SITE 10.11 : 36 Lombard Road, SW11

1) PROPOSED DEVELOPMENT

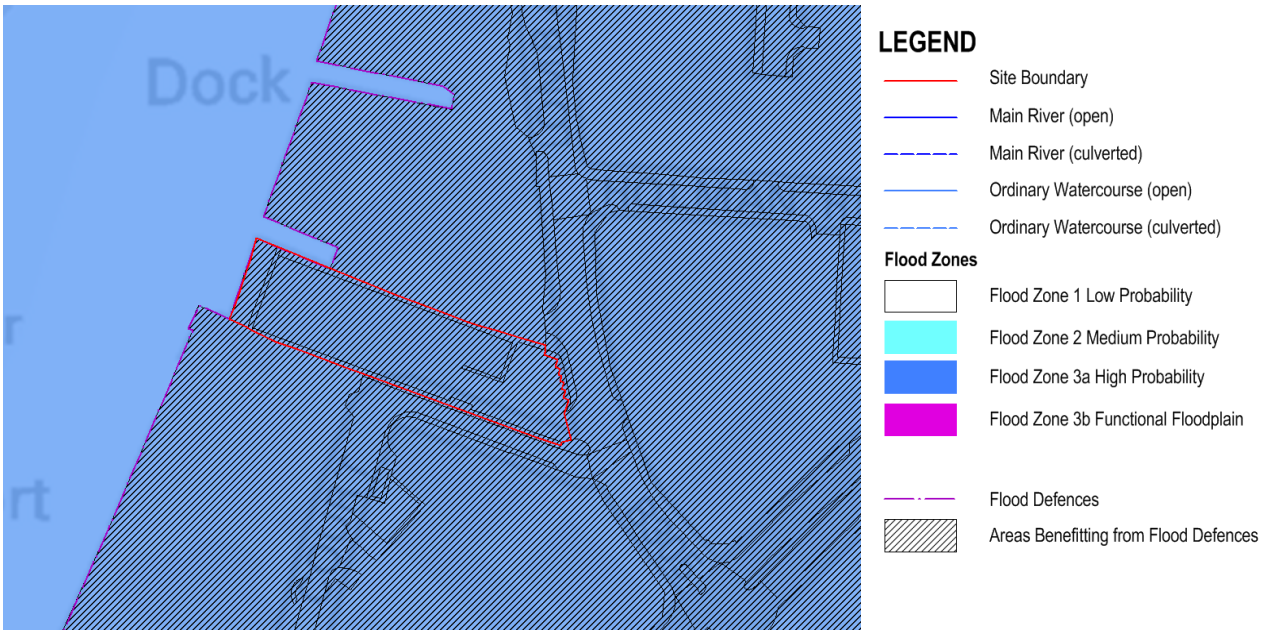
Site ID	10.11
Site Address	36 Lombard Road, SW11
Site Area	0.30ha
Current Use	Timber Yard
Allocated Use	Mixed use including residential and replacement employment floorspace.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is adjacent to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**



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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**Medium Risk** 1 in 100year (1% annual probability)	The uFMfSW data does not show the susceptibility of individual properties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Low Risk** Limited potential for groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

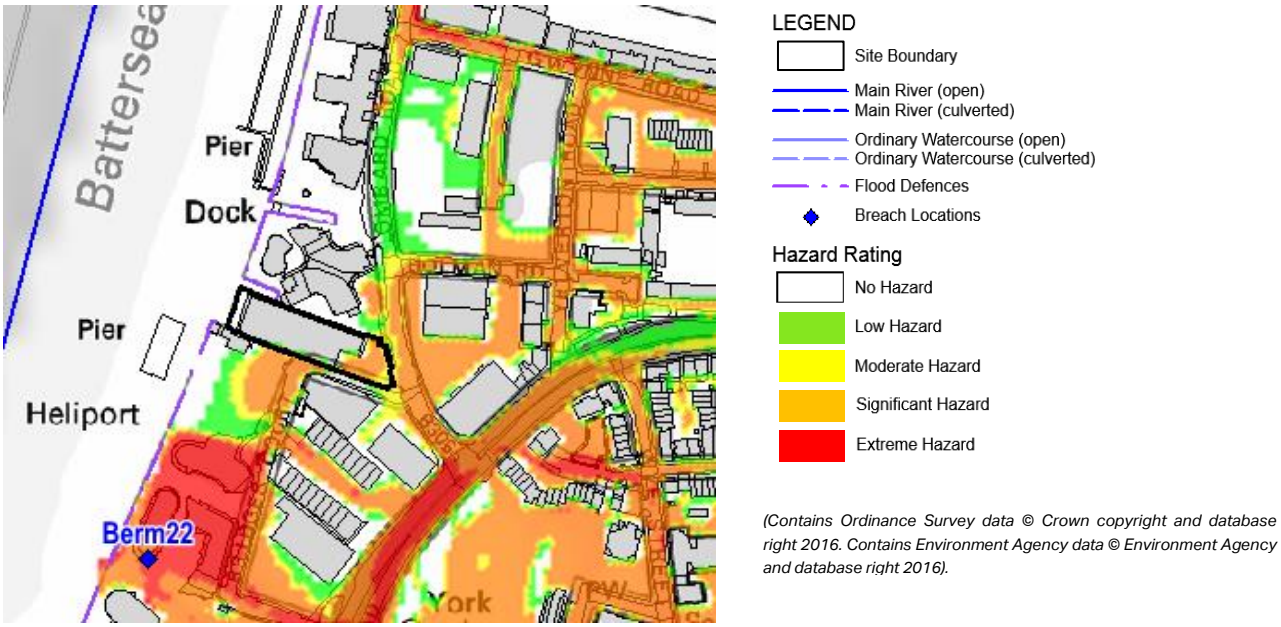
SITE 10.11 : 36 Lombard Road, SW11

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames Tidal Breach Modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm22. The invert level was 4.66m and the width of the breach is 20m.

Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)



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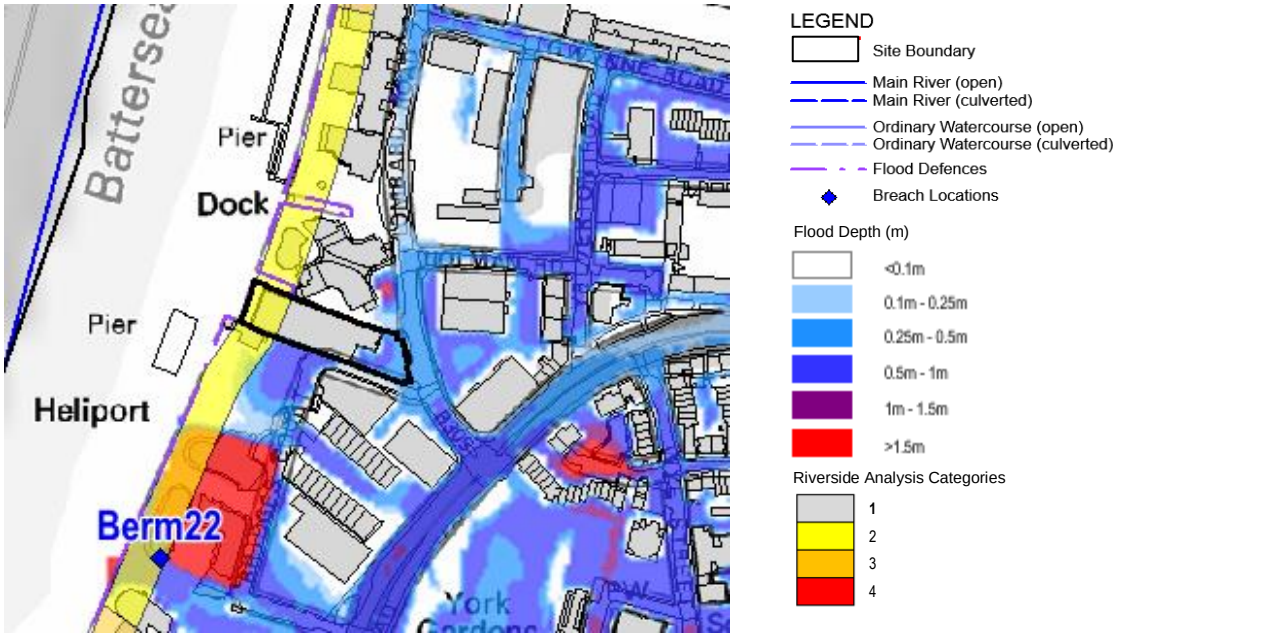
Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



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Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Category 2 with an Assumed Breach Level of 4.8 – 5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) of 0.5m – 0m.

SITE 10.11 : 36 Lombard Road, SW11		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	A sequential approach to site layout should be used. The development site is entirely within Flood Zone 3a of the River Thames and defended by the Thames Tidal Defence system. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario, the areas around the existing buildings within the site are shown to be at 'Significant Hazard'. Development should be set back at least 16m from the River Thames frontage. A Flood Risk Activity Permit is required for works within this 16m zone i.e. riverside path/pier. The presence of defence ground anchors should also be checked for. For the current development site (without mitigation), the Thames Tidal breach modelling identifies that under the MLWL 2100 scenario the site is at risk of flooding to depths of up to 1m. The south eastern boundary of the development site is at risk of flooding to depths of 0.25m-0.5m. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Internal access to a higher floor situated at levels derived from the breach modelling must be provided for all other basements, basement extensions and conversions. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling. Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event.	Section 9.3
Safe Access/Egress	Access to the site is provided via Lombard Road and Brides Court. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is Kambala Clubroom,125 Fawcett Close, to the south east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at medium risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 1.3 l/s (1 in 1 year), 5.0 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.11 : 36 Lombard Road, SW11

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defences. Development should be set back at least 16m from the River Thames frontage. For this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. There is potential that dry routes out of the local area to a safe place of refuge may be limited and it is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.

SITE 10.12 : 37 Lombard Road (Travis Perkins), SW11

1) PROPOSED DEVELOPMENT

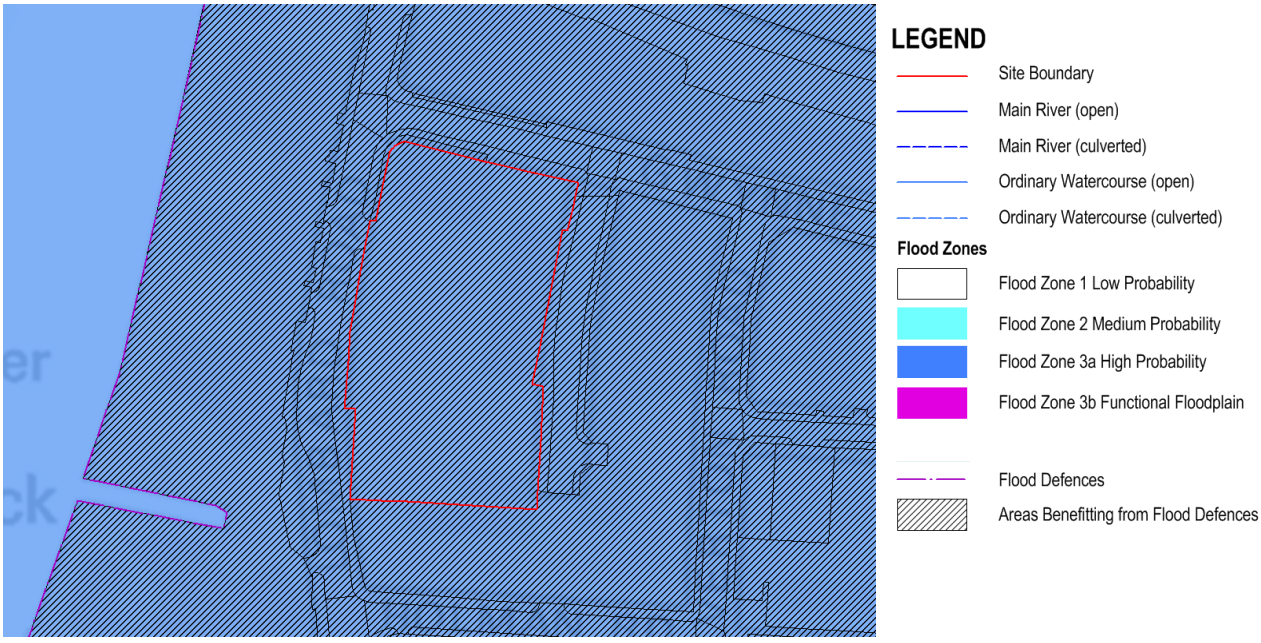
Site ID	10.12
Site Address	37 Lombard Road (Travis Perkins), SW11
Site Area	0.61ha
Current Use	Builder's merchant
Allocated Use	Mixed use including residential and replacement employment floorspace.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is adjacent to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**



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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**Very Low Risk** Less than 1 in 1000 year (0.1% annual probability)	The uFMfSW data does not show the susceptibility of individualproperties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Low Risk** Limited potential for groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

SITE 10.12 : 37 Lombard Road (Travis Perkins), SW11

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames Tidal Breach Modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm24. The invert level was 4.54 (mAOD) and the width of the breach is 20m.

Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)

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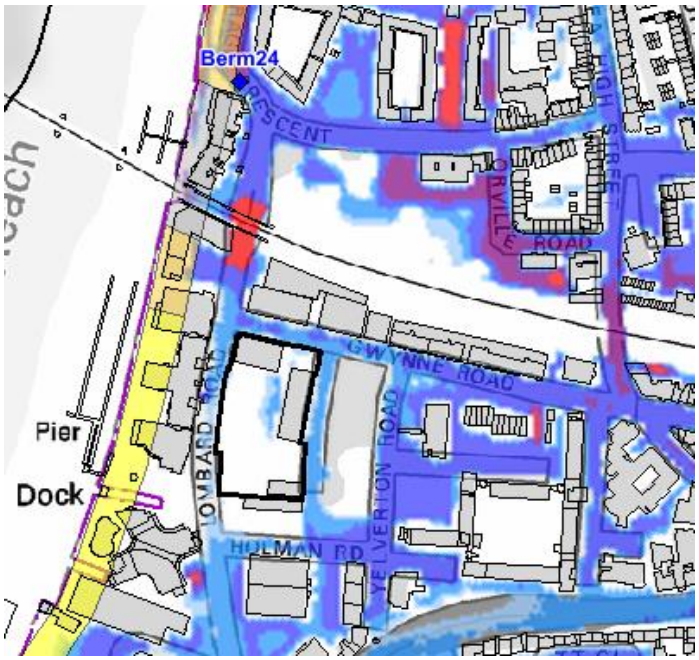
Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



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Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Category 2 and 3.

Category 2: Assumed Breach Level of 4.8 – 5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) 0.5m – 0m.

Category 3: Assumed Breach Level of 4.3-4.8 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) 0.5m-1.0m.

SITE 10.12 : 37 Lombard Road (Travis Perkins), SW11		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	A sequential approach to site layout should be used. The development site is entirely within Flood Zone 3a of the River Thames and defended by the Thames Tidal Defences. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario, the areas around the existing buildings within the site are shown to be at Low or Moderate Hazard. For the current development site (without mitigation), the Thames Tidal breach modelling identifies that under the MLWL 2100 scenario the site is at risk of flooding to depths of up to 1m. The south eastern boundary of the development site is at risk of flooding to depths of 0.25m-0.5m. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling. Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event.	Section 9.3
Safe Access/Egress	Access to the site is provided via Lombard Road to the west and Gwynne Road to the north. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is Kambala Clubroom,125 Fawcett Close, to the south east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at very low risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 2.7 l/s (1 in 1 year), 10.2 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.12 : 37 Lombard Road (Travis Perkins), SW11

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defence System. Development should be set back at least 16m from the River Thames frontage. For this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. There is potential that dry routes out of the local area to a safe place of refuge may be limited and it is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.

SITE 10.13 : 19 Lombard Road

1) PROPOSED DEVELOPMENT

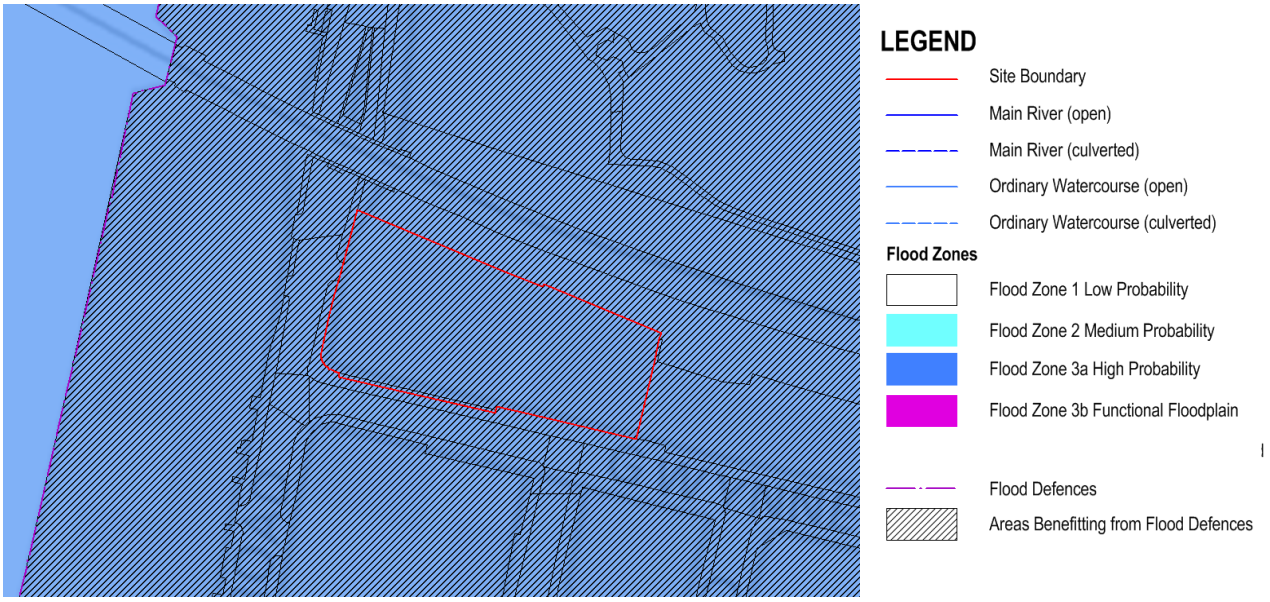
Site ID	10.13
Site Address	19 Lombard Road, 80 Gwynne Road, SW11
Site Area	0.30ha
Current Use	Industry and warehouse/storage
Allocated Use	Mixed use including residential and replacement employment floorspace.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is adjacent to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**



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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**Very Low Risk** Less than 1 in 1000 year (0.1% annual probability)	The uFMfSW data does not show the susceptibility of individual properties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Low Risk** Limited potential for groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

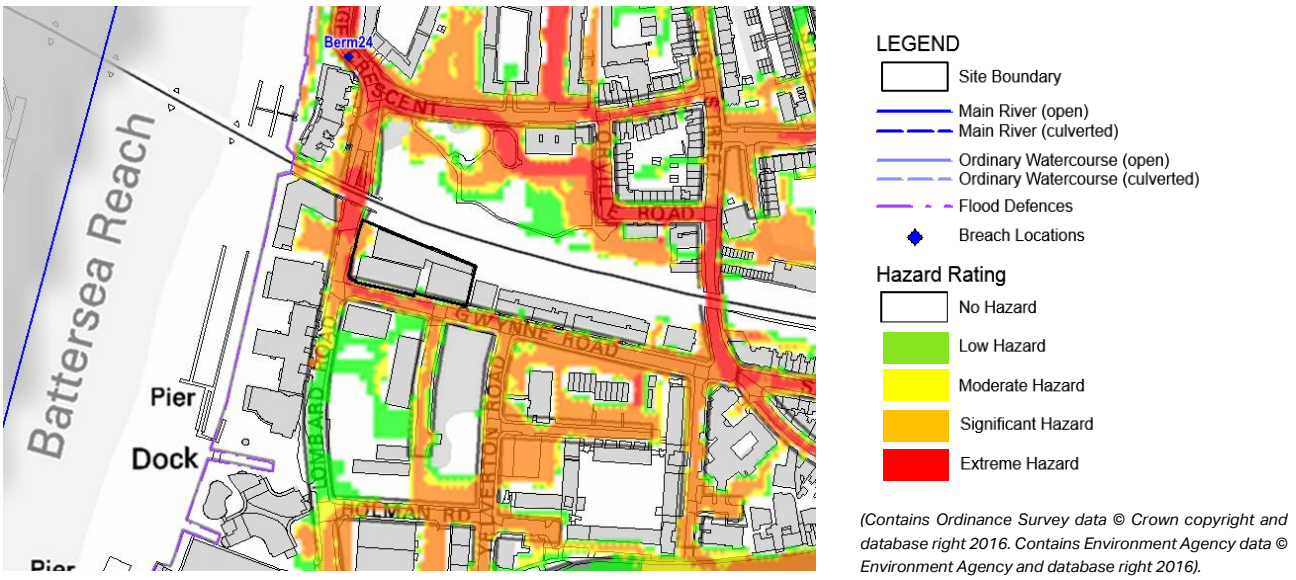
SITE 10.13 : 19 Lombard Road

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames breach modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm24. The invert level was 4.54 (mAOD) and the width of the breach is 20m.

Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)



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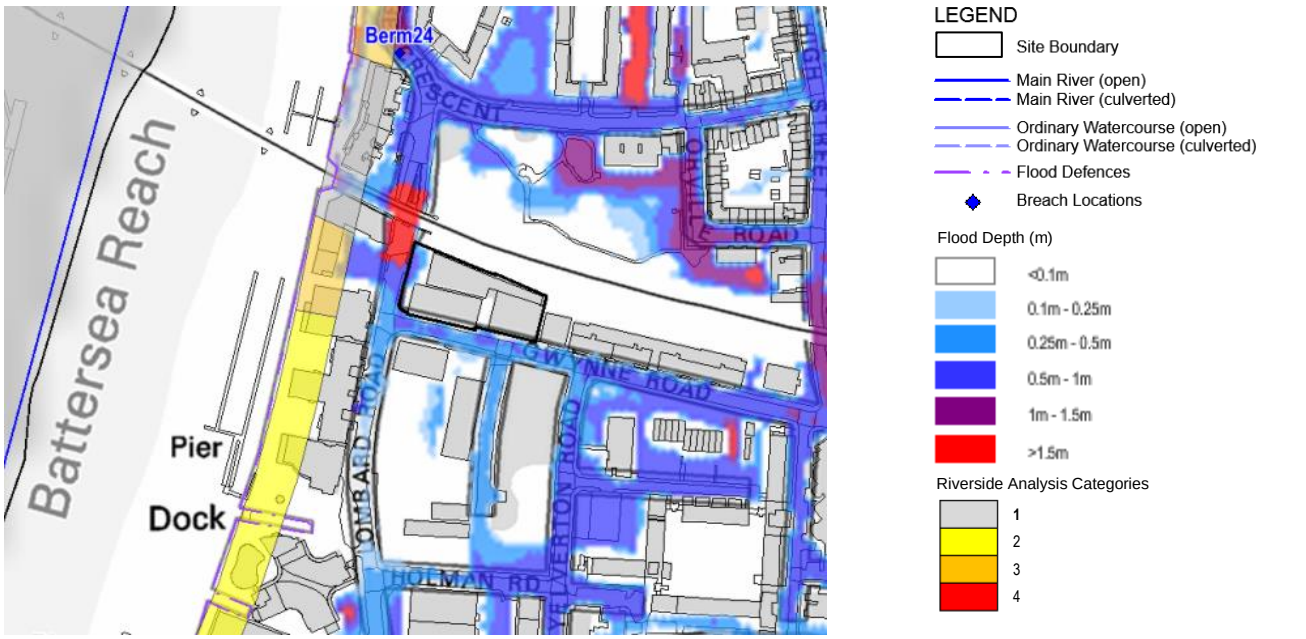
Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



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Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Categories 1and 3.

Category 1: Assumed Breach Level of >5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) 0m.

Category 3: Assumed Breach Level of 4.3-4.8 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) 0.5m-1.0m.

SITE 10.13 : 19 Lombard Road		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	A sequential approach to site layout should be used. The development site is entirely within Flood Zone 3a of the River Thames and defended by the Thames Tidal Defences. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario, the areas around the existing buildings within the site are shown to be at Moderate Significant Hazard. Lombard Road to the west and Gwynne Road to the south of the site are shown to have areas of Extreme hazard. For the current development site (without mitigation), the Thames Tidal breach modelling identifies that under the MLWL 2100 scenario the site is at risk of flooding to depths of up to 1m. Lombard Road is shown to be at risk of flood depths greater than 1.5m where it goes under the railway line to the north west of the site. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling. Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event.	Section 9.3
Safe Access/Egress	Access to the site is provided via Lombard Road to the west and Gwynne Road to the south. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is Kambala Clubroom,125 Fawcett Close, to the south east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at very low risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 1.3 l/s (1 in 1 year), 5.0 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.13 : 19 Lombard Road

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defences. For this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario there is potential that dry routes out of the local area to a safe place of refuge may be limited and that Gwynne Road is shown to be at risk of flood depths up to 1m. It is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.

SITE 10.14 : 58-70 York Road (The Chopper Public House), SW11

1) PROPOSED DEVELOPMENT

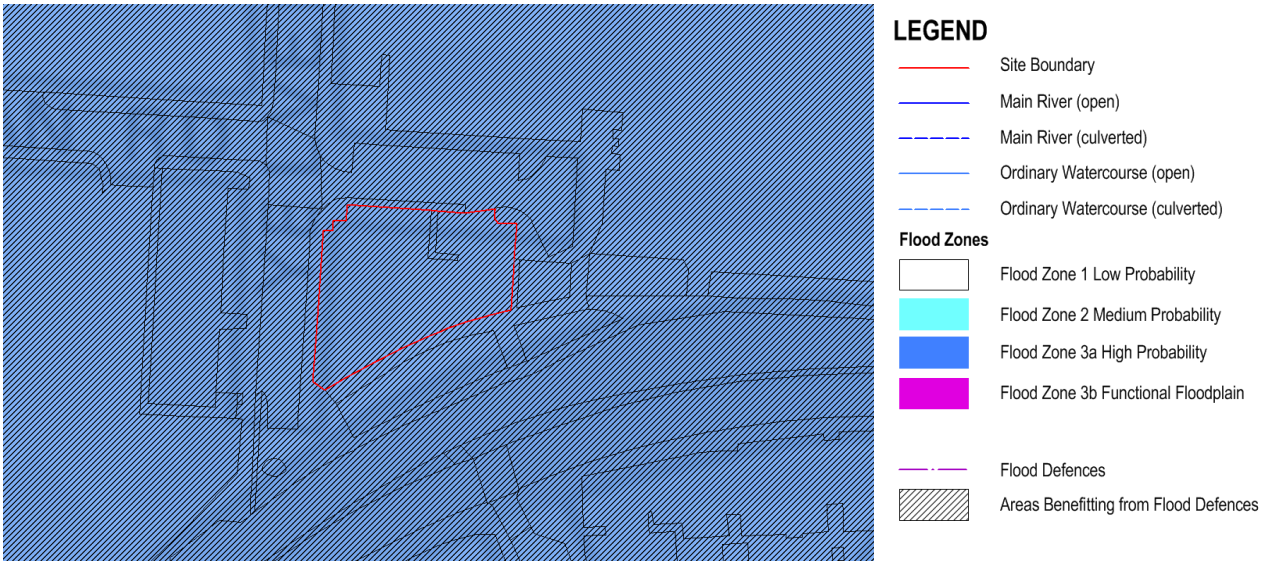
Site ID	10.14
Site Address	58-70 York Road (The Chopper Public House), SW11
Site Area	0.08ha
Current Use	Vacant – former public house
Allocated Use	Mixed used redevelopment including residential.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is adjacent to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**



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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**Very Low Risk** Less than 1 in 1000 year (0.1% annual probability)	The uFMfSW data does not show the susceptibility of individual properties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Low Risk** Limited potential for groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

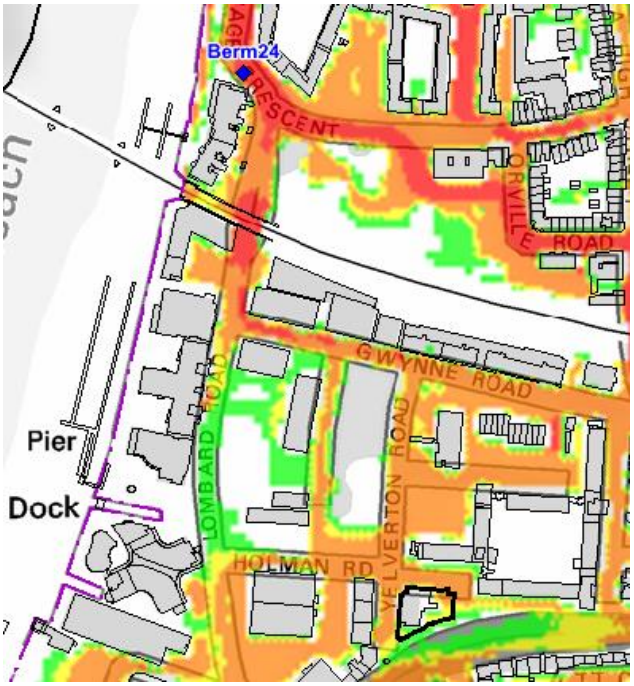
SITE 10.14 : 58-70 York Road (The Chopper Public House), SW11

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames breach modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm24. The invert level was 4.54 (mAOD) and the width of the breach is 20m.

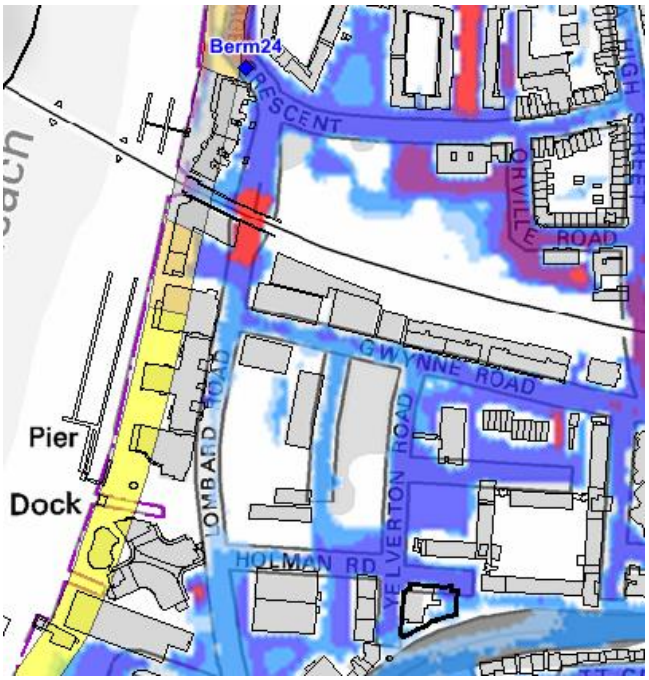
Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)



LEGEND
- Site Boundary
- Main River (open)
- Main River (culverted)
- Ordinary Watercourse (open)
- Ordinary Watercourse (culverted)
- Flood Defences
- Breach Locations

Hazard Rating
- No Hazard
- Low Hazard
- Moderate Hazard
- Significant Hazard
- Extreme Hazard

Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



LEGEND
- Site Boundary
- Main River (open)
- Main River (culverted)
- Ordinary Watercourse (open)
- Ordinary Watercourse (culverted)
- Flood Defences
- Breach Locations

Flood Depth (m)
- <0.1m
- 0.1m - 0.25m
- 0.25m - 0.5m
- 0.5m - 1m
- 1m - 1.5m
- >1.5m

Riverside Analysis Categories
- 1
- 2
- 3
- 4

Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Category 2 with an Assumed Breach Level of 4.8 – 5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) of 0.5m – 0m.

SITE 10.14 : 58-70 York Road (The Chopper Public House), SW11		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	A sequential approach to site layout should be used. The development site is entirely within Flood Zone 3a of the River Thames and defended by the Thames Tidal Defence system. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario, the areas of greatest hazard (Significant Hazard) at located to the north east of the site and the least hazard (Low Hazard) are located to the south west of the site. For the current development site (without mitigation), the Thames Tidal breach modelling identifies that under the MLWL 2100 scenario there is a risk of flood depths up to 1m to the north east of the sites. The south of the development site is at risk of flooding to depths of 0.25m-0.5m. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling. Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event.	Section 9.3
Safe Access/Egress	Access to the site is provided via York Road to the south or Yelverton Road to the west of the site. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is Kambala Clubroom,125 Fawcett Close, to the south east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at very low risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 0.4 l/s (1 in 1 year),1.3 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.14 : 58-70 York Road (The Chopper Public House), SW11

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defence System. For this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario there is potential that dry routes out of the local area to a safe place of refuge may be limited and it is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.

SITE 10.15 : Plantation Wharf

1) PROPOSED DEVELOPMENT

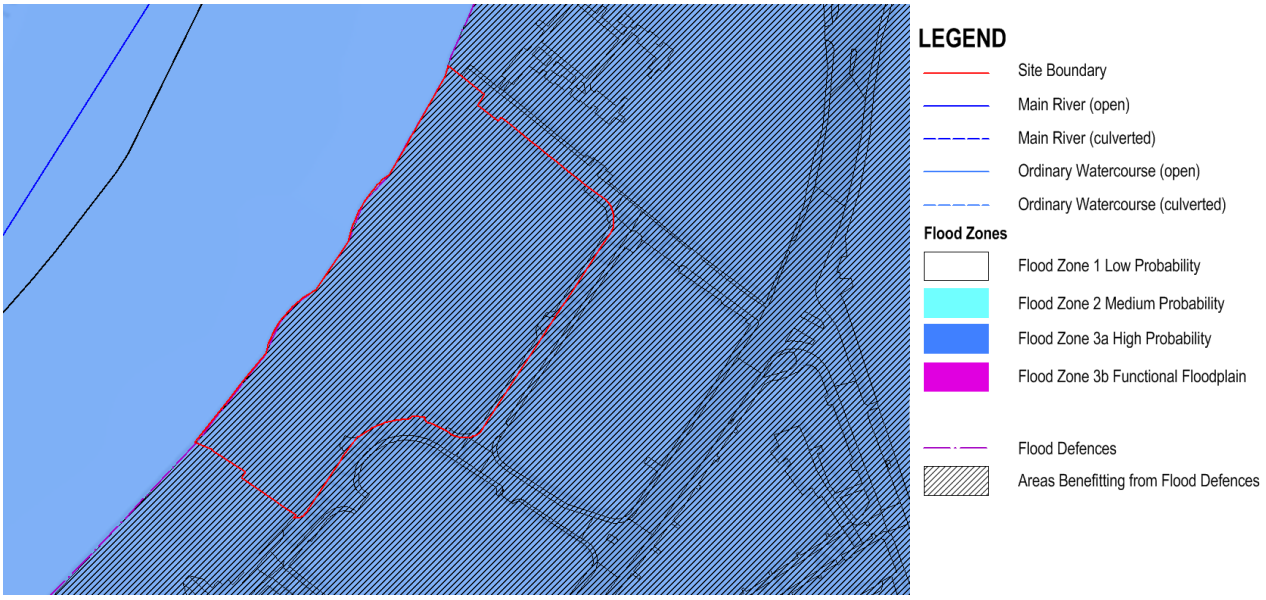
Site ID	10.15
Site Address	Plantation Wharf, Gartons Way, York Place, SW11
Site Area	1.81ha
Current Use	Residential and Commercial
Allocated Use	Mixed used redevelopment including residential.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is adjacent to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**



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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**High Risk** 1 in 30 year (0.33% annual probability)	The uFMfSW data does not show the susceptibility of individual properties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Low Risk** Limited potential for groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

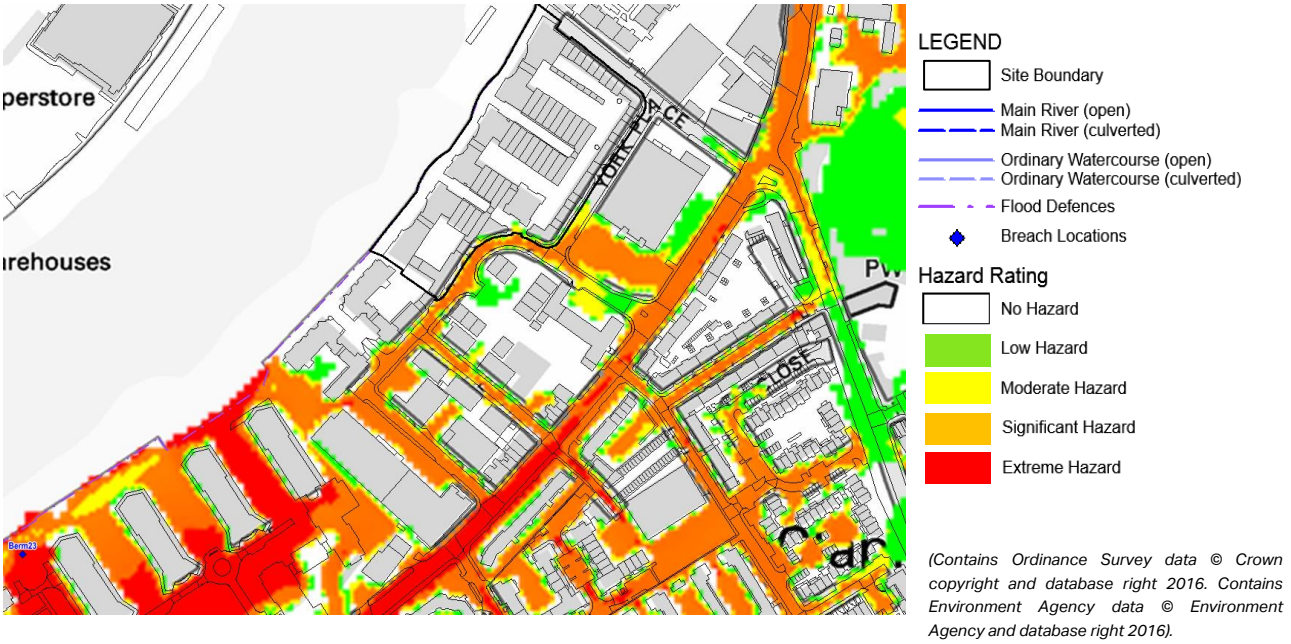
SITE 10.15 : Plantation Wharf

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames Tidal Breach Modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm23. The invert level was 3.87 (mAOD) and the width of the breach is 20m.

Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)



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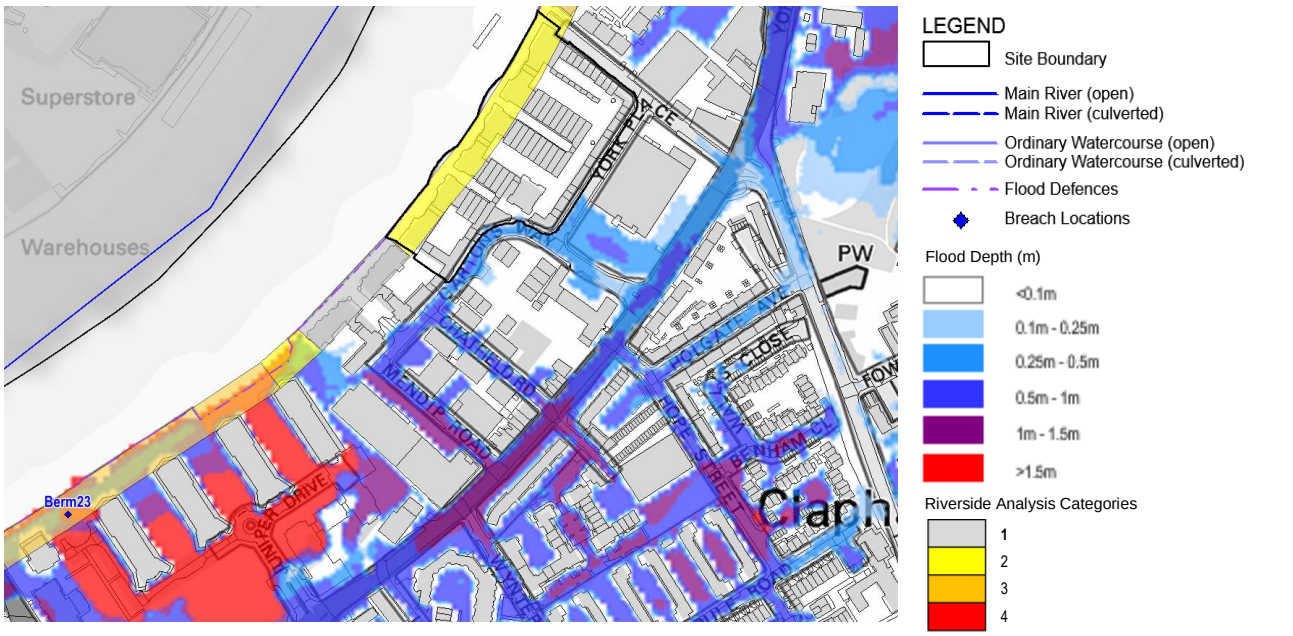
Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



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Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Category 2 with an Assumed Breach Level of 4.8 – 5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) of 0.5m – 0m.

SITE 10.15 : Plantation Wharf		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	The site is located wholly within Flood Zone 3a associated with the River Thames. Due to the elevated ground levels in this location, the site is not shown to be affected during the modelled MLWL 2100 breach scenario. Garton's Way to the south of the site is shown to be at risk of flooding during the modelled breach event, with depths 0.25m-1m and a corresponding hazard rating of Significant. Development should be set back at least 16m from the River Thames frontage. A Flood Risk Activity Permit is required for works within this 16m zone i.e. riverside path/pier. The presence of defence ground anchors should also be checked for. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event. There is no set guidance for the setting of finished floor levels of development in relation to surface water flood risk. Parts of the site are shown to be at high risk of surface water flooding and it is therefore recommended that consideration is given to the flow of surface water during the development of the site masterplan and layout to ensure effective management of surface water flows.	Section 9.3
Safe Access/Egress	Access to the site is provided via Gartons Way and York Place. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is York Gardens Library, 34 Lavender Road, to the east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at high risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 8.0 l/s (1 in 1 year), 30.2 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.15 : Plantation Wharf

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defence System. Development should be set back at least 16m from the River Thames frontage. Due to elevated ground levels in this location, the site is not shown to be affected during the modelled MLWL 2100 breach scenario. However, for this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. There is potential that dry routes out of the local area to a safe place of refuge may be limited and it is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.

SITE 10.16 : Travelodge Hotel

1) PROPOSED DEVELOPMENT

Site ID	10.16
Site Address	Travelodge Hotel, 200 York Road
Site Area	0.25ha
Current Use	Hotel
Allocated Use	Mixed use redevelopment including residential.
Vulnerability	More vulnerable

2) SUMMARY OF LEVEL 1 FLOOD RISK

Flood risk from rivers

The site is in close proximity to the River Thames.

Proportion of potential development site within Flood Zone	Flood Zone 3b	Flood Zone 3a	Flood Zone 2	Flood Zone 1	Area Benefiting of Defences
	0 %	**100 %**	**0 %**	**0 %**	**100 %**

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Flood risk from all other sources			**Limitations**
Risk of flooding to the potential development site and surrounding area	Surface Water flooding: (Level 1 SFRA Appendix A Figure 5.2 - uFMfSW)	**Very Low Risk** Less than 1 in 1000 year (0.1% annual probability)	The uFMfSW data does not show the susceptibility of individual properties to surface water flooding. The uFMfSW also does not take into account the details of the existing drainage system.
	Groundwater flooding: (Level 1 SFRA Appendix A Figure 5.4 - BGS Susceptibility to Groundwater Flooding)	**Medium Risk** Potential for groundwater flooding to occur below surface, but no historic records of groundwater flooding	The dataset cannot be used on its own to indicate risk of groundwater flooding and should not be used to inform planning decisions at a site scale. It is suitable for use in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, to establish relative risk of groundwater flooding.

Historic records of flooding

Historic records of flooding from each source within a 100m radius of potential development site	Fluvial records	Surface water records	Groundwater records	Sewer records	Multiple source records	Other
	0	**0**	**0**	**0**	**0**	**0**

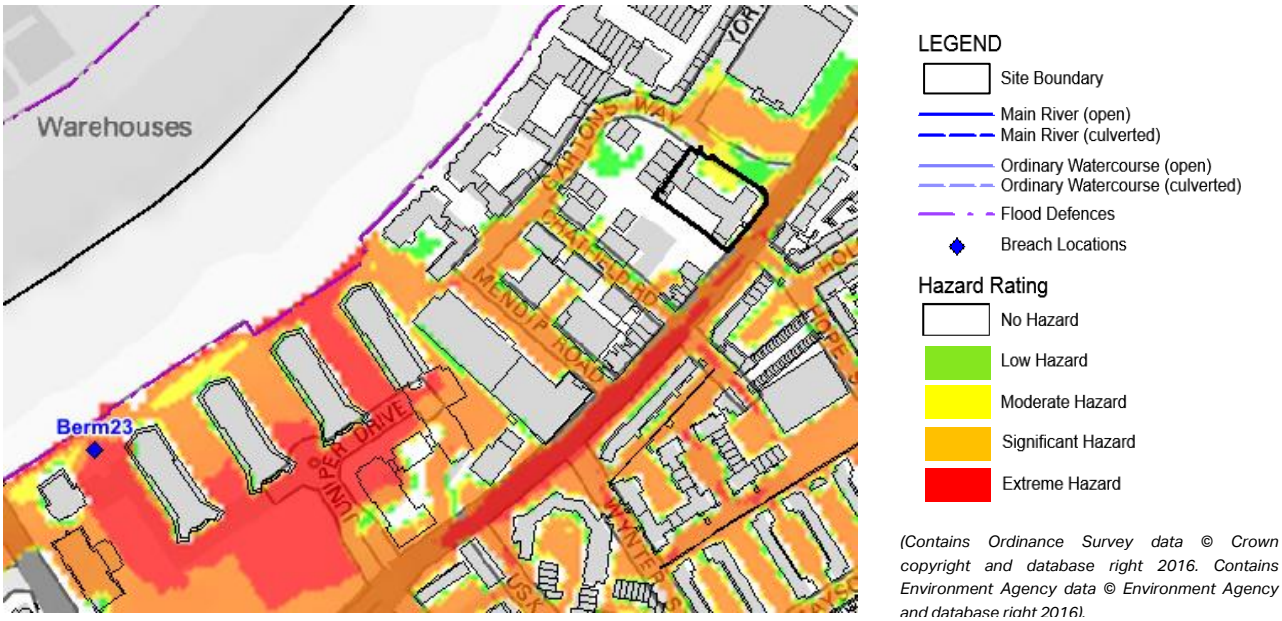
SITE 10.16 : Travelodge Hotel

3) LEVEL 2 ASSESSMENT

The London Borough of Wandsworth is located upstream of the Thames Barrier where tidal water levels are a function of the maximum tide level allowed through the Thames Barrier (defined by the barrier closure rule / matrix). As a result, when undertaking modelling of the Thames upstream of the Barrier typical return periods cannot be applied. For the purpose of this Level 2 site assessment, maximum flood depth and hazard mapping from the Environment Agency's updated River Thames breach modelling (2015) have been used, using the Maximum Likely Water Level (MLWL) under climate change conditions for the year 2100.

The mapping shows combined result for each of the breach scenarios. The worst case breach location for the site is considered to be breach location Berm23. The invert level was 3.87 (mAOD) and the width of the breach is 20m.

Thames Tidal Breach Modelling: Maximum Hazard Rating (MLWL 2100)



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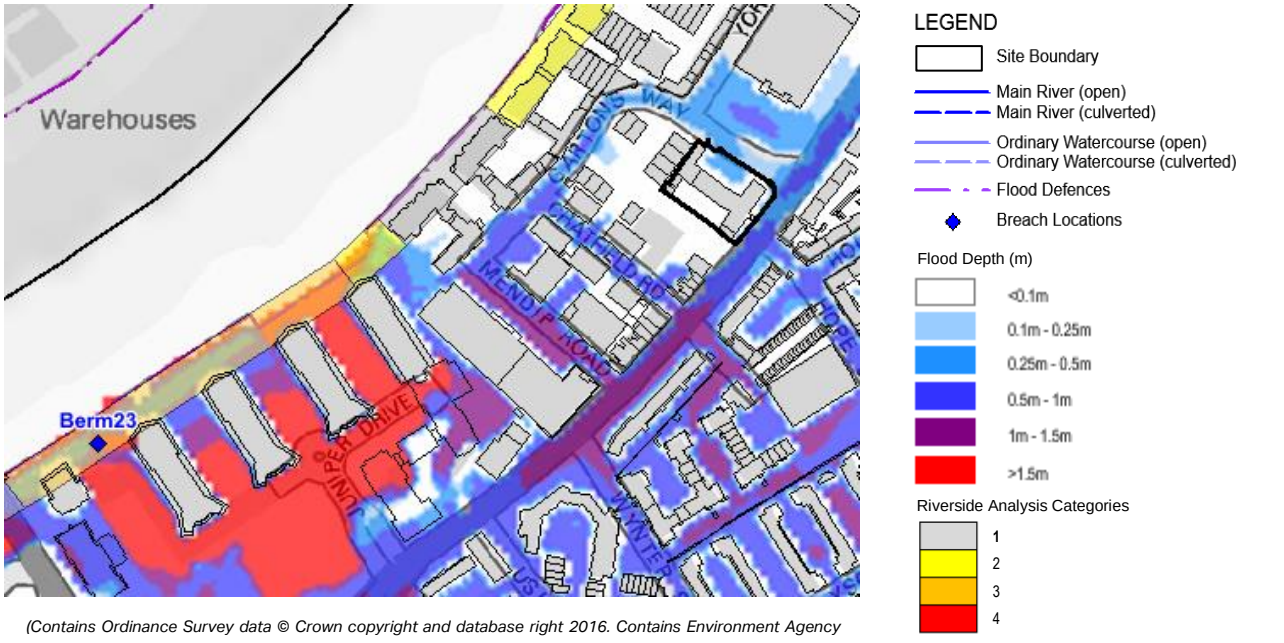
Thames Tidal Breach Modelling: Maximum Flood Depth (MLWL 2100) and Riverside Analysis Categories



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Riverside Analysis

Results from the riverside analysis completed as part of the 2008 SFRA identify the frontage in the vicinity of the site as Category 2 with an Assumed Breach Level of 4.8 – 5.3 mAOD and Potential Peak Depth of Flow through breach (1 in 1000 year event) of 0.5m – 0m.

SITE 10.16 : Travelodge Hotel		
4) RECOMMENDATIONS AND POLICIES		
Development Layout and Sequential Approach	A sequential approach to site layout should be used. The development site is entirely within Flood Zone 3a of the River Thames and defended by the Thames Tidal Defence system. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario, there are areas of Low and Moderate Hazard to the north east of the site. For the current development site (without mitigation), the Thames Tidal breach modelling identifies that under the MLWL 2100 scenario the north east of the site is at risk of flooding to depths of 0.25m-0.5m. The rest of the site is shown to be at risk of flood depths less than 0.25m More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. Self-contained residential basements and bedrooms at basement level are not permitted in Flood Zone 3a. Less Vulnerable basements, basement extensions and conversions, such as plant, car parking etc., must provide safe internal access to higher floors situated above levels derived from the breach modelling must be provided. Further ground investigations would be required at this site to confirm the likelihood of groundwater occurrence. Measures to manage surface water on the site should be considered early in the site masterplan to enable inclusion of attenuation SuDS where possible.	Section 9.2
Finished Floor Levels	For More Vulnerable development, finished floor levels for habitable accommodation should be set at or above the Thames Tidal breach modelling MLWL 2100 scenario flood level. For Less Vulnerable uses (such as commercial development), finished floor levels do not need to be raised with regards to policy, however, internal access must be provided to upper floors to provide safe refuge in a tidal breach flood event.	Section 9.3
Safe Access/Egress	Access to the site is provided via Gartons Way and York Road. In the event of widespread flooding associated with a breach in the Thames Tidal Defence system, there is potential that dry routes out of the local area to a safe place of refuge may be limited. It will therefore be necessary to prepare a Flood Warning and Evacuation Plan (FWEP), described further below.	Section 9.7
Flood Warning and Evacuation Plan	A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided how the safety of occupants and access to/from the development will be ensured and what will be done to protect development and contents. The FWEP should consider arrangements for the evacuation of basement car parks. Where possible, the FWEP should also detail the length of time before the site becomes inaccessible by emergency vehicles. **Flood Warning Areas** The local area is covered by the Environment Agency Flood Warning Areas for 'Tidal Thames from Deptford Creek to Wandsworth Bridge'. Residents of the site should ensure they are signed up to the Environment Agency Flood Warning system. **Emergency Rest Centres** The closest designated emergency rest centre for this site is York Gardens Library, 34 Lavender Road, to the east of the development site.	Section 9.14
Surface Water Management	**Current risk of flooding** The site is within Drainage Catchment 2, which is completely within London Borough of Wandsworth, and drains the Clapham Junction area. The potential development must not increase flood risk to other areas in the Drainage Catchment. The uFMfSW indicates that the majority of the site and surrounding area is at very low risk of surface water flooding. There are no reported incidents of flooding held by Wandsworth Council in this location.	
	Indicative existing runoff rate: 1.1 l/s (1 in 1 year), 4.2 l/s (1 in 100 year) **Indicative Greenfield Runoff Rate:** 5 l/s	Section 10
	SuDS Suitability Reference to the SWMP Appendix C2 Figure 4 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is potentially unsuitable for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Techniques which should be considered include green roofs, filter strips, detention basins and ponds, as well as permeable surfacing in combination with tanked systems	Section 10.3 and 10.9

SITE 10.16 : Travelodge Hotel

	Drainage Strategy and Approvals Wandsworth Council will require a Drainage Strategy to be prepared outlining the surface water management for the site, runoff rates and consideration of SuDS in line with the London Plan policy 5.13 and Local Plan policies. Where it is not possible to achieve greenfield runoff rates in accordance with the preferred standards set out in the London Plan policy 5.13 and Design and Construction SPG (April 2014), then justification must be provided. Arrangements for the future maintenance of the drainage system must be made and detailed in the Drainage Strategy. There is no automatic right to connect to the existing Thames Water network. Any potential diversions and/or discharges into a sewer or main river must be agreed with Thames Water or Environment Agency, respectively.	Section 10.6
	Indicative Unit Costs Green roofs ~ £90/m2. Permeable paving ~ £30-50/m2. Filter strips £2-4m2. Detention basin £15-50m3. Concrete storage tank £449-518/m3.	Section 10.4

5) EXCEPTION TEST CONSIDERATIONS

The NPPF states that there are two parts to the Exception Test that must be passed for development to be allocated or permitted:

1) *"it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk"* and
2) *"demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall"*.

This development site is located within Flood Zone 3a of the tidal River Thames, however it is defended by the Thames Tidal Defence System. For this development site, the most vulnerable development must be located on the first floor or above, with Less Vulnerable uses at ground level. Less Vulnerable uses should be located in areas of greater hazard. The Thames Tidal breach modelling identifies that under the MLWL 2100 scenario there is potential that dry routes out of the local area to a safe place of refuge may be limited and it is therefore necessary to prepare a FWEP for residents / occupants of the site detailing steps to evacuate the site prior to the onset of flooding. The potential impacts of flooding should be mitigated through careful site layout, resilient construction techniques, and incorporation of SuDS, to reduce the risk of increasing flood risk elsewhere. Therefore, on this basis, it is likely that this site would pass the Exception Test.