essential Infrastructure uses in Flood Zone 3a (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction). A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
NPPF Highly Vulnerable & Essential Infrastructure Uses in Flood Zone 2 (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
More Vulnerable / Less Vulnerable uses in Flood Zone 3a (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
More Vulnerable / Less Vulnerable uses in Flood Zone 2 (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
Water Compatible uses in Flood Zones 2, 3a and 3b (rivers and seas flooding)	All project components	General construction activities (land); Sheet piling; Temporary changes in land levels; Temporary stockpiling of materials; Creation/use of construction compounds; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
All NPPF Categories except Water Compatible uses in High surface water flood risk areas (including land drainage patterns)	All project components	Temporary changes in hardstanding; General construction activities (land); Creation/use of construction compounds; Temporary changes in land levels; Temporary stockpiling of materials; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022). A construction surface water management plan will also be produced.
NPPF Highly Vulnerable & Essential Infrastructure Uses in Medium surface water flood risk areas (including land drainage patterns)	All project components	Temporary changes in hardstanding; General construction activities (land); Creation/use of construction compounds; Temporary changes in land levels; Temporary stockpiling of materials; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022). A construction surface water management plan will also be produced.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
NPPF More Vulnerable & Less Vulnerable uses in Medium surface water flood risk areas (including land drainage patterns)	All project components	Temporary changes in hardstanding; Creation/use of construction compounds; Temporary changes in land levels; Temporary stockpiling of materials; General construction activities (land); Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022). A construction surface water management plan will also be produced.
NPPF More Vulnerable & Less Vulnerable uses in Low surface water flood risk areas (including land drainage patterns)	All project components	Temporary changes in hardstanding; General construction activities (land); Creation/use of construction compounds; Temporary changes in land levels; Temporary stockpiling of materials; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022). A construction surface water management plan will also be produced.

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
NPPF Highly Vulnerable & Essential Infrastructure uses in Low surface water flood risk areas (including land drainage patterns)	All project components	Temporary changes in hardstanding; General construction activities (land); Creation/use of construction compounds; Temporary changes in land levels; Temporary stockpiling of materials; Construction of new pedestrian / cycle bridges at Chertsey and Desborough; Processing / placement of hazardous waste; Processing / placement of non-hazardous waste	Negative Potential temporary changes to floodplain storage and flow paths, thus changing the risk to flood levels and extents.	No secondary mitigation is identified as it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage. However, the primary and tertiary mitigation are not sufficiently developed to assume their full achievement in this PEIR preliminary assessment. Hence this effect is currently assessed as likely to be significant. Design of the project will be optimised to minimise any temporary increase in flooding and flood risk will be a key input to the construction design, sequencing layout and specifications. A flood protocol will be agreed in advance (e.g. different flood response in different sequences of construction. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022). A construction surface water management plan will also be produced.
All receptors	Off-site car parks for construction workers	Establishment and use of off-site car parks including associated traffic movements	Potential impacts during construction on all receptors.	No further mitigation identified. The selection and design of these car parks is yet to be undertaken, at which point the need for and nature of any secondary mitigation will be considered.

2 Potential Likely Significant Operational Effects

Table 2: Potential Likely Significant Operational Effects Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
All NPPF Categories except Water Compatible uses in Flood Zone 3b (rivers and seas flooding)	All project components	Landscape and Green Infrastructure (L&GI) provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the River Thames Scheme (RTS).	No secondary mitigation required as the effect is positive. The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
NPPF Highly Vulnerable & Essential Infrastructure uses in Flood Zone 3a (rivers and seas flooding)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the RTS.	No secondary mitigation required as the effect is positive The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
NPPF Highly Vulnerable & Essential Infrastructure Uses in Flood Zone 2 (rivers and seas flooding)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the RTS.	No secondary mitigation required as the effect is positive. The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
More Vulnerable / Less Vulnerable uses in Flood Zone 3a (rivers and seas flooding)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the RTS.	No secondary mitigation required as the effect is positive. The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
More Vulnerable / Less Vulnerable uses in Flood Zone 2 (rivers and seas flooding)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the RTS.	No secondary mitigation required as the effect is positive. The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
Water Compatible uses in Flood Zones 2, 3a and 3b (rivers and seas flooding)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance. Climate change will mean the flood channel is used more in the future but there will be no future detriment to flood risk as a result of the RTS.	No secondary mitigation required as the effect is positive. The project is being assessed and designed to address the increase in usage due to climate change. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
All NPPF Categories except Water Compatible uses in High surface water flood risk areas (including land drainage patterns)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance; no future detriment as a result of the RTS.	No secondary mitigation required as the effect is positive The project will reduce flooding from all sources. Modelling of surface water / non main rivers for diversions etc may be required as the designs progress. SUDS will be designed to ensure no increase in surface water flooding resulting from RTS; the changes in flow paths will be assessed and mitigation will become part of the design (avoid obstruction / create new storage area) or an operational function (flood emergency response plan).
NPPF Highly Vulnerable & Essential Infrastructure Uses in Medium surface water flood risk areas (including land drainage patterns)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance; no future detriment as a result of the RTS.	No secondary mitigation required as the effect is positive. The project will reduce flooding from all sources. Modelling of surface water / non main rivers for diversions etc may be required as the designs progress. SUDS will be designed to ensure no increase in surface water flooding resulting from RTS; the changes in flow paths will be assessed and mitigation will become part of the design (avoid obstruction / create new storage area) or an operational function (flood emergency response plan).
NPPF More Vulnerable & Less Vulnerable uses in Medium surface water flood risk areas (including land drainage patterns)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance; no future detriment as a result of the RTS.	No secondary mitigation required as the effect is positive. The project will reduce flooding from all sources. Modelling of surface water / non main rivers for diversions etc may be required as the designs progress. SUDS will be designed to ensure no increase in surface water flooding resulting from RTS; the changes in flow paths will be assessed and mitigation will become part of the design (avoid obstruction / create new storage area) or an operational function (flood emergency response plan).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
NPPF More Vulnerable & Less Vulnerable uses in Low surface water flood risk areas (including land drainage patterns)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance; no future detriment as a result of the RTS.	No secondary mitigation required as the effect is positive. The project will reduce flooding from all sources. Modelling of surface water / non main rivers for diversions etc may be required as the designs progress. SUDS will be designed to ensure no increase in surface water flooding resulting from RTS; the changes in flow paths will be assessed and mitigation will become part of the design (avoid obstruction / create new storage area) or an operational function (flood emergency response plan).
NPPF Highly Vulnerable & Essential Infrastructure uses in Low surface water flood risk areas (including land drainage patterns)	All project components	L&GI provision; Operation during flood events; New landforms; New pedestrian / cycle bridge structures and their supports; Channel maintenance to restore design profile; Bridge structures and it's supports; Use of publicly accessible areas	Positive Permanent reduction in flood risk overall to all receptors; no increase in flooding posed to or from the project for NPPF / PPG compliance; no future detriment as a result of the RTS.	No secondary mitigation required as the effect is positive. The project will reduce flooding from all sources. Modelling of surface water / non main rivers for diversions etc may be required as the designs progress. Sustainable Urban Drainage Systems (SUDS) will be designed to ensure no increase in surface water flooding resulting from RTS; the changes in flow paths will be assessed and mitigation will become part of the design (avoid obstruction / create new storage area) or an operational function (flood emergency response plan).
NPPF Highly Vulnerable & Essential Infrastructure uses in groundwater flood risk areas	Runnymede Channel; Spelthorne Channel; New Landforms	Existence of the flood channel and other components	Negative Potential permanent change to groundwater flows resulting in an increase in flood risk due to permanent barriers as part of the RTS including sheet piling.	Modelling and monitoring of groundwater to input to engineering designs to ensure no future exacerbation of groundwater flooding once operational. The project will reduce flooding from all sources; modelling and monitoring of groundwater will input to engineering designs to ensure no future exacerbation of groundwater flooding. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
NPPF More Vulnerable & Less Vulnerable uses in groundwater flood risk areas	Runnymede Channel; Spelthorne Channel; New Landforms	Existence of the flood channel and other components	Negative Potential permanent change to groundwater flows resulting in an increase in flood risk due to permanent barriers as part of the RTS including sheet piling.	Modelling and monitoring of groundwater to input to engineering designs to ensure no future exacerbation of groundwater flooding once operational. The project will reduce flooding from all sources; modelling and monitoring of groundwater will input to engineering designs to ensure no future exacerbation of groundwater flooding. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).
NPPF Water Compatible uses in groundwater flood risk areas	Runnymede Channel; Spelthorne Channel; New Landforms	Existence of the flood channel and other components	Negative Potential permanent change to groundwater flows resulting in an increase in flood risk due to permanent barriers as part of the RTS including sheet piling.	Modelling and monitoring of groundwater to input to engineering designs to ensure no future exacerbation of groundwater flooding once operational. The project will reduce flooding from all sources; modelling and monitoring of groundwater will input to engineering designs to ensure no future exacerbation of groundwater flooding. A flood emergency response plan will be in place, including evacuation / refuge requirements (in accordance with PPG 2022).

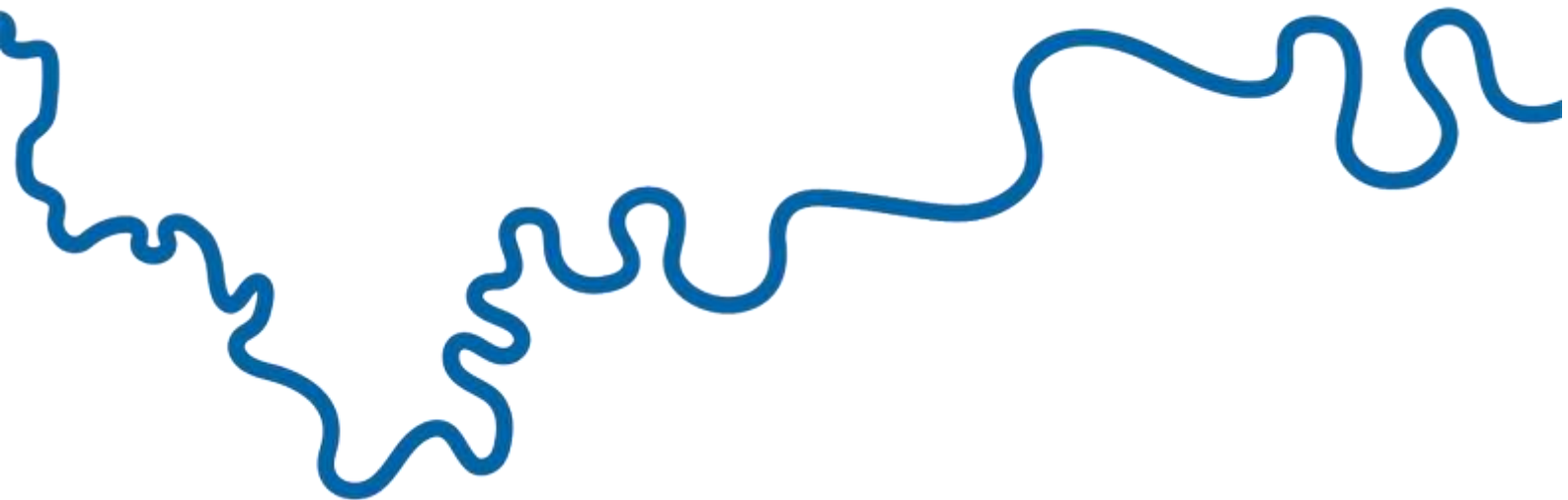
3 Non-Significant Construction Effects

Table 3: Non-Significant Construction Effects Summary Table

Receptor Name	Project Component	Project Activity	Description of Effects	Secondary Mitigation
All NPPF Categories in Flood Zone 3b, 3a and 2 (rivers and seas flooding)	All project components	Movement of construction vehicles, equipment and operatives (off site)	Neutral The flood risk posed due to the movement of waste materials off site.	No mitigation is considered necessary to reduce negative effects to an acceptable level.

4 Non-Significant Operational Effects

There are no non-significant operational effects for Flood Risk.



The River Thames Scheme represents a new landscape-based approach to creating healthier, more resilient and more sustainable communities by reducing the risk of flooding and creating high quality natural environments.