Exe Bridges Provisional Emergency Access and Egress Route Plan

Final

Version 3.0

Date: September 2025

Prepared for: Exeter City Council

www.jbaconsulting.com

Revision History

Issued Date	18th September 2025
Issued to:	Jill Day
BIM Reference	MHI-JBA-XX-XX-TN-Z-0001-S3-P02
Revision History	Minor revisions
Prepared by	Suzanne Tulloch BSc (Hons), MSc Emergency Planning Analyst
Reviewed and authorised by	Toby Jones BSC (Hons), MSc C.WEM Emergency Planning Discipline Lead

Carbon Footprint

JBA is committed to championing sustainability and has made The Ten Principles of the UN Global Compact part of its culture and operations. We have a Group-wide objective to be a Net Zero carbon emissions business.

The format of this report is optimised for reading digitally in pdf format. Paper consumption produces substantial carbon emissions and other environmental impacts through the extraction, production and transportation of paper. Printing also generates emissions and impacts from the manufacture of printers and inks and from the energy used to power a printer. Duplex printing in B&W on 100% post-consumer recycled A4 will result in a carbon footprint of 223g CO2e. This will increase to 283g CO2e if primary-source paper is used. Please consider the environment before printing.

Contract

JBA Project Manager	Toby Jones BSc (Hons), MSc
Address:	King Chambers, 8 High Street, Newport NP20 1FQ
JBA Project Code	2024s0152

This report describes work commissioned by Exeter City Council by an instruction dated 26 January 2024. The Client's representative for the contract was Jill Day of Exeter City Council. Suzanne Tulloch and Toby Jones of JBA Consulting carried out this work.

Purpose and Disclaimer

Jeremy Benn Associates Limited ("JBA") has prepared this Plan for the sole use of Exeter City Council and its appointed agents in accordance with the Agreement under which our services were performed.

JBA has no liability regarding the use of this Plan except to Exeter City Council.

No other warranty, expressed or implied, is made as to the professional advice included in this Plan or any other services provided by JBA. This Plan cannot be relied upon by any other party without the prior and express written agreement of JBA.

The actions contained in this Plan 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 Plan.

The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Plan. The work described in this Report was undertaken between January and September 2025 and is based on the conditions encountered and the information available during the said period. The scope of this Plan and the services are accordingly factually limited by these circumstances.

Certain statements made in the Plan that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Plan, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. JBA specifically does not guarantee or warrant any estimates or projections contained in this Plan.

Where field investigations are carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time, and further confirmatory measurements should be made after any significant delay in issuing this Report.

Copyright

Contents

List of figures

List of tables

Abbreviations

AEP.....Annual Exceedance Probability

CC.....Climate Change

EA.....Environment Agency

EAE.....Emergency Access and Egress

EAERP.....Emergency Access and Egress Route Plan

ECC.....Exeter City Council

FRA.....Flood Risk Assessment

FRP.....Flood Response Plan

JBA.....Jeremy Benn Associates

MCA.....Multi-Criteria Analysis

NPPF.....National Planning Policy Framework

Definitions

Flood Risk Assessment: A site-specific assessment of all forms of flood risk to the site and the impact of development of the site to flood risk in the area.

Fluvial flooding: Overland flooding occurring from a river, lake or stream overflowing.

Surface water flooding: Overland flooding occurring from rainwater being unable to drain away through existing drainage systems.

Reservoir flooding: Water escaping from a reservoir, for example as a result of dam failure.

Risk: In flood risk management, risk is defined as a product of the probability or likelihood of a flood occurring, and the consequence of the flood.

1 Introduction

1.1 The Commission

JBA Consulting were commissioned by Exeter City Council in January 2024 to undertake an Emergency Access and Egress (EAE) Study.

The work provides key evidence for progressing the new Exeter Plan due for submission autumn 2025 and for the determination of planning applications for various parcels of land, including Water Lane, Exe Bridges and Red Cow.

1.2 The Exeter Plan

The Exeter Plan will allocate sites for housing, employment and mixed-use development, drawing on Liveable Exeter, a transformational housing delivery initiative for the city. Launched in 2019, Liveable Exeter is a bold initiative to build new homes in the city and transform brownfield land into high quality developments, to strengthen existing communities and create new neighbourhoods. It presents an alternative to building on green spaces which will protect Exeter's unique characteristics. The Exeter Plan aims to renew the city in ways which benefit people, the environment and the economy and to deliver around 13,500 new homes, including significant numbers on large scale brownfield sites, helping to improve health and wellbeing, increasing the vitality of the city and meeting the Council's 2030 net zero ambition.

1.3 Exe Bridges

Exe Bridges is one of three major brownfield sites identified in the emerging Exeter Plan as suitable for mixed-use redevelopment. The site is currently a retail park with strong transport links, but it also offers the chance to reimagine how people move around the city. Redevelopment here could align with the Exeter Plan's principles by improving walking and cycling connections and creating a more accessible, sustainable place.

As the site is located almost entirely in Flood Zone 3, it is imperative that inclusion of safe emergency access and egress is factored into the strategic planning phase. After in depth deliberation and review, including a multi criteria options appraisal, the preliminary preferred emergency access and egress route option for Exe Bridges has been identified.

This Route Plan describes the preliminary strategic emergency access and egress route for Exe Bridges and sets out how the concept could be developed. Further detailed design of emergency access and egress routes will be required at a later stage to inform development proposals.

Figure 1-1 shows the location of Exe Bridges and its relationship with the other two sites for which emergency access and egress route plans are being developed: Water Lane and Red Cow.

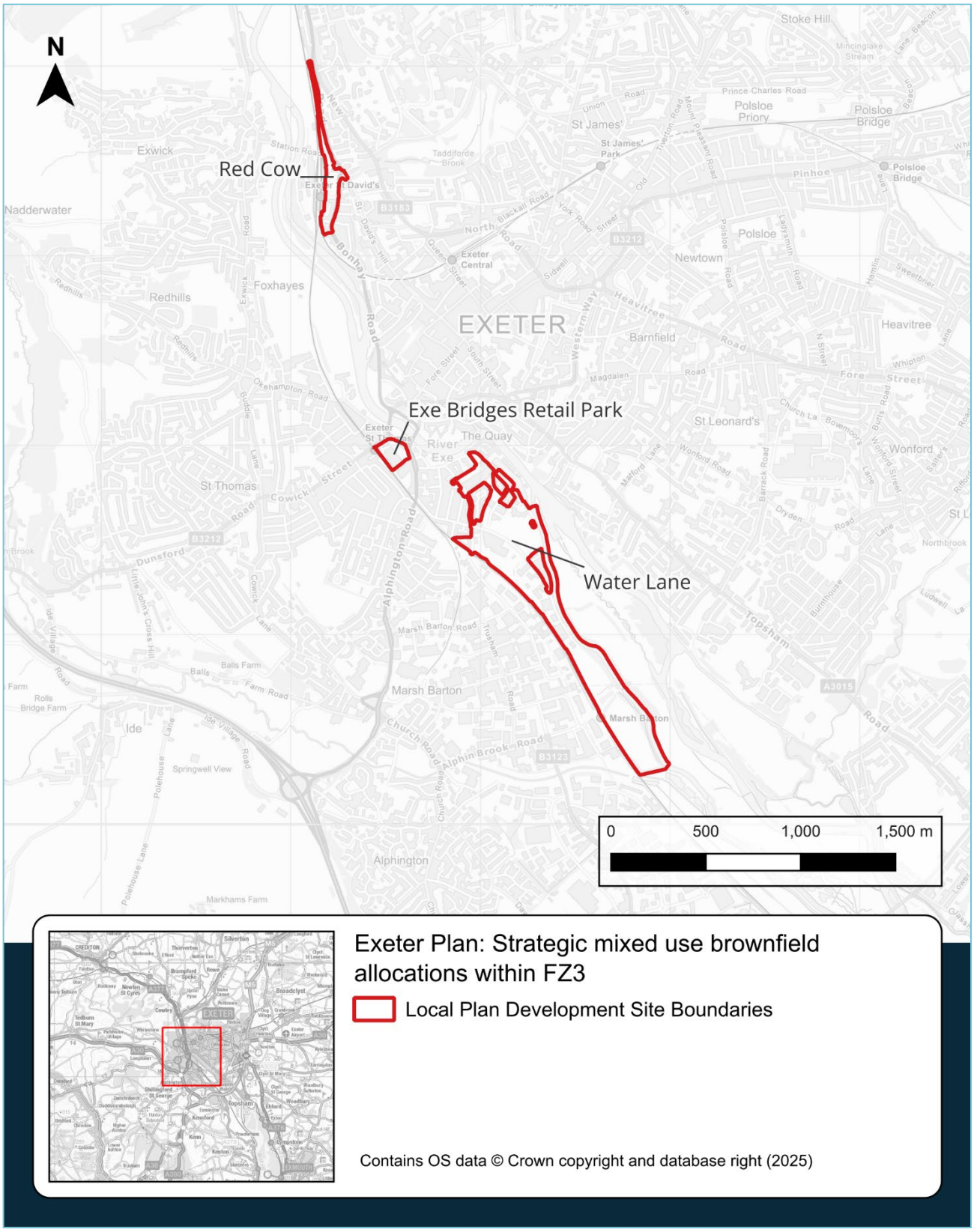


Figure 1-1 - Exeter Plan Site Locations

2 Context and Plan Background

2.1 Aim

Exe Bridges is in an area at risk of flooding in the medium-term future, particularly as a result of climate change impact on flood events; this risk can be mitigated by the provision of an emergency access and egress route. This Emergency Access and Egress Route Plan (EAERP) presents the preferred strategic access and egress route for the Exe Bridges strategic mixed use brownfield allocation. It aims to demonstrate the potential of a strategically appropriate, and deliverable, safe emergency access and egress route for use during a flood and immediately after a flood event.

2.2 Scope

This Emergency Access and Egress Route Plan has been informed by the Exeter Level 2 Strategic Flood Risk Assessment (SFRA) completed by JBA Consulting in 2025 on behalf of Exeter City Council, which identifies flood risk resulting from fluvial, surface water and groundwater sources. Extensive consultation has been carried out with a wide range of stakeholders using multi-criteria analysis through workshops run in 2024. Full details of the approach taken can be found in the Exe Bridges Options Appraisal document. These investigations have informed the preferred route for safe emergency access and egress. This Route Plan presents the process followed to identify the preferred route, the emergency access route itself, detailing each stage of the route, and a high-level estimated timeline. It does not detail short or long-term recovery actions for during or after a flood event.

2.3 Site Information

2.3.1 Site location

A location plan is shown in Figure 2-1. The site is centrally located in Exeter, south of the River Exe and adjacent to the A377 Exe Bridges roundabout to the north. It is also adjacent to the Great Western mainline, which forms the north east to south west boundary. The site is surrounded by Cowick Street on all other sides although at the northern edge, this becomes the southern part of the A377 Exe Bridges roundabout. It is approximately a 15-minute walk from the City Centre and is served by St Thomas railway station, located at the easternmost part of the site.

2.3.2 Site description

Exe Bridges Retail Park is a strategic mixed use 1.8-hectare brownfield site. Currently the site is occupied by a modern, working retail park with associated car parking areas. The site lies between the three Conservation Areas of Riverside, Cowick Street and Princes Square with the Cowick Street area covering St. Thomas' train station within the easternmost point of the site. The Riverside Leisure Centre is just outside the site's southern border.

The main channel of the River Exe is situated north east of the site, within approximately 50m at the closest section of the site. The River Exe remains within a maximum distance of approximately 180m of the southern half of the site.

2.3.3 Existing Access

The site benefits from high quality transport links, with St Thomas' railway station located at the eastern edge of the site. There are strategic cycle links along the River Exe and extensive links into other areas of the city via the road network. Vehicular access to the site is gained from the north via the A377 Exe Bridges (North and South). These link the north of the city to the south and form a large, controlled roundabout which traffic can only move around in a clockwise direction. The A377 continues from the eastern edge of the site southwards as Alphington Road.

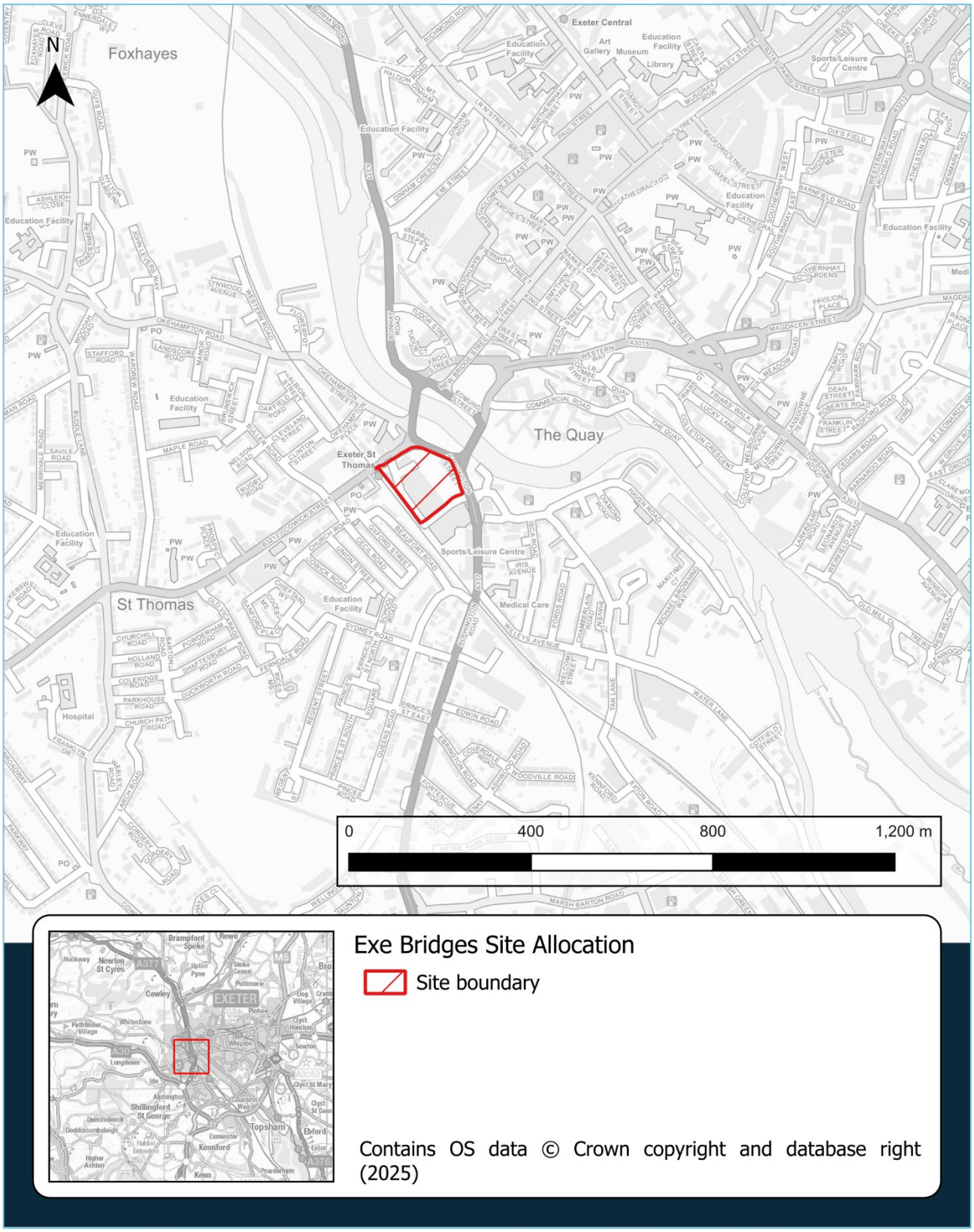


Figure 2-1 – Exe Bridges Site Allocation

2.4 Flood Risk

2.4.1 Overview

The site is at high risk of fluvial flooding, high risk of surface water flooding, varying risk of groundwater flooding and low risk of flooding as a result of a reservoir or canal embankment failure.

The principal watercourse in the vicinity of the site is the River Exe, located along the north eastern boundary approximately 50m at the closest section of the site and a maximum distance of approximately 180m of the southern half of the site.

For further flood risk analysis please refer to Appendix A - Flood Risk.

2.5 Lead Times

2.5.1 Modelled Lead Times

Detailed hydraulic modelling shows that there are significant lead times ahead of flooding from the River Exe for the Exe Bridges site. The slow responding nature of the River Exe means that the Environment Agency can forecast potential flooding usually 2-3 days in advance of a fluvial event from the River Exe occurring.

From initial out of bank flooding occurring in the Exe Bridges area, there are a further 3 hours before on-site flooding becomes widespread.

The lead times provided are sufficient for emergency planning through gathering situational awareness, decision making, escalation of response and communication with the public in relationship to safety from flooding in the Exe Bridges area in advance of flooding occurring within the catchment. Lead time for specific operational responses (e.g. gate operation and barrier deployment) may be shorter due to local flood dynamics considerations.

3 Emergency Access and Egress Route Selection

3.1 Background

The emerging Exeter Plan provides the context in which development in Exeter will be delivered over the plan period to 2042. This Emergency Access and Egress (EAE) route will aid in allowing development on available previously brownfield land and in the process provide the city with much needed modern, liveable housing.

3.2 Overview of Methodology

Following a structured process involving evidence gathering, stakeholder engagement, multiple multi-criteria options appraisals, and thorough review, the preferred emergency access and egress route for Exe Bridges has been identified. A first workshop was conducted to achieve a shared understanding of local flood risk, the project plan, priorities for potential solutions to emergency access and to identify high level criteria for route options. Following this, JBA carried out direct engagement with Exeter City council to narrow down the route options into a shortlist. A second workshop was held to present the route multi-criteria analysis (MCA) process to inform identification of the preliminary preferred route option. As well as the workshops, there was ongoing engagement with a number of parties, particularly the EA, throughout the process.

3.3 Stakeholder Engagement Workshops

Stakeholder engagement was a key part of the process of identifying potential route options for safe access and egress. Stakeholders included Exeter City Council, Devon County Council, Environment Agency, Network Rail, South West Water, Devon and Cornwall Police, Devon and Somerset Fire and Rescue, landowners, developers, community groups and LDA Design Consulting Ltd. Workshops were held in March and July 2024. Delegates were invited to explore options and opportunities for emergency egress concepts.

The first workshop presented concept options and provided a space for their discussion, focusing on exploring and identifying the criteria which will be used to inform the high-level categories for the second phase, the route multi-criteria analysis. Criteria for emergency planning, community, and project impact were considered in the first instance and stakeholders were invited to propose elements of value to their organisations. Attendees were then asked to rank criteria under the headings of emergency planning, community and project impact in order of importance, (Figure 3-1). They were further asked to rank the stakeholder proposed factors (Figure 3-2).

Emergency Planning	Community	Project Impact
• Reliability and safety • Capacity • Speed of evacuation • Accessibility by Cat 1 responders • Accessibility for site users • Alternate route options	• Access to amenities • Aesthetic impact • Dual purpose (other uses) • Disruption during build • Flexibility	• Impact on flood risk • Biodiversity/environmental impact • Carbon impact • Construction costs • Maintenance requirements

Figure 3-1 – Workshop 1 Criteria to Inform MCA Ranked Results

Highest	Next Highest	Medium	Lowest
• Safe and dry • must not block flood flow routes • Always available • Affordability •Signposted and well communicated • Accommodate 2-way movement • Sufficient marshalling space at end of route •High ranking for EP criteria • Usability for vulnerable users	• Must link into existing properties • Accessible to all • Deliverability • Has other uses • Bridge clearance over waterways • Upgrading of existing bridges to accommodate emergency vehicles • Step free • Should accommodate county waste sites in the vicinity	• Placemaking • Carbon considerations • Doesn't foster anti-social behaviours • Passive • Not creating loss of privacy for existing homes • Ownership and maintenance • Embarking/disembarking from route to home	• Stabling / marshalling point close to route • Can take emergency vehicles

Figure 3-2 – Workshop 1 Stakeholder Proposed Factors Ranked Results

The second workshop aimed to achieve a shared understanding of the multi-criteria analysis (MCA) approach to creating the shortlist of route options, to discuss these options, to validate the formal MCA options appraisal and support the identification of the preferred shortlist option for each site. During group discussions, participants were requested to provide commentary on the risks, benefits and potential modifications that could be made to concepts for each of the options.

3.4 Route Multi Criteria Analysis (MCA) Options Appraisal

Multi-criteria analysis has been prepared, providing a comprehensive approach to ranking the long list of potential options for safe access and egress. The detailed explanation of methodology and the full analysis of all options is presented in the 'Exe Bridges Emergency Access and Egress Route Options Appraisal' report.

From the workshops and stakeholder engagement, 10 potential route options were developed. These route options were considered and first assessed with a pass/fail mechanism in the following categories:

- **Connectivity** to safe zones – assesses whether the route reliably connects the development to designated safe zones.
- **Capacity** – assesses whether the route can accommodate the expected number of evacuees without causing overcrowding.
- **Flood risk impact** – assesses whether the route will remain viable and safe under all flood scenarios and not increase flood risk elsewhere.
- **Impact on emergency response** – assesses whether the route could cause increased pressure on emergency responders.
- **Independent deliverability (or in combination)** – assess the acceptability of the distance that occupants must travel to reach the emergency route from any point within the development, ensuring it is within a reasonable and safe range.

All pass / fail criteria must be passed to proceed, and the remaining options are then ranked based on the scored criteria. Options which failed to deliver independently were reassessed in combination with another option to investigate suitability of combined route concepts.

Those options that passed the first stage were assessed for deliverability against the following parameters:

- Land ownership
- Length of route
- Accessibility
- Community acceptance
- Environmental impact
- Aesthetic impact
- Green infrastructure impact
- Carbon impact
- Cost

The options were then ranked; the multi-criteria analysis scoring spreadsheet is presented in Appendix C.

The River Exe Cycle Bridge option (option 9) was the highest scoring. Table 3-1 below provides the MCA scores for the cycle bridge option.

Table 3-1: Exe Bridges -River Exe Cycle Bridge - MCA Scores

Criteria	Option 9 score
Connectivity to safe zones	Pass.
Capacity	Pass.
Flood risk impact	Pass - EA raised concerns over the ramps needed to bring raised bridge down to carriageway level - ramps will impact on flow routes.
Impact on emergency response	Pass - FRS raised the positive impact of any option that can reduce congestion on Exe Bridges.
Deliverable independently or in combination	Pass - Maximum distance across site is 170m.
Land ownership	5 - ECC, EA and DCC owned land.
Length of route	5 - 200m.
Accessibility	4 - Likely to need large ramps for significant height gain needed on S bank to bridge across river. Relatively accessible egress zone.
Community acceptance	5 - Limited direct negative impact, likely some approval for increased green infrastructure access. If a feature bridge, this could improve appeal of St Thomas.
Environmental impact	4 - Indirect impact of construction materials, limited number of trees need felling on banks.
Aesthetic impact	4 - Limited direct negative impact, limited number of trees need felling on banks. Will be highly visible but not an area with especially high aesthetic value. Could be a feature bridge to improve appeal of St Thomas.
Green infrastructure impact	3 - Already good public access in this area to cross canal/river barrier. Will improve this slightly with extra cycle way to link St Thomas to New Bridge St/ city centre.
Carbon impact	3 - Construction of large cycle bridge but short total length of scheme.
Cost	3 - Construction of large cycle bridge but short total length of scheme.

3.5 Conclusions on Preliminary Preferred Route

The stakeholder engagement, workshops and analysis resulted in the River Exe Cycle Bridge emerging as preferred at this stage. It would provide a safe access and egress route to the north of the Exe Bridges development site linking it to New Bridge Street via a new cycle bridge over the A377, the River Exe and Edmund Street. However further engagement and analysis will be required before any planning work can begin for this site. Opportunities should be sought to work closely with developers and landowners to further refine potential routes, incorporating the qualities of the Exeter Plan such as active travel and green infrastructure.

4 Emergency Access and Egress Route Plan

4.1 River Exe Cycle Bridge

The preliminary preferred emergency access and egress route is shown in Figure 4-1. A 500m buffer is shown around the route to indicate the area that is within approximately 10 minutes' walk of the route. The proposed River Exe cycle bridge emergency access and egress route would connect the Exe Bridges development site to New Bridge Street via a new cycle bridge over the A377, the River Exe and Edmund Street. The route will exit the site at New Bridge Street, connecting to a dry zone there.

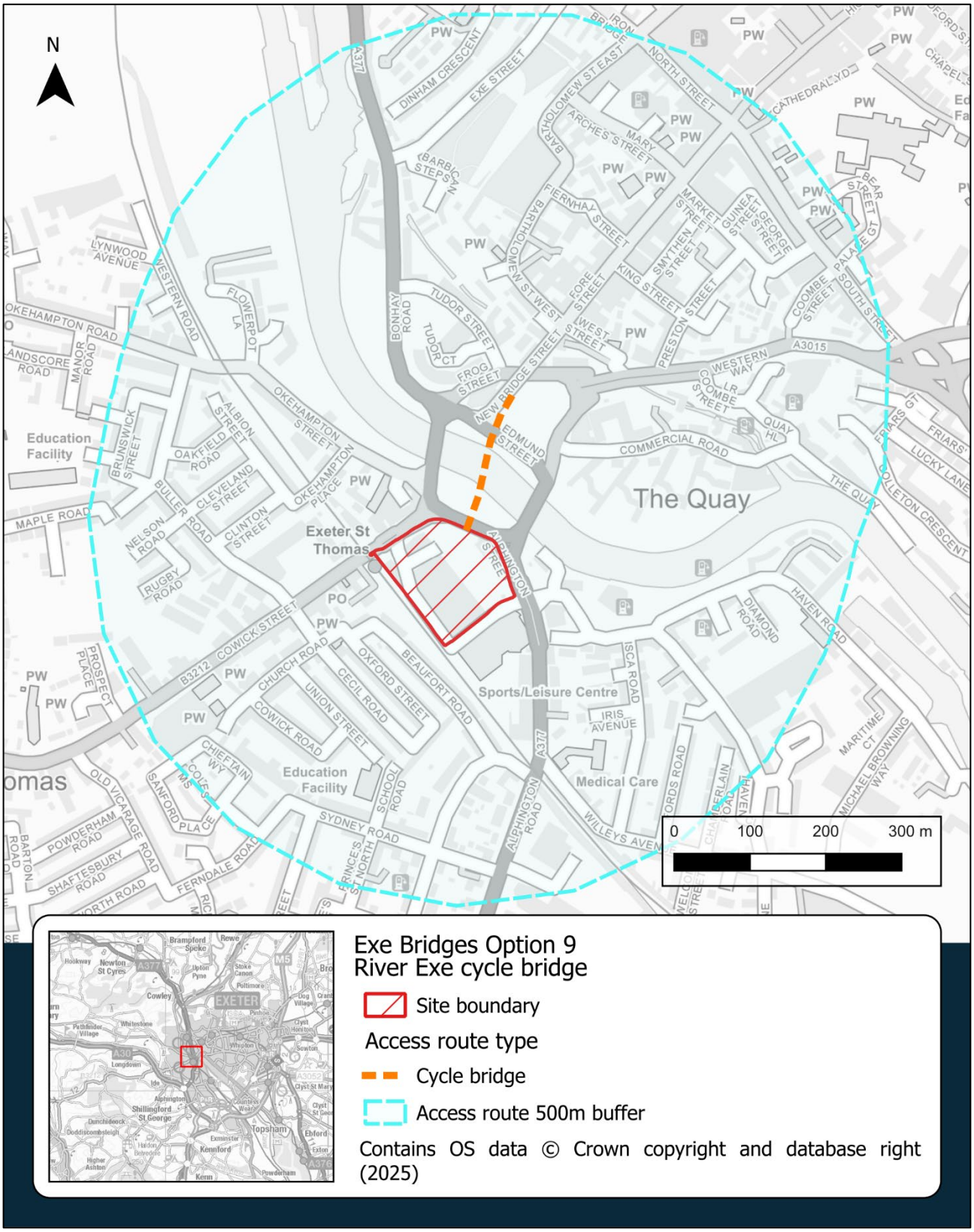


Figure 4-1 - Emergency Access and Egress Route

4.2 Route Description

Exe Bridges Option 9 provides a safe access and egress route to the north of the Exe Bridges development site linking the Exe Bridges development site to New Bridge Street via a new cycle bridge over the A377, the River Exe and Edmund Street. Figure 4-1 shows the proposed route for Exe Bridges River Exe Cycle Path along with the structure types and areas serviced by the proposed access.

The River Exe bridge will need to be constructed with a minimum elevation of 11.77mAOD on the left (north) bank and 10.73 77mAOD on the right (south) bank (design flood level plus 0.6m at these locations). This bridge will be 193m long and will need a single span of 62m to cross the river without any obstructions. Sufficient clearance (5.03m) is also required over the highways on either side of the river.

4.3 Evacuation Destination

The evacuation destination is the safe zone at New Bridge Street, north of the River Exe. There is substantial onward connectivity from there, as described in Section 4.5. Exeter College at Victoria Yard is near to the safe zone and could be used as an evacuation centre.

4.4 Rest Areas

The route is for emergency evacuation, to facilitate the movement of people to safety as quickly as is safe and practicable. However, it has always been intended to serve dual functions of connectivity and active travel. Consideration should be given during the design phase to other suitable functions e.g. a rest area with seating could be built in along the route, which could also serve as a viewpoint area with interpretation information.

4.5 Associated Emergency Infrastructure

The River Exe Cycle Bridge route leads to a safe zone at New Bridge Street. This is located approximately 500m south of the city centre with its associated infrastructure. It is also close to the critical arterial route of Western Way, connecting to Topsham Road (A3015) providing a link from city centre towards the outer ring road (A379), M5 motorway, Topsham and locations to the east of Exeter. Several bus routes from city centre (routes R, S, J, K, T) operate along Topsham Road (bus stops connecting from the city centre are located approximately 500m from the end of the Exe Bridges EAE route).

A railway station is located within Exeter city centre at Exeter Central. Other railway stations include those at Exeter St. Davids, Marsh Barton, St. Thomas and Digby and Sowton.

Devon and Cornwall Police Paris Street station is located within the city centre. Royal Devon and Exeter Hospital (Wonford), Barrack Road and Exeter Middlemoor Fire Station are both located on the east side of the city.

The associated emergency infrastructure is shown in Figure 4-2 below.

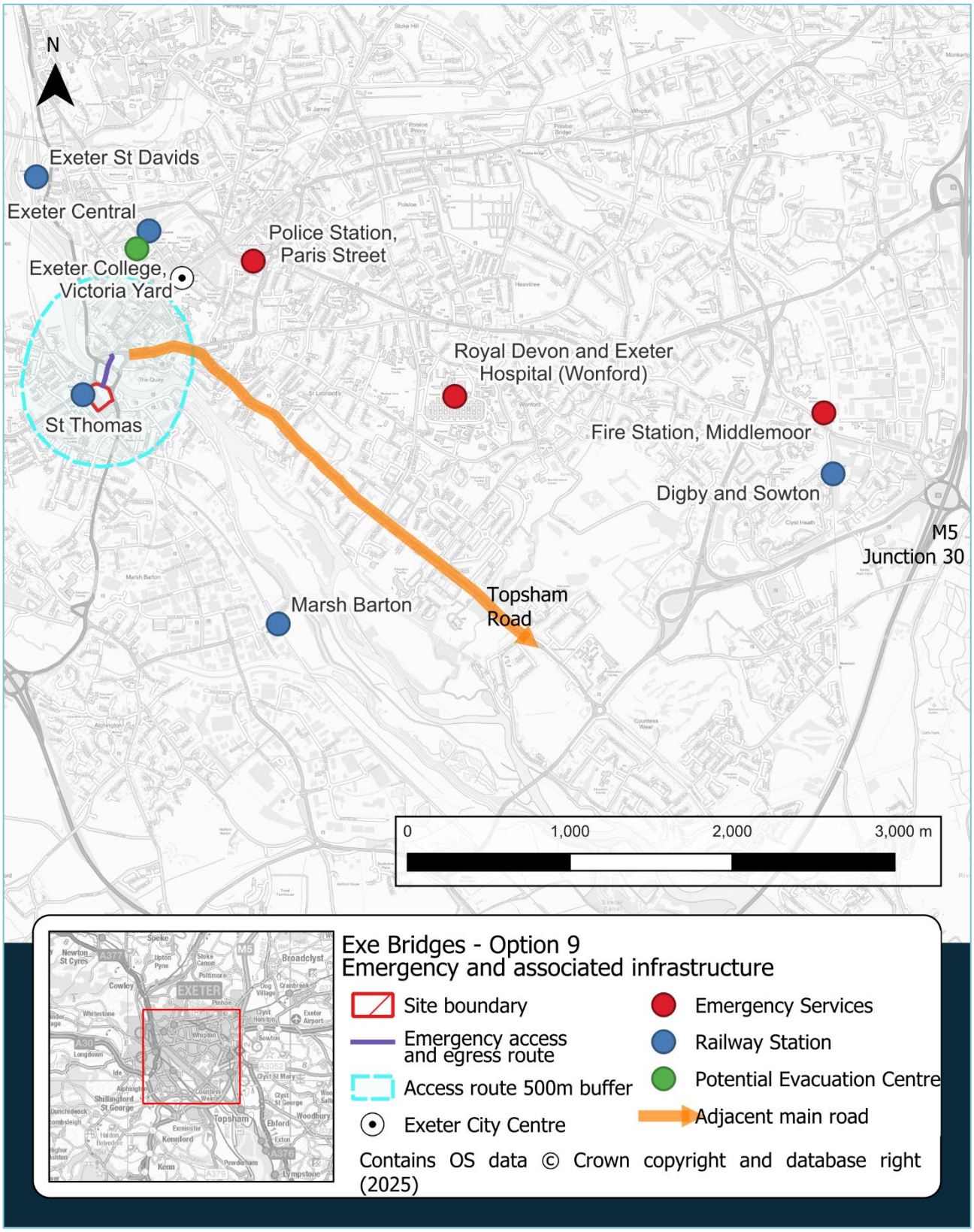


Figure 4-2 - Emergency Infrastructure in Proximity to Exe Bridges

5 Timeline

5.1 Overview

Phase One: 2024–2025 (Figure 5-1) marks the beginning of the project timeline extending through to 2039. During this initial phase, foundational planning, stakeholder engagement, and preliminary design work has taken place. It is anticipated that a fully functional emergency access and egress route could be in place by 2039, most likely during the 2035–2039 period.

As the site is a retail park, it is currently subject to various leases with existing tenants who are for the most part well-known high-street retailers. This means that development here is unlikely to take place until those leases have run out, placing it in the second half of the Exeter Plan period, beyond 2030. This should allow ample time for consultation, design processes and securing essential funding.

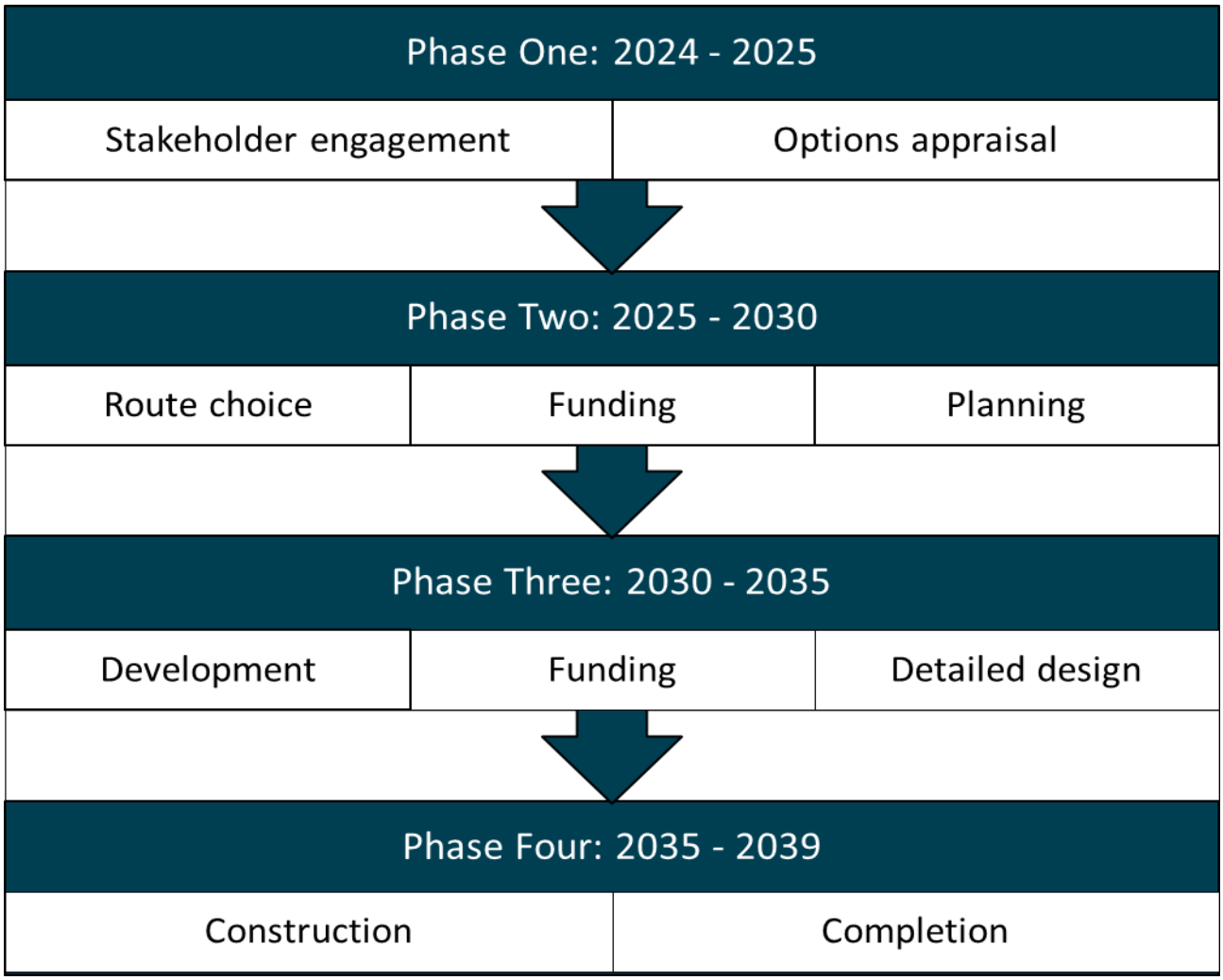


Figure 5-1 - Project Phases

The design phase of 4 to 6 years could begin around 2030. The delivery schedule should align with developer payment plans, which may be linked to specific milestones or phases. Additional works by developers throughout the buildout may also influence the overall delivery timeline.

5.2 Funding

The funding window will run concurrently with the planning and development phases until 2035. This should allow for the formulation of a funding strategy and business plans identifying potential partners and grants, developing engagement strategies, and coordinating efforts with partner organisations.

5.3 Construction / Development

The development of the route should follow a structured and phased approach to ensure timely delivery and cost efficiency. This project will move from concept design through outline to detailed design. High standards of quality and safety should be adhered to throughout the construction process, with control metrics in place. Strong project management will be required to ensure the route is delivered within the specified timeline and budget, maintaining clear communication with the client and other stakeholders. Delivery will need to include all necessary permissions and ensure compliance with planning regulations and environmental legislation.

Provision should also be made for inspection and maintenance of the route once the project has been delivered.

6 Conclusion

The Emergency Access and Egress (EAE) Route Plan for Exe Bridges forms a vital part of Exeter City Council's strategy to safely and sustainably redevelop one of the city's most prominent brownfield sites. Predominantly located within Flood Zone 3 and subject to multiple sources of flood risk, Exe Bridges presents both a significant challenge and an important opportunity to embed resilience at the heart of urban regeneration. This plan sets out a comprehensive assessment of emergency evacuation needs, with detailed analysis of flood risk, accessibility constraints, community impact, and long-term viability. The River Exe Cycle Bridge option emerged as the preliminary preferred solution due to its strong performance against all evaluation criteria, offering an accessible, deliverable, and resilient route to a designated safe zone north of the River Exe.

This provisional route enhances pedestrian and cycle connectivity through the city. The dual-purpose design not only fulfils emergency planning objectives but also supports wider goals around active travel, sustainable infrastructure, and inclusive amenities. Stakeholder engagement was instrumental in shaping the preferred option, ensuring it reflects local priorities and operational realities. The plan also provides a clear roadmap for future delivery, including a phased timeline for design and construction, and considerations for securing funding and planning approvals. However, other route options could be explored going forward.

Phase One (2024–2025) has marked initial phase where foundational planning, stakeholder engagement, and preliminary design work has taken place. Further engagement with stakeholders and developers is essential to further progress for this development site. With developmental agreement, it is anticipated that a fully functional emergency access and egress route could be in place by 2039, most likely during the 2035–2039 period.

As an enabler of the Exeter Plan and the Liveable Exeter vision, the Exe Bridges EAE route represents a critical step toward a more resilient, greener, and more connected future for Exeter.

A Appendix A - Flood Risk

A.1 Overview

The site is at high risk of fluvial flooding, high risk of surface water flooding, varying risk of groundwater flooding and low risk of flooding as a result of a reservoir or canal embankment failure.

The principal watercourse in the vicinity of the site is the River Exe, located along the north eastern boundary approximately 50m at the closest section of the site and a maximum distance of approximately 180m of the southern half of the site.

A.2 Fluvial Flood Risk

The Environment Agency (EA) Flood Map for Planning (Figure A-1) indicates that the site falls completely within Flood Zone 3 and is at high risk from fluvial flooding.

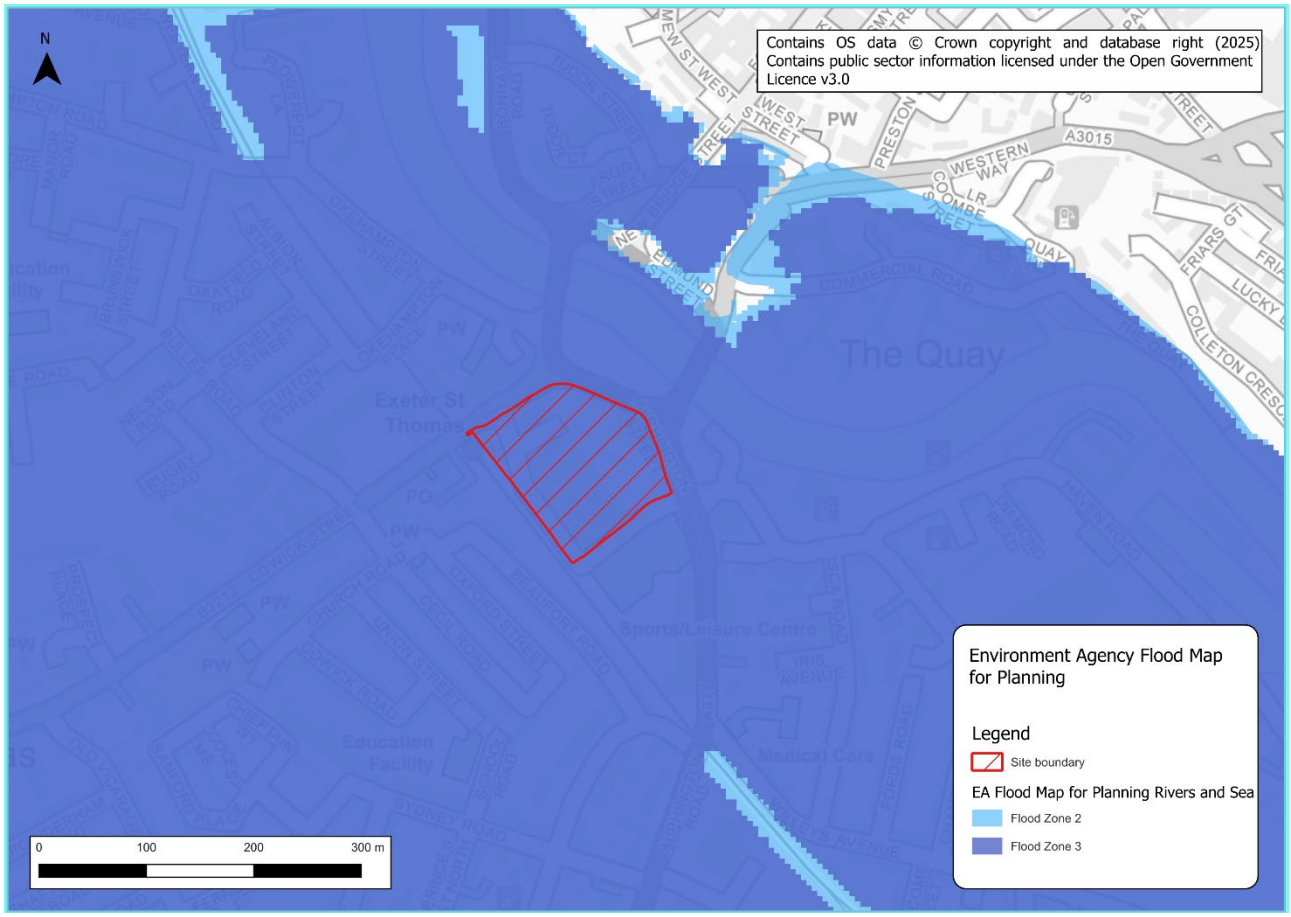


Figure A-1 - Environment Agency's Flood Map for Planning

A.2.1 Fluvial Flood Modelling

The latest version of the River Exe hydraulic model has been used within this study to inform design flood levels. Model updates were completed by JBA Consulting in August 2023 following the construction of the Exeter Flood Defence Scheme. The flood hydrology for the River Exe was also revised for use with the updated hydraulic model. The model was used to produce flood outlines for a range of events for the city to include the latest defences. The model was also run for a range of scenarios including climate change, breaches and operational issues.

For the purposes of this study, the defended 1% AEP event with a 46% climate change uplift (referred to as the design flood event) has been used. This corresponds to the recommended fluvial climate change uplift for the Central allowance during the 2080's epoch in the East Devon Management Catchment[1].

Table A-1 shows the fluvial climate change allowances for the East Devon Management Catchment.

Table A-1 – Fluvial climate change allowance (East Devon Management Catchment)

Epoch	Central	Higher Central	Upper End
2020s (2015-2039)	16%	22%	34%
2050s (2040 to 2069)	24%	33%	55%
2080s (2070 to 2125)	46%	61%	96%

In the design event 99.5% of the Exe Bridges site is flooded. The site is protected by Flowerpots floodwall, situated 70m north of the site. The breach scenario (based on failure of the flood wall of the Royal Oak pub) shows the majority of the site is impacted by flooding in this event.

[1] https://environment.data.gov.uk/hydrology/climate-change-allowances/river-flow?mgtmcatid=3033

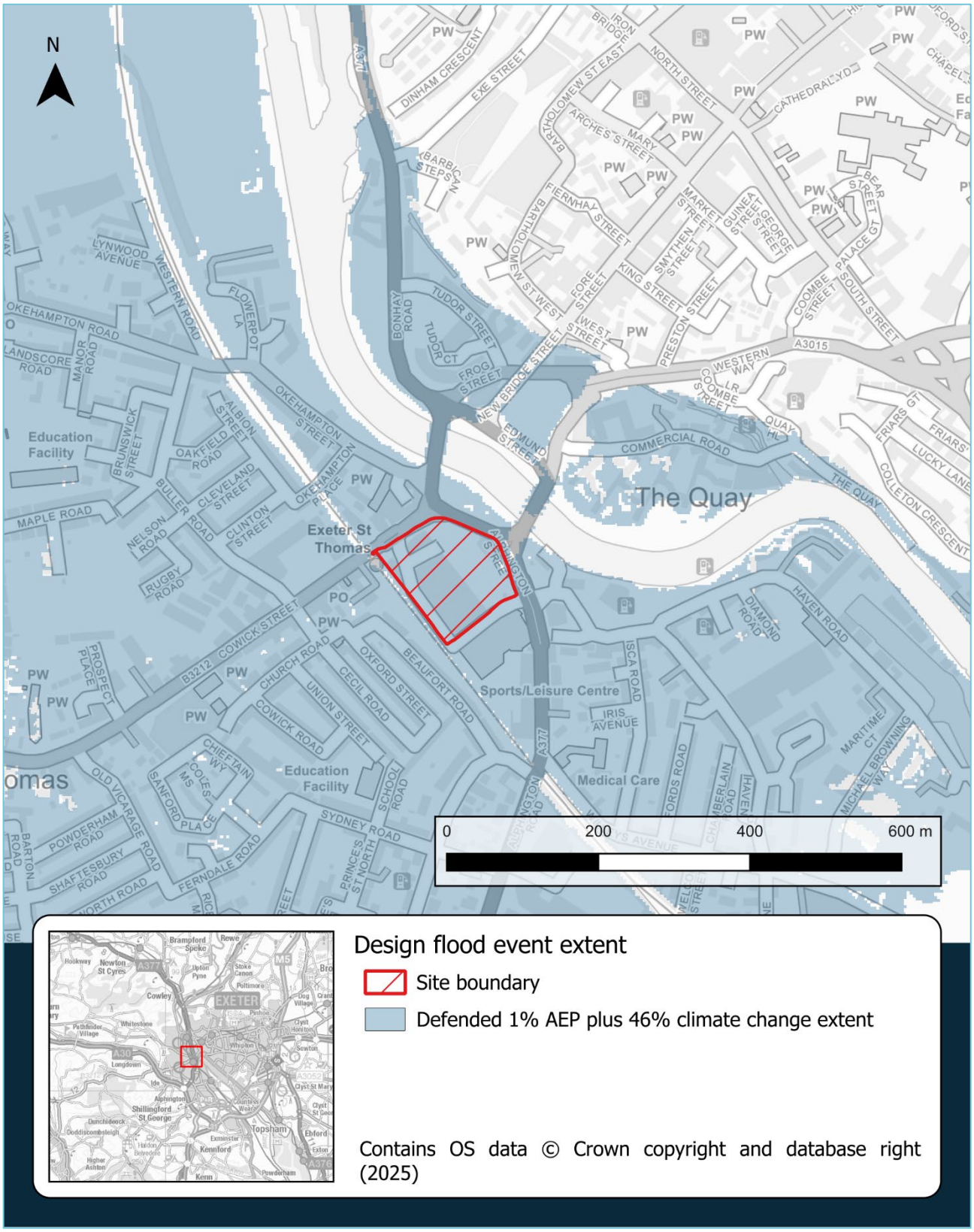


Figure A-2 - 1 in 100 year (1% AEP) + 46% Climate Change Flood Extent

A.2.2 Fluvial Hazards to People

During the 1 in 100 + 46% CC event, the site is predominantly at Danger for Most and Danger for All.

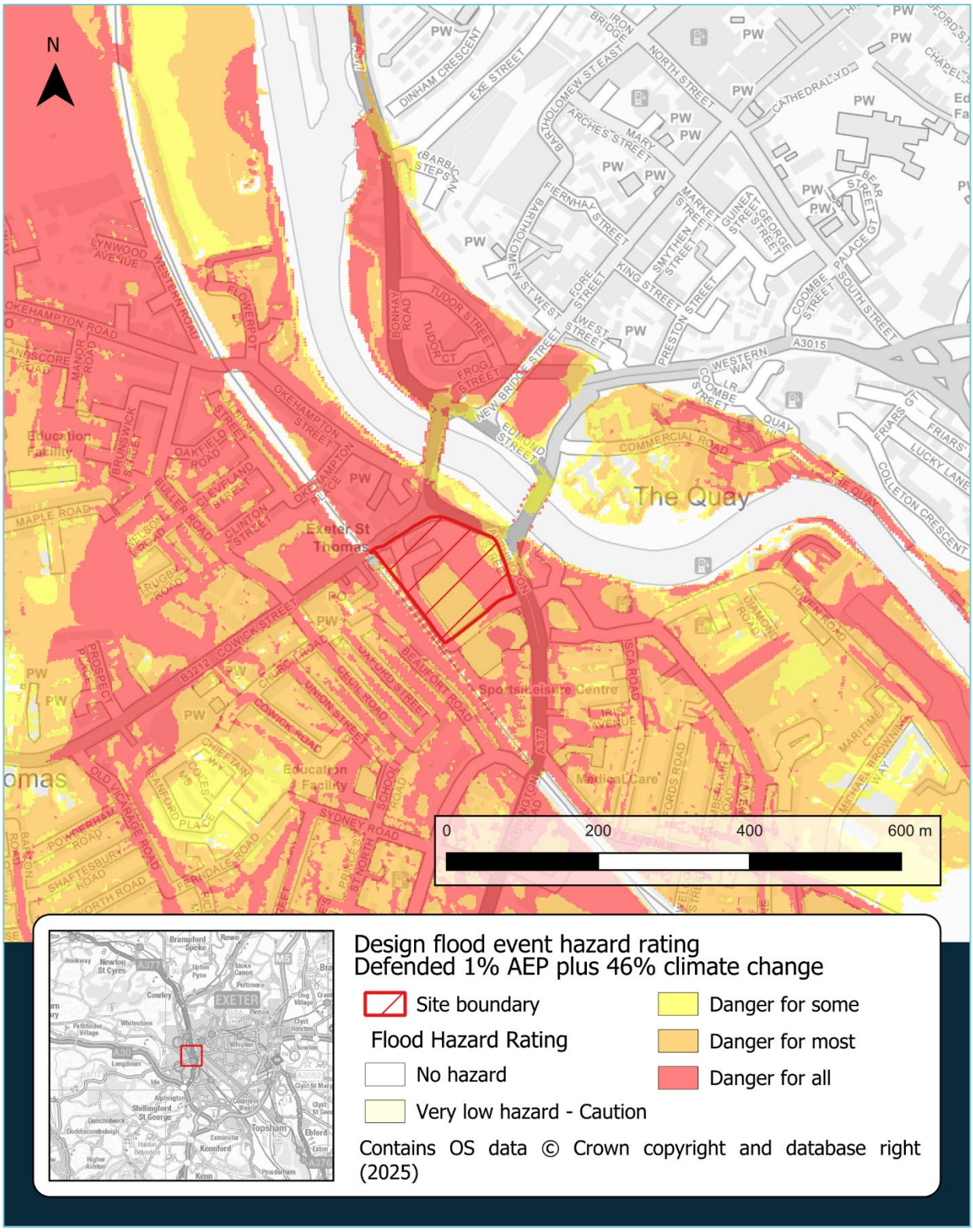
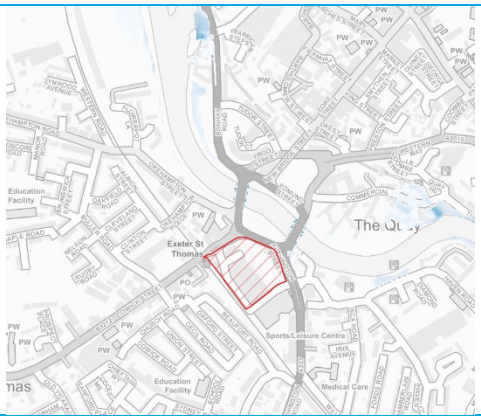
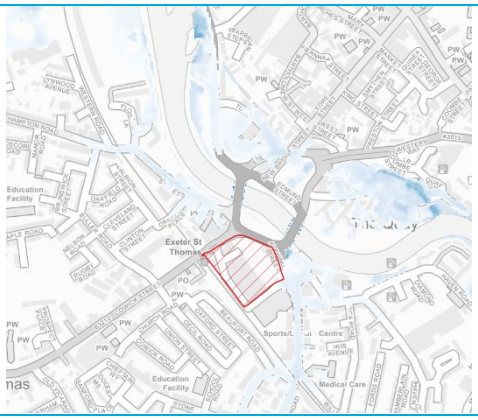
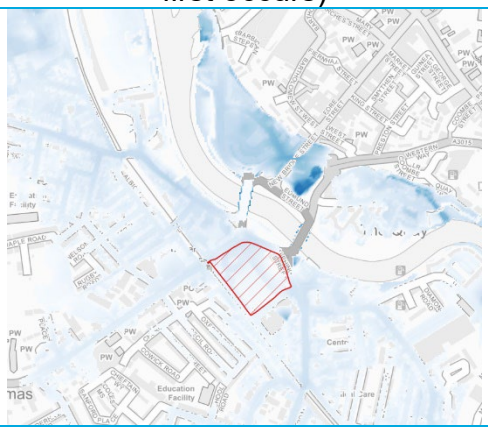
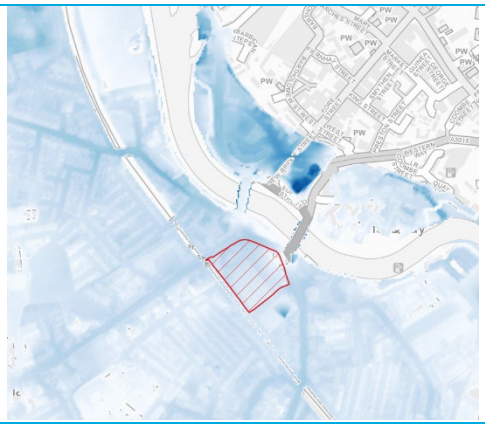
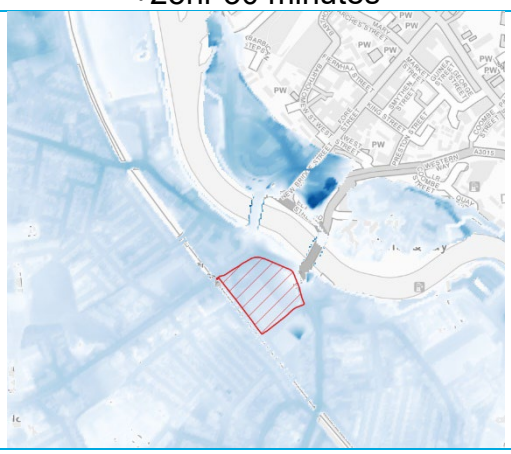
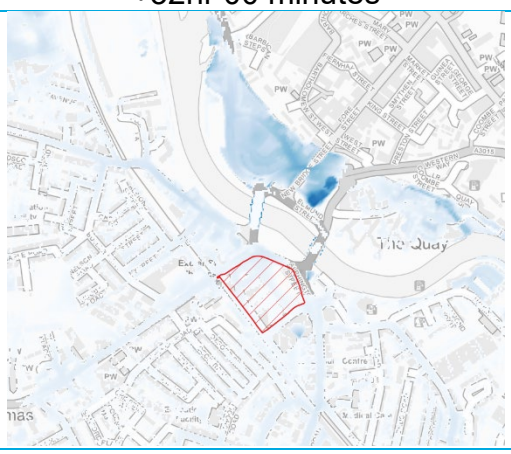


Figure A-3 – 1 in 100-year (1% AEP) + 46% Climate Change Hazard Map

A.2.3 Fluvial Flood Duration

During the 1 in 100 (1% AEP) + 46% CC event, from the first instance of flooding occurring in the local area, the modelled extent of flooding on-site increases for 15 hours before reaching its maximum depth of 3.54m, which remains for approximately 9 hours before beginning to recede (Figure A-4)

	
+22hr 30 minutes (out of bank flooding first occurs)	+23hr 30 minutes
	
+25hr 30 minutes	+32hr 00 minutes
	
+38hr 30 minutes (max extent)	+47hr 30 minutes (end of model)

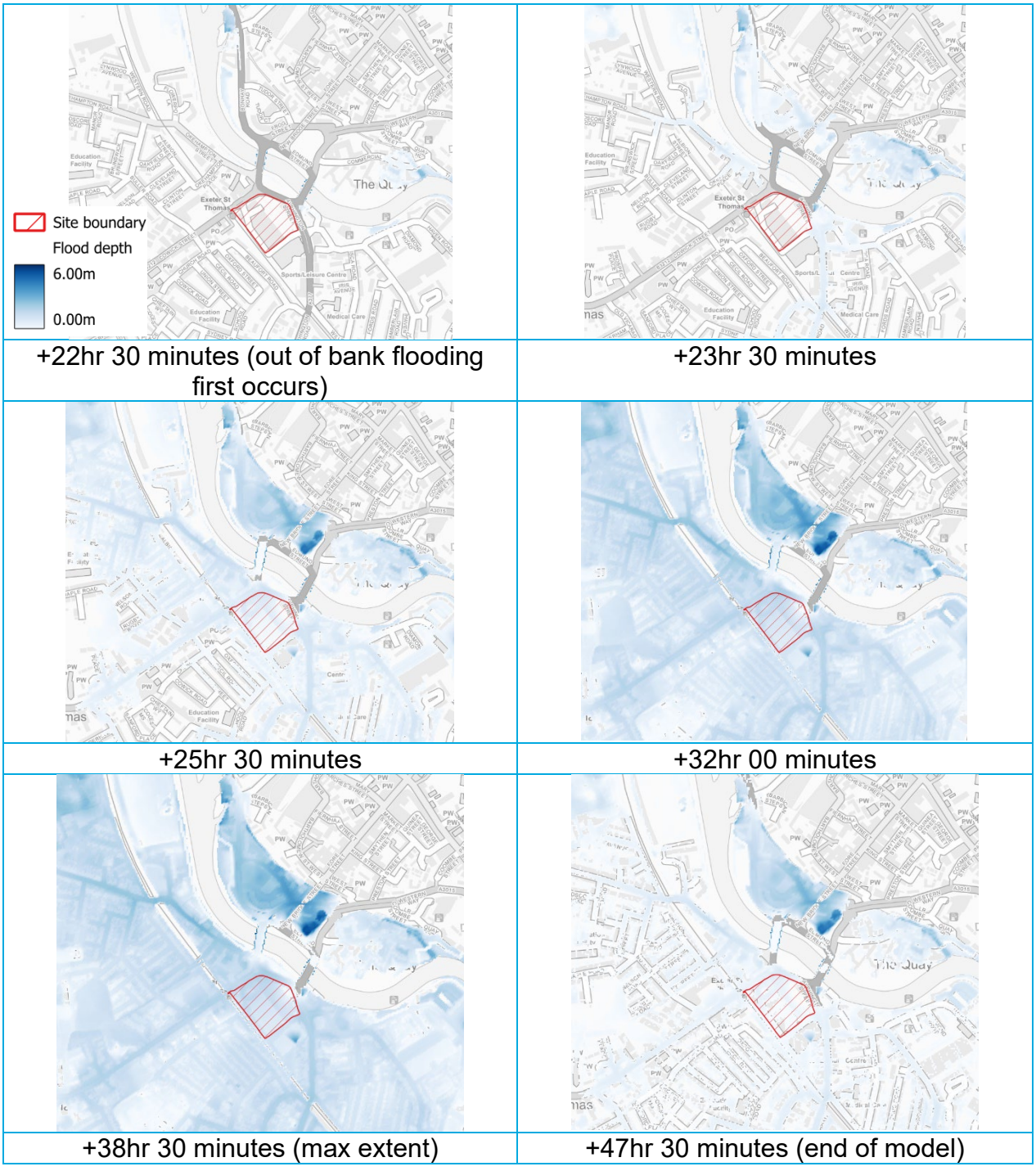


Figure A-4 - Modelled Flood Depth Durations at 1% AEP + 46% CC

A.3 Surface Water Flood Risk

Surface water flooding arises when rain falling on saturated ground flows overland, following the local topography. Surface water flooding and subsequent overland flow can originate from several sources, for example, surcharging sewers and blocked drains. Surface water flood risk is classified as:

- High – an area has a chance of flooding of greater than 1 in 30 each year.
- Medium – an area has a chance of flooding of between 1 in 30 and 1 in 100 each year.
- Low – an area has a chance of flooding of between 1 in 100 and 1 in 1,000 each year.
- Very Low – an area has a chance of flooding of less than 1 in 1,000 each year.

The Environment Agency's Risk of Flooding from Surface Water (RoFSW) map (Figure A-5) has been consulted to assess flood risk from surface water. This site is shown to be at high risk of flooding from surface water event with mean depths of 1.12m.

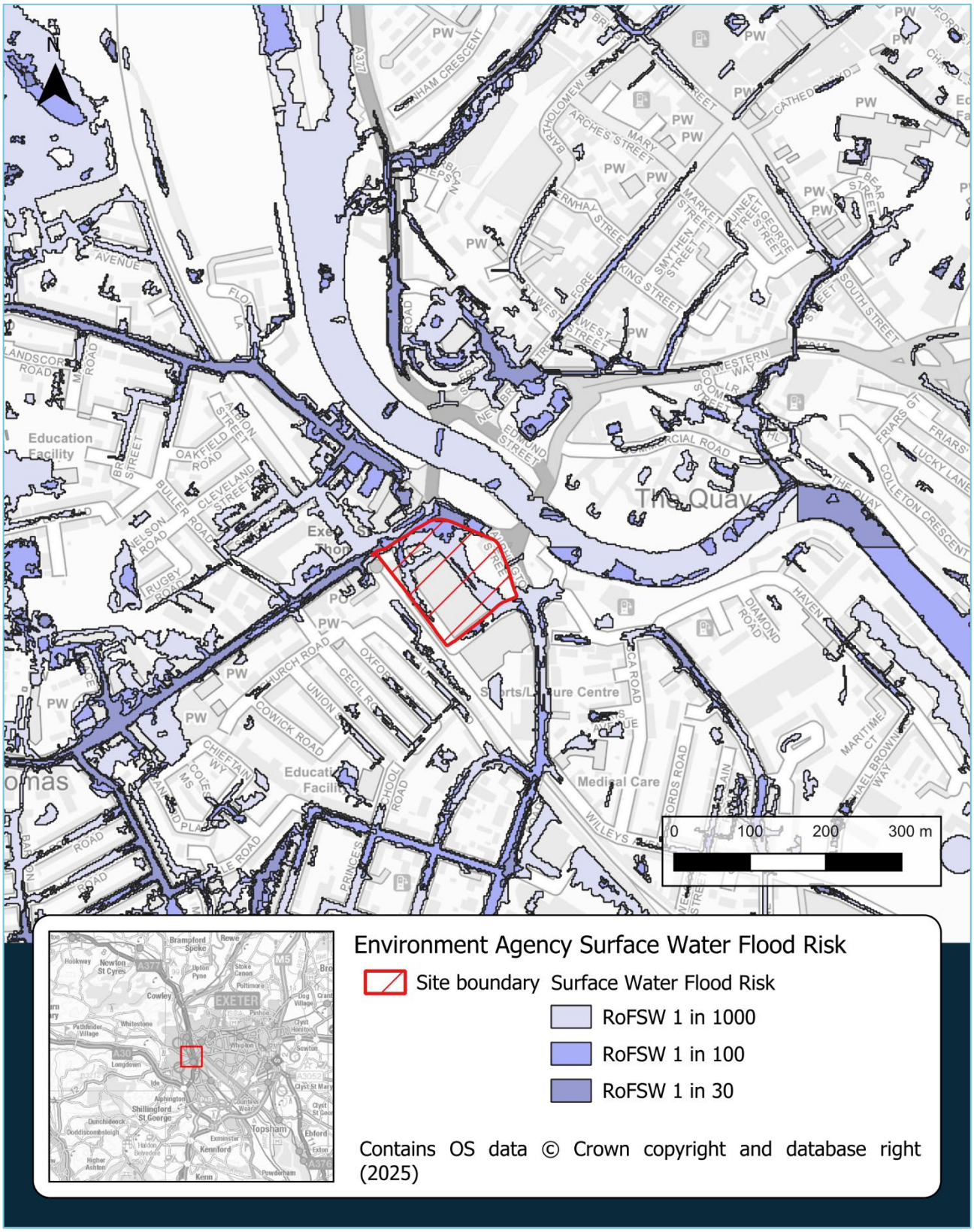


Figure A-5 - Environment Agency's Risk of Flooding from Surface Water Map

A.4 Groundwater Flood Risk

Mapping of groundwater has been based on the JBA Groundwater Emergence mapping dataset. The dataset is a strategic scale map showing groundwater flood areas on a 5m grid and illustrates where groundwater may emerge. The modelling for JBA's mapping involves simulating groundwater levels for a range of return periods (including 75, 100 and 200 years). Groundwater levels are then compared to ground surface levels to determine the head difference in metres. The JBA Groundwater Emergence mapping categorises the head difference (m) into five feature classes based on the 1% AEP model outputs which are outlined in Table A-2 – JBA Groundwater Flood Risk Map categories. It is important to note that the modelled groundwater levels are not predictions of typical groundwater levels. Rather they are flood levels, i.e. groundwater levels that might be expected after a winter recharge season with 1% AEP, so would represent an extreme scenario.

It should be noted that the JBA Groundwater Emergence map is suitable for general broad-scale assessment of the groundwater flood hazard in an area, but it is not explicitly designed for the assessment of flood hazard at the scale of a single property. In high-risk areas, a site-specific risk assessment for groundwater flooding is recommended to fully inform the likelihood of flooding. In instances where groundwater is close to the ground surface there can be a significant risk of groundwater emergence. Subsurface development or development requiring deep foundations run the risk of interfering with groundwater levels by displacing water. There is a requirement for site specific investigations to determine the groundwater risk at the crucial points of the route through ground investigations and to determine that proposed construction will not impact the risk posed within the footprint of the route.

The JBA Groundwater Emergence mapping shows that Exe Bridges is situated entirely within category 3 and is at high risk of groundwater flooding. However, this should be confirmed through infiltration testing and groundwater monitoring.

Table A-2 – JBA Groundwater Flood Risk Map categories

Category	Flood depth range during a 1% AEP flood event	Groundwater flood risk
4	Groundwater levels are either at or very near (within 0.025m of) the ground surface	Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond within any topographic low spots.
3	Groundwater levels are between 0.025m and 0.5m below the ground surface	Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. There is the possibility of groundwater emerging at the surface locally.
2	Groundwater levels are between 0.5m and 5m below the ground surface	There is a risk of flooding to subsurface assets but surface manifestation of groundwater is unlikely.
1	Groundwater levels are at least 5m below the ground surface	Flooding from groundwater is not likely.
-	Low risk	This zone is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological conditions.

A.5 Flood Risk from Reservoirs

The latest available EA Risk of Flood from Reservoirs mapping now shows “wet day” and “dry day” reservoir inundation extents. The “wet day” being a reservoir breach at the same time as a 0.1% AEP (1 in 1000-year) river flood (as this is a likely time when a reservoir might fail) and the dry day shows the failure just from the water retained by the dam. This mapping shows that, in the highly unlikely event of a reservoir breach, the Exe Bridges site is at risk from flooding from Wimbleball Lake Reservoir in both the dry and wet day scenarios.

It is important to note that the EA states that its map shows the worst-case scenario and that actual flood extents and depths are unlikely to be as large or deep as those shown within the map. The site should be considered to be at low risk of flooding from reservoirs.

A.6 Environment Agency Warning and Lead Times

The Environment Agency provide a flood warning service, notifying of the possibility of a fluvial flood from the River Exe. This is the most reliable source for predicting a fluvial flood event, with the warnings being suitable on which to base the necessary containment and preparation measures that need to be taken.

Advice for the public on Floodline: 0845 988 1188

Flood Alerts: Name: Lower Exe area

Description: Lower River Exe from Tiverton to Exeter, including Bickleigh and Stoke Canon areas
Code: 113WABTW10
Quick dial: 211024

Flood Warnings: Name: River Exe at Exeter

Description: Low lying parts of Exeter, including St. Davids, Bonhay Road, Exwick, St.Thomas, Alphington and Marsh Barton
Code: 113FWFEXE11
Quick dial: 311003

The Environment Agency aims to provide between 2 and 12 hours lead time between a Flood Alert being issued and possible flooding occurring and a minimum of 1-2 hours lead time for Flood Warnings on rivers.

Table A-3 - Flood Alert and Warning Summary

Flood code	What it means
 Flood Alert	Flooding is possible, be prepared
 Flood Warning	Flooding is expected, immediate action is required
 Severe Flood Warning	Severe flooding and danger to life
Warning no longer in force	Warning has been removed in the last 24 hours

There is currently no national system available that could forewarn surface water flooding. To indicate the chance of flooding, members of the public are advised to refer to the Met Office weather forecast and local radio station updates, regularly check the EA 5-day forecast, and sign up for the Met Office Severe Weather Warning System.

B Appendix B – Accessibility Considerations

The proposed Emergency Access and Egress route must be accessible at all times. These considerations have been taken into account throughout the development of the preferred route option and in the route plan itself. The pedestrian nature of this route requires that considerations be made for the safety of future residents and members of the public located in the area should a flood event occur.

Consideration must be given to a population's willingness and ability to efficiently evacuate following the issuing of an evacuation order. Residents may be deterred from evacuating due to uncertainty, inability to determine the need to evacuate, lack of knowledge about evacuation, assumption that one is safe at home, and inability to evacuate even if one feels the need to do so.

There is a need to consider behavioural characteristics which will have a direct impact on the evacuation process – primarily spatial distribution, walking speed and the physical traits of evacuees, all of which may affect the evacuation time. Evacuation capabilities will further vary with differences in age, gender and physical condition. Consideration must therefore be given to walking speeds in relation to emergency evacuation lead times. Particular consideration must be given to elderly, disabled and vulnerable evacuees. Table B-1 shows the average walking speeds by age and gender. Walking speed is affected by low light, with night-time conditions resulting in slower walking speeds (Mizumura et al., 2024).

Early warning is therefore imperative to begin early evacuation with understanding that there may be vulnerable, disabled or elderly evacuees. While there is sufficient lead time, the success of evacuation will be dependent on how risk of flooding is identified and how this is communicated to partners and the public. Measures beyond dependence on EA Flood Warnings must be established to provided resilience to the emergency access and egress plan.

There is no vehicular access for the emergency services on this route. Therefore, agreeing contingency with the local emergency services for emergency situations is essential.

A further recommendation is that safe rest areas with seating be built along the route to afford evacuating residents the opportunity to rest if needed. These could serve as enhancements to the route, tying in with multi-functional use of active travel and spaces for people.

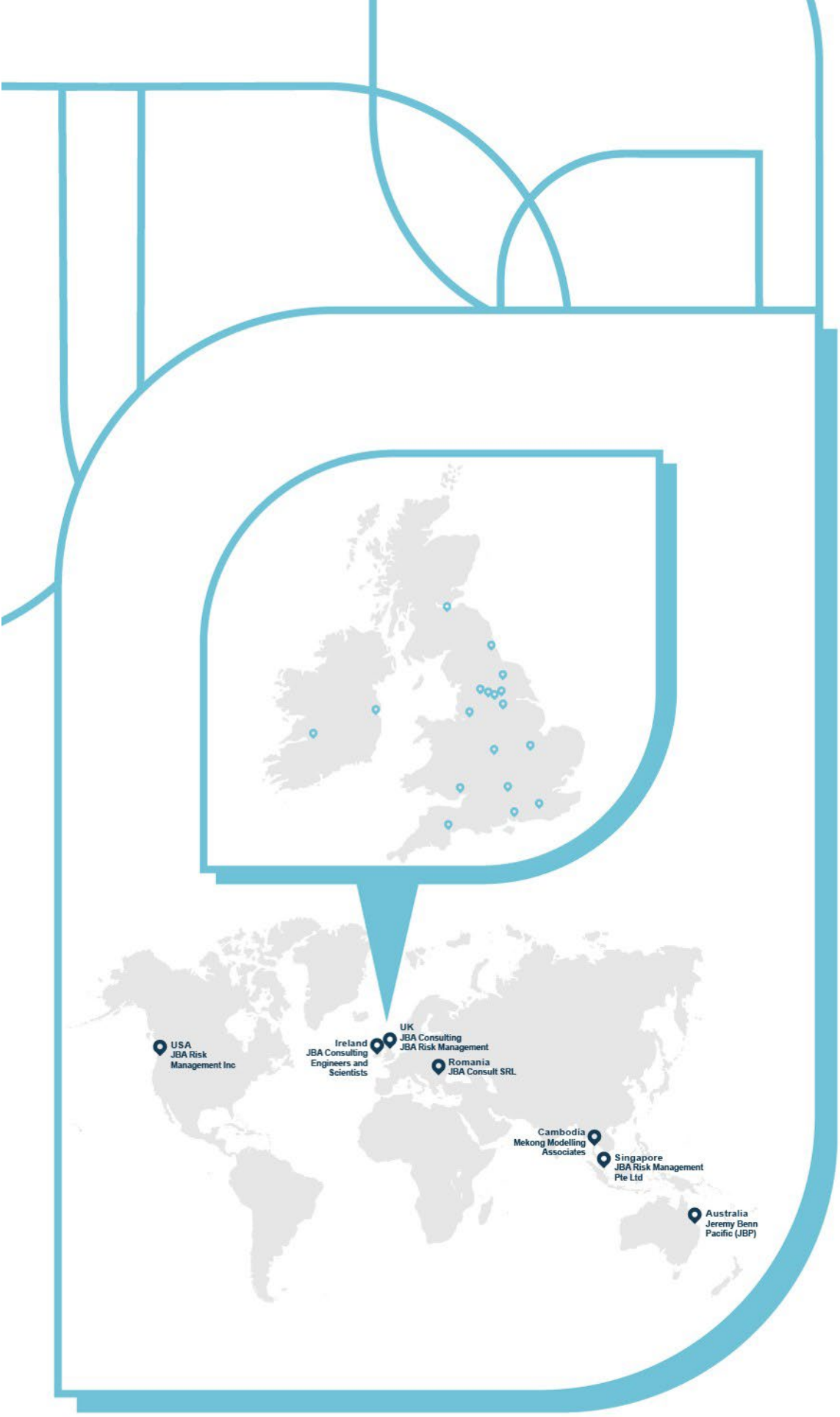
Table B-1 – Average Walking Speeds by Age and Gender

Age range (years)	Walking speed range (ms-1)	
	Female	Male
10-19	1.39 - 1.47	1.40 - 1.47
20-29	1.27 - 1.45	1.24 - 1.44
30-39	1.32 - 1.55	1.19 - 1.48
40-49	1.35 - 1.51	1.34 - 1.41
50-59	1.38 - 1.49	1.22 - 1.41
60-69	1.27 - 1.41	1.18 - 1.30
70-79	1.21 - 1.32	1.07 - 1.19

C Appendix C – Multi-Criteria Analysis

Please zoom in for easier readability

				Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10
				Do Nothing	Flood warning	Temporary structures	Raise Exe Bridge South	Raise Exe Bridge South cycle way	Railway elevated cycle path	Cowick Street elevated cycle path	Alphington Road elevated cycle path	River Exe cycle bridge	Combination of EB Option 6 & WL Option 4
Category	**Criteria**	**Description**	**Measurement**	No emergency evacuation routes or warning provided	Invest in enhanced flood warning and evacuate residents ahead of a flood event	Install temporary emergency access and egress routes ahead of a flood event	Raise Exe Bridge South (whole bridge) above flood level between Exebridges and Western Way - contraflow would need to be created.	Raised Exe Bridge South cantilevered cycle way attached to downstream side of bridge above flood level between Exebridges and Western Way. Cycle bridge required over A377 from site to Exe Bridge South.	Raise railway line above flood level and construct cycle path adjcent to line - safe egress would be dependent on Water Lane Option 4	New elevated cycle path along Cowick Street between Exebridges and Dunsford Road	New elevated cycle path along Alphington Road between Exebridges and Church Road	New cycle bridge crossing River Exe between Exe Bridge North and South from Exebridges to New Bridge Street	EB6: Raise railway line above flood level and construct cycle path adjcent to line WL4: Enhanced railway embankments, elevated cycle paths and bridges over Water Lane, the railway line and Tan Lane and Marsh Green Road West roundabout
Pass/fail Criteria	**Connectivity to Safe Zones (feedback loop if fail - can it be passed with combi-option)**	Assesses whether the route reliably connects the development to designated safe zones that are outside of the flood risk area. **Pass:** Connectivity to area not at flood risk that either has sufficient welfare facilities and resources or is connected to access routes also not at flood risk that connect to areas that provide these. **Fail:** Connectivity to areas at flood risk or areas not at flood risk that do not provide access to welfare facilities and resources.	Pass/Fail	Fail	Pass	Pass	Pass	Pass	Fail Safe egress would be dependent on Water Lane Option 4 - this not being taken forward.	Pass	Pass	Pass	Pass
	Capacity	Assessment of the capacity to easily disperse egressing public from the safe zone to which the route leads along with perceived capacity of the option itself. **Pass**: The route can accommodate the expected number of evacuees without causing overcrowding. **Fail:** The route cannot accommodate the expected number of evacuees without causing overcrowding.	Pass/Fail	Pass	Pass	Pass lower capacity than permanent options	Pass Connects to easily accessible safe zone location.	Pass Connects to easily accessible safe zone location.	Fail Does not connect directly to safe zone (dependent on WL4)	Pass Connects to easily accessible safe zone location.	Pass Connects to easily accessible safe zone location.	Pass	Pass Modest capacity of Exe Bridges Option 6 elevated cycle way. Connects to Water Lane Option 4 (railway embankments) which lead to accessible safe zone. Railway embankments have higher capacity, likely able to cope with combined egress from Exe Bridges and Water Lane.
	Flood Risk Impact	Consideration of factors leading to higher impact on the flow routes of flood water for example solid barriers to flow (raised roads or embankments), barriers perpendicular to flow or along constricted flow paths, options with a greater density of supports (such as temporary barriers) **Pass:** The route remains viable and safe under all flood scenarios considered in the SFRA and does not increase flood risk elsewhere **Fail:** The route is at risk of being compromised or becoming impassable under likely flood scenarios or compromises flood risk elsewhere.	Pass/Fail	Pass	Pass	Fail Presuming these are pontoons / on (many) supports allowing flow underneath. EA raised concerns that high quantity urban debris will snag on the supports, blocking flow paths. Significant flow path along right bank of R. Exe	Pass EA raised concerns over the ramps needed to bring raised bridge down to carriageway level - ramps will impact on flow routes.	Pass? May have a negative impact on flow past main bridge. EA raised concerns over the ramps needed to bring raised bridge down to carriageway level - ramps will impact on flow routes.	Pass	Pass Likely to have some impact on flow with all the supports needed and urban debris.	Pass But likely to have impact on flow (significant flow path on Alphington Rd?) with the number of supports needed and urban debris.	Pass EA raised concerns over the ramps needed to bring raised bridge down to carriageway level - ramps will impact on flow routes.	Pass Minimal extra construction in flood zone
	Impact on Emergency Response	How much emergency access to the area could be hindered by the presence of the option. Whether the option could cause increased pressure on emergency response during a flood event. **Pass:** The route allows emergency services to access developments and does not hinder delivery of duties. **Fail:** The route does not allow emergency services to access developments or obstructs or complicates emergency response.	Pass/Fail	Fail No direct negative impact on operations but will result in high demand on emergency services	Fail Will demand emergency response to facilitate the evacuation, then to deal with those who did not follow instructions	Fail Significant resourcing needed for installation and stewarding	Pass	Pass F&RS raised the positive impact of any option that can reduce congestion on Exe Bridges.	Pass	Pass	Pass	Pass FRS raised the positive impact of any option that can reduce congestion on Exe Bridges.	Pass
	Deliverable independently? (feedback loop if fail - can it be passed with combi-option)	Assesses the acceptability of the distance that occupants must travel to reach the emergency route from any point within the development, ensuring it is within a reasonable and safe range. Calculation based on JBA Emergency Access/Egress Literature Review. Maximum distance to route stated in text below Pass/ Fail rating. Pass: under 500m to access Fail: over 500m to access	Pass/Fail	Pass	Pass Exiting via Cowick St & Alphington Rd	Pass 170m = maximum distance across site.	Pass 170m = maximum distance across site	Pass 170m = maximum distance across site	Pass 170m = maximum distance across site	Pass 170m = maximum distance across site.	Pass 170m = maximum distance across site.	Pass 170m = maximum distance across site.	Fail Combination option but Water Lane Option 4 no longer being progressed
	Deliverable in combination?	If failed in above category (scheme is not deliverable independently), is there a suitable option for it to be delivered in combination with? Combination option listed.		N/A	N/A	N/A	N/A	N/A	See option 10	N/A	N/A	N/A	N/A
Pass/fail overall score				**Fail**	**Fail**	**Fail**	**Pass**	**Pass**	**Fail**	**Pass**	**Pass**	**Pass**	**Fail**
Deliverability criteria	**Land ownership**	Consideration of whether the ownership of the land is going to facilitate development (e.g. compliance, ease of negotiation) or block it (e.g. difficult/no negotiation, prohibitive costs). Current land use considered.	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A	5 ECC, EA and DCC owned land	5 ECC, EA and DCC owned land	1 ple third party and Network Rail owned	3 ECC and DCC owned land	1 ECC and DCC owned land	5 ECC, EA and DCC owned land	5 NR landowner + multiple other and some unknowns
	Length of route	Assesses the total length of the route to ensure it is not excessively long, allowing evacuees to reach safety within the time available before the flood risk escalates. Scoring: <250m = 5, 250m-499m = 4, 500m-749m = 3, 750m-999m = 2, >1000m = 1	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	5 150m maximum straight line length within site. Total length = less than 400m (if this exits site via Exe Bridge South route (length = 150m))	5 Length = 150m (all outside site boundary), 170m maximum straight line length within site. Total length = less than 400m	5 Length = 150m (all outside site boundary), 170m maximum straight line length within site. Total length = less than 400m	3 675m	3 740m of elevated cycle route/bridge	1 1450m	5 200m	1 1750m to safe zone.
	Accessibility	Assessment of ease of access to the option from areas within the site (i.e. if obstacles to direct access are present) and the of ease of access t	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A?	2 Width, access gradients and frequency/visibility of access points, stability could all be issues.	5 Will be integrated into whole (vehicle) bridge	4 Will require lengthy access ramps to reach desired height, elevated cycle bridge. However it is short.	2 Likely to need large ramps for significant height gain needed to reach level of railway embankment (and higher if bridge needed to cross to SW side of railway)	2 Likely to need large ramps for significant height gain needed to bridge across to SW side of railway, all elevated cycle way or bridge. No issues in egress zone.	3 Length, all as elevated route. Likely to need large ramps for significant height gain needed to bridge across railway. No issues in egress zone.	4 Likely to need large ramps for significant height gain needed on S bank to bridge across river. Relatively accessible egress zone.	2 Likely to need large ramps for significant height gain needed to reach level of railway embankment (and higher if bridge needed to cross to SW side of railway). Length of route.
	Community Acceptance	Perceived impact on residents and local businesses in regard to construction and design (overlooking, overbearing and overshadowing)	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A no permanent obstruction / intrusion but concern over effectiveness	N/A N/A no permanent obstruction / intrusion but concern over effectiveness	5 Will be integrated into whole (vehicle) bridge. Limited impact on residents - only Fullers Court and Shooting Marsh Stile.	4 Will require existing pedestrian and cycle access to be maintained. Limited direct impact on residents.	2 Will encroach significantly on rear of properties along Beaufort Rd is on SW side of railway.	1 Significant impact on Cowick St. Elevated structure in front of properties (mainly commercial) along length of Cowick St - restrictions on access to businesses and along this thoroughfare. Privacy issues for 1st floor residents. May restrict access under the railway bridge if can fit under, option would be less accessible if it bridges over the railway.	1 Significant impact on Alphington Rd. Elevated structure in front of properties along full length - restrictions on access to businesses and along this thoroughfare, currently at capacity. Privacy issues for residents. May restrict access under the railway bridge if can fit under, option would be less accessible if it bridges over the railway.	5 Limited direct negative impact, likely some approval for increased green infrastructure access. If a feature bridge, this could improve appeal of St. Thomas.	2 Will encroach significantly on rear of properties along Beaufort Rd is on SW side of railway. Improves active travel connectivity within wider area.
	Environmental Impact	Perceived impact on biodiversity, habitat availability and quality.	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A no direct impact	2 Will likely will involve some tree felling on L bank of river where it returns to ground level. Indirect impact of construction materials for new road bridge.	4 Will likely will involve some tree felling on L bank of river where it returns to ground level. Indirect impact of construction materials.	4 Indirect impact of construction materials.	3 Indirect impact of construction materials	2 Indirect impact of construction materials - length of elevated structure.	4 Indirect impact of construction materials, limited number of trees need felling on banks.	3 Will involve some tree felling along embankments. Indirect impact of construction materials for bridges and elevated sections.
	Aesthetic Impact	Perceived impact on aesthetic value of land on which it will be built e.g., tree felling. Consideration of whether the land is already a valued public space with current positive aesthetic value or if it is currently an area with negative aesthetic value.	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A	4 Will involve some tree felling on L bank. Impact will be similar to existing bridge.	3 Will involve some tree felling on L bank. Will be highly visible and likely seen as an eyesore but not an area with especially high aesthetic value, however a very busy location.	3 Negative impact for residents of Beaufort Rd, other areas are brownfield or rail embankment.	2 Significant impact on Cowick St. Elevated structure in front of properties (mainly commercial) along length of Cowick St	2 Significant impact on Alphington Rd. Elevated structure in front of properties along full length	4 Limited direct negative impact, limited number of trees need felling on banks. Will be highly visible but not an area with especially high aesthetic value. Could be a feature bridge to improve appeal of St Thomas.	3 Negative impact for residents of Beaufort Rd, other areas are brownfield or rail embankment, Water Lane 4 likely to tidy up some brownfield.
	Green Infrastructure impact	Perceived impact on features that contribute to the community's quality of life. Degree of provision of access to amenity areas and active travel. Potential for impairment of currently accessible, high value public space.	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A	1 Unlikely to improve active travel connectivity in the area as will just raise existing bridge, replicating existing provision.	2 Unlikely to improve active travel connectivity in the area as there is already a cycle & footway on either side of the road across the bridge. Must not restrict existing capacity routes. However, if cantilevered option is used, this will increase the highway capacity of Exe Bridge South.	3 Will offer a new route but the required height gain may make this less attractive than existing options for regular use.	2 May not be attractive option due to height gain to access, may restrict existing pedestrian access.	2 Existing good active travel access, scheme may partially restrict this.	3 Already good public access in this area to cross canal/river barrier. Will improve this slightly with extra cycle way to link St Thomas to New Bridge St/ city centre.	2 Exe Bridges section will offer a new route but the required height gain may make this less attractive than existing options for regular use. Water Lane section will improve active travel connectivity in the wider area.
	Carbon Impact	Perceived impact of the scale of construction, scale of works required and nature of materials.	1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A	2 Construction of wide highway bridge.	3 Construction of 1 bridge/elevated section raising existing bridge, plus cycle bridge over A377 from site to Exe Bridge South.	3 Construction of significant elevated section.	3 Construction of significant elevated sections and at least 1 new bridge.	2 Large/medium scale construction compared to others	3 Construction of large cycle bridge but short total length of scheme.	2 Construction of 5 bridges, lengthy elevated sections, enhanced embankments.
	Cost		1 (Bad), 2, 3, 4, 5 (Good)	N/A N/A	N/A N/A	N/A N/A	1 Construction of wide highway bridge.	4 Construction of 1 bridge/elevated section, plus cycle bridge over A377 from site to Exe Bridge South (both relatively short). Construction costs increased by complications of retrofitting to existing highway bridge.	2 Construction of significant elevated section, 1 bridge over rail and 1 bridge over highway. Land purchase.	3 Construction of significant elevated sections and at least 1 new bridge.	2 Large/medium scale construction compared to others.	3 Construction of large bridge but short total length of scheme.	1 Construction of 5 bridges, significant elevated sections, enhanced embankments. Long scheme. Land purchasing.
	Multiplier (make pass fail and then merge together into new option)												
Deliverability overall score				**N/A**	**N/A**	**N/A**	**30**	**34**	**23**	**23**	**15**	**36**	**22**
Rank				Fail	Fail	Fail	3	2	Fail	4	5	1	Fail
Risks/opportunities for delivery							Land ownership is straightforward. Significant highway bridge rebuild, significant disruption to traffic during construction.	Land ownership is straightforward. Construction likely to be complicated retrofit on existing bridge.	Negatives: Land ownership. Height gain needed to cross railway at St Thomas station. Impact on residents.	Significant restriction on existing access (either pedestrian or vehicular) along Cowick St, visual intrustion, engineering difficulties crossing railway. Will not offer green infrastructure benefits	Significant restriction on existing access (either pedestrian or vehicular) along Alphington Rd, visual intrustion, engineering difficulties crossing railway. Will not offer green infrastructure benefits	Land ownership is straightforward. Opportunity for new active travel gateway to Exe Bridges and St Thomas. Complications with Exe Bridge balustrades and arch (Send of New Bridge St) - grade II listed	Water Lane Option 4 no longer being progressed: Land ownership third party, crossing of mainline, significant infrastructure impacting on many parties.
Reliance on other options		Separate or give weighting/multiplier (e.g. whole score multiplied by 0.6 if needs to be delivered alongside another		No	No	No	No	No	Water Lane option 4	No	No	No	No



JBA consulting

Offices at

Bristol
Coleshill
Doncaster
Dublin
Edinburgh
Exeter
Glasgow
Haywards Heath
Leeds
Limerick
Newcastle upon Tyne
Newport
Peterborough
Portsmouth
Saltaire
Skipton
Tadcaster
Thirsk
Wallingford
Warrington

Registered Office
1 Broughton Park
Old Lane North
Broughton
SKIPTON
North Yorkshire
BD23 3FD
United Kingdom

+44(0)1756 799919
info@jbaconsulting.com
www.jbaconsulting.com
Follow us:

Jeremy Benn Associates Limited

Registered in England 3246693

JBA Group Ltd is certified to:
ISO 9001:2015
ISO 14001:2015
ISO 27001:2013
ISO 45001:2018