

Flood Risk Assessment Addendum

CROWN STREET
PHASE 3
MANCHESTER

Curtins Ref: 082430-CUR-XX-XX-T-C-92100

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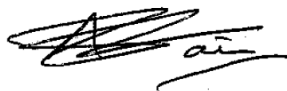
Site Address: Plots C7, C8, E1 and E2, Great Jackson Street, Manchester

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V01	First Issue - DRAFT	CG	CG	28/07/2025
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1 INTRODUCTION

1.1 Project Background

Curtins has been appointed by Renaker Build Ltd to provide a Flood Risk Assessment Addendum ('Addendum') for the proposed development at Crown Street Phase 3, adjacent to Great Jackson Street (GJS) in Manchester.

This is an addendum to the original Flood Risk Assessment and Drainage Strategy report referenced 082430-CUR-XX-XX-RP-C-92001 Revision V02 dated 14th April 2023. The addendum has been prepared in response to updates to the National Planning Policy Framework (NPPF), most recently revised in December 2024.

There are no proposed changes to the Drainage Strategy enclosed within report 082430-CUR-XX-XX-RP-C-92001 Revision V02 dated 14th April 2023 and therefore the previous report should be referred to for details of the strategy.

This Addendum provides updated information on the nature of flood risk at the site and follows relevant applicable Government guidance regarding development and flood risk.

The Addendum is based on currently available information and preliminary discussions.

Proposals contained or forming part of this report represent the design intent and may be subject to alteration or adjustment in completing the detailed design for this project. Where such adjustments are undertaken as part of the detailed design and are deemed a material deviation from the intent contained in this document, prior approval shall be obtained from the relevant authority in advance of commencing such works.

Where the proposed works to which this report refers are undertaken more than twelve months following the issue of this report, Curtins shall reserve the right to re-validate the findings and conclusions by undertaking appropriate further investigations at no cost to Curtins.

1.2 Scope of Assessment

The Addendum is to be undertaken in accordance with the standing advice and requirements of the Environment Agency (EA) for Flood Risk Assessments as outlined in the (NPPF).

In summary, the addendum will:

- Investigate all potential risks of flooding to the site based on current information,
- Identify where any changes have occurred since preparation of the previous report referenced 082430-CUR-XX-XX-RP-C-92001 Revision V02 dated 14th April 2023.
- Where any changes have occurred:
 - Consider the impact the development may have elsewhere with regards to flooding; and
 - Consider design proposals to mitigate any potential risk of flooding determined to be present.

The total site area for Crown Street Phase 3 is approximately 0.88ha. The EA Flood Map for Planning confirms the site is situated within Flood Zone 1, which has a low probability of flooding with less than 0.1% (1 in 1,000) chance of flooding from rivers or the sea.

The Manchester City Council's Strategic Flood Risk Assessment (MCC SFRA, 2011) indicates that the site lies within a Critical Drainage Area (CDA). A site-specific flood risk assessment was therefore required to support a planning application.

In March 2025, the Environment Agency updated the Flood Map for Planning with new data, including updated flood zones, surface water risk information, and climate change impact projections. The update incorporates the latest National Flood Risk Assessment (NaFRA2) data.

Under the current NPPF, the requirements for a Flood Risk Assessment would also now be deemed necessary as the site is at risk of surface water flooding and may be impacted by fluvial flooding with projected climate change impacts.

This Addendum reviews the following information:

- Environment Agency UK Government Flood Map for planning for flooding from main rivers (fluvial) and the sea (tidal).
- Environment Agency UK Government Flood Maps for fluvial and tidal flood risk with projected climate change allowances and surface water flooding.
- Environment Agency UK Government Flood Information for reservoir and groundwater flooding.
- Manchester City, Salford City and Trafford Councils Level 1 Hybrid SFRA, March 2010.
- Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA, User Guide, May 2010.
- Manchester City, Salford City and Trafford Councils Level 2 Hybrid Strategic Flood Risk Assessment (SFRA) published in March 2011.
- Topographical survey by N.D Oliver Surveyors (Latest December 2022).

1.3 Proposed Development

Crown Street Phase 3 includes part of Plot C and Plot E of the Great Jackson Street Framework for the erection of four residential buildings, two at circa 47 storeys and two at circa 51 storeys providing approximately 1,666 residential units and ground floor flexible commercial use.

The Proposed Site Layout is enclosed in *Appendix A*.

2 EXISTING SITE DETAILS

2.1 History and Current Use

The Crown Street Phase 3 development comprising of plots C7, C8, E1 and E2 of the GJS Framework area. Within the general area adjacent to Crown Street Phase 3, Renaker are also proposing the development of Plot D (which is covered under a separate FRA and Drainage Strategy report along with a separate Flood Risk Assessment Addendum).

The location of the Crown Street Phase 3 development and the proximity of the Plot D development can be seen in Figures 1 and 2.

The approximate postcode of the application site is M15 4PA and the approximate Ordnance Survey grid reference of the site is SJ832972, with eastings and northings 383291, 397265.

Plots C7 and C8 are occupied by the Renaker Marketing Suite, Renaker temporary site cabins and an office, Carers Manchester. There is a temporary use commercial Padel Court in operation within the northern portion of the Plot E1 and E2 site boundary.

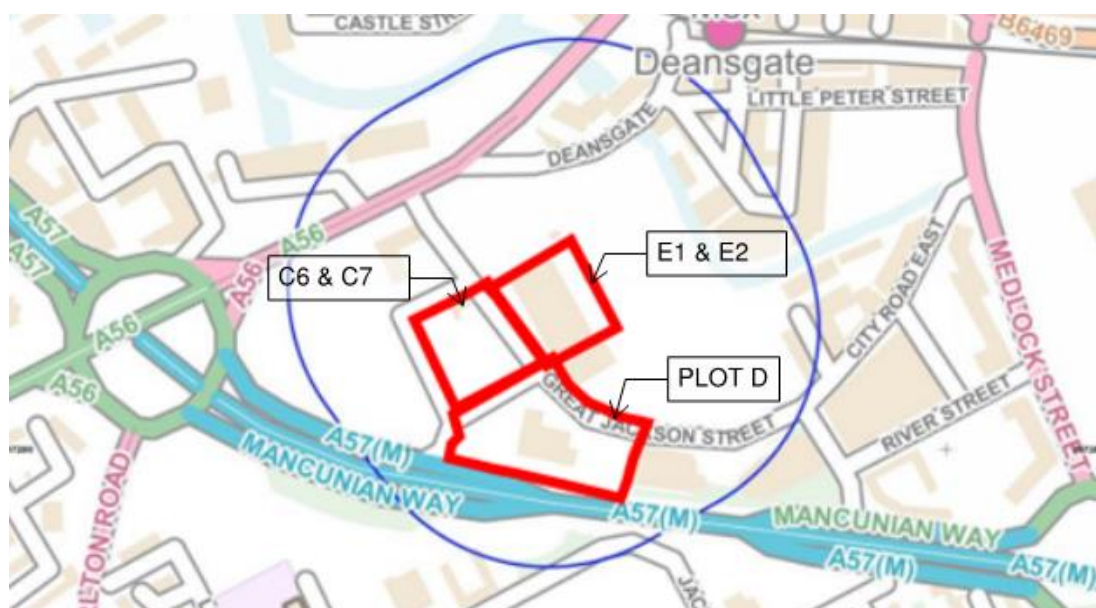
The Site is currently accessed from GJS, Mancunian Way, Silvercroft Street or Melbourne Street.

GJS runs between plots C and E, Silvercroft Street bounds the site to the north, Owen Street to the east, along with a recently developed site, Melbourne Street bounds the site to the south, and Crown Street bounds the sites to the west.

Figure 1 - Google Earth image of the Site Location, 2022



Figure 2 – Site Location Map, Archaeological Services Mapping, 2022



3 DEVELOPMENT AND FLOOD RISK

3.1 National Planning Policy Framework (NPPF) and Planning Practice Guidance

In December 2024, the Ministry of Housing Communities and Local Government published the latest iteration of the NPPF, and the Planning Practice Guidance was originally published in March 2014 (and is periodically updated from time to time), with the Flood Risk and Coastal change section last updated in August 2022, which provides guidance on how flood risk should be assessed during the planning and development process.

Table 1: (Extract from Planning Practice Guidance) Flood Zone Classifications

Table 1: Flood Zones	
Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](#) when considering location and potential future flood risks to developments and land uses.

Table 2: (Extract from Planning Practice Guidance) Flood Risk Vulnerability and Flood Zone Compatibility

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:

✓ Exception test is not required

X Development should not be permitted

Notes to table 2:

- This table does not show the application of the [Sequential Test](#) which should be applied first to guide development to the lowest flood risk areas; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and [Exception Tests](#) do not need to be applied to those developments set out in [National Planning Policy Framework footnote 56](#). The Sequential and Exception Tests should be applied to 'major' and 'non major' development;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

"†" In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

"*" In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

Table 3: (Extract from Planning Practice Guidance) Flood Risk Vulnerability Classification

Essential Infrastructure • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
Highly Vulnerable • Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure').
More Vulnerable • Hospitals • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill* and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less Vulnerable

- Police, ambulance and fire stations which are **not** required to be operational during flooding.
- Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'More Vulnerable' class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill* and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.
- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.

Water-Compatible Development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

3.2 Site Specific NPPF Flood Risk Categorisation

Flood Risk should be considered from all sources and areas at risk of flooding are those at risk of flooding from any source, now or in the future. Sources include:

- Fluvial Flooding (rivers and streams)
- Tidal Flooding
- Reservoir Flooding
- Canal Flooding
- Groundwater Flooding
- Infrastructure Failure
- Pluvial Flooding (Surface Water) to and from the site.

All sources of flooding are assessed in Section 4 of this report.

To assess the NPPF flood risk classification for the site, the first step was to inspect the UK Government web based 'Flood Map for Planning' which is used to inform planning of a site's Flood Zone(s) and the probability of flooding from rivers or sea (not considering the presence of flood defences or climate change). However, the flood mapping information now provides further detail in relation to fluvial and tidal flood risk with climate change projections, along with surface water flood risk and whether the area is subject to reservoir and groundwater flood risk.

The Flood Map for Planning report is enclosed in *Appendix B*, and the site is classified as entirely within Flood Zone 1.

3.3 Site Specific Flood Zone Compatibility

The proposals for the development site fall within the following category:

- **Buildings used for Dwellings houses.**

Dwellings are classed as 'More Vulnerable' development in the Flood Risk Vulnerability Classification (Table 3). The site is located within Flood Zone 1 for which a 'More Vulnerable' development is deemed to be appropriate.

3.4 Sequential Test

Paragraph 175 of NPPF (December 2024) states:

'The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk).'

The site has also identified to have areas at risk of Surface Water Flooding. In accordance with paragraph 175 of NPPF (December 2024) the Sequential Test is therefore engaged.

The Sequential Test has therefore been carried out by Deloitte and reference should be made to this report.

3.5 Exception Test

The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification. Table 2 sets out the circumstances when the Exception Test will be required. Dwellings are classed as 'More Vulnerable' Classification and the site is located within Flood Zone 1; therefore, the Exception Test is not required.

4 HYDROLOGICAL ASSESSMENT

4.1 Sources of Flood Risk

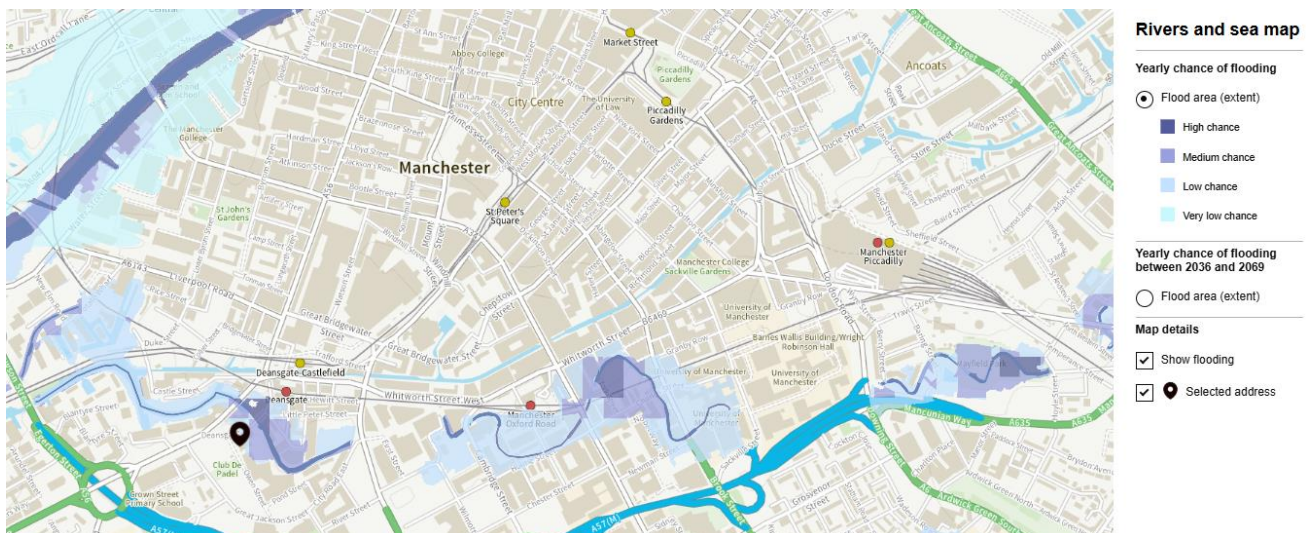
This study assesses the risk from different types of flooding to the development and the risk of flooding from the development, taking into consideration climate change, as well as how flood risks should be managed. The approach to assessing flood risk at the development site was informed by the requirements of NPPF in conjunction with the client and Environment Agency requirements.

4.2 Fluvial Flooding (Rivers and Streams)

Flooding to the site from rivers and sea is indicated below in Figure , taken from the UK Government's Long-Term Flood Risk Information.

In March 2025, the Environment Agency updated the UK Government Flood Map for Planning with new data, including updated flood zones, surface water risk information, and climate change impact projections. The update incorporates the latest National Flood Risk Assessment (NaFRA2) data.

Figure 3 - Long Term Flood Risk Assessment Map – Flood Risk from Rivers or Sea (© Crown Copyright)

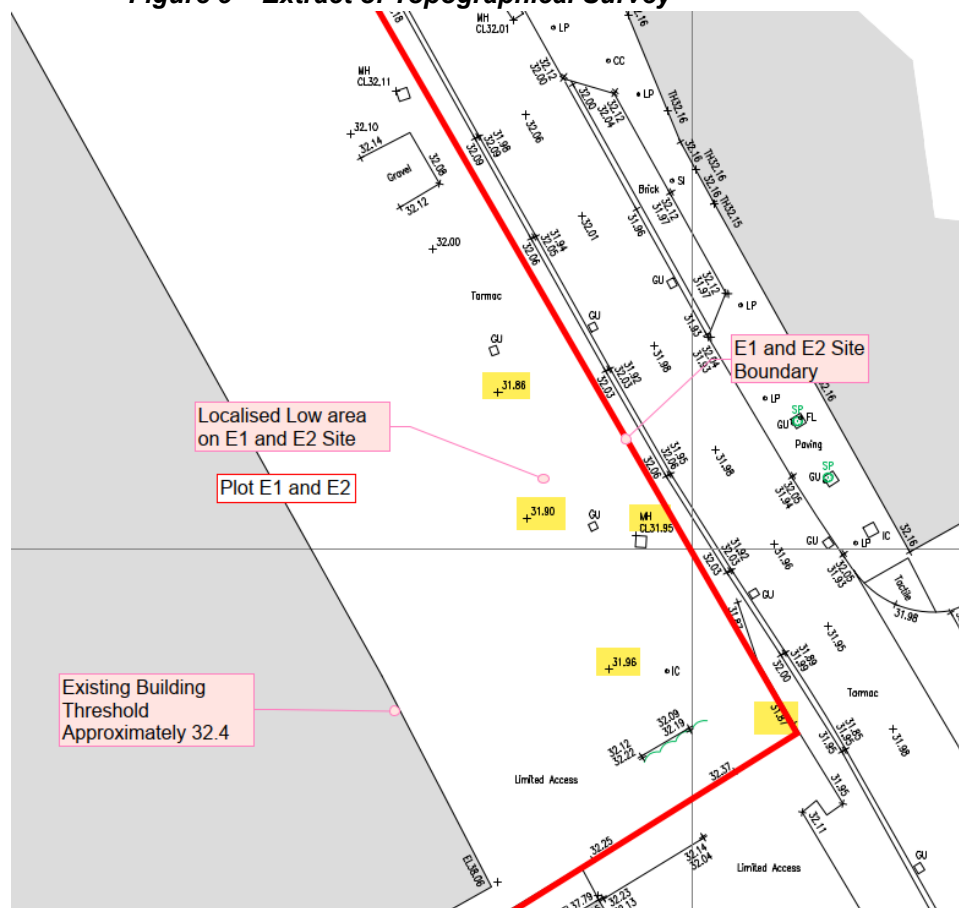


The entire site sits in an area of very low risk from fluvial and river flooding; therefore, the proposed site is at **very low** risk from fluvial flooding.

However, following release of the latest Environment Agency UK Government Flood Maps in March 2025, this now considers projected climate change impacts. The mapping indicates that there could be a 1 in 1000-year (0.1%) chance that a small portion could be impacted by fluvial flooding during defended and undefended scenarios for the period between 2070 and 2125. The extent of this is indicated within Figure 4.

The screenshot displays the FRA tool interface. On the left, a sidebar contains three main sections: 'Edit' and 'Delete' buttons at the top; 'Datasets', which lists six options with radio buttons (Flood zones 2 and 3, River and sea with defences, River and sea without defences, Surface water, and None, with the third option selected); and 'Time frame', which lists two options (Present day and Climate change, with the second option selected). Below these is the 'Annual likelihood of flooding' section, which lists three options (Rivers 1 in 100, Sea 1 in 200, and Rivers and sea 1 in 1000, with the third option selected). The main area on the right shows a map of a coastal area. A red rectangle on the map indicates the 'Report area'. A 'Key' window is overlaid on the map, showing a blue square for 'Flood extent' and a red square for 'Report area'. The map includes labels for 'Silvercroft Street', 'Great Jackson Street', 'Overstreet', 'Deansgate', 'A56', and 'A52(M)'.

Figure 5 – Extract of Topographical Survey

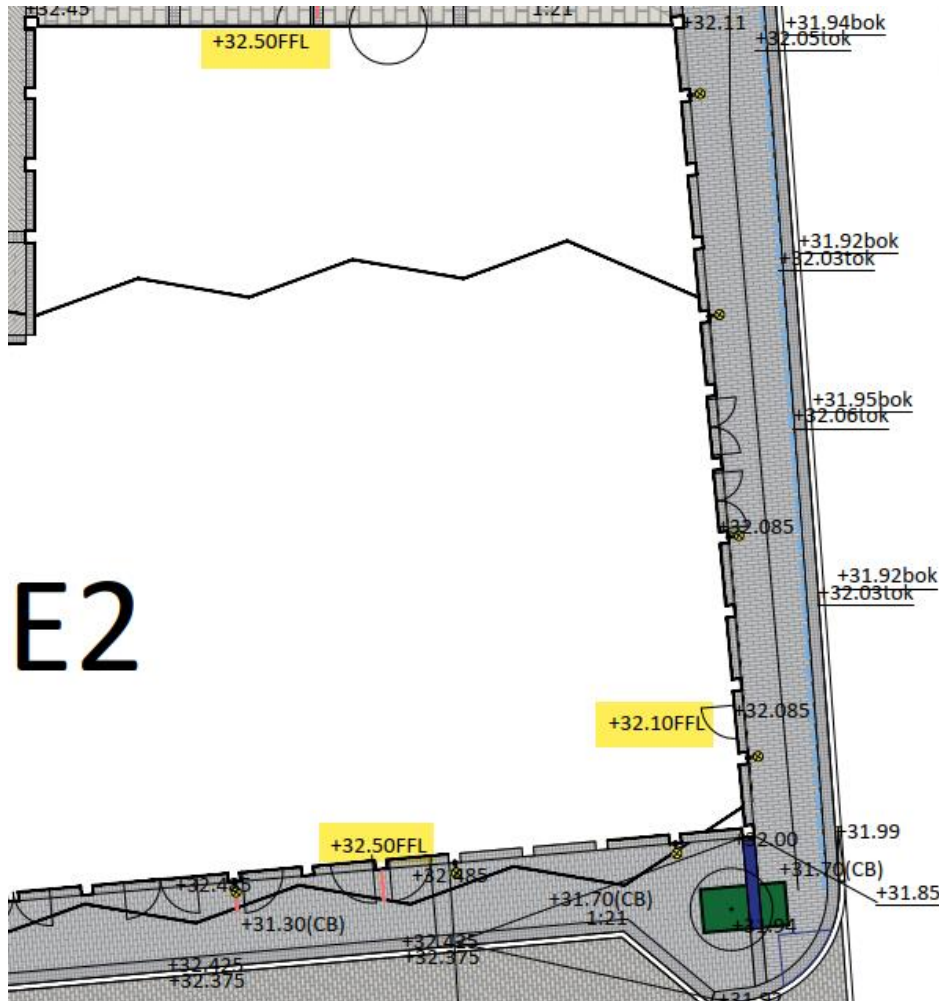


Based on the extent of flooding and the flow routes into the site; this indicates that the predicted flood water is up to a height of approximately 32m AoD. There is a localised low area within the existing site where levels fluctuate between 31.80-32.00m AoD, which is highlighted in Figure 5.

The proposed levels tie into the existing back of footpath levels at approximately 32m and the lowest finished floor level for plot E2 is at 32.10m, which is local to this corner of the site. The proposed levels fall away from the proposed building towards Owen Street as illustrated in Figure 6, which is an extract taken from the proposed Site Levels Plan.

On this basis, the extents within the site boundary would be above a level of 32m and would be considered low risk for the design life of 100 years for residential development.

Figure 6 – Extract of Topographical Survey



4.3 Tidal Flooding (Coastal or Estuarine)

There is currently no flood risk identified on the UK Government flood maps for the site, and it is therefore regarded to be at **low** risk from tidal flooding.

It is noted from the Environment Agency UK Government Flood Maps released in March 2025, that there could be a 1 in 1000-year (0.1%) chance that a small portion could be impacted by tidal flooding during defended and undefended scenarios by the year 2125. This would be considered at the end of the required design life of 100 years for residential development.

4.4 Reservoir Flooding

Reservoir flooding is extremely unlikely to happen and there has been no loss of life in the UK from reservoir flooding since 1925. The Environment Agency is the enforcement authority and ensures that reservoirs are inspected regularly, and essential safety work is carried out.

The site does not lie within the maximum extents of flooding due to reservoir breach; this remains unchanged from the information assessed within the FRA. The site is at **low** risk from reservoir flooding.

4.5 Canal Flooding

The nearest canal to the site is Bridgewater Canal, approximately 220m to the north of the site.

The MCC SFRA references 'Map MM_3.1 – Canal Hazard Zones' identifies the potential extents of flooding cause by overland flows from the Canal; this remains unchanged from the information assessed within the FRA.

Given the above information, it is considered that there is **low** risk of canal flooding to the site.

4.6 Groundwater Flooding

Groundwater flooding tends to be more persistent than other sources of flooding, typically lasting for weeks or months rather than hours or days. Groundwater flooding does not generally pose a significant risk to life due to the slow rate at which the water level rises; however, it can cause significant risk to property.

According to the MCC SFRA, there are no known reports of groundwater flooding in the Manchester, Trafford and Salford authorities. The site is not shown to be within an area at risk of groundwater flooding according to the Groundwater Flooding Map shown within the MCC SFRA, this remains unchanged from the information assessed within the FRA.

The UK government flood risk information indicates that flooding from groundwater is unlikely in this area.

As the site proposals include basements, the previous mitigation measures noted within the FRA are valid and providing the mitigation measures are imposed, the risk from groundwater flooding would therefore be considered **low** post development.

4.7 Public Sewers or Highway Drainage Flooding (Infrastructure Failure)

Surcharging sewers can result in overland flows which if originating at a higher elevation than a development site can potentially pose a flood risk.

There have been no changes to the public sewers or highway drainage within the vicinity of the site. Therefore, this remains unchanged from the information assessed within the FRA.

Providing United Utilities and Manchester City Council maintain their drainage assets within and in the vicinity of the site, the risk of flooding to the proposed development site from public sewers or highway drainage is considered as **low**.

4.8 Surface Water Flooding to the site

Surface water flooding can be caused when rainwater during extreme rainfall events does not drain away through the normal drainage system or soak into the ground with flooding occurring, principally from manholes

and gullies. Surcharging sewers can result in overland flows which if originating at a higher elevation than a development site can potentially pose a flood risk.

In March 2025, the Environment Agency updated the Flood Map for Planning with new data, including updated flood zones, surface water risk information, and climate change impact projections. The update incorporates the latest National Flood Risk Assessment (NaFRA2) data.

From the updated UK Government's Flood Risk from Surface Water (extent of flooding) map.

- Where a site is located where flooding occurs as a result of rainfall with a greater than 1 in 30 (3.3%) chance in any given year, this indicates that the site is at **high risk of flooding**,
- Where a site is located where flooding occurs as a result of rainfall of between 1 in 100 (1%) and 1 in 30 (3.3%) chance in any given year, this indicates that the site is at **medium risk of flooding**,
- Where a site is located where flooding occurs as a result of rainfall of between 1 in 1000 (0.1%) and 1 in 100 (1%) chance in any given year, this indicates that the site is at **low risk of flooding**,
- Where a site is in unshaded areas, this indicates that site has less than 1 in 1000 (0.1%) chance in any given year and is considered **very low risk of flooding**.

The extents of flooding for each scenario, is illustrated in Figures 7, 8 and 9.

Figure 7 - Risk of Flooding from Surface Water - Extent of Flooding 1 in 30 Year (HIGH)

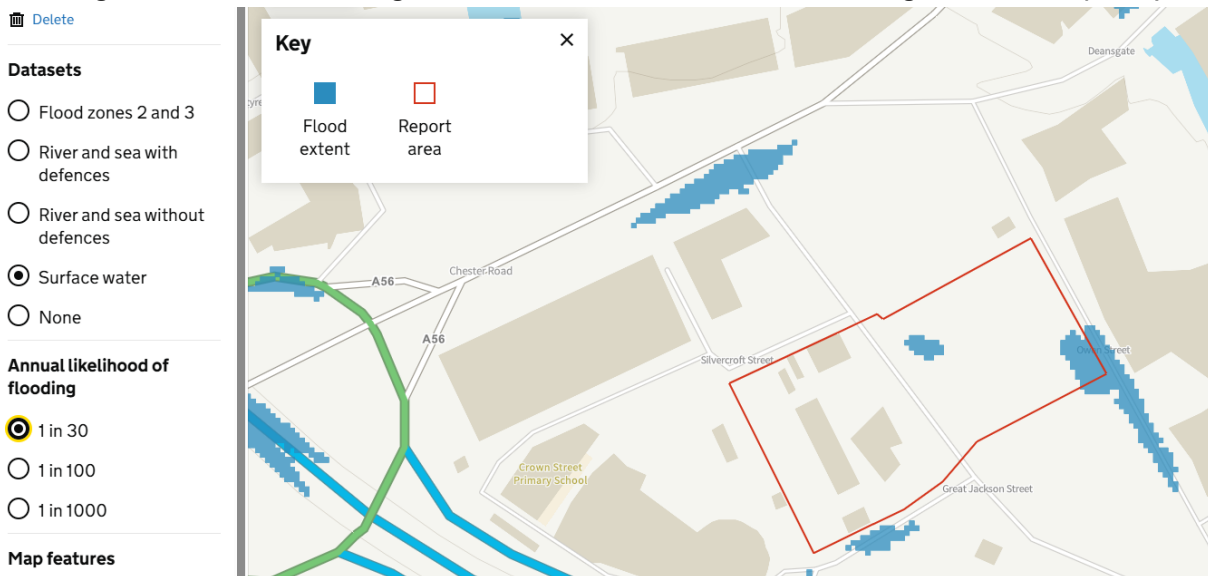


Figure 8 - Risk of Flooding from Surface Water - Extent of Flooding 1 in 100 Year (MEDIUM)

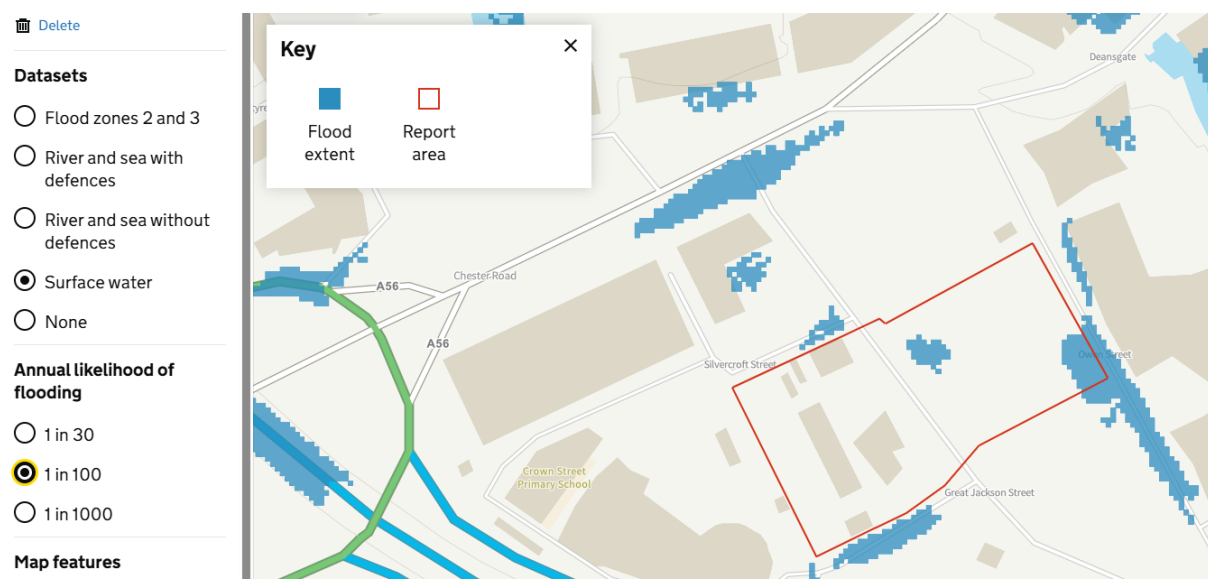
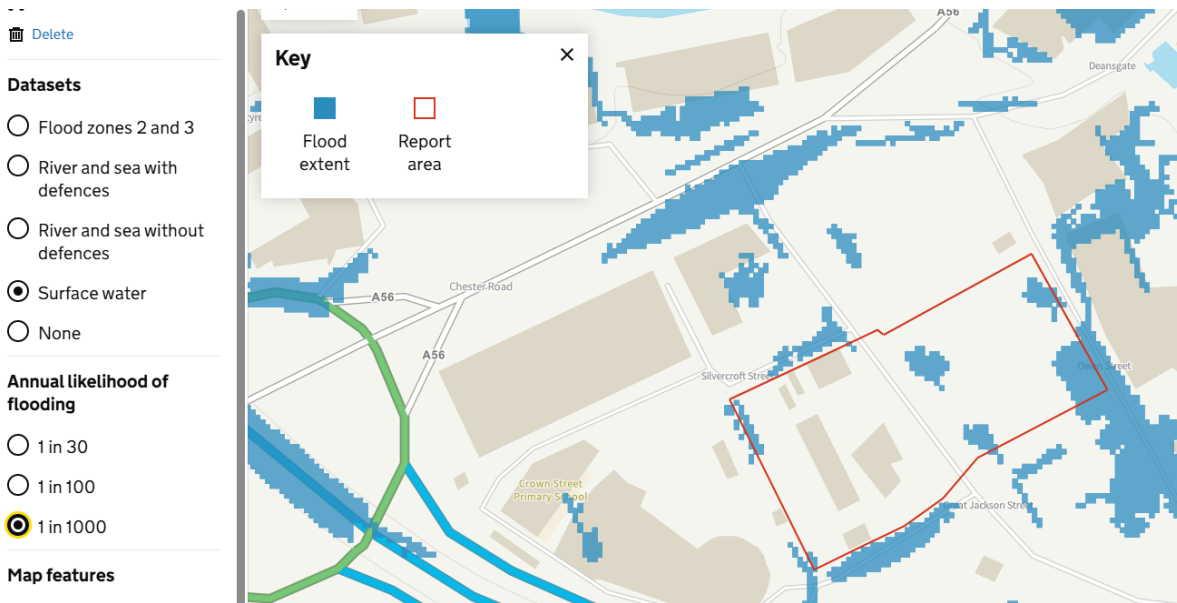


Figure 9 - Risk of Flooding from Surface Water - Extent of Flooding 1 in 1000 Year (LOW)



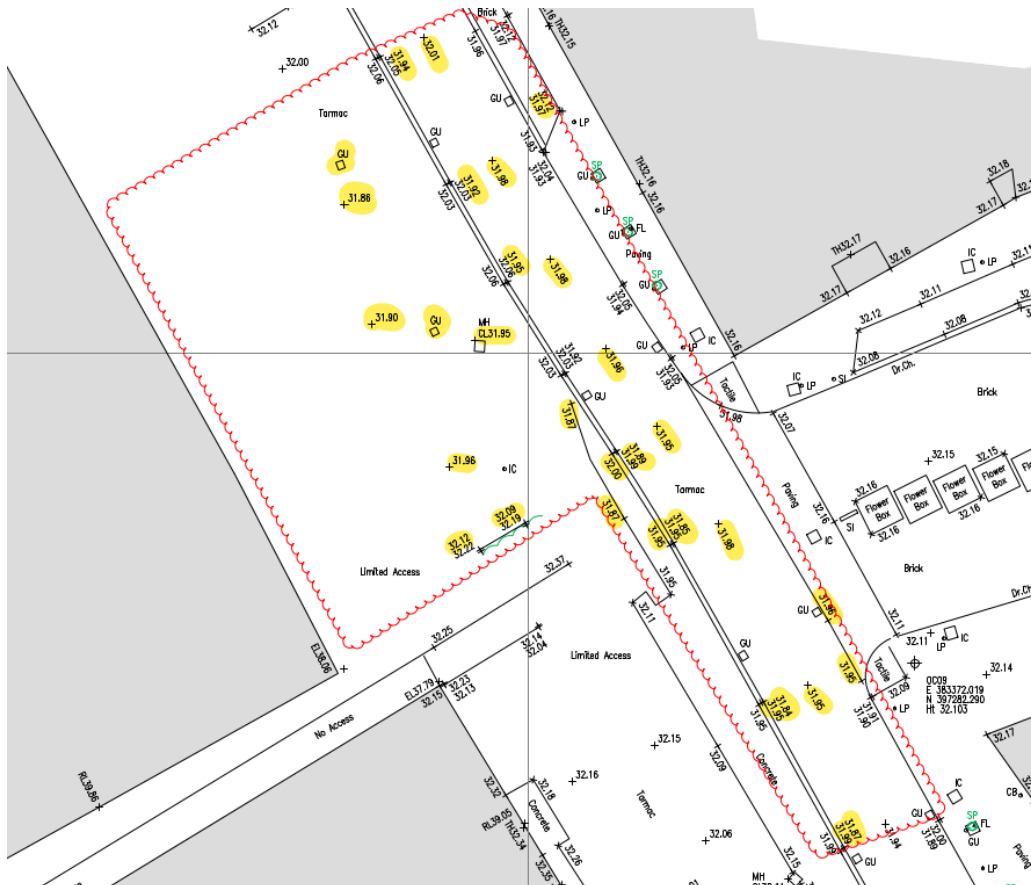
The majority of the site is considered at 'very low' risk of surface water flooding. The areas considered at 'medium' and 'high' risk, are generally constrained to two areas: to the south-east corner of E1 and E2 (adjacent to plot E2), and to the north-west corner of E1 and E2 (adjacent to Plot E1).

To understand the extent and depth of surface water to these areas, we have reviewed the topographical survey.

South-east corner of E1 and E2

The area to the south-east corner (adjacent to Plot E2) there are localised low areas which would correspond with why these areas would collect excess rainfall. An extract of this area is shown in Figure 10.

Figure 10 – Extract of Topographical Survey – Area south-east of plot E2.



The levels in this area vary between 31.800 and 32.00 therefore likely to be localised flooding up to 0.20m.

Primarily, flooding would be caused by excess flooding to the gullies within the site boundary and along Owen Street, potentially with an interface between the two areas.

There will be an element of ground raising within the area, as the building is located up to back of footpath, with a proposed finished floor level locally in this corner of the site at 32.100. This approximately 0.1-0.2m above existing ground level, but ties into the existing footpath level and there are no changes to levels in Owen Street.

Existing flooding within Owen Street would still be likely, however the area of flood risk within the site boundary will be removed due to raising of the ground floor level to 32.100, with external levels falling away from the building towards Owen Street. Drainage provision will be made to collect rainfall to external areas and façade run-off at the boundary interface with Owen Street.

The proposed drainage network accommodates the necessary rainfall run-off volume generated from within the site boundary during a 1 in 100-year design event including an allowance of +45% for climate change. The rainfall catchment areas include

all hard surfacing and landscaping a above podium level and building façade allowances. Rainfall volumes are attenuated within the site at various locations in the form of attenuation tanks and permeable pavement construction.

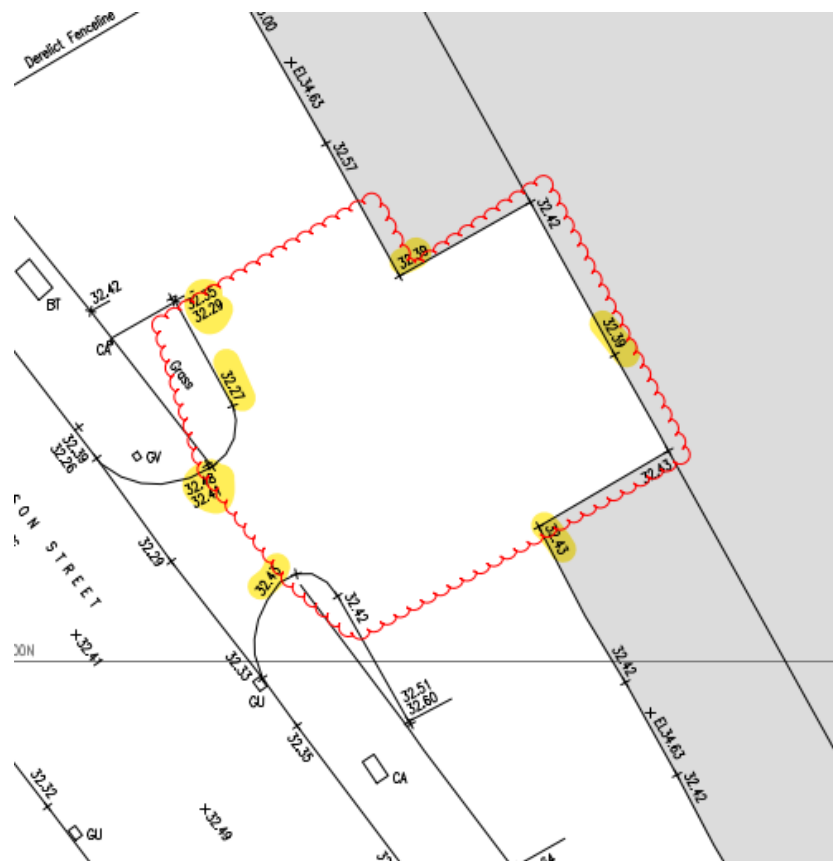
Therefore, with the drainage system in place post development, this will reduce the surface water risk within the site boundary to 'low' risk.

As a result of the wider improvements to the Great Jackson Street area, the increased drainage provision, lower outfall flows from development plots and introduction of attenuation tanks and Sustainable drainage features, this is likely to provide an overall benefit to the wider area drainage system and reduce the overall impact of surface water flooding.

North-west corner of E1 and E2

The area to the north-west corner (adjacent to Plot E1) there are localised low areas which would correspond with why these areas would collect excess rainfall. An extract of this area is shown in Figure 11.

Figure 11 – Extract of Topographical Survey – Area north-west of plot E1.



The levels in this area vary between 32.27 and 32.42 therefore likely to be localised flooding up to 0.15m.

There does not appear to be an interface with the wider area – i.e. overspill from Great Jackson Street, therefore the localised ponding appears to be from rainfall collecting at this location only and not as a consequence of the wider area draining towards the site.

It is noted that the proposed finished floor level for E1 local to this area is at 32.50m, with external levels falling away from the building towards Great Jackson Street. Drainage provision will be made to collect rainfall to external areas and façade run-off at the boundary interface with Great Jackson Street. This will reduce any impact of surface water run-off entering the building areas.

The proposed drainage network accommodates the necessary rainfall run-off volume generated from within the site boundary during a 1 in 100-year design event including an allowance of +45% for climate change. The rainfall catchment areas include all hard surfacing and landscaping above podium level and building façade allowances. Rainfall volumes are attenuated within the site at various locations in the form of attenuation tanks and permeable pavement construction.

Therefore, with the drainage system in place post development, this will reduce the surface water risk within the site boundary to 'low' risk. Areas within the site considered at 'low risk' based on the 0.1%/1 in 1000-year chance of flooding are generally considered as localised 'pockets' of flooding not considered a consequence of off-site overland flooding but rather an accumulation of rainwater collecting within the site because of poor or limited drainage provision within localised low points. The 1 in 1000-year chance of flooding exceeds the necessary design criteria for new developments, which requires new surface water drainage networks to be designed to not flood for the critical 1 in 30-year storm event and flood water generated up to the critical 1 in 100-year plus climate change storm event to be managed.

As noted in section 3.4, the sequential test is required for the site, however the proposed mitigation measures described in this report including: proposed building finished floor levels being proposed above existing ground levels, proposed ground levels falling away from proposed buildings and introduction of the proposed surface water drainage network which accommodates, all catchment areas within the site boundary, restricted outfall flow rates and attenuation volumes utilising tanks and permeable pavement construction. These measures will reduce the risk of surface water flooding to 'low' risk.

4.9 Surface Water Flooding from the site

Developers are responsible for ensuring that new development does not increase the flood risk elsewhere. Where new development is proposed, the new surface water drainage network shall be designed to not flood for the critical 1 in 30-year storm event and flood water generated up to the critical 1 in 100-year plus climate change storm event shall be constrained within areas on site so as not to cause damage to buildings, essential services or adjoining developments and services.

Development has the potential to increase flood risk where additional run-off from proposed roads, paved areas and building roofs are discharged freely into the downstream drainage network. It is therefore encouraged to propose landscaping areas and incorporate sustainable drainage features utilising infiltration or attenuation where possible.

As part of the development, a positive drainage network will be installed to mitigate the risk from surface water flooding to the building and the surrounding site, incorporating the use of sustainable drainage where possible and reducing flows off site with sufficient capacity to accommodate the 1 in 100 year +45% climate change allowances.

The strategy for drainage is enclosed within the FRA and Drainage Strategy Report.

Overall, the surface water flooding risk from the site to surrounding areas is therefore considered very **low**.

4.10 Historical Flooding

No historic records of flooding for the site were received at the time of writing this report.

5 CONCLUSION

This report is an addendum to the original Flood Risk Assessment and Drainage Strategy report referenced 082430-CUR-XX-XX-RP-C-92001 Revision V02 dated 14th April 2023. The addendum has been prepared in response to updates to the National Planning Policy Framework (NPPF), most recently revised in December 2024.

The Addendum evaluates flood risks to and from the proposed development site, considering various sources of flooding, future climate change impacts, and mitigation strategies, in line with the current UK National Planning Policy Framework (NPPF) and Environment Agency guidance.

In March 2025, the Environment Agency updated the Flood Map for Planning with new data, including updated flood zones, surface water risk information, and climate change impact projections. The update incorporates the latest National Flood Risk Assessment (NaFRA2) data.

This addendum takes into account the latest mapping data available.

There are no proposed changes to the Drainage Strategy enclosed within report 082430-CUR-XX-XX-RP-C-92001 Revision V02 dated 14th April 2023 and therefore the previous report should be referred to for details of the strategy.

In summary, the Addendum demonstrates the following risk levels:

- **Fluvial (River) Flooding Risk Level: Very Low**
Site is not within fluvial flood zones based on the 2025 Flood Map for Planning. The maps predict a very low (0.1%) chance of fluvial flooding in a small southeast corner between 2070-2125.
Proposed ground floor levels are above predicted flood levels, keeping the site low risk for 100-year design life.
- **Tidal (Coastal/Estuarine) Flooding Risk Level: Low**
No current tidal flood risks identified. The maps predict a very low chance (0.1%) of tidal flooding in a small area by 2125, near the end of the 100-year design life.
Proposed ground floor levels are above predicted flood levels, keeping the site low risk for 100-year design life.
- **Reservoir Flooding Risk Level: Low**
Site lies outside maximum flood extents from potential reservoir breaches.
- **Canal Flooding Risk Level: Low**
Nearest canal (Bridgewater Canal) poses minimal risk based on the mapping.
- **Groundwater Flooding Risk Level: Low**
No known groundwater flooding in the area; existing mitigation (e.g. for basements) remains valid.
- **Public Sewers / Highway Drainage Flooding Risk Level: Low**
No changes to local infrastructure; maintained drainage reduces risk.
- **Surface Water Flooding to the Site Risk Level: Very Low** across most of the site with some localised medium/high risk areas noted at the south-east and north-west corners (due to topographical depression).
Mitigation includes:
Finished floor levels above predicted flood levels
Drainage network designed for 1-in-100-year storm + 45% climate change allowance,
Reduced outflows and:
Attenuation tanks and permeable paving to provide storage volumes.

This will provide overall improvements to benefit the wider area.

- Surface Water Flooding from the Site Risk Level: Very Low
Positive drainage system to prevent runoff impacts; sustainable drainage features are included.
This will provide overall improvements to benefit the wider area.
- Historical Flooding: None Recorded at the time of reporting.

The site is at very low to low risk of flooding from all assessed sources, with localised areas of medium/high risk of surface water flooding. Post-development, with the proposed mitigation and drainage strategy in place, all flood risks are considered low or very low, ensuring compliance with planning requirements and resilience against climate change impacts.

APPENDICES

Appendix A – Proposed Site Layout

Appendix B – Flood Map for Planning

Appendix C – Topographical Survey

Appendix A – Proposed Site Layout



This drawing is copyright
Do not scale off dimensions.
All dimensions to be checked on site by contractor.
Contractor to report any dimensional discrepancies,
errors or omissions prior to commencing on site.

Scale Bar

0 10 20m

NOTE:

NORTH

Rev Date Description
X01 20.04.2023 Planning Issue

Key Plan

C8 E1
C7 E2

Project Title
Crown Street Phase 3
Manchester

Status
Planning

Drawing Title
Zone 1 - Ground Floor
Site Plan

Job No
10418

Scale
1:500@A3

Drawing No
Z1-SHP-G100-PL-GRD-B5D801

Revision
X01

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Appendix B – Environment Agency Flood Map for Planning

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
383271/397292

Created
27 July 2025 22:48

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

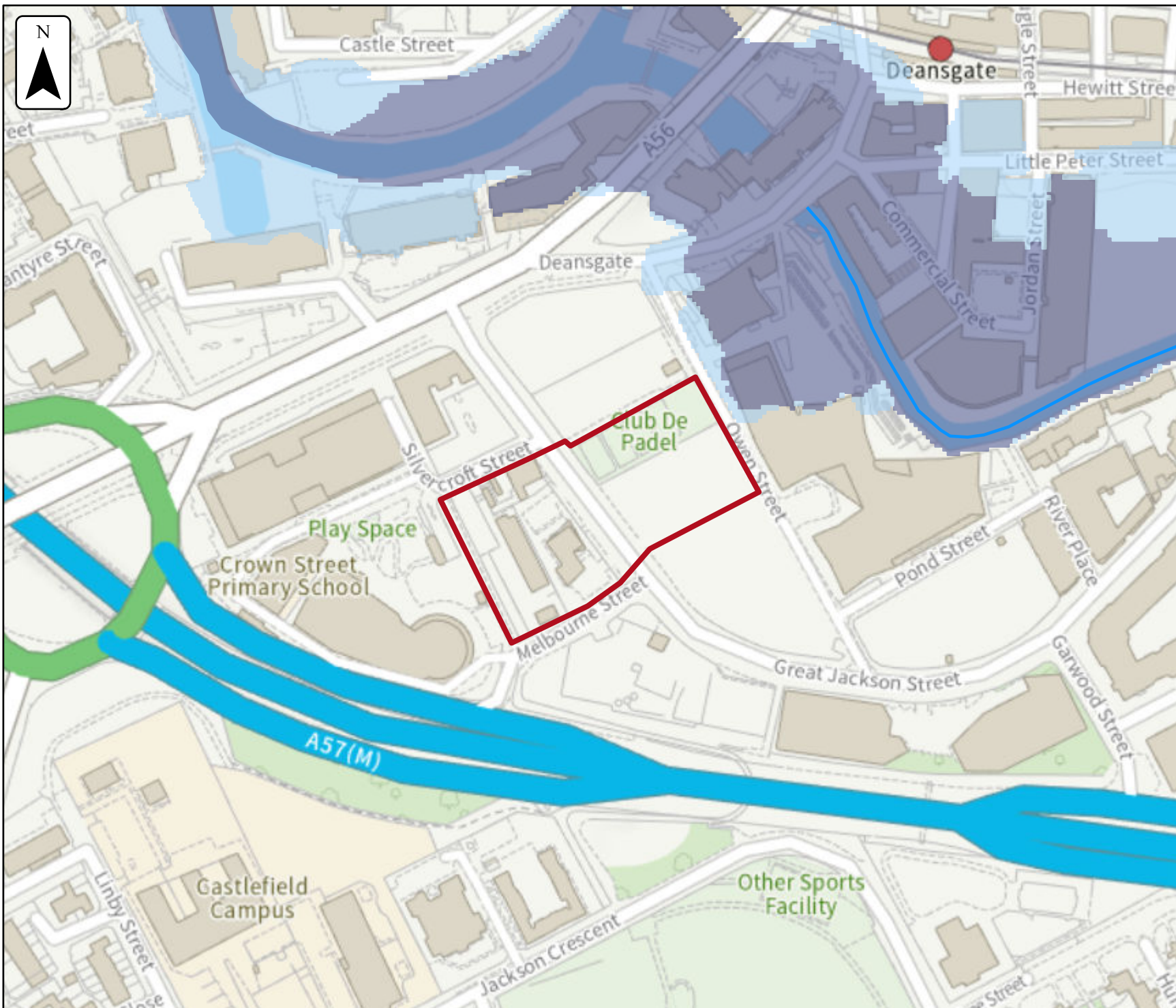
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)
383271/397292

Scale
1:2,500

Created
27 Jul 2025 22:48

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Appendix C – Topographical Survey



Scale	Project	Status
1:250 @ A1	11072	REV
	CAD File	
	\\NDO-885\Projects\11072\DRAWING\11072_001B.DWG	
Drawing No		Rev
11072 / 001B / 2		B

