

PROPOSED USE: 7 residential units						
VULNERABILITY CLASSIFIC	CATION: More Vulnerable					
FLOOD ZONES AND HISTOF	RIC FLOODING					
Flood Zone 1 31% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 69%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report)	0%		
FLOOD WARNING AREA: River	Mole at Stoke D'Abernon, Cobha	m and South Hersham				
FLOOD PRIORITY AREA: N/A		ST	ATUS: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968, 06 February 1990, December 2013						
PROXIMITY TO MAIN RIVER:	16m MAIN RIVER N	AME: River Mole				
PROXIMITY TO NEAREST WAT	ERCOURSE: 16m WAT	ERCOURSE NAME: Rive	r Mole			
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 2	0, 24 records in Postcode Area KT	11 3, KT11 2		
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION						
RIVER MANAGEMENT CATCHMENT: Mole						
RIVER OPERATIONAL CATCHN	RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe					
WATERBODY NAME: Mole - Leatherhead to Hersham						

SURFACE WATER FLOODING							
Low (0.1% AEP): 0%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%			
GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group	BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gra						
BEDROCK AQUIFER: Secondary A	BEDROCK AQUIFER: Secondary A SUPERFICIAL AQUIFER: Principal						
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING						
Potential for groundwater flooding to occur at surface							
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION					
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW						
GROUNDWATER OPERATIONAL CATCHME	GROUNDWATER OPERATIONAL CATCHMENT: Chobham Bagshot Beds						
GROUNDWATER BODY: Chobham Bagshot Beds							
RISK OF FLOODING FROM RESERVOIRS							
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:							
WHEN RIVER LEVELS ARE NORM	/AL: 0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	8%			
		1					

OUTPUTS FROM THE MIDDLE MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	COS1
SITE ADDRESS	Cedar House, Mill Road, Cobham, KT11 3AL

The River Mole runs approximately 16m to the south of the site. The majority of the site (69%) is defined as Flood Zone 2, and the remaining 31% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968, February 1990, and December 2013. The site does not lie within a Flood Priority Area.

Modelling for the Middle Mole indicates flooding in the south during the design event (1% AEP plus a 25% climate change allowance). Hazard mapping indicates the southern site boundary to have a hazard rating of 'Low' during the design event.

Ground levels are approximately 22.45m AOD in the north of the site to around 20.3m AOD in the south of the site. Water levels in the south of the site during the design event are approximately 20.3m AOD.

The Risk of Flooding from Surface Water Map does not indicate the site to be at risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

Part of the site (8%) is at risk of flooding from reservoirs in the event of a breach or failure when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced.
 Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate

- Finished Floor Levels for residential accommodation must be above the des change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) may be achievable via Stoke Road to the south east of the site.

- Safe refuge may be achievable to the north of the site. Places of safe refuge would need to be designed into the development above the extreme flood event (0.1% AEP) including a allowance for climate change. In this instance, this is likely to be at first floor level.

- The site is located within the 'River Mole at Stoke D'Abernon, Cobham and South Hersham' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 7 residential units						
VULNERABILITY CLASSIFICATION: More Vulnerable						
FLOOD ZONES AND HISTORIC FLOODING						
Flood Zone 1 70%	Flood Zone 2 (0.1% AEP): 30%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):			
FLOOD WARNING AREA: River	Rythe between Oxshott and Tha	mes Ditton				
FLOOD PRIORITY AREA: N/A		STATUS	: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968						
PROXIMITY TO MAIN RIVER: 27m MAIN RIVER NAME: River Rythe						
PROXIMITY TO NEAREST WATERCOURSE: 27m WATERCOURSE NAME: River Rythe						
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 22 records in Postcode Area KT7 0						
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION						
RIVER MANAGEMENT CATCHMENT: Mole						
RIVER OPERATIONAL CATCHM	IENT: Mole Lower and Rythe					
WATERBODY NAME: Rythe						

External	·				
Unknown		MODELLED FLOOD EXTENTS Lower Thames: Tributary Dominated	HAZARD MAPPING Lower Thames: Tributa Dominated	ry	
SURFACE WATER FLOODING			1		
Low (0.1% AEP): 13%	Medium (1%	AEP): 6%	High (3.33% AEP):	4%	
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sand	And Gravel	
BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Unproductive					
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
N/A					
WATER FRAMEWORK DIRECTIVE - GROUN	NDWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHM	ENT: This informatio	on is not available for this si	e.		
GROUNDWATER OPERATIONAL CATCHME	ENT: This informatio	on is not available for this si	е.		
GROUNDWATER BODY: This information is	not available for this	site.			
RISK OF FLOODING FROM RESERVOI	RS				
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NOR	MAL: 21%	WHEN THERE IS ALS	SO FLOODING FROM RIVERS:	100%	

OUTPUTS FROM THE RIVER RYTHE AND LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D2
SITE ADDRESS	Car Park south of Southbank, Thorkhill Road, Thames Ditton

The River Rythe runs approximately 27m west of the site and joins the River Thames approximately 240m north of the site. The majority of the site (70%) is defined as Flood Zone 1, and the remaining 30% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) indicates the north west corner of the site to be at risk of flooding during the design event (1% AEP plus a 35% climate change allowance). The site is not indicated to be at risk of flooding during the 1% AEP event. Hazard mapping for the design event shows the north west corner to have a 'Moderate' hazard. Ground levels are approximately 8m AOD in the west of the site to 10.3m AOD in the east. Water levels of approximately 8.7m AOD are indicated in the north west of the site during the design event.

The Risk of Flooding from Surface Water Map indicates a flowpath of high risk of flooding running along the north west boundary and a low to high risk of flooding from surface water in the north west of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates there is no risk of groundwater flooding in the area.

An area of the site (21%) is at risk of flooding from reservoirs in the event of a breach or failure when river levels are normal and the entire site (100%) is at risk when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

Development of the site must ensure that the risk of flooding to surrounding areas in not increased, and where possible reduced.
 Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate

Finished Floor Levels for residential accommodation must be above the deschange allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the north of the site via Southbank and Winters Road.

- Places of safe refuge should be designed into the development above the extreme flood level (0.1% AEP) including an allowance for climate change.

- The site is located within the 'River Rythe between Oxshott and Thames Ditton' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.
The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes

appropriate measures to manage the potential for inundation within the site.



PROPOSED USE: 7 residential units							
VULNERABILITY CLASSIFICATION: More Vulnerable							
FLOOD ZONES AND HISTORIC FLOODING							
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 55%	Flood Zone 3a (1% AEP): 45%	Flood Zone 3b (defined in SFRA report):				
FLOOD WARNING AREA: River	Rythe between Oxshott and Thar	mes Ditton					
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A				
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968							
PROXIMITY TO MAIN RIVER: 71m MAIN RIVER NAME: River Rythe							
PROXIMITY TO NEAREST WATERCOURSE: 1m WATERCOURSE NAME: Tributary of River Rythe							
THAMES WATER DG5 RECORD	ED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 22 rec	ords in Postcode Area KT7 0				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION							
RIVER MANAGEMENT CATCHMENT: Mole							
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe							
WATERBODY NAME: Rythe							

SURFACE WATER FLOODING							
Low (0.1% AEP): 85%	Medium (1%	AEP): 17%	High (3.33% AEP):	7%			
SUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gra							
EDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Principal							
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING						
Potential for groundwater flooding of property situated below ground level, otential for groundwater flooding to occur at surface							
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION					
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW						
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW						
GROUNDWATER BODY: Lower Thames Gravels							
RISK OF FLOODING FROM RESERVOIRS							
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:							
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 10)0%			

OUTPUTS FROM THE RIVER RYTHE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D5
SITE ADDRESS	89-90 Woodfield Road, Thames Ditton, KT7 0DS

A tributary of the River Rythe runs along the northern boundary of the site. The River Rythe is located approximately 71m north of the site. 55% of the site is defined as Flood Zone 2 and the remaining 45% is defined as Flood Zone 3a. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the River Rythe indicates the north and south of the site to be at risk of flooding during a 1% AEP event. Almost the entire site is indicated to be at risk of flooding during the design event (1% AEP plus a 25% climate change allowance). Hazard mapping for the design event defines the centre of the site as 'Low' hazard with areas to the north 'Moderate' to 'Significant' hazard.

Ground levels across the site are approximately 10.7m AOD to 11.5m AOD. Water levels across the site during the design event are approximately 11.5m AOD.

The Risk of Flooding from Surface Water Map indicates the majority of the site to be at low risk of surface water flooding, with areas to the north and east at medium to high risk.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and groundwater flooding to occur at surface in this area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2, however More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not achievable for the site.

Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.
The site is located within the "River Rythe between Oxshott and Thames Ditton" Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

Revision: 1 Drawn: LL Checked: JS Approved: SL Date: 2024-02-15

SITE NAME: 47 Portsmouth Road		
	315	

SITE LAA REFERENCE: US443



DELIVERY PERIOD: 1 to 5 years

SITE AREA: 0.35 ha



onment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 25 residential units

SITE ALLOCATION REFERENCE: D7

VULNERABILITY CLASSIFICATION: More Vulnerable

FLOOD ZONES AND HISTORIC FLOODING

Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP):	99%	Flood Zone 3a (1% AEP):	0%	Flood Zone 3b (defined in SFRA report):	1%		
FLOOD WARNING AREA: River	FLOOD WARNING AREA: River Rythe between Oxshott and Thames Ditton							
FLOOD PRIORITY AREA: N/A				STATUS	3 : N/A			
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	06 September	1968						
PROXIMITY TO MAIN RIVER:	0m MAII	N RIVER N	AME: River Rythe					
PROXIMITY TO NEAREST WAT	ERCOURSE: 0m	WAT	ERCOURSE NAME:	River Ryt	he			
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 22 records in Postcode Area KT7 0								
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION								
RIVER MANAGEMENT CATCHMENT: Mole								
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe								
WATERBODY NAME: Rythe								

SURFACE WATER FLOODING							
Low (0.1% AEP): 16%	Medium (1%	AEP): 3%	High (3.33% AEP):	1%			
GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grave							
BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Unproductive, Principal							
BGS SUSCEPTIBILITY TO GROUNDWATER F	LOODING						
Potential for groundwater flooding to occur at sur	face						
WATER FRAMEWORK DIRECTIVE - GROUND	WATER INFORMA	TION					
GROUNDWATER MANAGEMENT CATCHMEN	IT: Thames GW						
GROUNDWATER OPERATIONAL CATCHMEN	GROUNDWATER OPERATIONAL CATCHMENT: Colne GW						
GROUNDWATER BODY: Lower Thames Gravels							
RISK OF FLOODING FROM RESERVOIRS							
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:							
WHEN RIVER LEVELS ARE NORM	AL: 42%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%			

OUTPUTS FROM THE RIVER RYTHE AND LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D7
SITE ADDRESS	47 Portsmouth Road

The River Rythe runs through the site from the east corner to the centre, then runs south, cutting through the south west strip of the site. The River Rythe joins the River Thames approximately 500m north of the site. The majority of the site (99%) is defined as Flood Zone 2, and the remaining 1% as Flood Zone 3b from the River Rythe. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the River Rythe indicates the southern and eastern tips of the site to be at risk of flooding during a 1% AEP plus a 20% climate change allowance event, with these areas having a 'Low' to 'Moderate' hazard rating.

Modelling for the Lower Thames does not indicate the site to be at risk of flooding during a 1% AEP plus a 35% climate change allowance event and therefore has not been assigned a hazard rating from the Lower Thames for the design event.

Ground levels are approximately 10.3m AOD in the north of the site to 9.1m AOD towards the south.

The Risk of Flooding from Surface Water Map indicates low to high probability flood risk in the south and west of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

Part of the site (42%) is at risk of flooding from reservoirs in the event of a breach or failure when river levels are normal. The entire site (100%) is at risk of flooding when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twenty five residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2 and the Exception Test is not required. More Vulnerable development is not permitted within Flood Zone 3b. This part of the site should be retained as floodplain and steps taken to restore land to provide a more natural edge of the River Rythe. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. Due to its close proximity to a watercourse, the following recommendations are made:

Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.
 Development within the design flood extent (1% AEP including central climate change allowance) to the eastern and southern

- Development within the design flood extent (1% AEP including central clima tips must not decrease the available floodplain storage.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable for the site to the north via the A307 southbound.

- Places of safe refuge should be designed into the development above the extreme flood level (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Rythe between Oxshott and Thames Ditton' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



PROPOSED USE: 5 residentia	al units						
VULNERABILITY CLASSIFICATION: More Vulnerable							
FLOOD ZONES AND HISTOP	RIC FLOODING						
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 1 (<0.1% AEP):0%Flood Zone 2 (0.1% AEP):Flood Zone 3a (1% AEP):0%Flood Zone 3b 						
FLOOD WARNING AREA: River	Rythe between Oxshott and Thar	mes Ditton					
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A				
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968						
PROXIMITY TO MAIN RIVER:	53m MAIN RIVER N	AME: River Rythe					
PROXIMITY TO NEAREST WAT	ERCOURSE: 45m WAT	ERCOURSE NAME: Tributary	of River Rythe				
THAMES WATER DG5 RECORE	DED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 22 rec	cords in Postcode Area KT7 0				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION							
RIVER MANAGEMENT CATCHMENT: Mole							
RIVER OPERATIONAL CATCH	IENT: Mole Lower and Rythe						
WATERBODY NAME: Rythe							

SURFACE WATER FLOODING							
Low (0.1% AEP): 2%	Medium (1%	• AEP): 0%	High (3.33% AEP):	0%			
GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sand	And Gravel			
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Unproductive				
BGS SUSCEPTIBILITY TO GROUNDWATER F	LOODING						
٧/A							
WATER FRAMEWORK DIRECTIVE - GROUND	WATER INFORMA	TION					
GROUNDWATER MANAGEMENT CATCHMEN	T: This information	on is not available for this sit	e.				
GROUNDWATER OPERATIONAL CATCHMEN	r: This informatio	on is not available for this site	9.				
GROUNDWATER BODY: This information is not available for this site.							
RISK OF FLOODING FROM RESERVOIRS							
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:							
WHEN RIVER LEVELS ARE NORMAL: 2% WHEN THERE IS ALSO FLOODING FROM RIVERS: 90%							

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D9
SITE ADDRESS	Corner Cottage, Portsmouth Road, KT7 0TQ

A tributary of the Rythe runs from the south west to the north east of the site, approximately 45m from the site. The entire site (100%) is defined as Flood Zone 2 from the 1968 historic flood outline. Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. The site does not lie within a Flood Priority Area.

Modelling for the River Rythe and Lower Thames (Thames Dominated) does not indicate the site to be at risk of flooding up to a 1% AEP plus a 20% allowance for climate change and a 1% AEP plus an 81% allowance for climate change respectively, and therefore has not been assigned a hazard rating for the design event. Ground levels are approximately 10.7m AOD in the north of the site to 9.1m ADO in the east.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset does not indicate the potential for groundwater flooding to occur within the site area.

A small area of the site (2%) is at risk of flooding from reservoirs in the event of a breach or failure when river levels are normal. The majority of the site (90%) is at risk of flooding when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Five residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The site is not shown to be at risk of flooding during the 1% AEP event including central climate change allowance, however it is located within Flood Zone 2 due to its historic flood record. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is not shown to be at risk of fluvial flooding, however it is located within Flood Zone 2 due to its historic flood record. - Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate

change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable via the A307 southbound.

- The site is located within the 'River Rythe between Oxshott and Thames Ditton' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. - The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.



EI.		ZONEC		LICTODIC	
E L	UUU	LUNEO	AND		

I LOOD LONEO A							
Flood Zone 1 (<0.1% AEP):	0%	Flood Zone 2 (0.1% AEP):	100%	Flood Zone 3a (1% AEP):	0%	Flood Zone 3b (defined in SFRA report):	0%
FLOOD WARNING A	REA:River	Mole at Esher and Ea	ast Molesey	,			
FLOOD PRIORITY A	REA: N/A				STATUS	5: N/A	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968							
PROXIMITY TO MAI	N RIVER:	458m MAI	N RIVER N	AME: River Ember			
PROXIMITY TO NEA	REST WAT	ERCOURSE: 2m	WAT	ERCOURSE NAME:	Tributary	of River Ember	
THAMES WATER DO	35 RECORE	DED FLOOD INCIDE	NTS BASEI	D ON POSTCODE AR	EA: 7 reco	ords in Postcode Area KT10 8	
WATER FRAMEW	ORK DIRE	CTIVE - FLUVIAL	INFORMA	TION			
RIVER MANAGEMENT CATCHMENT: Mole							
RIVER OPERATION	RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe						
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)							

SURFACE WATER FLOODING								
Low (0.1% AEP): 21%	Medium (1%	• AEP): 0%	High (3.33% AEP): 0%					
GROUNDWATER FLOODING	GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group	BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand							
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Unproductive					
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING							
N/A	N/A							
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION						
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW							
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW							
GROUNDWATER BODY: Lower Thames Gravels								
RISK OF FLOODING FROM RESERVOIRS								
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:								
WHEN RIVER LEVELS ARE NORM	I AL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%					

OUTPUTS FROM THE LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D11
SITE ADDRESS	Garages to the rear of Blair Avenue, Weston Green

A tributary of the River Ember runs along the north western site boundary of the site. The River Ember is located approximately 458m north of the site. The entire site (100%) is defined as Flood Zone 2 from both modelling outputs and also its location within the 1968 historic flood outline. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. The site does not lie within a Flood Priority Area.

Modelling for the Lower Mole indicates flooding across most of the site during the design event (1% AEP plus a 20% climate change allowance). Modelling for the Lower Mole does not indicate the site to be at risk of flooding during a 1% AEP event. Hazard information is not available for this site and therefore flood depths have been considered. The site is shown to experience flood depths of up to 0.5m during a 1% AEP event including 20% climate change.

Ground levels are approximately 10.8m AOD in the north of the site to around 11m AOD in the south of the site. Water levels in the south west of the site during the design event are approximately 10.9m AOD.

The Risk of Flooding from Surface Water Map indicates flow paths of low probability of flooding from surface water along the eastern and western boundaries of the site.

The BGS Susceptibility to Groundwater Flooding dataset does not indicate the potential for groundwater flooding to occur in this area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Four residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.
The site is located in Flood Zone 2 due to a combination of flooding during the 0.1% AEP undefended event and its historic flood record from 1968. Due to its close proximity to a watercourse, the following recommendations are made:
Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.
Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced. The site is indicated to be at risk of flooding during a 0.1% AEP event.
Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Places of safe refuge would need to be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at first floor level.

- In the absence of hazard mapping for the Lower Mole, depth grids have been used to assess whether safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable. Safe access/egress may be difficult to achieve as roads leading away from the site are at risk of flooding to depths of around 0.5m during the design event.

Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.
A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.
The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.



onment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 21 residential units								
VULNERABILITY CLASSIFIC	VULNERABILITY CLASSIFICATION: More Vulnerable							
FLOOD ZONES AND HISTOF	RIC FLOODING							
Flood Zone 1 83% (<0.1% AEP):	1 83%Flood Zone 2 (0.1% AEP):17%Flood Zone 3a (1% AEP):0%Flood Zone 3b 							
FLOOD WARNING AREA: River	Rythe between Oxshott and Thar	mes Ditton						
FLOOD PRIORITY AREA: N/A		STATUS	: N/A					
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968							
PROXIMITY TO MAIN RIVER:	191m MAIN RIVER NA	AME: River Rythe						
PROXIMITY TO NEAREST WAT	ERCOURSE: 58m WAT	ERCOURSE NAME: Tributary of	of River Rythe					
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 22 rec	ords in Postcode Area KT7 0					
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION								
RIVER MANAGEMENT CATCHMENT: Mole								
RIVER OPERATIONAL CATCHM	RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe							
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)								

SURFACE WATER FLOODING								
Low (0.1% AEP): 9%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%				
GROUNDWATER FLOODING	GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sand Ar	nd Gravel				
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal					
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING							
Potential for groundwater flooding to occur at su	urface							
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION						
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW							
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW							
GROUNDWATER BODY: Lower Thames Gra	avels							
RISK OF FLOODING FROM RESERVOIRS								
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:								
WHEN RIVER LEVELS ARE NORM	MAL: 92%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 99	9%				
		1						

OUTPUTS FROM THE RIVER RYTHE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D12
SITE ADDRESS	Sandpiper, Newlands Avenue, Thames Ditton, KT7 0HF

FLOOD RISK SUMMARY A tributary of the River Rythe runs to the south east of the site at a distance of approximately 58m. The River Rythe is located approximately 191m south of the site. The majority of the site (83%) is defined as Flood Zone 1, and the remaining 17% as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the River Rythe does not indicate the site to be at risk of flooding during the design event (1% AEP + 25% climate change) and therefore has not been assigned a hazard rating.

The Risk of Flooding from Surface Water Map indicates a low risk of ponding in the north and south of the site

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The majority of the site is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twenty one residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

- Safe refuge may be achievable to the south of the site. Places of safe refuge would need to be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. - Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is

achievable with roads to the north, south and west of the site indicated to be dry or Low hazard during the design event. - The site is located within the 'River Rythe between Oxshott and Thames Ditton' Flood Warning Area. Evacuation Plans would

need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable

innovative technologies; and incorporate soft landscaping, planting and permeable surfacing. - A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site.

Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

- approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other





0%

Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

STATUS: N/A

PROPOSED USE:	37 resident	tial units				
VULNERABILITY	CLASSIFIC	CATION: More Vulr	nerable			
FLOOD ZONES A		RIC FLOODING				
Flood Zone 1 (<0.1% AEP):	79%	Flood Zone 2 (0.1% AEP):	21%	Flood Zone 3a (1% AEP):	0%	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING A	AREA: River	Rythe between Oxsho	ott and Tha	mes Ditton		

FLOOD PRIORITY AREA: N/A

RECORDED FLOOD OUTLINES IN 06 September 1968 WHICH THE SITE IS LOCATED:

PROXIMITY TO MAIN RIVER: 489m MAIN RIVER NAME: River Rythe

PROXIMITY TO NEAREST WATERCOURSE: 7m WATERCOURSE NAME: Tributary of River Rythe

THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 22 records in Postcode Area KT7 0

WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION

RIVER MANAGEMENT CATCHMENT: Mole

RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe

WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)

SURFACE WATER FLOODING				
Low (0.1% AEP): 4%	Medium (1%	• AEP): 0%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sanc	And Gravel
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER I	LOODING			
Potential for groundwater flooding of property si Potential for groundwater flooding to occur at su	tuated below ground rface	l level,		
WATER FRAMEWORK DIRECTIVE - GROUNI	OWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEN	IT: Colne GW			
GROUNDWATER BODY: Lower Thames Grav	vels			
RISK OF FLOODING FROM RESERVOIR	S			
PERCENTAGE OF SITE AT RISK OF FLOODI	NG FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NORM	AL: 92%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%

OUTPUTS FROM THE RIVER RYTHE AND LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D15
SITE ADDRESS	Flats 9-41 and Garages on Longmead Road, Thames Ditton, KT7 0JF

A tributary of the River Rythe runs along the eastern boundary approximately 7m from the site. The River Rythe is located approximately 489m south of the site. The River Thames is approximately 850m north east of the site. The majority of the site (79%) is defined as Flood Zone 1, and the remaining 21% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) does not indicate the site to be at risk of flooding up to and including a 1% AEP including 81% climate change event and therefore has not been assigned a hazard rating for the design event (1% AEP plus a 35% climate change allowance).

Modelling for the River Rythe indicates the east of the site to be at risk of flooding during a 0.1% AEP event. Ground levels are approximately 10.8m AOD in the east of the site to around 11m AOD in the west of the site. The Risk of Flooding from Surface Water Map indicates a low risk of flooding from surface water in the north west of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area.

The majority of the site (92%) is indicated to be at risk of flooding from reservoirs in the event of a breach or failure when river levels are normal and the entire site (100%) is indicated to be at risk when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Thirty seven residential units are proposed for the site. More Vulnerable devel 1 and 2 and the Exception Test is not required. A site-specific FRA will be required will be safe for its lifetime, without increasing flood risk elsewhere and where precommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable via Weston Green Road to the west of the site as it is indicated to be dry during the design event.

Places of safe refuge would need to be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. This may be achievable to the west of the site.
The site is located within the 'River Rythe between Oxshott and Thames Ditton' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

opment (e.g. residential) is permitted in Flood Zones
uired to demonstrate that the proposed development
possible reduce flood risk overall. The following





ironment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 14 residential units	s		
VULNERABILITY CLASSIFICATION	N: More Vulnerable		
FLOOD ZONES AND HISTORIC FL	.OODING		
Flood Zone 1 8% Flo (<0.1% AEP): 8% (0.	ood Zone 2 1% AEP): 92%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING AREA: River Thame	s at Thames Ditton		
FLOOD PRIORITY AREA: N/A		STATUS	: N/A
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED:	06 September 1968		
PROXIMITY TO MAIN RIVER: 304m	MAIN RIVER NA	ME: River Thames	
PROXIMITY TO NEAREST WATERCOU	JRSE: 268m WATE	ERCOURSE NAME: Tributary of	of River Ember
THAMES WATER DG5 RECORDED FL	OOD INCIDENTS BASED	ON POSTCODE AREA: 22 rec	ords in Postcode Area KT7 0
WATER FRAMEWORK DIRECTIVE	- FLUVIAL INFORMAT	ION	
RIVER MANAGEMENT CATCHMENT:	Maidenhead and Sunbury		
RIVER OPERATIONAL CATCHMENT:	Thames Lower		
WATERBODY NAME: Thames (Egham	n to Teddington)		

SURFACE WATER FLOODING				
Low (0.1% AEP): 74%	Medium (1%	AEP): 36%	High (3.33% AEP):	12%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sand	And Gravel
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
Potential for groundwater flooding of property s	situated below ground	l level		
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW			
GROUNDWATER BODY: Lower Thames Gra	avels			
RISK OF FLOODING FROM RESERVOIR	RS			
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NOR	/AL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE D16	6
SITE ADDRESS Ash	hley Road Car Park, Thames Ditton

A tributary of the River Ember runs approximately 268m to the west of the site. The River Thames is located approximately 304m north east of the site. The majority of the site (92%) is defined as Flood Zone 2, and the remaining 8% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site to have experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) indicates the majority of the site to be at risk of flooding during the design event (1% AEP plus a 35% climate change allowance), with the entire site indicated to be at risk during the 1% AEP plus a 81% climate change allowance event and the majority of the site at risk in the 0.1% AEP. The site is not indicated to be at risk of flooding during the 1% AEP event.

Hazard mapping shows that the centre of the site to be at 'Moderate' to 'Low' hazard during the design event (1% AEP plus a 35% climate change allowance).

Ground levels are approximately 9m AOD in the north of the site to around 8.5m AOD in the south. Water levels during the design event are approximately 8.7m ADO across the site.

The Risk of Flooding from Surface Water Map indicates the centre of the site to be at high risk of flooding from surface water, with surface water flood risk reducing to medium and then low towards the site boundary. The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Fourteen residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) may be achievable via Ashley Road to the north of the site and followed west.

- Places of safe refuge should be designed into the development above the extreme flood level (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Thames at Thames Ditton' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



STATUS: N/A

FLOOD PRIORITY AREA: N/A

RECORDED FLOOD OUTLINES IN N/A WHICH THE SITE IS LOCATED:

PROXIMITY TO MAIN RIVER: 580m MAIN RIVER NAME: River Ember

PROXIMITY TO NEAREST WATERCOURSE: 9m WATERCOURSE NAME: Unnamed Watercourse

THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 7 records in Postcode Area KT10 8

WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION

RIVER MANAGEMENT CATCHMENT: Mole

RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe

WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)

OUTPUTS FROM THE LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SURFACE WATER FLOODING				
Low (0.1% AEP): 0.3%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%	
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gravel		
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER F	LOODING			
Potential for groundwater flooding to occur at sur	face			
WATER FRAMEWORK DIRECTIVE - GROUND	WATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHMEN	IT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEN	T: Colne GW			
GROUNDWATER BODY: Lower Thames Grav	rels			
RISK OF FLOODING FROM RESERVOIR	S			
PERCENTAGE OF SITE AT RISK OF FLOODIN	NG FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NORM	AL: 96%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%	
		1		

SITE ALLOCATION REFERENCE	D25
SITE ADDRESS	5A-6A Station Road, Esher, KT10 8DY

FLOOD RISK SUMMARY An unnamed watercourse runs south to north 9m to the west of the site. The River Ember lies approximately 580m north of the site. The majority of the site (73%) is defined as Flood Zone 2, and the remaining 27% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and the

Sea due to Defences area. Historic flood records indicate that the site has not experienced flooding previously. The site does not lie

within a Flood Priority Area.

Modelling for the Lower Mole does not indicate the site to be at risk of flooding during the design event (1%) AEP plus a 20% climate change allowance) and therefore has not been assigned a hazard rating for the design event.

Ground levels across the site are approximately 11.8m AOD.

The Risk of Flooding from Surface Water Map indicates a small area at low risk of surface water flooding to the east of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates there is potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when there is also flooding from rivers and the majority (96%) is at risk when river levels are normal.

SITE SPECIFIC RECOMMENDATIONS

Five residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

 Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

- In the absence of hazard mapping for the Lower Mole, depth grids have been used to assess whether safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable. Safe access/egress is likely to be achievable to the east of the site with no flood depths indicated during the design event.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Eshley and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other

innovative technologies; and incorporate soft landscaping, planting and permeable surfacing. - A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site.

Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. - The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.





Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 61 residential units

VULNERABILITY CLASSIFICATION: More Vulnerable

FLOOD ZONES AND HISTORIC FLOODING

Flood Zone 1 (<0.1% AEP):	35%	Flood Zone 2 (0.1% AEP):	64%	Flood Zone 3a (1% AEP):	0%	Flood Zone 3b (defined in SFRA report):	1%
FLOOD WARNING A	REA:River I	Mole at Esher and Ea	ist Molesey	/			
FLOOD PRIORITY A	REA: N/A				STATUS	S: N/A	
RECORDED FLOOD WHICH THE SITE IS	OUTLINES LOCATED:	IN 06 September	1968, 06 N	lovember 1974, Decer	mber 2013		
PROXIMITY TO MAIN	N RIVER:	1m MAI	N RIVER N	IAME: River Ember			
PROXIMITY TO NEA	REST WATI	ERCOURSE: 1m	WA	TERCOURSE NAME:	River Em	ber	
THAMES WATER DO	65 RECORD		NTS BASE	D ON POSTCODE AF	REA: 10 rec	cords in Postcode Area KT8 0	
WATER FRAMEWO		CTIVE - FLUVIAL I	NFORMA	TION			
RIVER MANAGEMEI	ИТ САТСНИ	IENT: Mole					
RIVER OPERATION	AL CATCHN	IENT: Mole Lower a	nd Rythe				
WATERBODY NAME	: Mole (Hei	rsham to R. Thames	conf at Eas	st Molesey)			

SURFACE WATER FLOODING				
Low (0.1% AEP): 9%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - San	d And Gravel
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Secondary (undifferentiated),	Jnproductive
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
N/A				
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW			
GROUNDWATER BODY: Lower Thames Gra	avels			
RISK OF FLOODING FROM RESERVOIR	RS			
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	60 FLOODING FROM RIVERS	: 100%

OUTPUTS FROM THE LOWER THAMES: TRIBUTARY DOMINATED AND LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D6
SITE ADDRESS	Sundial House The Molesey Venture

The River Ember runs along the eastern boundary of the site and joins the River Thames approximately 1.3km north east of the site, 35% of the site is defined as Flood Zone 1, 64% is Flood Zone 2, and the remaining 1% as Flood Zone 3b from the Lower Thames (Tributary Dominated Model). The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. November 1974, and December 2013. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Tributary Dominated) indicates the north and north west of the site to be at risk of flooding during the design event (1% AEP plus a 35% climate change allowance). The site is not indicated to be at risk of flooding during a 1% AEP event. Hazard mapping for the design event indicates areas of 'Low' to 'Moderate' hazard in the north and north west. Ground levels are approximately 8.7m AOD in the north of the site to 9.7m ADO in the south of the site. Water levels in the north of the site during the design event are approximately 8.9m AOD.

Modelling for the Lower Mole does not indicate the site to be at risk up to and including the design event (1% AEP plus a 20% climate change allowance) and therefore has not been assigned a hazard rating from the Lower Mole for the design event.

The Risk of Flooding from Surface Water Map indicates low probability of ponding in the south of the site. The BGS Susceptibility to Groundwater Flooding dataset does not indicate the risk of any groundwater flooding in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Sixty one residential units are recommended for the site. More Vulnerable dev Zones 1 and 2 and the Exception Test is not required. More Vulnerable develo part of the site should be retained as floodplain and steps taken to restore lan A site-specific FRA will be required to demonstrate that the proposed develop flood risk elsewhere and where possible reduce flood risk overall. The followir

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey Council (as LLFA) respectively.

- Development within the design flood extent (1% AEP including central climate change allowance) must not decrease the available floodplain storage. Given that only some of the site is located in the flood extent for the design flood (1% AEP including central climate change allowance), it may be possible to provide floodplain compensation storage within the site for any increase in building footprint.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) may be achievable via Orchard Lane to the south of the site and followed east, then south on Ember Lane. - Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first flood level. - The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing. - A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on aroundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

opment is not permitted within Flood Zone 3b. This id to provide a more natural edge of the River Ember. ment will be safe for its lifetime, without increasing ng recommendations are made for this site:	velopment (e.g. residential) is permitted in Flood
nd to provide a more natural edge of the River Ember. ment will be safe for its lifetime, without increasing ng recommendations are made for this site:	opment is not permitted within Flood Zone 3b. This
ment will be safe for its lifetime, without increasing ng recommendations are made for this site:	d to provide a more natural edge of the River Ember.
ng recommendations are made for this site:	ment will be safe for its lifetime, without increasing
	ng recommendations are made for this site:





Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 6 residential units				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTOR	RIC FLOODING			
Flood Zone 1 69% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 31%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):	
FLOOD WARNING AREA: River	Mole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATU	S : N/A	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968				
PROXIMITY TO MAIN RIVER:	92m MAIN RIVER NA	AME: River Mole		
PROXIMITY TO NEAREST WATERCOURSE: 92m WATERCOURSE NAME: River Mole				
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 5 reco	ords in Postcode Area KT8 9	
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING					
Low (0.1% AEP): 0.1%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group	EDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand				
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding of property situated below ground level, Potential for groundwater flooding to occur at surface					
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION					
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
ROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%					

OUTPUTS FROM THE LOWER THAMES: TRIBUTARY DOMINATED AND LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D18
SITE ADDRESS	118-120 Bridge Road East Molesey KT8 9HW

FLOOD RISK SUMMARY The River Mole runs approximately 92m east of the site and joins the River Thames approximately 600m north east of the site. The majority of the site (69%) is defined as Flood Zone 1, and the remaining 31% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea

due to Defences area. Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk of flooding up to and including the design event (1% AEP plus a 35% climate change allowance) and therefore has not been assigned a hazard rating for the design event. The entire site is indicated to be at risk of flooding during a 1% AEP event plus a 81% climate change allowance.

Modelling for the Lower Mole does not indicate the site to be at risk of flooding up to and including the 0.1% AEP event and therefore has not been assigned a hazard rating for the design event.

Ground levels are approximately 8.7m AOD in the south of the site to 8.9m AOD in the north east. The Risk of Flooding from Surface Water Map indicates a low risk of surface water flooding to the north of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Six residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

 Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is indicated to be at risk of flooding during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the west of the site.

- A place of safe refuge should be designed into the development above the extreme flood level (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



Contains Environment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. *Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 12 residential units				
VULNERABILITY CLASSIFIC	CATION: More Vulnerable			
FLOOD ZONES AND HISTOR	RIC FLOODING			
Flood Zone 1 (<0.1% AEP): 0%	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3a (1% AEP): 0%	Flood Zone 3b (defined in SFRA report):	
FLOOD WARNING AREA: River	Mole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATU	S: N/A	
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 March 1947, 06 Novem	ber 1974		
PROXIMITY TO MAIN RIVER:	21m MAIN RIVER N	AME: River Ember		
PROXIMITY TO NEAREST WATERCOURSE: 0m WATERCOURSE NAME: Tributary of River Ember				
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 5 records in Postcode Area KT8 9				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING				
Low (0.1% AEP): 19%	Medium (1%	AEP): 1%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
SUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grave				
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Secondary (undifferentiated)	
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
/A				
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	ΓΙΟΝ		
GROUNDWATER MANAGEMENT CATCHMENT: This information is not available for this site.				
SROUNDWATER OPERATIONAL CATCHMENT: This information is not available for this site.				
GROUNDWATER BODY: This information is not available for this site.				
RISK OF FLOODING FROM RESERVOIRS				
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%			100%	

OUTPUTS FROM THE LOWER THAMES: TRIBUTARY DOMINATED AND LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	D19
SITE ADDRESS	Industrial units at 67 Summer Road East Molesey KT8 9LX

A tributary of the River Ember runs through the south west of the site. The River Ember runs approximately 21m west of the site and joins the River Thames approximately 400m north east of the site. The entire site (100%) is defined as Flood Zone 2 from the Lower Thames. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in March 1947, and November 1974. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk of flooding up to and including the design event (1% AEP plus a 35% climate change allowance) and therefore has not been assigned a hazard rating for the design event. The entire site is indicated to be at risk of flooding during a 1% AEP plus an 81% climate change allowance and 0.1% AEP event.

Modelling for the Lower Mole indicates the site to be at risk of flooding during a 0.1% AEP event.

Ground levels are approximately 7.2m AOD to the south of the site to 6.7m ADO in the north.

The Risk of Flooding from Surface Water Map indicates a low to medium risk of flooding from surface water to the east of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates there is no risk of groundwater flooding to the site.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twelve residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.

Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced.
Although the site is not indicated to be at risk of fluvial flooding during the design event, the surrounding areas are and therefore consideration should be given to Finished Floor Levels. Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.
Safe access/egress (i.e. that is dry or Low hazard during the design event (1% AEP event including central climate change allowance) is achievable southbound on the A309.

- Places of safe refuge should be designed into the development above the extreme flood level (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



1 A			
- //	Flood Zone 2		
1 //	Historic Flood Records		
11	Historic Flood Outlines		
11	Property Flood Roads		
//	Internal		
	External		
	Unknown		
100			
ast M			
-			
sed			
	SURFACE WATER FLOO	DING	
	Low (0.1% AEP):	29%	Med

ontains Environment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios us **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 8 residential units/mixed-use				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTO	RIC FLOODING			
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3a (1% AEP): 0%	Flood Zone 3b (defined in SFRA report):	
FLOOD WARNING AREA: River	Mole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATU	S : N/A	
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED	SIN 06 September 1968			
PROXIMITY TO MAIN RIVER:	489m MAIN RIVER NA	AME: River Mole		
PROXIMITY TO NEAREST WATERCOURSE: 489m WATERCOURSE NAME: River Mole				
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 5, 10 records in Postcode Area KT8 9, KT8 0				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

dium (1% A **GROUNDWATER FLOODING** BEDROCK GEOLOGY: Thames Group เรเ **BEDROCK AQUIFER:** Unproductive SI **BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING** Potential for groundwater flooding to occur at surface WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATIC **GROUNDWATER MANAGEMENT CATCHMENT:** Thames GW GROUNDWATER OPERATIONAL CATCHMENT: Colne GW GROUNDWATER BODY: Lower Thames Gravels **RISK OF FLOODING FROM RESERVOIRS** PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOI WHEN RIVER LEVELS ARE NORMAL: 100%

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED AND TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



EP):	0%	High (3.33% AEP):	0%
UPERI	FICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt /	And Sand
UPERI	FICIAL AQUIFER:	Principal	
ON			
RS:			
WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%			

SITE ALLOCATION REFERENCE	MOL2
SITE ADDRESS	133-135 Walton Road, East Molesey, KT8 0DT

The River Mole is located approximately 489m south of the site. The site (100%) is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) indicates that the majority of the site is at risk of flooding during a 1% AEP event including 35% climate change and the whole site to be at risk of flooding during a 1% AEP event including 81% climate change. Hazard mapping for the design event (1% AEP plus a 35% climate change allowance) 'Low' to 'Moderate' hazard in the north and 'Moderate' to 'Significant' hazard in the south.

Ground levels are approximately 9m AOD in the north of the site to 8.7m AOD in the south. Water levels across the site during the design event are approximately 9m AOD.

Modelling for the Lower Thames (Tributary Dominated) indicates that the site is not at risk of flooding up to and including the design event (1% AEP plus a 35% climate change allowance) and therefore has not been assigned a hazard rating from the Tributary Dominated model for the design event. Almost the entire site is shown to be at risk of flooding during a 1% AEP plus an 81% climate change allowance and 0.1% AEP event.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Eight residential units/mixed use are proposed for the site. More Vulnerable and Less Vulnerable development (e.g. residential) is permitted in Flood Zone 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely to be achievable.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on aroundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed

Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. - The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable





25 50 0 12.5 Metres

Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020

*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 4 residential units				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTOR				
Flood Zone 1 98% (<0.1% AEP):	Flood Zone 2 (0.1% AEP):2%Flood Zone 3a (1% AEP):0%Flood Zone 3b (defined in SFRA report):0%			
FLOOD WARNING AREA: River	Mole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATUS	: N/A	
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968			
PROXIMITY TO MAIN RIVER: 420m MAIN RIVER NAME: River Mole				
PROXIMITY TO NEAREST WATERCOURSE: 420m WATERCOURSE NAME: River Mole				
THAMES WATER DG5 RECORD	ED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 9 record	rds in Postcode Area KT8 2	
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING					
Low (0.1% AEP): 0.2%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group	SUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grave				
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding to occur at su	ırface				
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW				
GROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%					

OUTPUTS FROM THE DEAD RIVER, LOWER MOLE AND LOWER THAMES: TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL 3
SITE ADDRESS	Garage block west of 14 and north of 15 Brende Gardens, West Molesey

FLOOD RISK SUMMARY The River Mole is located approximately 420m south from the site. The majority of the site (98%) is defined as Flood Zone 1, and the remaining 2% is defined as Flood Zone 2 from the Dead River. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area. Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including the 1% AEP plus a 70% climate change allowance and therefore the site has not been assigned a hazard rating for the design event. Modelling for the Lewer Male does not indicate the site to be at risk of flooding up to and including the 1%

Modelling for the Lower Mole does not indicate the site to be at risk of flooding up to and including the 1% AEP plus a 20% climate change allowance and therefore the site has not been assigned a hazard rating for the design event.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk of flooding up to and including the 1% AEP plus an 81% climate change allowance and therefore the site has not been assigned a hazard rating for the design event.

Ground levels across the site are approximately 9.5mAOD to 9.8mAOD.

The Risk of Flooding from Surface Water Map indicates a low risk of flooding from surface water along the northern and south eastern site boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Four residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2, and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas in not increased, and where possible reduced. The site is at risk of flooding in the north during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the south east of the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change.

- The site is located within the 'River Mole at Esher and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



DELIVERY PERIOD: 1 to 5 years

SITE AREA: 0.39 ha

SITE NAME: East Molesey Car Park, Walton Road, East Molesey





ronment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 23 resident	tial units		
VULNERABILITY CLASSIFIC	CATION: More Vulnerable		
FLOOD ZONES AND HISTOF	RIC FLOODING		
Flood Zone 1 2% (<0.1% AEP):	Flood Zone 2 98% (0.1% AEP):	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING AREA: River	Mole at Esher and East Molesey		
FLOOD PRIORITY AREA: N/A		STATUS	: N/A
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968		
PROXIMITY TO MAIN RIVER:	271m MAIN RIVER NA	AME: River Mole	
PROXIMITY TO NEAREST WAT	ERCOURSE: 225m WAT	ERCOURSE NAME: Tributary of	of River Mole
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 10 rec	ords in Postcode Area KT8 0
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL INFORMAT	ΓΙΟΝ	
RIVER MANAGEMENT CATCH	MENT: Mole		
RIVER OPERATIONAL CATCH	IENT: Mole Lower and Rythe		
WATERBODY NAME: Mole (He	rsham to R. Thames conf at East	Molesey)	

SURFACE WATER FLOODING				
Low (0.1% AEP): 53%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt Ar	nd Sand
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
Potential for groundwater flooding of property s Potential for groundwater flooding to occur at s	situated below ground urface	d level,		
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW			
GROUNDWATER BODY: Lower Thames Gra	avels			
RISK OF FLOODING FROM RESERVOI	RS			
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	/OIRS:		
WHEN RIVER LEVELS ARE NORM	MAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%
		8		

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED AND TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL4
SITE ADDRESS	East Molesey Car Park, Walton Road, East Molesey

A tributary of the River Mole is located 225m east of the site, and the River Mole is approximately 271m south. The majority of the site (98%) is defined as Flood Zone 2. and the remaining 2% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) shows majority of the site is at risk of flooding during a 1% AEP event including 35% climate change, the entire site is shown to be at risk of flooding during a 1% AEP event including 81% climate change. Hazard mapping for the design event (1% AEP plus a 35% climate change allowance) indicates the majority of the site to be at 'Moderate' to 'Significant' hazard.

Ground levels are approximately 8.5m AOD in the north to 9.1m AOD in the south. Water levels across the site during the design event are approximately 9.1m AOD.

Modelling for the Lower Thames (Tributary Dominated) indicates that the site is not at risk of flooding up to and including the design event and therefore has not been assigned a hazard rating from the Tributary Dominated model for the design event. Almost the entire site is shown to be at risk of flooding during a 1% AEP plus an 81% climate change allowance and 0.1% AEP event.

The Risk of Flooding from Surface Water Map indicates the north of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twenty-three residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely be achievable for the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on aroundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. - The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or

failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.



VULNERABILITY CLASSIFICATION: Mo	e Vulnerable
----------------------------------	--------------

FLOOD ZONES AND HISTORIC FLOODING

Flood Zone 1 49% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 51%	Flood Zone 3a (1% AEP):	0%	Flood Zone 3b (defined in SFRA report):	0%
FLOOD WARNING AREA: River Mole	at Esher and East Molesey	,			
FLOOD PRIORITY AREA: N/A			STATUS:	: N/A	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED:	06 September 1968				
PROXIMITY TO MAIN RIVER: 368	MAIN RIVER N	AME: River Mole/Dead	River		
PROXIMITY TO NEAREST WATERC	OURSE: 368m WAT	FERCOURSE NAME:	River Mole	/Dead River	
THAMES WATER DG5 RECORDED	FLOOD INCIDENTS BASE	D ON POSTCODE ARE	A: 9 recor	ds in Postcode Area KT8 2	
WATER FRAMEWORK DIRECTI	VE - FLUVIAL INFORMA	TION			
RIVER MANAGEMENT CATCHMENT: Mole					
RIVER OPERATIONAL CATCHMEN	T: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersha	m to R. Thames conf at Eas	t Molesey)			

SURFACE WATER FLOODING			
Low (0.1% AEP): 25%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%
GROUNDWATER FLOODING			
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gravel			
BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Principal			
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING		
Potential for groundwater flooding to occur at su	urface		
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION	
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW		
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW		
GROUNDWATER BODY: Lower Thames Gra	avels		
RISK OF FLOODING FROM RESERVOIR	RS		
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	OIRS:	
WHEN RIVER LEVELS ARE NOR	MAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%
		1	

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL9
SITE ADDRESS	11-27 Down Street, West Molesey, KT8 2TG

The Dead River joins the River Mole 368m south from the site. 51% of the site is defined as Flood Zone 2, and the remaining 49% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including a 1% AEP event plus a 35% allowance for climate change and therefore has not been assigned a hazard rating for the design event (1% AEP plus a 20% climate change allowance). The north of the site is indicated to be at risk of flooding during a 1% AEP event plus a 70% allowance for climate change and a 0.1% AEP event.

Ground levels are approximately 9.4m AOD in the north to 10.2m AOD in the south.

The Risk of Flooding from Surface Water Map indicates the north corner of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is indicated to be at risk of flooding during a 0.1% AEP event.

- Although the site is not indicated to be at risk of fluvial flooding during the design event, the surrounding areas are and therefore consideration should be given to Finished Floor Levels. Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the north and east of the site via Down Street.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level. - The site is located within the 'River Mole at Esher and East Molesev' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



PROXIMITY TO NEAREST WATERCOURSE: 632m WATERCOURSE NAME: River Thames

THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 5 records in Postcode Area KT8 9

WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION

RIVER MANAGEMENT CATCHMENT: Mole

RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe

WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED AND TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITÉ.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SURFACE WATER FLOODING				
Low (0.1% AEP): 0%	Medium (1%	• AEP): 0%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt And	Sand
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER F				
Potential for groundwater flooding to occur at sur	face			
WATER FRAMEWORK DIRECTIVE - GROUND	WATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHMEN	IT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEN	IT: Colne GW			
GROUNDWATER BODY: Lower Thames Grav	vels			
RISK OF FLOODING FROM RESERVOIRS				
PERCENTAGE OF SITE AT RISK OF FLOODI	NG FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NORM	AL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 1	00%

SITE ALLOCATION REFERENCE	MOL10
SITE ADDRESS	Vine Medical Centre 69 Pemberton Road East Molesey KT8 9LJ

The River Thames runs approximately 632m north of the site. The entire site (100%) is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie

within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) shows the majority of the site to be at risk of flooding in the design event (1% AEP plus a 35% climate change allowance) and the entire site to be at risk of flooding during the 1% AEP event including 81% climate change. Hazard mapping for the design event indicates a 'Low' hazard across the majority of the site, with the north east corner indicated to have no hazard, and the south west corner to have 'Moderate' hazard. Ground levels are approximately 8.9m AOD across the site. Water levels across the site during the design event are approximately 9m AOD.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk during the design event and therefore has not been assigned a hazard rating from the Tributary Dominated model. The site is indicated to be a risk of flooding during the 1% AEP plus an 81% climate change allowance.

The Risk of Flooding from Surface Water Map does not indicate the site to be at risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential/mixed use units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely be achievable for the site based on modelling available for the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.




Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 13 residential units and re- provision of community use				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTO	RIC FLOODING			
Flood Zone 1 4% (<0.1% AEP):	Flood Zone 2 96% (0.1% AEP): 96%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):	0%
FLOOD WARNING AREA: River	Mole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968				
PROXIMITY TO MAIN RIVER: 162m MAIN RIVER NAME: River Mole/Dead River				
PROXIMITY TO NEAREST WATERCOURSE: 162m WATERCOURSE NAME: River Mole/Dead River				
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 9 records in Postcode Area KT8 2				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING					
Low (0.1% AEP): 58%	Medium (1%	AEP): 16%	High (3.33% AEP):	0%	
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group	EDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grave				
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding to occur at su	Potential for groundwater flooding to occur at surface				
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
GROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%				100%	
		1			

OUTPUTS FROM THE DEAD RIVER, LOWER MOLE AND LOWER THAMES: TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL12
SITE ADDRESS	Henrietta Parker Centre, Ray Road, West Molesey

The Dead River joins the River Mole approximately 162m south of the site. The majority of the site (96%) is defined as Flood Zone 2, and the remaining 4% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding during the design event (1% AEP plus a 20% climate change allowance) and therefore the site has not been assigned a hazard rating for the design event.

Modelling for the Lower Mole does not indicate the site to be at risk of flooding during the design event (1% AEP plus a 20% climate change allowance) and therefore the site has not been assigned a hazard rating for the design event.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk of flooding during the design event (1% AEP plus a 20% climate change allowance) and therefore the site has not been assigned a hazard rating for the design event.

Ground levels across the site are approximately 9.2m AOD to 9.7m AOD.

The Risk of Flooding from Surface Water Map indicates that majority of the site is at low risk of flooding from surface water, with the south of the site at medium risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Thirteen residential units are proposed for the site. More Vulnerable developm and 2 and the Exception Test is not required. A site-specific FRA will be require will be safe for its lifetime, without increasing flood risk elsewhere and where p recommendations are made for this site:

- Development within the design flood extent (1% AEP including central climate change allowance) must not decrease the available floodplain storage. The site is shown to be at risk of flooding during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the east of the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

nent (e.g. residential) is permitted in Flood Zones 1
ed to demonstrate that the proposed development
possible reduce flood risk overall. The following





Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 18 residential units				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTOR	RIC FLOODING			
Flood Zone 1 16% (<0.1% AEP):	Flood Zone 2 77% (0.1% AEP): 77%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report): 7%	
FLOOD WARNING AREA: River	Thames at East and West Molese	еу		
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A	
RECORDED FLOOD OUTLINES IN N/A WHICH THE SITE IS LOCATED:				
PROXIMITY TO MAIN RIVER: 137m MAIN RIVER NAME: River Thames				
PROXIMITY TO NEAREST WATERCOURSE: 137m WATERCOURSE NAME: River Thames				
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 5 records in Postcode Area KT8 9				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Maidenhead and Sunbury				
RIVER OPERATIONAL CATCHMENT: Thames Lower				
WATERBODY NAME: Thames (Egham to Teddington)				

SURFACE WATER FLOODING					
Low (0.1% AEP): 0.4%	Medium (1%	• AEP): 0%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
SUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gra				avel	
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding of property situated below ground level					
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
BROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
ROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%					

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ADDRESS 43 Palace Road	J East Molesey KT8 9DN

The River Thames is located approximately 137m north west of the site. The majority of the site (77%) is defined as Flood Zone 2, 16% is defined as Flood Zone 1 and the remaining 7% is defined as Flood Zone 3b from the Lower Thames (Thames Dominated Model). The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

No historic flood records are indicated across the site. Internal property flood records have been documented along Palace Road. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) indicates the majority of the site to be at risk of flooding during the design event (1% AEP including 35% climate change allowance) and the entire site at risk during a 1% AEP plus an 81% climate change allowance event. Hazard mapping for the design event indicates no hazard in the south of the site, with 'Low' hazard to the centre and 'Moderate' to 'Significant' hazard moving towards the north. Ground levels are approximately 7.8m AOD in the north to 9m AOD in the south. Water levels across the site during the design event are approximately 8.9m AOD.

The Risk of Flooding from Surface Water Map indicates low to medium risk of flooding from surface water along the northern and southern site boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Eighteen residential units are proposed for the site. More Vulnerable development is not permitted in Flood Zone 3b, however More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A sitespecific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely be achievable for the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

The site is located within the 'River Thames at East and West Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.
Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site.
 Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.
 The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.



Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 9 residential units					
VULNERABILITY CLASSIFICATION: More Vulnerable					
FLOOD ZONES AND HISTOF	RIC FLOODING				
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3a (1% AEP): 0%	Flood Zone 3b (defined in SFRA report):		
FLOOD WARNING AREA: River	Thames at East and West Molese	еу			
FLOOD PRIORITY AREA: N/A		STATU	5: N/A		
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 March 1947					
PROXIMITY TO MAIN RIVER: 460m MAIN RIVER NAME: River Thames					
PROXIMITY TO NEAREST WATERCOURSE: 460m WATERCOURSE NAME: River Thames					
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 5 records in Postcode Area KT8 9					
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION					
RIVER MANAGEMENT CATCHMENT: Maidenhead and Sunbury, Mole					
RIVER OPERATIONAL CATCHMENT: Thames Lower, Mole Lower and Rythe					
WATERBODY NAME: Thames (Egham to Teddington), Mole (Hersham to R. Thames conf at East Molesey)					

SURFACE WATER FLOODING					
Low (0.1% AEP): 0%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%	
GROUNDWATER FLOODING					
BUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grav				And Gravel	
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding of property situated below ground level					
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
GROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%	

SITE ALLOCATION REFERENCE	MOL15
SITE ADDRESS	Pavilion Sports Club car park Hurst Lane East Molesey KT8 9DX

The River Thames is located approximately 460m north of the site. The site (100%) is defined as Flood Zone 2 from the 1947 historic flood outline. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames and Tributary Dominated) does not indicate the site to be at risk of flooding up to and including a 0.1% AEP event and therefore has not been assigned a hazard rating for the design event.

Ground levels are approximately 10m AOD in the east of the site to 10.4m AOD in the west.

The Risk of Flooding from Surface Water Map indicates the site is not at risk of flooding from surface water. The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Nine residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The site is not shown to be at risk of flooding during the 1% AEP event including central climate change allowance, however it is located within Flood Zone 2 due to its historic flood record. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. - Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely to be achievable for the site based on hazard mapping from the Lower Thames: Thames Dominated outputs and therefore places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change).

The site is located within the 'River Thames at East and West Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.
Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.
A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.
The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.





Contains Environment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. *Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 11 residential units				
VULNERABILITY CLASSIFICATION: More Vulnerable				
FLOOD ZONES AND HISTORIC FLOODING				
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):	
FLOOD WARNING AREA: River I	Nole at Esher and East Molesey			
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968				
PROXIMITY TO MAIN RIVER: 423m MAIN RIVER NAME: River Mole				
PROXIMITY TO NEAREST WATERCOURSE: 373m WATERCOURSE NAME: Tributary of River Mole				
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 10 records in Postcode Area KT8 0				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING					
Low (0.1% AEP): 99%	Medium (1%	AEP): 63%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand					
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding to occur at surface					
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
GROUNDWATER OPERATIONAL CATCHMENT: Colne GW					
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%		
		1			

OUTPUTS FROM THE LOWER THAMES: THAMES DOMINATED AND TRIBUTARY DOMINATED MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL16
SITE ADDRESS	Tesco Metro car park, Walton Road, East Molesey

A tributary of the River Mole is located approximately 373m south east of the site, and the River Mole runs approximately 423m south and east of the site. The entire site (100%) is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Thames Dominated) indicates almost the entire site to be at risk of flooding during a 1% AEP event including 35% climate change, the entire site is indicated to be at risk of flooding during a 1% AEP event including 81% climate change. Hazard mapping for the 1% AEP including central climate allowance indicates almost the entire site to be at 'Significant' hazard, with a small area to the east at 'Moderate' hazard. Ground levels are approximately 8.1m AOD in the west to 8.6m AOD in the west. Water levels across the site during the design event are approximately 9.1m AOD.

Modelling for the Lower Thames (Tributary Dominated) does not indicate the site to be at risk of flooding up to and including the design event (1% AEP plus a 35% climate change allowance) and therefore has not been assigned a hazard rating from the Tributary Dominated model for the design event. The entire site is indicated to be at risk of flooding during a 1% AEP plus an 81% climate change allowance event.

The Risk of Flooding from Surface Water Map indicates the majority of the site to be at medium risk of flooding from surface water, with the east and south of the site indicated to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Eleven residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely be achievable for the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Thames at East and West Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 23 resident	tial units			
VULNERABILITY CLASSIFIC	CATION: More Vulnerable			
FLOOD ZONES AND HISTOF	RIC FLOODING			
Flood Zone 1 50.2%	Flood Zone 2 (0.1% AEP): 48.6%	Flood Zone 3a (1% AEP): 0.5%	Flood Zone 3b (defined in SFRA report): 0.7%	
FLOOD WARNING AREA: River Mole at Esher and East Molesey				
FLOOD PRIORITY AREA: N/A STATUS: N/A				
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968, Dece	mber 2013		
PROXIMITY TO MAIN RIVER: 8m MAIN RIVER NAME: River Mole				
PROXIMITY TO NEAREST WATERCOURSE: 8m WATERCOURSE NAME: River Mole				
THAMES WATER DG5 RECORE	DED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 10 rec	ords in Postcode Area KT8 0	
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL INFORMA	TION		
RIVER MANAGEMENT CATCH	MENT: Mole			
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (He	rsham to R. Thames conf at East	Molesey)		

SURFACE WATER FLOODING					
Low (0.1% AEP): 0.5%	Medium (1%	• AEP): 0%	High (3.33% AEP):	0%	
GROUNDWATER FLOODING					
SUPERFICIAL GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand					
3EDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Secondary (undifferentiated), Principal					
BGS SUSCEPTIBILITY TO GROUNDWATER	BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING				
Potential for groundwater flooding of property situated below ground level, Potential for groundwater flooding to occur at surface					
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION					
GROUNDWATER MANAGEMENT CATCHME	INT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW				
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	OIRS:			
WHEN RIVER LEVELS ARE NORM	MAL: 100%	WHEN THERE IS ALS	60 FLOODING FROM RIVERS:	100%	

OUTPUTS FROM THE LOWER THAMES: TRIBUTARY DOMINATED AND LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	MOL19
SITE ADDRESS	5 Matham Road East Molesey KT8 0SX

The River Mole runs 8m to the east of the site. 50% of the site is defined as Flood Zone 1, 48% is defined as Flood Zone 2 and 2% is defined as Flood Zone 3b from the Lower Thames modelling. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced flooding in September 1968 and December 2013. The site does not lie within a Flood Priority Area.

Modelling for the Lower Thames (Tributary Dominated) indicates the east of the site to be at risk of flooding up to and including the design event (1% AEP plus a 35% climate change allowance). The south east of the site is indicated to be at risk of flooding during a 1% AEP including 81% climate change and a 0.1% AEP event. Hazard mapping for the design event indicates that the site has no hazard. Ground levels are approximately 9.5m AOD in the north west of the site to 7.7m AOD in the south east. Water levels and depths are not indicated to be present in the east of this site during the design event.

Modelling for the Lower Mole does not indicate the site to be at risk of flooding.

The Risk of Flooding from Surface Water Map indicates a low risk of flooding from surface water along the eastern site boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twenty-three residential units are proposed for this site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2, however More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. More Vulnerable development is not permitted within Flood Zone 3b. This part of the site should be retained as floodplain. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey Council (as LLFA) respectively.

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. - Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate

change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is likely to be achievable to the west of the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on aroundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 20 resident	tial units/mixed-use 117 sqm floo	rspace	
VULNERABILITY CLASSIFIC	CATION: More Vulnerable		
FLOOD ZONES AND HISTOF			
Flood Zone 1 13% (<0.1% AEP):	Flood Zone 2 87%	Flood Zone 3a (1% AEP): 0%	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING AREA: River	Rythe between Oxshott and Tha	mes Ditton and River Mole at Eshe	er and East Molesey
FLOOD PRIORITY AREA: N/A		STATUS	: N/A
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED:	IN 06 September 1968		
PROXIMITY TO MAIN RIVER:	456m MAIN RIVER N	AME: River Rythe	
PROXIMITY TO NEAREST WAT	ERCOURSE: 17m WAT	ERCOURSE NAME: Unnamed	Watercourse
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 9 reco	rds in Postcode Area KT10 9
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL INFORMA	TION	
RIVER MANAGEMENT CATCH	MENT: Mole		
RIVER OPERATIONAL CATCHN	IENT: Mole Lower and Rythe		
WATERBODY NAME: Rythe			



SURFACE WATER FLOODING				
Low (0.1% AEP): 0.3%	Medium (1%	• AEP): 0%	High (3.33% AEP):	0%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sand	d And Gravel
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING				
Potential for groundwater flooding to occur at surface				
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION				
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	ENT: Chobham Bag	shot Beds		
GROUNDWATER BODY: Chobham Bagshot Beds				
RISK OF FLOODING FROM RESERVOIRS				
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	OIRS:		
WHEN RIVER LEVELS ARE NOR	MAL: 0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	0%

OUTPUTS FROM THE RIVER RYTHE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	ESH9
SITE ADDRESS	Cafe Rouge, Portsmouth Road, Esher, KT10 9AD

The River Rythe runs east approximately 456m from the site and an un-named watercourse (tributary of the River Rythe) runs approximately 17m south of the site. The majority of the site (87%) is defined as Flood Zone 2 and the remaining 13% is defined as Flood Zone 1. Upon investigation, the site has been defined as Flood Zone 2 due to the 1968 historic flood outline. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. The site does not lie within a Flood Priority Area. Modelling for the River Rythe does not indicate the site to be at risk of flooding during the design event (1%)

AEP plus a 20% climate change allowance) and therefore the site has not been assigned a hazard rating. Ground levels are approximately 13.6m AOD in the north of the site to 14.8m AOD in the south. The Risk of Flooding from Surface Water Map indicates low risk of surface water flooding along the southern site boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The site is not indicated to be at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Twenty residential units and mixed use floorspace (117m2) are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced.
 The site is not shown to be at risk of fluvial flooding, however it is located within Flood Zone 2 due to its historic flood record.
 Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event achievable to the south of the site.

- The site is located within the 'River Rythe between Oxshott and Thames Ditton', and the 'River Mole at Esher and East Molesey' Flood Warning Areas. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



Flood Zone 3a

(1% AEP):

0%

WATERCOURSE NAME: Tributary of River Ember

STATUS: N/A

Flood Zone 3b

(defined in SFRA report):

0%

SURFACE WATER FLOODING			
Low (0.1% AEP): 1%	Medium (1% AEP): 0% High (3.33% AEP): 0%		High (3.33% AEP): 0%
GROUNDWATER FLOODING			
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand			
BEDROCK AQUIFER: Secondary A SUPERFICIAL AQUIFER: Secondary (undifferentiated)			
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING			
Potential for groundwater flooding to occur at surface			
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION			
GROUNDWATER MANAGEMENT CATCHMENT: This information is not available for this site.			
GROUNDWATER OPERATIONAL CATCHMENT: This information is not available for this site.			
GROUNDWATER BODY: This information is not available for this site.			
RISK OF FLOODING FROM RESERVOIRS			
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	/OIRS:	
WHEN RIVER LEVELS ARE NORMAL: 100% WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%			

RIVER MANAGEMENT CATCHMENT: Mole

VULNERABILITY CLASSIFICATION: More Vulnerable

FLOOD WARNING AREA: River Mole at Esher and East Molesey

WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION

WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)

RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe

RECORDED FLOOD OUTLINES IN 06 September 1968

PROXIMITY TO NEAREST WATERCOURSE: 151m

Flood Zone 2

(0.1% AEP):

98%

MAIN RIVER NAME: River Mole

THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 7 records in Postcode Area KT10 8

FLOOD ZONES AND HISTORIC FLOODING

2%

Flood Zone 1

(<0.1% AEP):

FLOOD PRIORITY AREA: N/A

WHICH THE SITE IS LOCATED:

PROXIMITY TO MAIN RIVER: 453m

OUTPUTS FROM THE LOWER MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ADDRESS Garages	s at Farm Road, Esher, KT10 8AX

A tributary of the River Ember is located approximately 151m north east of the site. The majority of the site (98%) is defined as Flood Zone 2, and the remaining 2% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Mole does not indicate the site to be at risk of flooding up to and including a 1% AEP event including a 20% climate change allowance and therefore has not been assigned a hazard rating for the design event.

Ground levels are approximately 11.6m AOD in the west of the site, with areas to the centre around 10.8m AOD and areas to the north 11.1m AOD.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Three residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the north west of the site.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.





ent Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 40 residential units				
VULNERABILITY CLASSIFIC	ATION: More Vulnerable			
FLOOD ZONES AND HISTOF				
Flood Zone 1 97.4% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 2.2%	Flood Zone 3a (1% AEP): 0.3%	Flood Zone 3b (defined in SFRA report): 0.1%	
FLOOD WARNING AREA: River Mole at Esher and East Molesey				
FLOOD PRIORITY AREA: Lower Mole Flood Alleviation STATUS: High				
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 February 1979, 06 September 1968, December 2013				
PROXIMITY TO MAIN RIVER: 5m MAIN RIVER NAME: River Mole				
PROXIMITY TO NEAREST WAT	ERCOURSE: 5m WAT	TERCOURSE NAME: River M	ole	
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 7 records in Postcode Area KT10 8				
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION				
RIVER MANAGEMENT CATCHMENT: Mole				
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)				

SURFACE WATER FLOODING			
Low (0.1% AEP): 0.4%	Medium (1%	AEP): 0.1%	High (3.33% AEP): 0%
GROUNDWATER FLOODING			
SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand			
3EDROCK AQUIFER: Secondary A, Unproductive SUPERFICIAL AQUIFER: Secondary (undifferentiated)			
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING			
Potential for groundwater flooding to occur at surface			
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION			
GROUNDWATER MANAGEMENT CATCHMENT: This information is not available for this site.			
GROUNDWATER OPERATIONAL CATCHMENT: This information is not available for this site.			
GROUNDWATER BODY: This information is not available for this site.			
RISK OF FLOODING FROM RESERVOIRS			
PERCENTAGE OF SITE AT RISK OF FLOOD	ING FROM RESERV	DIRS:	
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:100%

OUTPUTS FROM THE MIDDLE MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	ESH15
SITE ADDRESS	Unit A & B Sandown Industrial Park, Esher

The River Mole lies along the south and west of the site. The majority of the site (97.4%) is defined as Flood Zone 1, 2.2% is defined as Flood Zone 2, 0.3% is defined as Flood Zone 3a, and the remaining 0.1% is defined as Flood Zone 3b from the Middle Mole. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968, February 1979, and December 2013. The site lies within the 'Lower Mole Flood Alleviation' Flood Priority Area which has a status of High.

Modelling for the Middle Mole indicates the western site boundary to be at risk during the deign event (1% AEP plus a 25% climate change allowance). No hazard has been indicated across the site for the design event.

Ground levels are approximately 13.1m AOD in the north of the site to 13.7m AOD in the west.

The Risk of Flooding from Surface Water Map indicates the western boundary of the site to be at low to medium risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Forty residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2, however More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. More Vulnerable development is not permitted within Flood Zone 3b. This part of the site should be retained as floodplain and steps taken to restore land to provide a more natural edge of the River Mole. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. Due to its close proximity to a watercourse, the following recommendations are made:

Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey Council (as LLFA) respectively.
Development within the design flood extent (1% AEP including central climate change allowance) must not decrease the available floodplain storage.

Although the site is not indicated to be at risk of fluvial flooding during the design event, the surrounding areas are and therefore consideration should be given to Finished Floor Levels. Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.
Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable for the site via Mill Road.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) plus an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- The site is located within the 'Lower Mole Flood Alleviation' Flood Priority Area which has a status of High. Policies for this Flood Priority Area set out by Surrey Council must be adhered to throughout the development of this site.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.





Contains Environment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020. *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. *Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 200 resid	ential units			
VULNERABILITY CLASSIF	CATION: More Vulnerable			
FLOOD ZONES AND HISTO	RIC FLOODING			
Flood Zone 1 98% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 2%	Flood Zone 3a (1% AEP):	% Flood Zone 3b (defined in SFRA report):	0%
FLOOD WARNING AREA: Rive	r Mole at Esher and East Moles	sey		
FLOOD PRIORITY AREA: Lowe	er Mole Flood Alleviation	S	TATUS: High	
RECORDED FLOOD OUTLINE WHICH THE SITE IS LOCATED	S IN 06 February 1979, 06 S	eptember 1968		
PROXIMITY TO MAIN RIVER:	71m MAIN RIVER	NAME: River Mole		
PROXIMITY TO NEAREST WA	TERCOURSE: 19m W	ATERCOURSE NAME: Trik	outary of River Ember	
THAMES WATER DG5 RECOR	DED FLOOD INCIDENTS BAS	SED ON POSTCODE AREA:	7 records in Postcode Area KT10 8	
WATER FRAMEWORK DIR	ECTIVE - FLUVIAL INFORM	IATION		
RIVER MANAGEMENT CATCH	MENT: Mole			
RIVER OPERATIONAL CATCH	MENT: Mole Lower and Rythe			
WATERBODY NAME: Mole (H	ersham to R. Thames conf at E	ast Molesey)		

SURFACE WATER FLOODING					
Low (0.1% AEP): 17%	Medium (1%	AEP): 3%	High (3.33% AEP):	1%	
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt A	nd Sand	
BEDROCK AQUIFER: Secondary A, Unpro	ductive	SUPERFICIAL AQUIFER:	Secondary (undifferentiated), F	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding of property situated below ground level, Potential for groundwater flooding to occur at surface					
WATER FRAMEWORK DIRECTIVE - GROUN	IDWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW				
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NOR	MAL: 100%	WHEN THERE IS ALS	SO FLOODING FROM RIVERS:	100%	

OUTPUTS FROM THE MIDDLE MOLE MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	ESH16
SITE ADDRESS	River Mole Business Park, Mill Road, Esher

A tributary of the River Ember is located approximately 19m north east of the site, while the River Mole is located approximately 71m to the west of the site. The majority of the site (98%) is defined as Flood Zone 1, and the remaining 2% is defined as Flood Zone 2 from the 1968 historic flood outline. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968 and February 1979. The site lies within the 'Lower Mole Flood Alleviation' Flood Priority Area which has a status of High.

Modelling for the Middle Mole does not indicate the site to be at risk of flooding up to and including a 0.1% AEP event and therefore has not been assigned a hazard rating.

Ground levels across the site range from approximately 12.1m AOD to 12.9m AOD.

The Risk of Flooding from Surface Water Map indicates the south and west of the site to be at low risk of flooding from surface water. The east of the site is indicated to be at low to high risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface and groundwater potential for groundwater flooding of property below ground level in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Two hundred residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced.
The site is not shown to be at risk of fluvial flooding, however it is located within Flood Zone 2 due to its historic flood record.
Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) may be

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event achievable via Mill Road.

The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.
The site is located within the 'Lower Mole Flood Alleviation' Flood Priority Area which has a status of High. Policies for this Flood Priority Area set out by Surrey County Council must be adhered to throughout the development of this site.

Priority Area set out by Surrey Councy Council must be adhered to throughout the development of this site.
 Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



ronment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 1404sqm commercial					
VULNERABILITY CLASSIFI	CATION: Less Vulnerable				
FLOOD ZONES AND HISTO	RIC FLOODING				
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 27%	Flood Zone 3a (1% AEP): 73%	Flood Zone 3b (defined in SFRA report):	0%	
FLOOD WARNING AREA: River	Wey at Wisley and Byfleet				
FLOOD PRIORITY AREA: Brook	klands and Parvis Road catchmen	nt STATUS	: High		
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED	S IN _{N/A} :				
PROXIMITY TO MAIN RIVER:	485m MAIN RIVER N	AME: River Wey			
PROXIMITY TO NEAREST WAT	ERCOURSE: 237m WAT	ERCOURSE NAME: Tributary	of River Wey		
THAMES WATER DG5 RECOR	DED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 28 rec	ords in Postcode Area KT13 0		
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL INFORMA	TION			
RIVER MANAGEMENT CATCHMENT: Wey and Trib					
RIVER OPERATIONAL CATCHI	MENT: Wey				
WATERBODY NAME: Wey (Sh	alford to River Thames confluence	e at Weybridge)			

SURFACE WATER FLOODING				
Low (0.1% AEP): 45%	Medium (1%	AEP): 11%	High (3.33% AEP):	2%
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: River-Terrace Deposits - Sanc	And Gravel
BEDROCK AQUIFER: Secondary A		SUPERFICIAL AQUIFER:	Principal	
BGS SUSCEPTIBILITY TO GROUNDWATER I	FLOODING			
imited potential for groundwater flooding to occ	ur			
WATER FRAMEWORK DIRECTIVE - GROUNI	DWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEN	NT: Chobham Bag	shot Beds		
GROUNDWATER BODY: Chobham Bagshot Beds				
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORM	AL: 0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%
		8		

OUTPUTS FROM THE LOWER WEY MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WEY10
SITE ADDRESS	8 Sopwith Drive

A tributary of the River Wey is located approximately 237m east of the site. The majority of the site (73%) is defined as Flood Zone 3a, and the remaining 27% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site has not experienced flooding. The site lies within the 'Brooklands and Parvis Road catchment' Flood Priority Area which has a status of High.

Modelling for the Lower Wey indicates the majority of the site to be at risk of flooding during a 1% AEP event and the entire site to be at risk of flooding during the design event (1% AEP plus a 25% climate change allowance). Hazard mapping for the design event indicates the majority of the site to be at 'Moderate' hazard, with areas to the north and south of the site at 'Significant' hazard.

Ground levels across the site are approximately 14.8m AOD to 15m AOD. Water levels across the site during the design event are approximately 15.3m AOD.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water, while the north section is at low to high risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates there is limited potential for groundwater flooding to occur in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Commercial floorspace (1404m2) is proposed for the site. Less Vulnerable development (e.g. offices and shops) is permitted within Flood Zones 1, 2 and 3a. An Exception Test is not required, however safe access/egress is not likely to be achievable and therefore evacuation before a flood event or reliance on places of refuge within the development would need to be satisfactory. Consultation with emergency planning teams will also be required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for Less Vulnerable development do not need to be set above the design flood (1% AEP including central climate change allowance) level, but steps should be taken to ensure that the development is appropriately flood resistant and resilient.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to a dry island, however dry islands are not recommended as an evacuation option.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

The site is located within the 'River Wey at Wisley and Byfleet' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.
The site is located within the 'Brooklands and Parvis Road catchment Flood Priority Area which has a status of High. Policies for this Flood Priority Area set out by Surrey County Council must be adhered to throughout the development of this site.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



FLOOD ZONES AND HISTORIC FLOODING

Flood Zone 1 (<0.1% AEP): 89.3%	Flood Zone 2 (0.1% AEP):	8.3%	Flood Zone 3a (1% AEP):	2.4%	Flood Zone 3b (defined in SFRA report):	0%
FLOOD WARNING AREA: River	Wey at Wisley and By	fleet				
FLOOD PRIORITY AREA: N/A				STATUS	5: N/A	
RECORDED FLOOD OUTLINES WHICH THE SITE IS LOCATED	SIN 06 September 7	1968, 06 De	ecember 1929			
PROXIMITY TO MAIN RIVER:	142m MAI	N RIVER N	IAME: River Wey			
PROXIMITY TO NEAREST WAT	ERCOURSE: 142m	WAT	FERCOURSE NAME:	River We	/	
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 28 records in Postcode Area KT13 0						
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL I	NFORMA	TION			
RIVER MANAGEMENT CATCH	MENT: Wey and Trib					
RIVER OPERATIONAL CATCHI	MENT: Wey					
WATERBODY NAME: Wey (Sh	alford to River Thames	confluenc	e at Weybridge)			

SURFACE WATER FLOODING					
Low (0.1% AEP): 0.2%	Medium (1%	AEP): 0.1%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt And Sand		
BEDROCK AQUIFER: Secondary A		SUPERFICIAL AQUIFER:	Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
mited potential for groundwater flooding to occur					
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	NT: Chobham Bag	shot Beds			
GROUNDWATER BODY: Chobham Bagshot Beds					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODI	PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORM	IAL: 0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 19%		
		1			

OUTPUTS FROM THE LOWER WEY MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WEY19
SITE ADDRESS	Shell Petrol Filling Station 95 Brooklands Road Weybridge KT13 0RP

The River Wey runs 142m from the western boundary of the site. Majority of the site (89.3%) is defined as Flood Zone 1, 8.3% is defined as Flood Zone 2, and the remaining 2.4% is defined as Flood Zone 3a from the Lower Wey. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the south west corner of the site experienced flooding in December 1929 and September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Lower Wey indicates the south west corner of the site to be at risk of flooding during the design event (1% AEP event plus a 25% climate change allowance). The site is not indicated to be at risk of flooding during a 1% AEP event. Hazard mapping for the design event indicates the south west corner of the site to be at 'Low' to 'Moderate' hazard.

Ground levels are approximately 16.1m AOD in the north west of the site to 17m AOD in the south east. Water levels across the site during the design event are approximately 15.5m AOD.

The north west and south west of the site is indicated to be at risk of flooding during a 0.1% AEP event. The Risk of Flooding from Surface Water Map indicates a low to high risk of flooding from surface water to the north west of the site boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates there is limited potential for groundwater flooding to occur in the area.

Part of the site (19%) is at risk of flooding from reservoirs in the event of a breach or failure when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Five residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2, however More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. As the area of the site impacted during the design event is isolated to the south west corner, it is recommended that this area is not developed and used for landscaping or public space only.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) may be achievable to the east of the site via Brooklands Road, which can be followed north.
Places of safe refuge may be achievable for majority of the site and should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change.

- The site is located within the 'River Wey at Wisley and Byfleet' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.
A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.





*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 9500 sqm of employment floorspace

VULNERABILITY CLASSIFICATION: Less Vulnerable

ELOOD ZONES AND HISTORIC ELOODINO

FLOOD ZONES AND HISTORIC	FLOODING				
Flood Zone 1 23.7%	Flood Zone 2 (0.1% AEP): 33.7%	Flood Zone 3a (1% AEP):	39.7%	Flood Zone 3b (defined in SFRA report):	2.9%
FLOOD WARNING AREA: River We	ey at Wisley and Byfleet and	Properties closest to the	e River Wey	between Walsham Meadow and	Byfleet tow
FLOOD PRIORITY AREA: Brooklan	ds and Parvis Road catchm	ent	STATUS	: High	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED:	06 February 1990, 06 Ja	anuary 2003, 06 Septem	ber 1968, 06	December 1929	
PROXIMITY TO MAIN RIVER:	Om MAIN RIVER	NAME: River Wey			
PROXIMITY TO NEAREST WATER	COURSE: 9m W	ATERCOURSE NAME:	River Wey		
THAMES WATER DG5 RECORDED	D FLOOD INCIDENTS BAS	ED ON POSTCODE AR	EA: 28 reco	ords in Postcode Area KT13 0	
WATER FRAMEWORK DIRECT	IVE - FLUVIAL INFORM	ATION			
RIVER MANAGEMENT CATCHMEI	NT: Wey and Trib				
RIVER OPERATIONAL CATCHMEN	NT: Wey				
WATERBODY NAME: Wey (Shalfo	rd to River Thames conflue	nce at Weybridge)			

SURFACE WATER FLOODING					
Low (0.1% AEP): 21%	Medium (1%	AEP): 7%	High (3.33% AEP):	2%	
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY	: Alluvial Deposits - Clay, Silt And	Sand	
BEDROCK AQUIFER: Secondary A	BEDROCK AQUIFER: Secondary A SUPERFICIAL AQUIFER: Secondary A				
BGS SUSCEPTIBILITY TO GROUNDWATER	R FLOODING				
Limited potential for groundwater flooding to or Potential for groundwater flooding to occur at s	ccur,Potential for grou surface	ndwater flooding of property	situated below ground level,		
WATER FRAMEWORK DIRECTIVE - GROU	NDWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW					
GROUNDWATER OPERATIONAL CATCHMENT: Chobham Bagshot Beds					
GROUNDWATER BODY: Chobham Bagshot Beds					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOOI	DING FROM RESERV	OIRS:			
WHEN RIVER LEVELS ARE NOR	MAL: 0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 7	7%	

OUTPUTS FROM THE LOWER WEY MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WEY26
SITE ADDRESS	The Heights, Weybridge

The River Wey runs along the western boundary of the site at a distance of approximately 9m and joins the River Thames approximately 2.8km north of the site. Approximately 39.7% of the site area is defined as Flood Zone 3a. with 2.9% of the site defined as Flood Zone 3b from the Lower Wey. 33.7% of the site is defined as Flood Zone 2 and the remaining 23.7% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in December 1929. September 1968. February 1990 and January 2003. The site lies within the 'Brooklands and Parvis Road catchment' Flood Priority Area which has a status of High.

Modelling for the Lower Wey indicates the west of the site to be at risk of flooding up to and including a 0.1% AEP event. Hazard mapping for the design event (1% AEP plus a 25% climate change allowance) indicates the west of the site to be at 'Low' to 'Significant' hazard, with the western boundary of the site at 'Extreme' hazard.

Ground levels vary greatly on the site and vary from approximately 14m AOD in the north, south and west to 31m AOD in the east. Water levels across the site during the design event are approximately 14.9m AOD. The Risk of Flooding from Surface Water Map indicates the majority of the site to be at very low risk of

surface water flooding, however ponding of low to high risk surface water flooding is indicated on existing roads across the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding of property situated below ground level and the potential for groundwater flooding to occur at surface in the area

The majority of the site (77%) is at risk of flooding from reservoirs in the event of a breach or failure when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Employment floorspace (9,500m2) is proposed for this site. Less Vulnerable development (e.g. offices and shops) is not permitted within Flood Zone 3b. This part of the site should be retained as floodplain and steps taken to restore land to provide a more natural edge of the River Wey. Less Vulnerable development is permitted within Flood Zones 1, 2 and 3a, and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey Council (as LLFA) respectively. - Development within the design flood extent (1% AEP including central climate change allowance) must not decrease the

available floodplain storage.

- Finished Floor Levels for Less Vulnerable development do not need to be set above the design flood (1% AEP including central climate change allowance) level, but steps should be taken to ensure that the development is appropriately flood resistant and resilient.

- Safe access/egress (i.e. that is dry of Low hazard during the 1% AEP event including central climate change allowance) may be achievable to the east of the site via Brooklands Road and the west via Wellington Way.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the "River Wey at Wisley and Byfleet" and 'Properties closest to the River Wey between Walsham Meadow and Byfleet town' Flood Warning Areas. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- The site is located within the "Brooklands and Parvis Road catchment' Flood Priority Area which has a status of High. Policies for this Flood Priority Area set out by Surrey County Council must be adhered to throughout the development of this site. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.





ronment Agency Information © Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 © UKRI. Contains OS data © Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 6000 sqm of employment floorspace

VULNERABILITY CLASSIFICATION: Less Vulnerable

FLOOD ZONES AND HISTORIC FLOODING

TEOOD ZONEO AND MICT						
Flood Zone 1 (<0.1% AEP): 0%	Flood Zone 2 (0.1% AEP):	14.5%	Flood Zone 3a (1% AEP):	77.6%	Flood Zone 3b (defined in SFRA report):	7.9%
FLOOD WARNING AREA: Riv	er Wey at Wisley and B	yfleet and F	Properties closest to the	e River Wey	between Walsham Meadow and	d Byfleet town
FLOOD PRIORITY AREA: Bro	oklands and Parvis Roa	ad catchmer	nt, A245 Junction	STATUS	S: High, Medium	
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 December 1954, 06 February 1990, 06 January 2003, 06 December 1929, 06 September 1968						
PROXIMITY TO MAIN RIVER:	27m MAI	N RIVER N	IAME: River Wey			
PROXIMITY TO NEAREST W	ATERCOURSE: 27m	WAT	FERCOURSE NAME:	River We	y	
THAMES WATER DG5 RECO	RDED FLOOD INCIDE	NTS BASE	D ON POSTCODE AR	EA: 28 rec	ords in Postcode Area KT13 0	
WATER FRAMEWORK DIF	WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION					
RIVER MANAGEMENT CATCHMENT: Wey and Trib						
RIVER OPERATIONAL CATC	HMENT: Wey					
WATERBODY NAME: Wey (S	Shalford to River Thame	s confluenc	e at Weybridge)			

SURFACE WATER FLOODING					
Low (0.1% AEP): 30%	Medium (1% AEP): 19% High (3.33% AEP): 15%		High (3.33% AEP): 15%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Alluvial Deposits - Clay, Silt And Sand					
BEDROCK AQUIFER: Secondary A SUPERFICIAL AQUIFER: Principal, Secondary A					
BGS SUSCEPTIBILITY TO GROUNDWATER FLC	ODING				
Limited potential for groundwater flooding to occur					
WATER FRAMEWORK DIRECTIVE - GROUNDWA	ATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHMENT:	Thames GW				
GROUNDWATER OPERATIONAL CATCHMENT: Chobham Bagshot Beds					
GROUNDWATER BODY: Chobham Bagshot Beds					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORMAL	0%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%		

OUTPUTS FROM THE LOWER WEY MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WEY35
SITE ADDRESS	Horizon Business Village

The River Wey runs along the west boundary of the site at a distance of approximately 27m. 14.5% of the site is defined as Flood Zone 2, 77.6% is Flood Zone 3a, and the remaining 7.9% is within Flood Zone 3b. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in December 1929, December 1954, September 1968, December 1990, and January 2003. The site lies within the 'Brooklands and Parvis Road catchment' and 'A245 Junction' Flood Priority Areas which have a status of High and Medium respectively.

Modelling for the Lower Wey indicates the majority of the site to be at risk of flooding during a 1% AEP and 1% AEP including 25% climate change event. Hazard mapping for the design event (1% AEP plus a 25% climate change allowance) indicates the majority of the site to be at 'Significant' hazard with an area to the centre with no hazard. Areas to the east and west of the site are at 'Extreme' hazard.

Ground levels are approximately 15.5m AOD in the north to 14.7m AOD in the south. Water levels across the site during the design event are approximately 15.9m AOD.

The entire site is indicated to be at risk of flooding during a 0.1% AEP event.

The Risk of Flooding from Surface Water Map indicates a low risk of flooding from surface water to the north of the site, and low to high risk in the south of the site.

The BGS Susceptibility to Groundwater Flooding dataset indicates that there is limited potential for groundwater flooding to occur in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Employment floorspace (6000m2) is proposed for this site. Less Vulnerable development (e.g. offices and shops) is not permitted within Flood Zone 3b. This part of the site should be retained as floodplain and steps taken to restore land to provide a more natural edge of the River Wey. Less Vulnerable development is permitted within Flood Zones 1, 2 and 3a. The Exception Test is not required, however it is recommended as safe access/egress is not likely to be achievable. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime. The following recommendations are made for this site:

- Development within the design flood extent (1% AEP including central climate change allowance) must not decrease the available floodplain storage. Given that the majority of the site is located within the flood extent for the design flood (1% AEP including central climate change allowance), it will not be possible to provide floodplain compensation storage within the site for any increase in building footprint. As a result, the built footprint of the new development of the site should not exceed that of the existing development. This may limit the number of units that can be delivered on the site.

- Finished Floor Levels for Less Vulnerable development do not need to be set above the design flood (1% AEP including central climate change allowance) level, but steps should be taken to ensure that the development is appropriately flood resistant and resilient.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is not likely be achievable for the site based.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the River Wey at Wisely and Byfleet and Properties closest to the River Wey behind Walsham Meadow and Byfleet town Flood Warning Areas. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- The site is located within the Brooklands and Parvis Road catchment and A245 Junction Flood Priority Areas which have a status of High and Medium respectively. Policies for this Flood Priority Area set out by Surrey County Council must be adhered to throughout the development of this site.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.





*Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

		-	
PROPOSED USE	56 residential units		

VULNERABILITY CLASSIFICATION: More Vulnerable						
FLOOD ZONES AND HISTORIC FLOODING						
Flood Zone 1 28%	Flood Zone 2 (0.1% AEP): 72%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):	0%		
FLOOD WARNING AREA: River Mo	ble at Esher and East Molesey					
FLOOD PRIORITY AREA: N/A		STA	TUS: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968						
PROXIMITY TO MAIN RIVER: 36m MAIN RIVER NAME: Dead River						
PROXIMITY TO NEAREST WATERCOURSE: 36m WATERCOURSE NAME: Dead River						
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 43 records in Postcode Area KT12 3						
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION						
RIVER MANAGEMENT CATCHMENT: Mole						
RIVER OPERATIONAL CATCHME	NT: Mole Lower and Rythe					
WATERBODY NAME: Mole (Hersh	nam to R. Thames conf at East	Molesey)				

SURFACE WATER FLOODING				
Low (0.1% AEP): 0%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%	
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Unknown Deposits				
BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Principal				
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
Potential for groundwater flooding to occur at su	rface			
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEI	NT: Colne GW			
GROUNDWATER BODY: Lower Thames Gravels				
RISK OF FLOODING FROM RESERVOIRS				
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%	

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WOT2
SITE ADDRESS	Leylands House, Molesey Road, Walton-on-Thames

FLOOD RISK SUMMARY The Dead River runs along the eastern boundary of the site, at a distance of approximately 36m. The majority of the site (72%) is defined as Flood Zone 2, and the remaining 28% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area. Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including a 1% AEP event including 70% climate change and therefore the site has not been assigned a hazard rating for the design event (1% AEP plus a 20% climate change allowance). The majority of the site is indicated to be at risk of flooding during a 0.1% AEP event.

Ground levels across the site are approximately 11.8m AOD.

The Risk of Flooding from Surface Water Map indicates the site is not at risk of flooding from surface water. The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Fifty six residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Retain an 8 metre wide undeveloped buffer strip alongside Main Rivers and explore opportunities for riverside restoration. Retain a 5 metre wide buffer strip alongside Ordinary Watercourses. New development within 8m of a Main River or Ordinary Watercourse will require consent from either the Environment Agency or Surrey County Council (as LLFA) respectively.

- Development of the site must ensure that the risk of flooding to surrounding areas in not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

Although the site is not indicated to be at risk of fluvial flooding during the design event, the surrounding areas are and therefore consideration should be given to Finished Floor Levels. Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.
Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the north and north east of the site via Fernbank Avenue and Westfield Road respectively, which lead to Molesey

achievable to the north and north east of the site via Fernbank Avenue and W Road to the east.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.



PROPOSED USE: 3 residential units					
VULNERABILITY CLASSIFICATION: More Vulnerable					
FLOOD ZONES AND HISTO	FLOOD ZONES AND HISTORIC FLOODING				
Flood Zone 1 0% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 100%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):		
FLOOD WARNING AREA: River	Mole at Esher and East Molesey				
FLOOD PRIORITY AREA: N/A		STATUS	: N/A		
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968					
PROXIMITY TO MAIN RIVER: 150m MAIN RIVER NAME: Dead River					
PROXIMITY TO NEAREST WATERCOURSE: 150m WATERCOURSE NAME: Dead River					
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 43 records in Postcode Area KT12 3					
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION					
RIVER MANAGEMENT CATCH	MENT: Mole				
RIVER OPERATIONAL CATCHI	RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe				
WATERBODY NAME: Mole (He	ersham to R. Thames conf at East	t Molesey)			

SURFACE WATER FLOODING					
Low (0.1% AEP): 0%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: Unknown Deposits					
BEDROCK AQUIFER: Unproductive	BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Principal				
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding to occur at su	urface				
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW				
GROUNDWATER BODY: Lower Thames Gravels					
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%		
		1			

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WOT6
SITE ADDRESS	Garages to the rear of 17-27 Field Common Lane Walton-On-Thames KT12 3QH

The Dead River runs along the west of the site at a distance of approximately 150m. The site (100%) is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including a 1% AEP event including 70% climate change and therefore the site has not been assigned a hazard rating for the design event (1% AEP plus a 20% climate change allowance). The entire site is indicated to be at risk of flooding during a 0.1% AEP event. Ground levels are approximately 11.6m AOD across the site.

The Risk of Flooding from Surface Water Map does not indicate the site to be at risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Three residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

 Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is at risk of flooding during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable to the north via Byron Close, leading to Fieldcommon Lane and then Molesey Road, providing dry roads southbound.

allowance for climate change. In this instance, this is likely to be at a first floor level.

developed for occupants of the site to set out the response in the event of flooding.

approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an
- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be
- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable



-

Metres

-

Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 7 residential units						
VULNERABILITY CLASSIFICATION: More Vulnerable						
FLOOD ZONES AND HISTOP	RIC FLOODING					
Flood Zone 1 50% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 50%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):			
FLOOD WARNING AREA: River	Mole at Esher and East Molesey					
FLOOD PRIORITY AREA: N/A		STATUS	5: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968						
PROXIMITY TO MAIN RIVER: 855m MAIN RIVER NAME: River Thames						
PROXIMITY TO NEAREST WATERCOURSE: 656m WATERCOURSE NAME: Tributary of Dead River						
THAMES WATER DG5 RECORD	DED FLOOD INCIDENTS BASED	O ON POSTCODE AREA: 8 recc	ords in Postcode Area KT12 2			
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION						
RIVER MANAGEMENT CATCHMENT: Maidenhead and Sunbury						
RIVER OPERATIONAL CATCHN	IENT: Thames Lower					
WATERBODY NAME: Thames ((Egham to Teddington)					

SURFACE WATER FLOODING					
Low (0.1% AEP): 39%	Medium (1%	AEP): 0%	High (3.33% AEP): 0%		
GROUNDWATER FLOODING					
BEDROCK GEOLOGY: Thames Group SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Grav					
BEDROCK AQUIFER: Unproductive SUPERFICIAL AQUIFER: Principal					
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING				
Potential for groundwater flooding to occur at surface					
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION			
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW				
GROUNDWATER OPERATIONAL CATCHME	GROUNDWATER OPERATIONAL CATCHMENT: Colne GW				
GROUNDWATER BODY: Lower Thames Gra	vels				
RISK OF FLOODING FROM RESERVOIRS					
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:					
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%		
		1			

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WOT8
SITE ADDRESS	16-18 Sandy Lane, KT12 2EQ

A tributary of the Dead River is located approximately 656m south east of the site, and the River Thames is located 855m west of the site. The south of the site (50%) is defined as Flood Zone 2, and the remaining 50% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including the 1% AEP plus a 35% climate change allowance and therefore the site has not been assigned a hazard rating for the design event (1% AEP plus a 20% climate change allowance). A small area to the south of the site is indicated to be at risk of flooding during a 1% AEP event including 70% climate change. The southern half of the site is indicated to be at risk of flooding during a 0.1% AEP event.

Ground levels are approximately 11m AOD in the south of the site to 11.8m AOD in the north of the site. The Risk of Flooding from Surface Water Map indicates the south of the site is at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the e potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable developmer 2 and the Exception Test is not required. A site-specific FRA will be required to safe for its lifetime, without increasing flood risk elsewhere and where possible recommendations are made for this site:

 Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The south of the site is indicated to be at risk of flooding during a 0.1% AEP event. - Safe access/egress (i.e. that is drv or Low hazard during the 1% AEP event including central climate change allowance) is

achievable to the north east via Sandy Lane.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level. - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing. - A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface

Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

nt (e.g. residential) is permitted in Flood Zones 1 and
o demonstrate that the proposed development will be
e reduce flood risk overall. The following

- construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed





Metres

ronment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 Contains Env *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 7 residential units			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTOF			
Flood Zone 1 45% (<0.1% AEP):	Flood Zone 2 55% (0.1% AEP):	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING AREA: River	Mole at Esher and East Molesey		
FLOOD PRIORITY AREA: N/A STATUS: N/A			: N/A
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968			
PROXIMITY TO MAIN RIVER: 863m MAIN RIVER NAME: River Thames			
PROXIMITY TO NEAREST WAT	ERCOURSE: 641m WAT	ERCOURSE NAME: Tributary	of Dead River
THAMES WATER DG5 RECORD	ED FLOOD INCIDENTS BASE	O ON POSTCODE AREA: 8 reco	rds in Postcode Area KT12 2
WATER FRAMEWORK DIRE	CTIVE - FLUVIAL INFORMA	TION	
RIVER MANAGEMENT CATCH	IENT: Maidenhead and Sunbury	/	
RIVER OPERATIONAL CATCHMENT: Thames Lower			
WATERBODY NAME: Thames (Egham to Teddington)		

SURFACE WATER FLOODING				
Low (0.1% AEP): 44%	Medium (1% AEP): 0.3% High (3.33% AEP): 0%		High (3.33% AEP): 0%	
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gravel		
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER: Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER F	LOODING			
Potential for groundwater flooding to occur at sur	face			
WATER FRAMEWORK DIRECTIVE - GROUND	WATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHMEN	IT: Thames GW			
GROUNDWATER OPERATIONAL CATCHMEN	T: Colne GW			
GROUNDWATER BODY: Lower Thames Grav	els			
RISK OF FLOODING FROM RESERVOIRS	S			
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORM	AL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS: 100%	

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WOT14
SITE ADDRESS	20 Sandy Lane, Walton-on-Thames, KT12 2EQ

FLOOD RISK SUMMARY A tributary of the Dead River is located approximately 641m north east of the site, and the River Thames is

located 863m west of the site. The south of the site (55%) is defined as Flood Zone 2, and the remaining 45% is defined as Flood Zone 1. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate that the site experienced flooding in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding during the design event (1%) AEP event including 20% climate change) and therefore has not been assigned a hazard rating for the design event.

The south of the site is indicated to be at risk of flooding during a 1% AEP plus a 70% climate change allowance and 0.1% AEP event.

Ground levels across the site are approximately 11m AOD in the south to 11.6m AOD in the north.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Seven residential units are proposed for the site. More Vulnerable developmer 2 and the Exception Test is not required. A site-specific FRA will be required to safe for its lifetime, without increasing flood risk elsewhere and where possible recommendations are made for this site:

 Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. - Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable via Sandy Lane towards the A3050 Terrace Road.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

nt (e.g. residential) is permitted in Flood Zones 1 and
b demonstrate that the proposed development will be
e reduce flood risk overall. The following



Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used.
Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown.
**This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 9 residential units			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
Flood Zone 1 97% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 3%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):
FLOOD WARNING AREA: River	Mole at Esher and East Molesey		
FLOOD PRIORITY AREA: N/A STATUS: N/A			: N/A
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968			
PROXIMITY TO MAIN RIVER: 832m MAIN RIVER NAME: River Thames			
PROXIMITY TO NEAREST WATERCOURSE: 674m WATERCOURSE NAME: Tributary of Dead River			
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 8 records in Postcode Area KT12 2			
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION			
RIVER MANAGEMENT CATCHMENT: Maidenhead and Sunbury			
RIVER OPERATIONAL CATCHMENT: Thames Lower			
WATERBODY NAME: Thames (Egham to Teddington)			

SURFACE WATER FLOODING				
Low (0.1% AEP): 0.6%	Medium (1% AEP): 0% High (3.33% AEP): 0%		0%	
GROUNDWATER FLOODING				
BEDROCK GEOLOGY: Thames Group		SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gravel		
BEDROCK AQUIFER: Unproductive		SUPERFICIAL AQUIFER: Principal		
BGS SUSCEPTIBILITY TO GROUNDWATER	FLOODING			
Potential for groundwater flooding to occur at su	urface			
WATER FRAMEWORK DIRECTIVE - GROUN	DWATER INFORMA	TION		
GROUNDWATER MANAGEMENT CATCHME	NT: Thames GW			
GROUNDWATER OPERATIONAL CATCHME	NT: Colne GW			
GROUNDWATER BODY: Lower Thames Gravels				
RISK OF FLOODING FROM RESERVOIF	RS			
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:				
WHEN RIVER LEVELS ARE NORM	IAL: 100%	WHEN THERE IS ALS	O FLOODING FROM RIVERS:	100%
		1		

OUTPUTS FROM THE DEAD RIVER MODEL(S) HAVE BEEN USED TO ASSESS THIS SITE.

PLEASE USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.



SITE ALLOCATION REFERENCE	WOT23
SITE ADDRESS	Unit Rear of and 12-14 Sandy Lane Walton-On-Thames KT12 2EQ

A tributary of the Dead River lies to the south east of the site at a distance of approximately 674m. The Thames is located approximately 832m north west of the site. Most of the site (97%) is defined as Flood Zone 1, and the remaining 3% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River does not indicate the site to be at risk of flooding up to and including a 1% AEP event including 70% climate change and therefore has not been assigned a hazard rating for the design event (1% AEP plus a 20% climate change allowance). The southern site boundary is indicated to be at risk of flooding during a 0.1% AEP.

Ground levels are approximately 10m AOD in the north to 11.4m AOD in the south.

The Risk of Flooding from Surface Water Map indicates a low risk of surface water flooding along the south west boundary.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Nine residential units are proposed for the site. More Vulnerable development and the Exception Test is not required. A site-specific FRA will be required to d safe for its lifetime, without increasing flood risk elsewhere and where possible recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding to the south and east during a 0.1% AEP event.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) to the north east via Sandy Lane.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change.

- The site is located within the 'River Mole at Esher and East Molesey' Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

(e.g. residential) is permitted in Flood Zones 1 and 2
demonstrate that the proposed development will be
e reduce flood risk overall. The following


100 25 50

Metres

Contains Environment Agency Information @ Environment Agency and database right 2023. Contains BGS Digital Data under licence British Geological Survey 2013/012 @ UKRI. Contains OS data @ Crown Copyright and database right 2020 *Modelled Flood Extents marked with an asterick in the legend identify the design flood event including a central climate change allowance, or the closest scenario available. Please refer to the SFRA Report for further detail on modelling scenarios used. **Modelled Flood Extents for the Lower Mole 1% AEP event do not indicate out of bank flooding and therefore cannot be shown. ***This map shows the design event hazard for the Middle Mole, River Rythe, Dead River and Lower Wey and the design event depth for the Lower Mole.

PROPOSED USE: 5 residential units							
VULNERABILITY CLASSIFICATION: More Vulnerable							
FLOOD ZONES AND HISTORIC FLOODING							
Flood Zone 1 55% (<0.1% AEP):	Flood Zone 2 (0.1% AEP): 45%	Flood Zone 3a (1% AEP):	Flood Zone 3b (defined in SFRA report):				
FLOOD WARNING AREA: River Mole at Esher and East Molesey							
FLOOD PRIORITY AREA: N/A	LOOD PRIORITY AREA: N/A STATUS: N/A						
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 06 September 1968							
PROXIMITY TO MAIN RIVER: 165m MAIN RIVER NAME: Dead River							
PROXIMITY TO NEAREST WATERCOURSE: 91m WATERCOURSE NAME: Tributary of River Mole							
THAMES WATER DG5 RECORDED FLOOD INCIDENTS BASED ON POSTCODE AREA: 43 records in Postcode Area KT12 3							
WATER FRAMEWORK DIRECTIVE - FLUVIAL INFORMATION							
RIVER MANAGEMENT CATCHMENT: Mole							
RIVER OPERATIONAL CATCHMENT: Mole Lower and Rythe							
WATERBODY NAME: Mole (Hersham to R. Thames conf at East Molesey)							

SURFACE WATER FLOODING							
Low (0.1% AEP): 2%	Medium (1%	AEP): 0%	High (3.33% AEP):	0%			
GROUNDWATER FLOODING							
BEDROCK GEOLOGY: Thames Group	SUPERFICIAL GEOLOGY: River-Terrace Deposits - Sand And Gravel						
BEDROCK AQUIFER: Unproductive	SUPERFICIAL AQUIFER: Principal, Unproductive						
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING							
Potential for groundwater flooding to occur at surface							
WATER FRAMEWORK DIRECTIVE - GROUNDWATER INFORMATION							
GROUNDWATER MANAGEMENT CATCHMENT: Thames GW							
GROUNDWATER OPERATIONAL CATCHME							
GROUNDWATER BODY: Lower Thames Gravels							
RISK OF FLOODING FROM RESERVOIRS							
PERCENTAGE OF SITE AT RISK OF FLOODING FROM RESERVOIRS:							
WHEN RIVER LEVELS ARE NORM	WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%						
		•					

This document should be viewed in PDF format. Information may be lost when printed. Information within this document should be interpreted in conjunction with the Level 2 SFRA Report.

SITE ALLOCATION REFERENCE	WOT37
SITE ADDRESS	Land north of Mellor Close, Walton-on-Thames, KT12-3RX

FLOOD RISK SUMMARY

A tributary of the River Mole is located approximately 91m east of the site, while the Dead River is located approximately 165m to the west of the site. Most of the site (55%) is defined as Flood Zone 1, and the remaining 45% is defined as Flood Zone 2. The site does not lie within the Reduction in Risk of Flooding from Rivers and Sea due to Defences area.

Historic flood records indicate the site experienced a flood event in September 1968. The site does not lie within a Flood Priority Area.

Modelling for the Dead River indicates the southern tip of the site to be at risk of flooding during the 1% AEP event including 70% climate change. The site is not indicated to be at risk of flooding during the design event (1% AEP plus a 20% climate change allowance) and therefore the site has not been assigned a hazard rating for the design event. The east, south and west of the site are indicated to be at risk of flooding during a 0.1% AEP event.

Ground levels are approximately 11.4m AOD in the north to 11m AOD in the south.

The Risk of Flooding from Surface Water Map indicates the south of the site to be at low risk of flooding from surface water.

The BGS Susceptibility to Groundwater Flooding dataset indicates the potential for groundwater flooding to occur at surface in the area.

The entire site (100%) is at risk of flooding from reservoirs in the event of a breach or failure when both river levels are normal or when there is also flooding from rivers.

SITE SPECIFIC RECOMMENDATIONS

Five residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2 and the Exception Test is not required. A site-specific FRA will be required to demonstrate that the proposed development will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. The following recommendations are made for this site:

- Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible reduced. The site is shown to be at risk of flooding during a 0.1% AEP event.

- Finished Floor Levels for residential accommodation must be above the design flood event (1% AEP including central climate change allowance) plus freeboard.

- Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is achievable via Mellor Close to the south which leads to Molesey Road, providing dry roads southbound.

- Places of safe refuge should be designed into the development above the extreme flood event (0.1% AEP) including an allowance for climate change. In this instance, this is likely to be at a first floor level.

- The site is located within the 'River Mole at Esher and East Molesey' Flood Warning Area. Evacuation Plans would need to be developed for occupants of the site to set out the response in the event of flooding.

- Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water making use of SuDS including green roofs, rainwater harvesting and other innovative technologies; and incorporate soft landscaping, planting and permeable surfacing.

- A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made of whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.

- The site is within an area that has been shown from modelling to be potentially affected in the event of a reservoir breach or failure. This should be assessed appropriately to inform the development strategy and ensure that the masterplan includes appropriate measures to manage the potential for inundation within the site.