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Royal Borough of Kensington and Chelsea Section 19 Flood Investigation: 12 July 2021

Addendum (2025 update)

Prepared for

THE ROYAL BOROUGH OF KENSINGTON AND CHELSEA

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This report describes work commissioned by James Latham, on behalf of the Royal Borough of Kensington and Chelsea, by an instruction dated 25 June 2025. The Client's representative for the contract was James Latham. Jasmine Mukkath of JBA Consulting carried out this work.

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The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by JBA has not been independently verified by JBA, unless otherwise stated in the Report.

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1 Introduction

1.1 Background to Addendum

Following flooding in Kensington and Chelsea on 12 July 2021, Royal Borough of Kensington and Chelsea (RBKC) as the Lead Local Flood Authority (LLFA) commissioned a formal flood investigation under Section 19 of the Flood and Water Management Act 2010. This report was completed in July 2022, following an investigation that found evidence of flooding on 340 properties on 76 streets within the borough.

Since the initial publication of the report, further reports of flooding to significant numbers of properties have been received. This addendum provided revised figures and mapping of locations affected by the July 2021 flood event.

The update does not have any material impact on the conclusions and recommendations of the original report, and no changes to the recommendations have been made.

2 Receptors

2.1 Streets

Following the completion of the Section 19 investigation report in 2022, further records of flooding were received by the council from various sources, including residents and housing associations.

The revised list of affected properties is a collation of the new records and the properties identified in the initial Section 19 investigation (which was based on information provided by Thames Water, the Council, media reports, and the online questionnaire that was sent out by the Council to residents in the borough).

The collated list (Table 2-1) now shows that 120 streets were affected.

Table 2-1 Streets with reported flooding

Abbotsbury Road	Elsham Road	Lancaster Road	Princedale Road	Upper Addison Gardens
Addison Crescent	Exhibition Road	Lancaster West Estate	Princes Place	Warwick Gardens
Addison Road	Faraday Road	Lansdowne Road	Queensdale Road	Warwick Road
Allen Street	Golborne Road	Latimer Road	Radley Mews	West Eaton Place
Ansleigh Place	Gordon Place	Ledbury Road	Radnor Terrace	Westbourne Park Road
Arundel Gardens	Hillman Drive	Lorne Gardens	Rosmead Road	Whitchurch Road
Basing Street	Hogarth Road	Lower Addison Gardens	Royal Crescent	Wilsham Street
Beckford Close	Holland Park	Napier Place	Russell Gardens	Woodstock Grove
Bevington Road	Holland Park Avenue	Lancaster West Estate	Russell Road	Wornington Road
Blenheim Crescent	Holland Park Gardens	Lansdowne Road	Ruston Mews	Young Street
Bonchurch Road	Holland Park Road	Latimer Road	Scarsdale Villas	

Bramley Road	Holland Road	Ledbury Road	Shrewsbury Street	
Brewster Gardens	Holland Villas Road	Lorne Gardens	Silchester Road	
Cambridge Gardens	Hornton Street	Lower Addison Gardens	Sirdar Road	
Camelford Walk	Kensington High Street	Napier Place	Sloane Square	
Chepstow Villas	Kensington Park Road	Napier Road	Southern Row	
Chesterton Road	Kenway Road	Norland Road	St Ann'S Road	
Clarendon Road	Ladbroke Grove	Norland Square	St Ann'S Villas	
Colville Houses	Ladbroke Square	Notting Hill Gate	St James's Gardens	
Colville Road	Ladbroke Terrace	Oxford Gardens	St Marks Close	
Colville Square	Lancaster Road	Palace Gardens Terrace	St Mark's Place	
Colville Terrace	Lancaster West Estate	Palace Green	St Mark's Road	
Cope Place	Lansdowne Road	Pembroke Gardens	St Quintin Gardens	
Cornwall Crescent	Latimer Road	Pembroke Road	Stable Way	
Cowling Close	Ledbury Road	Pembroke Square	Stafford Terrace	
Dalgarno Way	Lorne Gardens	Penzance Place	Stanford Road	
Darnley Terrace	Lower Addison Gardens	Philbeach Gardens	Stoneleigh Place	
Earl'S Court Road	Napier Place	Phillimore Walk	Stoneleigh Street	

East Row	Ladbroke Square	Pond Place	Stratford Road	
Edwardes Square	Ladbroke Terrace	Portland Road	Sunbeam Crescent	
Elgin Crescent	Ladbroke Square	Portobello Road	Talbot Road	
Ellis Street	Ladbroke Terrace	Powis Square	Thorpe Close	

2.2 Source-pathway-receptor summary

In the Section 19 investigation report highlighted the streets in the borough with main or interceptor sewers running underneath them due to the likely contribution of sewer exceedance to flood flows. Table 2-2 shows the flooded streets that have these sewers running underneath them. Figure 2-1 provides an updated heat map (density per 100 m2) of flood receptors and shows the number of affected properties per street. The new mapping shows an increase in flooded properties in areas both away from the main flood path and along the direction of flood flows. Several of these properties experienced internal flooding and incurred damages as a result. Overall, 785 properties are found to have been affected during the July 2021 flood event.

Table 2-3 provides source-pathway-receptor analysis of the flooded streets in RBKC with updated figures for affected properties and streets which were not known to affected in the Section 19 report. Internal property flood depths were informed by data collated in the initial S19 investigation, which was informed by resident questionnaires, reports from the Council and Thames Water's Sewer Flooding records. Where no detailed information on flood mechanisms was available, the flood pathway has been assumed based on the sewer flow direction and flooding on adjacent streets. Additionally, since the S19 investigation was published, 252 properties now have property protection installed as part of a Thames Water Programme for the borough. Streets which have been included in this programme have been highlighted in Table 2-3.

Table 2-2 Flooded streets with main or interceptor sewers running underneath them

Middle Level Sewer Number 1	Low Level Sewer Number 2	North Kensington Storm Relief sewer	Ranelagh Storm Relief sewer	Counters Creek	North Western Storm Relief sewer
Bevington Road	Exhibition Road	Addison Road	Sloane Square	Allen Street	Addison Road
Bonchurch Road	Holland Road	Basing Street	West Eaton Place	Beckford Close	Basing Street
Chepstow Villas	Pembroke Gardens	Blenheim Crescent		Bramley Road	Blenheim Crescent
Colville Road	Pembroke Square	Bonchurch Road		East Row	Clarendon Road
Colville Terrace	Russell Road	Brewster Gardens		Holland Park Avenue	Elgin Crescent
Faraday Road	Stanford Road	Cambridge Gardens		Holland Road	Holland Park Avenue
Golborne Road	Warwick Gardens	Clarendon Road		Ladbroke Grove	Holland Road
Ladbroke Grove		Cornwall Crescent		Latimer Road	Holland Villas Road
Lancaster Road		Elgin Crescent		Lower Addison Gardens	Kensington Park Road
Portobello Road		Elsham Road		Napier Place	Ladbroke Grove
Talbot Road		Faraday Road		Napier Road	Lancaster Road
Westbourne Park Road		Golborne Road		Oxford Gardens	Lansdowne Road

Middle Level Sewer Number 1	Low Level Sewer Number 2	North Kensington Storm Relief sewer	Ranelagh Storm Relief sewer	Counters Creek	North Western Storm Relief sewer
		Holland Park		Pembroke Road	Norland Square
		Holland Park Avenue		Pembroke Square	Portland Road
		Holland Park Gardens		Queensdale Road	Portobello Road
		Holland Road		Radnor Terrace	Princedale Road
		Holland Villas Road		Royal Crescent	Princes Place
		Kensington High Street		Scarsdale Villas	Queensdale Road
		Kensington Park Road		Silchester Road	Upper Addison Gardens
		Ladbroke Grove		Southern Row	Westbourne Park Road
		Lancaster Road		St Anns Road	Woodstock Grove
		Lansdowne Road		St Anns Villas	
		Norland Square		Stratford Road	
		Oxford Gardens		Upper Addison Gardens	
		Portland Road		Warwick Road	
		Portobello Road		Young Street	

Middle Level Sewer Number 1	Low Level Sewer Number 2	North Kensington Storm Relief sewer	Ranelagh Storm Relief sewer	Counters Creek	North Western Storm Relief sewer
		Princedale Road			
		Princes Place			
		Queensdale Road			
		Russell Road			
		Ruston Mews			
		St Marks Place			
		St Marks Road			
		Upper Addison Gardens			
		Warwick Road			
		Westbourne Park Road			
		Woodstock Grove			
		Wornington Road			

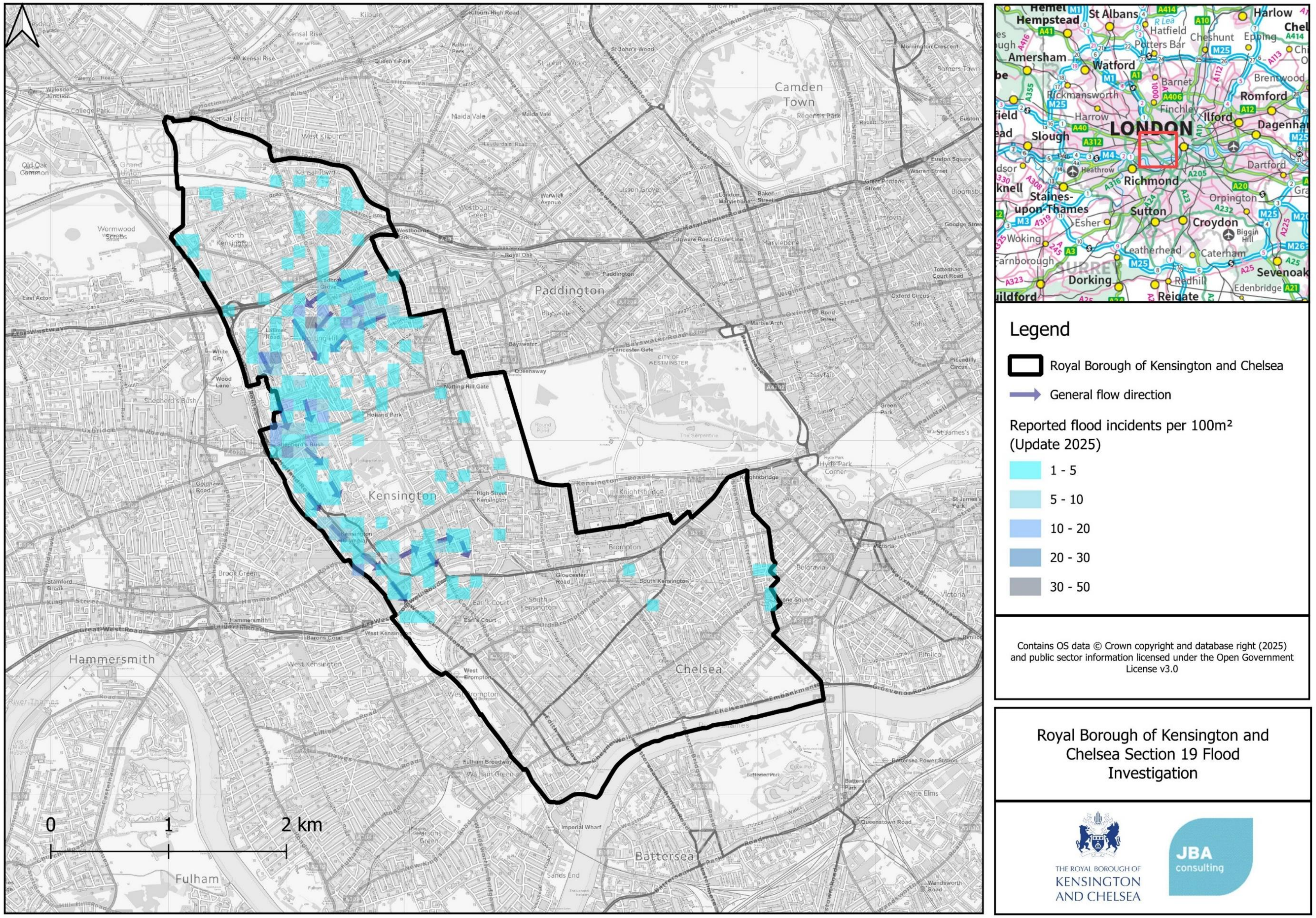


Figure 2-1 Heatmap of the locations of flooded properties in a 100 m2 area and the general direction of flow

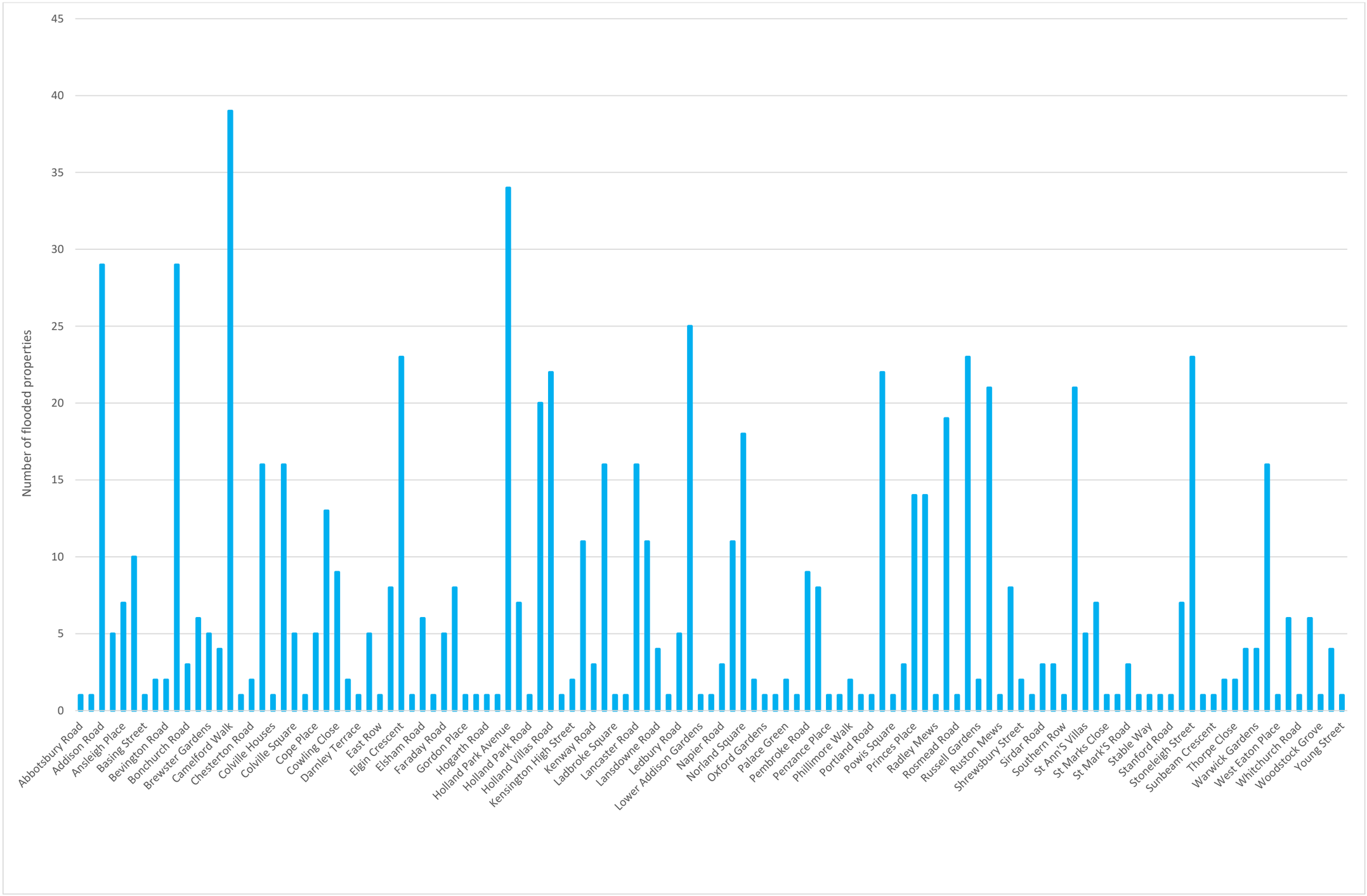


Figure 2-2 Number of flooded properties by street

Table 2-3 Source-pathway-receptor analysis by street

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
Abbotsbury Road	Intense rainfall	N/A	1	N/A	N/A	The property was likely flooded by overland flow from overflowing drains adjacent to the property. Properties on adjacent streets also experienced sewage overflowing from toilets in basements.
Addison Crescent	Intense rainfall	N/A	1	N/A	N/A	The property was likely flooded by overland flow from surcharged sewers on Addison Road. Properties on this street have protection installed as part of the Thames Water programme.
Addison Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	29	25	50	Several properties experienced flooding from sewage surcharging from drains and manholes that flowed overland into properties, or sewage that came up from toilets in basement properties, or a combination of both. Several residents made insurance claims for hundreds of thousands of pounds as extensive repairs to basements and lifts were made. Flow in the sewers flows southward down this street. Properties on this street have protection installed as part of the Thames Water programme.
Alma Terrace, Allen Street	Intense rainfall	Combined sewer capacity exceeded	5	10	15	Some properties were flooded by sewage coming up from toilets and shower drains. Sewage in the sewers flows southward down this street. Properties on this street have protection installed as part of the Thames Water programme.
Ansleigh Place	Intense rainfall	N/A	7	N/A	N/A	The Counter Creek and Hammersmith Storm Relief sewer run underneath nearby, flowing east to west. Overland flows from overflowing drains is likely to have caused flooding.
Arundel Gardens	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	10	25	30	The drains overflowed causing water to enter properties. The sewers also surcharged, and floodwater came from back gardens into properties. The sewers flow from west to east on this street. Properties on this street have protection installed as part of the Thames Water programme.
Basing Street	Intense rainfall	N/A	1	N/A	N/A	Property flooding was likely caused by floodwater from surcharged drains and sewers. Sewage flows north to south on this street.
Beckford Close	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	2	90	90	The drains overflowed causing water to enter properties. The floodwater also caused irreparable damage to cars on the street. Some residents did not have access to clean water for five days.
Bevington Road	Intense rainfall	N/A	2	N/A	N/A	Property flooding was likely caused by overflowing highway drains and surcharged sewers. Sewage flows north to south on this street.
Blenheim Crescent	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	29	25	45	The drains and sewers overflowed, causing floodwater to collect at both the basement and ground floor level. Every single property that was flooded had its basement flooded on this street. The sewers flow from east to west. Properties on this street have protection installed as part of the Thames Water programme.
Bonchurch Road	Intense rainfall	N/A	3	N/A	N/A	Property flooding was likely caused by overflowing highway drains and surcharged sewers. Sewage flows north to south on this street.
Bramley Road	Intense rainfall	Sewer capacity exceeded	6	135	135	There were reports of the back-up pumps for a block of flats failing to operate, causing much worse flooding and damages to property and possessions. The North

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
						Kensington Storm Relief sewer begins at the north end of this street, with sewage flowing southward.
Brewster Gardens	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	5	10	15	There was both overland flow as water flowed on the road from overflowing drains and sewer flooding in basements as the sewers surcharged. The sewers flow from north to south on this street.
Cambridge Gardens	Intense rainfall	N/A	4	N/A	N/A	Property flooding was likely caused by overflowing highway drains and surcharged sewers resulting in floodwater collecting at the basement level. Part of the North Kensington Storm Relief sewer runs underneath the street.
Camelford Walk	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	39	20	20	Surface water from overflowing drains flowed downhill from St Mark's Road, including a drain by Thomas Jones Primary School, collected at the bottom of the hill which is Camelford Walk. There are a limited number of highway gullies in the area, causing water to be routed as overland flow. Furthermore, where there are drains, if they overflow, a larger amount of water overflows onto the street since there is a reduced number of ways that water can leave the sewer. Located in an area of high hydrological connectivity, there are only highway drains on the main roads such as Lancaster Road, St Marks Road, Cornwall Crescent, with the exception of a few drains near Clarendon Walk, where a sewer flowing from Ladbroke Crescent flows through the middle of the area.
Chepstow Villas	Intense rainfall	N/A	1	N/A	N/A	Property flooding likely resulted from overflowing drains and sewers which flowed downhill, collecting at the basement level. The Middle Level Sewer runs underneath the street.
Chesterton Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	2	N/A	N/A	Properties along this street were likely flooded by overflowing highway drains and surcharged sewers, causing floodwater to collect in basements. The North Kensington Storm Relief sewer runs through the intersection of Chesterton Road, St Quintin Avenue and St Marks Road.
Clarendon Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	16	10	40	The drains overflowed mainly at the front of properties, causing water to flow into the properties. However, some also had flooding coming from the rear of their property, in addition to some experiencing flooding due to inadequate roof drainage. Part of the North Kensington Storm Relief sewer runs underneath this street. Properties on this street have protection installed as part of the Thames Water programme.
Colville Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	16	50	120	Sewage overflowed from the drains and sewers which flowed downhill, collecting at the basement level. Since the drains were blocked and the sewers were surcharged, water was unable to drain away and entered the basement properties. The interior of several properties was severely damaged. The sewers flow from north to south on this street. Properties on this street have protection installed as part of the Thames Water programme.
Colville Square	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	5	10	10	The sewer near the intersection of Colville Square and Colville Terrace was surcharged, causing a 1.2m high fountain. The floodwater then flowed into basement properties. The sewers flow from north to south on this street.
Colville Terrace	Intense rainfall	N/A	1	N/A	N/A	This street is in an area of high hydraulic connectivity both north to south with Colville Square, Lonsdale Road and Colville Road, and east to west with Portobello

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
						Road and Elgin Crescent. The street was flooded and water flowed in the direction towards Portobello Road. Properties on this street have protection installed as part of the Thames Water programme.
Cope Place	Intense rainfall	Surface water drainage capacity exceeded	5	10	15	This street had issues with surface water drainage that failed to drain the floodwater away. The surface water then collected in basements. The local sewer flows from west to east. Properties on this street have protection installed as part of the Thames Water programme.
Cornwall Crescent	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	13	30	30	The drains and sewers overflowed, causing floodwater to enter properties. A 0.5m high fountain formed on the main road where the sewer surcharged and flooded the road by up to 10cm. The sewer flows from east to west. Properties on this street have protection installed as part of the Thames Water programme.
Cowling Close	Intense rainfall	N/A	9	N/A	N/A	Property flooding was likely caused by overflowing drains and sewers, properties on adjacent streets had flooding due to sewage coming up from their toilets. Sewage flows from east to west on both sides of this street.
Dalgarno Way	Intense rainfall	N/A	2	N/A	N/A	Flooding was likely due to both overland flow from overflowing drains and flowed downhill.
Darnley Terrace	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	1	N/A	N/A	The local sewer flows from east to west on this street. The likely cause of flooding was overflowing drains and sewers. Adjacent properties had flooding due to sewage coming up from their toilets in their basements.
Earl's Court Road	Intense rainfall	N/A	5	N/A	N/A	The Counter Creek sewer line runs underneath nearby, sewage flowing north to south.
East Row	Intense rainfall	N/A	1	N/A	N/A	This street is in an area of high hydraulic connectivity, with the sewer flowing north to south along Kensal Road. Properties along this street were likely flooded by overflowing highway drains and surcharged sewers.
Edwardes Square	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	8	10	30	Multiple ground floor properties were affected by floodwater overflowing from drains at the back and front of properties, entering the property, while multiple basement flats were affected by sewage coming up from toilets. Floodwater also came from back gardens. The basement flats were generally more badly affected than ground floor properties as they had both surface water flooding as overland flow and sewage coming up from toilets. Properties on this street have protection installed as part of the Thames Water programme.
Elgin Crescent	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	23	25	90	In addition to the drains and sewers overflowing on the main road, most flooded properties had their gardens flooded first from the communal garden, which then flowed into their property. There were reports of waves flowing from Portobello Road, and there was significant ponding at the junction of Kensington Park Road and Elgin Crescent. Surface water flowed rapidly across roads which then also entered properties. Sewage also flowed up from toilets in basement flats. Many of the flooded properties had their basements flooded and extensive damage to their flooring and walls. During the event, some households in basement properties had to evacuate their children through the basement window. After a while, water levels suddenly lowered as the water drained back into the sewer. Properties on this street have protection installed as part of the Thames Water programme.

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
Ellis Street	Intense rainfall	Combined sewer capacity exceeded	1	30	30	Sewage surcharged from the sewers and flowed into properties. The sewers flow from west to east on this street.
Elsham Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	6	N/A	N/A	Multiple properties were flooded on this street, particularly basement/lower ground floor flats. The local sewers flow from north to south on this street. Properties on this street have protection installed as part of the Thames Water programme.
Exhibition Road	Intense rainfall	N/A	1	N/A	N/A	Property flooding likely resulted from overland flow from surcharged sewers and flowed into properties. The sewers flow from west to east on this street.
Faraday Road	Intense rainfall	N/A	5	N/A	N/A	The North Kensington Storm Relief sewer and the Middle Level sewer run nearby. Properties along this street were likely flooded by overflowing highway drains and surcharged sewers causing water to collect in at the basement level.
Golborne Road	Intense rainfall	N/A	8	N/A	N/A	There are sewers flowing north to south on both sides of the street. Property flooding was likely caused by overflowing sewers.
Gordon Place	Intense rainfall	N/A	1	N/A	N/A	Sewage flows from north to south on this street. Property flooding likely resulted from overland flow from surcharged sewers.
Hillman Drive	Intense rainfall	N/A	1	N/A	N/A	Sewage flows from north to south on both sides of this street. There was both overland flow as water flowed on the road from overflowing drains. Properties on adjacent streets also experienced sewer flooding in basements as the sewers surcharged.
Hogarth Road	Intense rainfall	N/A	1	N/A	N/A	Sewage flows from north to south on this street. Properties in adjacent streets experienced basement flooding due to sewage flowing out of toilets.
Holland Park	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	1	N/A	N/A	The drains overflowed as the sewers surcharged causing floodwater to flow along the street and into properties.
Holland Park Avenue	Intense rainfall	Combined sewer capacity exceeded	34	25	40	Several residents experienced large amounts of sewer flooding coming up from the toilets in their basements. One resident had flooding coming from their roof and ceiling, likely due to inadequate roof drainage. In addition, Holland Park Station was flooded. The street is slightly downhill from neighbouring streets, causing water to collect along this street. Properties on this street have protection installed as part of the Thames Water programme.
Holland Park Gardens	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	7	30	50	Water came up from overflowing drains and manholes, as well as through external drains in lightwells. The floodwater originated at the junction of Holland Park Gardens and Holland Park Avenue. Water flowed into properties, primarily basement properties. After a while, water suddenly drained away as a result of the water draining back into the sewers. Properties on this street have protection installed as part of the Thames Water programme.
Holland Park Road	Intense rainfall	N/A	1	N/A	N/A	On this street, Leighton House Museum was flooded due to the large amount of rainfall, flooding the electrical switch room. The local sewer flows from east to west on this street.
Holland Road	Intense rainfall	Surface water drainage/com	20	50	100	Multiple properties were flooded by either sewage coming up from toilets in their basements, or sewage surcharging from the sewers on the street and flowing into

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
		bined sewer capacity exceeded				their properties. Sewage flows from north to south on this street. Properties on this street have protection installed as part of the Thames Water programme.
Holland Villas Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	22	105	300	This street was heavily flooded as the sewers surcharged and came up from the manholes, starting from the junction at Upper Addison Gardens and this street and continuing along the rest of this street. A large amount of water then collected in basements, with multiple properties being flooded by more than a metre. There are also two FLIPs on this street. Addisland Court was affected particularly badly, with flood depths reaching up to 3m and flooding basements entirely and even reaching the ground floor. The flood has made many flats uninhabitable and forced residents into temporary accommodation. The boiler and electric for the building are still undergoing repairs, so the building is being serviced by a temporary boiler and electricity. At Addisland Court, water entered the car park, which is at the basement level. The building has a few water pumps, but which were old and were overwhelmed quickly during the event, causing the electricity in the building to short-circuit. With none of the water being pumped out, the water level quickly rose and to a very deep level. Holland Villas Road had the joint largest maximum internal flood depth alongside Royal Crescent. Properties on this street have protection installed as part of the Thames Water programme.
Horton Street	Intense rainfall	N/A	1	N/A	N/A	Sewage flows from east to west along this street. The Kensington Town Hall was affected by flooding.
Kensington High Street	Intense rainfall	N/A	2	N/A	N/A	Basement apartments in Charles House were affected by flooding. Flooding was likely caused by overflowing drains and surcharging sewers.
Kensington Park Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	11	10	10	Flooding was caused by the drains and sewers being overloaded, as well as, in one case, inadequate roof drainage. Properties on this street have protection installed as part of the Thames Water programme.
Kenway Road	Intense rainfall	Combined sewer capacity exceeded	3	20	30	Multiple basement properties were flooded by sewage coming up from their toilets. Sewage flows from north to south on this street.
Ladbroke Grove	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	16	20	30	Properties along this street were flooded by overflowing highway drains and surcharged sewers causing water to collect in gardens and then at the basement level, both inside and outside of the basement properties. Several residents had issues with their rooftop drainage and their guttering. The Kensal House Annexe at the north end of the street was flooded as well as North Kensington Library. Inadequate roof drainage was reported to be the cause of flooding at Kensal House.
Ladbroke Square	Intense rainfall	N/A	1	N/A	N/A	Flooding was likely caused by surcharged sewers, resulting in basement flooding.
Ladbroke Terrace	Intense rainfall	N/A	1	N/A	N/A	Flooding was likely caused by surcharged sewers, resulting in basement flooding.
Lancaster Road	Intense rainfall	Surface water drainage/combined sewer	16	80	100	Surcharged drains and sewers caused flooding on this street and a 1m high fountain formed at the intersection of Lancaster Road and St Marks Road, preventing vehicles from passing. Floodwater from the streets and gardens then entered

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
		capacity exceeded				properties. Sewage flows from east to west on this street. Properties on this street have protection installed as part of the Thames Water programme.
Lancaster West Estate	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	11	N/A	N/A	The majority of basements on Barandon Walk were flooded, which includes Council offices for the W11 Lancaster West team as well as commercial properties. Flood depths on Testerton Walk were reported to be larger than at Barandon Walk, but the impact was less since the basement area is mainly used for car parking. Ground floor and lower ground floor properties were also affected on Lower Clarendon Walk. Water flowed quickly down the street, which acted as a channel, forcing the water in one direction, causing it to collect by and enter properties. A large local sewer that flows from east to west across the estate surcharged, causing floodwater to come up from a manhole and flood the basements. This sewer then drains into North Kensington Storm Relief sewer and Counters Creek sewer. This area has a high hydrological connectivity. The local sewer runs from Lancaster Road flowing southward through Lower Clarendon Walk and joins up with the local sewer at Clarendon Road. In addition, a large local sewer runs underneath this street also. Part of North Kensington Storm Relief sewer runs underneath St Marks Road, and which carried a large amount of flow during the event which may have contributed to flooding along Lower Clarendon Walk.
Lansdowne Road	Intense rainfall	N/A	4	N/A	N/A	Overflowing drains and sewers on the road is the likely cause of flooding. Basement properties on adjacent streets also experienced sewage flowing out of toilets.
Latimer Road	Intense rainfall	Combined sewer capacity exceeded	1	N/A	N/A	The local sewer flows from north to south. The likely cause of flooding is surcharging of the sewer, causing water to collect in basements.
Ledbury Road	Intense rainfall	Combined sewer capacity exceeded	5	15	15	The sewers surcharged causing sewage to flow on the streets and enter properties, flooding basements. The floodwater receded shortly after as the sewer levels lowered. Sewage flows from north to south on this street.
Lonsdale Road	Intense rainfall	N/A	1	N/A	N/A	Colville Primary School was flooded. Sewage flows from east to west on this street.
Lorne Gardens	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	25	N/A	N/A	Sewage flows from east to west on this street and is taken to the sewers that run through Holland Park Avenue.
Lower Addison Gardens	Intense rainfall	N/A	1	N/A	N/A	Property flooding to the basement flat was likely caused by surcharged sewers. Sewage flows from north to south on this street
Napier Place	Intense rainfall	Surface water	1	N/A	N/A	Sewage flows from north to south, draining into the sewers on Holland Road. Properties on this street have protection installed as part of the Thames Water programme.
Napier Road	Intense rainfall	Surface water drainage/combined sewer capacity	3	10	15	Multiple basement flats were flooded though it is difficult to determine the exact causes of flooding along this street. Sewage flows from east to west, draining into the sewers on Holland Road.

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
Norland Road	Intense rainfall	Surface water drainage/combined sewer capacity	11	50	50	Surcharged sewers caused sewage to flow on the road, with a 1m high fountain forming at the manhole and entering properties. Properties on this street have protection installed as part of the Thames Water programme.
Norland Square	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	18	15	30	Multiple residents were badly affected by sewer flooding that came up through their toilets in their basements. Others also had floodwater enter their property via overland flow due to the drains and sewers overflowing. The sewers drain into the sewers on Queesndale Road. Properties on this street have protection installed as part of the Thames Water programme.
Notting Hill Gate	Intense rainfall	N/A	2	N/A	N/A	Notting Hill Gate Station was flooded. The Middle Level Sewer Number 1 runs next to the station.
Oxford Gardens	Intense rainfall	N/A	1	N/A	N/A	Ground floor property was flooded on this street. Sewage flows north to south on this street.
Palace Gardens Terrace	Intense rainfall	N/A	1	N/A	N/A	Flooding is likely due to overflowing drains adjacent to the property.
Palace Green	Intense rainfall	N/A	1	N/A	N/A	Sewage flows from north to south on this street. The likely cause of flooding is overflow from drains.
Pembroke Gardens	Intense rainfall	N/A	≥1	N/A	N/A	Sewage flows from north to south on this street.
Pembroke Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	6	5	10	Floodwater overflowed from drains on this street, entering properties from the front via overland flow.
Pembroke Square	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	9	10	30	Several properties along this street were affected by both sewage overflowing in the street through manholes and also coming up from toilets in basements. There was a large variation in impact across the properties along the street, as some properties had multiple internal manholes inside their property which flooded, while other properties are raised from the ground and have steps leading up to the property, and were less badly affected. However, for many, insurance premiums increased substantially. Sewage flows from east to west on this street.
Penzance Place	Intense rainfall	N/A	1	N/A	N/A	The likely cause of flooding is overflow from drains adjacent to the property. Part of the North Kensington Storm Relief sewer runs underneath this street.
Philbeach Gardens	Intense rainfall	N/A	1	N/A	N/A	It is likely that flow from overflowing drains resulted in flood water entering the property.
Phillimore Walk	Intense rainfall	N/A	2	N/A	N/A	Central Kensington Library was flooded and closed for several days. Sewage flows from east to west along this street.
Portobello Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	22	140	150	The intense rainfall along with surcharged drains caused a large volume of water to flow freely down the road, flooding several businesses. Basements were worst affected due to sewer flooding coming up through toilets in the property. With the amount of water reported to have been flowing through the street, and which is captured on video on social media, it is likely that the number of properties flooded on this street is significantly underreported. Vehicles moving through the water created bow waves, which then inundated properties along the street. There were reports of water coming from east to west from Colville Terrace across

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
						Portobello Road and into Elgin Crescent. Many businesses on this junction to Colville Terrace and Elgin Crescent are reported to have been flooded according to residents' accounts. Many gullies along Portobello Street were blocked as the large amount of floodwater failed to drain away. However, after two hours, the water suddenly drained away as the sewer levels lowered. Properties on this street have protection installed as part of the Thames Water programme.
Powis Square	Intense rainfall	N/A	1	N/A	N/A	Overland flow from surcharging drains and manholes is the likely cause of flooding. Properties in adjacent reported sewage coming up through drains and manholes
Princedale Road	Intense rainfall	Combined sewer capacity exceeded	3	20	20	After two hours of flooding, the water receded suddenly. Properties on this street have protection installed as part of the Thames Water programme.
Princes Place	Intense rainfall	N/A	14	N/A	N/A	Sewage flows from east to west and follows the remainder of the street southward, draining into the sewers on Queensdale Road. There are no FLIPs on this street.
Queensdale Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	14	30	100	There was a large amount of sewer flooding that came through shower drains and toilets in basement properties. In addition, some residents reported surface water flooding from the street and other residents' properties. Sewer flow is highly complex on this street, with multiple inflows from Princedale Road, Princes Place, Norland Road and Norland Square. Properties on this street have protection installed as part of the Thames Water programme.
Radley Mews	Intense rainfall	Surface water drainage	1	25	50	One resident had issues with their roof drainage. Sewage flows from south to north. Properties on this street have protection installed as part of the Thames Water programme.
Radnor Terrace	Intense rainfall	N/A	19	N/A	N/A	Sewage flows both north to south and east to west. Basement flats were affected by flooding. The cause of flooding was likely due to a combination of overland flows from drains and surcharging sewers.
Rosmead Road	Intense rainfall	Combined sewer capacity exceeded	1	N/A	N/A	Sewage flows from east to west, flowing into the sewers under Elgin Crescent. There are no FLIPs on this street.
Royal Crescent	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	23	60	300	Some properties were flooded by sewage coming up through toilets in basements. However, the majority of flooded properties were flooded by overflowing drains and manholes, both in the front and back of properties, which then collected in basements. Large amounts of water entered the properties, with one resident pumping out 130m3 and being flooded by up to 3m internally. For several residents, the flooding lasted for approximately two hours, until the water suddenly drained away. The sewers on either side of Royal Crescent meets underneath the junction of Royal Crescent and St Anns Villas where it then flows into a separate pipe that flows southward and passes Holland Park Avenue. This is the Counters Creek sewer. There are numerous FLIPs on this street. Royal Crescent had the joint largest maximum internal flood depth along with Holland Villas Road. Properties on this street have protection installed as part of the Thames Water programme.

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
Russell Gardens	Intense rainfall	Combined sewer capacity exceeded	2	N/A	N/A	One property on this street experienced flooding from sewage coming up from toilets and shower drains in their basement. Sewage flows from east to west, starting from Holland Road, going through Russel Gardens, and flowing into Russell Road.
Russell Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	21	30	60	Several properties were flooded by sewage coming from toilets and shower drains in basements, or floodwater from overflowing drains and manholes that collected in basements, or a combination of both. Properties on this street have protection installed as part of the Thames Water programme.
Ruston Mews	Intense rainfall	N/A	1	N/A	N/A	Part of North Kensington Storm Relief sewer runs under St Marks Road in a southward direction. Water also flows southwards following the incline towards this street.
Scarsdale Villas	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	8	65	100	Properties were flooded by sewage coming up from the toilets in basements or floodwater from overflowing drains which flowed into properties. Sewage flows from east to west on this street.
Shrewsbury Street	Intense rainfall	N/A	2	N/A	N/A	The Middle Level Sewer runs to the rear of the properties on this street in a southeastern direction. Water flows eastwards towards the street from the sewer. It is likely that overland flows from surcharging drains was the cause of flooding.
Silchester Road	Intense rainfall	N/A	1	N/A	N/A	Kensington Aldridge Academy was affected by flooding. The likely cause of flooding was overflowing highway drains and surcharged sewers.
Sirdar Road	Intense rainfall	N/A	4	N/A	N/A	Avondale Park School was affected by flooding. It is likely that overflowing drains into the street, was the cause of flooding. In adjacent properties, floodwater inundating basements included sewer flooding that came up from toilets.
Sloane Square	Intense rainfall	N/A	3	N/A	N/A	Sloane Square Underground Station was flooded internally due to the Ranelagh CSO which passes through it. Water made its way through the station cascading down the steps.
Southern Row	Intense rainfall	N/A	1	N/A	N/A	Unit 12 on Southern Row was flooded. Part of the Counters Creek sewer runs under Southern Row.
St Anns Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	21	60	100	There was a large amount of sewer flooding on this street that came up through the drains and manholes onto the street which then flowed into properties. Floodwater also flowed from the rear of properties. There were also reports of a burst pipe by Henry Dickens Community Centre, though Thames Water has said it has no record of this. Sewage flows from north to south. Properties on this street have protection installed as part of the Thames Water programme.
St Anns Villas	Intense rainfall	Sewer capacity exceeded	5	50	70	Sewage flows from north to south on this street. The main line of the Counters Creek sewer runs underneath this street. One property was flooded due to floodwater entering through airbricks. Properties on this street have protection installed as part of the Thames Water programme.
St James's Gardens	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	9	90	150	In addition to overflowing drains and sewers, some properties had flooding due to sewage coming up from their toilets in their basements, and blockages in their roof drainage. Sewage flows from east to west on both sides of St James's Gardens. Properties on this street have protection installed as part of the Thames Water programme.

Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
St Marks Close	Intense rainfall	N/A	1	N/A	N/A	On this street, St Marks Care Leavers Centre was flooded on the ground floor. Seven care leavers had to be moved to temporary accommodation. This area has a high hydrological connectivity as many of the side-streets are interlinked, allowing a fast flow of water.
St Marks Place	Intense rainfall	N/A	1	N/A	N/A	This street has a high hydrological connectivity, with the North Kensington Storm Relief sewer running along Cornwall Cresent to the north of the street. It is likely that overflowing drains and sewers was the cause of flooding.
St Marks Road	Intense rainfall	N/A	3	N/A	N/A	Water on this road drains southward as it flows down on an incline. Thomas Jones Primary School, and Kensington and Chelsea's Learning Disability Community Team were flooded near towards the end of the road. The sewers underneath this street also flow southward. The sewer that runs underneath this street is part of North Kensington Storm Relief sewer.
St Quintin Gardens	Intense rainfall	N/A	1	N/A	N/A	A main trunk sewer runs underneath nearby, and in addition, the main line of Counters Creek sewer starts nearby here.
Stable Way	Intense rainfall	N/A	1	N/A	N/A	Part of the Counters Creek main sewer runs underneath this street.
Stafford Terrace	Intense rainfall	N/A	1	N/A	N/A	On this street, Linley Sambourne House experienced large amounts of flooding. Sewage flows from east to west on this street.
Stanford Road	Intense rainfall	Combined sewer capacity exceeded	1	25	45	One property on this street was flooded by sewage coming up from their toilet in the basement. Properties on this street have protection installed as part of the Thames Water programme.
Stoneleigh Place	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	7	45	45	Multiple residents on this street experienced flooding that had various causes. For most, the overflowing drains on the street caused water to flow into properties. Many, too, had overland flow coming from their back gardens. Some residents had sewage coming out of their toilet and bath, while one resident had flooding come from the roof where their roof drainage was inadequate. There is one FLIP on this street.
Stoneleigh Street	Intense rainfall	Surface water drainage capacity exceeded	23	100	150	A large amount of water from drains overflowed into the street, in addition to the large amount of rainfall, causing ponding next to properties. The floodwater then flowed into properties at the basement level, which were also inundated by flooding coming from gardens. Some had sewer flooding that came up from their toilets in their basements. There is one FLIP on this street which acts as a communal FLIP. When the street was flooded, the electrics for the FLIP were affected. While elsewhere the floodwater began to recede after the rain stopped, London Fire Brigade were pumping out the water that remained on the street until the following morning, partly due to the FLIP which had failed to pump any water.
Stratford Road	Intense rainfall	N/A	1	N/A	N/A	This street has a high hydrological connectivity, with the main sewer runs to the north of the street.
Sunbeam Crescent	Intense rainfall	N/A	1	N/A	N/A	The Middle Level Sewer runs to the north, flowing in a south eastward's direction. Water also flows in a southeastern direction following an incline.
Talbot Road	Intense rainfall	N/A	2	N/A	N/A	This street is in an area of high hydraulic connectivity with the Middle Level sewer running north to south through Talbot Road, and the North Kensington Storm Relief sewer running east to west through Portobello Road. The public toilets on this street were flooded.

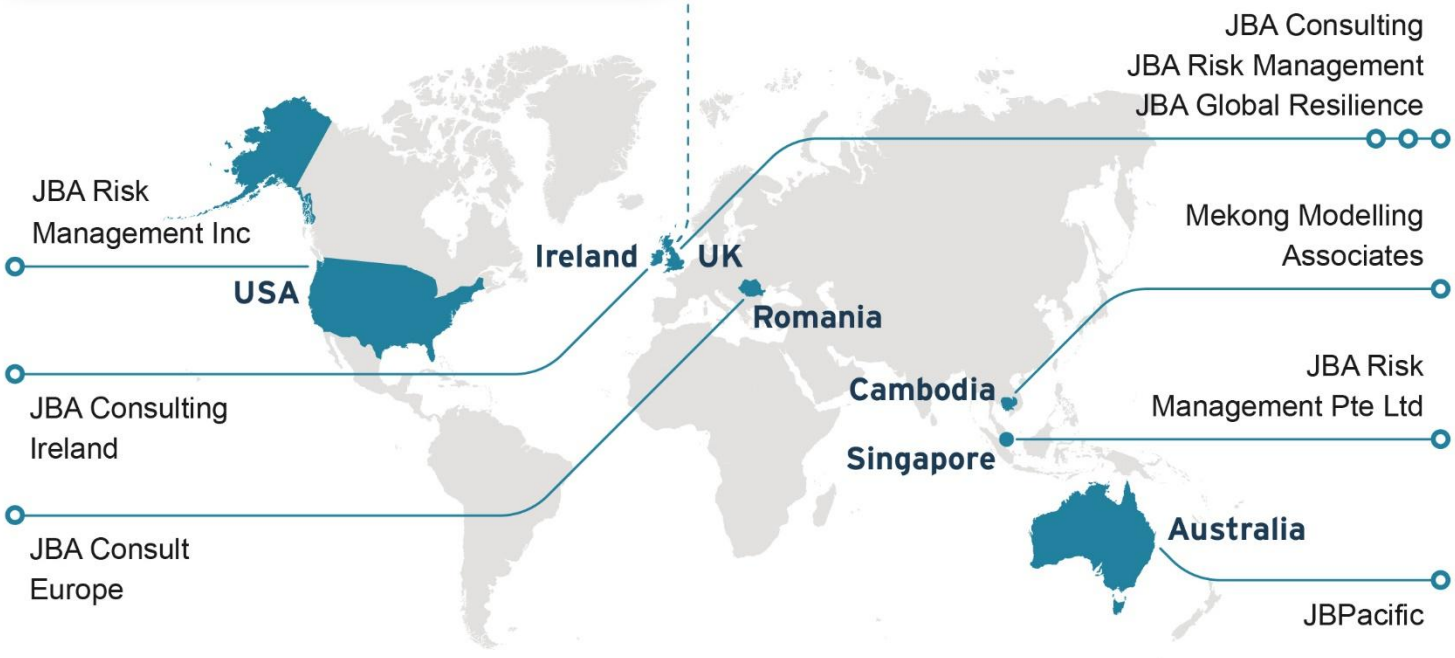
Street name	Source	Pathway	Receptor (properties flooded)	Average internal depth (cm)	Maximum internal depth (cm)	Description
Thorpe Close	Intense rainfall	N/A	2			The Pepper Pot Centre was affected by flooding. Both the main lines of the North Kensington Storm Relief sewer and the Middle Level sewer run underneath nearby.
Upper Addison Gardens	Intense rainfall	Surface water drainage capacity exceeded	4	0	0	There was minimal flooding across this street as water came up from drains and manholes and the rainwater failed to drain away. The floodwater remained localised to the road and did not enter properties. Access to the road was the main issue at this street. This street was badly flooded in 2007 but was not as badly affected in the 12 July 2021 flood.
Warwick Gardens	Intense rainfall	N/A	4	N/A	N/A	The Low Level Sewer Number 2 runs underneath this street and is likely to have surcharged and caused flooding to several (unreported) properties along this street. Properties on this street have protection installed as part of the Thames Water programme.
Warwick Road	Intense rainfall	Combined sewer capacity exceeded	16	75	100	The sewers surcharged causing water to flow onto the road and collect in basements. Sewage flows from north to south on this street. There are several FLIPs on this street by the junction to West Cromwell Road. Properties on this street have protection installed as part of the Thames Water programme.
West Eaton Place	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	1	N/A	N/A	Floodwater came up through drains and manholes on this street. Ranelagh CSO is connected to two manholes on this street, which can increase the likelihood of sewer surcharging on this street during a flood event.
Westbourne Park Road	Intense rainfall	Surface water drainage/combined sewer capacity exceeded	6	0	0	The street was flooded by sewage coming up through drains and manholes, but the floodwater remained localised to the road and did not enter properties. Sewage flows from east to west on this street.
Whitchurch Road	Intense rainfall	N/A	1	N/A	N/A	The common areas of the Baseline studio were flooded. The Hammersmith Storm Relief sewer runs to the west of the street, meeting the North Kensington Storm Relief Sewer further south.
Wilsham Street	Intense rainfall	N/A	6	N/A	N/A	The main line Counters Creek sewer runs adjacent to the street.
Woodstock Grove	Intense rainfall	N/A	1	N/A	N/A	The North Kensington Storm Relief sewer runs westwards through the street. Water also flows in a south westward direction, following an incline.
Wornington Road	Intense rainfall	N/A	4	N/A	N/A	Part of the North Kensington Storm Relief sewer runs underneath the street.
Young Street	Intense rainfall	N/A	1	N/A	N/A	Part of the Counters Creek sewer runs from north to south through the street.

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