SITE ASSESSMENT - Tesco Osterley

Address: Syon Lane, TW7 5NZ

Area:	4.6 **Ha**
Site Reference:	2

Current Use	Proposed Use
Retail (A1) with ancillary Car Parking	Residential and Retail

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	100	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	0	% of Site
1 in 30*	1.61	% of Site	**Artificial**		
1 in 100*+	6.21	% of Site	Reservoir	No	At risk?
1 in 1000*	16.87	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					122

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.15 - 0.30	m
Max. Depth	0.30 - 0.60	0.60 - 0.90	>1.20	m
Max. Velocity	0.25 - 0.50	0.50 - 1.00	1.00 - 2.00	m/s
Max. Hazard	1.00 - 2.00	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly in the central and eastern areas surrounding the existing building. • Part of Macfarlane Lane to the north of the site is also predicted to be at risk from surface water flooding. • Climate change is predicted to increase the minimum depth, and maximum depth and velocity of surface water flooding

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the south of the site towards Syon Lane where there is a lower risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the central areas surrounding the existing building and some north-eastern areas of the site where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Tesco Osterley

SEWER

Risk Assessment

- The site falls within a postcode area where there are 122 reported flood incidents from sewer flooding.
- The site is assumed to be served by separate surface water and foul sewer networks.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=25% <50% susceptibility to groundwater flooding.
- The site is underlain by Langley Silt Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from central and eastern areas of the site.
- Safe egress routes should be directed towards the south of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 6.21% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

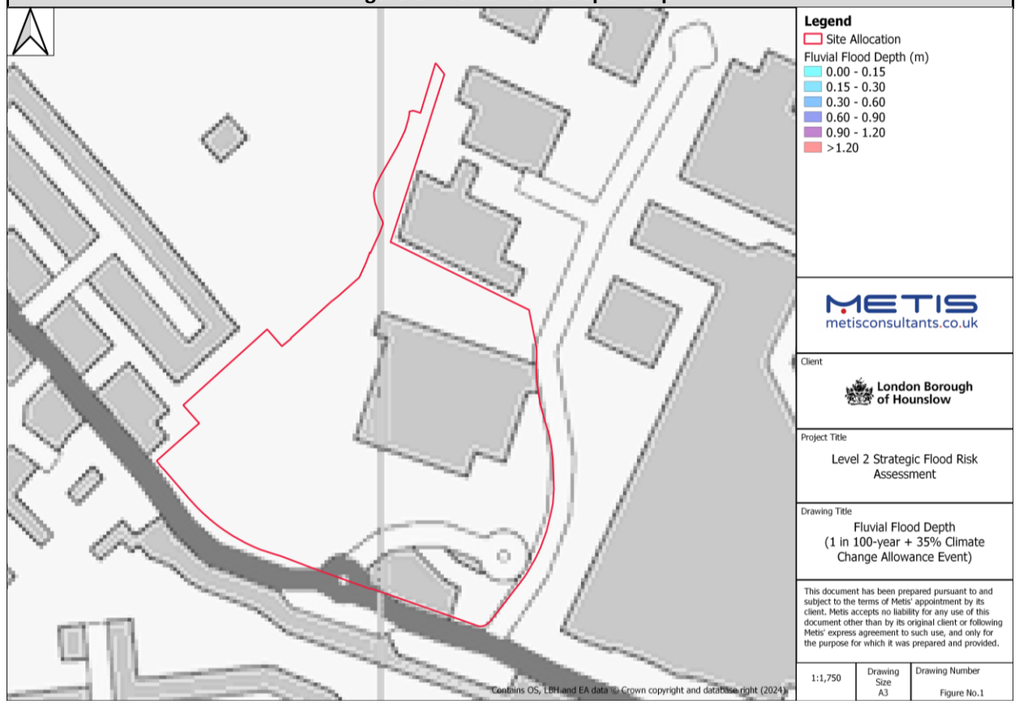


Figure 2 - Fluvial Flood Hazard Map

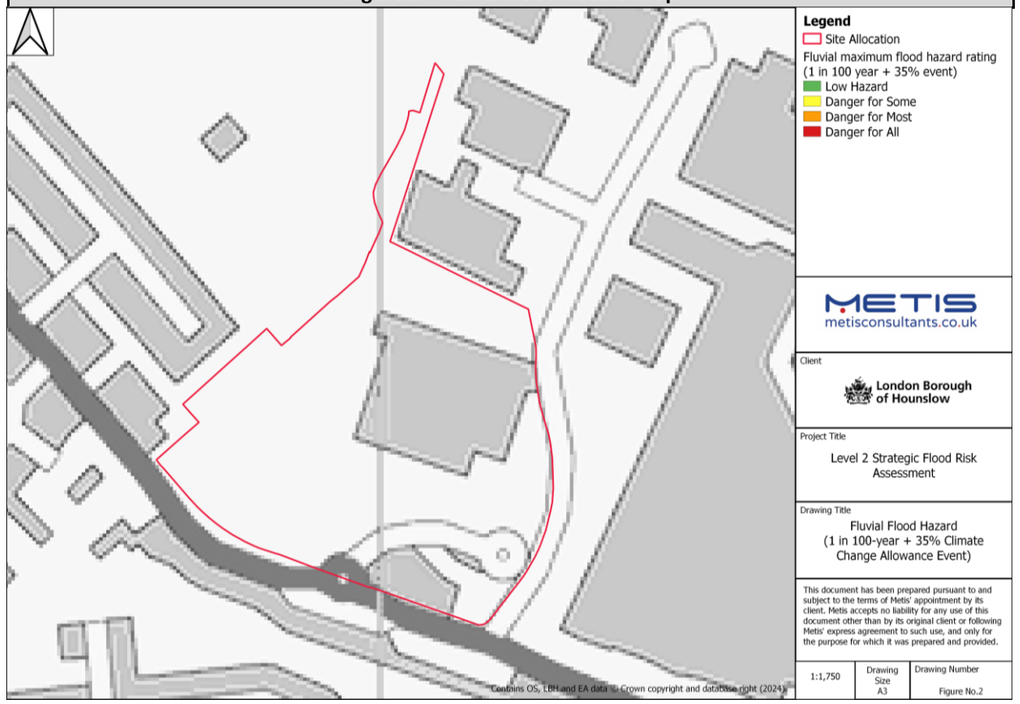


Figure 3 - RoFSW Flood Depth Map

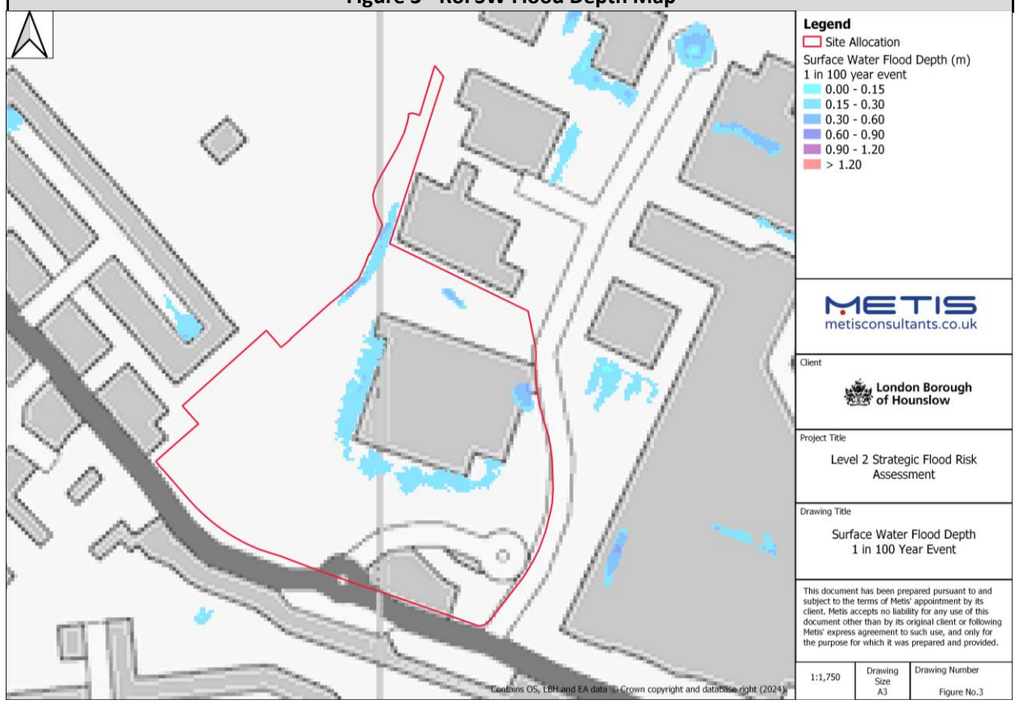


Figure 4 - RoFSW Flood Hazard Map

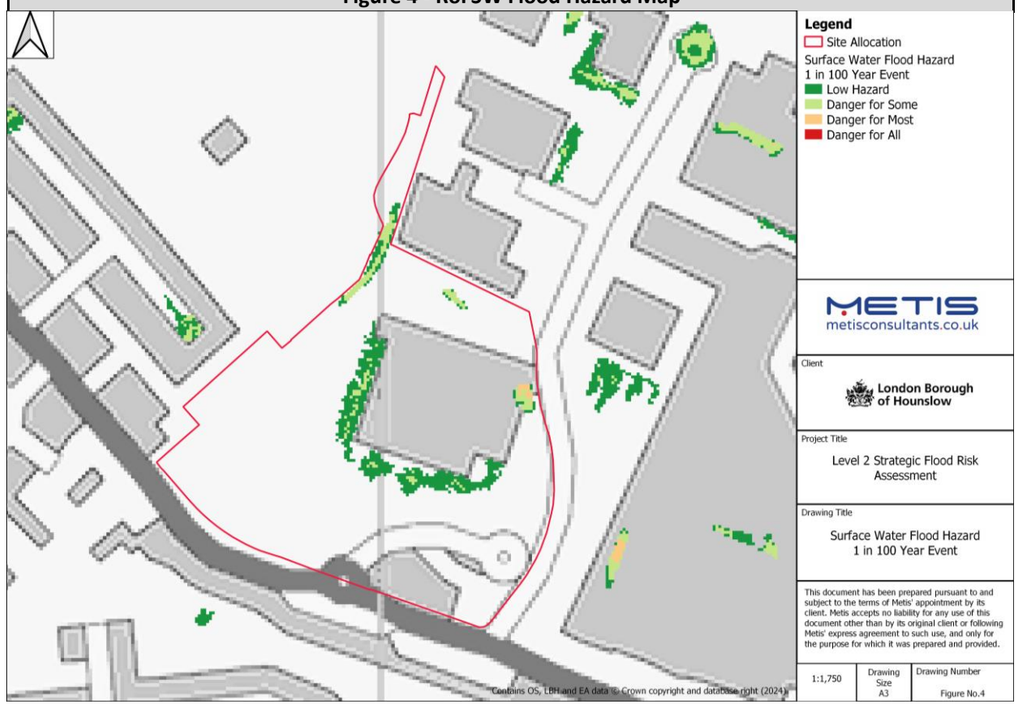


Figure 5 - Thames Water Sewer Flood Map

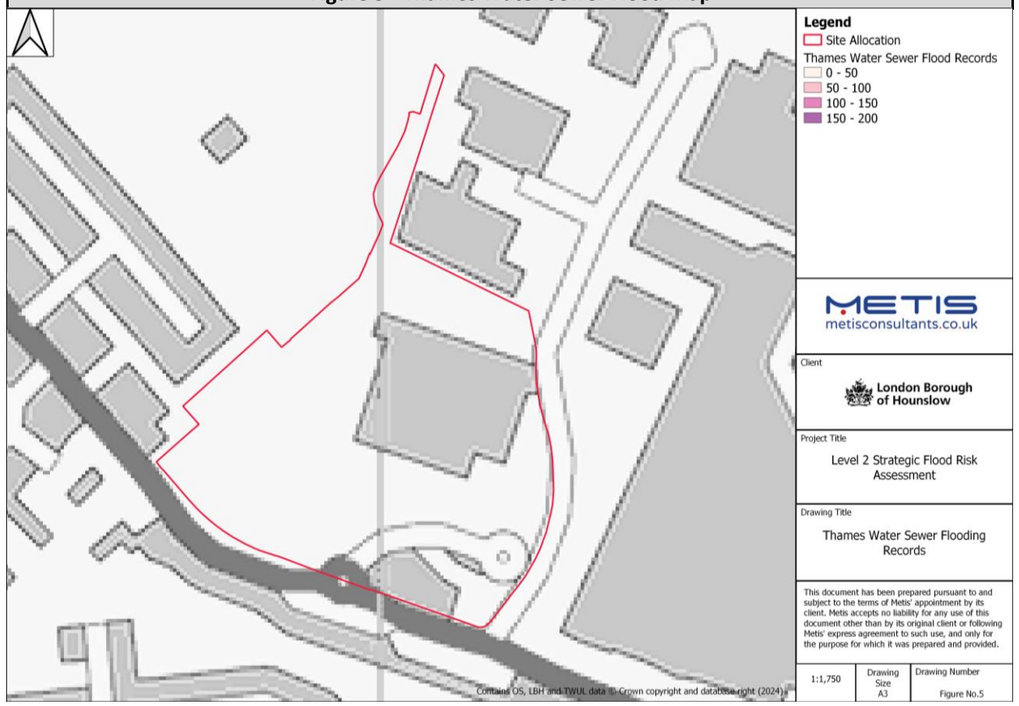


Figure 6 - Areas Susceptible to Groundwater Flooding Map

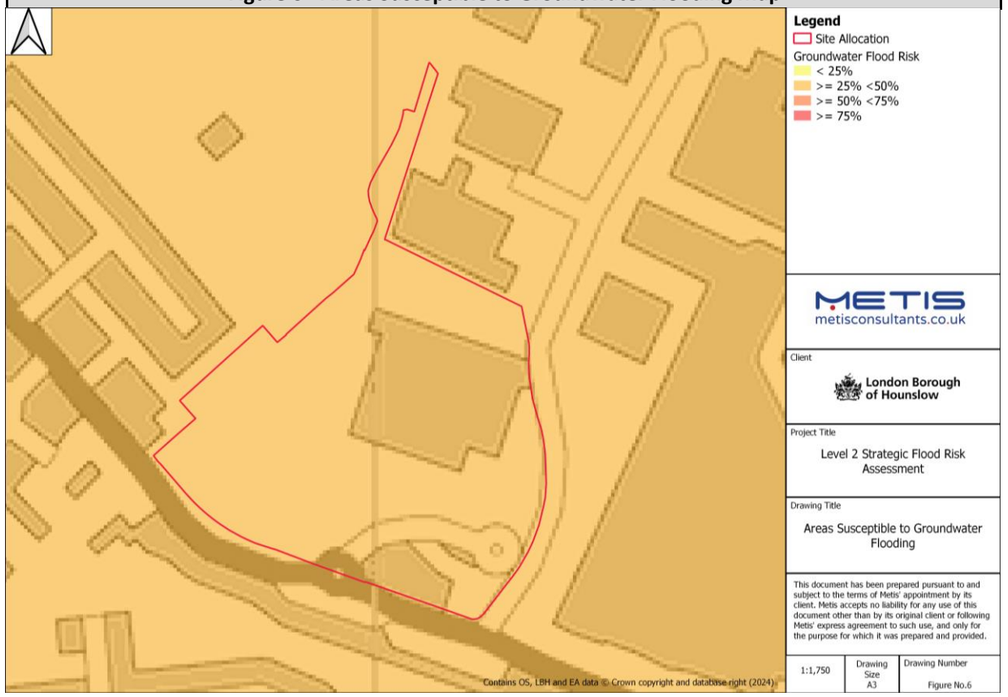
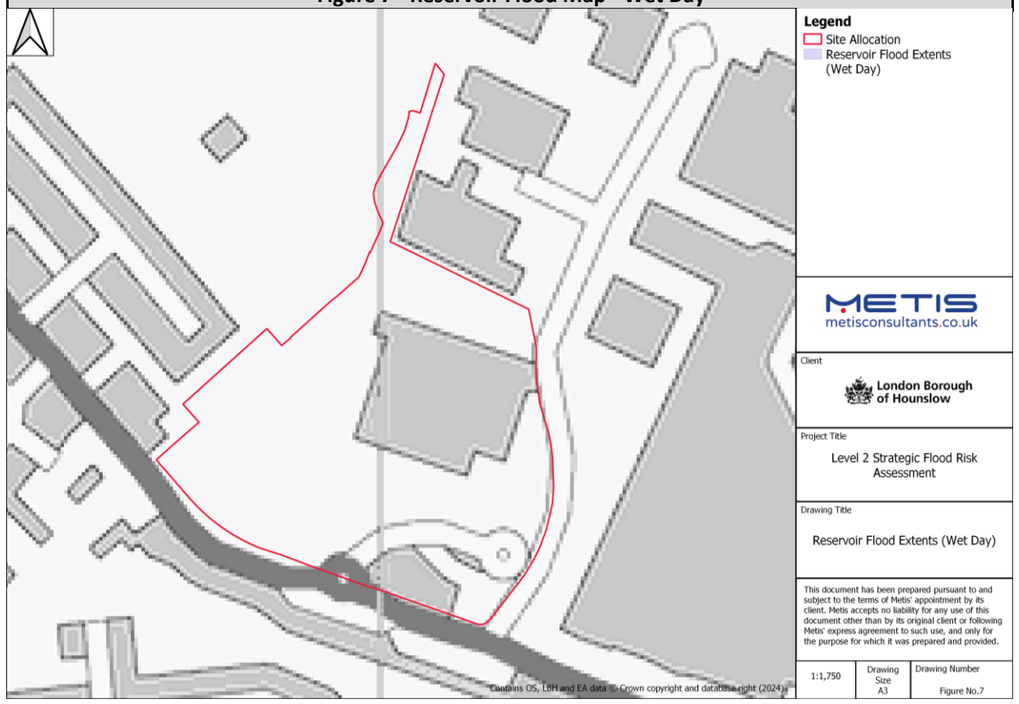


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Profile West Brentford Car Park

Address: 950 Great West Road, TW8 9ES

Area: 0.6 **Ha**

Site Reference: 7

Current Use	Proposed Use
The site is currently used as multi-storey Car Park	Residential and Industrial

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	47.73	% of Site	<25	0	% of Site
FZ3a	34.39	% of Site	25-50	100	% of Site
FZ3b	34.39	% of Site	50-75	0	% of Site
Surface Water			>75	0	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	0.66	% of Site	Reservoir	Yes	At risk?
1 in 1000*	2.53	% of Site	Canal	Yes	At risk?
Sewer Flooding					
No. Incidents					0

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	10.00	10.00	10.00	Hrs
Min. Depth	0.43	0.89	0.03	m
Max. Depth	2.44	2.89	3.4	m
Max. Velocity	0.83	1.05	1.32	m/s
Max Flood Level	6.55	7.01	7.51	m AOD
Max Ground Level	9.15	9.15	9.15	m AOD
Min Ground Level	6.09	6.09	6.09	m AOD
Max Flood Hazard	4.89	6.14	7.92	N/A
Duration of Flood	>18.5	>18.5	>18.5	Hrs

* The +35% Climate Change Allowance event is reviewed

Risk Assessment (Undefended)			
Parameter	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	10.00	10.00	Hrs
Min. Depth	0.89	0.04	m
Max. Depth	2.9	3.41	m
Max. Velocity	1.05	1.33	m/s
Max. Hazard	6.14	7.96	N/A
Duration of Flood	>18.5	>18.5	Hrs

Description of Flood Mechanism
• The site is at risk from fluvial flooding from the River Brent, which flows around the northern and western edges of the site in a easterley direction. • The predicted flood risk extent for the climate change scenario for the River Brent covers most of the site area other than the southern and south-eastern section of the site. • Climate change is predicted to increase the flood depth, hazard and velocity in both the defended and undefended scenarios. • The site will be partially flooded from the onset and will remain flooded for in excess of 18.5 hours.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
Site access and egress routes should be directed to the south-east of the site towards Transport Avenue where is a lower risk of fluvial flooding.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
• Only water compatible or essential uses (subject to the Exception Test) are permitted in FZ3b (the north and north-western corner of the site). • Self-contained basement dwellings and bedrooms are not permitted in FZ3a (the majority of the site). See SFRA Level 2 Report mitigation requirement numbers 4.8 and 4.9 for additional basement stipulations. • A FRA must be submitted as part of a planning application. • Include appropriate flood resistance or resilience measures to address predicted flood depths. • See SFRA Level 2 Report mitigation requirement numbers 4.2 and 4.3 for further development stipulations. • Develop a Flood Emergency and Evacuation Plan for the site. • Site users should be signed up to the EA's Flood Warning Service.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	N/A	0.00-0.15	<0.15	m
Max. Depth	N/A	0.00-0.15	0.15-0.30	m
Max. Velocity	N/A	0.50-1.00	0.50 -1.00	m/s
Max. Hazard	N/A	0.50-0.75	0.50-1.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at low to medium risk of surface water flooding in the western area of the site. • Part of Transport Avenue is at risk from surface water flooding. • Climate change is predicted to increase the maximum hazard and depth of surface water flooding.

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Site access and egress routes should be directed towards the part of Transport Avenue where there is a lowest risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the western part of the site where there is a risk of surface water flooding. • See also SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Profile West Brentford Car Park

SEWER

Risk Assessment

• The site falls within a postcode area where there are 0 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having >=25% <50% susceptibility to groundwater flooding.
• The site is underlain by London Clay bedrock geology and no superficial deposits.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is risk of flooding from reservoirs based on the EA reservoir Wet Day Extent.
• This site is adjacent to the Grand Union Canal and therefore at risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
• The site is currently a brownfield site with hardstanding areas only. This offers an opportunity to improve flood attenuation through the new development.

D. How can the development reduce risk overall?
• Direct development away from westen areas of the site.
• Safe egress routes should be directed towards the south-eastern areas of the site where there is a lower risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• Yes. The site is located within 8m of a Main River so a Flood Risk Activity Permit is required.
• No. The site not located within 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 34.39% of the site area in Flood Zone 3a (fluvial) and 0.66% of the site in Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

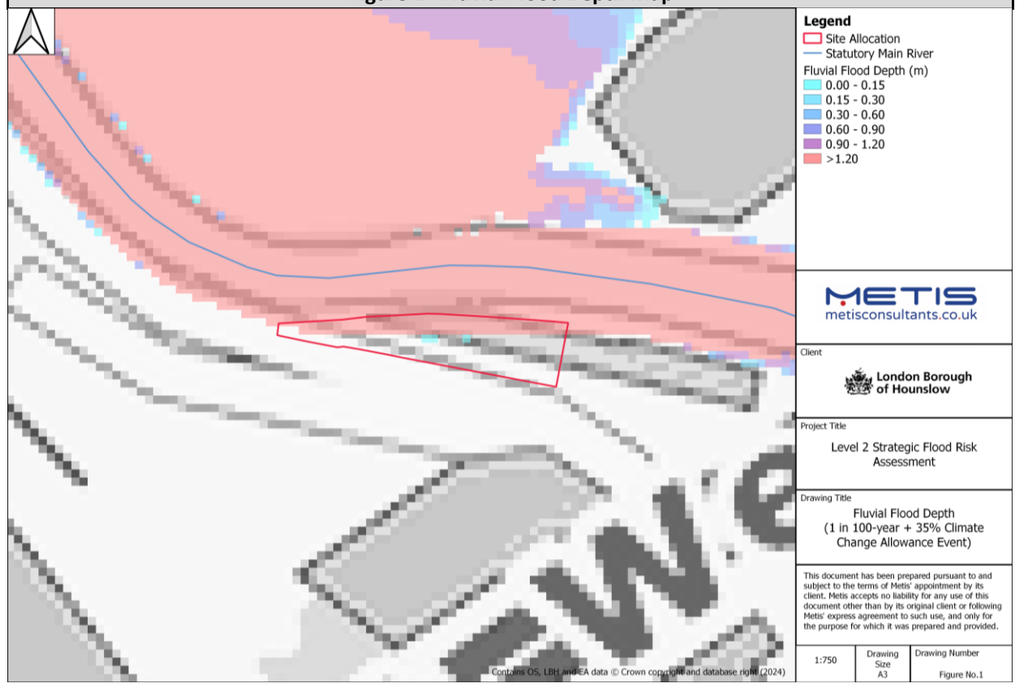


Figure 2 - Fluvial Flood Hazard Map

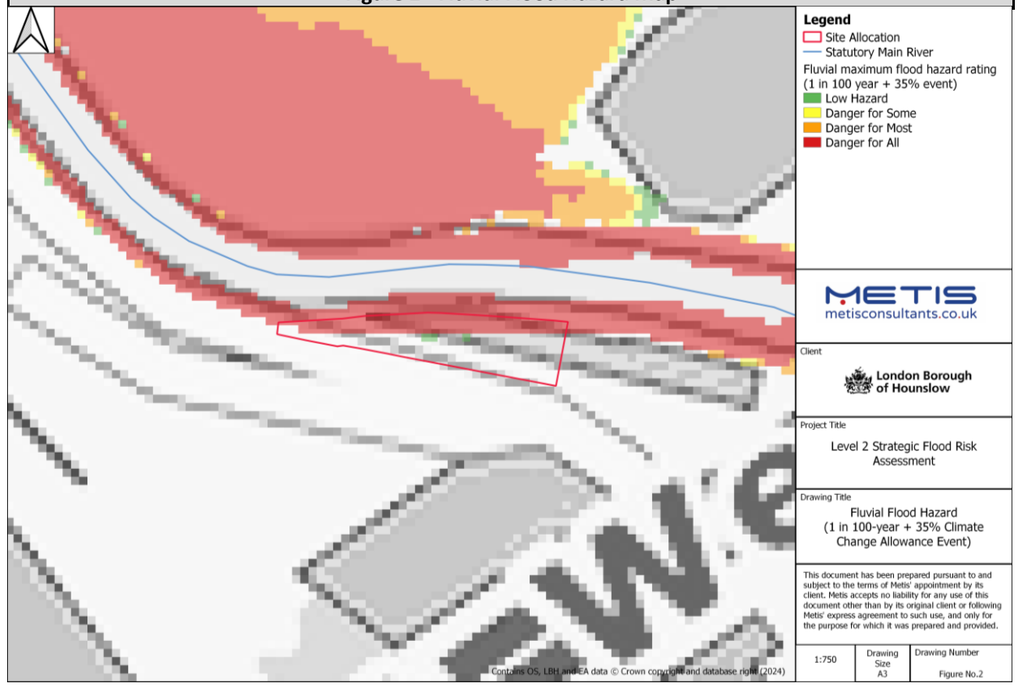


Figure 3 - RoFSW Flood Depth Map

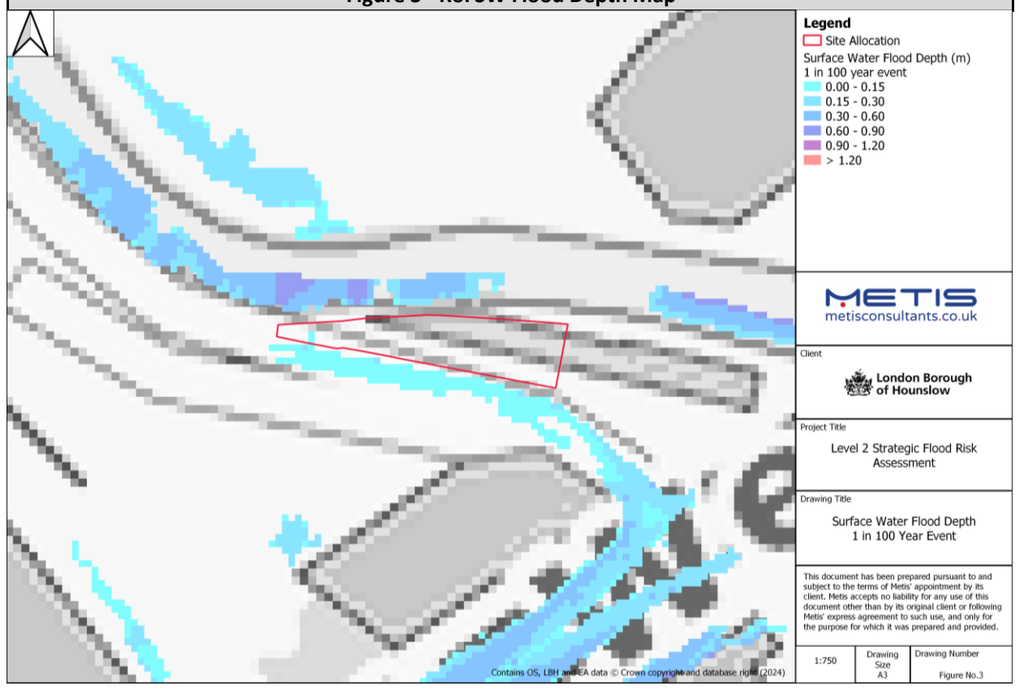


Figure 4 - RoFSW Flood Hazard Map

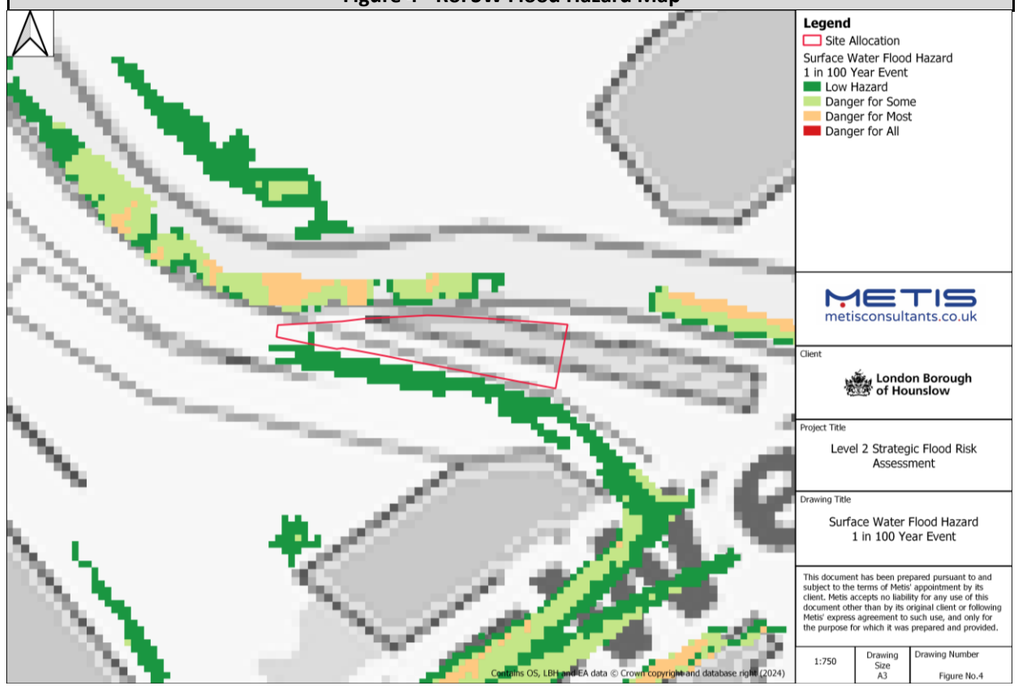


Figure 5 - Thames Water Sewer Flood Map

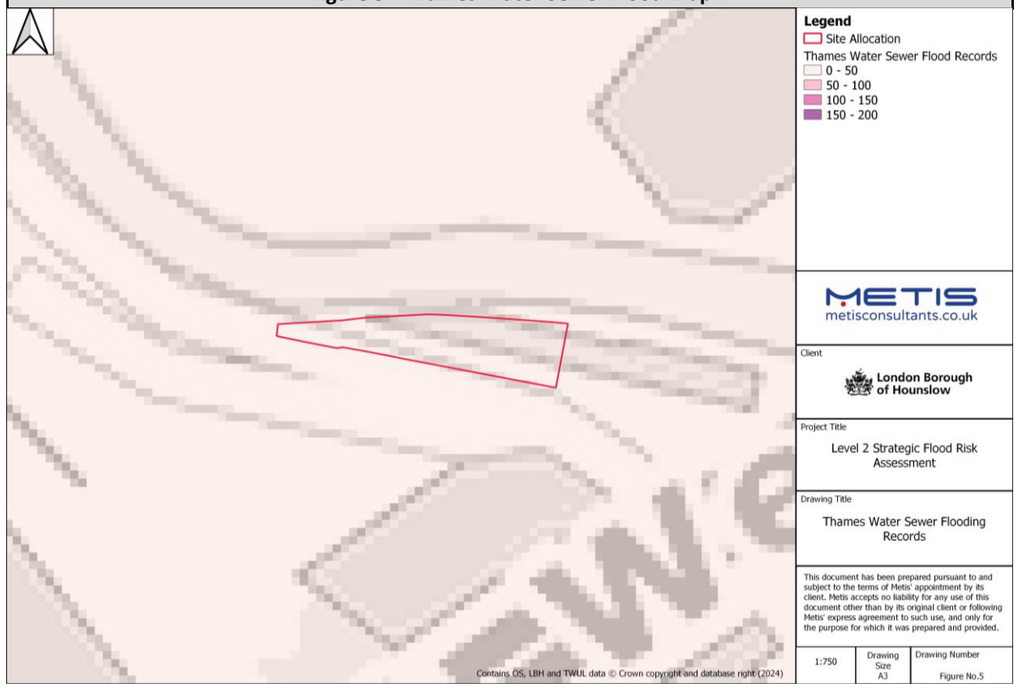


Figure 6 - Areas Susceptible to Groundwater Flooding Map

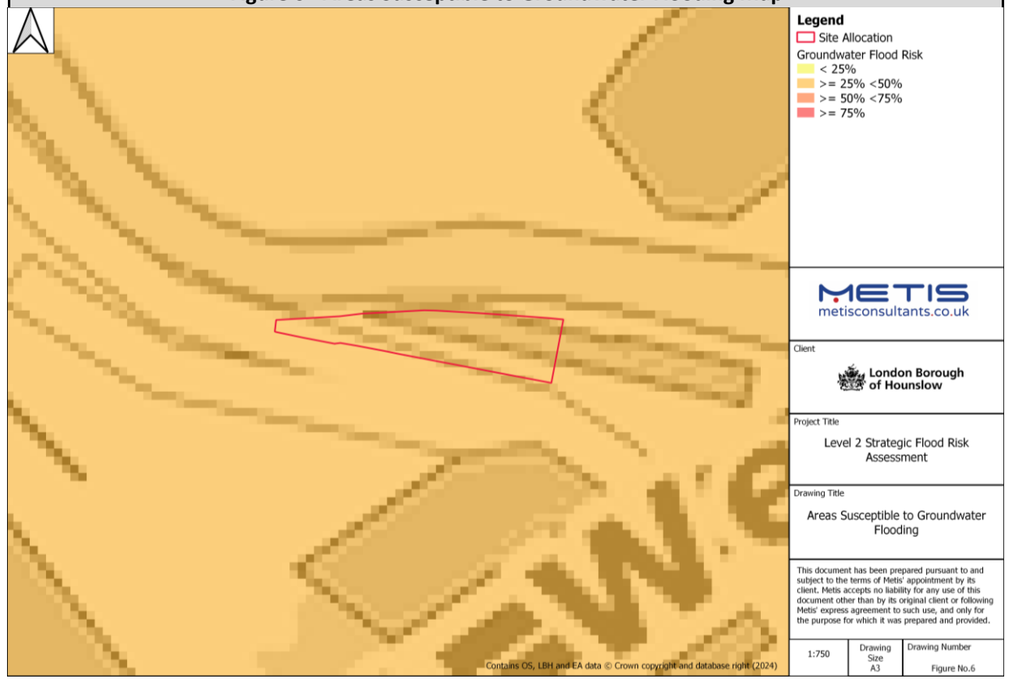
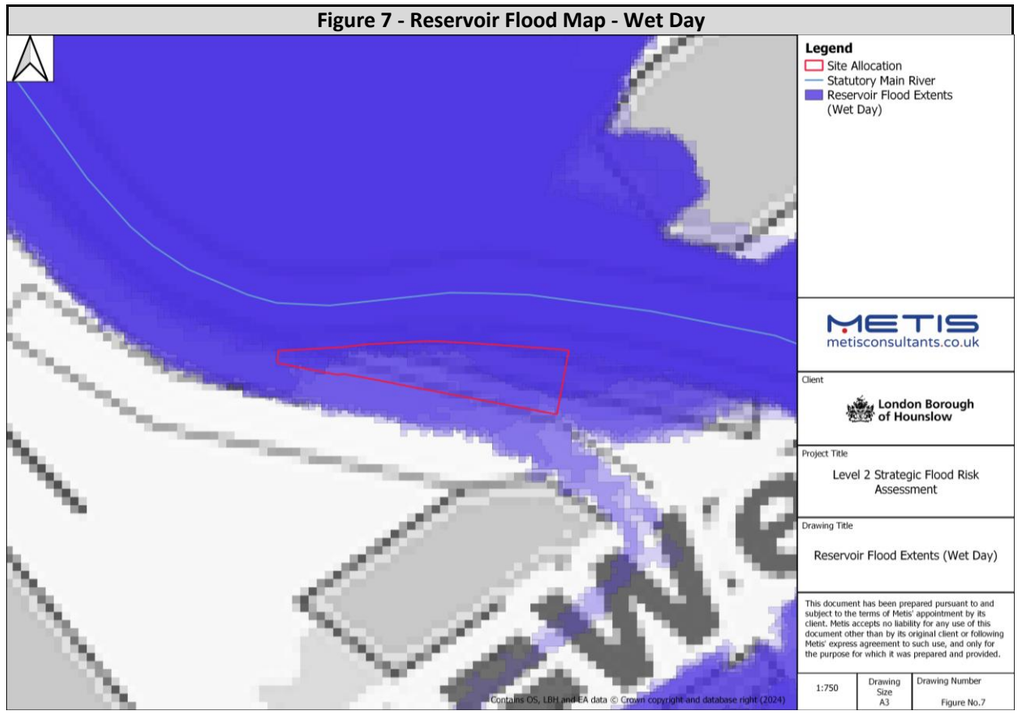


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Brentside Park

Address: Great West Road, TW9 9DS

Area:	1.8 **Ha**
Site Reference:	16

Current Use	Proposed Use
Business (B1) and Hospital (C2) (Separate Units)	Residential, Retail and Business

Current Vulnerability Classification	Proposed Vulnerability Classification
More Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	31.33	% of Site	<25	0	% of Site
FZ3a	0.72	% of Site	25-50	100	% of Site
FZ3b	0.7	% of Site	50-75	0	% of Site
Surface Water			>75	0	% of Site
1 in 30*	1.09	% of Site	**Artificial**		
1 in 100*⁺	12.56	% of Site	Reservoir	Yes	At risk?
1 in 1000*	41.6	% of Site	Canal	Yes	At risk?
Sewer Flooding					
No. Incidents					0

* return periods for potential flood events ⁺ FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service partially covers the site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	10.00	14.00	13.30	Hrs
Min. Depth	0.11	0.01	0.01	m
Max. Depth	5.35	1.1	1.48	m
Max. Velocity	8	0.39	0.58	m/s
Max Flood Level	6.45	6.88	7.37	m AOD
Max Ground Level	10.5	10.5	10.5	m AOD
Min Ground Level	6.12	6.12	6.12	m AOD
Max Flood Hazard	46.55	2	2.69	N/A
Duration of Flood	>18.5	>14.5	>15	Hrs

* The +35% Climate Change Allowance event is reviewed

Risk Assessment (Undefended)			
Parameter	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	14.00	13.30	Hrs
Min. Depth	0.001	0.002	m
Max. Depth	1.1	1.49	m
Max. Velocity	0.39	0.58	m/s
Max. Hazard	2	2.71	N/A
Duration of Flood	>14.5	>15	Hrs

Description of Flood Mechanism

- The site is at risk from fluvial flooding from the River Brent, which flows around the northern and eastern edges of the site in a south-easterly direction.
- The predicted flood risk extent for the climate change scenario for the River Brent covers the north-easterly edges of the site.
- Climate change is predicted to increase the maximum flood depth, velocity, hazard and duration of flood in both the defended and undefended scenarios.
- A small area on the northern edge of the site will remain flooded for in excess of 14.5 hours, depending on the storm event.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress

Safe access and egress routes should be directed to the north-west of the site towards Great West Road where there is the lowest risk of fluvial flooding.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements

- Only water compatible or essential uses (subject to the Exception Test) are permitted in FZ3b (the north and north-eastern edge of the site).
- Self-contained basement dwellings and bedrooms are not permitted in FZ3a. See SFRA Level 2 Report mitigation requirement numbers 4.8 and 4.9 for additional basement stipulations.
- A FRA must be submitted as part of a planning application.
- Include appropriate flood resistance or resilience measures to address predicted flood depths.
- See SFRA Level 2 Report mitigation requirement numbers 4.2 and 4.3 for further development stipulations.
- Develop a Flood Emergency and Evacuation Plan for the site.
- Site users should be signed up to the EA's Flood Warning Service.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.15-0.30	0.00-0.15	< 0.15	m
Max. Depth	0.15-0.30	0.30-0.60	0.60-0.90	m
Max. Velocity	0.00-0.25	0.50-1.00	1.00-2.00	m/s
Max. Hazard	0.75-1.25	1.25-2.00	1.25-2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism

- The site is at risk of surface water flooding, particularly along the southern boundary where it is at high risk
- Parts of Great West Road are predicted to be at risk from surface water flooding.
- Climate change is predicted to increase the maximum depth and maximum velocity of surface water flooding.

Site Access / Egress

Safe access and egress routes should be directed towards the part of Great West Road where there is the lowest risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements

- Development should be directed away from the southern areas surrounding the existing building where there is higher risk of surface water flooding.
- See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage

- A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage.
- A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use.
- Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment.
- Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Brentside Park

SEWER

Risk Assessment

• The site falls within a postcode area where there are 0 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.

GROUNDWATER

Risk Assessment

• The site is classified as having >=25% <50% susceptibility to groundwater flooding.
• The site is underlain by superficial deposits of Langley Silt Member in the south-eastern corner and Alluvium along the eastern edge and London Clay bedrock geology across the entire site.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is risk of flooding from the Wraysbury reservoir.
•This site is adjacent to the Grand Union Canal and therefore at risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use changing however the vulnerability classification has not. The site remain as 'More Vulnerable' due it proposed residential use.
• The site is covered partially by impermeable areas, but there are green spaces along the northern and eastern edeges of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Direct development away from southern boundary areas of the site.
• Safe egress routes should be directed towards the north of the site onto the Great West Road where there is a lower risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• Yes. The site is located within 8m of a Main River so a Flood Risk Activity Permit may be required.
• No. The site not located within 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 0.72% of the site area in Flood Zone 3a (fluvial) and 12.56% of the site in Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

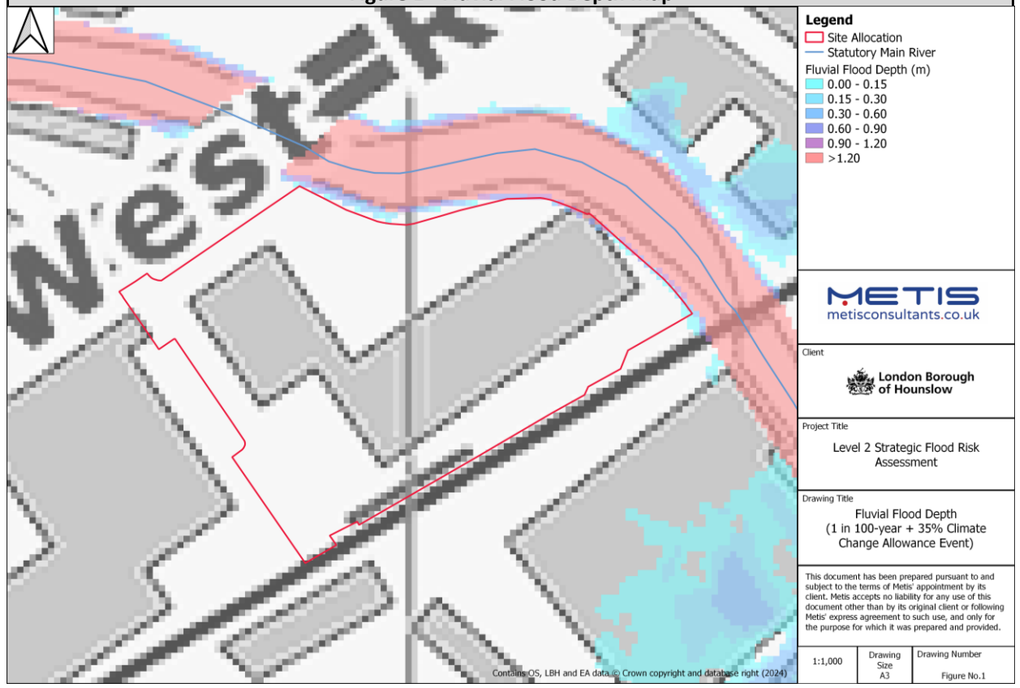


Figure 2 - Fluvial Flood Hazard Map

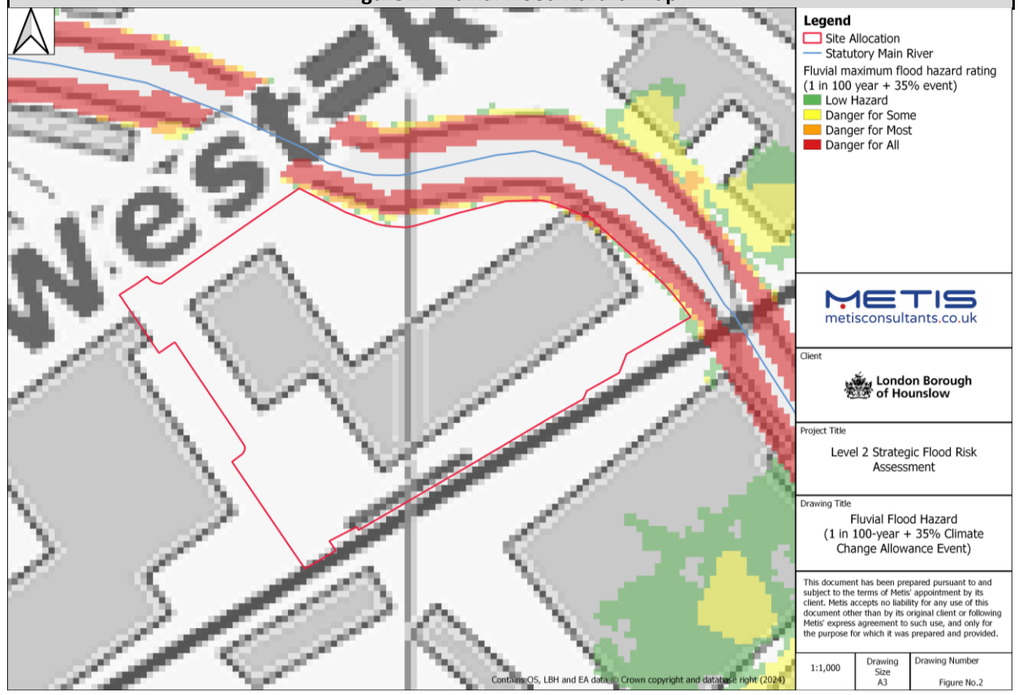


Figure 3 - RoFSW Flood Depth Map

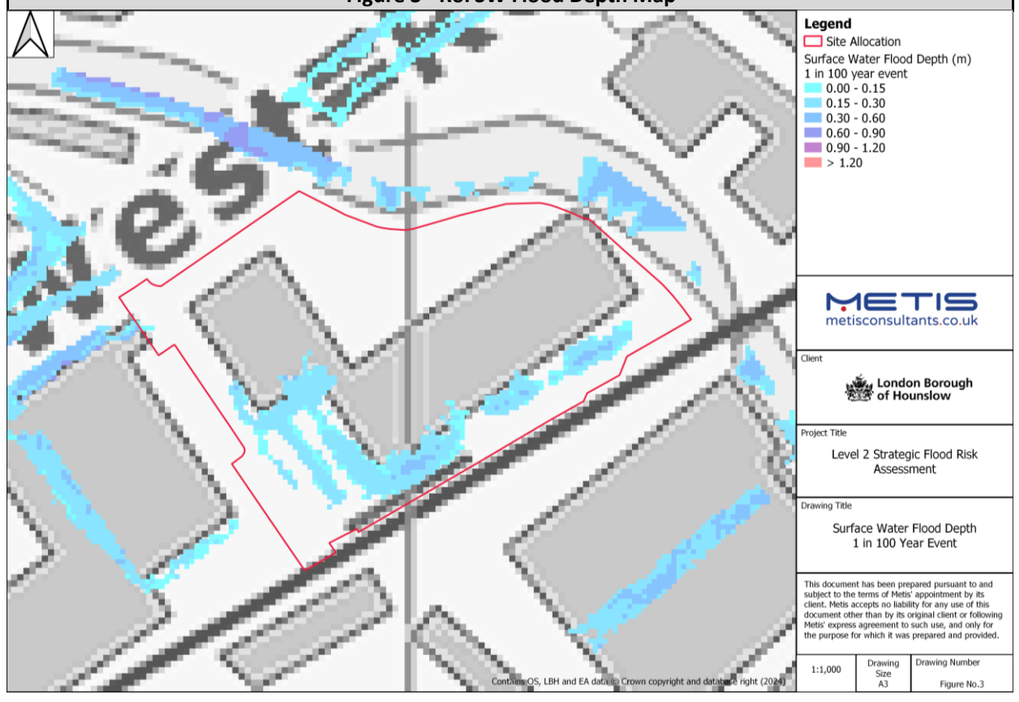


Figure 4 - RoFSW Flood Hazard Map

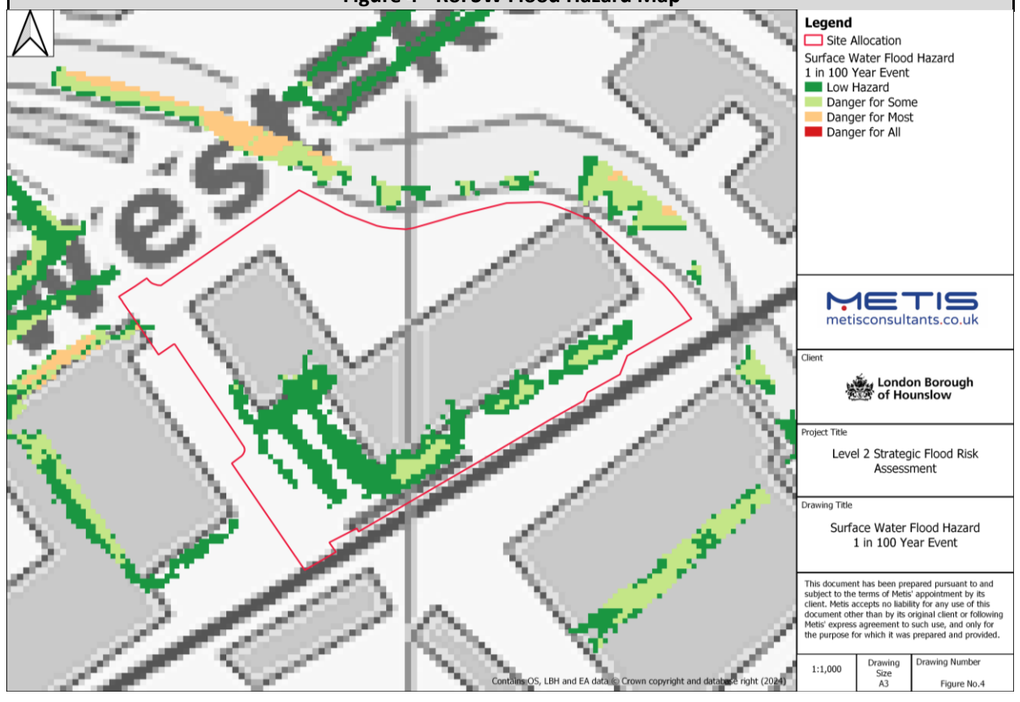


Figure 5 - Thames Water Sewer Flood Map

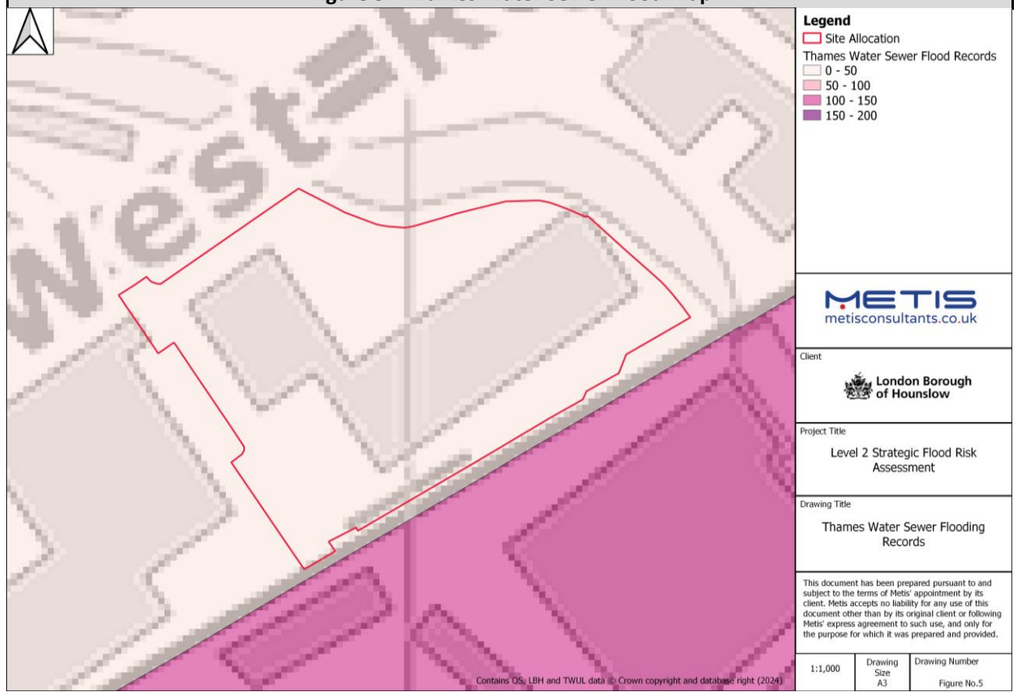


Figure 6 - Areas Susceptible to Groundwater Flooding Map

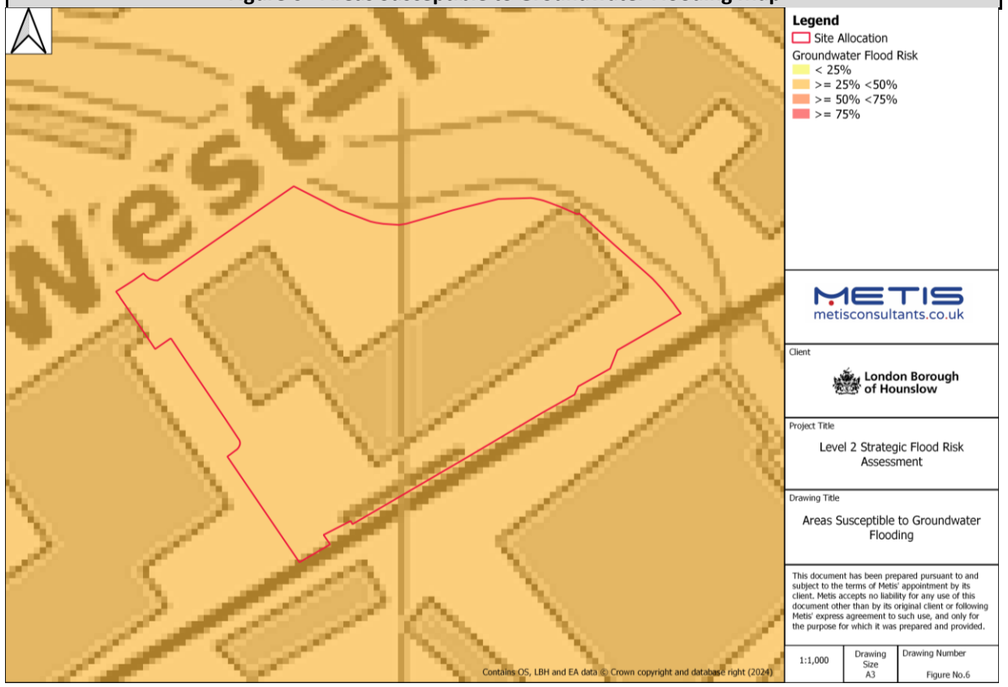
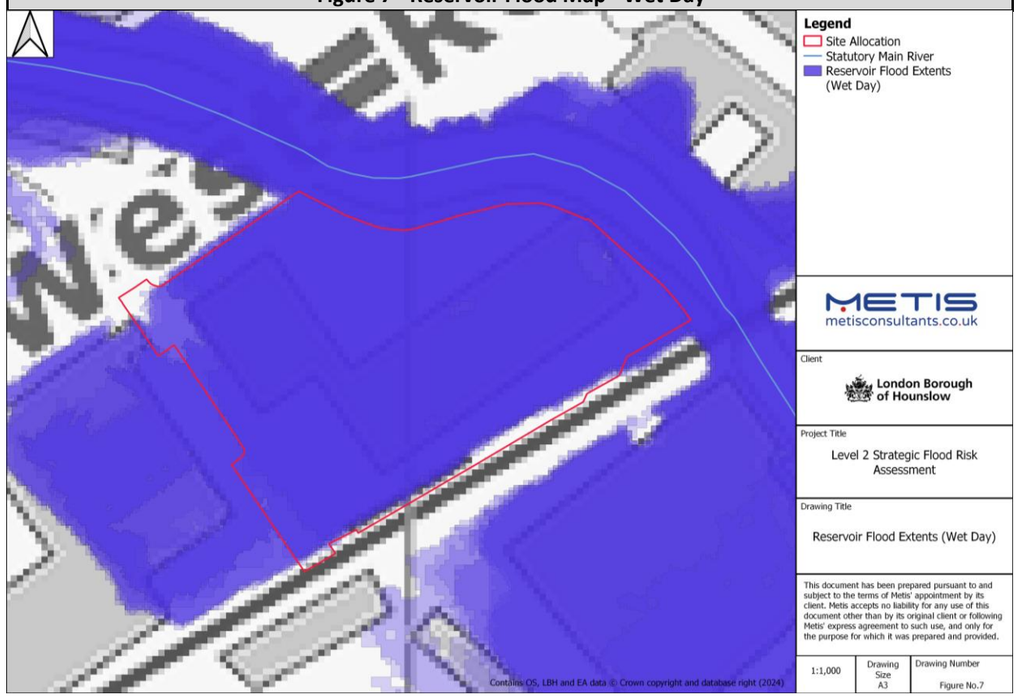


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Great West Plaza

Address: Brentford, TW7 9RE

Area:	2.1 **Ha**
Site Reference:	17

Current Use	Proposed Use
Office (B1a)	Residential, Retail and Business

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	27.74	% of Site	<25	0	% of Site
FZ3a	6.96	% of Site	25-50	100	% of Site
FZ3b	6.96	% of Site	50-75	0	% of Site
Surface Water			>75	0	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	1.83	% of Site	Reservoir	Yes	At risk?
1 in 1000*	8.94	% of Site	Canal	Yes	At risk?
Sewer Flooding					
No. Incidents					0

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service partially covers the site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	10.00	10.00	10.00	Hrs
Min. Depth	0.003	0.006	0.005	m
Max. Depth	5.36	4.7	5.14	m
Max. Velocity	8	1.54	1.88	m/s
Max Flood Level	6.47	6.91	7.4	m AOD
Max Ground Level	11.71	11.71	11.71	m AOD
Min Ground Level	4.67	4.67	4.67	m AOD
Max Flood Hazard	46.6	10.42	13.04	N/A
Duration of Flood	>18.5	>18.5	>18.5	Hrs

* The +35% Climate Change Allowance event is reviewed

Risk Assessment (Undefended)			
Parameter	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	10.00	10.00	Hrs
Min. Depth	0.006	0.0005	m
Max. Depth	4.7	5.15	m
Max. Velocity	1.54	1.89	m/s
Max. Hazard	10.43	13.1	N/A
Duration of Flood	>18.5	>18.5	Hrs

Description of Flood Mechanism
• The site is at risk from fluvial flooding from the River Brent, which flows around the south-western and southern edges of the site in a south-easterly direction. • The predicted flood risk extent for the climate change scenario for the River Brent covers the south-western and southern areas of the site. • Climate change is predicted to increase the velocity, hazard and maximum flood depth in both the defended and undefended scenarios. • The site will be partially flooded from the onset and will remain flooded for in excess of 18.5 hours, with some of the southern areas of the site being particularly affected in the larger storm events.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the north-west of the site towards Great West Road where there is the lowest risk of fluvial flooding.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
• Only water compatible or essential uses (subject to the Exception Test) are permitted in FZ3b (the south-western and southern edge of the site). • Self-contained basement dwellings and bedrooms are not permitted in FZ3a (the majority of the site). See SFRA Level 2 Report mitigation requirement numbers 4.8 and 4.9 for additional basement stipulations. • A FRA must be submitted as part of a planning application. • Include appropriate flood resistance or resilience measures to address predicted flood depths. • See SFRA Level 2 Report mitigation requirement numbers 4.2 and 4.3 for further development stipulations. • Develop a Flood Emergency and Evacuation Plan for the site. • Site users should be signed up to the EA's Flood Warning Service.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0	0.00-0.15	<0.15	m
Max. Depth	0	0.30-0.60	0.30-0.60	m
Max. Velocity	0	1.00-2.00	>2.00	m/s
Max. Hazard	0	0.75-1.25	1.25-2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is not at high risk of surface water flooding, however it is at medium risk particularly along central southern boundary. • Great West Road to the north and particularly to the north-west of the site is predicted to be at risk from surface water flooding. • Climate change is predicted to increase the maximum hazard and maximum velocity of surface water flooding.

Site Access / Egress
Safe access and egress routes should be directed to the north-east of the site towards the part of Great West Road where there is the lowest risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the central southern boundary areas surrounding the existing building where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Great West Plaza

SEWER

Risk Assessment

• The site falls within a postcode area where there are 0 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.

GROUNDWATER

Risk Assessment

• The site is classified as having >=25% <50% susceptibility to groundwater flooding.
• The site is underlain by superficial deposits of Kempton Park Gravel Member and London Clay bedrock geology across the entire site.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is risk of flooding from the Wraysbury reservoir.
• This site is adjacent to the Grand Union Canal and therefore at risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
• The site is covered partially by impermeable areas, but there are green spaces along the edges and in the centre of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Direct development away from central southern boundary areas of the site.
• Safe egress routes should be directed towards the north-east of the site onto the Great West Road where there is a lower risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• Yes. The site is located within 8m of a Main River so a Flood Risk Activity Permit may be required.
• No. The site is not located within 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 6.96% of the site area in Flood Zone 3a (fluvial) and 1.83% of the site in Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

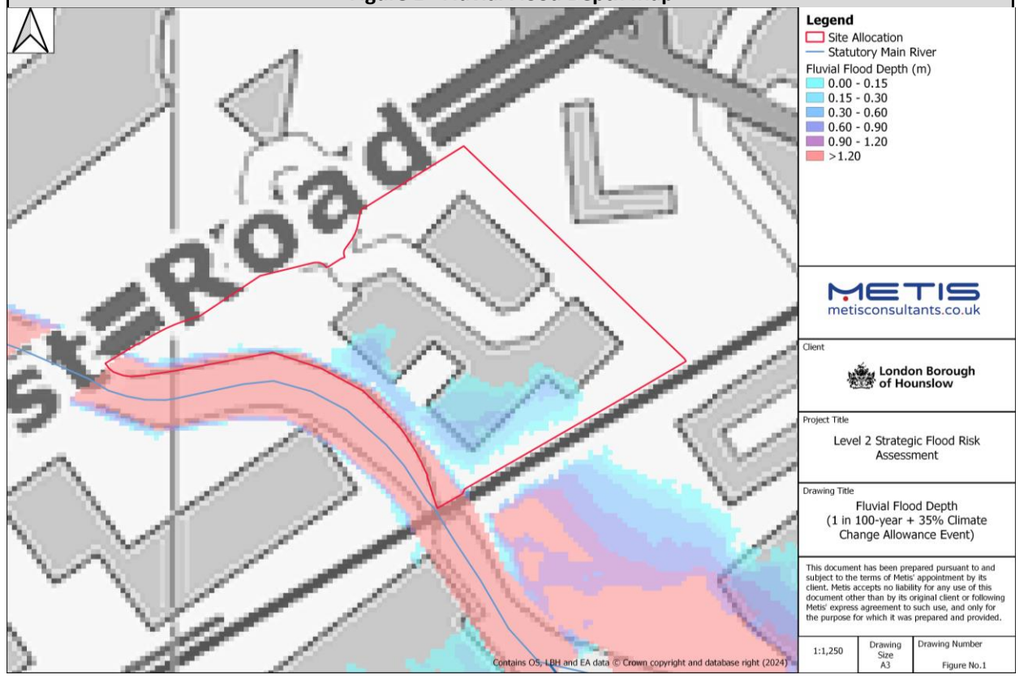


Figure 2 - Fluvial Flood Hazard Map

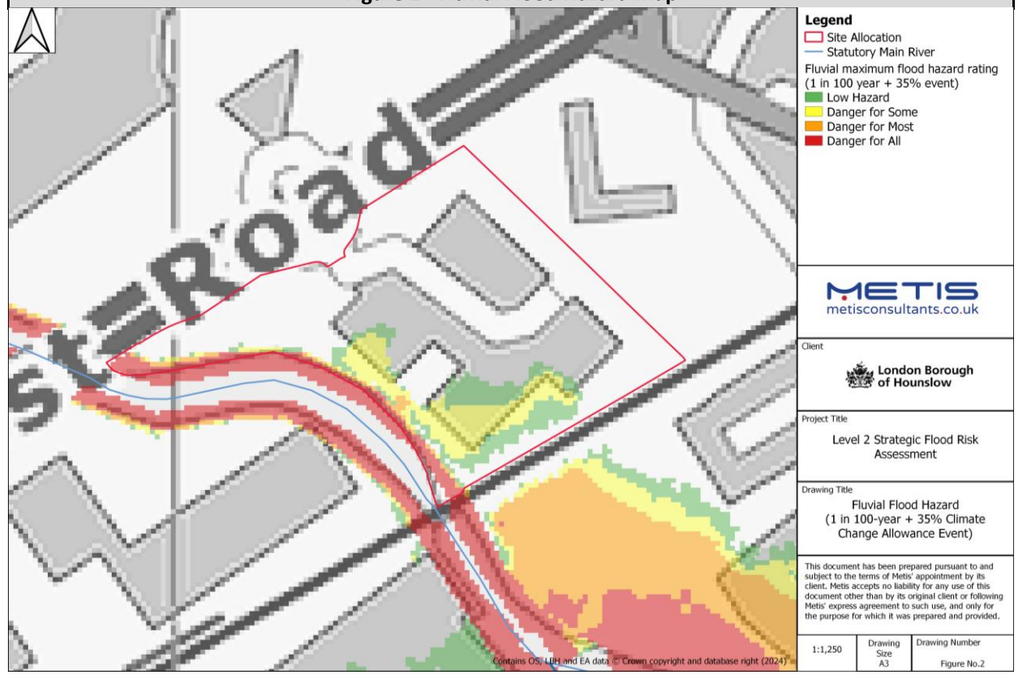


Figure 3 - RoFSW Flood Depth Map

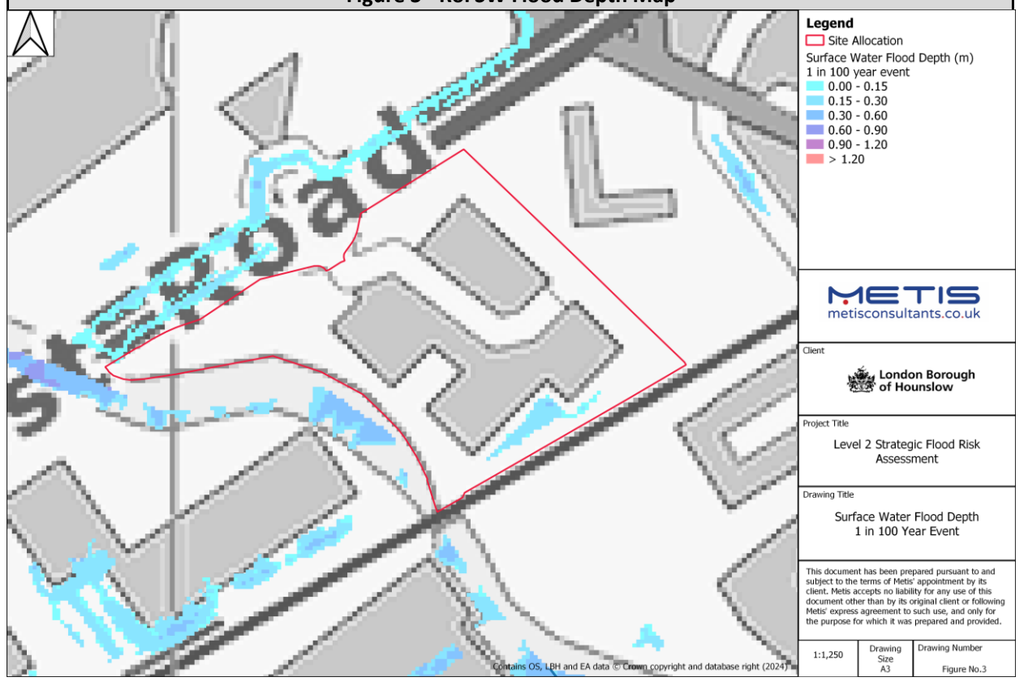


Figure 4 - RoFSW Flood Hazard Map

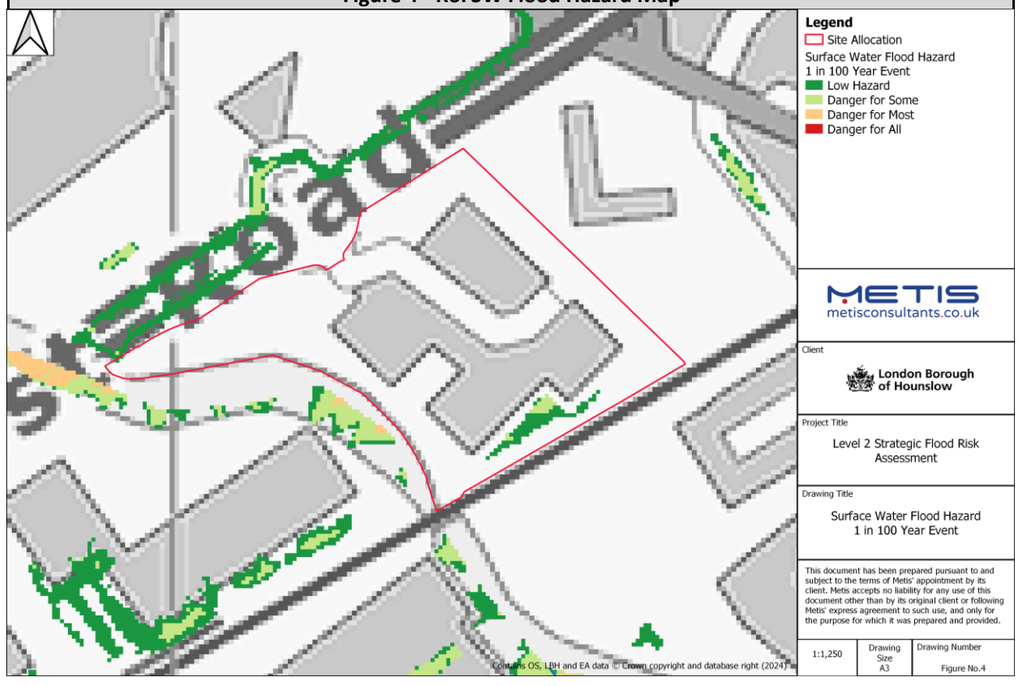


Figure 5 - Thames Water Sewer Flood Map

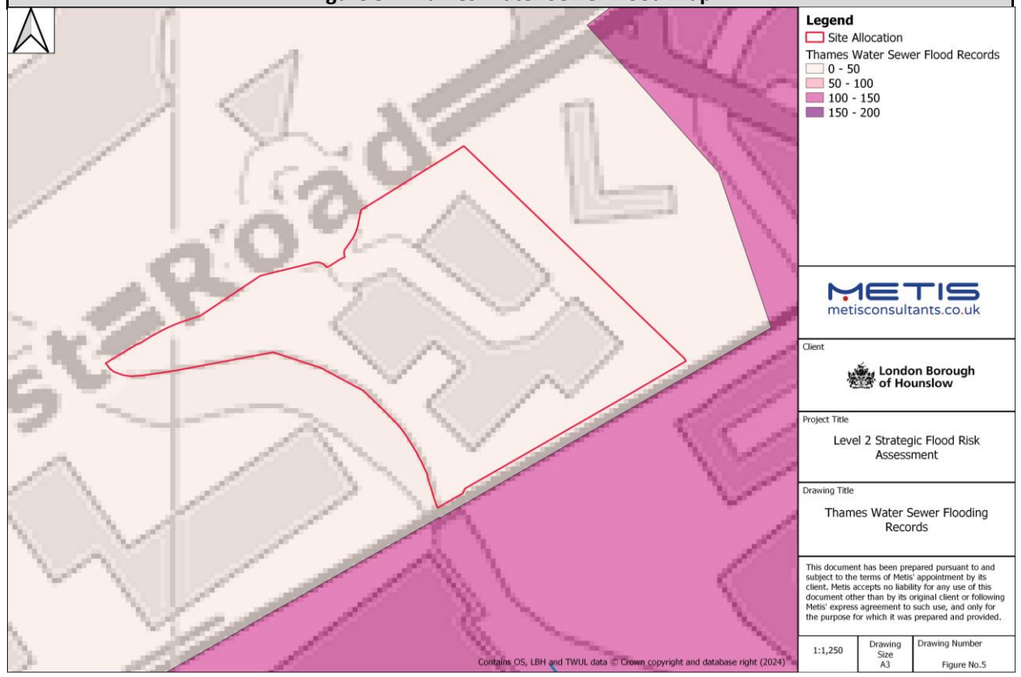


Figure 6 - Areas Susceptible to Groundwater Flooding Map

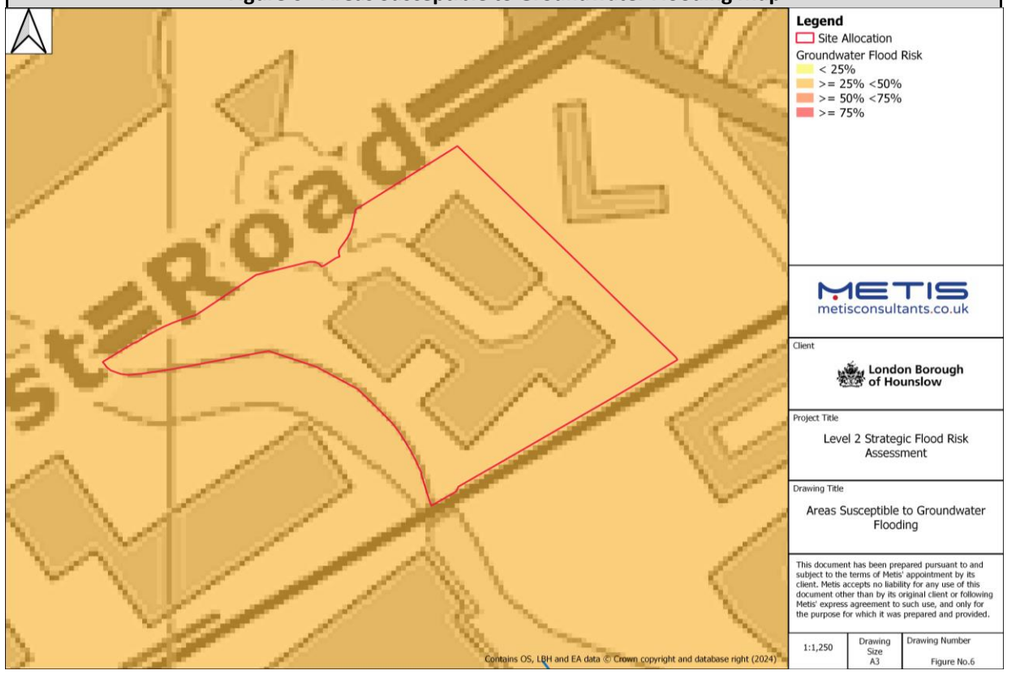
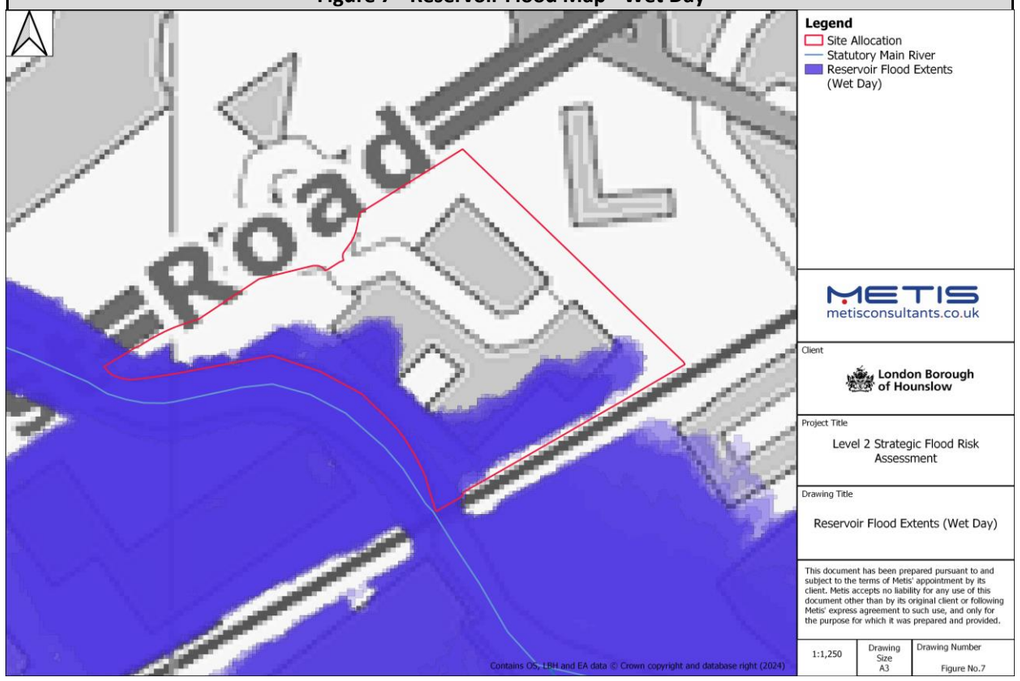


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Brentford Fountains Leisure Centre

Address: 658 Chiswick High Road, TW8 0JH

Area: 0.9 **Ha**

Site Reference: 32

Current Use	Proposed Use
Leisure (D2)	Residential, Retail and Assembly / Leisure

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	100	% of Site
Surface Water			>75	0	% of Site
1 in 30*	2.15	% of Site	**Artificial**		
1 in 100*+	5.13	% of Site	Reservoir	No	At risk?
1 in 1000*	12.29	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					29

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.15 - 0.30	0.15 - 0.30	<0.15	m
Max. Depth	0.90 - 1.20	0.90 - 1.20	>1.20	m
Max. Velocity	0.50 - 1.00	0.50 - 1.00	1.00 - 2.00	m/s
Max. Hazard	1.25 - 2.00	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding in the northern part of the site. The southern part of the site is at low risk of surface water flooding. • Climate change is predicted to increase the maximum depth and velocity of surface water flooding.

Site Access / Egress
Safe access and egress routes should be directed to the west of the site towards Capital Interchange Way where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the northern and southern areas of the site where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Brentford Fountains Leisure Centre

SEWER

Risk Assessment

- The site falls within a postcode area where there are 29 reported flood incidents from sewer flooding.
- The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=50% <75% susceptibility to groundwater flooding.
- The site is underlain by Kempton Park Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from northern and southern areas of the site.
- Safe egress routes should be directed towards the west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 5.13% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

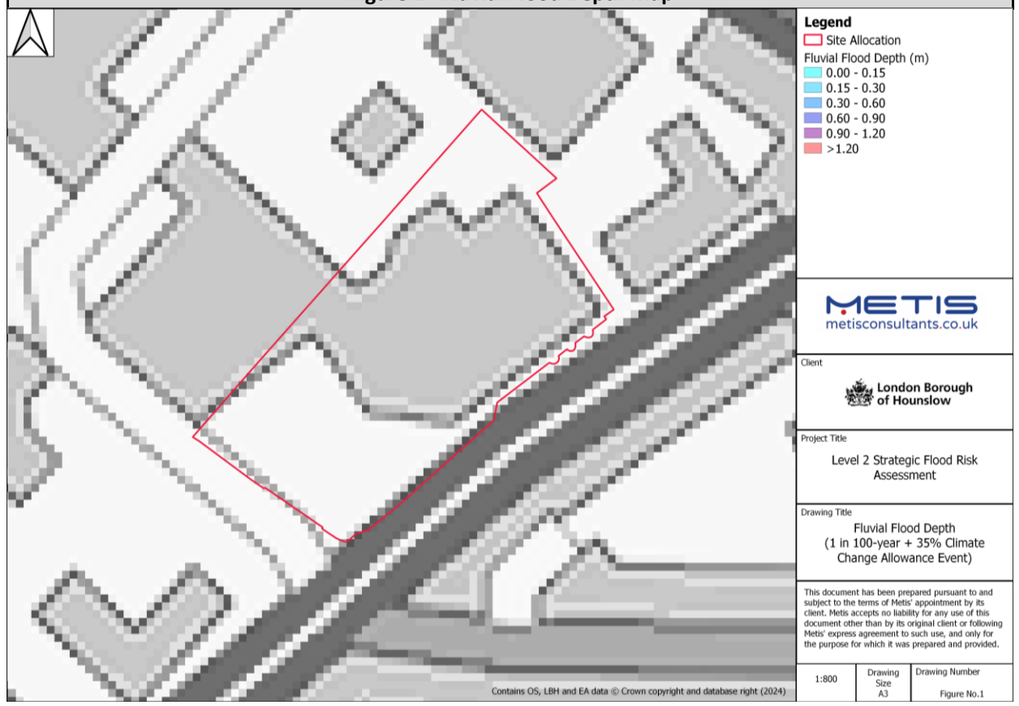


Figure 2 - Fluvial Flood Hazard Map

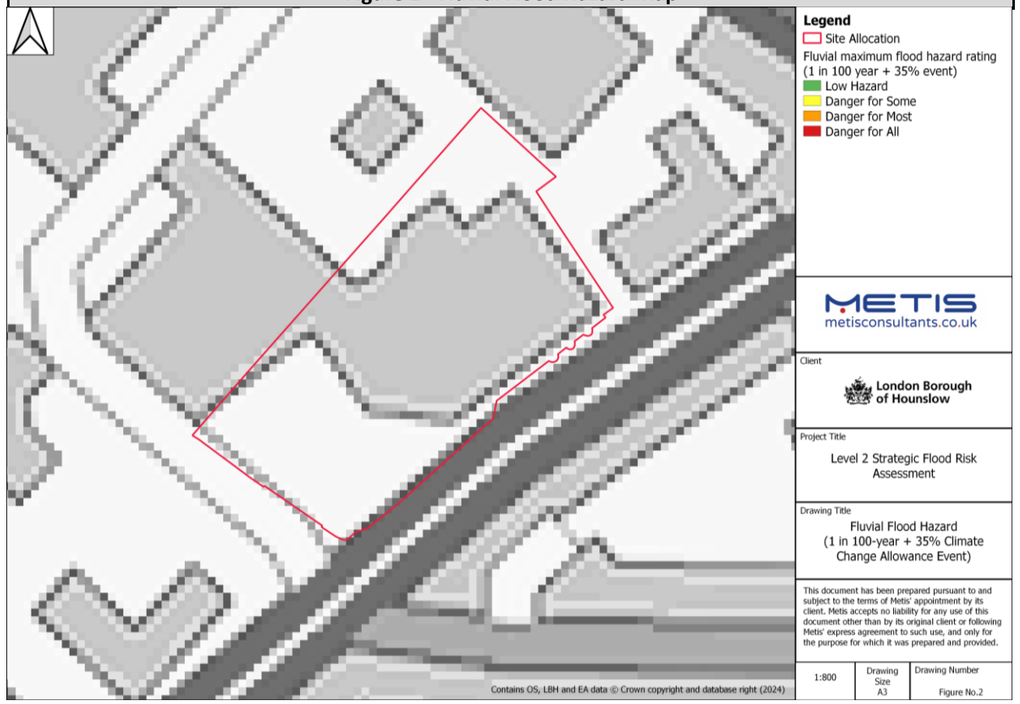


Figure 3 - RoFSW Flood Depth Map

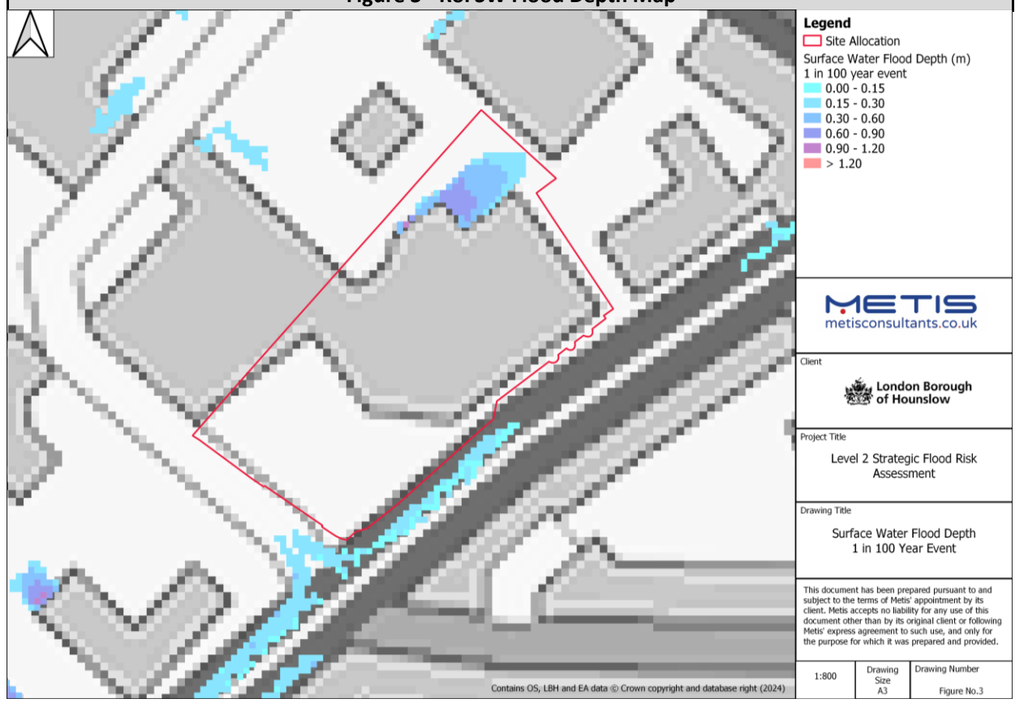


Figure 4 - RoFSW Flood Hazard Map

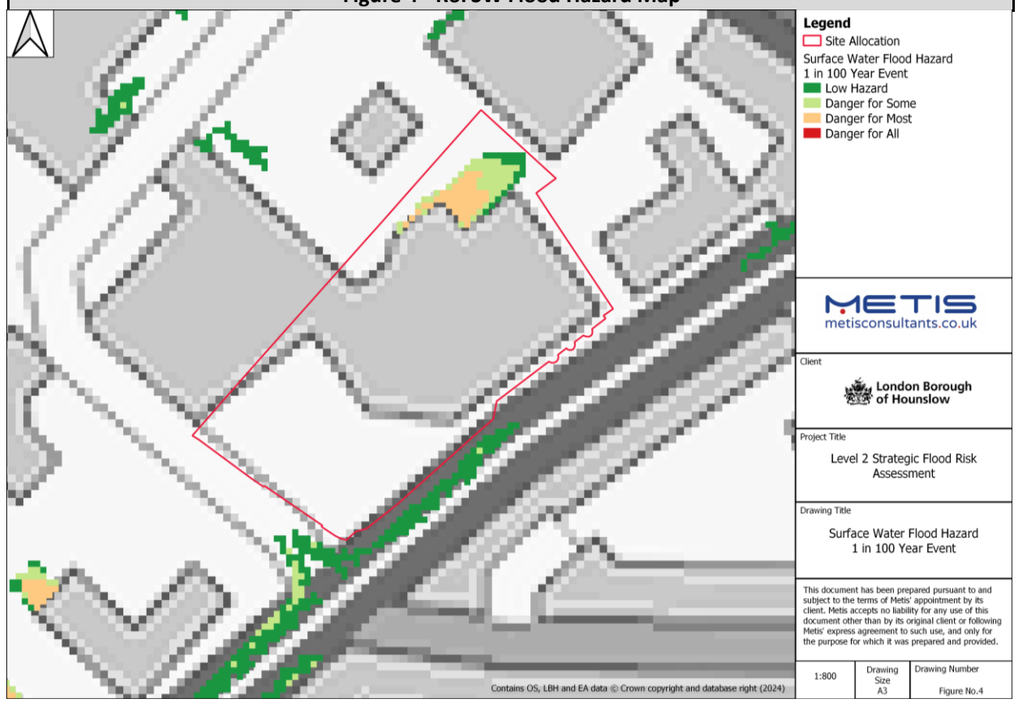


Figure 5 - Thames Water Sewer Flood Map

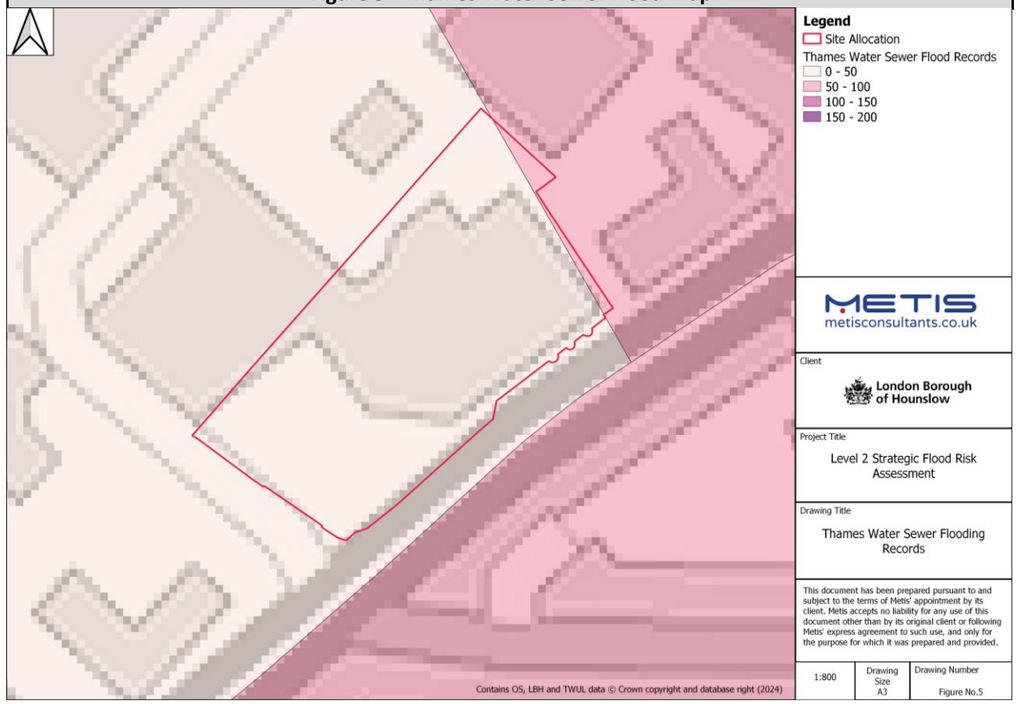


Figure 6 - Areas Susceptible to Groundwater Flooding Map

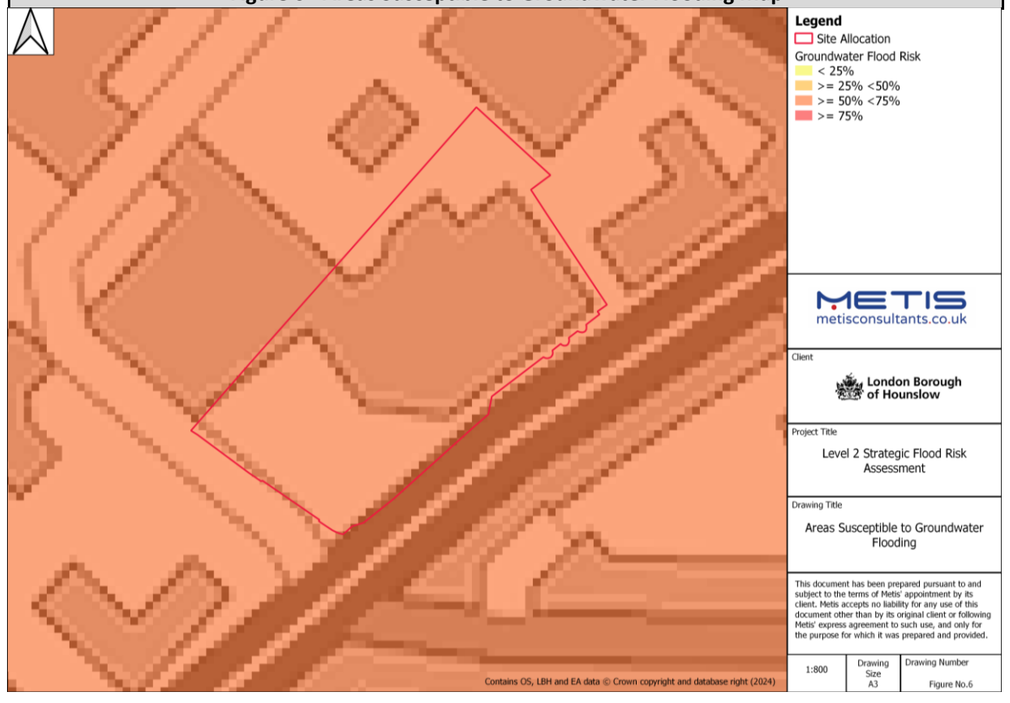
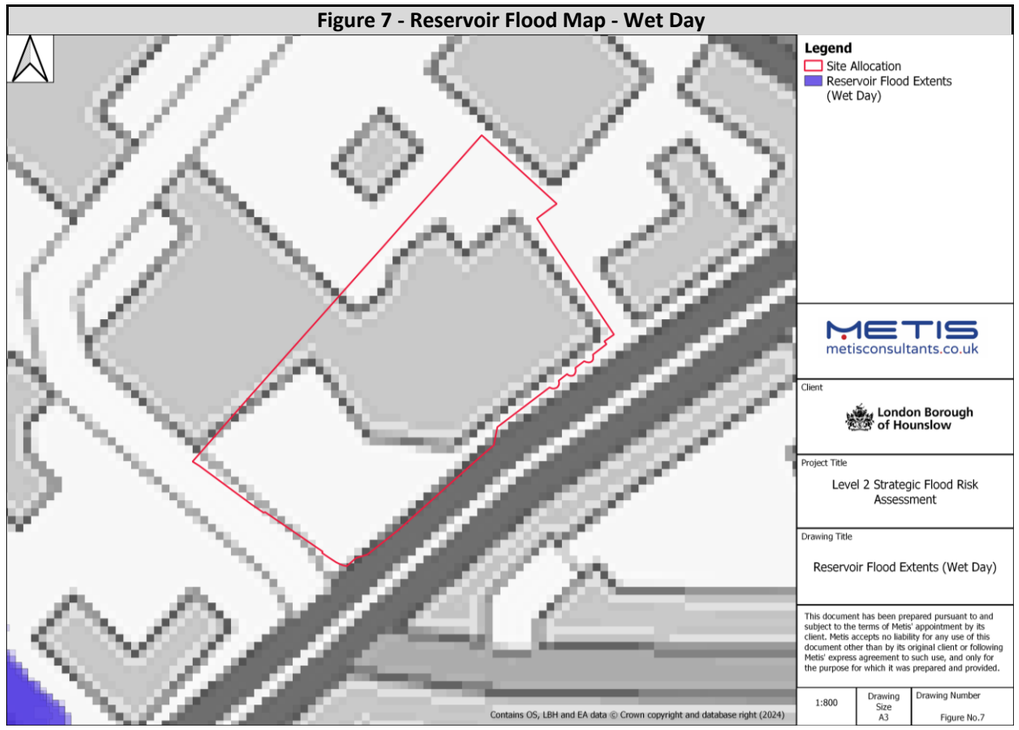


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Gunnersbury Station Car Park

Address: Chiswick, W4 4AN

Area:	1.1 **Ha**
Site Reference:	37

Current Use	Proposed Use
Railway Station with ancillary car parking.	Residential, Retail, Business and Assembly / Leisure

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	41.04	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	100	% of Site
Surface Water			>75	0	% of Site
1 in 30*	4.27	% of Site	**Artificial**		
1 in 100*⁺	9.52	% of Site	Reservoir	Yes	At risk?
1 in 1000*	26.14	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					24

* return periods for potential flood events ⁺ FZ3a (surface water)

Flood Defences
Site is in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service partially covers the site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	***FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	***FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - Fluvial / tidal risk predicted at this site is negligible.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - Fluvial / tidal risk predicted at this site is negligible.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - Fluvial / tidal risk predicted at this site is negligible.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.15-0.30	0.00-0.15	<0.15	m
Max. Depth	0.30-0.60	0.30-0.60	>1.20	m
Max. Velocity	0.00-0.25	0.00-0.25	>2.00	m/s
Max. Hazard	0.75-1.25	0.75-1.25	>2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding in the north eastern part of the site. This is largely confined to the railway line and adjacent areas. • Parts of Chiswick High Street to the north of the site are predicted to be at risk from surface water flooding. • Climate change is predicted to increase the maximum depth, velocity and hazard of surface water flooding.

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the north of the site through Gunnersbury Mews and onto Chiswick High Road where there is the lowest risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the northern areas where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Gunnersbury Station Car Park

SEWER

Risk Assessment

• The site falls within a postcode area where there are 24 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having >=50%<75% susceptibility to groundwater flooding.
• The site is underlain by superficial deposits of Kempton Gravel Member and London Clay bedrock geology across the entire site.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is risk of flooding from the Wraysbury reservoir.
• This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
• The site is covered mostly by impermeable areas, but there are green spaces along the southern boundary of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Direct development away from northern areas of the site.
• Safe access and egress routes should be directed to the north of the site through Gunnersbury Mews and onto Chiswick High Road where there is the lowest risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as proposed vulnerability classification is 'More Vulnerable' and 9.52% of the site is located in Flood Zone 3a (surface water).
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

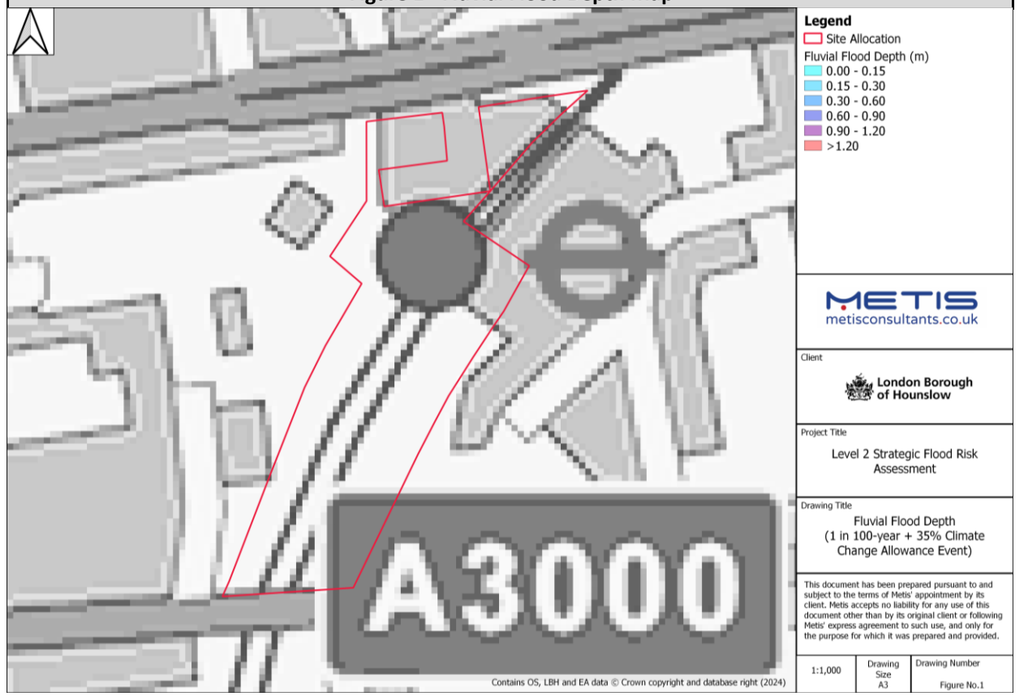


Figure 2 - Fluvial Flood Hazard Map

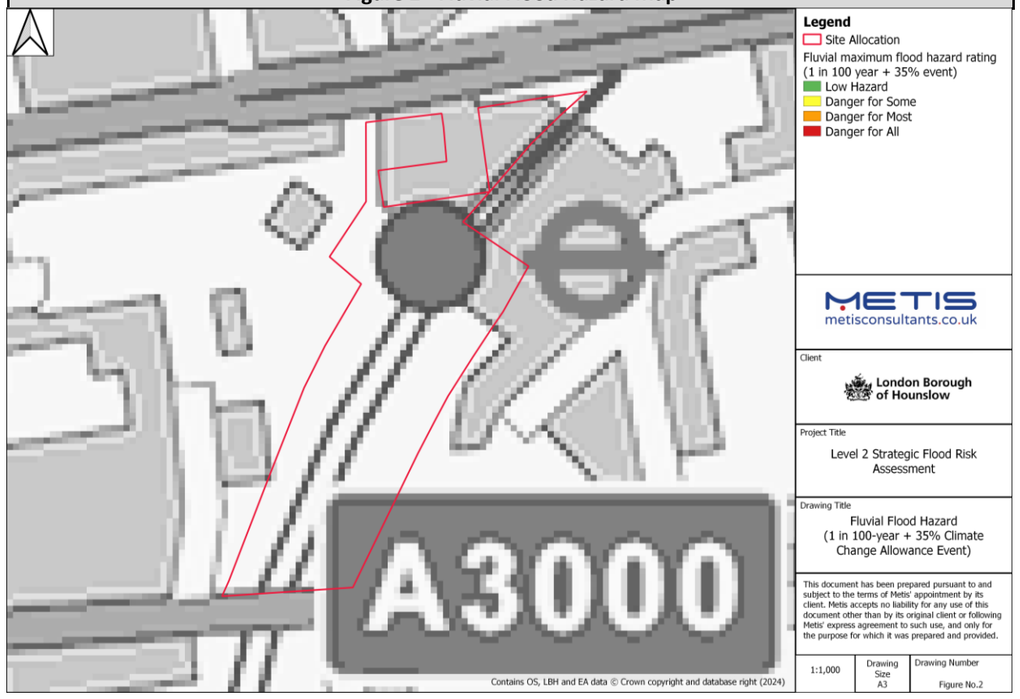


Figure 3 - RoFSW Flood Depth Map

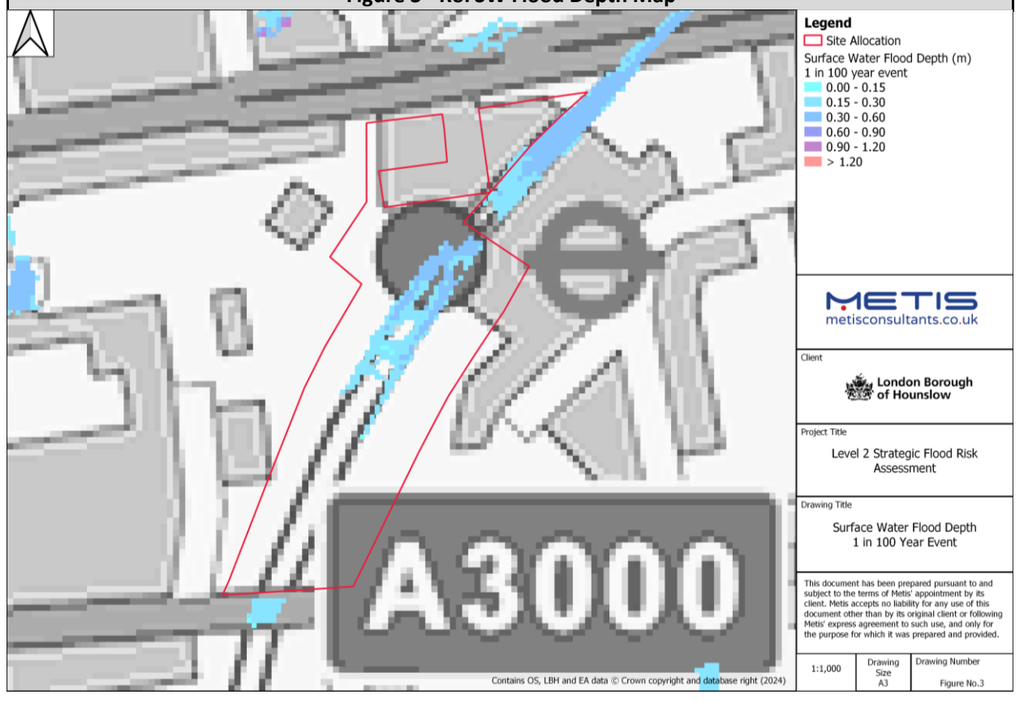


Figure 4 - RoFSW Flood Hazard Map

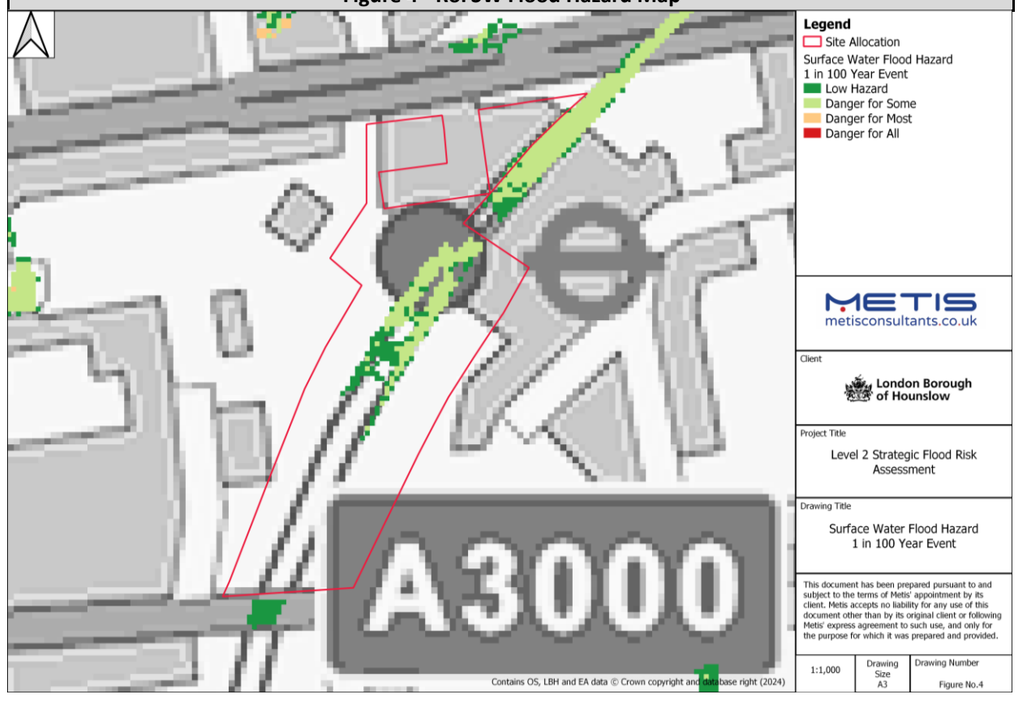


Figure 5 - Thames Water Sewer Flood Map

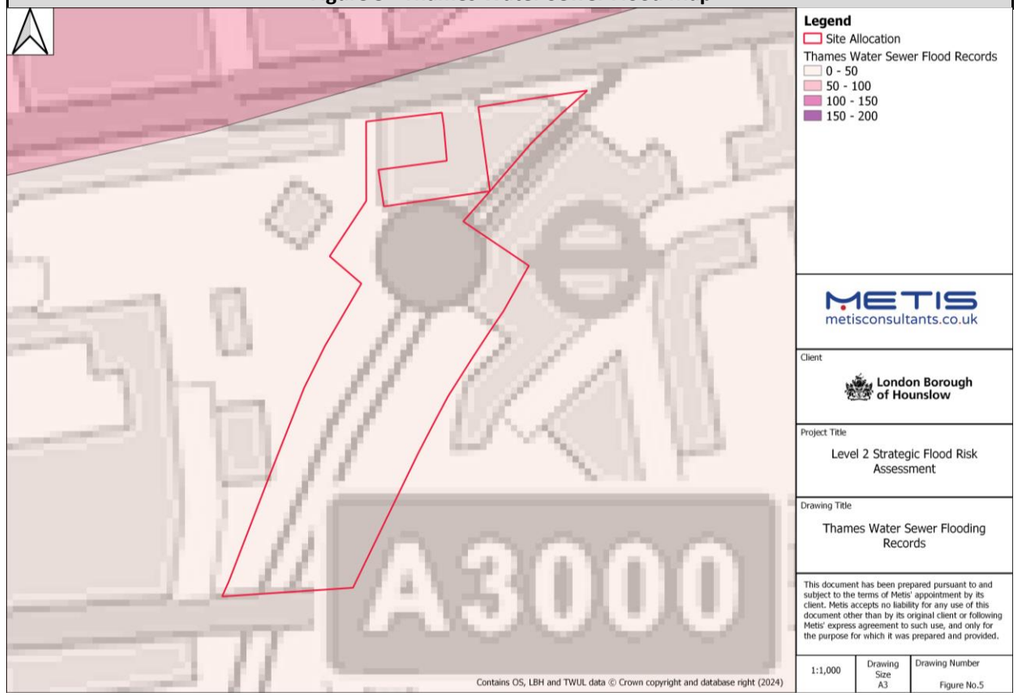


Figure 6 - Areas Susceptible to Groundwater Flooding Map

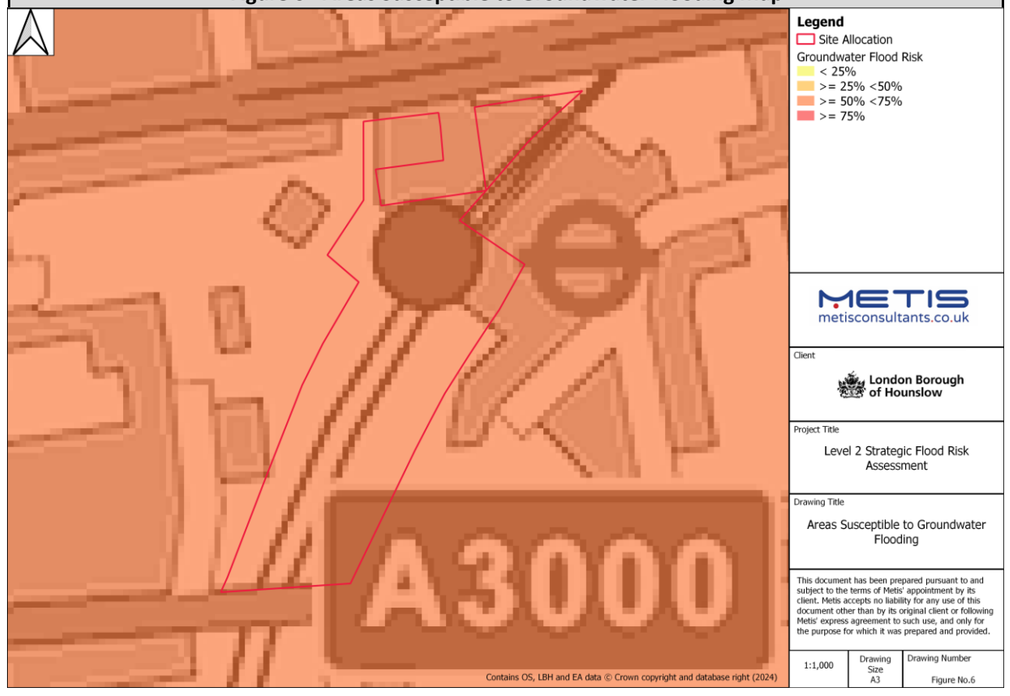
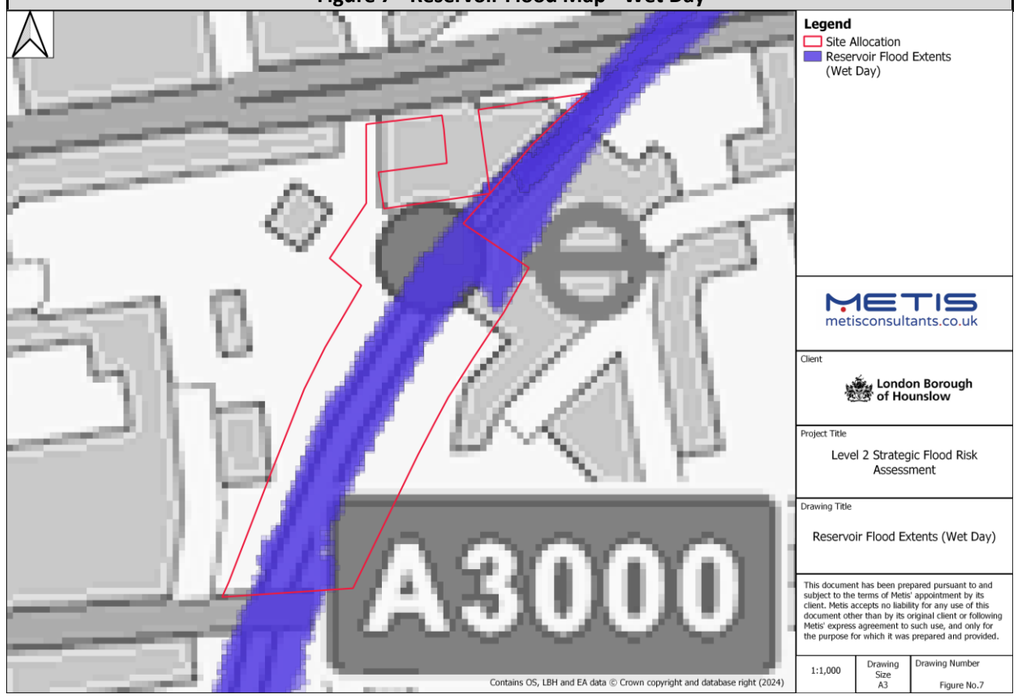


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Network House Feltham

Address: Hounslow Road, TW14 9DE

Area:	1.5 **Ha**
Site Reference:	51

Current Use	Proposed Use
Railway Signal and Maintenance Depot	Residential

Current Vulnerability Classification	Proposed Vulnerability Classification
Essential Infrastructure	More Vulnerable

Current Risk Summary

Fluvial / Tidal			Groundwater		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	1.73	% of Site	**Artificial**		
1 in 100*+	11.56	% of Site	Reservoir	No	At risk?
1 in 1000*	18.5	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					104

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)

Parameter	FZ3b	FZ3a	FZ3a+CC	Units
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)

Parameter	FZ3a	FZ3a+CC	Units
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism

N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress

N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements

N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment

Parameter	1 in 30	1 in 100	1 in 1000	Units
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	0.30 - 0.60	0.30 - 0.60	0.30 - 0.60	m
Max. Velocity	0.25 - 0.50	0.50 - 1.00	0.50 - 1.00	m/s
Max. Hazard	0.75 - 1.25	0.75 - 1.25	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism

- The site is at high risk of surface water flooding, particularly in the eastern sections of the site.
- Park Way to the north of the site and Waterloo to Reading Railway Line to the south of the site is also predicted to be at risk from surface water flooding.
- Climate change is predicted to increase the maximum hazard of surface water flooding.

Site Access / Egress

Safe access and egress routes should be directed to the west of the site towards Hounslow Road where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements

- Development should be directed away from the eastern areas of the site where there is higher risk of surface water flooding.
- See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage

- A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage.
- A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use.
- Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment.
- Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Network House Feltham

SEWER

Risk Assessment

- The site falls within a postcode area where there are 104 reported flood incidents from sewer flooding.
- The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Essential Infrastructure' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from eastern areas of the site.
- Safe egress routes should be directed towards the west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 11.56% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

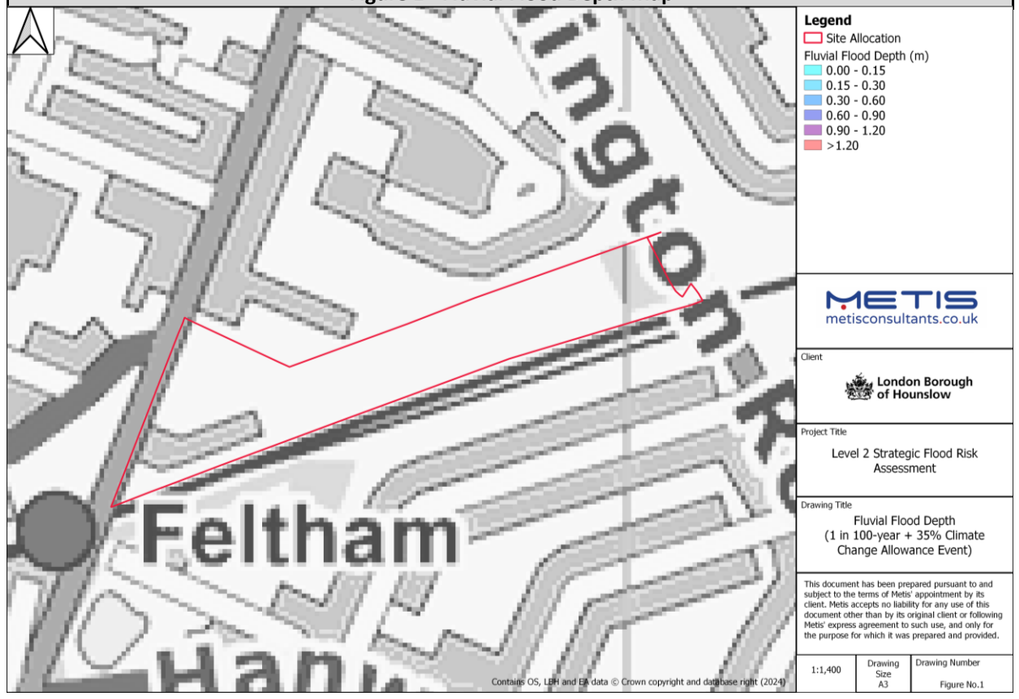


Figure 2 - Fluvial Flood Hazard Map

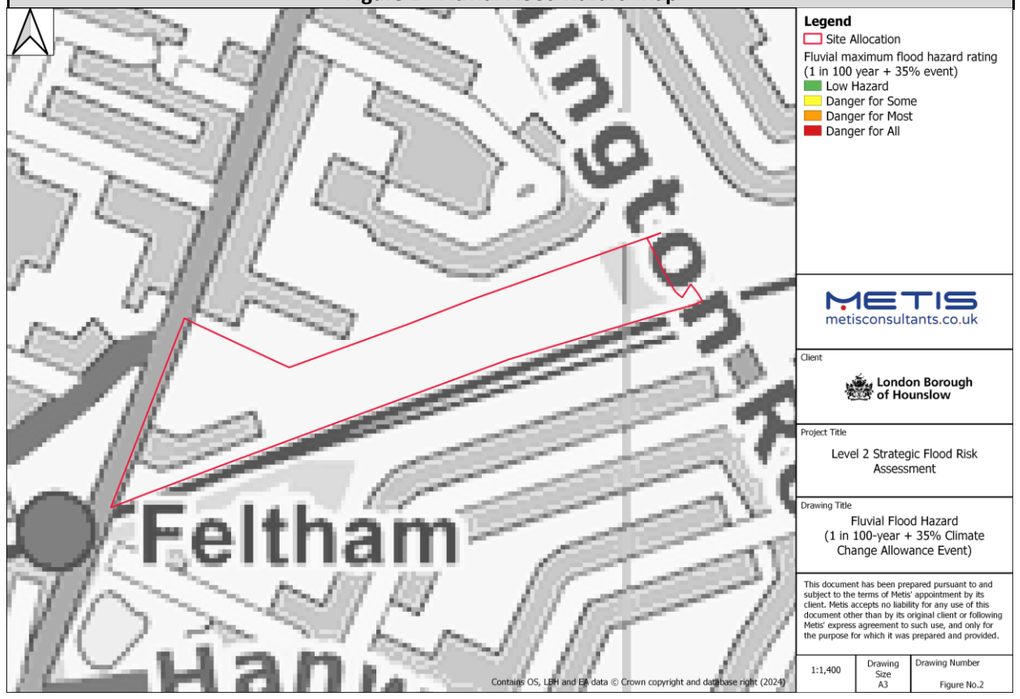


Figure 3 - RoFSW Flood Depth Map

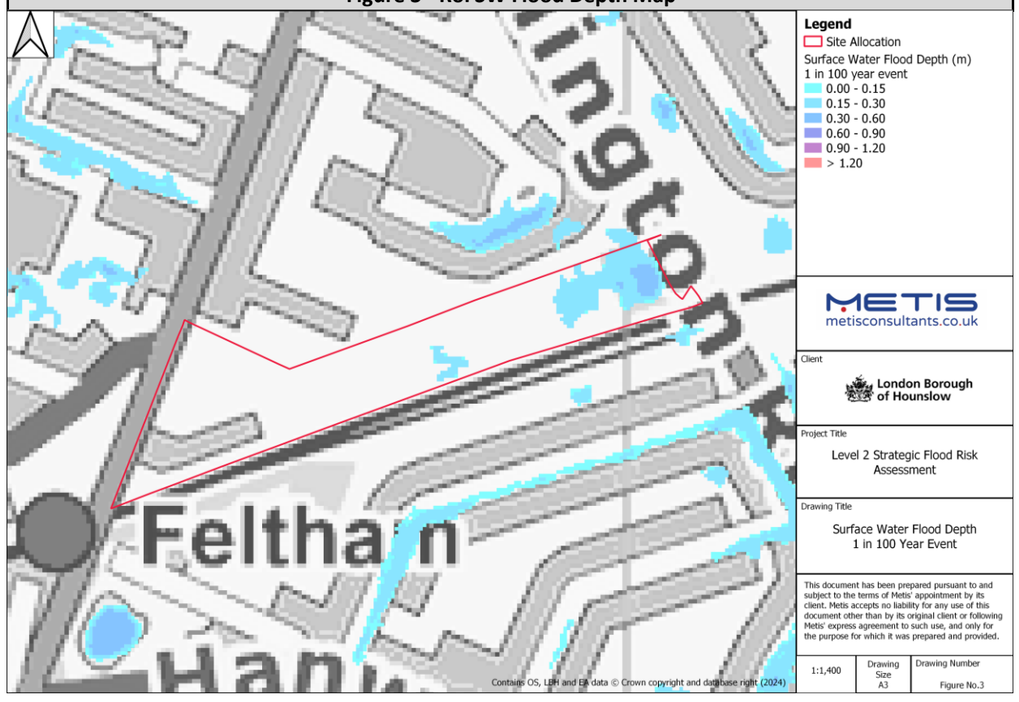


Figure 4 - RoFSW Flood Hazard Map

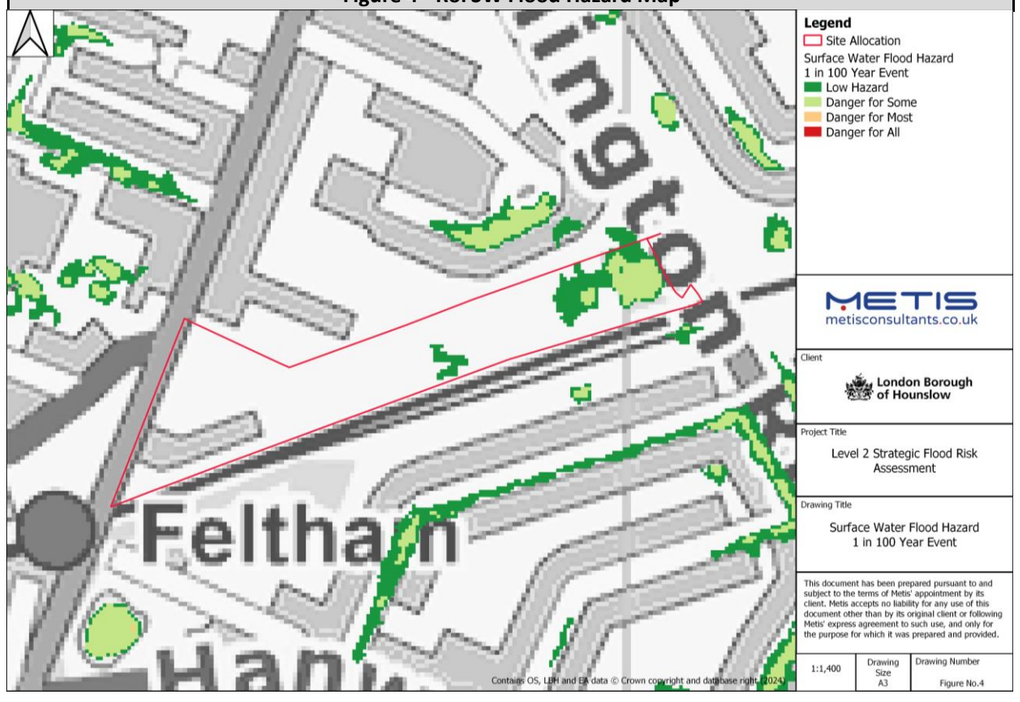


Figure 5 - Thames Water Sewer Flood Map

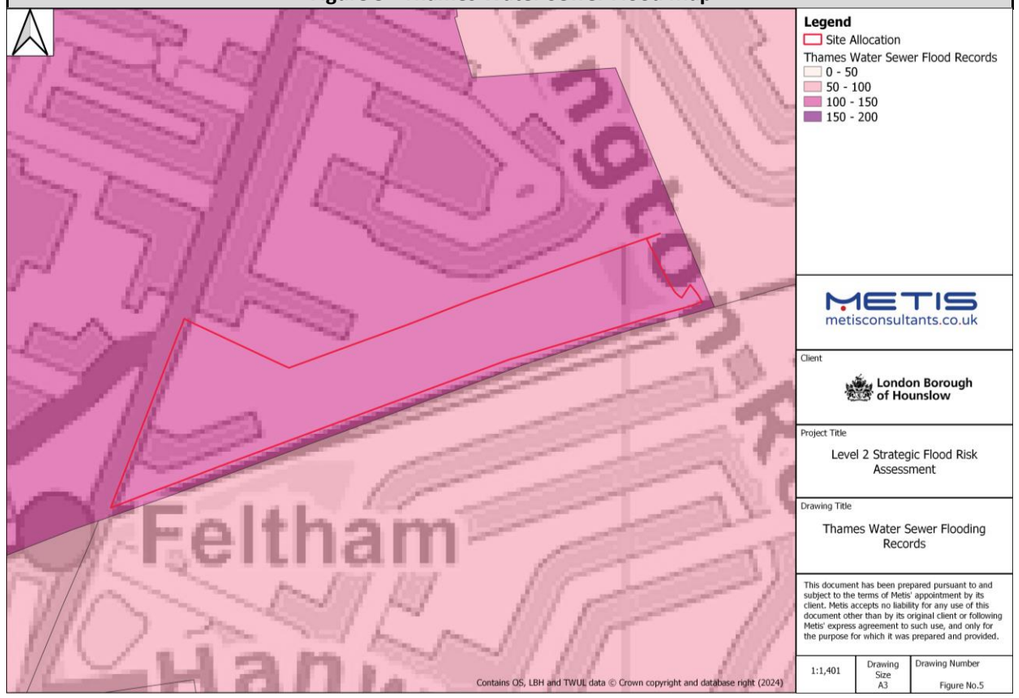


Figure 6 - Areas Susceptible to Groundwater Flooding Map

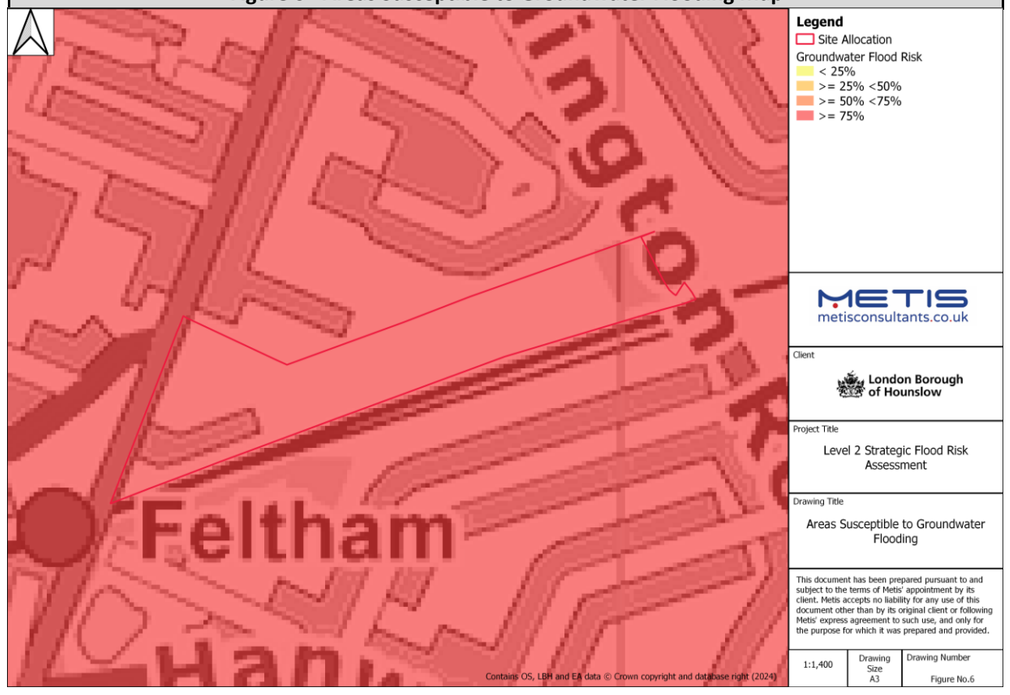
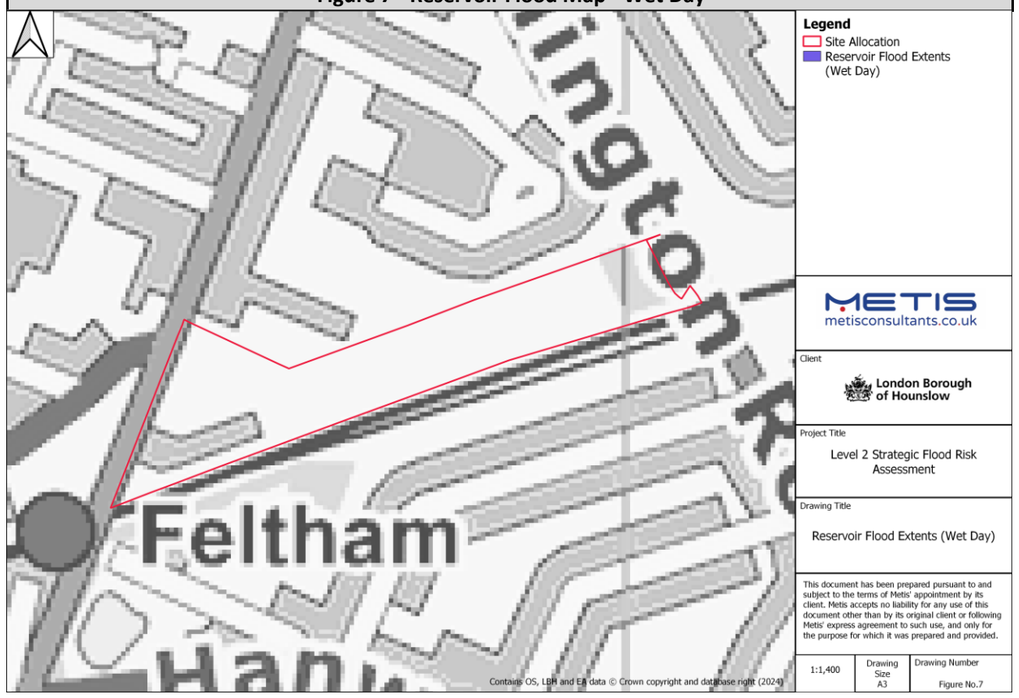


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Scout Hut Bedfont Lane

Address: Feltham, TW14 9AA

Area:	0.12 **Ha**
Site Reference:	55

Current Use	Proposed Use
Scout hut (D2) and open land	Residential and Health / Community

Current Vulnerability Classification	Proposed Vulnerability Classification
More Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	8.01	% of Site	Reservoir	No	At risk?
1 in 1000*	21.06	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					104

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	N/A	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	N/A	0.15 - 0.30	0.15 - 0.30	m
Max. Velocity	N/A	0.00 - 0.25	0.25 - 0.50	m/s
Max. Hazard	N/A	0.50 - 0.75	0.50 - 0.75	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly in the western sections of the site. • Hawkes Road to the west of the site is also predicted to be at high risk from surface water flooding. • Climate change is not predicted to increase the surface water flood risk.

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the south of the site towards Bedfont Lane where there is a lower risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the western areas of the site where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Scout Hut Bedfont Lane

SEWER

Risk Assessment

- The site falls within a postcode area where there are 104 reported flood incidents from sewer flooding.
- The site is assumed to only be served by combined sewers, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is not changing, which remains 'More Vulnerable'.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from western areas of the site.
- Safe egress routes should be directed towards the south of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 8.01% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

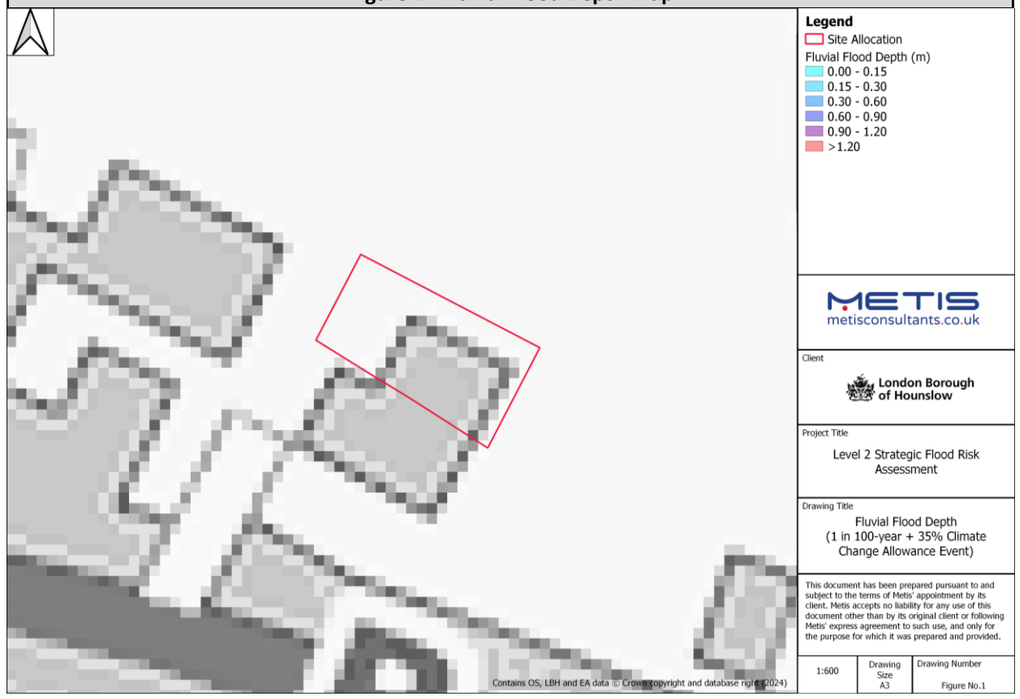


Figure 2 - Fluvial Flood Hazard Map

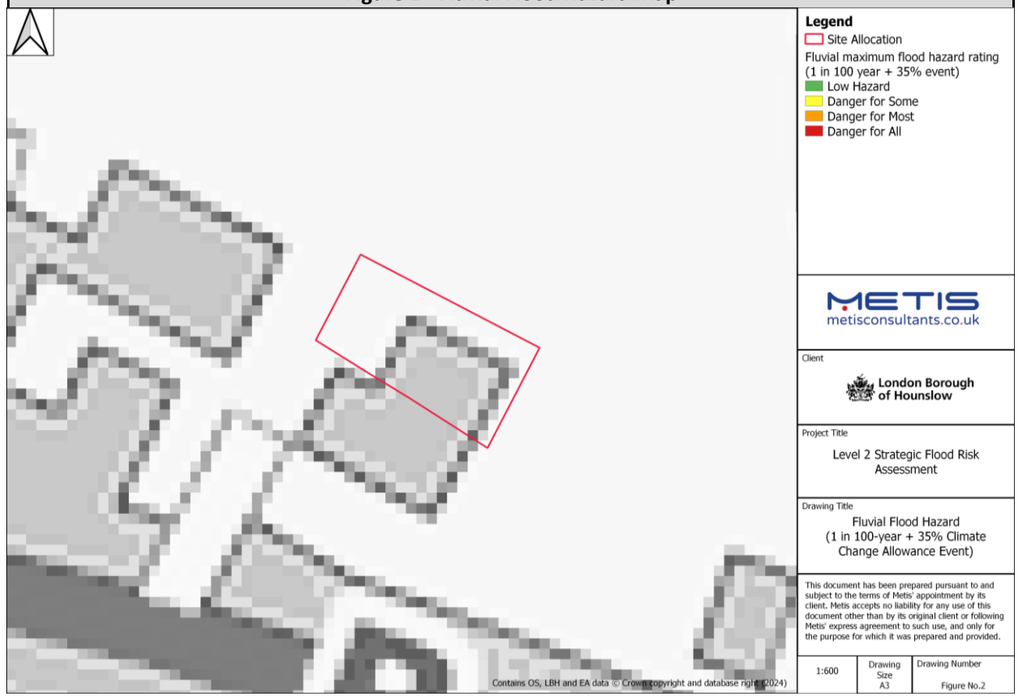


Figure 3 - RoFSW Flood Depth Map

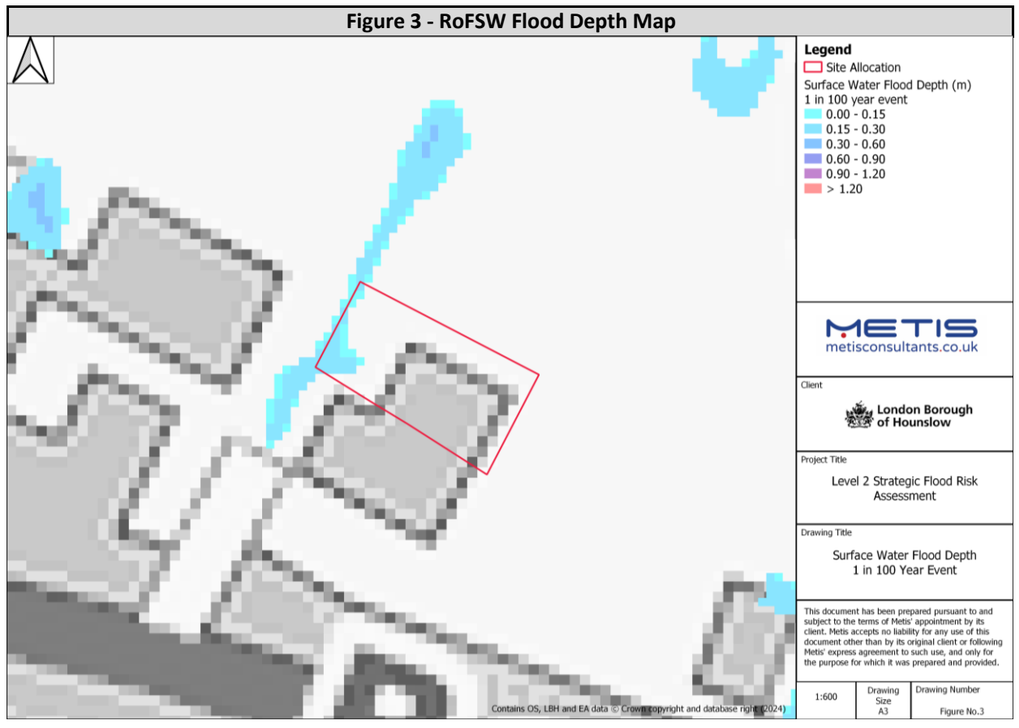


Figure 4 - RoFSW Flood Hazard Map

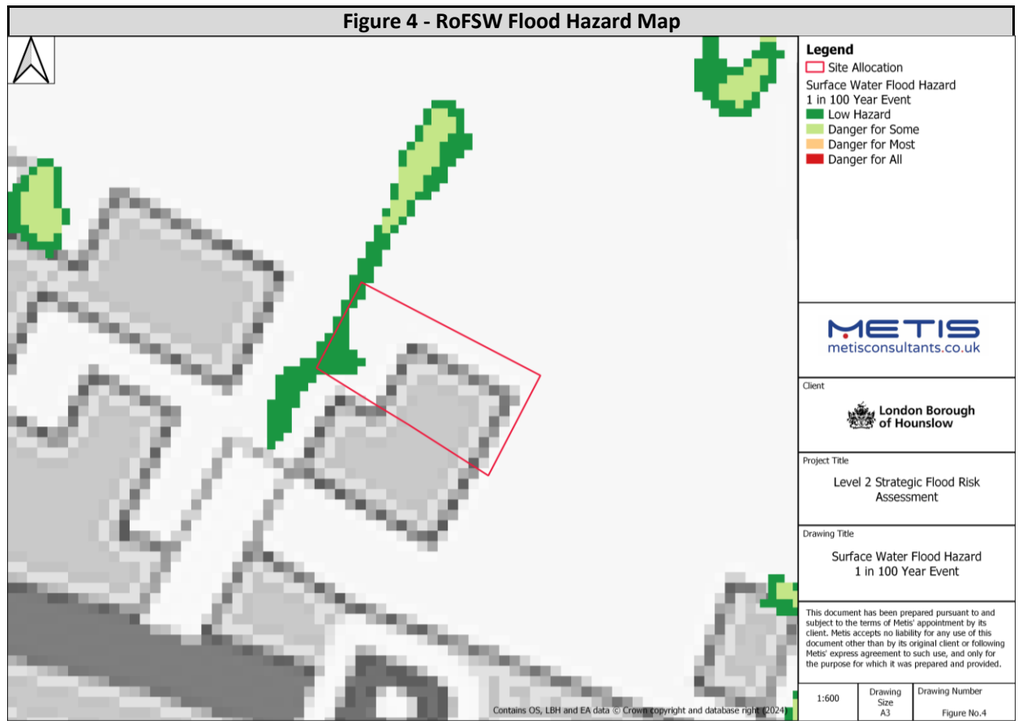


Figure 5 - Thames Water Sewer Flood Map

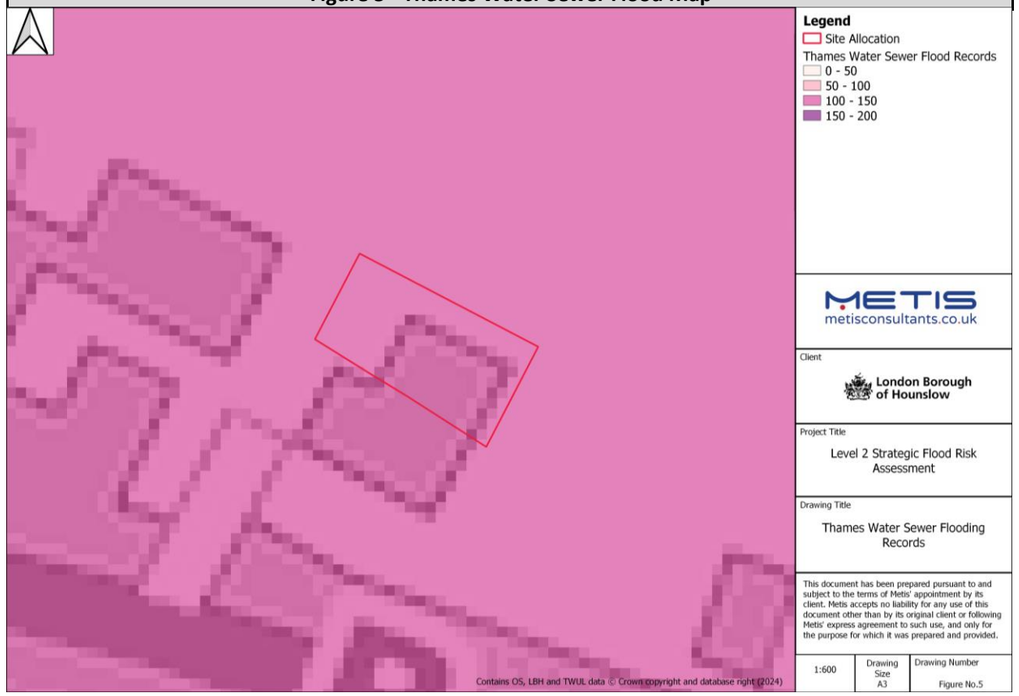


Figure 6 - Areas Susceptible to Groundwater Flooding Map

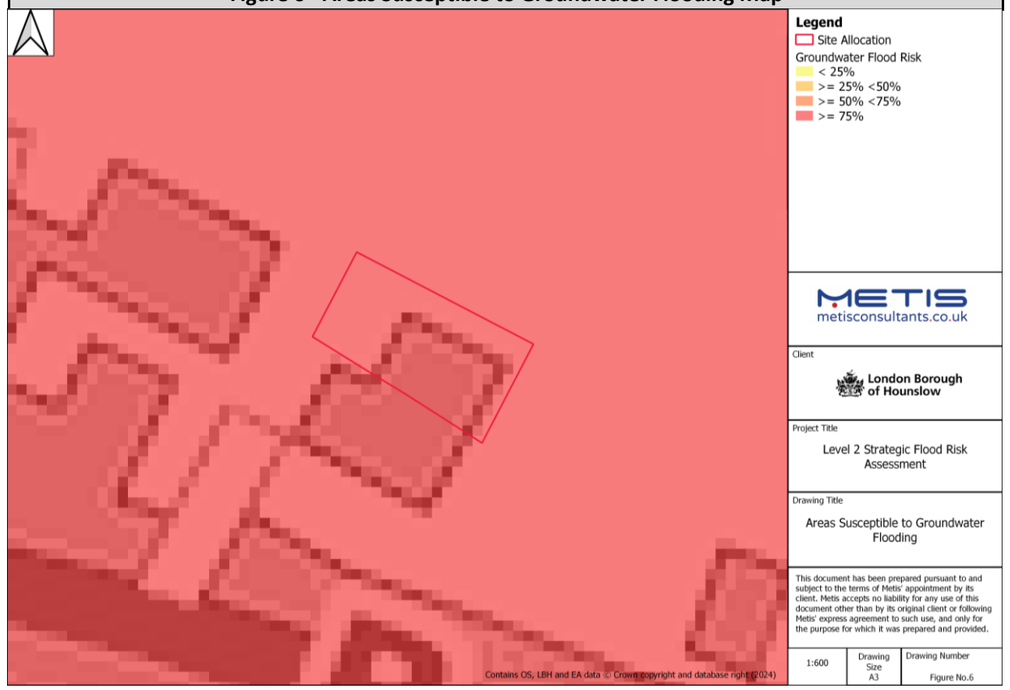
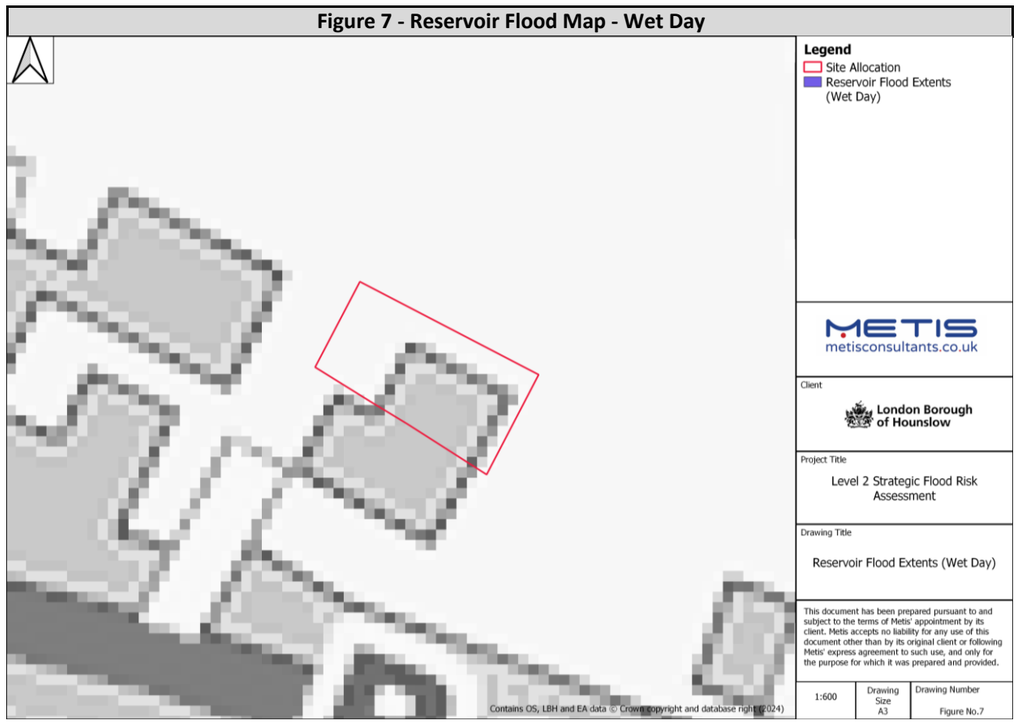


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Tesco Feltham

Address: Feltham, TW13 4EX

Area:	1.7 **Ha**
Site Reference:	59

Current Use	Proposed Use
Retail superstore (A1), parking	Residential and Retail

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	1.95	% of Site	**Artificial**		
1 in 100*+	5.64	% of Site	Reservoir	No	At risk?
1 in 1000*	10.87	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					86

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	0.30 - 0.60	0.30 - 0.60	0.30 - 0.60	m
Max. Velocity	0.25 - 0.50	0.50 - 1.00	1.00 - 2.00	m/s
Max. Hazard	0.75 - 1.25	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The north-eastern part of the site is at high risk of surface water flooding. The western part of the site is at low risk of surface water flooding • Climate change is predicted to increase the maximum velocity of surface water flooding

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the south of the site towards Manor Lane where there is no risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from some north-eastern areas surrounding the existing building where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Tesco Feltham

SEWER

Risk Assessment

- The site falls within a postcode area where there are 86 reported flood incidents from sewer flooding.
- The site is served by separate surface water and foul sewer networks.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from north-eastern and western areas of the site.
- Safe egress routes should be directed towards the south of the site where there is no risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 5.64% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

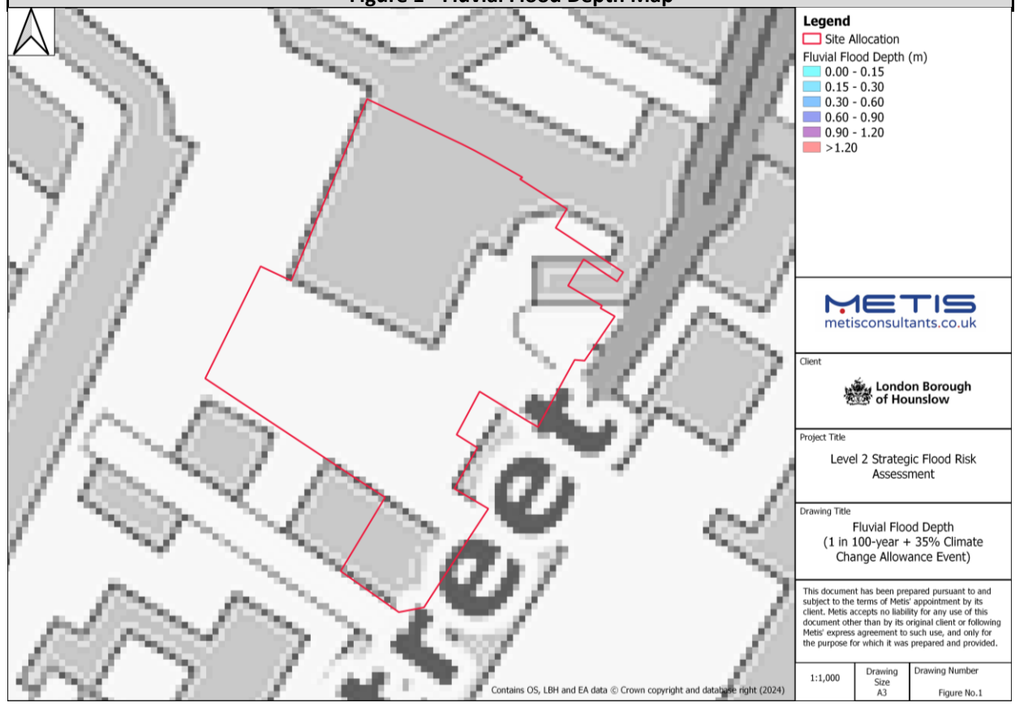


Figure 2 - Fluvial Flood Hazard Map

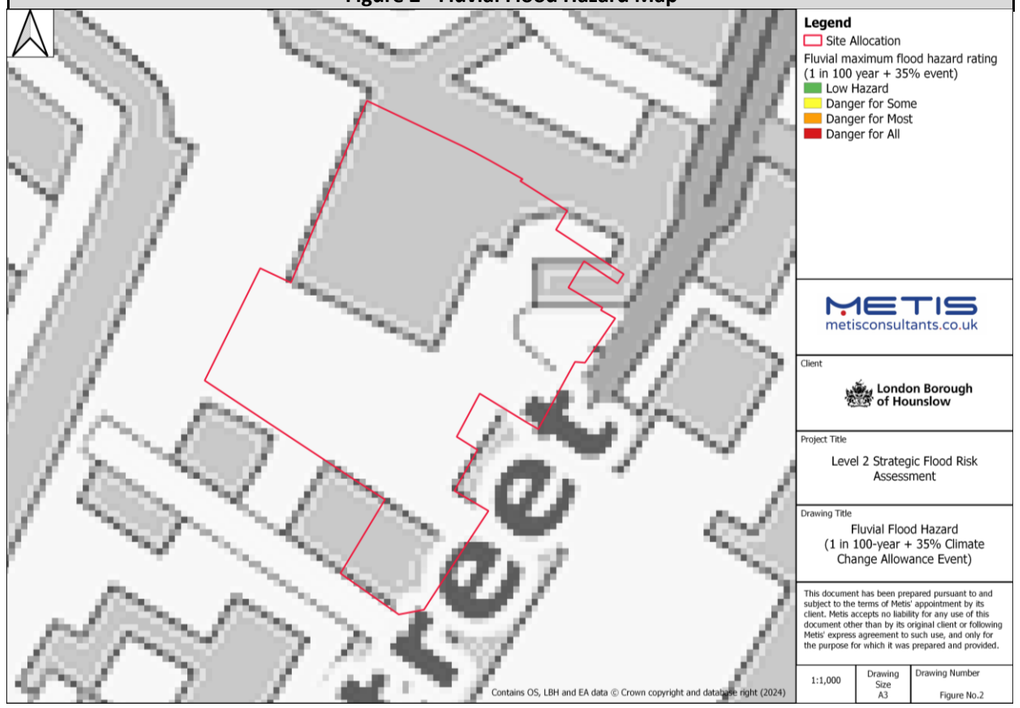


Figure 3 - RoFSW Flood Depth Map

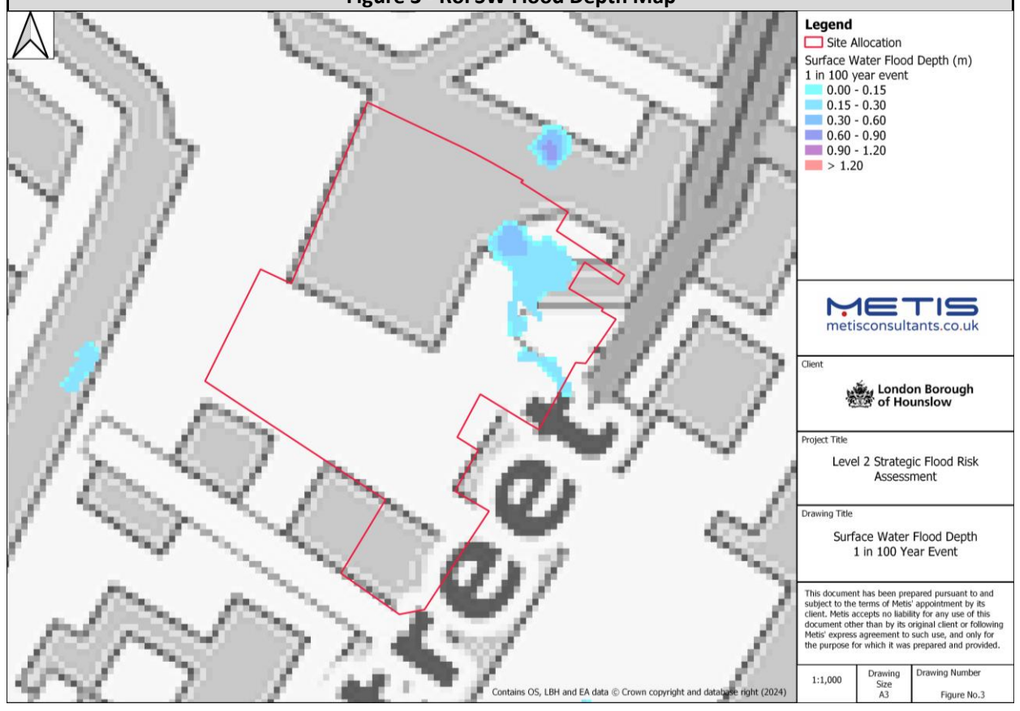


Figure 4 - RoFSW Flood Hazard Map

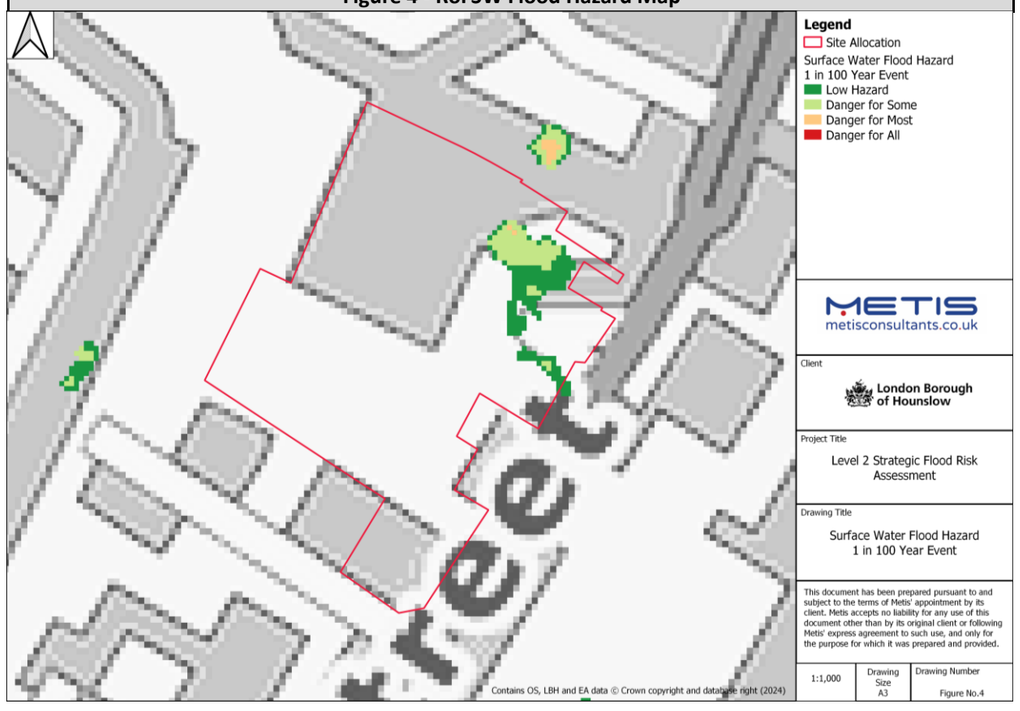


Figure 5 - Thames Water Sewer Flood Map

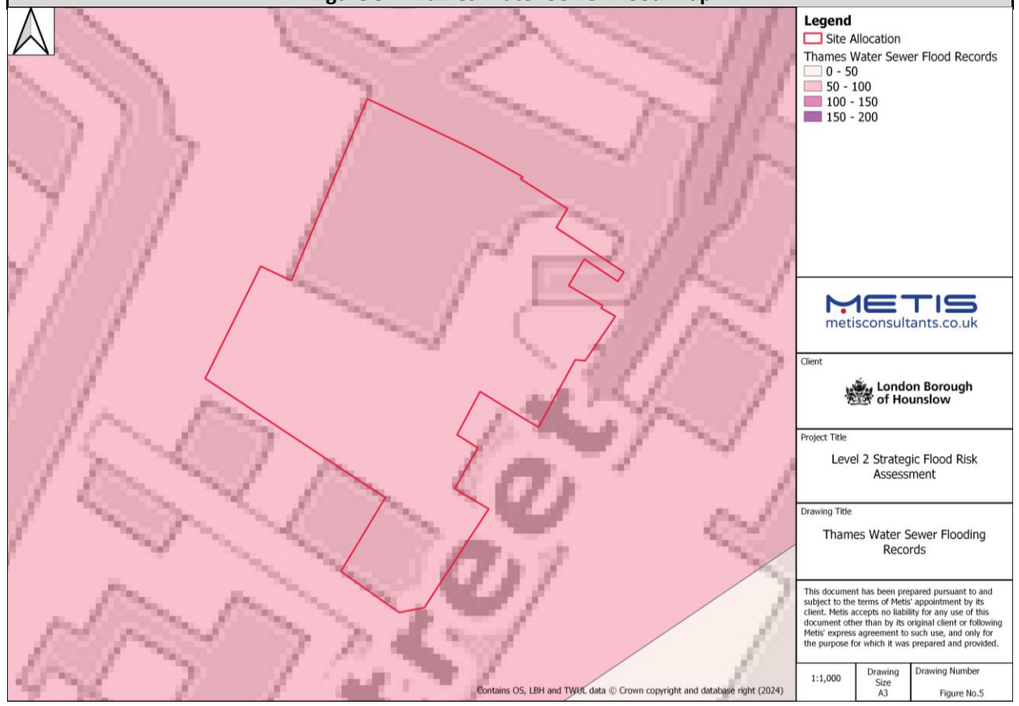


Figure 6 - Areas Susceptible to Groundwater Flooding Map

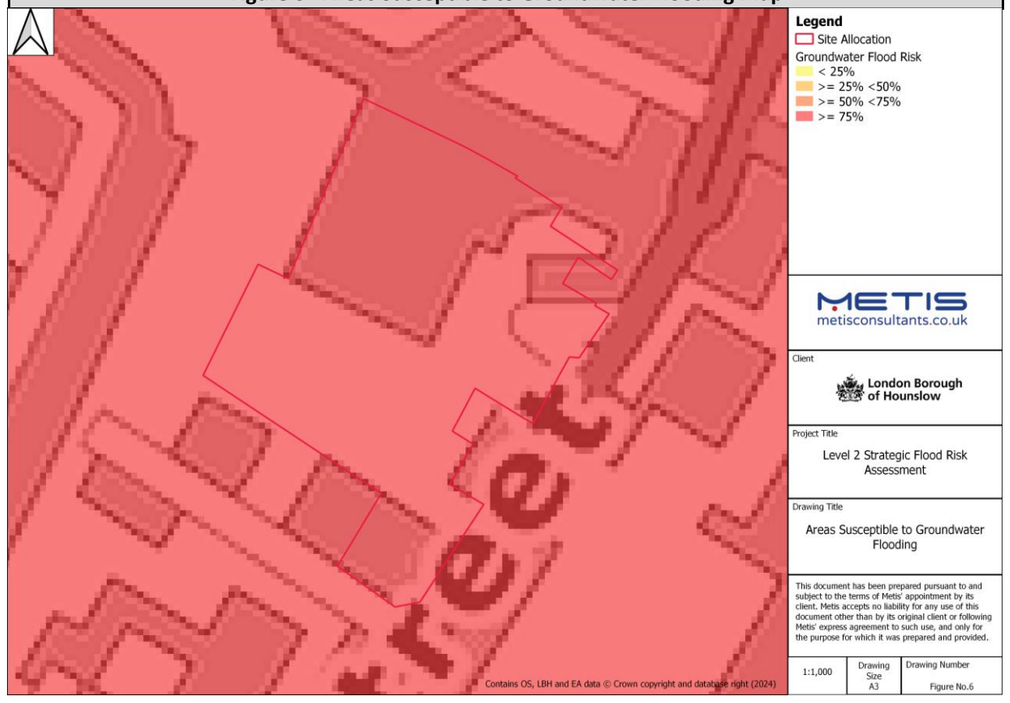
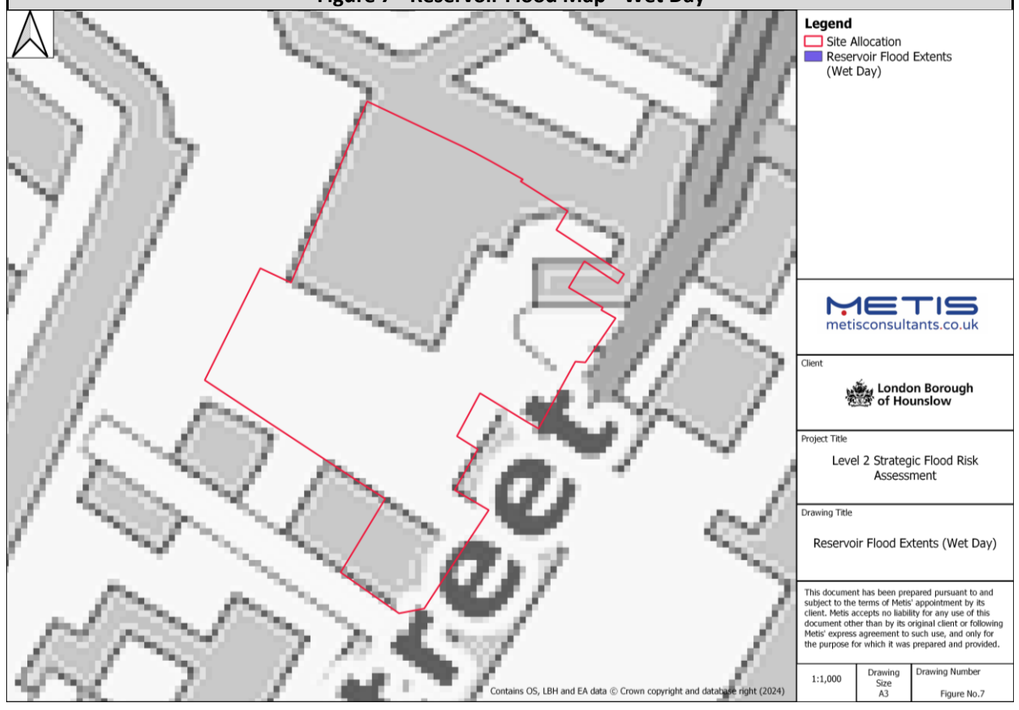


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Council Depot Ashmead Road

Address: Feltham, TW14 9NN

Area:	0.7 **Ha**
Site Reference:	61

Current Use	Proposed Use
Vehicle depot (Sui Generis)	Residential

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	4.11	% of Site	**Artificial**		
1 in 100*+	6.96	% of Site	Reservoir	No	At risk?
1 in 1000*	33.76	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					104

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	0.30 - 0.60	0.30 - 0.60	0.30 - 0.60	m
Max. Velocity	0.25 - 0.50	0.25 - 0.50	1.00 - 2.00	m/s
Max. Hazard	0.75 - 1.25	0.75 - 1.25	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly in the southern, eastern and western areas surrounding the exisiting building and carpark. • Ashmead Road in the east of the site is also at risk of surface water flooding. • Climate change is predicted to increase the maximum velocity and hazard of surface water flooding.

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the north-west of the site towards the access road where there is a lower risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the southern, eastern and western areas surrounding the existing buildings and carpark where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Council Depot Ashmead Road

SEWER

Risk Assessment

- The site falls within a postcode area where there are 104 reported flood incidents from sewer flooding.
- There is a combined sewer running north to south through the site. A surface water sewer network surrounds the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from southern, eastern and western areas surrounding the carpark and exisiting buildings.
- Safe egress routes should be directed towards the north-west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 6.96% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

Figure 2 - Fluvial Flood Hazard Map

Figure 3 - RoFSW Flood Depth Map

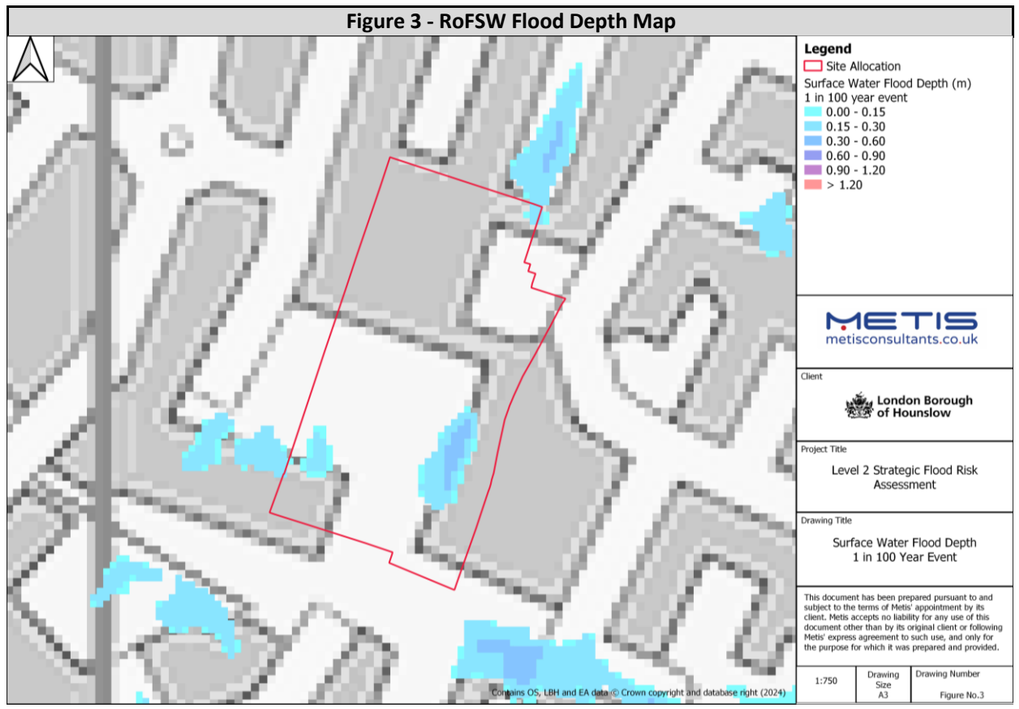


Figure 4 - RoFSW Flood Hazard Map

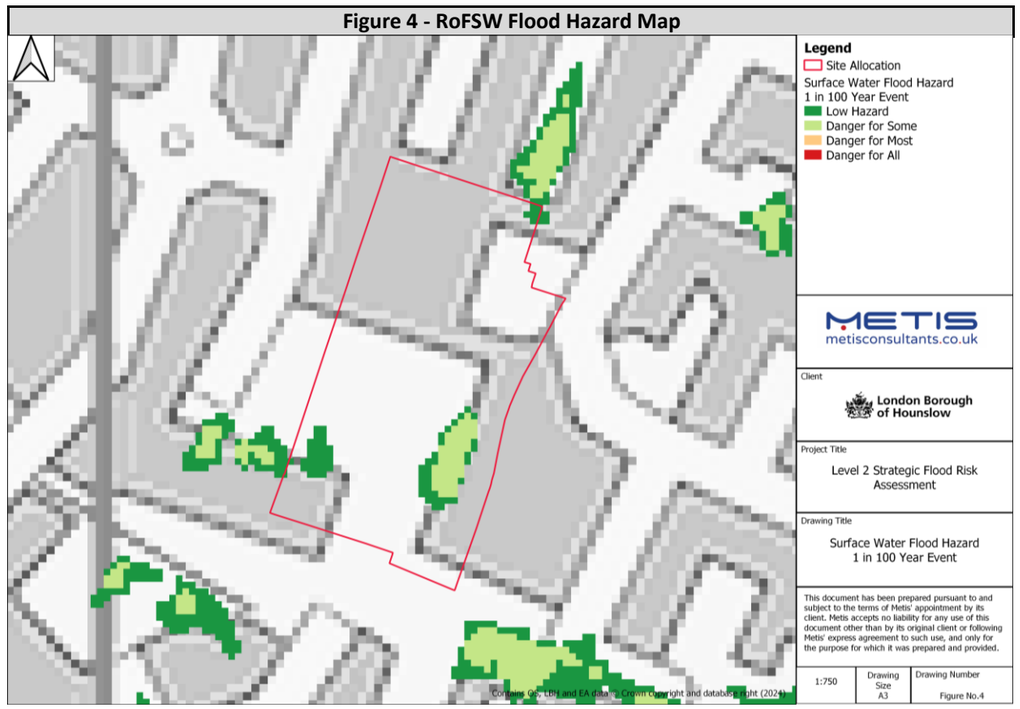


Figure 5 - Thames Water Sewer Flood Map

Figure 6 - Areas Susceptible to Groundwater Flooding Map

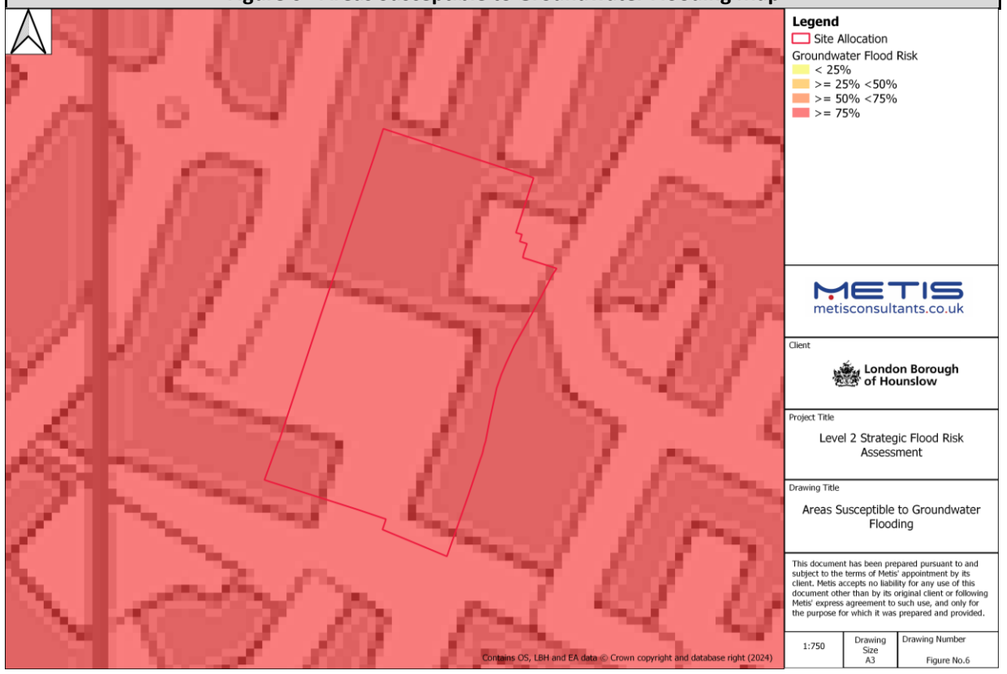
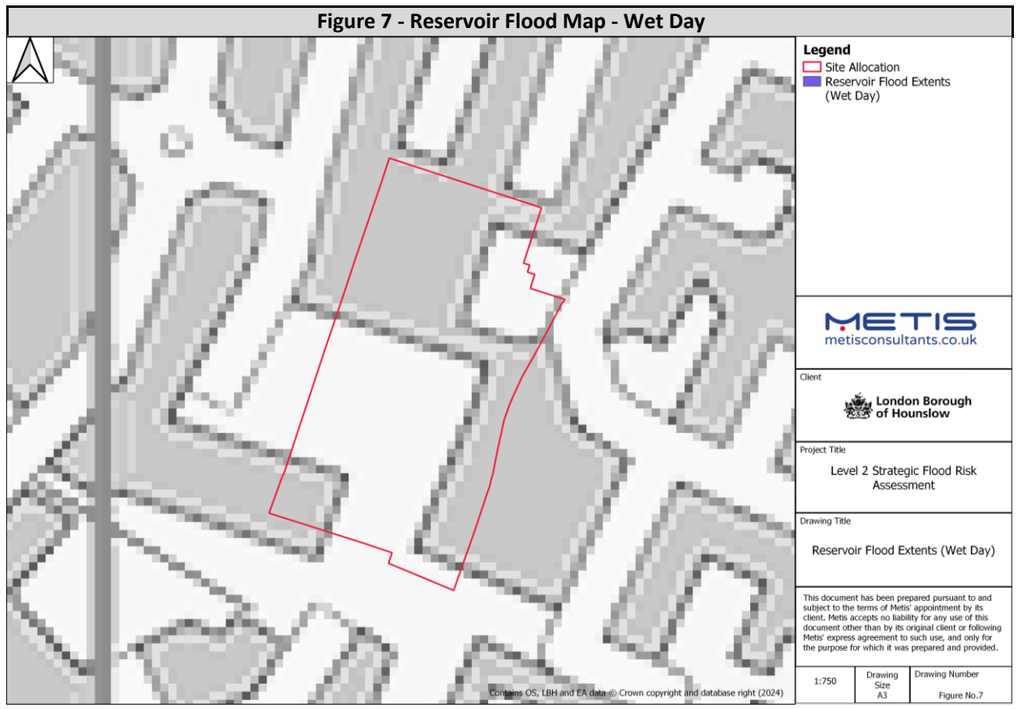


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - 80-86 High Street Feltham

Address: Feltham, TW13 4EX

Area:	0.4 **Ha**
Site Reference:	63

Current Use	Proposed Use
Retail superstore (A1), parking	Residential and Retail

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	4.29	% of Site	**Artificial**		
1 in 100*+	5.26	% of Site	Reservoir	No	At risk?
1 in 1000*	5.36	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					86

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	0.60 - 0.90	0.60 - 0.90	0.60 - 0.90	m
Max. Velocity	0.50 - 1.00	1.00 - 2.00	1.00 - 2.00	m/s
Max. Hazard	1.25 - 2.00	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly in the central area. • Climate change is not predicted to increase the risk of surface water flooding

Site Access / Egress
Safe access and egress routes should be directed to the east of the site towards High Street or north of the site towards Highfield Road where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the central areas where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - 80-86 High Street Feltham

SEWER

Risk Assessment

- The site falls within a postcode area where there are 86 reported flood incidents from sewer flooding.
- The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from central areas of the site.
- Safe egress routes should be directed towards the north and east of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 5.26% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

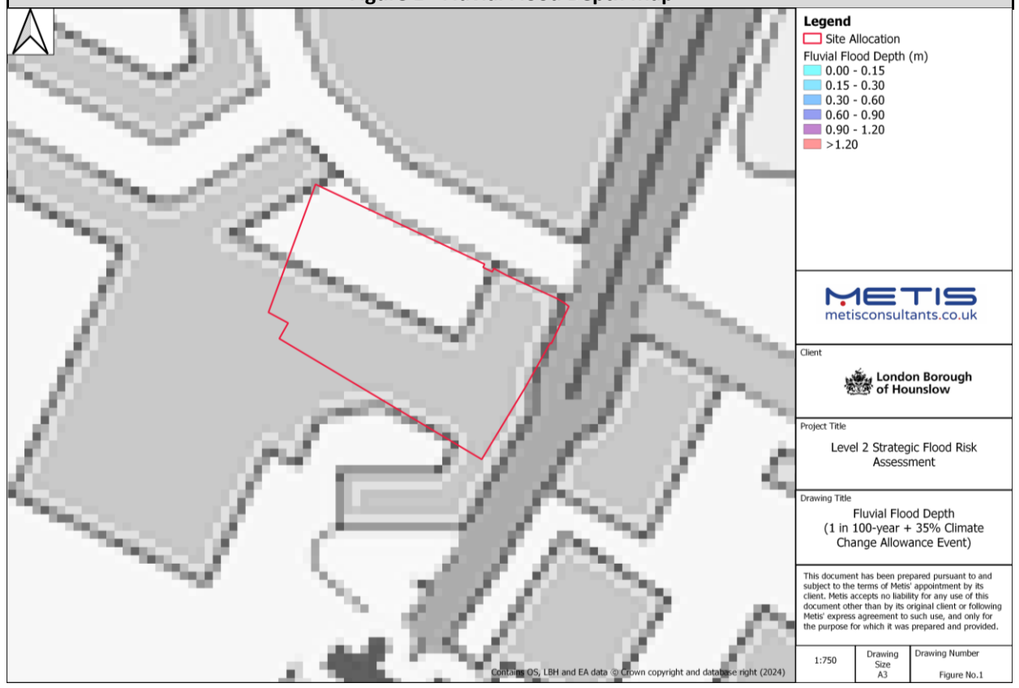


Figure 2 - Fluvial Flood Hazard Map

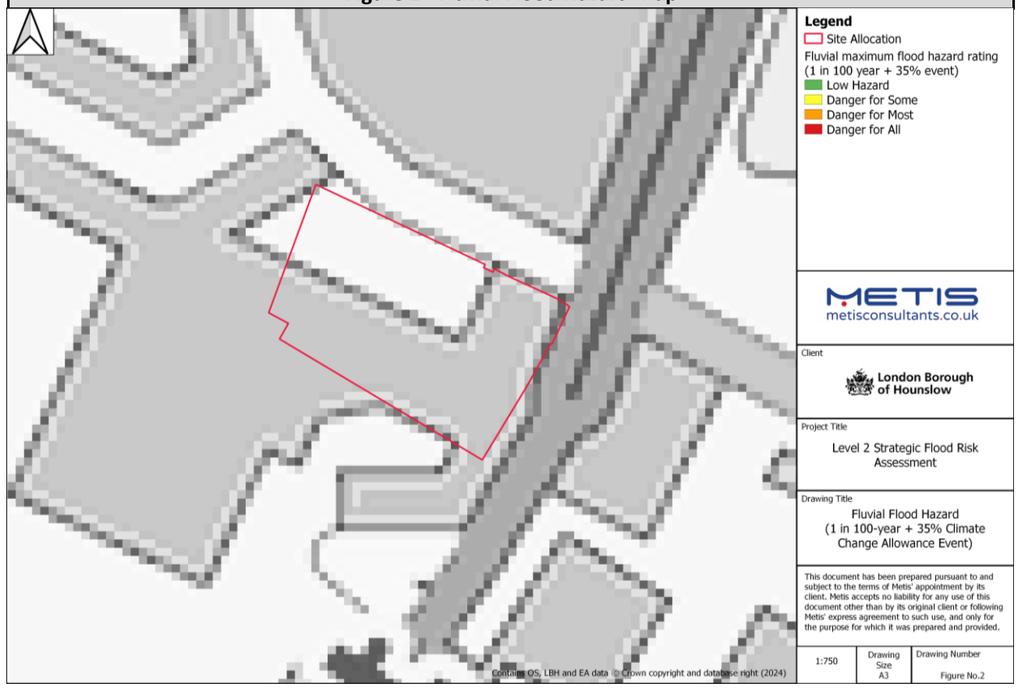


Figure 3 - RoFSW Flood Depth Map

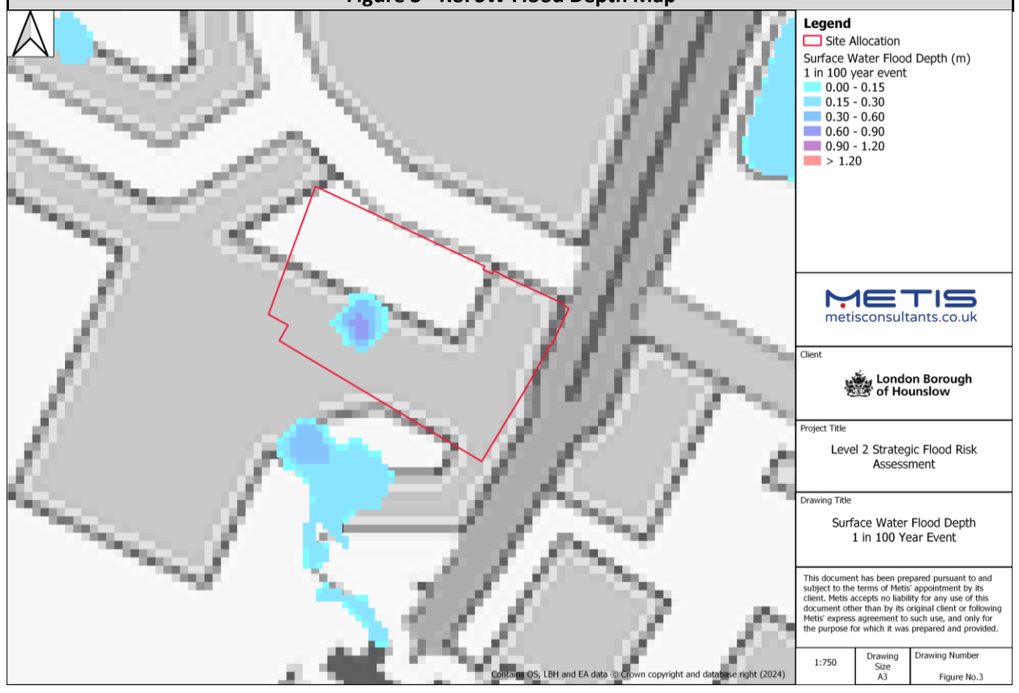


Figure 4 - RoFSW Flood Hazard Map

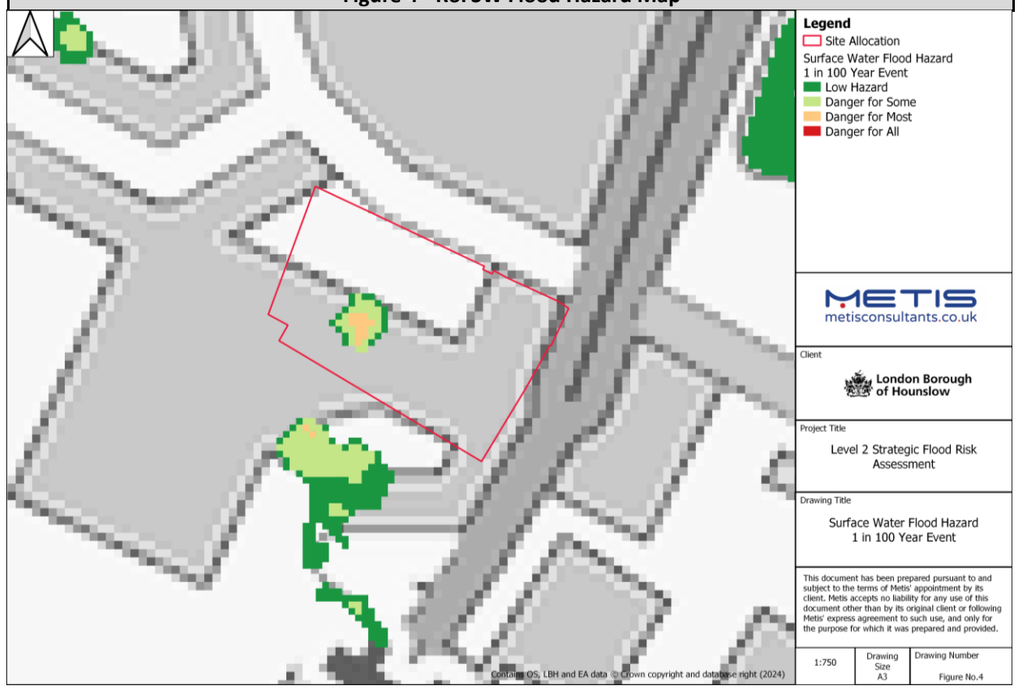


Figure 5 - Thames Water Sewer Flood Map

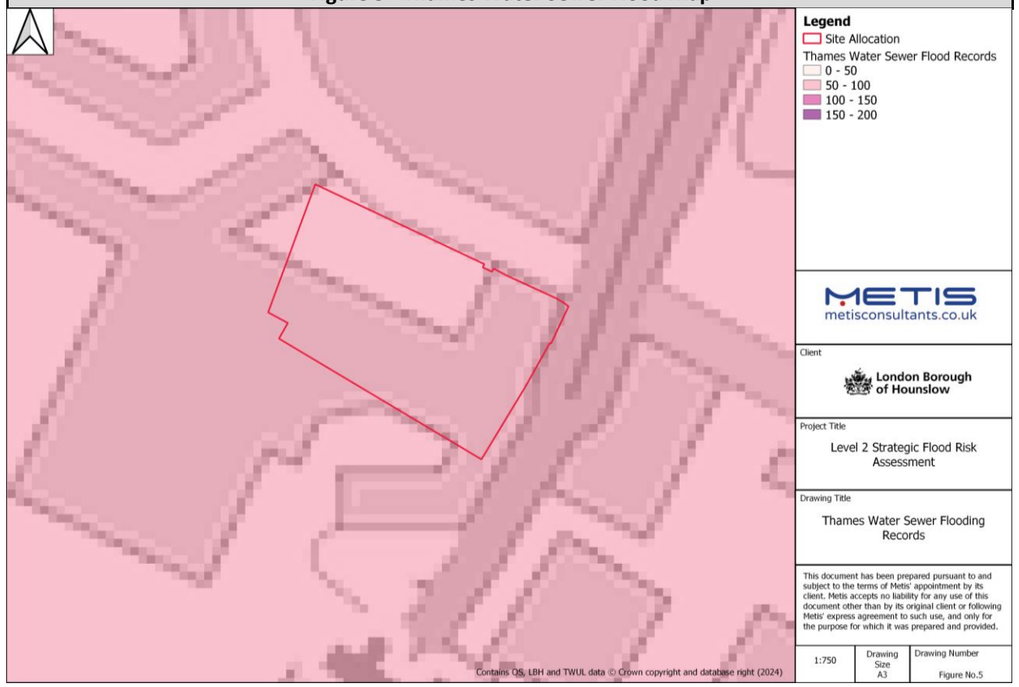


Figure 6 - Areas Susceptible to Groundwater Flooding Map

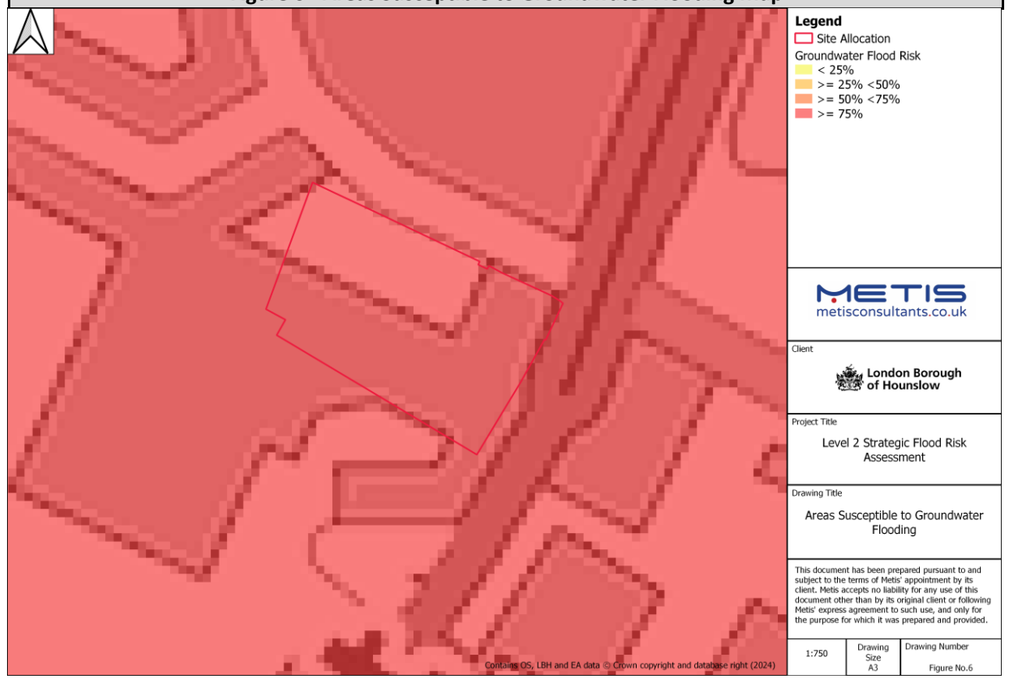
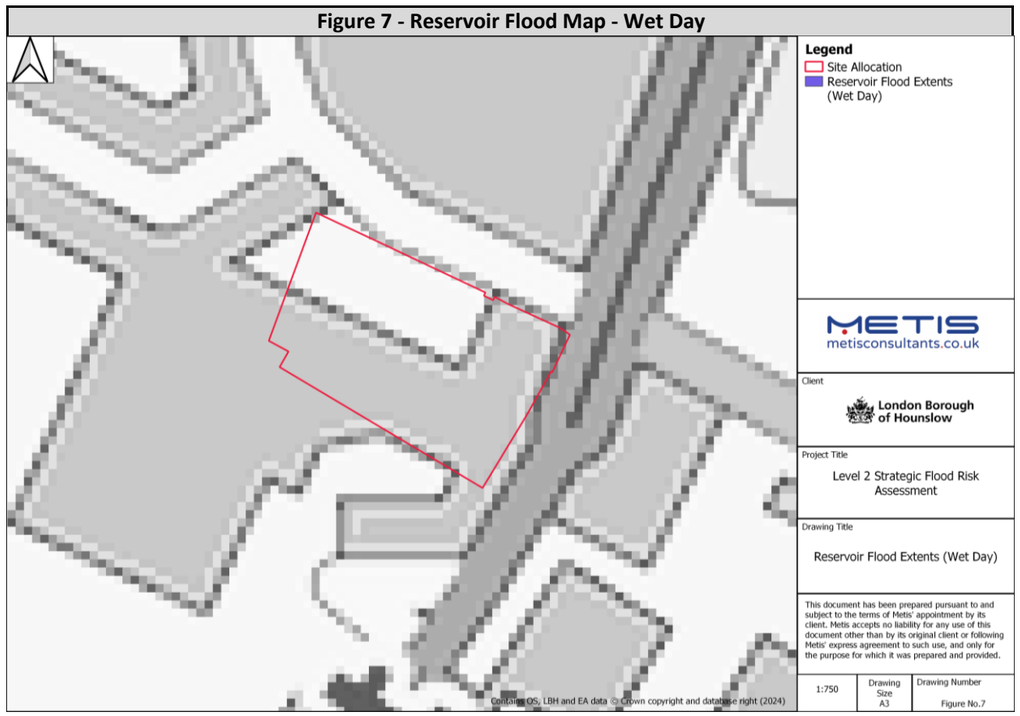


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Euro House Hounslow

Address: High Street, TW3 1NW

Area: 0.57 **Ha**

Site Reference: 87

Current Use	Proposed Use
Offices (B1) with ground floor commercial (A1)	Residential and Retail

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	33.91	% of Site	Reservoir	No	At risk?
1 in 1000*	72.12	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					100

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	N/A	0.00 - 0.15	<0.15	m
Max. Depth	N/A	0.90 - 1.20	> 1.20	m
Max. Velocity	N/A	0.50 - 1.00	1.00 - 2.00	m/s
Max. Hazard	N/A	1.25 - 2.00	> 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at low to medium risk of surface water flooding, particularly in the central and eastern areas surrounding the existing buildings and roads. • Lawrence Road in the central areas of the site is also predicted to be at risk from surface water flooding. • Climate change is predicted to increase the minimum depth, and maximum depth, velocity and hazard of surface water flooding

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress
Safe access and egress routes should be directed to the south-west of the site towards High Street, or North-west towards Prince Regent Road where there is a lower risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the eastern areas surrounding the existing buildings and some central areas of the site along the road where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Euro House Hounslow

SEWER

Risk Assessment

- The site falls within a postcode area where there are 100 reported flood incidents from sewer flooding.
- The site is served by separate surface water and foul sewer networks, which run through the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas and some areas of green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from central and eastern areas of the site.
- Safe egress routes should be directed towards the north-west and south-west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 33.91% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

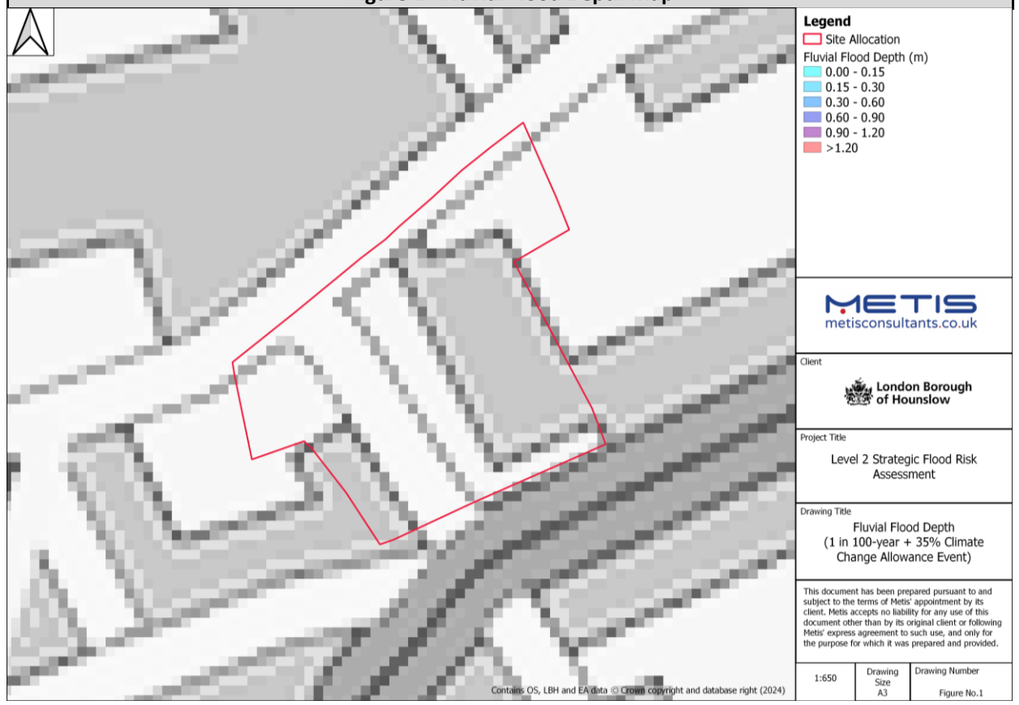


Figure 2 - Fluvial Flood Hazard Map

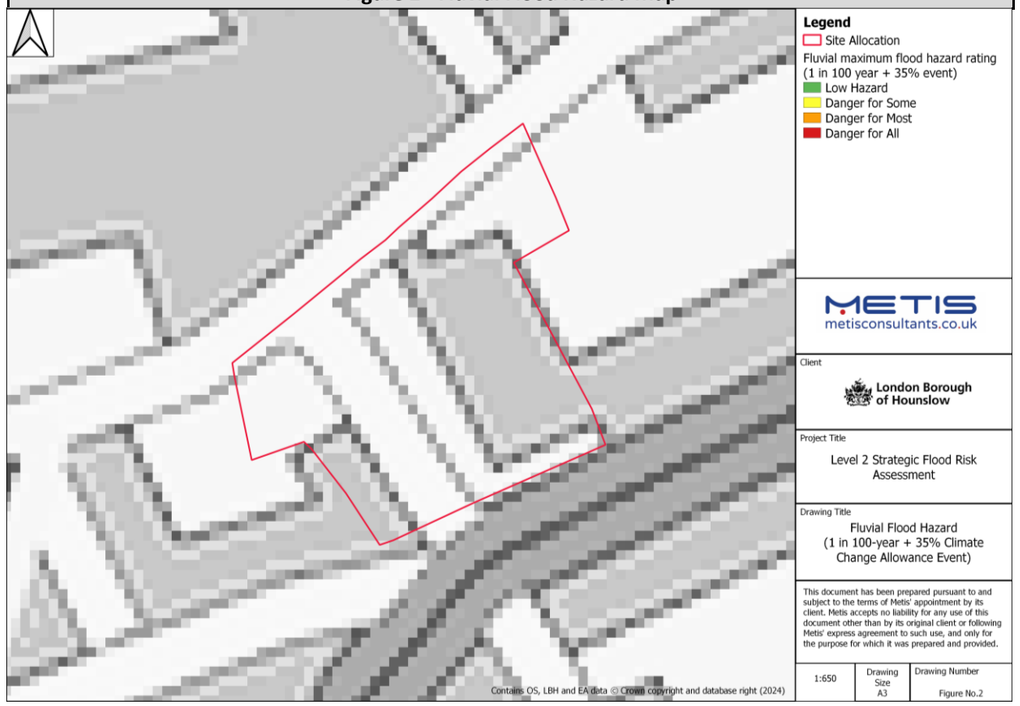


Figure 3 - RoFSW Flood Depth Map

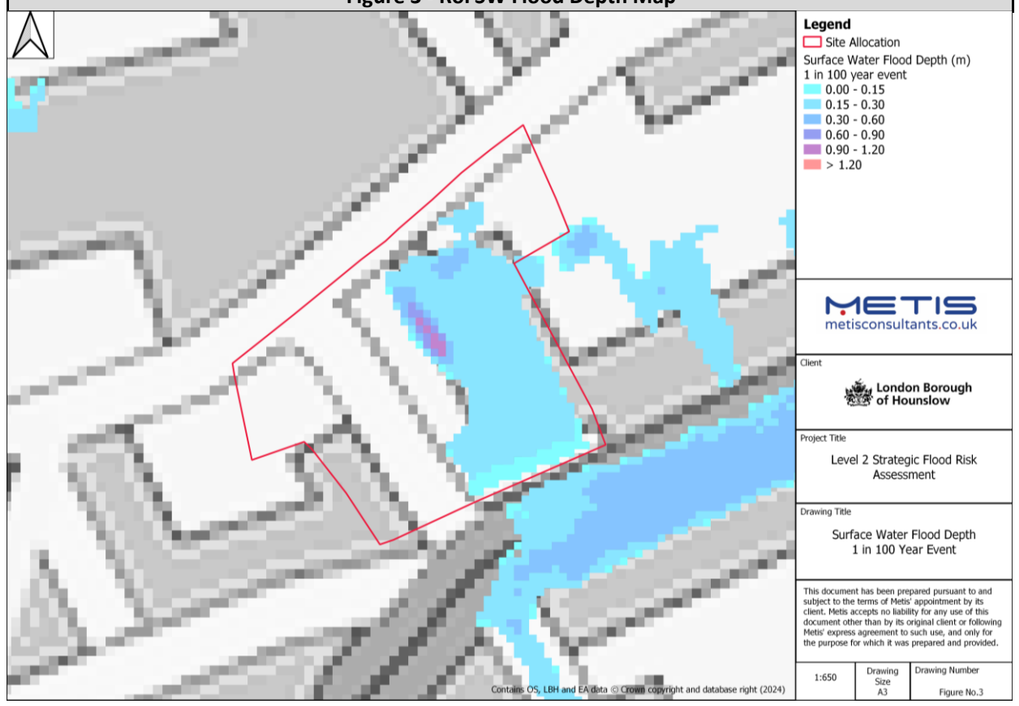


Figure 4 - RoFSW Flood Hazard Map

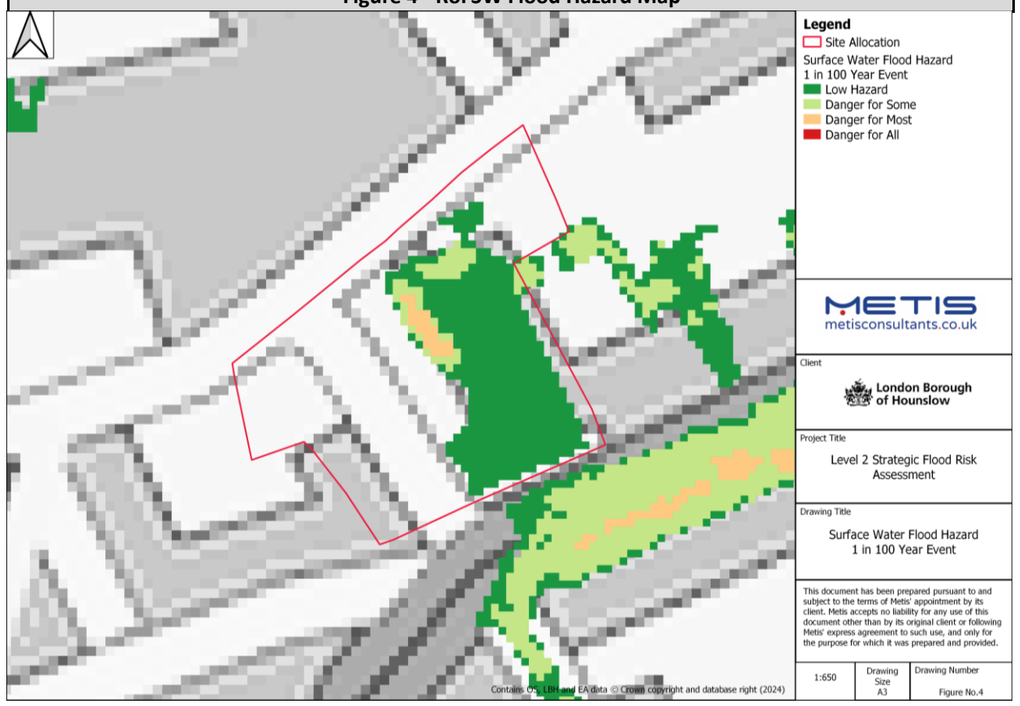


Figure 5 - Thames Water Sewer Flood Map

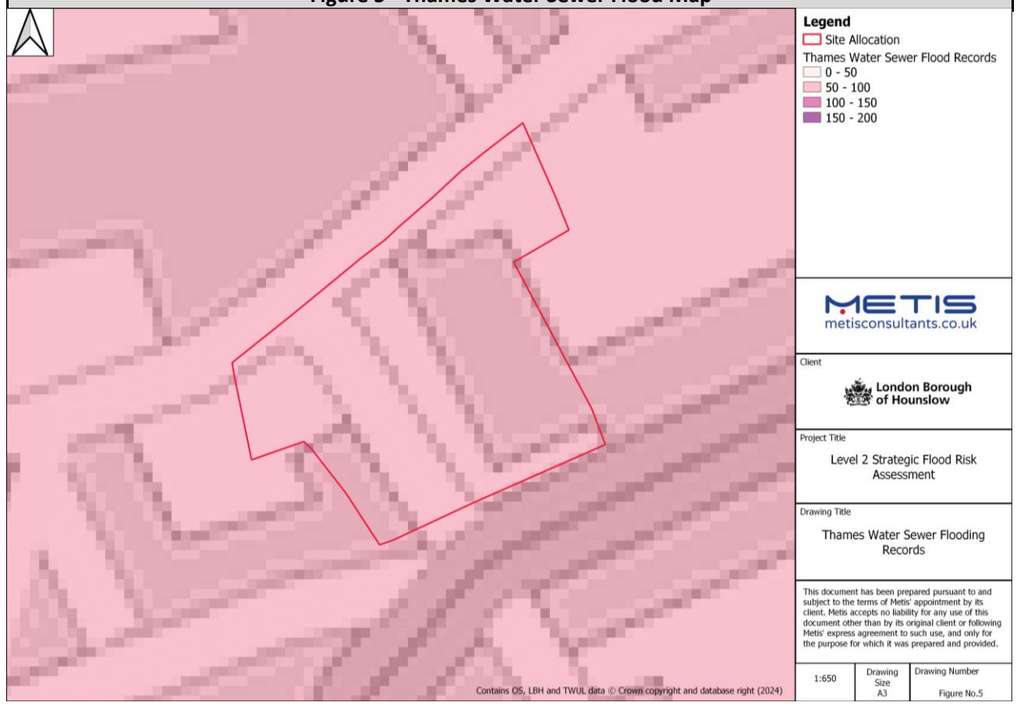


Figure 6 - Areas Susceptible to Groundwater Flooding Map

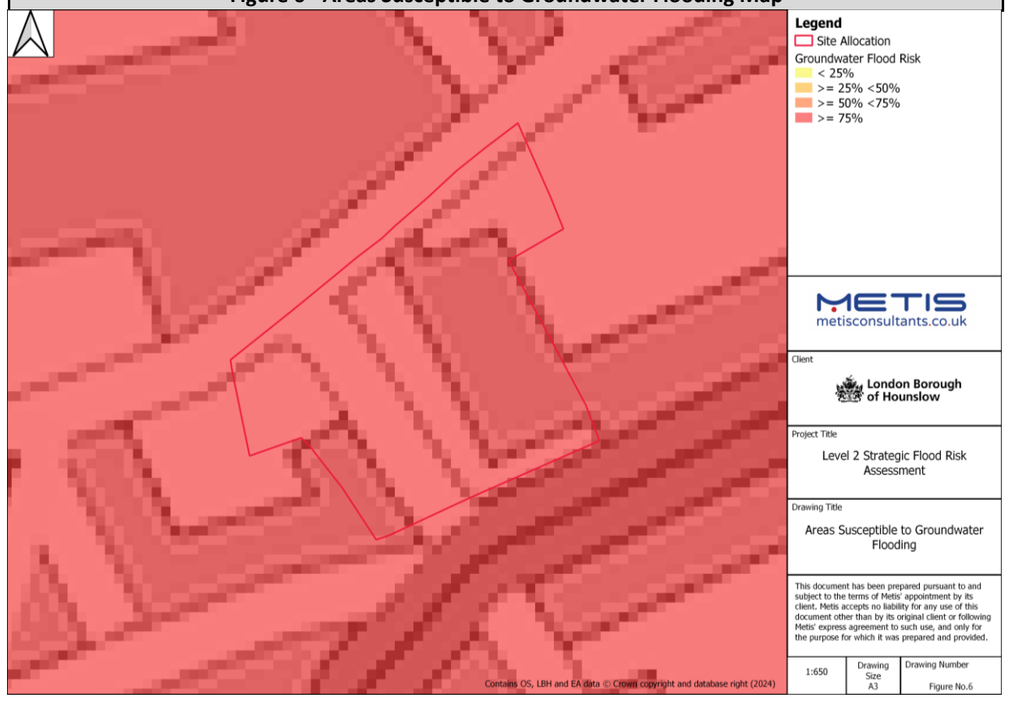
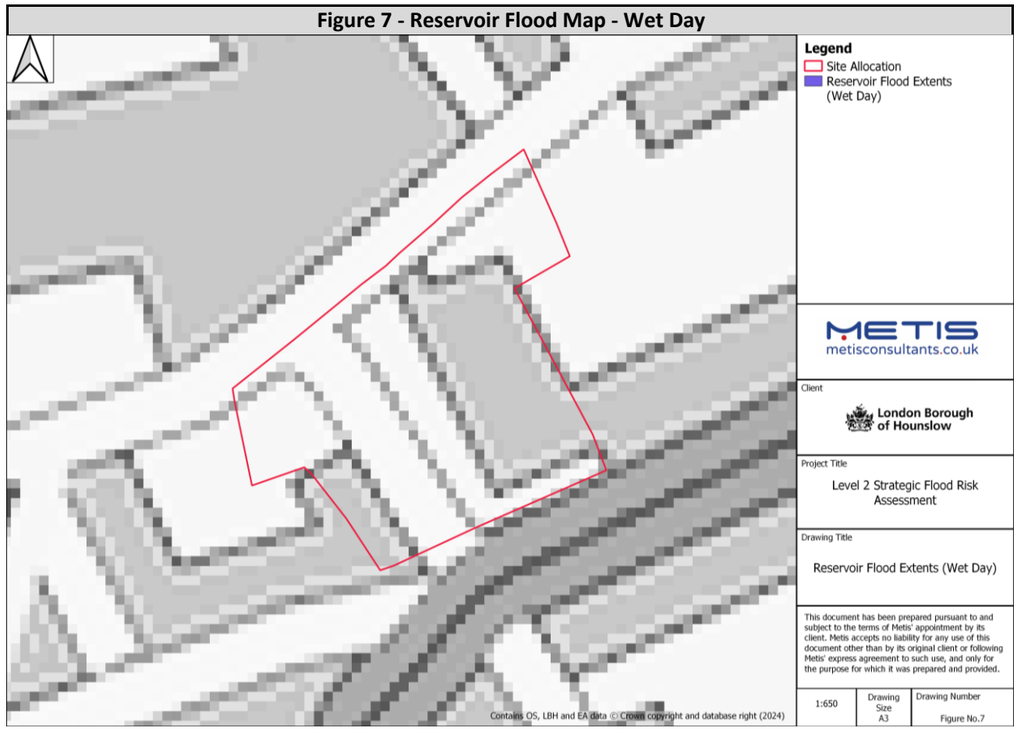


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Land at James Street

Address: James Street, TW3 1SP

Area: 0.5 **Ha**

Site Reference: 89

Current Use	Proposed Use
Allotment	Residential

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	8.55	% of Site	Reservoir	No	At risk?
1 in 1000*	25.81	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					100

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	N/A	0.15 - 0.30	0.00 - 0.15	m
Max. Depth	N/A	0.30 - 0.60	0.30 - 0.60	m
Max. Velocity	N/A	0.00 - 0.25	0.25 - 0.50	m/s
Max. Hazard	N/A	0.75 - 1.25	0.75 - 1.25	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at low to medium risk of surface water flooding, particularly in the western and southern areas of the site. • Climate change is predicted to increase the maximum velocity of surface water flooding.

Site Access / Egress
Safe access and egress routes should be directed to the north-west of the site towards James Street where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the western and southern areas of the site where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Land at James Street

SEWER

Risk Assessment

- The site falls within a postcode area where there are 100 reported flood incidents from sewer flooding.
- There is a combined sewer which runs west to east throughout the site

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a greenfield site with open green space. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from western and southern areas of the site.
- Safe egress routes should be directed towards the north-west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 8.55% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

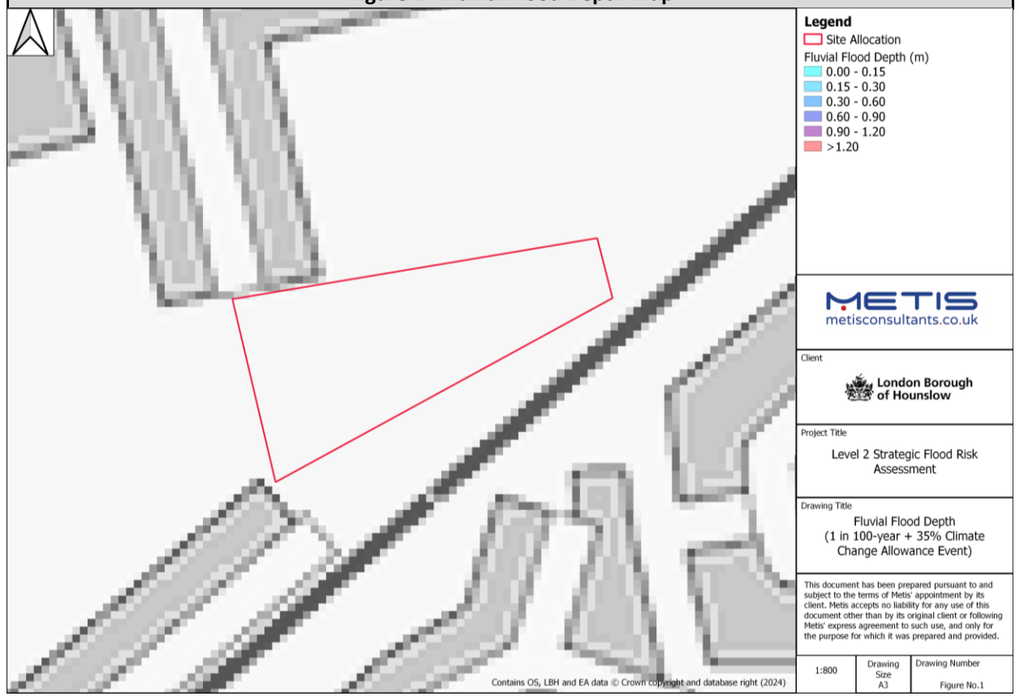


Figure 2 - Fluvial Flood Hazard Map

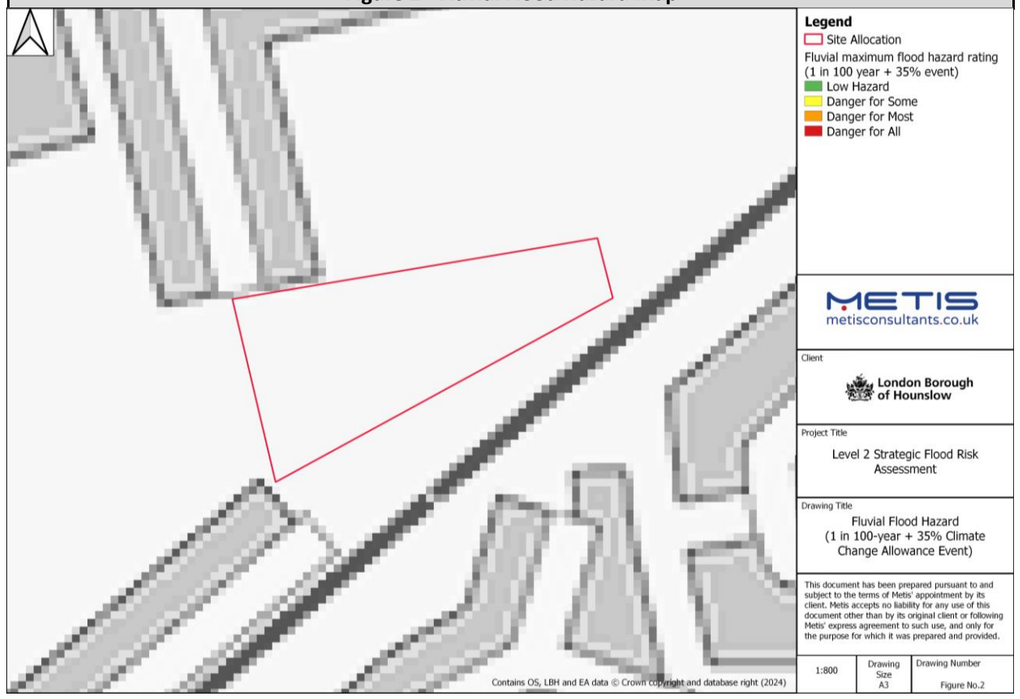


Figure 3 - RoFSW Flood Depth Map

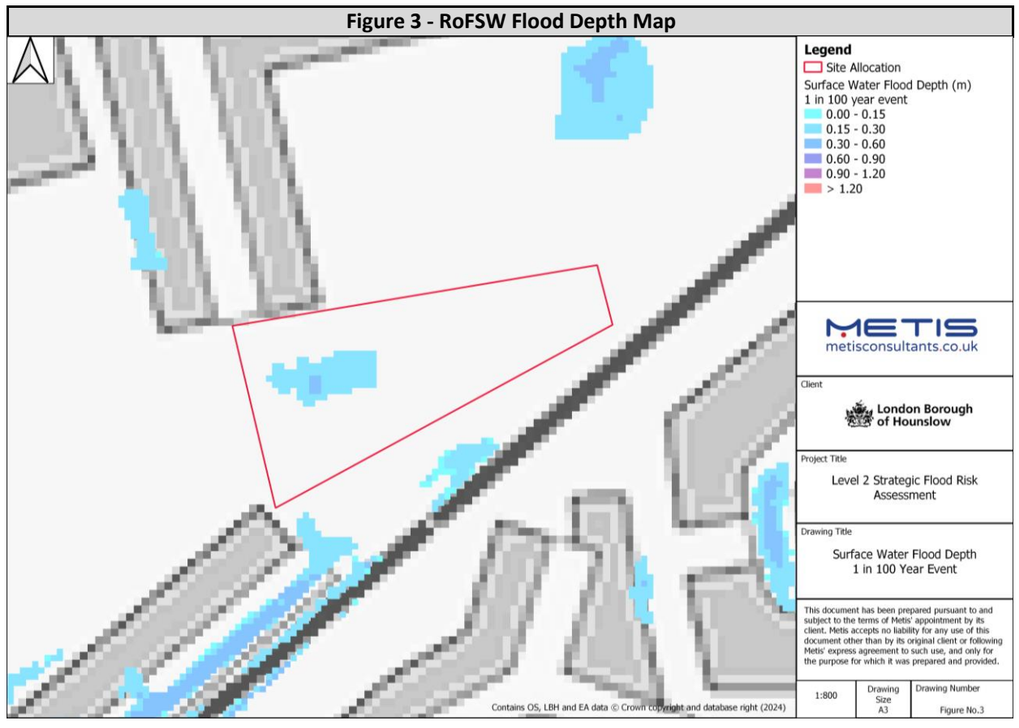


Figure 4 - RoFSW Flood Hazard Map

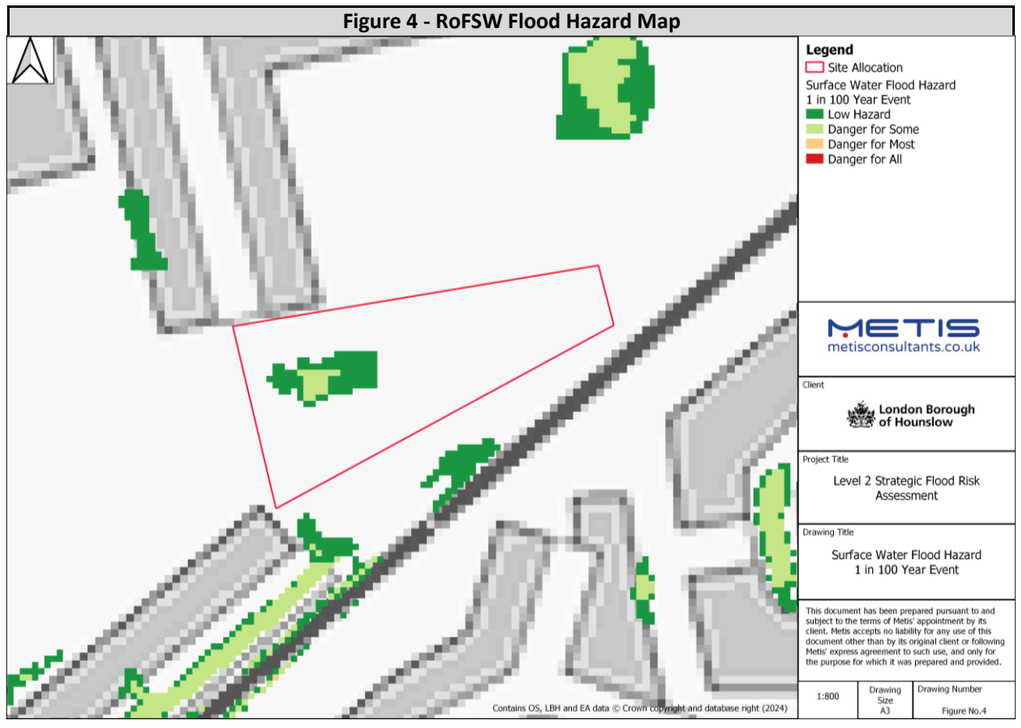


Figure 5 - Thames Water Sewer Flood Map

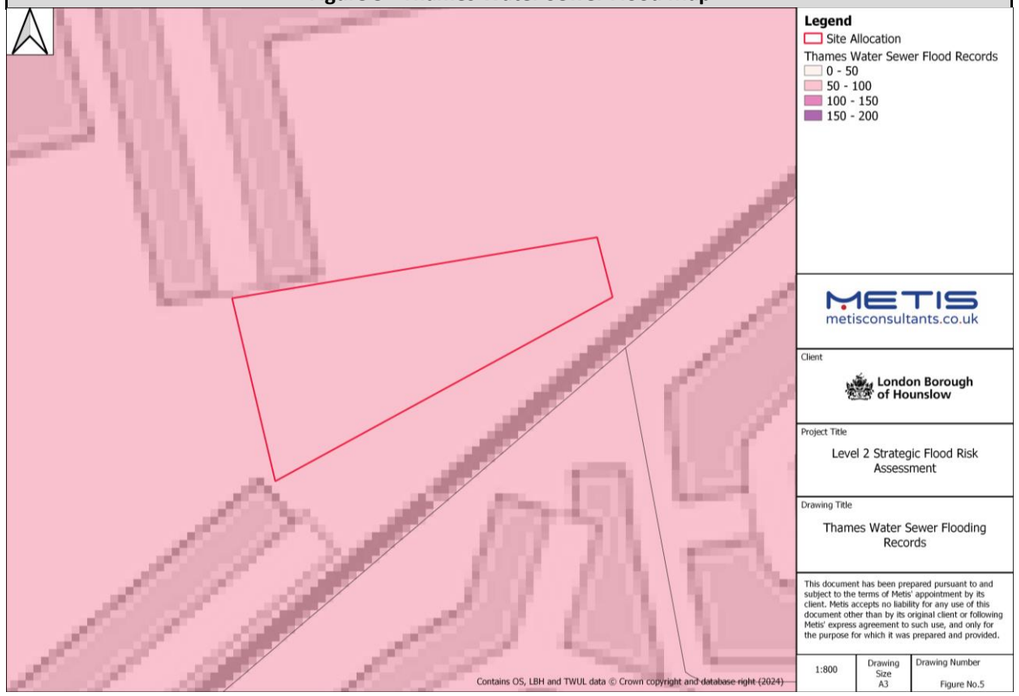


Figure 6 - Areas Susceptible to Groundwater Flooding Map

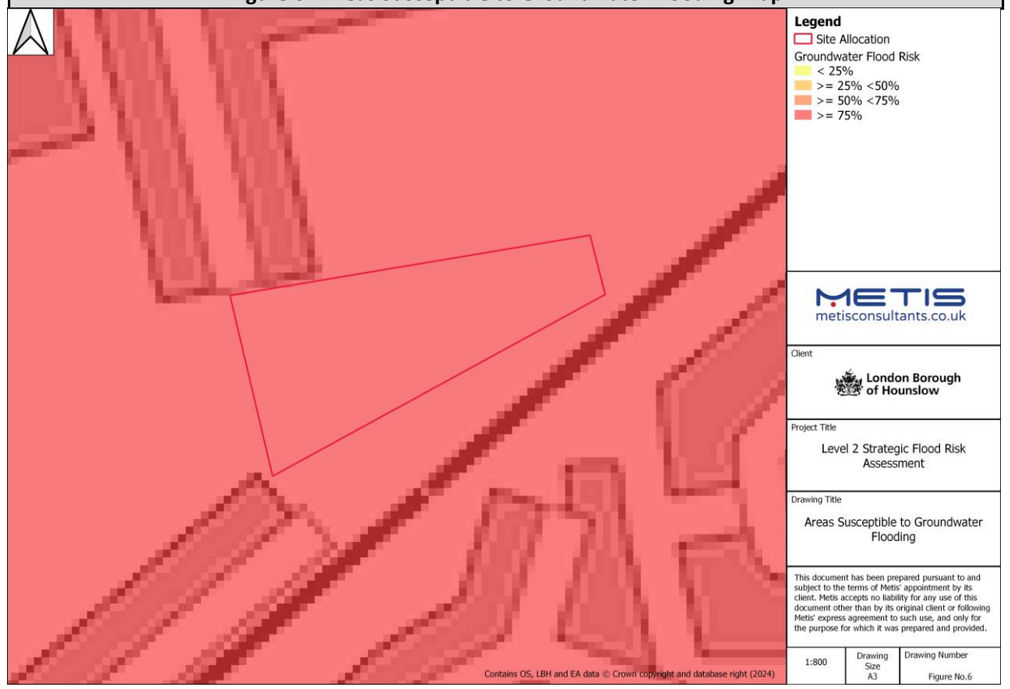
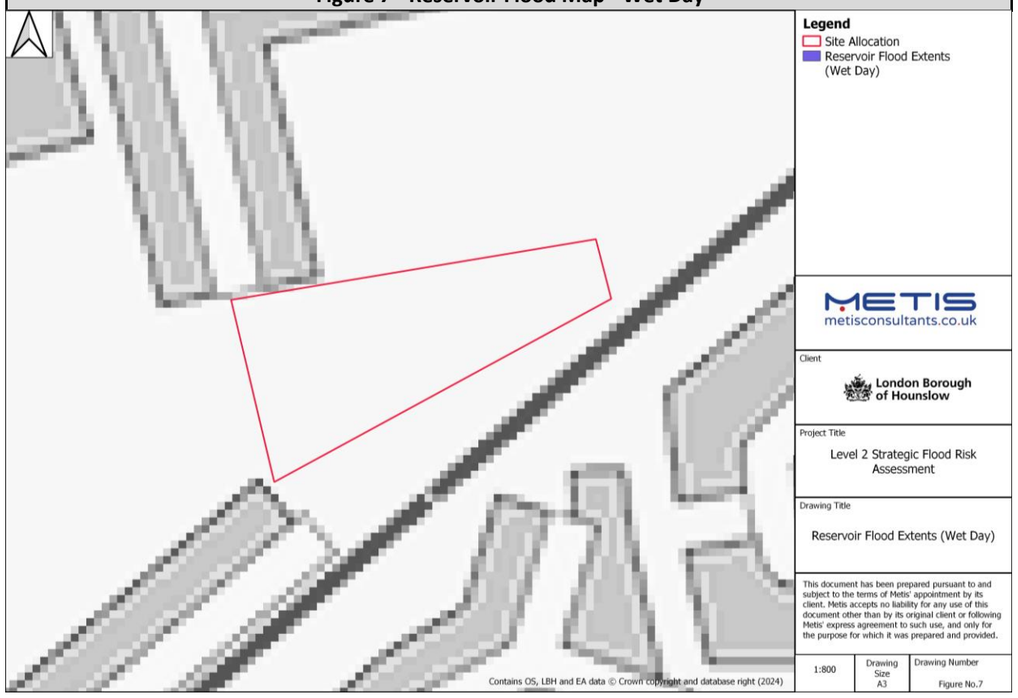


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Europa House

Address: Church Street, TW7 6DA

Area:	0.3 **Ha**
Site Reference:	96

Current Use	Proposed Use
Office (B1a)	Residential and Business

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary

Fluvial / Tidal			Groundwater		
FZ2	99.63	% of Site	<25	0	% of Site
FZ3a	0.02	% of Site	25-50	0	% of Site
FZ3b	0.02	% of Site	50-75	100	% of Site
Surface Water			>75	0	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	10.96	% of Site	Reservoir	Yes	At risk?
1 in 1000*	19.29	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					83

* return periods for potential flood events + FZ3a (surface water)

Flood Defences

Site is located partially in an area benefitting from flood defences.

Flood Warning Area

The EA Flood Warning Service covers the site.

FLUVIAL / TIDAL

Risk Assessment (Defended)

Parameter	FZ3b	FZ3a	*FZ3a+CC	Units
Time of onset	N/A	N/A	N/A	Hrs
Min. Depth	0	0	0	m
Max. Depth	0	0	0	m
Max. Velocity	0	0	0	m/s
Max Flood Level	0	0	0	m AOD
Max Ground Level	6.29	6.29	6.29	m AOD
Min Ground Level	1.46	1.46	1.46	m AOD
Max Flood Hazard	0	0	0	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

* The +35% Climate Change Allowance event is reviewed

Risk Assessment (Undefended)

Parameter	FZ3a	*FZ3a+CC	Units
Speed of inundation	N/A	N/A	Hrs
Min. Depth	0	0	m
Max. Depth	0	0	m
Max. Velocity	0	0	m/s
Max. Hazard	0	0	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism

- The site is at risk from fluvial flooding from the River Thames, which is located directly to the east of the site and flows in a north easterly direction.
- The majority of the site is located within Flood Zone 2, with a very small proportion of the site at the eastern edge located in Flood Zone 3a/3b.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress

Safe access and egress routes should be directed to the west of the site towards Church Street where there is the lowest risk of fluvial flooding.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements

- Only water compatible or essential uses (subject to the Exception Test) are permitted in FZ3b (the eastern edge of the site).
- Self-contained basement dwellings and bedrooms are not permitted in FZ3a. See SFRA Level 2 Report mitigation requirement numbers 4.8 and 4.9 for additional basement stipulations.
- A FRA must be submitted as part of a planning application.
- Include appropriate flood resistance or resilience measures to address predicted flood depths.
- See SFRA Level 2 Report mitigation requirement numbers 4.2 and 4.3 for further development stipulations.
- Develop a Flood Emergency and Evacuation Plan for the site.
- Site users should be signed up to the EA's Flood Warning Service.

SURFACE WATER

Risk Assessment

Parameter	1 in 30	1 in 100	1 in 1000	Units
Min. Depth	0	0.00-0.15	<0.15	m
Max. Depth	0	0.90-1.20	0.90-1.20	m
Max. Velocity	0	1.00-2.00	1.00-2.00	m/s
Max. Hazard	0	1.25-2.00	1.25-2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism

- The northern and southern central edges of the site is at medium risk of surface water flooding but not at high risk of flooding.
- Church Street to the west of the site is predicted to be at risk from surface water flooding.
- Climate change is not predicted to increase surface water flooding on the site.

Figure 3 - RoFSW Flood Depth Map

Site Access / Egress

Safe access and egress routes should be directed to the west of the site onto Church Street where there is the lowest risk of flooding.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Flood Risk Requirements

- Development should be directed away from the northern and southern central areas where there is higher risk of surface water flooding.
- See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Mitigation - Surface Water Drainage

- A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage.
- A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use.
- Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment.
- Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Europa House

SEWER

Risk Assessment

• The site falls within a postcode area where there are 83 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having >=50%<75% susceptibility to groundwater flooding.
• The site is underlain by superficial deposits of Kempton Gravel Member and London Clay bedrock geology across the entire site.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is risk of flooding from the Wraysbury reservoir.
• This site is not at risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
• The site is covered mostly by impermeable areas, but there are green spaces along the eastern boundary of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Development should be directed away from the eastern edge of the site adjacent to the River Thames, and the northern and southern central areas where there is higher risk of surface water flooding.
• Safe access and egress routes should be directed to the west of the site onto Church Street where there is the lowest risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• Yes. The site is located within 8m of a Main River so a Flood Risk Activity Permit may be required.
• No. The site not located within 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 0.02% of the site area in Flood Zone 3a (fluvial) and 10.96% of the site in Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

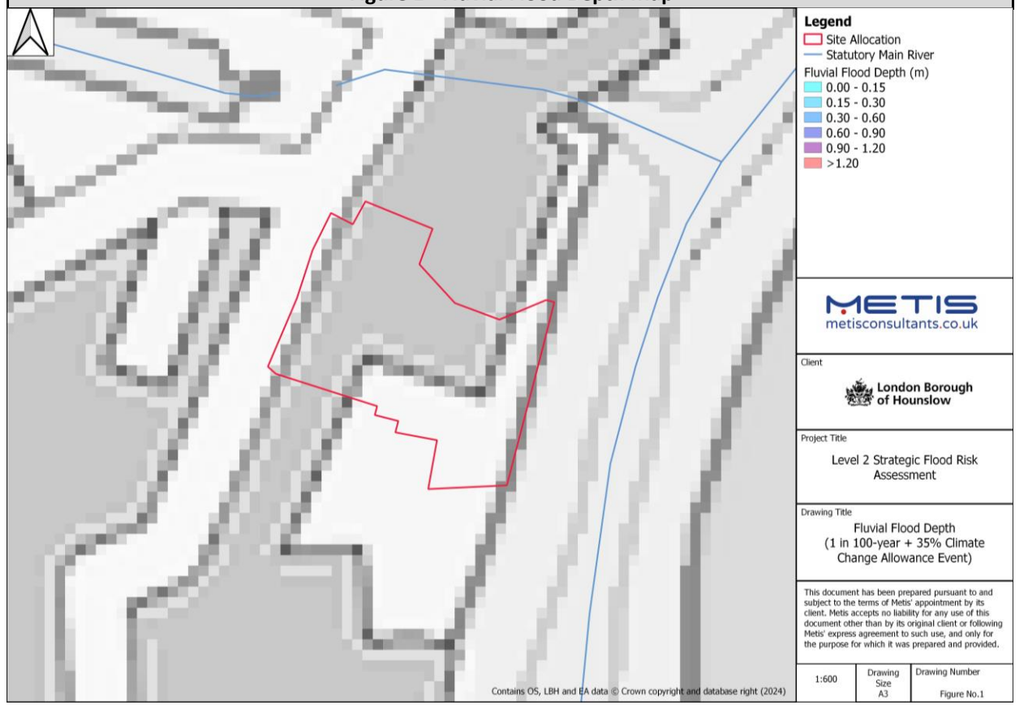


Figure 2 - Fluvial Flood Hazard Map

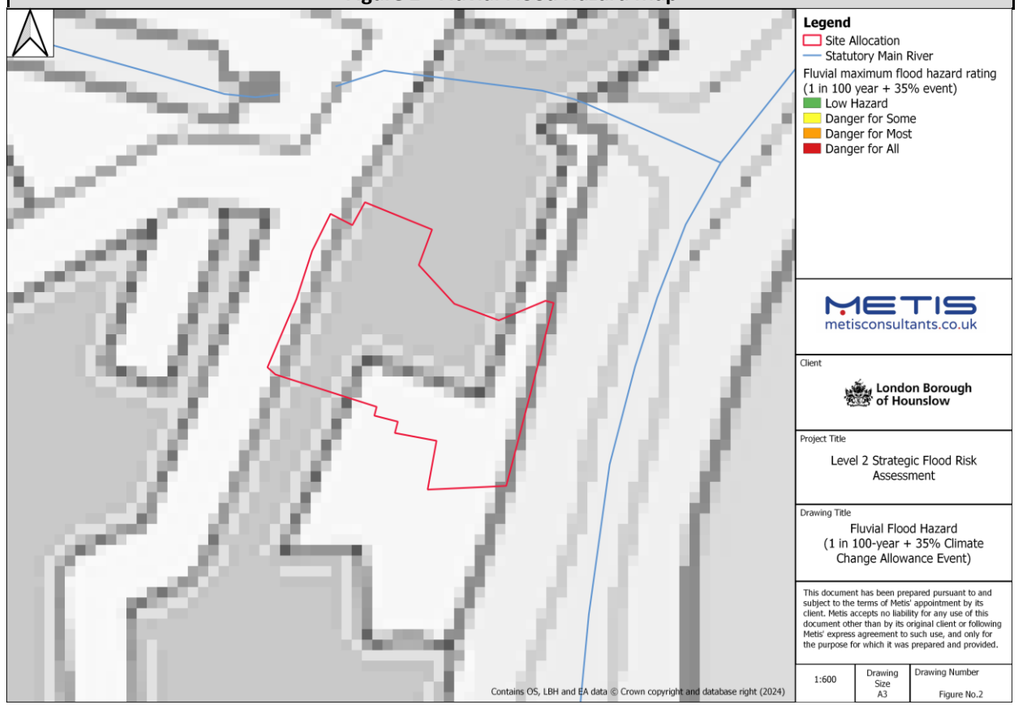


Figure 3 - RoFSW Flood Depth Map

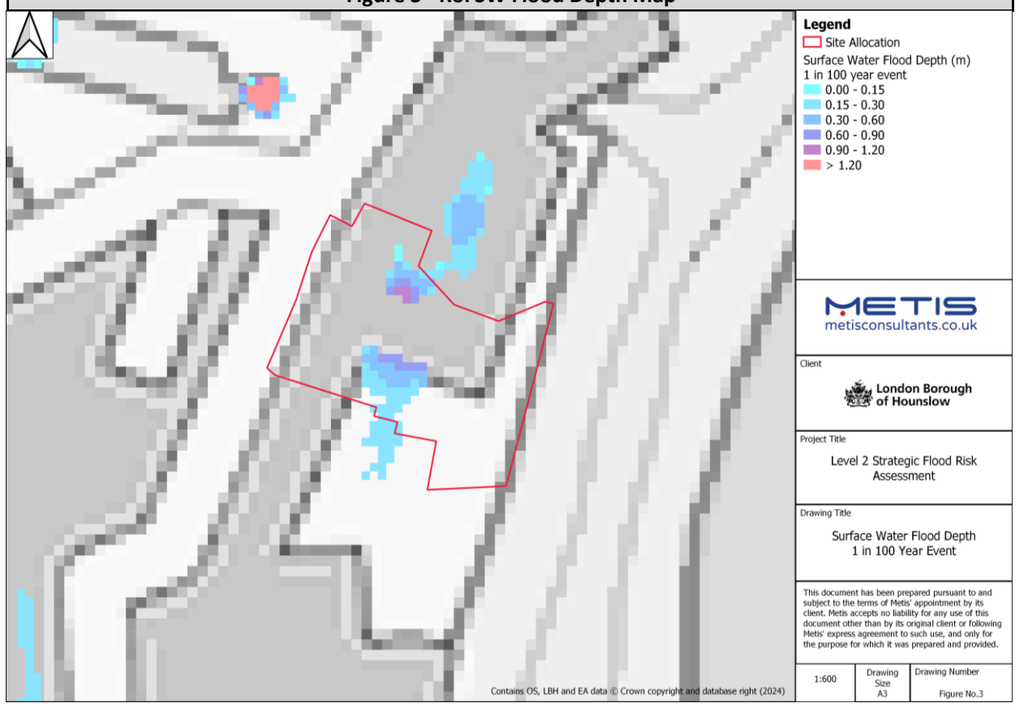


Figure 4 - RoFSW Flood Hazard Map

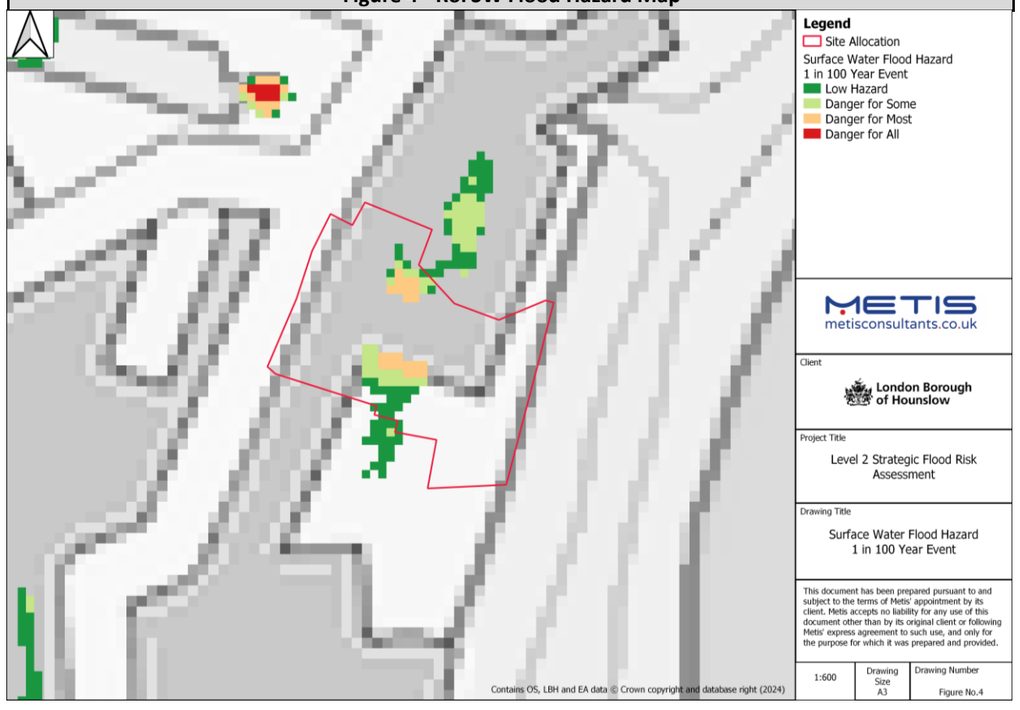


Figure 5 - Thames Water Sewer Flood Map

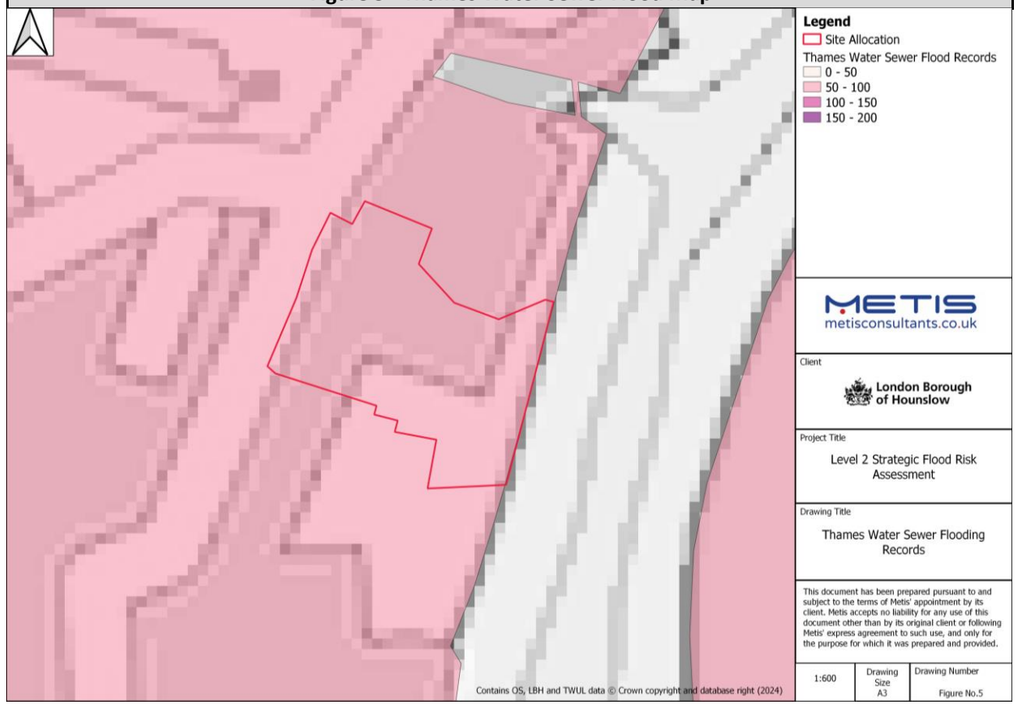


Figure 6 - Areas Susceptible to Groundwater Flooding Map

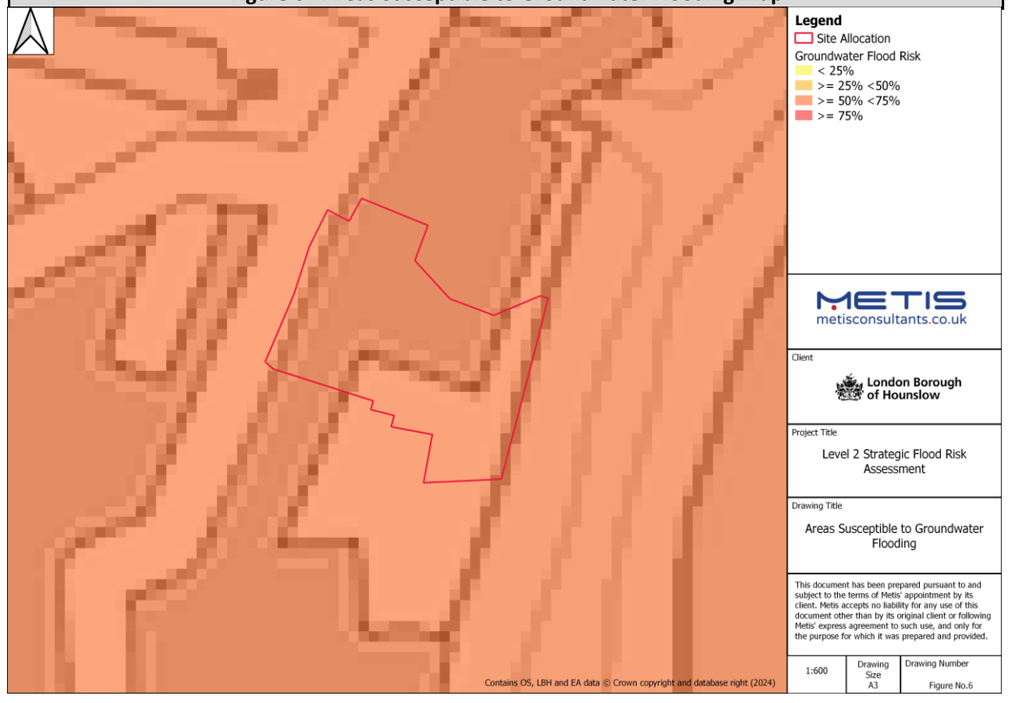
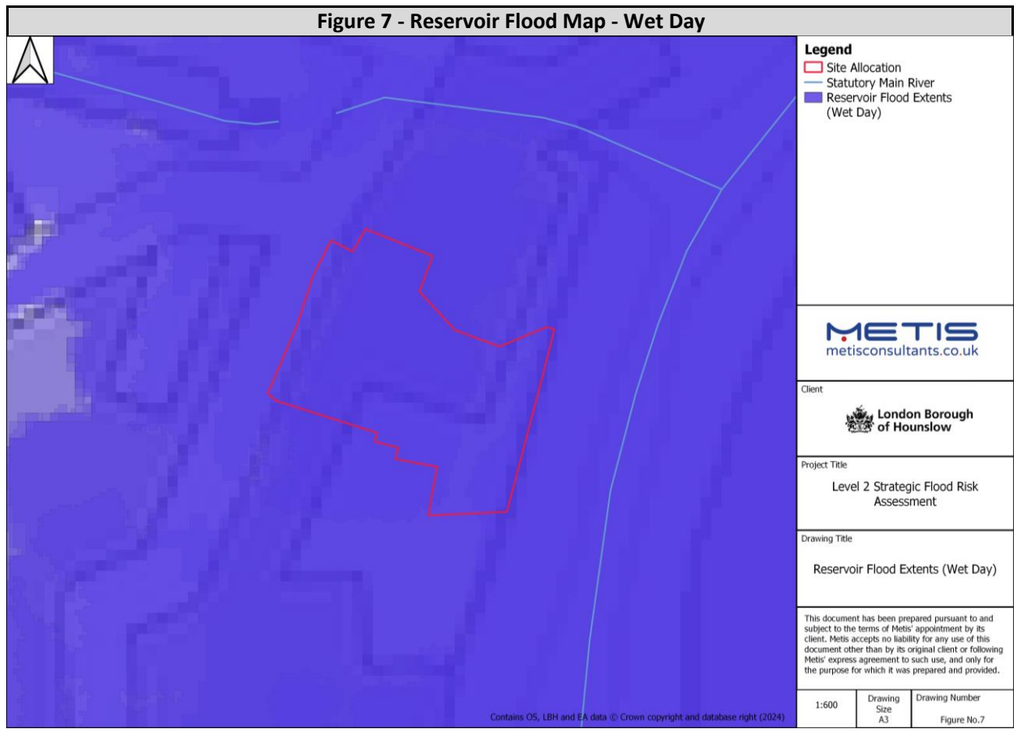


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - 30 Rugby Road

Address: 30 Rugby Road, TW1 1DG

Area:	1 **Ha**
Site Reference:	97

Current Use	Proposed Use
Storage/Warehousing (B8)	Residential and Industrial

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	98.11	% of Site	<25	0	% of Site
FZ3a	1.85	% of Site	25-50	0	% of Site
FZ3b	6.4	% of Site	50-75	100	% of Site
Surface Water			>75	0	% of Site
1 in 30*	0.03	% of Site	**Artificial**		
1 in 100*+	10.89	% of Site	Reservoir	Yes	At risk?
1 in 1000*	35.17	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					5

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not located in an area benefitting from flood defences.

Flood Warning Area
The site is not located in an area receiving the EA Flood Warning Service.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	N/A	N/A	11.15	Hrs
Min. Depth	0	0	0.002	m
Max. Depth	0	0	0.85	m
Max. Velocity	0	0	0.73	m/s
Max Flood Level	0	0	9.21	m AOD
Max Ground Level	9.29	9.29	9.29	m AOD
Min Ground Level	7.94	7.94	7.94	m AOD
Max Flood Hazard	0	0	1.43	N/A
Duration of Flood	N/A	N/A	>33.5	Hrs

* The +35% Climate Change Allowance event is reviewed

Risk Assessment (Undefended)			
Parameter	**FZ3a**	***FZ3a+CC**	**Units**
Time of onset	N/A	No Data	Hrs
Min. Depth	0	No Data	m
Max. Depth	0	No Data	m
Max. Velocity	0	No Data	m/s
Max. Hazard	0	No Data	N/A
Duration of Flood	N/A	No Data	Hrs

Description of Flood Mechanism

- The site is at risk from fluvial flooding from a tributary of the River Crane (the Whitton Brook). The site is mainly within Flood Zone 2, with small parts of the site within Flood Zones 3a and 3b.
- NB: The values in both the defended and undefended risk assessment tables are from the River Crane Model, which does not include the Whitton Brook, and therefore the tables show zero values.
- The site will be flooded from 11.15 in the defended 1 in 100 year (+35%CC) scenario and will remain flooded in excess of 33.5 hours.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress

Safe access and egress routes should be directed to the east of the site towards Varsity Drive where there is the lowest risk of fluvial flooding.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements

- Self-contained basement dwellings and bedrooms are not permitted in FZ3a (the majority of the site). See SFRA Level 2 Report mitigation requirement numbers 4.8 and 4.9 for additional basement stipulations.
- A FRA must be submitted as part of a planning application.
- Include appropriate flood resistance or resilience measures to address predicted flood depths.
- See SFRA Level 2 Report mitigation requirement numbers 4.2 and 4.3 for further development stipulations.
- Develop a Flood Emergency and Evacuation Plan for the site.
- Site users should be signed up to the EA's Flood Warning Service.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.15-0.30	0.00-0.15	<0.15	m
Max. Depth	0.15-0.30	0.60-0.90	0.90-1.20	m
Max. Velocity	0.00-0.25	0.50-1.00	1.00-2.00	m/s
Max. Hazard	0.50-0.75	1.25-2.00	1.25-2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism

- The south-eastern edges of the site is at high risk of surface water flooding and north and north-western edges of the site are medium risk of flooding.
- Rugby Road to the west of the site is predicted to be at risk from surface water flooding.
- Climate change is predicted to increase maximum velocity and maximum depth for surface water flooding on the site.

Site Access / Egress

Safe access and egress routes should be directed to the north west towards the part of Rugby Road not at surface water flood risk.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements

- Development should be directed away from the southern eastern and north and north-western areas where there is higher risk of surface water flooding.
- See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage

- A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage.
- A site-specific FRA is required for new proposals in Flood Zone 2 or 3, including minor development and change of use.
- Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment.
- Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - 30 Rugby Road

SEWER

Risk Assessment

• The site falls within a postcode area where there are 5 reported flood incidents from sewer flooding.
• The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having >=50%<75% susceptibility to groundwater flooding.
• The site is underlain by superficial deposits of Langley Silt Member and London Clay bedrock geology across the entire site.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is at risk of flooding from the Queen Mother reservoir.
• This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

• Propose appropriate and proportionate risk management measures.
• A suitable emergency response plan should be put in place, including an emergency warning system in the event of a reservoir flooding incident.
• Local Authority Emergency Planning Officers must be consulted to create a reservoir failure emergency and evacuation plan.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
• The site is covered mostly by impermeable areas, but there are green spaces along the southern and western areas of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Development should be directed away from the southern eastern and north and north-western areas where there is higher risk of surface water flooding.
• Safe access and egress routes should be directed towards the north west of the site.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• Yes. The site is located within 8m of a Main River so a Flood Risk Activity Permit maybe required.
• No. The site not located within 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 1.85% of the site area in Flood Zone 3a (fluvial) and 10.89% of the site in Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

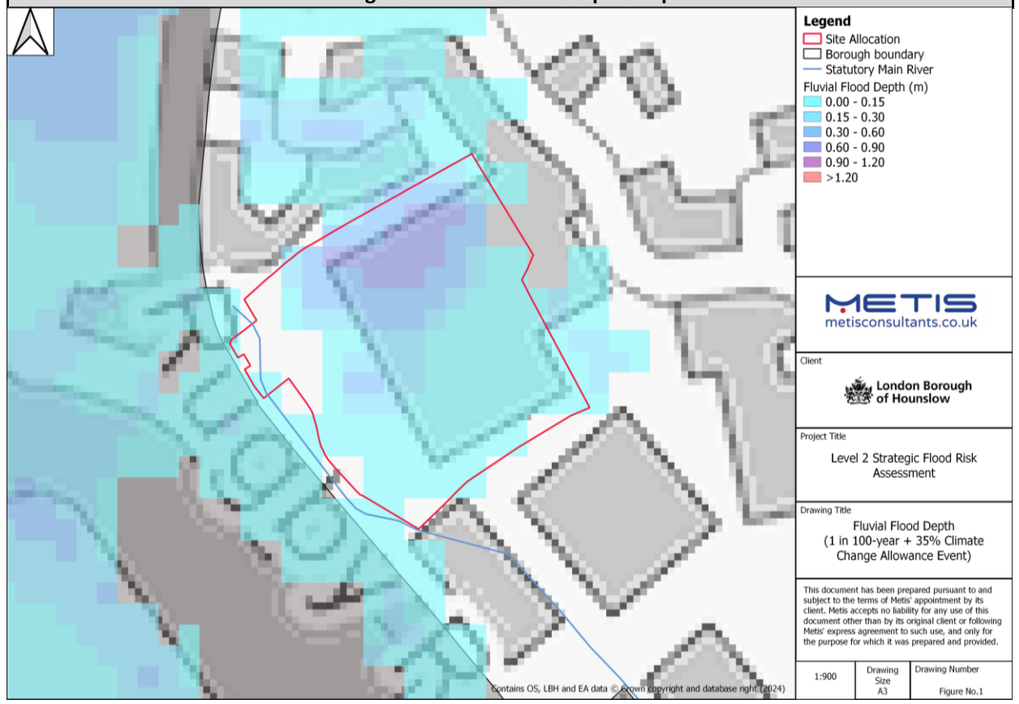


Figure 2 - Fluvial Flood Hazard Map

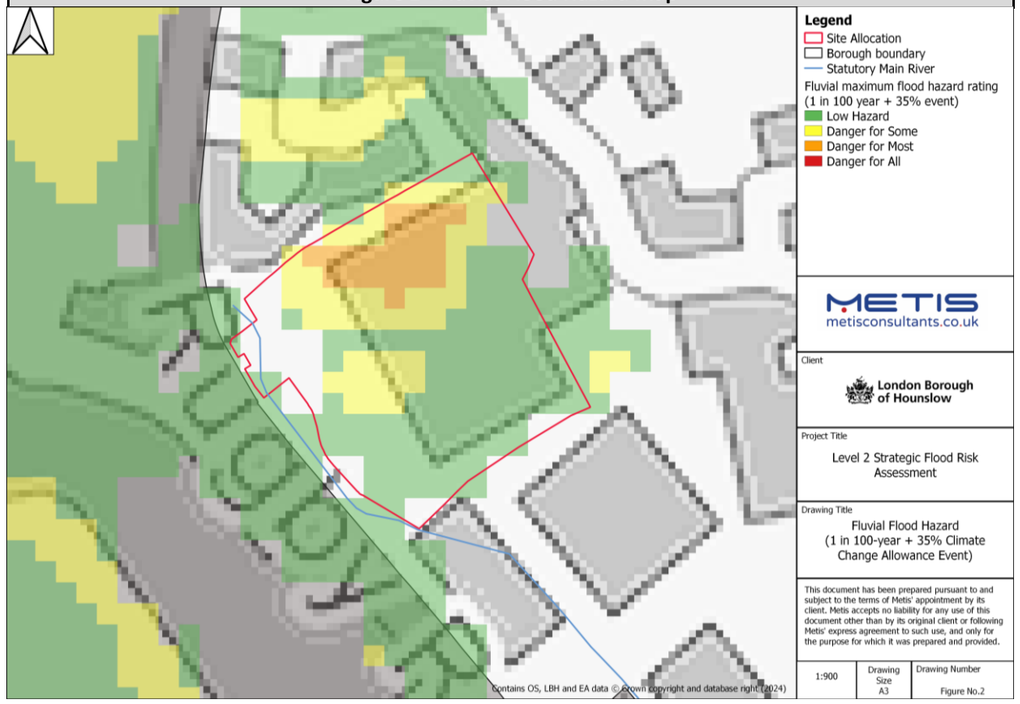


Figure 3 - RoFSW Flood Depth Map

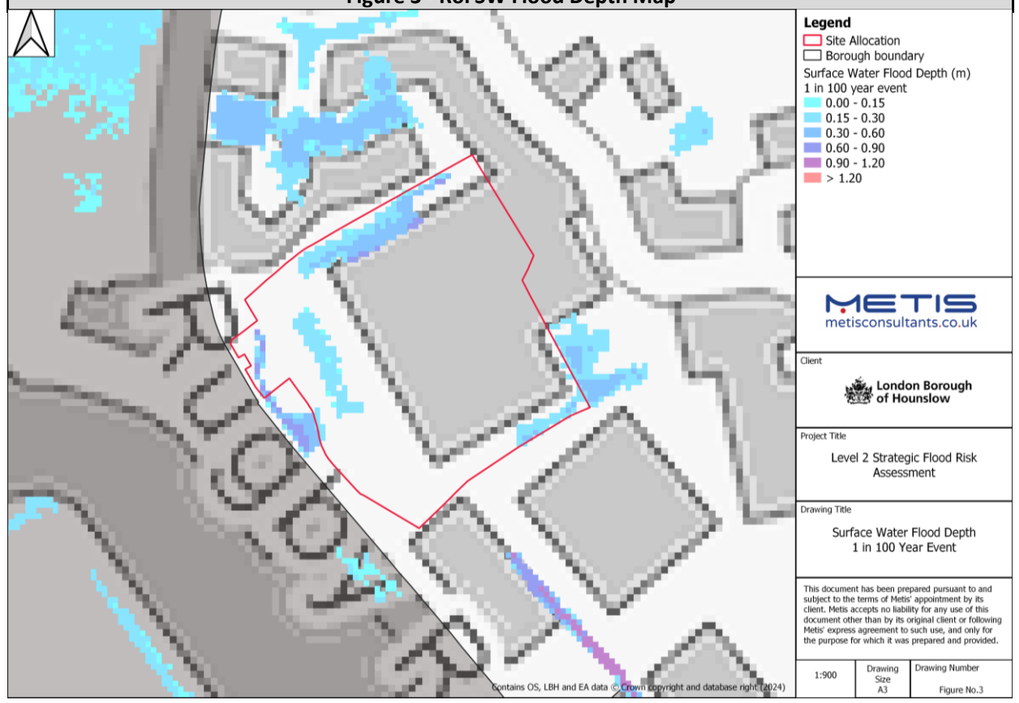


Figure 4 - RoFSW Flood Hazard Map

Figure 5 - Thames Water Sewer Flood Map

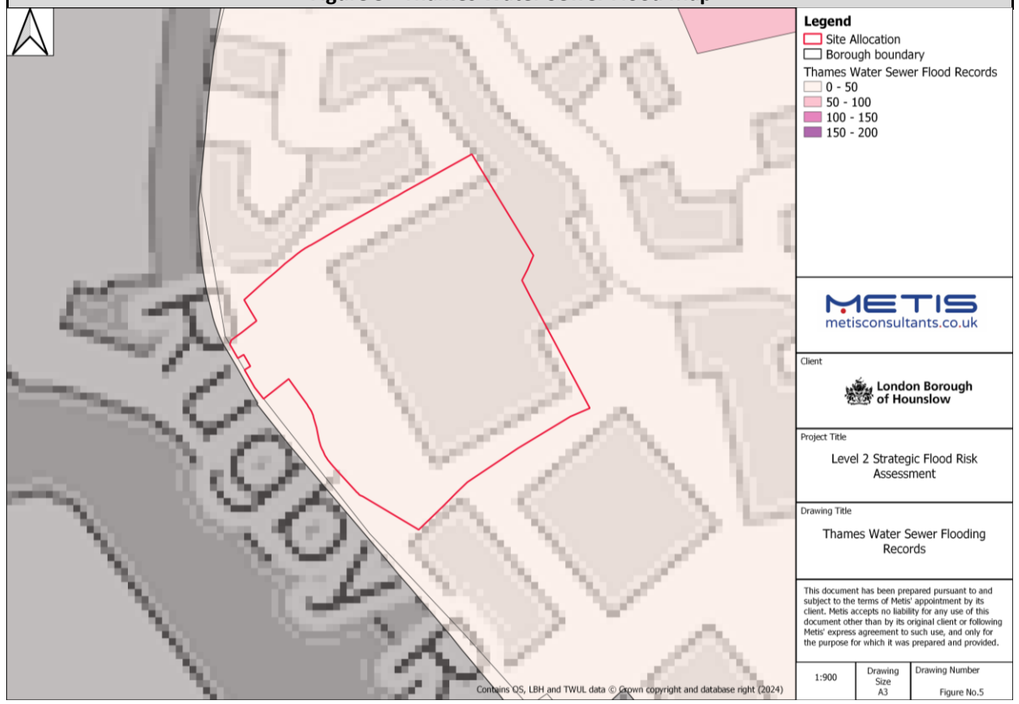


Figure 6 - Areas Susceptible to Groundwater Flooding Map

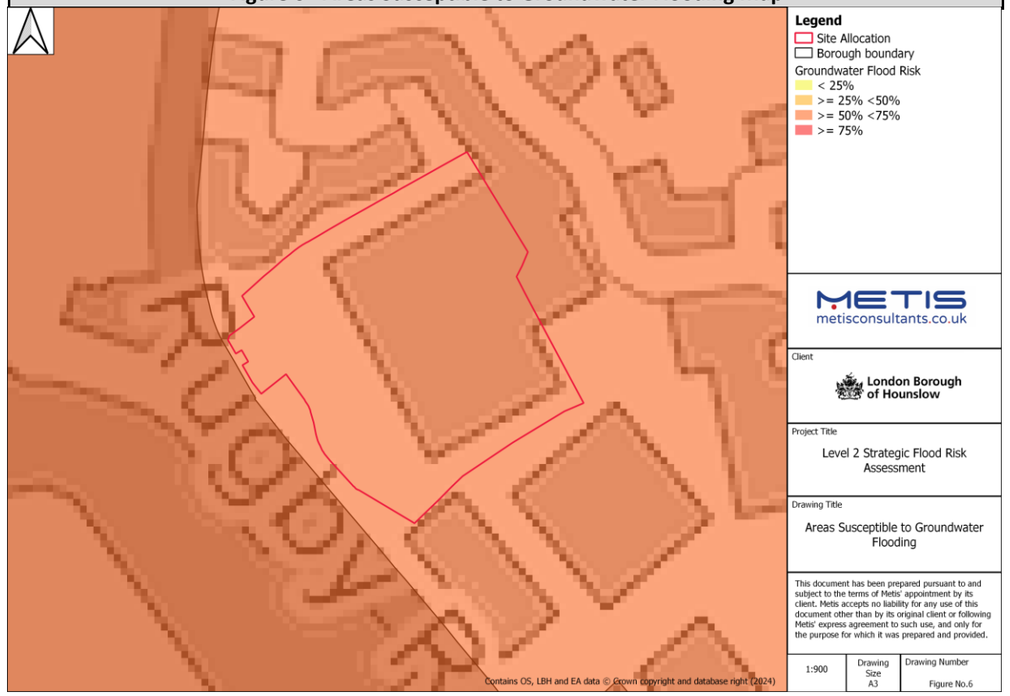
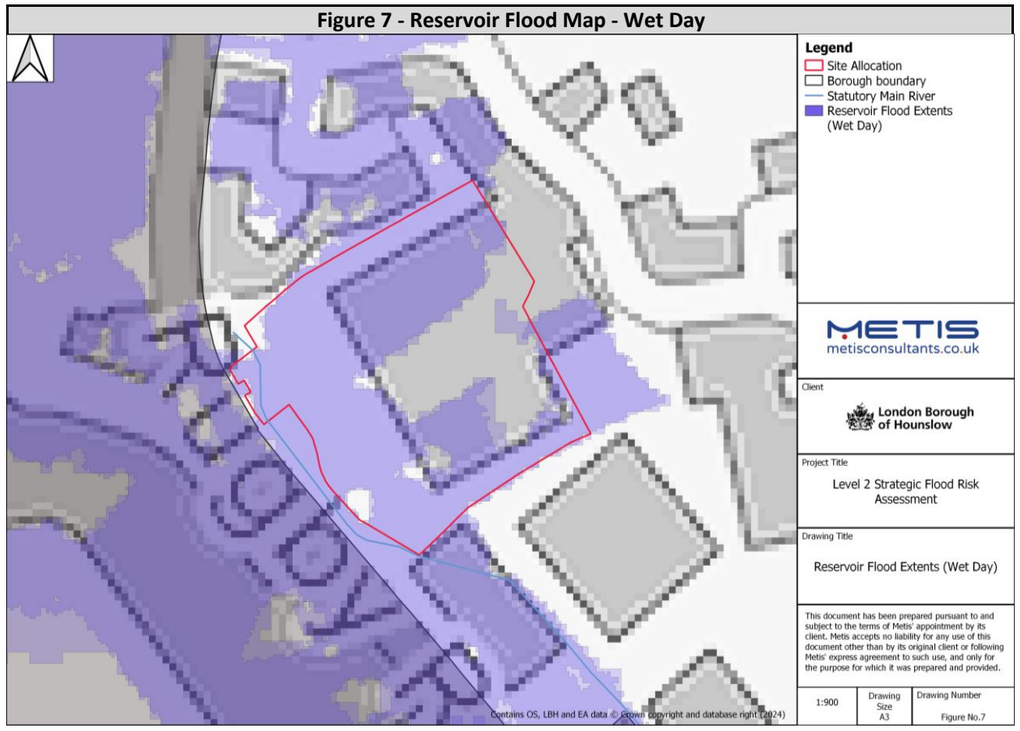


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Land South of Bedfont Road

Address: Feltham, TW14 8EE

Area:	0.8 **Ha**
Site Reference:	121

Current Use	Proposed Use
Vacant/greenfield	Showpeople Plots

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	Highly Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	3.71	% of Site	**Artificial**		
1 in 100*+	6.52	% of Site	Reservoir	No	At risk?
1 in 1000*	9.74	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					119

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	0.60 - 0.90	0.60 - 0.90	0.60 - 0.90	m
Max. Velocity	0.50 - 1.00	0.50 - 1.00	0.50 - 1.00	m/s
Max. Hazard	1.25 - 2.00	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly along the north-western and north-eastern site boundary. • Climate change is not predicted to increase surface water flooding

Site Access / Egress
Safe access and egress routes should be directed to the south-east of the site towards Bedfont Road where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the north, north-eastern and north-western site boundaries where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Land South of Bedfont Road

SEWER

Risk Assessment

• The site falls within a postcode area where there are 119 reported flood incidents from sewer flooding.
• The site is assumed to only be served by surface water networks. There is a surface water sewer located in Bedfont Road, adjacent to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having >=75% susceptibility to groundwater flooding.
• The site is underlain by Kempton Park Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is not risk of flooding from reservoirs.
• This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is changing from the 'Less Vulnerable' to the 'Highly Vulnerable' classification, as permanent showpeople uses have been proposed.
• The site is currently a greenfield site with green space. This offers an opportunity to improve flood attenuation through the new development.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Direct development away from northern, north-eastern and north-western areas of the site.
• Safe egress routes should be directed towards the south-east of the site where there is a lower risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 6.52% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'Highly Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

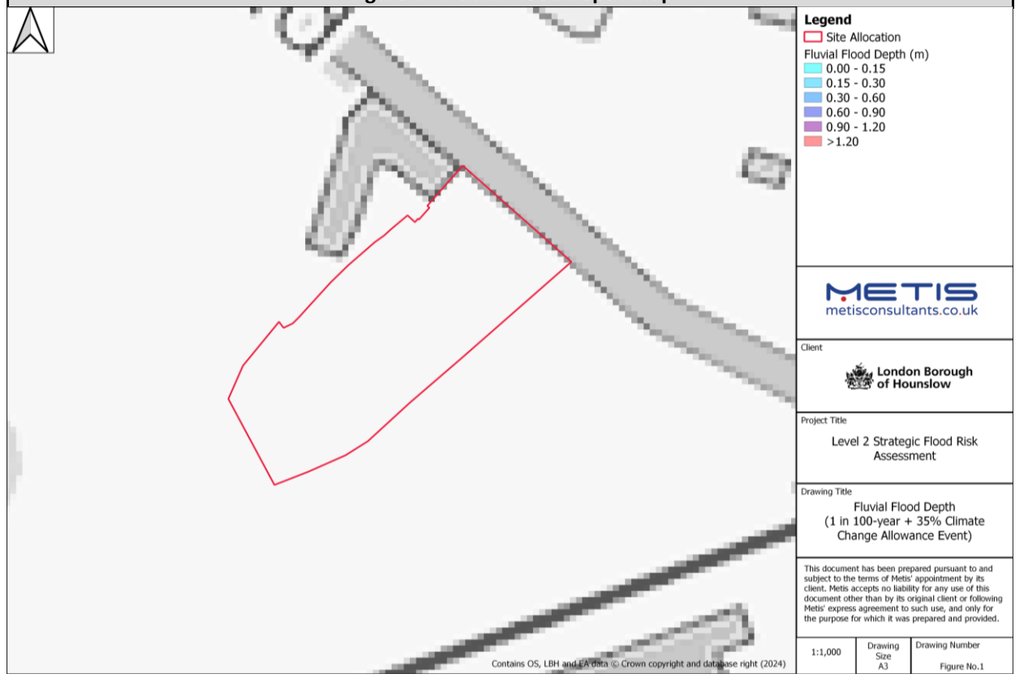


Figure 2 - Fluvial Flood Hazard Map

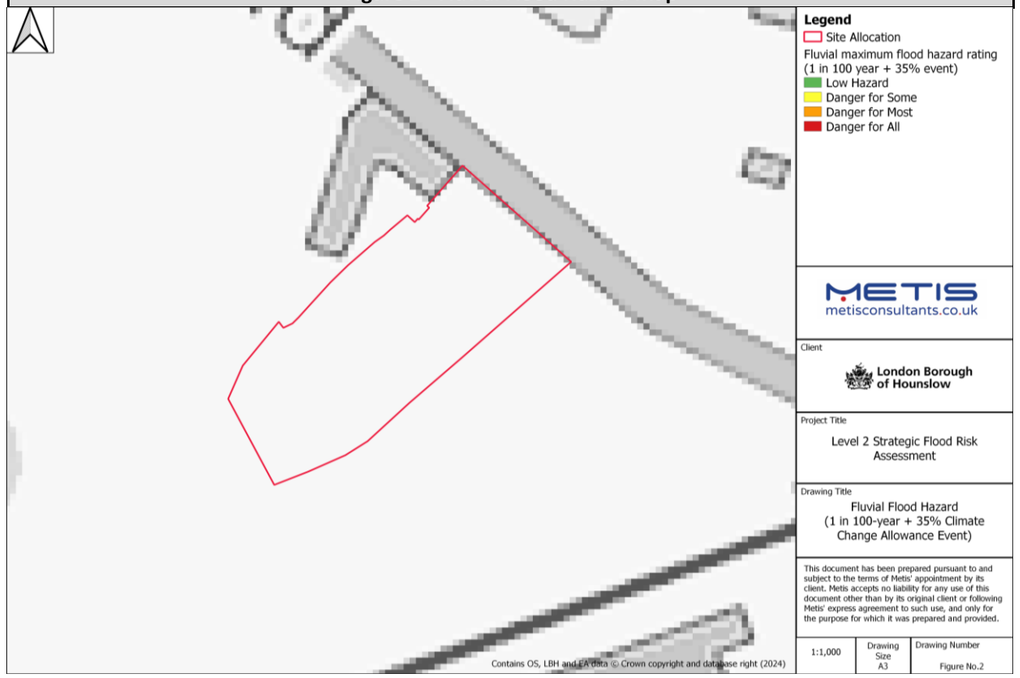


Figure 3 - RoFSW Flood Depth Map

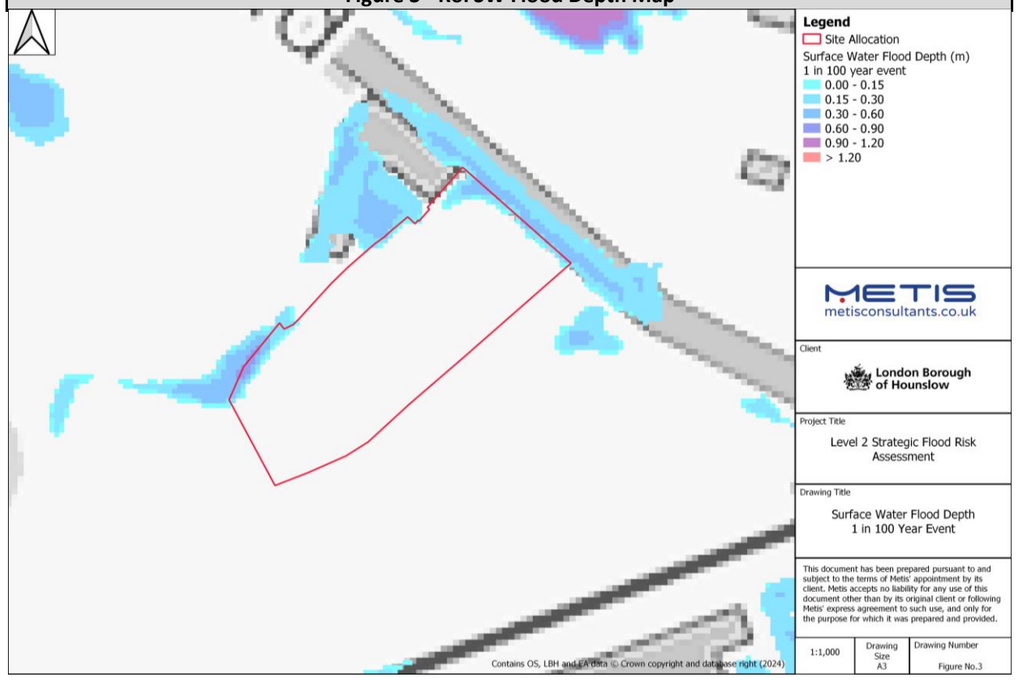


Figure 4 - RoFSW Flood Hazard Map

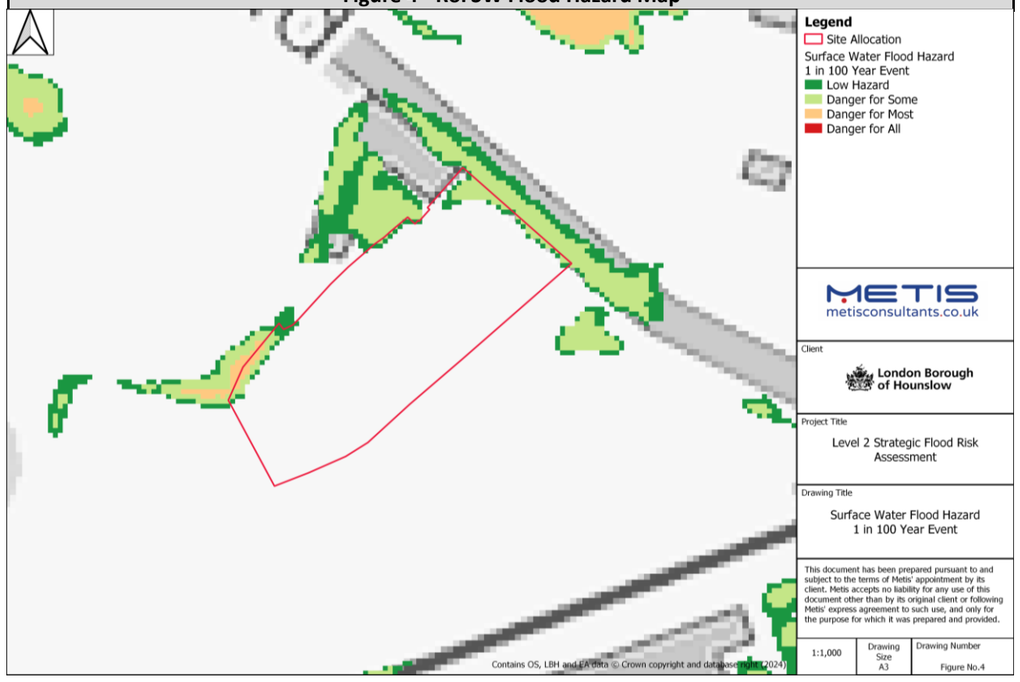


Figure 5 - Thames Water Sewer Flood Map

Figure 6 - Areas Susceptible to Groundwater Flooding Map

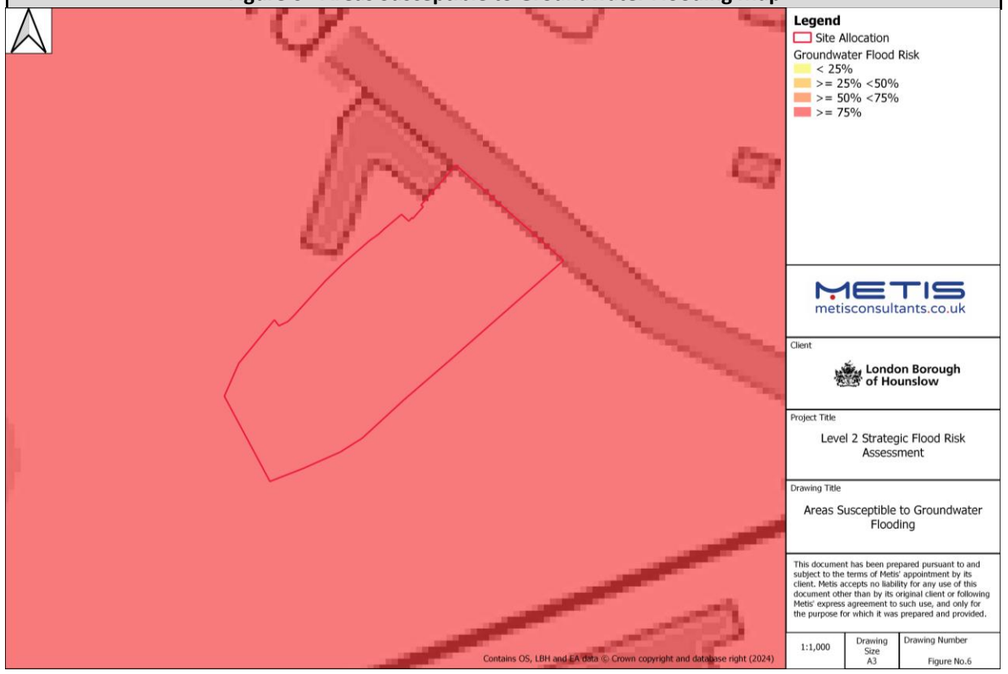
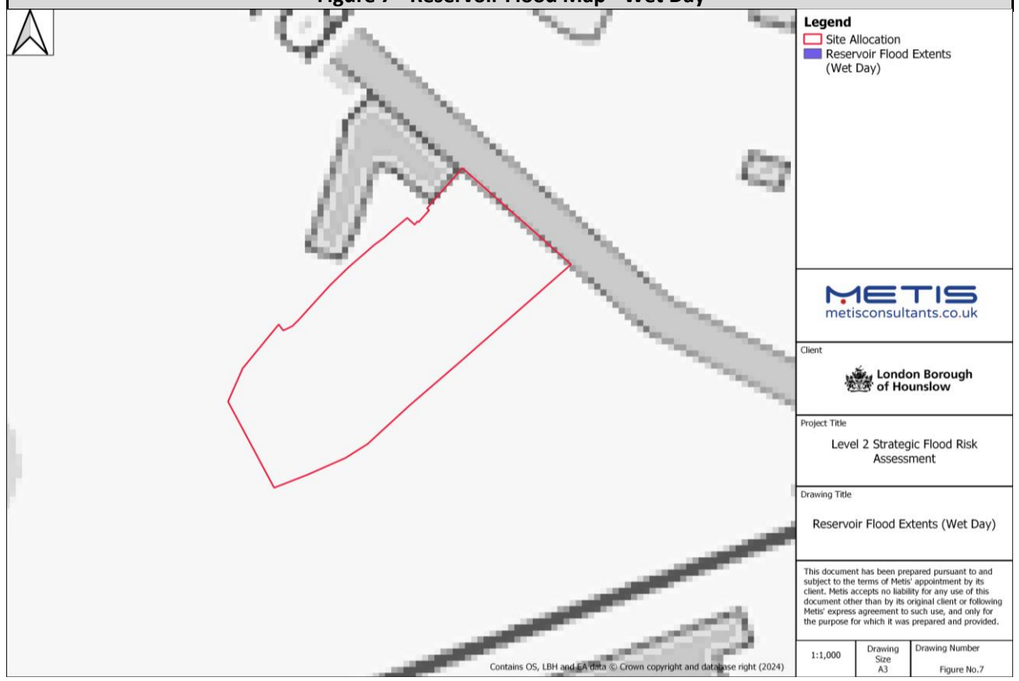


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - Rectory Farm

Address: Hounslow, TW5 9PB

Area:	42.69 **Ha**
Site Reference:	122

Current Use	Proposed Use
Park/greenfield	Minerals extraction and restored parkland

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	Less Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	60.34	% of Site
FZ3a	0	% of Site	25-50	15.48	% of Site
FZ3b	0	% of Site	50-75	24.18	% of Site
Surface Water			>75	0	% of Site
1 in 30*	4.96	% of Site	**Artificial**		
1 in 100*+	16.98	% of Site	Reservoir	No	At risk?
1 in 1000*	49.52	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					151

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	0.00 - 0.15	0.00 - 0.15	<0.15	m
Max. Depth	0.30 - 0.60	0.90 - 1.20	> 1.20	m
Max. Velocity	0.50 - 1.00	0.50 - 1.00	1.00 - 2.00	m/s
Max. Hazard	1.25 - 2.00	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
• The site is at high risk of surface water flooding, particularly in the southern and western areas of the site. • Parts of Cranford Lane, High Street, The Parkway and Bath Road to the north, north-west, west and south of the site respectively are also predicted to be at risk from surface water flooding. • Climate change is predicted to increase the minimum depth, and maximum depth and velocity of surface water flooding

Site Access / Egress
Safe access and egress routes should be directed to the south of the site towards Bath Road where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
• Development should be directed away from the southern and western areas of the site where there is higher risk of surface water flooding. • See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
• A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage. • A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use. • Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment. • Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - Rectory Farm

SEWER

Risk Assessment

• The site falls within a postcode area where there are 151 reported flood incidents from sewer flooding.
• The site is surrounded by separate surface water and foul sewer networks. There is also two combined sewers located along the site's eastern boundary.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

• Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
• Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

• The site is classified as having <25% susceptibility to groundwater flooding covering 60.34% of the site, >=25% <50% susceptibility covering 15.48% of the site, and >=50% <75% susceptibility covering 24.18% of the site.
• The site is underlain by Langley Silt Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

• Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
• If there is a potential level of impact, mitigation actions must be proposed.
• Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

• This site is not risk of flooding from reservoirs.
• This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?
• Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?
• Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
• See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?
• The development land use is not changing, which remains 'Less Vulnerable'.
• The site is currently a greenfield site with areas of green space. This offers an opportunity to improve flood attenuation through the new development.
• Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?
• Direct development away from southern and western areas of the site.
• Safe egress routes should be directed towards the south of the site where there is a lower risk of flooding.
• By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
• By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?
• No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?
• Yes. The Exception Test is required for this site as 16.98% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'Less Vulnerable'.
• This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

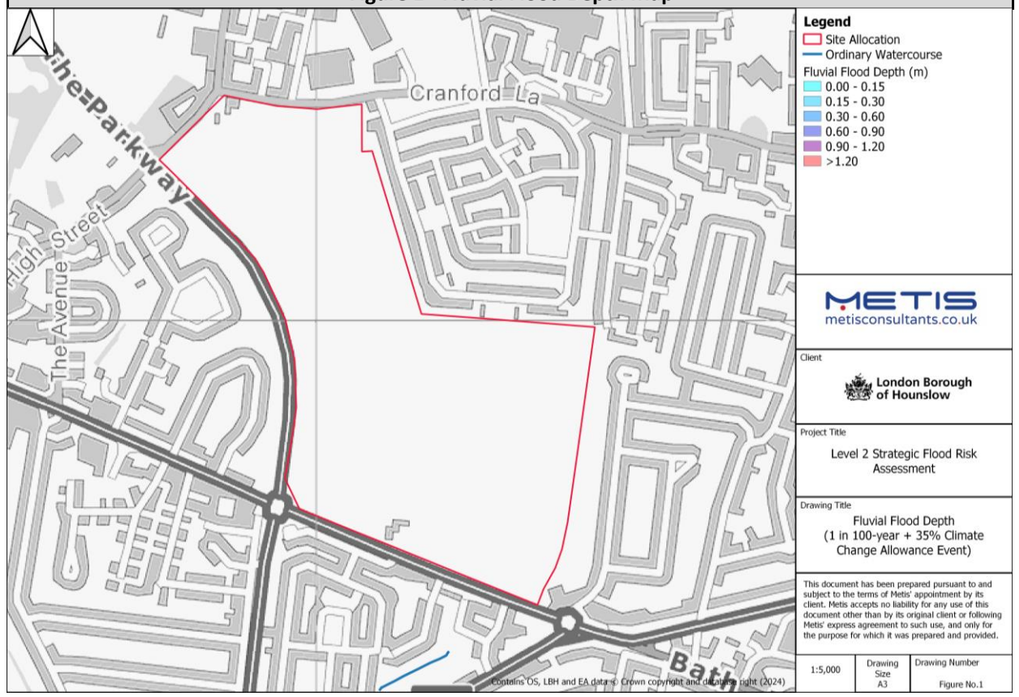


Figure 2 - Fluvial Flood Hazard Map

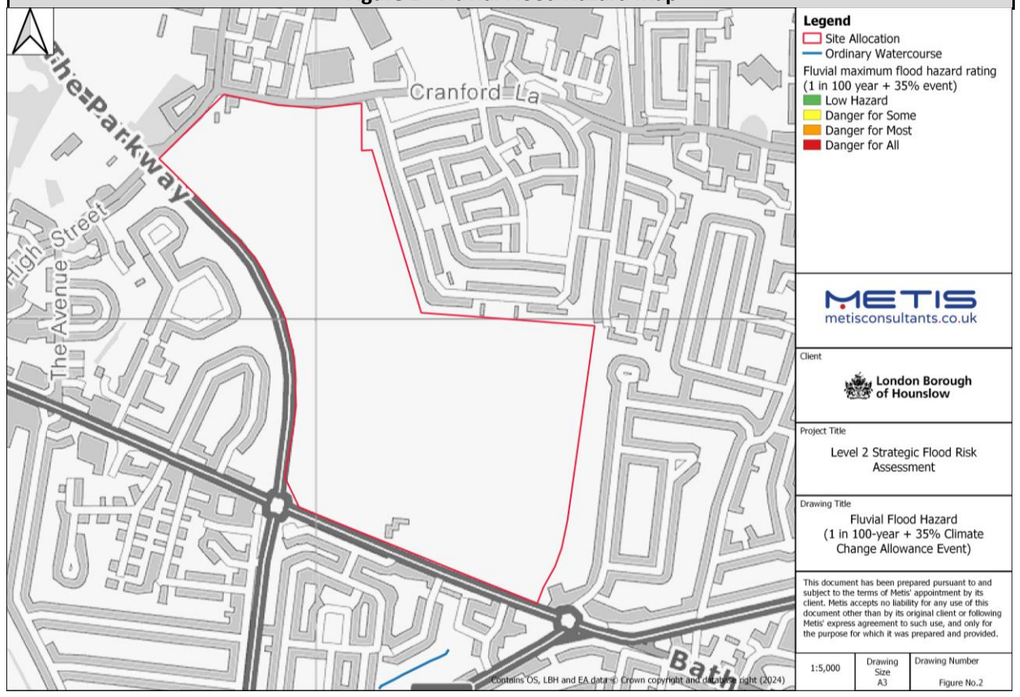


Figure 3 - RoFSW Flood Depth Map

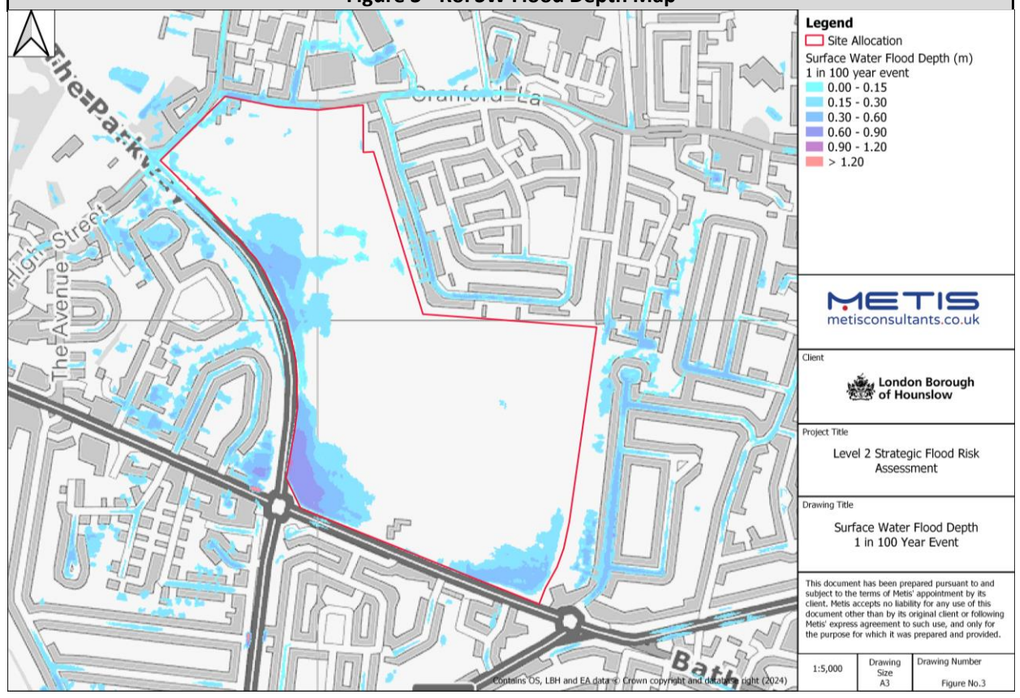


Figure 4 - RoFSW Flood Hazard Map

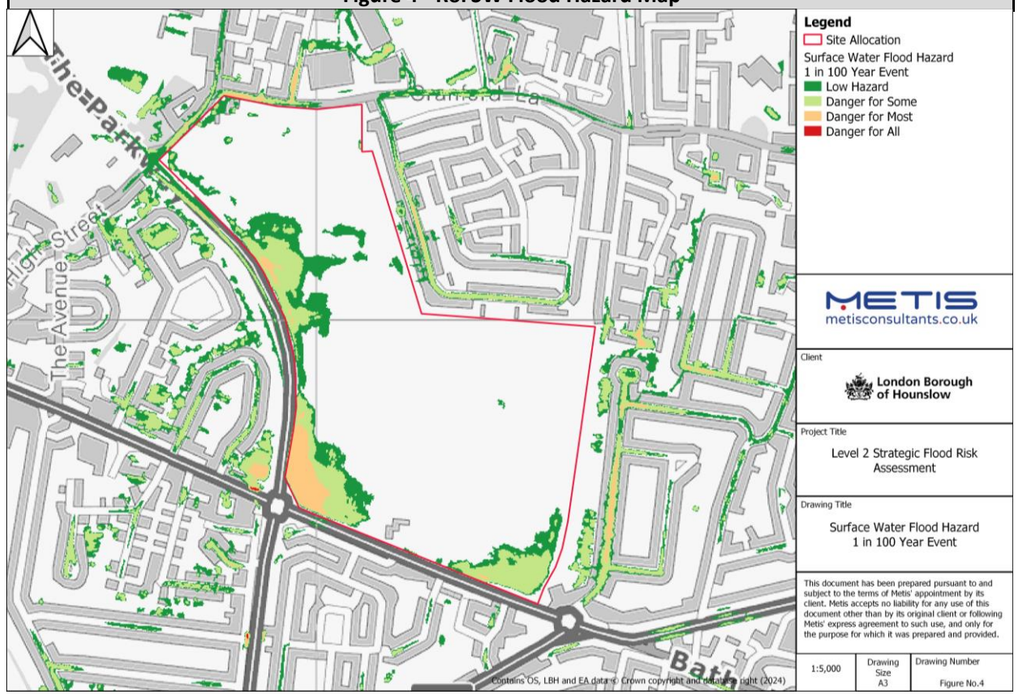


Figure 5 - Thames Water Sewer Flood Map

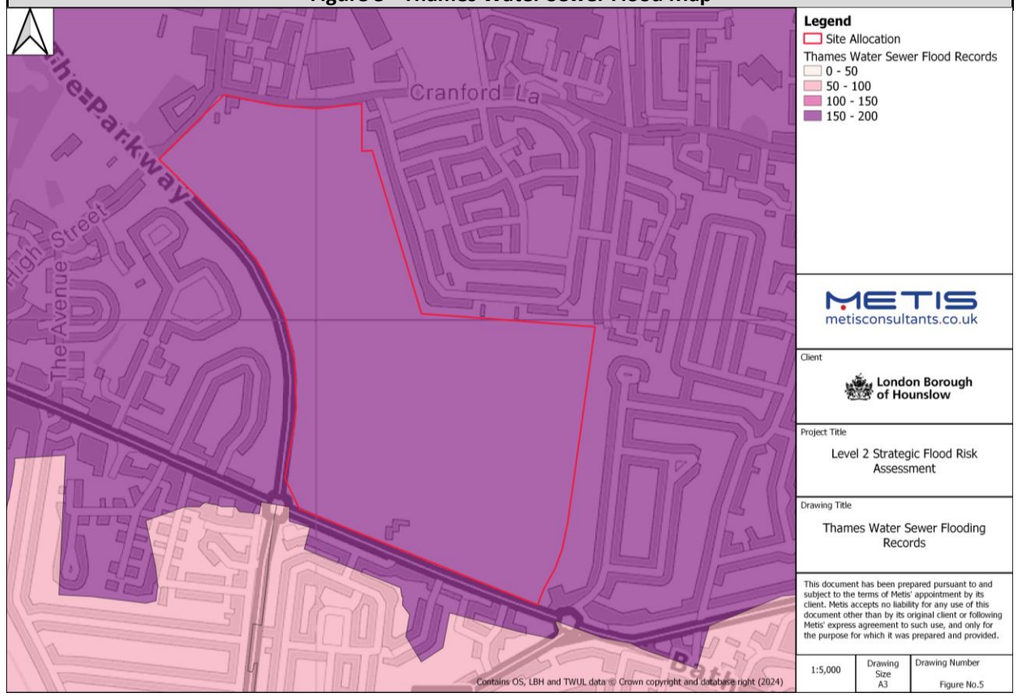


Figure 6 - Areas Susceptible to Groundwater Flooding Map

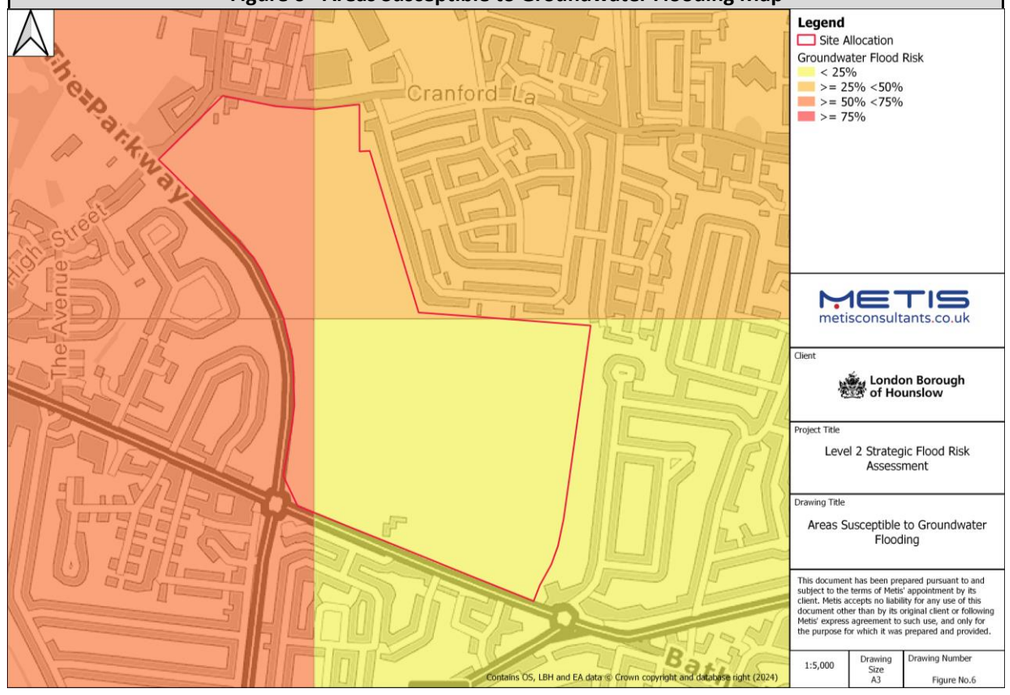
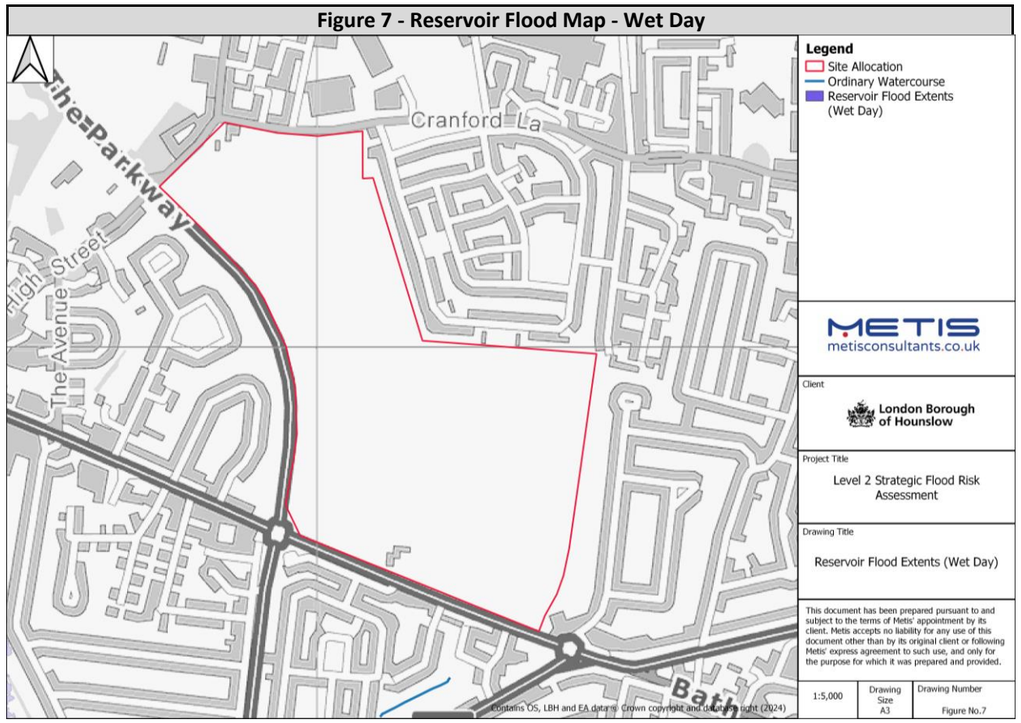


Figure 7 - Reservoir Flood Map - Wet Day



SITE ASSESSMENT - 1-83 High Street

Address: Hounslow, TW3 1RB

Area:	0.77 **Ha**
Site Reference:	123

Current Use	Proposed Use
Retail, parking	Residential and Retail

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			**Groundwater**		
FZ2	0	% of Site	<25	0	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	100	% of Site
1 in 30*	0	% of Site	**Artificial**		
1 in 100*+	12.7	% of Site	Reservoir	No	At risk?
1 in 1000*	55.45	% of Site	Canal	No	At risk?
Sewer Flooding					
No. Incidents					100

* return periods for potential flood events + FZ3a (surface water)

Flood Defences
Site is not in an area benefitting from flood defences.

Flood Warning Area
The EA Flood Warning Service is not available at this site.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	**FZ3b**	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

Risk Assessment (Undefended)			
Parameter	**FZ3a**	**FZ3a+CC**	**Units**
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism

N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress

N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements

N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	**1 in 30**	**1 in 100**	**1 in 1000**	**Units**
Min. Depth	N/A	0.00 - 0.15	0.00 - 0.15	m
Max. Depth	N/A	0.30 - 0.60	0.60 - 0.90	m
Max. Velocity	N/A	0.25 - 0.50	1.00 - 2.00	m/s
Max. Hazard	N/A	1.25 - 2.00	1.25 - 2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism

- The site is at low to medium risk of surface water flooding, particularly in the central and western areas surrounding the existing building.
- Part of High Street to the north of the site is also predicted to be at risk from surface water flooding.
- Climate change is predicted to increase the maximum depth and velocity of surface water flooding

Site Access / Egress

Safe access and egress routes should be directed to the South of the site towards Pears Road or to the north-west of the site towards London Road where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements

- Development should be directed away from the central and western areas surrounding the existing building where there is higher risk of surface water flooding.
- See also SFRA Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage

- A drainage strategy is required for all major developments, and minor and change of use developments which modify existing surface water drainage.
- A site-specific FRA is required for new proposals in Flood Zone 3a, including minor development and change of use.
- Further information on requirements can be found in Section 4 of the West London Strategic Flood Risk Assessment.
- Developments should apply the principles set out in Hounslow's Local Plan Policy EQ2 and Policy EQ3.

SITE ASSESSMENT - 1-83 High Street

SEWER

Risk Assessment

- The site falls within a postcode area where there are 100 reported flood incidents from sewer flooding.
- The site is assumed to be served by separate surface water and foul sewer networks, given their proximity to the site.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having >=75% susceptibility to groundwater flooding.
- The site is underlain by Taplow Gravel Member superficial deposits and London Clay bedrock geology.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

ARTIFICIAL

Risk Assessment

- This site is not risk of flooding from reservoirs.
- This site is not risk of flooding from canals.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

N/A - No reservoir / canal risk is predicted at this site.

PLANNING CONSIDERATIONS

Safety of Development

A. Can the development be future proofed for climate change considerations?

- Yes, see SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?

- Yes. The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
- See SFRA - Level 2 Report Section 4 mitigation requirement number 4.3 for compensatory flood storage stipulations.

C. What is the cumulative impact of the development land use change and will flood risk increase?

- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
- The site is currently a brownfield site with hardstanding areas. This offers an opportunity to improve flood attenuation through the new development.
- Development must mitigate any increase in impermeable area to the site with flood plain compensation and runoff storage to prevent any increase in flood risk. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.

D. How can the development reduce risk overall?

- Direct development away from central and western areas of the site.
- Safe egress routes should be directed towards the south or north-west of the site where there is a lower risk of flooding.
- By complying with Hounslow's Local Plan Policy EQ3 to ensure that flood risk is reduced by ensuring that developments are located appropriately and incorporate sustainable drainage systems.
- By complying with SFRA - Level 2 Report Section 4 mitigation requirement numbers 4.2 and 4.3.

E. Will development require a flood risk permit/watercourse consent?

- No. The site is not located within 8m of a Main River or 5m of an Ordinary Watercourse.

F. Can the site pass the Exception Test?

- Yes. The Exception Test is required for this site as 12.70% of the site area is within Flood Zone 3a (surface water) and the proposed vulnerability classification is 'More Vulnerable'.
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see 'Mitigation - Flood Risk Requirements' and 'Mitigation - Surface Water Drainage' boxes).

Figure 1 - Fluvial Flood Depth Map

Figure 2 - Fluvial Flood Hazard Map

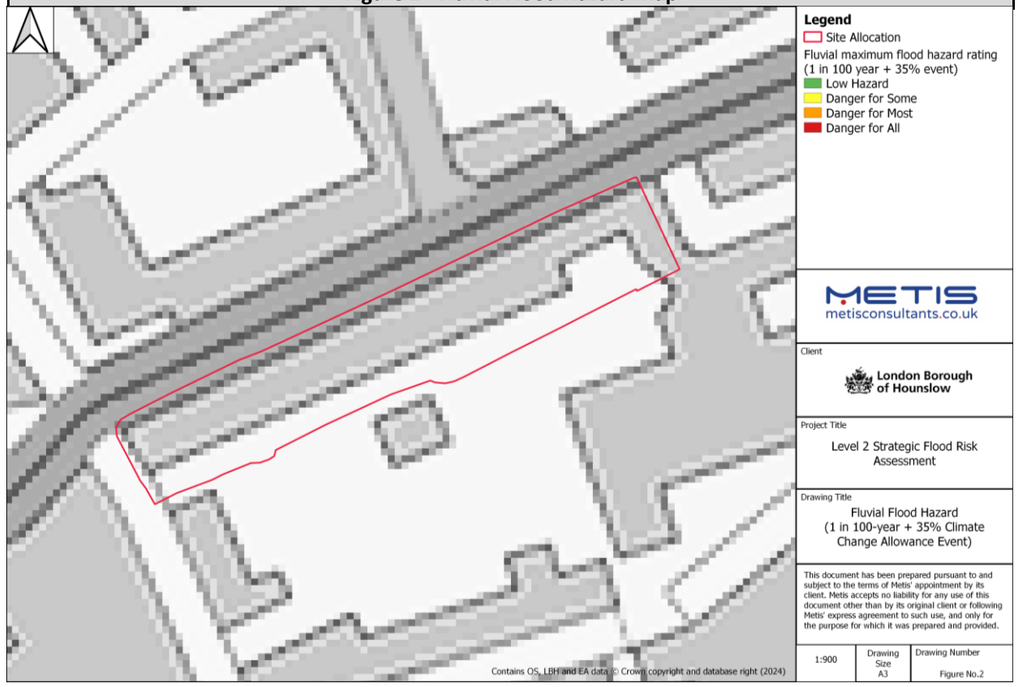


Figure 3 - RoFSW Flood Depth Map

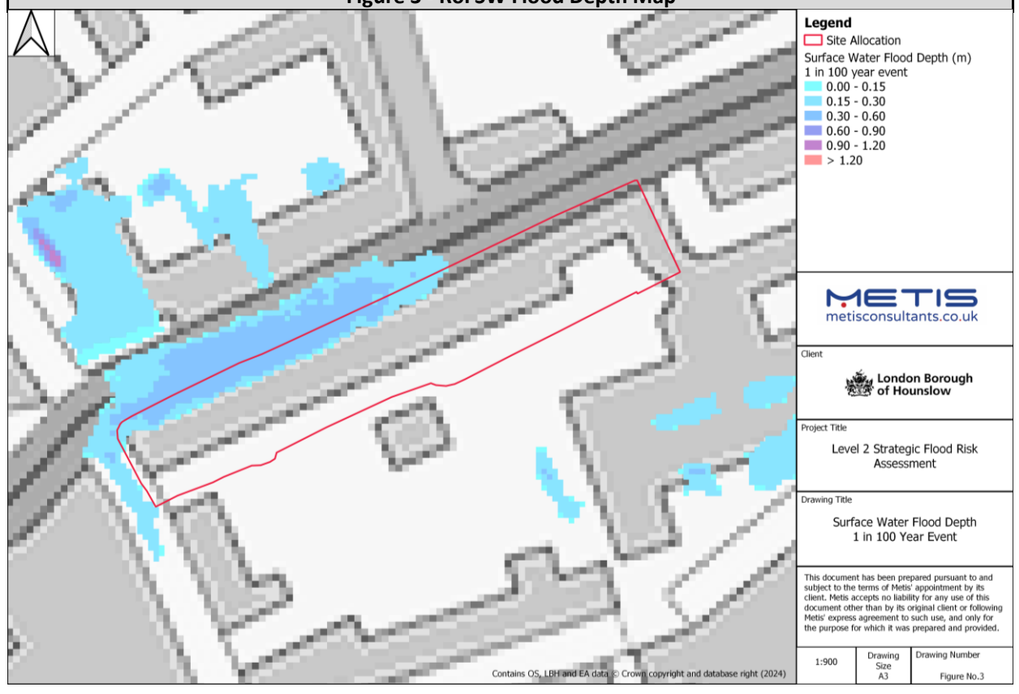


Figure 4 - RoFSW Flood Hazard Map

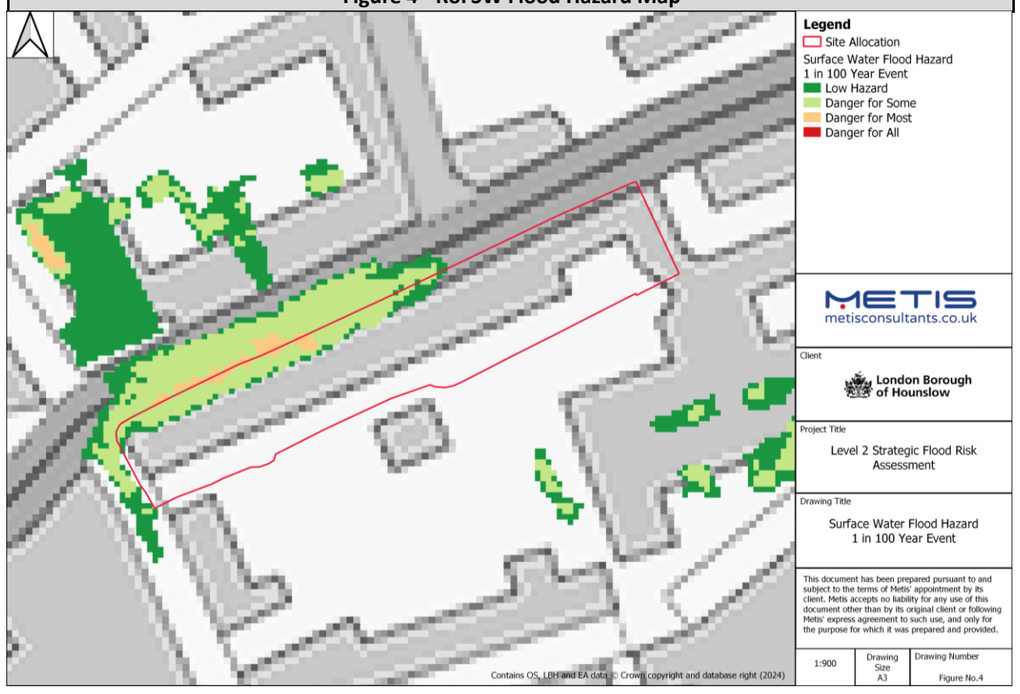


Figure 5 - Thames Water Sewer Flood Map

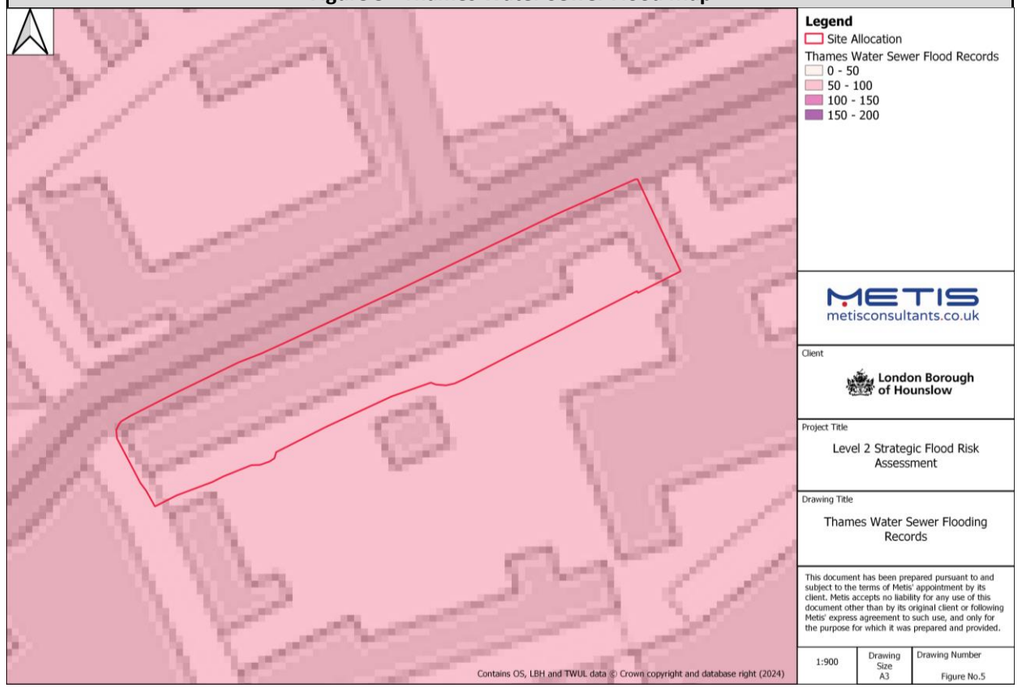


Figure 6 - Areas Susceptible to Groundwater Flooding Map

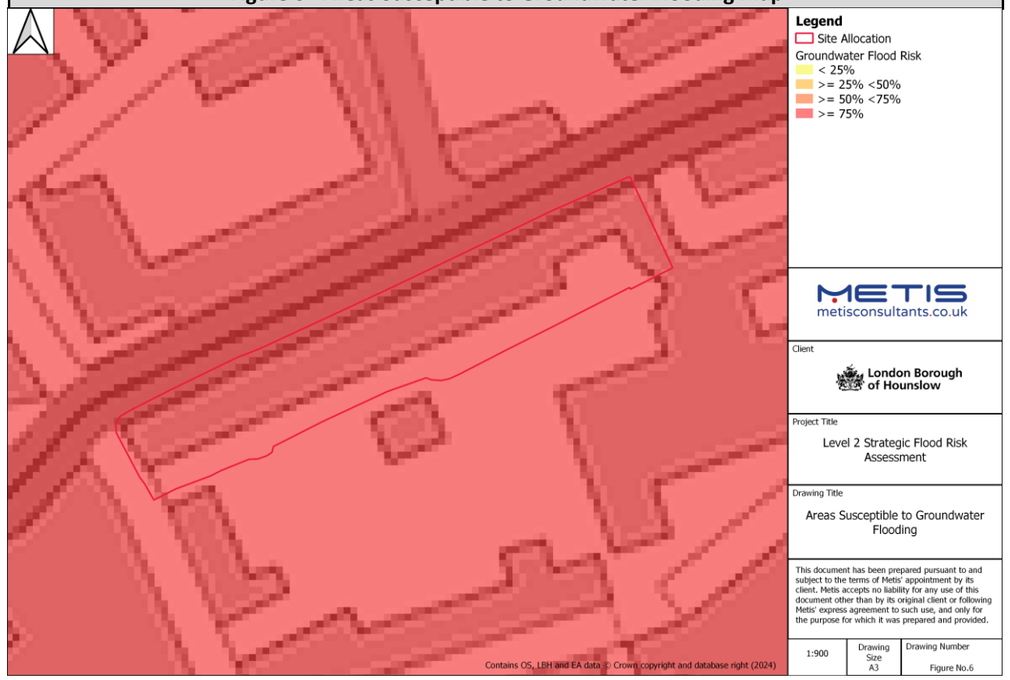


Figure 7 - Reservoir Flood Map - Wet Day